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CARTA GRAVIMÉTRICA DO OESTE
DE MINAS GERAIS, SUDESTE DE
GOIAS E NORTE DE SÃO PAULO.

Tese de Doutorado apresentada
ao Instituto de Geociências da
Universidade de São Paulo.

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T458

À MINHA ESPOSA

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Abstract

This thesis concerns with the elaboration of the Bouguer Gravity Chart in a $23 \frac{1}{2}$ square degrees area located in the central-meridional region of Brazil.

The major units involved in the area are the NE part of the Paraná Basin, a small part of the SE border of São Francisco cratonic area and the remaining crystalline basement, including the Central Transbrasilian Arch.

It covers also part of the Brazilian Geodynamic Project's area.

Some tectonic structures as like the Goiania flexure and large fault zones could be delimited and finally some light has been added to the history of the tectonic evolution of the area.

1. Introdução

Algumas milhares de estações de gravimetria levantadas pelo IBGE - Fundação Instituto Brasileiro de Geografia e Estatística, pelo Observatório Nacional do Rio de Janeiro, pela Petrobrás e por projetos locais feitos por outras Universidades, pelo DNPM e por algumas empresas de mineração, permitiram ao autor levar a efeito a execução de uma carta gravimétrica de tendência Bouguer e a uma tentativa de interpretação em termos da evolução geotectônica de considerável área da região oriental do Brasil.

No presente trabalho 4103 estações gravimétricas foram utilizadas, das quais 1984 localizam-se dentro da área limite estudada.

A área pesquisada, situada na região centro-meridional do Brasil, contém grande número de estações de gravimetria referenciadas ao sistema internacional, na área do chamado "DATUM DO CHUÁ", abrangendo a região do Triângulo Mineiro, norte do estado de São Paulo, além de parte do sudeste do estado de ... Goiás.

As coordenadas limites dessa área são 45° a 51° W e $17^{\circ}30'$ a $21^{\circ}30'$ S. Excetuam-se as zonas com baixa densidade de pontos, entre as coordenadas 50° a 51° W e $17^{\circ}30'$ a $18^{\circ}00'$ S; $50^{\circ}30'$ a 51° W e $18^{\circ}00'$ a 19° S; 45° a 46° e $17^{\circ}30'$ a 18° S. Abrange parte da faixa definida para o programa Brasileiro de Geodinâmica.

A consistência dos dados, cálculos e contorno das curvas isogal foram feitas em computador eletrônico empregando o método de ajuste, aos dados, de superfície polinomiais por mínimos quadrados.

Fig.: 1. Localização da área mapeada
Escala 1: 5.000.000

Tal área é coberta, parcialmente, pelos levantamentos aero-geo
físicos (magnetometria e cintilometria), executados pelo Con
vênio Geofísica Brasil-Alemanha, o que facilitou a interpreta
ção geológica dos dados gravimétricos. A escala de tais car
tas é de 1 : 100.000, executada por aero-levantamentos em al
titude fixa, com as linhas de vôo, no sentido E-W, espaçados
de 2 km. Algumas áreas foram detalhadas por vôos com helicôp
tero, das quais a folha de Monte Carmelo I já tem relatório
concluído.

Como apoio geológico, a área foi mapeada por diversos autores
e entidades, cujos mapas permitem correlacionar as anomalias
gravimétricas verificadas com as estruturas mapeadas.

Ressalta-se ainda que parte da área estudada foi recentemente
objeto de detalhado levantamento gravimétrico pela Missão Fran
co Brasileira de Gravimetria (Convênio CNPq-DNPM/CPRM- CNRS -
ORSTOM-IGUSP). Quando disponíveis estes dados gravimétricos
deverão permitir o traçado mais detalhado da carta gravimétri
ca, inclusive na escala de reconhecimento de 1 : 500.000 ou
1 : 250.000.

Geologicamente a área objeto da presente pesquisa compreende
a Bacia Sedimentar do Paraná e o Embasamento Cristalino; sedi
mentos mesozóicos cobrem em pequenas áreas o Embasamento Cris
talino.

As feições tectônicas existentes na área estudada, como flexu
ras, arqueamentos, extensas zonas de falhas, depressões locais,
etc. são ressaltadas e melhor delimitadas na carta gravimétri
ca.

São também definidas algumas zonas de falhamentos profundos,
de idades muito antigas, reativados diversas vezes nos tempos

geológicos, ao longo das quais houve condições para as intrusões de corpos profundos e mesmo originados no manto superior (kimberlitos) e que são responsáveis por mineralizações de interesse econômico.

2. Considerações Teóricas sobre as medidas Gravimétricas

2.1. Generalidades

A finalidade da prospecção gravimétrica é detectar as estruturas geológicas que apresentam densidade contrastante com os encaixantes, por medida do campo gravitacional terrestre.

Fundamenta-se o método na lei da atração Universal de Newton:

$$F = G \frac{m_1 m_2}{R^2} \quad (1)$$

onde F é a força de atração dos corpos de massa m_1 e m_2 separados pela distância R ; G é a constante Universal de Gravitação ($6,67 \times 10^{-8}$ c.g.s.).

Considerando que $F = m.a$, onde a é a aceleração, substituindo-se na equação (1), tem-se:

$$a = \frac{F}{m_1} = G \frac{m_2}{R^2} \quad (2)$$

No caso da prospecção gravimétrica, m_2 corresponde à massa anômala (Δm) a ser detectada pela medida da aceleração do campo gravitacional da terra:

$$\Delta a = G \frac{\Delta m}{R^2} \quad (3)$$

As variações (Δa) do valor da gravidade de um ponto a outro na superfície terrestre dependem de um certo número de fatores:

- a) altitude das estações. Pela equação (3) nota-se que quanto maior a altitude (h) da estação ,

maior é a distância ($R+h$) ao centro da terra, e portanto a diminui com a altitude.

A força centrífuga gerada pela rotação da terra tende a diminuir ainda mais o valor da a em função da distância ao eixo de rotação da terra (r), e da projeção da altitude na perpendicular a este eixo (h').

$$F' = \omega^2 \cdot r \cdot \Delta m$$

e sendo $F' = m \cdot a'$

temos: $a' = \omega^2 r$ (4)

Somando-se (3) e (4), tem-se:

$$a + a' = \Delta m \frac{G}{(R + h)^2} + \omega^2 (r + h')$$

b) Latitude das estações. Sendo a terra em primeira aproximação um elipsoide, a distância R ao centro da terra é função da latitude (λ), do mesmo modo que r e h'.

A fórmula internacional da atração gravitacional adotada em Estocolmo (1930) é:

$$g_0 = 978,0490 (1 + 0,0052884 \sin^2 \lambda - 0,0000059 \sin^2 2\lambda)$$

em gals

O avanço da tecnologia e a precisão das medidas conduziram a modificar ligeiramente a fórmula acima. Em 1967 adotou-se a seguinte expressão:

$$g_0 = 978,0318 (1 + 0,0053024 \sin^2 \lambda - 0,0000058 \sin^2 2\lambda) \quad (5)$$

c) Topografia da superfície. A presença de um relevo na superfície da terra, vales e montanhas, cria anomalias locais no campo gravitacional observado.

d) Heterogeneidades da superfície. Estas são devidas às estruturas geológicas que causam variações de densidade em relação às rochas regionais.

São justamente as variações no campo gravitacional da terra, decorrentes deste último item, que apresentam interesse para a prospecção geológica.

Para ressaltar essa última influência, há necessidade de se corrigir os itens precedentes, que podem ser listados como correções seguintes:

A. Correção de latitude ou normal

Consiste em subtrair do valor observado (g) o valor teórico naquele ponto (g_0), obtido pela expressão (5):

$$\Delta g = g - g_0 \quad (5)$$

B. Correção de Ar-Livre de Faye

Corresponde à correção da fórmula (5) em função da altitude h da estação, conforme observação que segue à fórmula (3)

Fig.: 2 : Esquema para Correção Ar-Livre

Sua expressão rigorosa é dada por:

$$C_{ar} = (0,308557 - 0,00021 \cos^2 \lambda) h \quad (6)$$

O termo que faz intervir a latitude sendo extremamente pequeno (de 0,000187 em média na região estudada) pode ser desprezado.

C. Correção de Bouguer

Leva em conta a atração exercida pela massa da crosta terrestre contida entre a estação e o nível do mar, tomado como referência:

Fig.: 3 Esquema ilustrativo da Correção Bouguer

A expressão da correção Bouguer é:

$$C_{boug} = 0,04185 \cdot d \cdot h \quad (7)$$

Onde d é a densidade média da crosta situada entre a estação e o nível do mar.

D. Correção da Topografia Exterior

Na correção de Bouguer consideramos uma placa de espesura h, mas, como a superfície da terra apresenta-se ondulada (relevo) há necessidade de se corrigir os efeitos de atração gravitacional exercida pela falta (vales) ou acréscimo (montanhas) de massas.

Fig.: 4 Esquema da influência do relevo no campo gravitacional

Para sua correção (C_{topog}) utilizam-se tabelas previamente calculadas para os efeitos em compartimentos situados a determinadas distâncias da estação (Hammer, 1939).

Chega-se assim à seguinte expressão para a anomalia Bouguer, que é aquela que leva em conta todas as correções acima:

$$\text{Boug} = g - (g_0 + C_{ar} + C_{boug} + C_{topog}) \quad (8)$$

Se ao termo Bouguer (Boug) acrescentar-se a influência da anomalia causada pela compensação isostática tem-se a anomalia isostática.

2.2. Precisão das Medidas

A partir das expressões que fornecem as correções, pode-se facilmente calcular a precisão das medidas. Para g observado pode-se, hoje em dia, com gravímetros modernos (Wordén, Lacoste-Romberg) atingir a precisão da ordem de 0,01 mgal, muito superior à precisão dos valores das anomalias Bouguer e isostática.

No presente trabalho pode-se avaliar em $\pm 0,1$ mgal a precisão média da medida de g observado.

Em relação à latitude, a precisão depende da latitude da área levantada. O erro é máximo nas latitudes de 45° e mínimo nos polos e equador da terra.

Fig.: 5 Gráfico da variação da correção de latitude

Na área de nosso estudo entre as latitudes $17^{\circ}30'$ e $21^{\circ}30'$ S, tem-se partindo da fórmula:

$$K = 0,8122 \sin^2 2\lambda \quad \text{em mgal/km}$$

um erro de 0,51 mgal/km em média.

Para se manter a precisão de um (1) mgal no resultado final, a posição das estações deve ser conhecida com erro inferior a 1,95 km no sentido norte-sul geográfico. Adiante trata-se deste problema em detalhe para a área estudada (2.2.2).

Com relação às correções de Ar-Livre, sendo ela função da altitude, segundo a expressão (6) tem-se aproximadamente 0,3 mgal/m; isto significa que para manter a mesma precisão de um (1) mgal, é necessário se conhecer a altitude das estações com precisão melhor do que 3,3 metros.

No caso do presente trabalho, em que parte das estações coincidiram com referências de nível (RN) da rede de nivelamento nacional, a precisão quanto à correção ar-livre pode ser considerada boa. No caso das estações intermediárias cujas altitudes foram determinadas barometricamente, esta precisão está na ordem de ± 1 m, o que leva a uma precisão de $\pm 0,3$ mgal.

Em relação à correção Bouguer que envolve em sua expressão não só a altitude (h) da estação, mas também a densidade (d) média da crosta acima do nível do mar, podemos estimar os erros cometidos em função da variação de altitude (Δh) e do erro na determinação da densidade (Δd) pela tabela:

Δh (m)	Δg (g/cm ³)			
	0,05	0,10	0,15	0,20
50	0,10	0,21	0,31	0,42
100	0,21	0,42	0,63	0,84
200	0,42	0,84	1,26	1,68
500	1,05	2,09	3,14	4,18
1000	2,09	4,20	6,30	8,40

Tabela: 1 Avaliação dos erros de cálculo de g em função do erro de avaliação da densidade e do intervalo de variação de altitude (em mgal).

Considerando-se que na área estudada há variações extremas de altitude entre 300 m e 1.340 m, e lembrando que as rochas podem facilmente apresentar variações de densidade, um erro de 0,05 g/cm³ representa um erro de .. aproximadamente 2 mgal.

Devemos também lembrar que este erro é de importância quando de regiões montanhosas, onde o relevo varia sensivelmente, influenciando no traçado das curvas isogal e portanto da própria anomalia. No caso de bacias sedimentares (como a Bacia do Paraná), onde temos gradientes suaves de relevo, a influência no tocante à identificação das anomalias é secundária.

O problema da escolha das densidades a serem empregadas nas correções merecem, em vista das considerações acima, um estudo específico (item 2.2.1).

2.2.1. Densidades

A escolha da densidade para os cálculos necessários ao preparo da carta gravimétrica, que represente convenientemente a densidade média das rochas e formações geológicas na área estudada, é importante para a adequada interpretação das anomalias. O valor clássico de $2,67 \text{ g/cm}^3$ que geralmente se adapta bem para rochas cristalinas, não sendo conveniente, evidentemente, nas bacias sedimentares. Este valor tem sido utilizado classicamente no preparo das cartas gravimétricas Bouguer. Para efeitos de comparação e por representar aproximadamente a densidade média das rochas da parte superior da ... crosta, será empregada nos nossos cálculos.

Os processos descritos por Nettleton e Jung , permitem estimar melhor os valores para densidade na zona afetada pelo relevo. Assim, preparamos um programa para uma regressão linear (pelo método dos mínimos quadrados) entre as anomalias Bouguer e a altitude para uma determinação da densidade.

$$\text{Alt} = \overline{\text{Alt}} + b (\text{Boug} - \overline{\text{Boug}}) \quad (1)$$

onde Alt é altitude

$\overline{\text{Alt}}$ é a altitude média das estações gravimétricas

Boug é o valor da anomalia Bouguer

$\overline{\text{Boug}}$ é o valor médio das anomalias Bouguer observado.

O coeficiente angular desta reta, b , juntamente

te com o desvio padrão nos permitem conhecer a interdependência da anomalia Bouguer com a alttude da estação gravimétrica.

Sendo a Correção Bouguer (C_{boug}) função da alttude da estação e da densidade média das rochas subjacentes (até o nível do mar),

$$C_{\text{boug}} = 0,0419 \times \text{Alt} \times d$$

variando-se a densidade (d) mudarão os valores da anomalia Bouguer (Boug) e conseqüentemente poderemos calcular novas equações de regressão entre ela e a altitude da estação.

A solução da equação (modificada da eq. 1)

$$b = f(g) = \frac{\text{Alt} - \overline{\text{Alt}}}{\text{Boug} - \overline{\text{Boug}}} = 0 \quad (2)$$

corresponderá a uma determinada densidade, de tal modo que as correções Bouguer não incorporam anomalias decorrentes da inadequada compensação das massas situadas entre a cota da estação e o nível do mar e representará a melhor densidade para os cálculos.

A fim de se poder melhor visualizar a dependência de b e a densidade e mesmo encontrar graficamente a solução da equação (2), podemos elaborarar os gráficos b x d para as principais unidades geológicas e tectônicas envolvidas na área estudada e que se acham anexas às páginas seguintes.

2.2.1.1. Bacia do Paraná

As equações de regressão linear entre a altitude das estações gravimétricas na área estudada abrangida pela Bacia do Paraná permitiram elaborar o gráfico abaixo:

Fig. 6: Gráfico do coeficiente angular b
em função da densidade (d) na zo
na da Bacia do Parana

A densidade para a qual ρ se torna nulo é de 2,385 g/cm³. Tal densidade, baixa, indica que a influência da topografia não está relacionada aos derrames de lavas basálticas e sim às formações sedimentares sobrepostas a elas (formação Baurú). Para estudos gravimétricos de detalhe nesta zona deve se ter em conta esta densidade no cálculo da correção Bouguer.

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE =	2.20
ALTITUDE =	500.05 + 0.790292 * (BOUG +43.390794)
EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE =	2.30
ALTITUDE =	500.05 + 0.365812 * (BOUG +45.485967)
EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE =	2.35
ALTITUDE =	500.05 + 0.151816 * (BOUG +46.533583)
EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE =	2.40
ALTITUDE =	500.05 -0.062588 * (BOUG +47.581179)
EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE =	2.50
ALTITUDE =	500.05 -0.490315 * (BOUG +49.676371)
EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE =	2.60
ALTITUDE =	500.05 -0.912801 * (BOUG +51.771564)

Tabela: 2

Equações de regressão entre anomalias Bouguer e altitude das estações na Bacia Paraná

ALTITUDES (m)

1600

1400

1200

1000

800

600

400

200

TABELA DE SÍMBOLOS
VALOR SÍMBOLO

1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F
16	G
17	H
18	I
19	J
20	K
21	L
22	M
23	N
24	O
25	P
26	Q
27	R
28	S
29	T
30	U
31	V
32	W
33	X
34	Y
35	Z
36	*
37	-
38	+
39	&
MAIOR	>

60 30 0 -30 -60 -90 -120 -150
ANOMALIA BOUGUER (MGALS)

FIG 7 GRÁFICO DA CORRELAÇÃO
DAS ANOMALIAS BOUGUER
E ALTITUDE PARA A BACIA DO PARANÁ

EQUAÇÃO DA REGRESSÃO LINEAR PARA DENSIDADE = 2.67

ALTITUDE = 500.05 + -1.203062 * (BOUG - 753.238198)

CARTÕES APROVEITADOS DO ARQ ONRJ = 47
CARTÕES APROVEITADOS DO ARQ ISGE = 552

BACIA DO PARANÁ

FIG. 8. HISTOGRAMA DA ANOMALIA BOUGUER PARA DENSIDADE = 2.67

FIG. 9. HISTOGRAMA DA ALTITUDE PARA A BACIA DO PARANÁ

ALTITUDE (m)

1600

1400

1200

1000

800

600

400

200

TABELA DE SÍMBOLOS
VALOR SÍMBOLO

1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F
16	G
17	H
18	I
19	J
20	K
21	L
22	M
23	N
24	O
25	P
26	Q
27	R
28	S
29	T
30	U
31	V
32	W
33	X
34	Y
35	Z
36	*
37	-
38	+
39	&
MAIOR	>

FIG. 10. GRÁFICO DA CORRELAÇÃO
DAS ANOMALIAS BOUGUER
E ALTITUDE PARA A BACIA DO PARANÁ

0 -30 -60 -90 -120 -150 -180 -210
ANOMALIA BOUGUER
(MGAL)

EQUAÇÃO DA REGRESSÃO LINEAR PARA DENSIDADE = 2,385

ALTITUDE = 500,05 + 0,001742 * (BOUG + 47,260900)

CARTÕES APROVEITADOS DO ARQ. CERJ = 47
CARTÕES APROVEITADOS DO ARQ. LUGF = 552

BACIA DO PARANÁ

FIG.11. HISTOGRAMA DA ANOMALIA BOUGUER

DENSIDADE 2,385

2.2.1.2. Craton do São Francisco

Fig.: - 12 Gráfico do coeficiente angular $\underline{b}$ em função da densidade ($\underline{d}$) na Zona do Craton do São Francisco

O craton do São Francisco na sua borda SW é abrangido pelas quadrículas 2 a 5 e 12 a 14 apresentando uma densidade de $2,728 \text{ g/cm}^3$ para $\underline{b} = 0$.

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.40
 ALTITUDE = 825.30 + 4.205483 * (BOUG +72.966164)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.50
 ALTITUDE = 825.30 + 3.014601 * (BOUG +76.424169)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.60
 ALTITUDE = 825.30 + 1.728312 * (BOUG +79.882175)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.70
 ALTITUDE = 825.30 + 0.384749 * (BOUG +83.340180)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.75
 ALTITUDE = 825.30 -0.294795 * (BOUG +85.069183)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.80
 ALTITUDE = 825.30 -0.971627 * (BOUG +86.798185)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.90
 ALTITUDE = 825.30 -2.295719 * (BOUG +90.256191)

Tabela: 3

Equações de regressão entre anomalias Bouguer e altitude das Estações na Região SE do Cráton do São Francisco

ALTITUDES(M)
1800

1	TABELA DE SIMBOLUS
1	VALOR SIMBOLO

1400

1200

1000

800

600

400

200

60 30 0 -30 -60 -90 -120 -150
ANDMALIA BOUGUER (MGALS)

FIG. 13 GRÁFICO DA CORRELAÇÃO
DAS ANOMALIAS BOUGUÉ
E ALTITUDE PARA O
CRATON DO SÃO FRANCIS-
CO.

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2,67
ALTITUDE = 825,30 + 0,791271 * (BOUG + 82,302778)

CARTÕES APROVEITADOS DO ARQ DN RJ *	26
CARTÕES APROVEITADOS DO ARQ IBGE *	132

CRATON DO SÃO FRANCISCO

FIG.14. HISTOGRAMA DA ANOMALIA BOUGUER PARA DENSIDADE = 2,67

CRATON DO SÃO FRANCISCO
FIG. 15 HISTOGRAMA DA ALTITUDE

2.2.1.3. Embasamento Cristalino

A região abrangida por rochas do embasamento cristalino, pré-cambrianas, englobam na área estudada o grupo Araxão e Formações Canastra e Bambuí. São afetadas por diversas zonas de falhamentos e arqueamentos, de idades antigas (pré-cambrianas, transamazônicas e possivelmente ainda mais antigas, remontando às fases iniciais da história da placa gondwanica), reativados diversas vezes no tempo geológico. Ao longo destas zonas de falhas apresentam-se intrudidas rochas básicas, ultra-básicas, alcalinas, bem como rochas de origem profunda, como picritos, peridotitos e mesmo kimberlitos (Svisero, 1977), e, que na média proporcionam a estas rochas densidades ligeiramente superiores às admitidas .. classicamente como média para as rochas de crosta superior ($d=2,67 \text{ g/cm}^3$).

Fig. 16 Gráfico do coeficiente angular b em função da densidade, na zona do Embasamento Cristalino

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.50

ALTITUDE = 860.37 + 2.095505 * (BOUG +87.072198)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.60

ALTITUDE = 860.37 + 1.520719 * (BOUG +90.677141)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.70

ALTITUDE = 860.37 + 0.923318 * (BOUG +94.282085)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.75

ALTITUDE = 860.37 + 0.618778 * (BOUG +96.084557)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.80

ALTITUDE = 860.37 + 0.311857 * (BOUG +97.887029)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.90

ALTITUDE = 860.37 -0.304410 * (BOUG +101.491972)

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 3.00

ALTITUDE = 860.37 -0.915986 * (BOUG +105.096916)

Tabela: 4

Equações de regressão entre anomalias Bouguer e altitude das estações na área do Embasamento Cristalino.

ALTITUDES (M)

1600
1400
1200
1000
800
600
400
200
0

TABELA DE SÍMBOLOS
VALOR SÍMBOLO

1	I
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F
16	G
17	H
18	I
19	J
20	K
21	L
22	M
23	N
24	O
25	P
26	Q
27	R
28	S
29	T
30	U
31	V
32	W
33	X
34	Y
35	Z
36	*
37	-
38	+
39	&
MAIOR	>

FIG. 17. GRÁFICO DA CORRELAÇÃO
DAS ANOMALIAS BOUGUER
E ALTITUDE PARA O EM-
BASAMENTO CRISTALINO

EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = 2.67
ALTITUDE = 860.57 + 1.10421 * (BOUG + 93.200602)

CARTOES APROVEITADOS DO ANO CARJ = 31
CARTOES APROVEITADOS DO ANO INGE = 338

EMBASAMENTO CRISTALINO

FIG.18. HISTOGRAMA DA ANOMALIA BOUGUER PARA DENSIDADE $\rho = 2.67$

FIG. 19. HISTOGRAMA DA ALTITUDE PARA O EMPASAMENTO CRISTALINO

ALTITUDE (M)

1600

1400

1200

1000

800

600

400

200

TABELA DE SÍMBOLOS
VALOR SÍMBOLO

1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F
16	G
17	H
18	I
19	J
20	K
21	L
22	M
23	N
24	O
25	P
26	Q
27	R
28	S
29	T
30	U
31	V
32	W
33	X
34	Y
35	Z
36	*
37	+
38	-
39	%
MAIOR	>

FIG. 20. GRÁFICO DA CORRELAÇÃO
DAS ANOMALIAS BOUGUER
E ALTITUDE PARA O EM-
BASAMENTO CRISTALINO

0 -30 -60 -90 -120 -150 -180 -210
ANOMALIA BOUGUER (MGALS)

EQUAÇÃO DA REGRESSÃO LINEAR PARA DENSIDADE = 2,85

ALTITUDE = 860,37 + 0,003731 * (BOUG + 99,689500)

EMBASAMENTO CRISTALINO

FIG. 21. HISTOGRAMA DA ANOMALIA BOGGER DENSIDADE 2,85

ALTITUDES(M)
1600

1400

1200

1000

800

600

400

200

TABELA DE SIMBOLOS
VALOR SIMBOLO

1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9
10 A
11 B
12 C
13 D
14 E
15 F
16 G
17 H
18 I
19 J
20 K
21 L
22 M
23 N
24 O
25 P
26 Q
27 R
28 S
29 T
30 U
31 V
32 W
33 X
34 Y
35 Z
36 *
37 -
38 +
39 &
MAIOR >

60 30 0 -30 -60 -90 -120 -150
ANOMALIA BOUGUER (MGALS)

FIG.22. GRAFICO DA CORRELAÇÃO
DAS ANOMALIAS BOUGUER
E ALTITUDE PARA A
ÁREA ESTUDADA.

EQUAÇÃO DA REGRESSÃO LINEAR PARA DENSIDADE = 2.67

ALTITUDE = 696.03 -5.408597 * (BOUG +76.337028)

CARTÕES APROVEITADOS DO ARQ ONRJ = 264
CARTÕES APROVEITADOS DO ARQ IJGE = 1042

ÁREA ESTUDADA

FIG.23. HISTOGRAMA DA ANOMALIA BOUGUER PARA DENSIDADE = 2.67

FIG. 24. HISTOGRAMA DA ALTITUDE PARA A ÁREA ESTUDADA

Em conclusão, resumindo temos:

Tipo de Estrutura	Densidade Ideal para correção Bouguer (g/cm ³)	Altitude média das estações (m)	nº de quadrículas abrangidas
Bacia do Paraná	2,385	500,05	32
Cráton do S. Francisco	2,728	825,30	5
Embasamento Cris- tali- no	2,85	860,37	53
Média Ponderada	2,68	730,31	-

Tabela 5: Densidades Ideais para correção Bouguer

Assim sendo, a densidade média de
2,68 g/cm³ é perfeitamente compatível
 com o valor médio admitido, clássico,
 de 2,67 g/cm³, pelo qual, e pelos moti-
 vos de que as cartas dos outros países
 têm sido executadas com esta última den-
 sidade, a adotaremos nos cálculos das
 correções Bouguer. Ressalta-se porém
 que para aplicações locais, em escala
 de semi-detálhe ou detalhe, deve-se em-
 pregar as densidades corretas para ca-
 da tipo de estrutura.

2.2.2. Coordenadas das Estações

Uma análise dos dados disponíveis permitiram verificar que diversas estações apresentavam erros de localização geográfica (algumas, excepcionalmente, deslocadas até 17 km no sentido NS) por terem sido utilizadas antigas cartas em escalas 1 : 1.000.000 e 1:500.000. A revisão destes erros foi feita graças aos novos documentos topográficos publicados pelo Instituto Brasileiro de Geografia e Estatística, IBGE e Serviço Geográfico do Exército (SGE) em escalas 1 : 50.000 e 1:100.000.

Por deficiência de descrição ou alteração nos nomes locais , diversas estações gravimétricas não tiveram sua localização identificada nas cartas acima referidas, podendo os mesmos serem responsáveis por altos resíduos nos cálculos executados. A revisão destes pontos no campo, que demanda extensa campanha, abrangendo área extensa, poderá levar a uma ligeira melhoria no traçado das cartas obtidas, mas que acreditamos ser de real interesse quando de estudo das anomalias locais, de gravimetria de detalhe.

Para facilitar a localização das estações gravimétricas nos mapas topográficos recentes, as suas coordenadas (geográficas) são transformadas em coordenadas planas U.T.M.

Partindo-se da descrição da estação gravimétrica, do itinerário para sua localização e da cota da estação (para controle) se determina a posição mais correta para a estação.

Em seguida mede-se as coordenadas do ponto e por comparação com as coordenadas U.T.M. já calculadas pode-se calcular os desvios. Como as estações do Observatório Nacional do Rio de Janeiro estão localizadas ao longo de redes de triangulação e de nivelamento, estes pontos têm precisão de localização muito boa. As estações do Instituto Brasileiro de Geografia e Estatística que não são localizadas nas R.N. (referências de nível) e tiveram suas coordenadas estabelecidas a partir de antigas cartas ao milionésimo podem apresentar desvios consideráveis. No caso da gravimetria os deslocamentos no sentido Norte-Sul são os mais importantes, uma vez que para a latitude média da área estudada há uma variação de aproximadamente 0,51 mgal por km de deslocamento no sentido NS.

Como exemplo do deslocamento das estações gravimétricas em relação às coordenadas originalmente estabelecidas, abaixo ilustramos o exemplo da folha de Monte Carmelo situada no Triângulo Mineiro.

VERIFICAÇÃO DAS COORDENADAS DE ESTAÇÕES GRAVIMÉTRICAS

Folha: Monte Carmelo

Ref. Cartográfica : SE - 23 - V - A - M

Escala: 1:100.000

Coordenadas Geográficas	Coordenadas U.T.M. (m)		Altitude (m)	Gravidade (mgal)	Ref./Ponto	Obs. sobre a Estação	Coordenadas U.T.M. Corrigidas (m)		Erro de Latitude (km)
	Norte	Este					Norte	Este	
183632 470934	7952109.45	277601.83	937.51	978279.00	SE-23-M- 862				
183211 470807	7948645.58	282236.58	840.66	978299.00	SE-23-M 709				
183225 471140	7948696.21	263354.95	913.40	978305.00	SE-23-M 729				
183357 471926	7948601.57	256725.46	771.20	978311.00	SE-23-M 881				
183447 470558	7944361.23	278430.10	1007.31	978267.00	SE-23-M 693				
183745 471226	7933957.65	276631.17	1048.89	978267.00	SE-23-M 1750				
183823 477154	7937353.51	292723.27	795.34	978317.00	SE-23-M 860				
183855 472727	7936241.90	240726.14	936.40	978280.00	SE-23-M 1775				
183935 472122	7936677.78	264465.64	1061.69	978265.00	SE-23-M 864				
184011 470022	7934510.23	265294.76	1027.60	978261.00	SE-23-M 1751				
184113 470249	7932401.60	272050.55	926.74	978292.00	SE-23-M 707				
184136 470604	7931331.50	242052.52	910.49	978295.00	SE-23-M 859				
184319 472254	7937159.67	236177.25	805.41	978285.52	SE-23-M 1776				
184332 472555	7937474.74	226527.44	804.82	978310.00	SE-23-M 333				
184507 471545	7932733.24	271730.53	1052.54	978295.00	SE-23-M 1759		7935460 (?) 243320 (?)		4,068 (?)
184555 470557	7932452.21	275041.41	815.60	978317.00	SE-23-M 862				
184512 472635	7917242.96	232041.77	1023.23	978286.00	SE-23-M 340				
185338 470521	7905644.74	281654.63	866.50	978293.00	SE-23-M 705				
185341 472477	7903079.36	242178.74	1025.57	978282.00	SE-23-M 341	Leiso Bueno	7907650	240180	2,023
185556 471411	7903103.10	244456.22	895.97	978356.00	SE-23-M 342	Maculeas	7905270	264610	0,110
185701 470055	7903045.73	267709.44	1027.48	978290.00	SE-23-M 1753	Patrocínio			
185719 471645	7902622.90	277655.94	957.85	978317.00	SE-23-M 343		7902565	271020	0,113
185739 470304	7902223.91	284236.56	874.43	978314.00	SE-23-M 344	Rio Congonhas	7904300	284650	2,076
185913 472837	7902762.32	240176.47	952.40	978284.00	SE-23-M 350	Duvidoso (?)	7903600 (?) 240150 (?)		0,693 (?)

Tabela: 6 Exemplo de correção de coordenadas de estações gravimétricas

3. Traçado das Cartas Gravimétricas

3.1. Escala da Carta

A escolha da malha de amostragem, usualmente é um problema que se determina antes da execução de um levantamento gravimétrico, em função do tipo de carta desejada, e das informações dela esperadas. No caso em questão a problemática é diferente: Dada uma série de pontos, em malha irregular, determinar os parâmetros ideais para desenho da carta gravimétrica, ou seja, determinar a sua escala, equidistância entre linhas de isogal, filtragem adequada, etc.

A densidade das estações gravimétricas e a escala das cartas têm entre si correlação advinda da quantidade de informações e necessidades de sua expressão pelas linhas de isogals. Sazhina e Grushinsky (1971) resumiram os diferentes tipos de cartas como abaixo:

Tipo de Prospecção	Intervalo das curvas isogal (mgal)	Escala dos Mapas e Cartas	desvios máximos na determinação das anomalias Bouguer (mgal)	Densidade das estações	
				Área média por estação (km ²)	Distância média entre estações (m)
Regional	10	1:2.500.000 1:1.000.000	± 2,5	150 - 400	5.000 - 10.000
	5	1:1.000.000	± 2,0	25 - 100	2.500 - 5.000
Reconhecimento	2	1: 500.000 1: 200.000 1: 100.000	± 0,8	4 - 10	1.000 - 2.000
	1	1: 100.000 1: 50.000	± 0,4	1 - 4	500 - 1.000
Detalhe	0,5	1: 50.000 1: 25.000	± 0,2	0,2 - 1,0	200 - 500
	0,2-0,25	1: 10.000 1: 5.000	± 0,08-0,1	0,02-0,1	50 - 150
	0,1	1: 5.000 1: 2.000 1: 1.000	± 0,04	0,002 - 0,01	20 - 50

Tab. 7 Características típicas de prospecções gravimétricas, (modificado de Sazhina, N. e Grushinsky, N. (1971)

Para a área estudada temos a seguinte tabela de distribuição de estações em quadrículas de $\frac{1}{2} \times \frac{1}{2}$ grau:

Longitudes												
51°	50°	49°	48°	47°	46°	45°	44°	43°	42°	41°	40°	
-	-	10	26	17	10	13	17	15	15	-	-	17°30'
-	8	12	29	12	14	12	16	13	8	9	8	18°
-	17	10	20	19	24	19	24	21	17	15	6	19°
15	16	20	14	15	10	20	21	20	22	27	20	20°
13	24	17	16	26	98	30	17	19	12	15	11	21°
16	17	13	14	17	12	27	17	10	13	19	17	22°
7	22	28	18	23	20	10	19	24	8	8	10	23°
12	27	20	20	22	22	30	18	11	3	18	14	24°
												Latitudes

Tabela: 8 Número de estações gravimétricas existentes em cada quadrícula de $\frac{1}{2} \times \frac{1}{2}$ grau

O número médio de estações por quadrícula de $\frac{1}{2} \times \frac{1}{2}$ grau na área estudada é de 17,44, com desvio padrão 10,46. Excluindo-se a quadrícula nº 65 (98 estações = centro "datum chuã") a densidade média das estações por quadrícula $\frac{1}{2} \times \frac{1}{2}$ grau é de $\bar{N} = 16,54$, com desvio padrão 6,01 ou 66,2 estações por grau quadrado, que levamos em conta nos cálculos por ser mais significativa.

Como na área em estudo temos uma densidade média de 66,2 estações por grau quadrado, ou melhor, uma média de 181,3 km²/estação gravimétrica, podemos classificar, segundo estes autores, como CARTA GRAVIMÉTRICA BOUGUER (de tendência) REGIONAL, concordante com a escala de apresentação de 1 : 1.000.000.

Esta carta, em face de sua escala, filtrada das anomalias locais, nível de detalhes, permite fácil comparação com as cartas geológicas ao milionésimo publicados pelo Departamento Nacional da Produção Mineral do Ministério das Minas e Energia.

3.2. Considerações para o traçado das cartas

O fato de que os programas implantados de contornos automático não oferecem os desejados parâmetros estatísticos de seu ajuste com os dados, de não permitirem eliminação de pontos anômalos ou com erros, nos levou ao preparo de programa especial para o desenho das cartas gravimétricas.

Para tal fim foi estudada a aplicação de superfícies de tendência polinomiais subdividindo a área estudada em quadrículas.

3.2.1. Densidade de estações gravimétricas

Para efeitos geodésicos, aplicando a fórmula de Stokes para a determinação do geoide, cerca de uma dezena de estações regularmente distribuídas por grau quadrado podem ser suficientes. Para finalidades geológicas regionais há necessidade de aumentar por 5 ou mais vezes, especialmente no caso de zonas perturbadas por falhamentos, intrusões, etc.

3.2.2. Escolha do tamanho das quadrículas e grau para os polinômios das superfícies de tendência

O método escolhido, de mapeamento por quadrículas, com ajuste entre si, exige que nas bordas de cada quadrícula sejam levados em conta pontos fora da mesma, ao seu redor, de modo tal que representem condições de contorno apropriadas para a quadrícula.

Sendo passo o tamanho da quadrícula, definimos o parâmetro NENV representando a fração do passo acrescida à área mapeada.

Fig.: 25 Croquis ilustrativo do passo e NENV para as quadriculas.

Quando $NENV = 0,2071$ (área efetiva = 2.00 vezes o de uma quadrícula) teremos igual número de pontos na parte considerada ao redor da área e na própria área mapeada. A partir deste valor de NENV (0,2071) a influência dos pontos fora da área mapeada se tornam predominantes, suavizando muito as anomalias. No caso de se desejar a sua

vização das anomalias, como para N.ENV = 0,5, ou maiores é preferível se gerar a carta por emprego de passo maior, diminuindo o número de quadrículas e conseqüentemente os custos e tempo de processamento.

N.ENV	área efetiva (em passo ²)
0.0	1,0
0.1	1,44
0.2	1,96
0.2071	2,00
0.3	2,56
0.4	3,24
0.5	4,00
0.6	4,84

Tab. 9. Area efetiva em função de N.ENV

Com o procedimento de contorno automático adotado para a elaboração das cartas foi o de superfície de tendências ajustadas por funções polinomiais, e considerando as fórmulas que relacionam o grau dos polinômios com o número de pontos mínimos necessários, e do número de comprimentos de onda ajustáveis temos:

$n^{\circ} \max \lambda = N \lambda = \frac{n-1}{2}$
Grau = $2N\lambda + 1$
Coef (n) = $\sum_{g=0}^n (g + 1)$

onde n é o grau do polinômio

Considerando-se o número médio de pontos por grau quadrado podemos elaborar tabelas do grau máximo em função do nº de pontos por quadrícula, para quadrículas de vários valores de passo. Assim temos:

N.ENV	nº médio de pontos p/ quadrícula	grau máximo
0.0	8,27	2
0.1	11,91	3
0.2	16,21	4
0.3	21,17	5*

passo = $1/4^\circ$

* próximos do limite mínimo de pontos

Tab.:10. Pontos por quadriculas para passo = $1/4^\circ$

N.ENV	nº médio de pontos nas quadrículas	grau máximo teórico
0.0	16.54	4
0.1	23,82	5
0.2	32,42	6
0.3	42,34	7

passo = $1/2^\circ$

Tab. : 11. Pontos por quadricula para passo = $1/2^\circ$

Como tempo de uso do processador central do sistema de computador e dos processadores de entrada e saída, linhas impressas, etc., está essencialmente relacionado às manipulações obrigatórias para cada cálculo e à apresentação dos resultados para cada quadrícula e variável em pequena proporção em função da maior ou menor complexidade das equações de cálculo (i.e. - grau dos polinômios), é preferível o uso de polinômios de grau superior a do desmembramento do mapa em muitas quadrículas. Naturalmente o fator de limitação máximo do grau do polinômio é o número de pontos por quadrícula e os problemas de refinamento da solução da inversão da matriz dos dados para a obtenção da matriz dos coeficientes dos polinômios. Associa-se a esta limitação o fato de que em graus elevados poderemos ter o ajuste de pontos anômalos pelas funções polinomiais, não eliminando as anomalias da superfície ou de subsuperfície.

Uma limitação prática do grau máximo também se obtém a partir do comprimento de onda mínimo de filtragem desejado, i.e., do estudo de anomalias de origem mais ou menos profundas. De acordo com os gráficos de Chereau (in Louis, 1970) existe uma curva experimental C0, que limita a máxima amplitude das anomalias em função do valor π/L , onde L é dado em Km.

As anomalias de origem isostática, geralmente com amplitudes acima de 30 mgals correspondem a valores de π/L menores que 0,05 e frequentemente ao redor de 0,015.

Fig.: 26. Gráfico de Chereau para embasamento a florante.

Fig.: 27. Gráfico de Chereau para embasamento a 2000m de profundidade.

Considerando L a largura em km de uma anomalia, para estruturas profundas, especialmente no caso de estudo das estruturas tectônicas, teremos anomalias com $\frac{\pi}{L} < 0,1$ a $0,2$, ou seja, $L > 15,7$ km a $31,4$ km.

A relação entre a largura de uma anomalia e o comprimento de onda (λ) é $L = \frac{\lambda}{2}$.

No caso da área em estudo situada entre as latitudes de $17^{\circ}30'S$ e $21^{\circ}30'S$, para o valor médio de $19^{\circ}30'$, temos uma correspondência entre um grau de longitude e a distância abrangida de $1^{\circ} = 105,6$ km e para a latitude, $1^{\circ} = 110,9$ km.

Assim sendo $L = 31,4 \text{ km}$ ($\frac{\pi}{L} = 0,1$) corresponde a

$$\frac{\lambda}{2} = \frac{31,4 \text{ km}}{105,6 \text{ km/gra}} = 0,595 \text{ grau.}$$

Para latitude temos:

$$\frac{\lambda}{2} = \frac{31,4 \text{ km}}{110,9 \text{ km/gra}} = 0,568 \text{ grau,}$$

ou seja, uma média de $\frac{\lambda}{2} = 0,58 \text{ grau}$.

Do mesmo modo para $L = 15,7 \text{ km}$ ($\frac{\pi}{L} = 0,2$), temos uma média de $\frac{\lambda}{2} = 0,29 \text{ grau}$. Para estruturas menores ou mais superficiais e para $\frac{\pi}{L} = 0,5$ temos $\frac{\lambda}{2} = 0,116 \approx 0,12 \text{ grau}$; similarmnte para $\frac{\pi}{L} = 1,0$ ou $L = 1,5 \text{ km}$, $\frac{\lambda}{2} = 0,058 \text{ grau} \approx 0,06 \text{ grau}$.

Para evitar problemas com possíveis efeitos de grau alto do desenho incluir anomalias locais, devemos usar grau máximo para os polinomios equivalentes a $2N\lambda$, onde $N\lambda$ é o número de comprimentos de onda na quadrícula. Assim o grau máximo a utilizar, além das restrições do número mínimo de pontos, será dado também por:

$N\lambda$	Grau Máximo	nº de coeficientes do polinomio = número mínimo de pontos
0,5	2	6
1	3	10
1,5	4	15
2	5	21
2,5	6	28
3	7	36
3,5	8	45
4	9	55
4,5	10	66
5	11	78

Tabela : 12
Grau dos polinômios em função de $N\lambda$

A tabela da página anterior mostra a correspondência entre número de comprimentos de onda , grau máximo e número de coeficiente dos polinômios da função de ajuste.

Assim para $N\lambda = 2$ teremos o Grau máximo do polinômio igual a 5, correspondendo a um mínimo de 21 pontos por quadrícula. Sendo a média de 66,2 pontos/grau quadrado a densidade dos pontos na área estudada, e, considerando o número de pontos por quadrícula igual a 21 para as condições de $N\lambda = 2$, poderemos calcular o número máximo de quadrículas por grau quadrado.

$$QUAD = \frac{\text{dens/grau}^2}{n^{\circ} \text{ mín.de pontos/quadrícula}}$$

Assim para $N\lambda = 2$ e densidade de 66,2 pontos por quadrícula temos:

$$QUAD = \frac{66,2}{21} = \underline{3,1524}$$

Do mesmo modo, para $N\lambda = 1,5$, Grau Máximo = 4, n° mínimo de pontos = 15, temos $QUAD = 66,2 / 15 = \underline{4,4133}$.

Portanto o tamanho da quadrícula acrescida dos pontos em volta para efeito de acerto dos mapas entre si:

$$D = \text{passo} + 2N \cdot ENV = \frac{1}{(\sqrt{QUAD})}$$

Para $N\lambda = 1,5$ temos:

$$D = \frac{1}{\sqrt{4.4133}} = \frac{1}{2.10} = 0,476 \text{ graus}$$

Para $N\lambda = 2$ temos:

$$D = \text{passo} + 2 \text{ N.ENV} = \frac{1}{\sqrt{3,1524}} = \frac{1}{1,775} = 0,563 \text{ graus}$$

O passo apropriado aos dados será calculado a partir das condições de ajuste das quadrículas vizinhas, ou seja de N.ENV.

Como N.ENV deve ser $\leq 0,2071$ temos (para área ≤ 2 área da quadrícula), ou $D = \text{passo} + 2 \text{ N.ENV} \leq 1,41$ e assim comprimento mínimo das quadrículas (passo) será $0,338^\circ$ para $N\lambda = 1,5$ e $0,40^\circ$ para $N\lambda = 2,0$.

Para efeitos de preparo do desenho final foi adotado passo mínimo = 0,5 grau, ficando pois satisfeitos os requisitos acima e podendo-se em função do nº de pontos reais na área e em sua volta se calcular o ajuste por funções polinomiais de até grau 5.

Deste modo sendo $N\lambda \text{ max.} = 2$ (para grau de polinomio = 5) a filtragem será tanto mais efetiva quanto os corpos tiverem dimensões inferiores a

$$B = \frac{D}{2N\lambda} = \frac{\text{passo} + 2 \text{ N.ENV.}}{2N\lambda} = \frac{0,5 + 2 \times 0,2 \times 0,5}{2 \times 2}$$

ou $B = 0,175 \text{ graus}$

Considerando a extensão média de um grau de latitude e longitude na região de $(105,6+110,9)/2 = 108,25$ km, temos:

$$L \approx 0,175 \times 108 \text{ km} \approx 18,9 \text{ km}$$

Do mesmo modo, para ajuste por polinômios de quarto grau temos:

$$B = \frac{0,7}{1,5 \times 2} = 0,23 \text{ graus ou}$$

$$L \approx 25 \text{ km}$$

Os valores de $L = 18,9$ e $L = 25$ km correspondem a corpos $\frac{\pi}{L}$ aprox. 0,17 e 0,13, os quais podem se relacionar às grandes estruturas tectônicas sedimentares tectônicas ou intrusivas.

Uma vez definido o passo de $0,5^\circ$ e cálculo de polinômios até grau 4 ou grau 5, N ENV 0,2 e dada a densidade média de 66,2 pontos/grau quadrado, resta definir a equidistância das curvas de isogals a ser desenhada. Este valor do intervalo das curvas ou símbolos do mapa (SB) deve ser suficiente para cobrir o intervalo de variações de gravidade de Bouguer na área.

Assim, a variação da anomalia Bouguer para os dados em questão de 157 mgal ($Z_{\min} - Z_{\max}$) e NS sendo o número de símbolos (SB) = 70, permitiu o traçado de curvas isogals com SB de 2,24 mgal.

Por outro lado SB deve ser no mínimo da mesma or

dem de grandeza do desvio padrão observado nos pontos. Como no caso em questão a média do desvio padrão das quadrículas foi $\tau = 2,30$, e levando em conta que o ideal é SB ser potências de 10 de 1 - 2 - 2,5 ou 5, finalmente foi escolhido SB = 2,5 mgal.

3.2.3. Detectabilidade de Estruturas para a densidade de pontos estudados

Dos gráficos de Savinskii (1965) se pode calcular a probabilidade de detectar estruturas gravimétricas em um perfil, a partir da distância média entre as estações (h). No nosso caso essa distância média está ao redor de 13,47 km/estação. Considerando-se a distribuição homogênea das estações, ($d = 1,0$), corpos circulares $b = a$ ou $b' = 1$, temos para $h = 13,47$ km as probabilidades de se ter duas ou mais estações sobre anomalia da estrutura ($P \geq 2$), abaixo tabeladas.

Fig.:28. Gráfico de probabilidade $p \geq 2$ e tabela para $h=13,47$ Km. , considerando distribuição uniforme ($b'=1,0$) na detecção de anomalias circulares.

Como conclusão podemos verificar que em um perfil, anomalias com diâmetros inferiores a a ou $\frac{\lambda}{2}$ iguais a 22 km teremos apenas 50% de probabilidade ($P \geq 2 = 0,50$) de que duas estações verifiquem a anomalia (anomalias 10-12 km de diâmetro). Para 80% de probabilidade, teremos a = 25 km de diâmetro.

Dado o fato de que as medidas não foram realizadas em perfis isolados, mas sim com distribuição mais homogênea, procurando-se cobrir a área com densidade mais ou menos regular de pontos, a probabilidade de detecção de anomalias de 20 km de diâmetro aumenta, podendo-se considerar estas estruturas como efetivamente detectáveis no nosso estudo. Naturalmente em certas regiões a malha não é tão regular ou onde as linhas (estradas) ao longo das quais foram efetuadas as medidas se apresentarem distanciadas, a detectabilidade será um pouco menor para este tamanho de anomalias.

De acordo com estas anotações, para $P > 2 = 80\%$, ou $a = 25$ km, o grau adequado para a função polinomial será função do tamanho efetivo da quadrícula, incluindo a área coberta pelas condições ... N.ENV (contorno). Definindo NA como o número de vezes que a quadrícula em uma dimensão abrange a extensão a da anomalia.

$$NA = \frac{\text{passo} + N.ENV}{a},$$

para $a = 25$ km

N.ENV = 0,2 temos a tabela:

QUADRÍCULA MAPEADA (graus)	QUADRÍCULA EFETIVA passo + N.ENV		NA (a=25 km)	N λ	GRAU MÁXIMO para Polinômios
	grau	km			
1/4 x 1/4	0,35	37,1	$\approx 1,5$	0,57	2
1/3 x 1/3	0,46	47,8	≈ 2	0,9	3
1/2 x 1/2	0,76	74,2	≈ 3	1,5	4
1 x 1	1,4	148,4	≈ 6	3,0	7

Tab.: 13. Grau do polinômio em função do tamanho da quadrícula, para NENV = 0,2 e a = 25 Km.

Para N.ENV = 0,1 passo e a = 25 km, temos:

QUADRÍCULA MAPEADA (graus)	QUADRÍCULA EFETIVA passo + N.ENV		NA (a=25km)	N λ	GRAU MÁXIMO PARA Polinômios
	graus	km			
1/4 x 1/4	0,30	31,8	1,2	0,5	2
1/3 x 1/3	0,396	42,4	1,6	0,5	2
1/2 x 1/2	0,6	63,6	2,5	1,25	3
1 x 1	1,2	127,2	5	2,5	6

Tab.: 14. Grau do polinômio em função do tamanho da quadrícula, para NENV=0,1 e a=25 Km.

Deste modo verifica-se que o tamanho adequado de quadrículas será de 1/2 grau x 1/2 grau, para N.ENV = 0,2 (a = 25 km) e calculando-se até o grau 4 os polinômios de tendência.

No caso de N.ENV = 0,1, temos passo ideal de 1/2 grau x 1/2 grau dos polinômios de tendência = 3.

Para 1° x 1° já N λ será de 3 para N.ENV = 0,2 o que pelo exposto anteriormente é um pouco alto, podendo eventualmente permitir o ajuste de pon-

tos anômalos. Deste modo, para se ter traçado a dequado, optamos pelo desenho da carta a partir de quadrículas de $1/2 \times 1/2$, com N.ENV (condição de contorno) de 0,2 e conseqüentemente cálculo até grau 4 para os polinômios de regressão.

Considerando-se que em diversos quadrículas a densidade de pontos é superior à média, optamos por cálculo nestas quadrículas por polinômios até grau 5.

Tal conclusão concorda com o resultado calculado no ítem anterior.

3.2.4. Consistência dos Dados

Com o fim de se detectar dados como erros de transcrição, de falta de altitude, divergências no valor da gravidade, etc., foi elaborado um programa inicial de consistência de dados.

Após conferidos e acertados, os pontos duvidosos ou errados foram eliminados.

Como limites para as anomalias na região foram adotados (após prévio exame) os limites + 150 e - 150 mgals, e para altitudes 0 a 1.600 m.

3.2.5. Cálculo das anomalias Bouguer

Os dados já corrigidos dos erros detectados de coordenadas, revisadas, permitem o cálculo automático da anomalia Bouguer. Como já exposto no item 2.2. a redução dos dados gravimétricos foi baseada no sistema internacional (1967), e a densidade adotada para cálculo das correções .. Bouguer de $2,67 \text{ g/cm}^3$.

3.2.6. Sub-divisão da área em quadrículas

Foi escolhido o método de preparo da carta gravimétrica por quadrículas (de meio grau) ajustadas por uma superfície de tendência polinomial, e as ajustando entre si. Foi elaborado um programa de computação que a partir dos dados os separou em diversos arquivos, já com os limites de-

sejados e incorporando os pontos em volta abrangidos pela faixa de ajuste das quadrículas adjacentes.

Nas páginas seguintes temos listagem do número de pontos do arquivo (incluindo os pontos situados ao seu redor).

Nº ARQ	Nº EFET. PTOS	LATITUDES		LONGITUDES		Nº TOTAL DE PONTOS	LATITUDES		LONGITUDES	
1	0	17.50	18.00	45.00	45.50	4	17.40	18.10	44.90	45.60
2	8	18.00	18.50	45.00	45.50	14	17.90	18.60	44.90	45.60
3	6	18.50	19.00	45.00	45.50	20	18.40	19.10	44.90	45.60
4	20	19.00	19.50	45.00	45.50	36	18.90	19.60	44.90	45.60
5	11	19.50	20.00	45.00	45.50	25	19.40	20.10	44.90	45.60
6	17	20.00	20.50	45.00	45.50	30	19.90	20.60	44.90	45.60
7	10	20.50	21.00	45.00	45.50	29	20.40	21.10	44.90	45.60
8	14	21.00	21.50	45.00	45.50	33	20.90	21.60	44.90	45.60
9	26	21.50	22.00	45.00	45.50	39	21.40	22.10	44.90	45.60
10	0	22.00	22.50	45.00	45.50	11	21.90	22.60	44.90	45.60
11	6	17.50	18.00	45.50	46.00	10	17.40	18.10	45.40	46.10
12	9	18.00	18.50	45.50	46.00	23	17.90	18.60	45.40	46.10
13	15	18.50	19.00	45.50	46.00	26	18.40	19.10	45.40	46.10
14	27	19.00	19.50	45.50	46.00	45	18.90	19.60	45.40	46.10
15	15	19.50	20.00	45.50	46.00	30	19.40	20.10	45.40	46.10
16	19	20.00	20.50	45.50	46.00	30	19.90	20.60	45.40	46.10
17	8	20.50	21.00	45.50	46.00	23	20.40	21.10	45.40	46.10
18	18	21.00	21.50	45.50	46.00	40	20.90	21.60	45.40	46.10
19	16	21.50	22.00	45.50	46.00	34	21.40	22.10	45.40	46.10
20	0	22.00	22.50	45.50	46.00	0	21.90	22.60	45.40	46.10
21	15	17.50	18.00	46.00	46.50	18	17.40	18.10	45.90	46.60
22	8	18.00	18.50	46.00	46.50	28	17.90	18.60	45.90	46.60
23	17	18.50	19.00	46.00	46.50	37	18.40	19.10	45.90	46.60
24	22	19.00	19.50	46.00	46.50	41	18.90	19.60	45.90	46.60
25	12	19.50	20.00	46.00	46.50	29	19.40	20.10	45.90	46.60
26	13	20.00	20.50	46.00	46.50	20	19.90	20.60	45.90	46.60
27	8	20.50	21.00	46.00	46.50	20	20.40	21.10	45.90	46.60
28	3	21.00	21.50	46.00	46.50	15	20.90	21.60	45.90	46.60
29	16	21.50	22.00	46.00	46.50	29	21.40	22.10	45.90	46.60
30	2	22.00	22.50	46.00	46.50	6	21.90	22.60	45.90	46.60
31	15	17.50	18.00	46.50	47.00	33	17.40	18.10	46.40	47.10
32	13	18.00	18.50	46.50	47.00	38	17.90	18.60	46.40	47.10
33	21	18.50	19.00	46.50	47.00	43	18.40	19.10	46.40	47.10
34	20	19.00	19.50	46.50	47.00	57	18.90	19.60	46.40	47.10
35	19	19.50	20.00	46.50	47.00	33	19.40	20.10	46.40	47.10
36	10	20.00	20.50	46.50	47.00	24	19.90	20.60	46.40	47.10
37	24	20.50	21.00	46.50	47.00	39	20.40	21.10	46.40	47.10
38	11	21.00	21.50	46.50	47.00	17	20.90	21.60	46.40	47.10
39	17	21.50	22.00	46.50	47.00	33	21.40	22.10	46.40	47.10
40	18	22.00	22.50	46.50	47.00	25	21.90	22.60	46.40	47.10
41	17	17.50	18.00	47.00	47.50	32	17.40	18.10	46.90	47.60
42	16	18.00	18.50	47.00	47.50	37	17.90	18.60	46.90	47.60
43	24	18.50	19.00	47.00	47.50	37	18.40	19.10	46.90	47.60
44	21	19.00	19.50	47.00	47.50	52	18.90	19.60	46.90	47.60
45	17	19.50	20.00	47.00	47.50	39	19.40	20.10	46.90	47.60
46	17	20.00	20.50	47.00	47.50	40	19.90	20.60	46.90	47.60
47	19	20.50	21.00	47.00	47.50	39	20.40	21.10	46.90	47.60
48	8	21.00	21.50	47.00	47.50	17	20.90	21.60	46.90	47.60
49	21	21.50	22.00	47.00	47.50	39	21.40	22.10	46.90	47.60
50	13	22.00	22.50	47.00	47.50	29	21.90	22.60	46.90	47.60
51	13	17.50	18.00	47.50	48.00	18	17.40	18.10	47.40	48.10
52	12	18.00	18.50	47.50	48.00	27	17.90	18.60	47.40	48.10
53	19	18.50	19.00	47.50	48.00	45	18.40	19.10	47.40	48.10
54	20	19.00	19.50	47.50	48.00	36	18.90	19.60	47.40	48.10
55	30	19.50	20.00	47.50	48.00	65	19.40	20.10	47.40	48.10
56	27	20.00	20.50	47.50	48.00	47	19.90	20.60	47.40	48.10
57	19	20.50	21.00	47.50	48.00	44	20.40	21.10	47.40	48.10
58	30	21.00	21.50	47.50	48.00	45	20.90	21.60	47.40	48.10
59	25	21.50	22.00	47.50	48.00	50	21.40	22.10	47.40	48.10

Tab.: 15. Listagem do número efetivo e total de estações gravimétricas nos arquivos 1a 59.

60	26	22.00	22.50	47.50	48.00
61	10	17.50	18.00	48.00	48.50
62	14	18.00	18.50	48.00	48.50
63	24	18.50	19.00	48.00	48.50
64	10	19.00	19.50	48.00	48.50
65	98	19.50	20.00	48.00	48.50
66	12	20.00	20.50	48.00	48.50
67	20	20.50	21.00	48.00	48.50
68	22	21.00	21.50	48.00	48.50
69	14	21.50	22.00	48.00	48.50
70	19	22.00	22.50	48.00	48.50
71	17	17.50	18.00	48.50	49.00
72	12	18.00	18.50	48.50	49.00
73	19	18.50	19.00	48.50	49.00
74	15	19.00	19.50	48.50	49.00
75	26	19.50	20.00	48.50	49.00
76	17	20.00	20.50	48.50	49.00
77	23	20.50	21.00	48.50	49.00
78	22	21.00	21.50	48.50	49.00
79	11	21.50	22.00	48.50	49.00
80	18	22.00	22.50	48.50	49.00

43	21.90	22.60	47.40	48.10
19	17.40	18.10	47.90	48.60
26	17.90	18.60	47.90	48.60
36	18.40	19.10	47.90	48.60
24	18.90	19.60	47.90	48.60
119	19.40	20.10	47.90	48.60
25	19.90	20.60	47.90	48.60
38	20.40	21.10	47.90	48.60
37	20.90	21.60	47.90	48.60
28	21.40	22.10	47.90	48.60
33	21.90	22.60	47.90	48.60
32	17.40	18.10	48.40	49.10
29	17.90	18.60	48.40	49.10
33	18.40	19.10	48.40	49.10
20	18.90	19.60	48.40	49.10
38	19.40	20.10	48.40	49.10
37	19.90	20.60	48.40	49.10
42	20.40	21.10	48.40	49.10
45	20.90	21.60	48.40	49.10
29	21.40	22.10	48.40	49.10
44	21.90	22.60	48.40	49.10

VALOR MINIMO = -148.74 VALOR MAXIMO = -18.79
 CARTÕES FORA DO LIMITE = 2664
 CARTÕES LIQUOS = 4103
 CARTÕES DESPREZADOS = 102

Tab.: 16. Listagem do número efetivo e total de estações gravimétricas nos arquivos 60 a 80.

N.º AR2	N.º EFET. PTOs	LATITUDES		LONGITUDES		N.º TOTAL DE PONTOS	LATITUDES		LONGITUDES	
81	26	17.50	18.00	49.00	49.50	43	17.40	18.10	48.90	49.60
82	29	18.00	18.50	49.00	49.50	45	17.90	18.60	48.90	49.60
83	20	18.50	19.00	49.00	49.50	35	18.40	19.10	48.90	49.60
84	14	19.00	19.50	49.00	49.50	37	18.90	19.60	48.90	49.60
85	16	19.50	20.00	49.00	49.50	37	19.40	20.10	48.90	49.60
86	14	20.00	20.50	49.00	49.50	30	19.90	20.60	48.90	49.60
87	13	20.50	21.00	49.00	49.50	38	20.40	21.10	48.90	49.60
88	20	21.00	21.50	49.00	49.50	46	20.90	21.60	48.90	49.60
89	18	21.50	22.00	49.00	49.50	38	21.40	22.10	48.90	49.60
90	27	22.00	22.50	49.00	49.50	43	21.90	22.60	48.90	49.60
91	10	17.50	18.00	49.50	50.00	19	17.40	18.10	49.40	50.10
92	12	18.00	18.50	49.50	50.00	21	17.90	18.60	49.40	50.10
93	10	18.50	19.00	49.50	50.00	25	18.40	19.10	49.40	50.10
94	20	19.00	19.50	49.50	50.00	38	18.90	19.60	49.40	50.10
95	17	19.50	20.00	49.50	50.00	30	19.40	20.10	49.40	50.10
96	13	20.00	20.50	49.50	50.00	30	19.90	20.60	49.40	50.10
97	28	20.50	21.00	49.50	50.00	47	20.40	21.10	49.40	50.10
98	20	21.00	21.50	49.50	50.00	37	20.90	21.60	49.40	50.10
99	18	21.50	22.00	49.50	50.00	34	21.40	22.10	49.40	50.10
100	9	22.00	22.50	49.50	50.00	17	21.90	22.60	49.40	50.10
101	0	17.50	18.00	50.00	50.50	7	17.40	18.10	49.90	50.60
102	8	18.00	18.50	50.00	50.50	14	17.90	18.60	49.90	50.60
103	17	18.50	19.00	50.00	50.50	26	18.40	19.10	49.90	50.60
104	16	19.00	19.50	50.00	50.50	32	18.90	19.60	49.90	50.60
105	24	19.50	20.00	50.00	50.50	40	19.40	20.10	49.90	50.60
106	17	20.00	20.50	50.00	50.50	34	19.90	20.60	49.90	50.60
107	22	20.50	21.00	50.00	50.50	41	20.40	21.10	49.90	50.60
108	27	21.00	21.50	50.00	50.50	41	20.90	21.60	49.90	50.60
109	9	21.50	22.00	50.00	50.50	21	21.40	22.10	49.90	50.60
110	0	22.00	22.50	50.00	50.50	11	21.90	22.60	49.90	50.60
111	0	17.50	18.00	50.50	51.00	0	17.40	18.10	50.40	51.10
112	0	18.00	18.50	50.50	51.00	5	17.90	18.60	50.40	51.10
113	3	18.50	19.00	50.50	51.00	11	18.40	19.10	50.40	51.10
114	15	19.00	19.50	50.50	51.00	23	18.90	19.60	50.40	51.10
115	13	19.50	20.00	50.50	51.00	29	19.40	20.10	50.40	51.10
116	16	20.00	20.50	50.50	51.00	21	19.90	20.60	50.40	51.10
117	7	20.50	21.00	50.50	51.00	18	20.40	21.10	50.40	51.10
118	12	21.00	21.50	50.50	51.00	28	20.90	21.60	50.40	51.10
119	14	21.50	22.00	50.50	51.00	17	21.40	22.10	50.40	51.10
120	21	22.00	22.50	50.50	51.00	35	21.90	22.60	50.40	51.10

VALOR MINIMO = -119.43 VALOR MAXIMO = 96.58
 CARTOES FORA DO LIMITE = 3410
 CARTOES LIÇOS = 4103
 CARTOES DESPREZADOS = 102

Tab.: 17. Listagem do numero efetivo e total de estações gravimétricas nos arquivos 81.a 120.

3.3. Superfícies de Tendência

3.3.1. Conceitos

A escolha da aplicação de superfícies de tendência para preparo da carta gravimétrica se deve ao fato deste processo permitir a filtragem de pontos anômalos, ou com erros de medida. Obtem-se assim na função matemática que representa o campo gravimétrico mais ou menos suavizado, na medida que se deseje o ajuste de funções de maior ou menor grau.

No caso, aplicamos funções polinomiais do tipo:

$$z = \underbrace{a + bx + cy}_{\substack{\text{termos} \\ \text{do 1}^\circ \\ \text{grau}}} + \underbrace{dx^2 + exy + fy^2}_{\substack{\text{termos do 2}^\circ \\ \text{grau}}} + \underbrace{gx^3 + \dots + my^n}_{\text{...}}$$

Onde z representa o valor do campo gravimétrico, x e y as coordenadas do ponto. Para efeitos de cálculo da anomalia Bouguer e de apresentação das cartas gravimétricas finais são empregadas como coordenadas as latitudes e longitudes da estação, estas correspondem a x e y na função polinomial.

O princípio do ajuste dos dados à função desejada é denominado de mínimos quadrados; isto significa que o procedimento matemático procura de terminar os coeficientes de x e y de modo que a soma da diferença entre os valores medidos e os calculados, ao quadrado (para se eliminar o problema do sinal), seja mínimo, ou seja consiste na determinação dos coeficientes a, b, cn, de tal modo a minimizarem a função:

$$\theta(a,b,\dots) = \Sigma (z - a - bx - cy - dx^2 - \dots)^2$$

ou seja, o sistema de equações do tipo:

$$\frac{\partial \theta}{\partial a} = - 2 \Sigma (z - a - dx \dots) = 0$$

$$\frac{\partial \theta}{\partial b} = - 2 \Sigma (z - a - bx \dots) x = 0$$

.....

ou o sistema equivalente:

$$\Sigma z = na + b \Sigma x + c \Sigma y + d \Sigma x^2 \dots + m \Sigma y^n$$

$$\Sigma zx = a \Sigma x + b \Sigma x^2 + c \Sigma xy + d \Sigma x^3 \dots + m \Sigma xy^n$$

.....

$$\Sigma zy^n = a \Sigma xy^n + b \Sigma xy^n + \dots + m \Sigma y^{2n}$$

ou na forma matricial;

$$\begin{matrix} \left(\begin{array}{cccccc} N & \Sigma x & \Sigma y & \Sigma x^2 & \dots & y^n \\ \Sigma x & \Sigma x^2 & & & & \Sigma xy^n \\ \dots & & & & & \\ \dots & & & & & \\ \Sigma y^n & \Sigma xy^n & \dots & & & \Sigma y^{2n} \end{array} \right) & \times & \left(\begin{array}{c} a \\ b \\ c \\ \vdots \\ n \end{array} \right) & = & \left(\begin{array}{c} \Sigma z \\ \Sigma z^x \\ \Sigma zy \\ \vdots \\ \Sigma zy^n \end{array} \right) \\ (\beta) & & (\alpha) & & (\gamma) \end{matrix}$$

ou simplesmente:

$$\beta \times \alpha = \gamma$$

A solução será: $\alpha = \gamma \cdot \beta^{-1}$

e conseqüentemente é necessário se proceder à inversão da matriz β .

Os métodos de inversão com ou sem pivotagem parcial que podem ser empregados apresentaram bons resultados para coeficientes de correlação inferiores a 95%-97%, que no caso de aplicação às grandes estruturas gravimétricas significa seu emprego no ajuste de funções polinomiais de graus 3 a 4.

Necessitando-se maior grau para o polinômio deve-se proceder à inversão por processos mais refinados.

Diversas sub-rotinas para tal fim já se encontram implantadas no sistema B 6700 do Centro de Computação da Universidade de São Paulo, como por exemplo as sub-rotinas NSL (Numerical Analysis Program Library): INVERA, INVERP, INVERT; e as sub-rotinas do IMSL (International Mathematical and Statistical Libraries): LINV2P, LINIPP.

Programas de superfícies de tendência foram desenvolvidos ou adaptados por diversos autores, entre outros citamos, McIntyre (1967), Cole (.. 1969), Krumbein (1959), IBM (1965), Tobler (65).

Tais programas também foram adaptados por Amaral (1971) para o sistema B 3500 (até o grau 3) e posteriormente para o sistema B 6700 (grau 6 e 8). No nosso caso pouco restou do programa original, tendo sido adaptado às condições de trabalho do sistema B 3500 e atualizado para o sistema B 6700 bem como atendendo às necessidades

específicas do preparo das cartas gravimétricas.

Para representação gráfica da superfície gerada, na falta de unidade desenho, "ploter" adequado no sistema B 6700, foi empregado o processo de saída pela impressora, em forma de matriz, na escala desejada, com impressão de símbolos correspondentes aos valores calculados para as anomalias em cada ponto.

Também se calcula os resíduos (diferença entre a superfície polinomial gerada e os dados) determinando-se os parâmetros estatísticos que nos permitem avaliar o grau de ajuste, desvio padrão, variância, e a partir destes decidir automaticamente pela eliminação, ou análise dos dados, para automaticamente ser gerada nova superfície.

Os critérios adotados para eliminação de pontos foi o de resíduos superiores a três desvios padrões (3σ), ou ± 15 mgal, prevalecendo o que for menor. O valor de ± 15 mgal foi escolhido como limite superior para 3σ uma vez que desvios deste porte são provavelmente decorrentes de anomalias muito localizadas ou de erros na determinação da gravidade, altitude, ou mais provavelmente nas coordenadas e que não puderam ser corrigidas na etapa de revisão dos dados e não detectáveis no programa de consistência dos dados.

3.3.2. Cálculo das superfícies polinomiais

A fim de melhorar as soluções para a superfície polinomial gerada para cada quadrícula, foi ela

borado um processo por remoção do valor regional para o cálculo dos coeficientes dos polinômios, consistindo as seguintes etapas:

- a) Cálculo das funções de segundo grau para a quadrícula;
- b) Cálculo dos resíduos desta função do segundo grau em relação aos dados;
- c) Cálculo de sub-superfície polinomial (até grau desejado) para os resíduos calculados;
- d) Soma dos valores dos coeficientes das funções de segundo grau (Ítem a) com os obtidos para os da sub-superfície polinomial ajustada aos resíduos (Ítem c) resultando os coeficientes da função desejada.

Este sistema foi desenvolvido pois permite o emprego de soluções menos refinadas para a inversão da matriz β .

Como vantagem permite o ajuste de superfícies de grau elevado e portanto de melhor representar a realidade.

A chave da solução encontrada reside no fato de que quando removemos a superfície de segundo grau, (geralmente com coeficientes de correlação superior a 70 - 80%), os resíduos restantes representam as ondulações sobrepostas à tendência regional de segundo grau. Estes resíduos, pela sua natureza, podem ser ajustados facilmente por polinômios de graus elevados. A soma dos

valores das funções de segundo grau originais e dos graus superiores ajustados aos resíduos cor responde à função final ajustada à anomalia.

O método pode ser estendido e utilizado de modo iterativo. Assim uma vez calculada a função de grau 3 ou 4 vezes à da função regional (segundo grau), quando se apresentarem os primeiros indícios de problemas (somatória dos resultados diferentes de zero, valor médio calculado divergente do valor médio dos dados, etc), passar a utilizá-lo como nova função regional e repetir a metodologia até alcançar o ajuste desejado.

Os limites para o máximo grau ajustáveis pelo mêtodo serão pois o do máximo número de elementos armazenáveis por uma matriz (na linguagem FORTRAN, de 65535 elementos) ou pelo número de dados que deve ser superior a dos coeficientes do polinômio a ajustar.

3.3.3. Significância da superfície polinomial gerada

A significância da superfície matemática calculada por regressão espacial (superfície de tendência) pelo método dos mínimos resíduos quadrados é expressável pelos parâmetros estatísticos de controle, ou sejam desvio padrão, variância, coeficiente de determinação, coeficiente de correlação, além das verificações do por cento da soma dos quadrados, somatória do quadrado dos resíduos, somatória dos resíduos, etc.

Amaral (1976) estudando as superfícies de tendência polinomiais aplicadas a números gerados ao

acaso (randômicos) verificou a existência de valores mínimos para a correlação de modo que a superfície gerada tenha significado geológico.

3.3.4. Ajuste das quadrículas

Para que as superfícies polinomiais geradas para cada quadrícula pudessem ser ajustadas às das quadrículas adjacentes, foram adotados critérios e procedimentos abaixo enumerados:

- a) A superfície gerada em cada quadrícula abrangge também pontos das adjacentes, até o limite abrangido pelo parâmetro N.ENV. Este valor corresponde, na carta preparada, à faixa de 20 % em volta de cada quadrícula.
- b) O tamanho de cada quadrícula foi definido como PASSO (igual no sentido norte-sul e leste-oeste).
- c) O ajuste entre quadrículas foi feito por passagem gradual das funções geradas nas quadrículas adjacentes na zona abrangida por N.ENV levando em conta o coeficiente de correlação das funções geradas nas respectivas quadrículas e a distância dos limites das faixas ... abrangidas por N.ENV.

Fig.: 29. Zonas de ajuste das funções polinomiais.

Essa figura mostra croquis das zonas cobertas pelo sistema de ajuste das funções matemáticas das quadrículas adjacentes.

A formulação matemática para tal fim pode ser expressada:

$$C'(i) = \frac{\sum_{q=0}^8 C(i,q) \times Fdist(q) \times Corr(q)}{\sum_{q=0}^8 Fdist(q) \times Corr(q)}$$

E sendo:

$C'(i)$ o i -ésimo coeficiente da função polinomial ajustada aos dados gravimétricos e ajustado em função das quadrículas vizinhas.

$C(i, q)$ o i -ésimo coeficiente da função polinomial referente à quadrícula q .

$$Fdist(q) = \frac{2 \text{ N.ENV}}{(d(q) - \frac{\text{passo}}{2} - \text{N.ENV})}$$

Sendo:

$d(q)$ a distância horizontal ou vertical do ponto em cálculo ao eixo central da quadrícula q . Esta função é limitada ao intervalo 0 a 1.

$Corr(q)$ o coeficiente de correlação calculado no ajuste polinomial dos valores das anomalias de gravidade na quadrícula q .

Assim, ao invés de se calcular o valor da função polinomial da quadrícula em um determinado ponto (próximo das bordas da quadrícula) pelos seus coeficientes $C(i)$, se calculará pelos novos coeficientes $C'(i)$ que levam em conta a regressão polinomial nas quadrículas próximas ao ponto.

4. Computação

4.1. Generalidades

No ítem seguinte (4.2) temos os fluxogramas do processamento e de cada um dos programas utilizados para a exe-cução dos mapas. Os fluxogramas não entram em nível de detalhe, porque as listagens integrais dos próprios programas escritos na linguagem FORTRAN e executados no sistema B 6700, pertencente ao Centro de Computação da USP, estão a seguir (4.3.).

Entre uma etapa e outra do processamento foi utilizada uma fita magnética para guardar os arquivos do disco, isto porque não dispunhamos de espaço permanente para ar-quivo em disco.

O programa Gera/Arq foi executado duas vezes a fim de obtermos os 120 arquivos iniciais, um para cada quadrí-cula, posteriormente foram eliminados alguns destes ar-quivos por falta de número de pontos ou por não apre-sen-tarem coerência com as quadrículas adjacentes.

O programa Gera/Arq. também incorpora o programa de consistência de dados que elimina os dados gravimétricos errados, com falta de altitude, bem como erros de transcrição de dados. Também calcula as anomalias Bouguer(para densidade $2,67 \text{ g/cm}^3$) pela fórmula do sistema gravi-métrico internacional de 1967.

4.2. Fluxogramas

Nas páginas seguintes encontram-se os fluxogramas do processamento e dos programas Gera/Arq, Strend e Alt/Boug.

Fluxograma de Processamento

* para cada quadrícula do mapa foi gerado um arquivo em disco

Fluxograma do Programa GERA/ARQ.

Fluxograma do Programa STREND

Fluxograma do Programa STREND (cont.)

Fluxograma do Programa ALT/BOUG

4.3. Listagem dos programas

Nas páginas seguintes encontram-se as listagens dos seguintes programas:

GERA/ALQ

STREND

ALT/BOUG

TALWA

GERA / A R O

FILE 1=DNRJ,UNIT=READER	00000010	C	
FILE 2=ISG,UNIT=READER	00000060	C	FIB IS 0006 LONG
FILE 3=TIT,UNIT=DISKPACK,RECORD=14	00000110	C	FIB IS 0006 LONG
FILE 4=ERRD,UNIT=PRINTER	00000160	C	FIB IS 0006 LONG
FILE 5=LEO,UNIT=READER	00000210	C	FIB IS 0006 LONG
FILE 3=CNF,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000260	C	FIB IS 0006 LONG
FILE 9=LE2,UNIT=DISKPACK,RECORD=14	00000310	C	FIB IS 0007 LONG
FILE 11=X11,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000360	C	FIB IS 0006 LONG
FILE 12=X12,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000410	C	FIB IS 0007 LONG
FILE 13=X13,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000460	C	FIB IS 0007 LONG
FILE 14=X14,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000510	C	FIB IS 0007 LONG
FILE 15=X15,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000560	C	FIB IS 0007 LONG
FILE 16=X16,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000610	C	FIB IS 0007 LONG
FILE 17=X17,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000660	C	FIB IS 0007 LONG
FILE 18=X18,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000710	C	FIB IS 0007 LONG
FILE 19=X19,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000760	C	FIB IS 0007 LONG
FILE 20=X20,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000810	C	FIB IS 0007 LONG
FILE 21=X21,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000860	C	FIB IS 0007 LONG
FILE 22=X22,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000910	C	FIB IS 0007 LONG
FILE 23=X23,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00000960	C	FIB IS 0007 LONG
FILE 24=X24,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001010	C	FIB IS 0007 LONG
FILE 25=X25,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001060	C	FIB IS 0007 LONG
FILE 26=X26,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001110	C	FIB IS 0007 LONG
FILE 27=X27,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001160	C	FIB IS 0007 LONG
FILE 28=X28,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001210	C	FIB IS 0007 LONG
FILE 29=X29,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001260	C	FIB IS 0007 LONG
FILE 30=X30,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001310	C	FIB IS 0007 LONG
FILE 31=X31,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15	00001360	C	FIB IS 0007 LONG

FILE 32=X32,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 33=X33,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 34=X34,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 35=X35,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 36=X36,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 37=X37,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 38=X38,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 39=X39,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 40=X40,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 41=X41,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 42=X42,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 43=X43,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 44=X44,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 45=X45,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 46=X46,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 47=X47,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 48=X48,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 49=X49,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 50=X50,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 51=X51,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 52=X52,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 53=X53,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 54=X54,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 55=X55,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 56=X56,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 57=X57,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 58=X58,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 59=X59,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 60=X60,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
FILE 61=X61,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15

00001410 C FIB IS 0007 LONG
00001460 C FIB IS 0007 LONG
00001510 C FIB IS 0007 LONG
00001560 C FIB IS 0007 LONG
00001610 C FIB IS 0007 LONG
00001660 C FIB IS 0007 LONG
00001710 C FIB IS 0007 LONG
00001760 C FIB IS 0007 LONG
00001810 C FIB IS 0007 LONG
00001860 C FIB IS 0007 LONG
00001910 C FIB IS 0007 LONG
00001960 C FIB IS 0007 LONG
00002010 C FIB IS 0007 LONG
00002060 C FIB IS 0007 LONG
00002110 C FIB IS 0007 LONG
00002160 C FIB IS 0007 LONG
00002210 C FIB IS 0007 LONG
00002260 C FIB IS 0007 LONG
00002310 C FIB IS 0007 LONG
00002360 C FIB IS 0007 LONG
00002410 C FIB IS 0007 LONG
00002460 C FIB IS 0007 LONG
00002510 C FIB IS 0007 LONG
00002560 C FIB IS 0007 LONG
00002610 C FIB IS 0007 LONG
00002660 C FIB IS 0007 LONG
00002710 C FIB IS 0007 LONG
00002760 C FIB IS 0007 LONG
00002810 C FIB IS 0007 LONG
00002860 C FIB IS 0007 LONG

FILE 62=X62,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 63=X63,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 64=X64,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 65=X65,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 66=X66,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 67=X67,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 68=X68,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 69=X69,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 70=X70,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 71=X71,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 72=X72,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 73=X73,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 74=X74,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 75=X75,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 76=X76,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 77=X77,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 78=X78,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 79=X79,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 80=X80,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 81=X81,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 82=X82,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 83=X83,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 84=X84,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 85=X85,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 86=X86,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 87=X87,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 88=X88,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 89=X89,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 90=X90,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 91=X91,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15

00002910 C FIB IS 0007 LONG
 00002960 C FIB IS 0007 LONG
 00003010 C FIB IS 0007 LONG
 00003060 C FIB IS 0007 LONG
 00003110 C FIB IS 0007 LONG
 00003160 C FIB IS 0007 LONG
 00003210 C FIB IS 0007 LONG
 00003260 C FIB IS 0007 LONG
 00003310 C FIB IS 0007 LONG
 00003360 C FIB IS 0007 LONG
 00003410 C FIB IS 0007 LONG
 00003460 C FIB IS 0007 LONG
 00003510 C FIB IS 0007 LONG
 00003560 C FIB IS 0007 LONG
 00003610 C FIB IS 0007 LONG
 00003660 C FIB IS 0007 LONG
 00003710 C FIB IS 0007 LONG
 00003760 C FIB IS 0007 LONG
 00003810 C FIB IS 0007 LONG
 00003860 C FIB IS 0007 LONG
 00003910 C FIB IS 0007 LONG
 00003960 C FIB IS 0007 LONG
 00004010 C FIB IS 0007 LONG
 00004060 C FIB IS 0007 LONG
 00004110 C FIB IS 0007 LONG
 00004160 C FIB IS 0007 LONG
 00004210 C FIB IS 0007 LONG
 00004260 C FIB IS 0007 LONG
 00004310 C FIB IS 0007 LONG
 00004360 C FIB IS 0007 LONG

FILE 92=X92,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 93=X93,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 94=X94,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 95=X95,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 96=X96,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 97=X97,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 98=X98,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15
 FILE 99=X99,UNIT=DISKPACK,SAVE=10,RECORD=14,BLOCKING=15

00004410 C FIB IS 0007 LONG
 00004460 C FIB IS 0007 LONG
 00004510 C FIB IS 0007 LONG
 00004560 C FIB IS 0007 LONG
 00004610 C FIB IS 0007 LONG
 00004660 C FIB IS 0007 LONG
 00004710 C FIB IS 0007 LONG
 00004760 C FIB IS 0007 LONG

FIB IS 0007 LONG
 START OF SEGMENT 002
 FORMAT SEGMENT IS 000B LONG

DIMENSION PTO (13),TIT1(14),TIT2(14),CART3(2),CONST(7),FORM(13)
 INTEGER XLAT,XLON
 INTEGER COUNT
 REAL LATMIN,LATMAX,LONMIN,LONMAX
 REAL NPASSO
 DIMENSION AEF (99),NTOT(99),ZLATM(99),ZLATX(99)
 DIMENSION ZLONM(99),ZLONX(99)
 AMXEG=1000.
 AMNBG=1000.
 PI=.017453293.
 P2=2.*PI
 ASSIGN 9 TO LW
 IR = 1
 READ (5,29) NG
 29 FORMAT (I2)
 IF (NG.EQ. 1) G = -10
 IF (NG.EQ. 2) G = 70
 READ (5,30) TIT1
 READ (5,30) TIT2
 30 FORMAT (13A6,A2)
 READ (5,31) IGRAU,CT3,ESC
 31 FORMAT (I2,A3,F10.2,F4.2,I3)
 READ (5,30) FORM
 READ (5,33) LATMIN,LATMAX,LONMIN,LONMAX,NPASSO,NEUV,CNT
 33 FORMAT (4F5.2,F4.2,I4,F4.2)
 WRITE (3,30) TIT1,TIT2
 WRITE (3,66) LATMIN,LATMAX,LONMIN,LONMAX,NPASSO,ESC
 66 FORMAT (4F5.2,F4.2,F10.2)
 WRITE (6,100) TIT1,TIT2
 100 FORMAT (1X,13A6,A2,/)
 WRITE (6,110) ESC,NPASSO,NEUV,CNT,FORM
 110 FORMAT (15,"ESCALA = 1:",F10.2,/,15,"PASSO =",F8.2,/,
 15,"NEUV =",F4.2,/,15,"CNT =",F4.2,/,15,"FORMAT =",13A6,/)
 IO=11
 YJ=NEUV*NPASSO*CNT
 DO 40 YL=LONMIN,LONMAX,NPASSO,NPASSG
 DO 40 YI=LATMIN,LATMAX,NPASSO,NPASSO
 YIM=YI-YJ
 YIX=YI+YJ+NPASSO
 YLM=YI-YJ

00004810 C 002:0000:0
 00004860 C 002:0000:0
 00004910 C 002:0000:0
 00004960 C 002:0000:0
 00005010 C 002:0000:0
 00005060 C 002:0000:0
 00005110 C 002:0000:0
 00005160 C 002:0000:0
 00005210 C 002:0001:1
 00005260 C 002:0002:1
 00005310 C 002:0004:3
 00005360 C 002:0005:5
 00005410 C 002:0006:3
 00005460 C 002:0007:1
 00005510 C 002:0008:2
 00005560 C 002:0008:2
 00005610 C 002:0010:3
 00005660 C 002:0012:4
 00005710 C 002:0019:2
 00005760 C 002:0020:2
 00005810 C 002:0020:2
 00005860 C 002:0028:2
 00005910 C 002:0028:2
 00005960 C 002:0032:2
 00006010 C 002:0045:2
 00006060 C 002:0045:2
 00006110 C 002:0048:2
 00006160 C 002:0050:2
 00006210 C 002:0050:2
 FIB IS 0006 LONG
 00006260 C 002:0065:2
 00006310 C 002:0065:2
 00006360 C 002:0072:2
 00006410 C 002:0072:2
 00006460 C 002:0072:2
 00006510 C 002:0073:1
 00006560 C 002:0075:0
 00006610 C 002:0079:5
 00006660 C 002:0079:5
 00006710 C 002:0080:1
 00006760 C 002:0082:0


```

YLX=YL+YJ*NPASSO
ZLATM(IQ)=YI
ZLATX(IQ)=YI+NPASSO
ZLONM(IQ)=YL
ZLONX(IQ)=YL+NPASSO
WRITE(IQ,30)TIT1
WRITE(IQ,30)TIT2
WRITE(IQ,31)IGRAU,CT3,ESC,
*ZLATM(IQ),ZLATX(IQ),ZLONM(IQ),ZLONX(IQ),IQ + G
WRITE(IQ,30)FORM
IQ=IQ+1
40 CONTINUE
NCOL=(LONMAX-LONMIN)/NPASSO
NLAT=(LATMAX-LATMIN)/NPASSO
Z=NLAT*((LONMAX-LONMIN)/NPASSO) + 10
IF(Z.LT.99)GO TO 9
WRITE(6,38)Z
38 FORMAT(1X,"NUMERO DE ARQUIVOS = ",I4,"**MAIOR QUE O PERMITIDO")
STOP
9 READ(IR,1)END=999,DATA=99)PTD,LAT,ALAT,LON,ALON,ALT,GRAY,FREE,BOUG
C
C FORMATO CNRJ
COUNT=COUNT+1
1 FORMAT(13A1,2X,I2,1X,F5.2,3X,I2,1X,F5.2, 7F,2,2X,F9.2,3X,F7.2,
*1X,F7.2)
C*****
5 IF(GRAY.EQ.0.0)GO TO 99
IF(ALT.EQ.0.0)GO TO 99
20 AALAT=ALAT/60.
AALAT=AALAT*FLOAT(LAT)
AALON=ALON/60.
AALON=AALON*FLOAT(LON)
DO=976031.8*(1+.0053024*(SIN(AALAT *PI)) **2+-.0000058*(SIN(
*AALAT*PI))**2.)
BOUG=.1967*ALT*GO+GRAY
IF(BOUG.GT.100.)GO TO 99
IF(BOUG.LT.-180.)GO TO 99
OKLIM=0
XXLAT=(AALAT-LATMIN)/NPASSO +1
XXLON=(AALON-LONMIN)/NPASSO +1
LX1=XXLAT-NEUV*CNT
LX2=XXLAT+NEUV*CNT
LY1=XXLON-NEUV*CNT
LY2=XXLON+NEUV*CNT
XLAT=XXLAT
XLON=XXLON
IF(XLAT.LT.1.OR.XLAT.GT.NLAT)GO TO 7
IF(XLON.LT.1.OR.XLON.GT.NCOL)GO TO 7
NAUX=(XLON-1)*NLAT+XLAT+10
NEF(NAUX)=NEF(NAUX)+1
OKLIM=1
7 CONTINUE
C
ZX=0.
DO 50 LT=LX1,LX2
DO 50 LN=LY1,LY2
IF(LT.LT.1.OR.LT.GT.NLAT)GO TO 49
IF(LN.LT.1.OR.LN.GT.NCOL)GO TO 49
IARO=(LN-1)*NLAT+LT+10

```

```

00006810 C 0021008312
00006860 C 0021008511
00006910 C 0021008615
00006960 C 0021008910
00007010 C 0021009114
00007060 C 0021009315
00007110 C 0021009512
00007160 C 0021009712
00007210 C 0021009913
00007260 C 0021010112
00007310 C 0021010312
00007360 C 0021010514
00007410 C 0021010714
00007460 C 0021010914
00007510 C 0021011114
00007560 C 0021011311
00007610 C 0021011511
00007660 C 0021011712
00007710 C 0021011912
00007760 C 0021012111
00007810 C 0021012310
00007860 C 0021012510
00007910 C 0021012710
00007960 C 0021012912
00008010 C 0021013112
00008060 C 0021013312
00008110 C 0021013512
00008160 C 0021013713
00008210 C 0021013914
00008260 C 0021014110
00008310 C 0021014310
00008360 C 0021014512
00008410 C 0021014712
00008460 C 0021014913
00008510 C 0021015115
00008560 C 0021015310
00008610 C 0021015510
00008660 C 0021015713
00008710 C 0021015911
00008760 C 0021016112
00008810 C 0021016313
00008860 C 0021016513
00008910 C 0021016713
00008960 C 0021016913
00009010 C 0021017113
00009060 C 0021017313
00009110 C 0021017513
00009160 C 0021017714
00009210 C 0021017915
00009260 C 0021018114
00009310 C 0021018313
00009360 C 0021018511
00009410 C 0021018711
00009460 C 0021018911
00009510 C 0021019111
00009560 C 0021019315
00009610 C 0021019510
00009660 C 0021019710
00009710 C 0021019911
00009760 C 0021020112

```

```

WRITE (IARQ,2)
*PTO,AALAT,AALON,BOUG,ALT
2  FORMAT(13A1,F7.4,F7.4,F7.2,F7.2)
   NTOT (IARQ) = NTOT (IARQ) + 1
   AMNBO = AMIN1 (AMNBO,BOUG)
   AMXBO = AMAX1 (AMXBO,BOUG)
   GO TO 50
49  IF(ZX.NE.0.) GO TO 50
   IF(OKLIM.EQ.1) GO TO 50
   ZX=1.
   CFL = CFL + 1
50  CONTINUE
   GO TO LH
999  CONTINUE
   IF (IR .EQ. 5) GO TO 998
   IR = 5
   GO TO 9
998  ASSIGN 10 TO LH
10  READ(2,3,END=1000,DATA=99)PTO,LAT,ALAT,LON,ALON,ALT,GRAY,FREE,BOUG
   COUNT=COUNT+1
C  FORMATO IBGE*****
3  FORMAT(13A1,2X,I2,1X,F5.2,3X,I2,1X,F5.2,3X,F7.2,3X,F9.2,3X,F7.2,
   *1X,F7.2)
C*****
GO TO 5
1000  CONTINUE
   WRITE (8,30) TIT1
   WRITE (8,30) TIT2
   IRES = 0
   WRITE (8,41) CART3(1),IRES
41  FORMAT (A6,I6)
   WRITE (8,42) ((J,NTOT(J),ZLATM(J),ZLATX(J),ZLONM(J),ZLONX(J)),
   *J=11,Z)
42  FORMAT (2I6,4F13.3)
   WRITE (8,36)((J+G,NEF(J),ZLATM(J),ZLATX(J),ZLONM(J),
   *ZLONX(J),NTOT(J),ZLATM(J) - YJ,ZLATX(J) + YJ,ZLONM(J) - YJ,
   *ZLONX(J) + YJ),J=11,Z)
36  FORMAT (1H1,2X,"N.ARO",
   * T13,"N. EFET. PTOS "
   * T31,"LATITUDES",T47,"LONGITUDES",
   * T70,"N. TOTAL DE PONTOS",T96,"LATITUDES",T112,"LONGITUDES",
   * //,69(I8,7X,I5) 8X F5.2,2X,F5.2, 5X,F5.2,2X,F5.2,
   *19X,I5,13X,2(F5.2,2X,F5.2,5X),//)
   WRITE (8,37)AMNBO,AMXBO
37  FORMAT (1X,/,1X,"VALOR MINIMO = ",F7.2," VALOR MAXIMO = ",F7.2)
   WRITE (8,39) CFL ,COUNT,IERRAD
39  FORMAT (" CARTES FORA DO LIMITE = ",I6,
   *//," CARTES LIDOS = ",I6,
   *//," CARTES DESPREZADOS = ",I6)
   DO 60 J = 11,Z
60  LOCK J
   LOCK 8
   STOP
99  WRITE(4,21)PTO,AALAT,AALON,ALT,GRAY,BOUG
21  FORMAT (1X,
   * 13A1, 1X,2(F7.4,2X),3(F9.2,2X))
   IERRAD=IERRAD +1
   GO TO LH
END

```

```

00009810 C 002'0143:1
00009860 C 002'014C:5
00009910 C 002'015E:2
00009960 C 002'015E:2
00010010 C 002'015A:3
00010060 C 002'015D:2
00010110 C 002'0160:1
00010160 C 002'0160:4
00010210 C 002'0161:5
00010260 C 002'0163:0
00010310 C 002'0163:4
00010360 C 002'0164:5
00010410 C 002'0169:1
00010460 C 002'016E:3
00010510 C 002'016E:3
00010560 C 002'016C:5
00010610 C 002'016C:4
00010660 C 002'016E:1
00010710 C 002'016F:0
00010760 C 002'0167:0
00010810 C 002'018E:2
00010860 C 002'018E:2
00010910 C 002'018E:2
00010960 C 002'018E:2
00011010 C 002'018E:2
00011060 C 002'018E:2
00011110 C 002'018E:5
00011160 C 002'018E:5
00011210 C 002'0190:2
00011260 C 002'0197:2
00011310 C 002'019E:0
00011360 C 002'01A0:2
00011410 C 002'01A0:2
00011460 C 002'01AF:5
00011510 C 002'01E6:2
00011560 C 002'01E6:2
00011610 C 002'01C4:1
00011660 C 002'01D0:3
00011710 C 002'01DA:2
00011760 C 002'01DA:2
00011810 C 002'01DA:2
00011860 C 002'01DA:2
00011910 C 002'01DA:2
00011960 C 002'01DA:2
00012010 C 002'01DA:2
00012060 C 002'01E2:2
00012110 C 002'01E2:2
00012160 C 002'01EC:2
00012210 C 002'01EC:2
00012260 C 002'01EC:2
00012310 C 002'01EC:2
00012360 C 002'01EE:0
00012410 C 002'01F9:0
00012460 C 002'01FA:3
00012510 C 002'01FB:2
00012560 C 002'0209:2
00012610 C 002'0209:2
00012660 C 002'0209:2
00012710 C 002'020A:4
00012760 C 002'020C:3

```

0021021211 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 00010710
0021021614 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 00007760
SEGMENT 002 IS 0250 LONG

NO ERRORS DETECTED. NUMBER OF CARDS = 258.
COMPILATION TIME = 19 SECONDS ELAPSED. 4.78 SECONDS PROCESSING.
J2 STACK SIZE = 114 WORDS. FILESIZE = 41326 WORDS. ESTIMATED CORE STORAGE REQUIREMENT = 43645 WORDS.
TOTAL PROGRAM CODE = 1463 WORDS. ARRAY STORAGE = 650 WORDS.
NUMBER OF PROGRAM SEGMENTS = 8. NUMBER OF DISK SEGMENTS = 186.
PROGRAM CODE FILE = (146GGE)GERA/ARG ON PACK.
COMPILER COMPILED ON 08/09/78 (FORTRAN ON PACK).

FORMAT SEGMENT IS 0008 LONG
START OF SEGMENT 007
SEGMENT 007 IS 01A5 LONG

PROGRAMA: STREND

```

R6700/B7700  F O R T R A N  C O M P I L A T I O N  M A R K  2.8.001  MONDAY, 12/19/78  01136

FILE 1=DADOS,UNIT=DISK ,SAVE=999,RECORD=14          00000010  P      FIB IS 0007 LONG
FILE 2=ERRD ,UNIT=PRINTER          00000030  T      FIB IS 0006 LONG
FILE 3=CARTO,UNIT=PPINTER          00000035  C      FIB IS 0007 LONG
FILE 4=CTER,UNIT=DISK ,SAVE=999,RECORD=14          00000040  C      FIB IS 0007 LONG
FILE 7=EQO,UNIT=DISK,SAVE=999,RECORD=43          00000045  C      FIB IS 0007 LONG
FILE 8=LIM,UNIT=DISK ,SAVE=99,RECORD=14          00000048  C      FIB IS 0007 LONG

                                START OF SEGMENT 002
                                FORMAT SEGMENT IS 2000 LONG
REAL*8 A,B,DIV,C,EM,YVECT,XMTRX,S
REAL*8 FM,YCOMP
REAL NONE
C
C      NO CASO DE ESCALA METRICA A ESCALA E DIRETA *****
C NO CASO DE GRAUS DIVIDIR A ESC. METRICA PELO VALOR DE 1 GRAU
DIMENSION INDET(10)
DIMENSION TITL(32) ,RES(2000)
DIMENSION DATA(3),FM(100),FMT(80),EX(2000),EY(2000),EY(2000),EY(2000)
DIMENSION YMTRX(100,100),YVECT(100) ,FM(100)
DIMENSION NORDER(10),LDET(10),SSYCP(10),YCOMP(10),YRES(2000,10)
C
C      PROGRAMA DE SUPERFICIE DE TENDENCIA ** GRAU ATE 21 **
C      ** APRIL 1976 ** HARALYI
DIMENSION SYRES(10),PSTQ(10),SYCP(10),SYCPSC(10),A(100,100)
DIMENSION SYRESQ(10),YBARCP(10),SSYCP(10),SSRED(10)
DIMENSION C(100,10) ,S(10) ,CORR(10) ,CC(100,10)
DIMENSION VAP(10),PCTRED(10)
DIMENSION NREF(2000),NENTRL(2000) ,NOME(2000),ALT(2000)
DIMENSION B(100,100)
REAL*8 CPES(100,10)
DIMENSION DESPAD(10), VARIAN(10)
DIMENSION ESPAD(10)
REAL NPROJ,TITL,FMT,NREF,NENTRL
DIMENSION ICE (20)
DIMENSION EPRC(20,21),LCE(21)
DIMENSION AZ (10)
DATA AZ/10*1/
C
C*****
C
C      READ (1,933) ICE
933  FORMAT (20I4)
C*****
C
C      MAPA=S
C      MY=1
C      MY=2
C      MY=3
C      XMIN = 1000.
C      YMIN = 1000.
C
C      READ(5,100)TITL

```

FAB 15 0006 LONG

```

READ (5,101) MAP,NX,NY,NZ,ESC,XMIN,XMAX,YMIN,YMAX,TITL(16)
IF (MAP.NE.5) MAP = MAPA
IF (NX.EQ.0) NX=MX
IF (NY.EQ.0) NY=MY
IF (NZ.EQ.0) NZ=MZ

C
WRITE (8,100) TITL
WRITE (8,775) XMIN,XMAX,YMIN,YMAX,ESC
775 FORMAT ( 4F5.2,F10.2 )
C
READ (5,99) FMT
99 FORMAT(60A1)
C
ICE=NUMEROS DOS CARTOES QUE SEPAO DESPREZADOS
RESM = RESIDUO MAXIMO PERMITIDO
100 FORMAT (16A5,/,16A5)
101 FORMAT (I2,3(I1),F10.2,4F5.2,A3)
130 FORMAT (1X,'MAPA ATE GRAU=' ,I6,/, ' POSICAO DE : NX : ',I2,/,14X,
* 'NY : ',I1,/,14X, 'NZ : ',I1,/, ' ESCALA=' ,F10.2)
114 FORMAT (1X,16A5,/,1X,16A5,/)
131 FORMAT (1X,'FORMATO DOS DADOS : ',80A1,/)
C
KDEF E O NUMERO DE COEFICIENTES PARA O GRAU MAXIMO
IGRAU=MAP
KD=1
KDEF=0
DO 66 K=0,IGRAU
KDEF=KDEF +KD
IF (K.EQ.0) GO TO 66
NORDER(K)=KDEF
66 KD=KD+1
C
DO 10 I=1,KDEF
YVECT(I)=0.0
DO 10 J=1,KDEF
XVTRX(I,J)=0.0
10 C
C
LEITURA DOS DADOS
C
WRITE (6,103)
C103 FORMAT (/ ,45X,'DADOS',/,45X,'-----',/,5X,6HN,NREF,3X,9HPT,CONTRL,
*13X,3HNYC,16X,4HX(1),16X,4HX(2),/)
C
KARD=1
III = 1
K=1
20 READ(5,FMT,FND=40,DATA=9991) NOME(K),NREF(K),NCNTRL(K),(DATA(I),I=
*1,3),ALT(K)
C20 READ(1,FMT,FND=40,DATA=9991) NREF(K),NCNTRL(K),(DATA(I),I=1,3)
IF (III .GT. 20) GO TO 21
IF (KARD.LT.ICE(III).OR.KARD.GT.ICE(III)) GO TO 21
III = III + 1
KARD = KARD + 1
GO TO 20
21 CONTINUE
WYE(K)=DATA(NZ)
EX(K) =DATA(NX)
EY(K) =DATA(NY)
C
WRITE(6,132) NREF(K),NCNTRL(K),WYE(K),EX(K),EY(K) ,KARD

```

```

00000790 T 002:0013:2
00000810 P 002:0020:2
00000830 T 002:002F:3
00000850 T 002:0031:3
00000870 T 002:0033:3
00000890 P 002:0035:3
00000894 C 002:0035:3
00000896 C 002:0035:2
00000898 C 002:0034:2
00000910 P 002:0034:2
00000930 T 002:0034:2
00000950 T 002:0035:2
00000970 P 002:0035:2
00000991 C 002:0035:2
00000990 T 002:0035:2
00001010 P 002:0035:2
00001030 T 002:0035:2
00001050 T 002:0035:2
00001070 T 002:0035:2
00001090 T 002:0035:2
00001110 T 002:0035:2
00001130 T 002:0035:2
00001150 T 002:0035:2
00001170 T 002:0035:1
00001190 T 002:0035:1
00001210 T 002:0035:1
00001230 T 002:0035:1
00001250 T 002:0035:1
00001270 T 002:0035:1
00001290 T 002:0035:1
00001310 T 002:0035:1
00001330 T 002:0035:1
00001350 T 002:0035:1
00001370 T 002:0035:1
00001390 T 002:0035:1
00001410 T 002:0035:1
00001430 T 002:0035:1
00001450 T 002:0035:1
00001470 T 002:0035:1
00001490 T 002:0035:1
00001510 T 002:0035:1
00001530 T 002:0035:1
00001550 T 002:0035:1
00001570 T 002:0035:1
00001590 P 002:0035:1
00001592 C 002:0035:1
00001610 T 002:0035:1
00001630 T 002:0035:1
00001650 T 002:0035:1
00001670 T 002:0035:1
00001690 T 002:0035:1
00001710 T 002:0035:1
00001730 T 002:0035:1
00001750 T 002:0035:1
00001770 T 002:0035:1
00001790 T 002:0035:1
00001810 T 002:0035:1
00001830 T 002:0035:1

```

```

132 FORMAT(4X,AR,AB,3F20.4,10X,' CARTAO NO = ',I6)
C
C
C MONTAGEM DAS MATRIZES
C
I=1
EM(1)=1.0
DD 888 KG=1,IGRAU
KA=KG
KR=0
DD 991 KP=1.50
I=I+1
EM(I)=(EX(K)**KA)*(FY(K)**KB)
KA=KA+1
KR=KR+1
991 IF(KA.EQ.-1) KP=50
C
888 CONTINUE
KII=I
C
DD 32 J=1,KII
YVECT(I)=YVECT(I)+EM(I)*MYE(K)
DD 32 J=1,KII
32 XVTRX(I,J)=YVTRX(I,J)+EM(I)*EM(J)
K=K+1
KARD = KARD + 1
GO TO 20
9991 CONTINUE
WRITE(2,2356) K
2356 FORMAT(' ERRO DE FORMATO NO CARTAO NUMERO = ',I6)
WRITE(2,132) NREF(K),NENTPL(K),MYE(K),EX(K),EY(K)
KARD = KARD + 1
GO TO 20
40 KOUNT=K-1
WRITE(6,2567) KARD -1
WRITE(6,2568) KOUNT
2567 FORMAT(1X,////,1X,'NUMERO DE DADOS TOTAL = ',I6)
2568 FORMAT(1X,////,1X,'NUMERO DE DADOS ACEITOS = ',I6)
10010 IF(NORDER(IGRAU).LT.KOUNT) GO TO 10011
IGRAU=IGRAU+1
MAP = IGRAU
GO TO 10010
10011 CONTINUE
WRITE(6,10013) IGRAU,IGRAU,NORDER(IGRAU)
10013 FORMAT(////,1X,'GRAU MAXIMO CALCULADO = ',I3,///,' NUMERO DE COEF.
*CIENTES('I2,')= ',I3)
2222 WRITE (6,88888)
C
C*****
C INVERSA DA MATRIZ
C
DD 250 N=1,IGRAU
MAX=NORDER(N)
C
DD 201 I=1,MAX
DD 201 J=1,MAX
201 A(I,J)=XVTRX(I,J)
DD 214 K=1,MAX

```

```

00001850 T 002:009211
00001870 T 002:009211
00001890 T 002:009211
00001910 T 002:009211
00001930 T 002:009211
00001950 T 002:009211
00001970 T 002:009215
00001990 T 002:009410
00002010 T 002:009510
00002030 T 002:009515
00002050 T 002:009613
00002070 T 002:009613
00002090 T 002:009612
00002110 T 002:009612
00002130 T 002:009614
00002150 T 002:009610
00002170 T 002:009612
00002190 T 002:009612
00002210 T 002:009612
00002230 T 002:009613
00002250 T 002:009612
00002270 T 002:009612
00002290 T 002:009610
00002310 T 002:009610
00002330 T 002:009610
00002350 T 002:009613
00002370 T 002:009613
00002390 T 002:009613
00002410 T 002:009614
00002430 T 002:009614
00002450 T 002:009612
00002470 T 002:009612
00002490 T 002:009612
00002510 T 002:009614
00002530 T 002:009611
00002550 T 002:009613
18 IS 0006 LONG
00002570 T 002:009612
00002590 T 002:009612
00002610 T 002:009612
00002630 T 002:009612
00002650 T 002:009612
00002670 T 002:009614
00002690 T 002:009611
00002710 T 002:009614
00002730 T 002:009614
00002750 T 002:009612
00002770 T 002:009612
00002790 T 002:009612
00002810 T 002:009612
00002830 T 002:009612
00002850 T 002:009612
00002870 T 002:009614
00002890 T 002:009612
00002910 T 002:009614
00002930 T 002:009613
00002950 T 002:009613
00002970 T 002:009613
00002990 T 002:009612
00003010 T 002:010410

```

```

DIV=A(K,K)
A(K,K)=1.0
DO 211 J=1,MAX
211 A(K,J)=A(K,J)/DIV
DO 214 I=1,MAX
IF(I-K) 212,214,212
212 DIV=A(I,K)
A(I,K)=0.0
DO 213 J=1,MAX
213 A(I,J)=A(I,J)-DIV*A(K,J)
214 CONTINUE
C
C*****
C
C      SIMETRIZACAO DA MATRIZ INVERSA
C
DO 2214 I=1,MAX
DO 2214 J=1,MAX
2214 B(I,J)=(A(I,J)+A(J,I))/2.
DO 2215 I=1,MAX
DO 2215 J=1,MAX
2215 A(I,J)=B(I,J)
C
C*****
C
DO 228 I=1,MAX
C(I,M)=0.0
DO 228 J=1,MAX
228 C(I,M)=C(I,I)*A(I,J)+YVECT(J)
S(N)=0.0
DO 229 I=1,MAX
229 S(N)=S(N)+YVECT(I)*C(I,I)
C
C
C
C
C
C
250 CONTINUE
C
C*****
DO 333 I = 1,100
DO 333 J = 1,10
CC(I,J) = SNGL(C(I,J))
333 CONTINUE
C
IF(XXXX.EQ.0.) GO TO 91911
C      CALCULO DOS PARAMETROS ESTATISTICOS
AR688 FORMAT(1H1)
C
C
C
C
WRITE(6,114) TITL
WRITE(6,3456)
3456 FORMAT (///,12X,' V A L I D E S   R E F I D U A I S ',//,1Y,
+132(' '),//,1X, 'CODIGO/EST/CAO' ,3X,'ALTITUDE',2X,'LATITUDE',5X,
+132(' '),//,1X, 'LONGITUDE',7X,
+132(' '),//,1X, 'RGRAU 1   RGRAU 2   RGRAU 3   RGRAU 4   RGRAU 5   RGR
00003030 T 002:0105:0
00003050 T 002:0107:4
00003070 T 002:0104:3
00003090 T 002:0100:0
00003110 T 002:0111:3
00003130 T 002:0113:0
00003150 T 002:0114:2
00003170 T 002:0117:9
00003190 T 002:0119:5
00003210 T 002:0118:0
00003230 T 002:0122:5
00003250 T 002:0127:1
00003270 T 002:0127:1
00003290 T 002:0127:1
00003310 T 002:0127:1
00003330 T 002:0127:1
00003350 T 002:0127:1
00003370 T 002:0125:0
00003390 T 002:0129:5
00003410 T 002:0134:5
00003430 T 002:0135:0
00003450 T 002:0137:0
00003470 T 002:0140:0
00003490 T 002:0140:0
00003510 T 002:0140:0
00003530 T 002:0140:0
00003550 T 002:0144:0
00003570 T 002:0143:5
00003590 T 002:0145:0
00003610 T 002:0146:0
00003630 T 002:0151:2
00003650 T 002:0152:0
00003670 P 002:0154:2
00003690 P 002:0154:2
00003710 P 002:0154:2
00003730 P 002:0154:2
00003750 P 002:0154:2
00003770 P 002:0154:2
00003790 T 002:0154:2
00003810 T 002:0155:3
00003830 T 002:0155:3
00003850 T 002:0155:3
00003870 P 002:0154:3
00003890 P 002:0155:0
00003910 T 002:0155:0
00003930 T 002:0162:5
00003950 T 002:0167:1
00003970 T 002:0167:1
00003990 T 002:0166:2
00004010 P 002:0166:2
00004030 T 002:0166:2
00004050 T 002:0166:2
00004070 T 002:0166:2
00004090 T 002:0166:2
00004110 T 002:0166:2
00004130 P 002:0173:2
00004150 P 002:0173:2
00004170 P 002:0173:2
00004190 P 002:0173:2

```

```

*AU 6 RGRAU: 7, //)
91911 CONTINUE
C
C
C IF(XXXX.NE.1.) IGRAU=2
C
DO 32231 N=1,IGRAU
YCOMP(N)=0.
SYCP(N)=0.
SYCPSO(N)=0.
SYRES(N)=0.
SYRESO(N)=0.
32231 CONTINUE
SYDBS=C.0
SYDBSO=C.0
ATOT=C.0
DO 60 K=1,KOUNT
YDBS=MYE(K)
I=1
FM(1)=1.0
DO 62 KQ=1,IGRAU
KA=KG
KB=0
DO 61 KP=1,50
I=I+1
FM(I)=(EX(K)**KA)*(FY(K)**KB)
61 IF(KA.EQ.-1) KP=50
62 CONTINUE
DO 661 KT=1,IGRAU
YCOMP(KT)=C.
661 YRES(K,KT)=0
C
DO 64 N=1,IGRAU
DO 63 I=1,NORDER(N)
YCOMP(N)=YCOMP(N)+C(I,N)*FM(I)
YRES(K,N)=MYE(K)-YCOMP(N)
64 CONTINUE
IF(XXXX.EQ.0.) GO TO 91910
WRITE (6,111)NDPE(K),NREF(K),NCTRL(K),*ALT(K),EX(K),FY(K),MYE(K)
*,(YRES(K,M),M=1,IGRAU)
111 FORMAT(1X,A1,A6,A6,3X,F7.2,1X,3(F10.3,3X),7(E9.3,1X))
C
C
91910 CONTINUE
RES(K)=YRES(K,IGRAU)
SYDBS=SYDBS+MYE(K)
SYDBSO=SYDBSO+MYE(K)**2
DO 60 N=1,IGRAU
SYCP(N)=SYCP(N)+YCOMP(N)
SYCPSO(N)=SYCPSO(N)+YCOMP(N)**2
SYRES(N)=SYRES(N)+YRES(K,N)
SYRESO(N)=SYRESO(N)+YRES(K,N)**2
60 CONTINUE
IF(XXXX.EQ.1.) GO TO 16661
CALL REFIN (RES,EX,FY,MAP,KOUNT,NORDER,CRES,S)
IGRAU=MAP
DO 3228 N=3,IGRAU
DO 3228 I=1,MAX

```

```

00004210 P 002:0173:2
00004211 C 002:0173:2
00004230 P 002:0173:2
00004250 P 002:0173:2
00004251 C 002:0173:2
00004270 T 002:0175:2
00004271 C 002:0175:2
00004272 C 002:0176:2
00004273 C 002:0177:2
00004274 C 002:0179:1
00004275 C 002:0174:4
00004276 C 002:0170:1
00004277 C 002:0170:1
00004290 T 002:0177:2
00004310 T 002:0180:3
00004330 T 002:0181:1
00004350 T 002:0181:3
00004370 T 002:0183:2
00004390 T 002:0184:3
00004410 T 002:0185:1
00004430 T 002:0186:2
00004450 T 002:0187:2
00004470 T 002:0187:3
00004490 T 002:0188:3
00004510 T 002:0184:3
00004530 T 002:0193:2
00004550 T 002:0191:2
00004570 T 002:0192:4
00004590 T 002:0194:2
00004610 T 002:0193:2
00004630 T 002:0194:3
00004650 T 002:0195:3
00004670 P 002:0193:4
00004690 T 002:01A2:3
00004710 T 002:01A2:3
00004730 T 002:01A4:3
00004750 T 002:01A4:3
00004770 P 002:01A6:3
00004790 T 002:01B3:4
00004795 C 002:01B3:3
00004810 P 002:01B7:2
00004811 C 002:01C3:1
00004830 P 002:01D3:2
00004850 P 002:01D3:2
00004870 P 002:01D3:4
00004890 P 002:01D3:2
00004910 P 002:01D3:2
00004930 T 002:01D7:1
00004950 T 002:01D9:1
00004970 T 002:01D3:3
00004990 T 002:01D3:3
00005010 T 002:01E3:3
00005030 P 002:01E4:3
00005050 P 002:01E3:3
00005070 T 002:01E3:3
00005071 C 002:01F1:3
00005072 C 002:01F3:3
00005073 C 002:01F3:4
00005074 C 002:01F9:3
00005075 C 002:01F1:3

```



```

3228 C(I,N)=C(I,2)+ CRES(I,N)
XXXX=1.
GO TO 250
16661 CONTINUE
WRITE (6,86P88)
YBAROB=SYOBS/KOUNT
SSYORS=SYOBSO-YBAROB*SYOBS
DO 822 I=1,KOUNT
822 ATDT=ATDT+(N*YE(I)-YBAROB)**2
C
C
C
Z=FLOAT(KOUNT)
DO 820 N=1,IGRAU
PSTQ(N)=100.*((SYCPSO(N)-(SYCP(N)**2/Z))/(SYOBSO-(SYOBS**2/Z)))
VAR(N)=ATDT-SYRESO(N)
CDET(N)=VAR(N)/ATDT
IF(CDET(N))P25,826,826
826 CORR(N)= SQRT(CDET(N))
VARIAN(N)=SYRESO(N)/Z
DESPAD(N)= SQRT(VARIAN(N))
ESPAD(N)= N*DESPAD(N)
CDET(N)=100.*CDET(N)
CORR(N)=100.*CORR(N)
GO TO 824
825 WRITE (6,827)N
827 FDPHAT(//,' INDETERMINACAO PARA SUPERFICIE DE GRAU = ',14,/)
INDET(N)=N
GO TO 820
C
824 YBARCP(N)=SYCP(N)/Z
SSYCP(N)=SYCPSO(N)-YBARCP(N)*SYCP(N)
SSYCP(N)=S(N)-YBARCP(N)*SYOBS
SSRED(N)=100.*(SSYCP(N)/SSYORS)
PCTRED(N)=100.*(SSYCP(N)/SSYORS)
DO 420 N=2,IGRAU
IF(CORR(N) .GE. CORR(N-1)) GO TO 420
MAP = N - 1
N = 1GRAU
420 CONTINUE
IF (DESPAD(MAP) .LT. 2) DESPAD(MAP) = 2
IF (DESPAD(MAP) .GT. 5) DESPAD(MAP) = 5
RESM=3*DESPAD(MAP)
RRR = -RESM
DO 70 K = 1,KOUNT
YYAA = YRES(K,MAP)
IF (YYAA .LT. RESM .AND. YYAA .GT. RRR) GO TO 70
L = AZ(MAP)
IF (L .LT. 20)ERRC(L,MAP) = K
LCE(MAP) = 1
AZ(MAP) = AZ (MAP) + 1
70 CONTINUE
C
DO 79 N = 1,MAP
WRITE(6,108) N
MAX=NORDER(N)
WRITE (6,107)(C(I,N),I=1,MAX)
C
107 FORMAT (1X,10F13.6)
108 FORMAT (/,10X,"COEFICIENTES DE GRAU = ",13)

```

```

00005076 C 002101F013
00005077 C 0021020012
00005078 C 0021020711
00005079 C 0021020713
00005080 C 0021020714
00005090 T 0021020312
00005110 T 0021020318
00005130 T 0021020613
00005150 T 0021021010
00005170 T 0021021510
00005190 T 0021021510
00005210 T 0021021513
00005230 T 0021021513
00005250 T 0021021515
00005270 T 0021021713
00005290 T 0021021714
00005310 T 0021022013
00005330 T 0021022112
00005350 T 0021022411
00005370 P 0021022711
00005375 C 0021022813
00005377 C 0021022813
00005390 T 0021022F12
00005410 T 0021023211
00005430 T 0021023512
00005450 T 0021023513
00005470 T 0021023512
00005490 T 0021023512
00005510 T 0021023513
00005530 T 0021023513
00005550 T 0021023513
00005570 T 0021024112
00005590 T 0021024513
00005610 T 0021024913
00005630 T 0021024915
00005650 T 0021025212
00005670 P 0021025413
00005690 T 0021025513
00005710 T 0021025511
00005730 T 0021025913
00005732 C 0021025911
00005734 C 0021025913
00005736 C 0021026213
00005738 C 0021026413
00005740 C 0021026511
00005742 C 0021026513
00005744 C 0021026913
00005746 C 0021026913
00005748 C 0021026914
00005750 P 0021027013
00005752 C 0021027213
00005754 C 0021027413
00005770 T 0021027611
00005790 P 0021027611
00005791 C 0021027713
00005792 C 0021027712
00005793 C 0021027815
00005794 C 0021028012
00005796 C 0021028012
00005798 C 0021028012

```

```

109  FORMAT (/, " S = ", F16.8, //)
79  CONTINUE
C
C
C
WRITE(6, 56563)
56563  FORMAT (//////, IX, "PARAMETROS ESTADISTICOS", //,
*
*      PSTO
*      SYRES      SYRESQ ' )
      DD 56566 N=1, IGRAU
      WRITE(6, 56562) N
56562  FORMAT (/, " GRAU = ", I2)
      WRITE(6, 56564) ESPAD(N), CORR(N), CDET(N)
*      PSTO(N), SSRED(N)
*      YPARDB, YPARCP(N), SYRES(N), SYRESQ(N)
56564  FORMAT( 10X, 8(F12.5), F14.5)
56568  CONTINUE
      IF (LCE(MAP), .EQ. 0) GO TO 660
      WRITE(6, 8AF688)
      DD 640 N=1, IGRAU
      WRITE(6, 650) N, (ERRC(J, N), J=1, 20)
      FCMAT (" CARTES DESPREZADOS DO GRAU = ", I3, 20I5)
      WRITE(6, 670) (ERRC(J, N/P), J=1, 20)
      FORMAT (20I4)
      LOCK 4
      DD 642 N = 1, IGRAU
      WRITE(6, 776) N, TITL(16)
776  FORMAT (///, " CARTES DESPREZADOS DO GRAU = ", I2, " DO ANG. = ", A3, //)
      DD 642 J = 1, 20
      IF (ERRC(J, N), .EQ. 0) GO TO 642
      K = ERRC(J, N)
      WRITE(6, 642) NREF(K), NCNTRL(K), (DATA(I), I=1, 3), K
      CONTINUE
      J = 5678*10**50
660  CONTINUE
C
      PEAD (TITL, F80) IO
680  FORMAT (90X, I3)
      MAX=NORDJER(MAP)
      KNT = KOUNT
      WRITE(6, 7) KNT, IQ, MAP, CORR(MAP), (C(I, MAP), I=1, MAX)
      LOCK 7
      CALCULO DOS MINIMOS E MAXIMOS
      DD 320 K=1, KOUNT
      IF (RES(K), GT. SIGMA3) GO TO 320
      G = EX(K)
      XMIN = AMIN1(XMIN, G)
      XMAX = AMAX1(XMAX, G)
      G = EY(K)
      YMIN = AMIN1(YMIN, G)
      YMAX = AMAX1(YMAX, G)
      G = WYE(K)
      ZMN = AMIN1(ZMN, G)
      ZMX = AMAX1(ZMX, G)
320  CONTINUE
      KT = 0
      DD 498 YY=1, MAP
      KK=MAP-YY+1

```

```

IGRAU = KK
IF(INDET(KK).EQ.KK) GO TO 498
  KT = KT + 1
  IF (KT.EQ. 1 ) YY = MAP
  ZMN= -135.
  ZMX= 40.
  CALL MAPASC(XMAX,XMIN,YMAX,YMIN,ZMX,ZMN,ESC, C,IGRAU,TITLE,
*FOUNT,CURR)
498  CONTINUE
      STOP
      END

```

```

00006450 T 0021031018
00006470 T 0021031112
00006490 T 0021031212
00006510 T 0021031312
00006530 P 0021031412
00006550 P 0021031512
00006570 T 0021031611
00006590 T 0021031710
00006610 T 0021031812
00006630 T 0021032113
00006650 T 0021032212

```

0021032714 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 00001592

SEGMENT 002 IS 038E LONG

		START OF SEGMENT 009	
	SUBROUTINE MAPAS(XMAX,XMIN,YMAX,YMIN,ZVX,ZMN,NESC,C,IG,TITL	00006670	T 009:000010
	*NPT,CORR)	00006690	T 009:000010
C	PARAMETROS : XMAXIMO,XMINIMO,YMAXIMO,YMINIMO,ZMAXIMO,ZMINIMO,ESCA.	00006710	T 009:000010
C	LA,MATP12 DOS COEFICIENTES,GRAD DO MAPA,TITULO	00006730	T 009:000010
	REAL*8 C,EX,EY,Z,AZ	00006750	T 009:000010
	DTMENSIN A7(110),A7B(110),C(100,10),EY(110,21),EY(21),TITL(32),	00006770	P 009:000010
	*LIC(12),CDL(A),CORR(10)	00006790	P 009:000010
	REAL LIC	00006810	T 009:000010
	REAL NESC,NESK	00006811	C 009:000010
	REAL SIB(72)	00006830	T 009:000010
	DATA SIB/"0","1","2","3","4","5","6","7","8","9","A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W","X","Y","Z",	00006850	T 009:000010
	*"7","8","9","A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W","X","Y","Z",	00006870	T 009:000010
	*"A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W","X","Y","Z",	00006890	T 009:000010
	*"H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V","W","X","Y","Z",	00006910	T 009:000010
	*"P","Q","R","S","T","U","V","W","X","Y","Z",	00006930	T 009:000010
	*"X","Y","Z",	00006950	T 009:000010
	IGR = IG + 1	00006970	T 009:000010
	XMIN=XMN	00006990	T 009:000012
	NS = 70	00007010	T 009:000011
	NCL=110	00007030	T 009:000010
	FLI=1	00007050	T 009:000015
	FCO=1	00007070	T 009:000015
C	YM = YMAX	00007090	T 009:000011
	NESC = NESC * 1.00178	00007108	C 009:000011
	NESK=NESC/0.96	00007109	C 009:000011
	YM = YMIN	00007110	T 009:000011
	XNCL = ((XMAX - XMIN)/NESC)*392.85 + 1	00007130	T 009:000011
	YNLIH = ((YMAX - YMIN)/NESK) * 23.09 + 1	00007150	P 009:000010
	PASL = (YMAX - YMIN)/(YNLIH - 1)	00007170	T 009:000012
	PASC = (XMAX - XMIN)/(XNCL - 1)	00007190	T 009:000014
	SE = (ZVX - ZMN) / NS	00007210	T 009:000012
	ZU = ZMN - 3 * SE	00007230	T 009:000011
	IF (TITL(16) .NE. "1 ") GO TO 1	00007235	C 009:000010
	IF(XY .NE. C) GO TO 1	00007250	T 009:000010
	XY = 1	00007270	T 009:000015
C	IMPRIME TABELA DE SIMBOLOS PARA O MAPA	00007290	T 009:000015
	VS = ZH	00007310	T 009:000015
	WRITE (6,200)	00007330	T 009:000012
	WRITE (6,190)	00007350	T 009:000012
190	FORMAT (1X,"TABELA DE SIMBOLOS",//,3X,"VALOR",8X,"SIMBOLO")	00007370	T 009:000012
	DO 4 I=1,69	00007390	T 009:000012
	WRITE (6,192) VS,SIB(I)	00007410	T 009:000012
192	FORMAT (1X,F7.2,11X,A1)	00007430	T 009:000012
	VS = VS + SE	00007450	T 009:000012
4	CONTINUE	00007470	T 009:000014
1	CONTINUE	00007490	T 009:000015
	DO 12 L=1,11	00007510	T 009:000015
12	LIC(L) = XMIN + (L-1)*PASC*10 = PASC/2	00007530	T 009:000015
C	CALCULO DOS EXPONENTES DE X - SAO CALCULADOS OS EXPONENTES DE TODA	00007550	T 009:000015
C	UMA LINHA ISTO E DE 110 X.	00007570	T 009:000014
	A=1	00007590	T 009:000014
	X=XMIN	00007610	T 009:000012
	DO 10 J=1,110	00007630	T 009:000015
	EX(J,1) = 1	00007650	T 009:000015
	DO 5 J=2,IGR	00007670	T 009:000015
	EX(J,J) = X+A	00007690	T 009:000015
	A = EX(1,J)	00007710	T 009:000015
5	CONTINUE	00007730	T 009:000011
	A=1	00007750	T 009:000012

```

X=X + PASC
IF(X.LE.XMAX) GO TO 10
NCL=1
I=110
10 CONTINUE
XMIN = XMIN + 110* PASC
C CALCULO DOS EXPONENTES DE Y E CALCULADO UM VALOR POR VEZ.
C
15 CONTINUE
C IF (YM .LE. YMIN) GO TO 1111
IF (YM .GT. YMAX) GO TO 1111
Y = YM
B= 1
EY(1)=1
DO 30 I=2,IGR
EY(I)= Y*B
B=EY(I)
30 CONTINUE
C Y=YM - PASL
Y=YM + PASL
C CALCULO DOS VALORES DA FUNCAO EM UMA DETERMINADA LINHA
DO 40 L=1,NCL
I=1
AZ(L)=0.
DO 35 K=1,IGR
DO 35 J=1,K
Z = C(I,IG)*EY(J)*EY(L,K-J+1)
I = I + 1
AZ(L) = AZ(L) + Z
35 CONTINUE
40 CONTINUE
C SUBSTITUICAO DOS VALORES POR SIMBOLOS
DO 50 K=1,NCL
XL =(AZ(K) - ZM)/SB + 1
IF(XL.GT.1000.) GO TO 45
IF(XL.LT.-1000.) GO TO 45
LL=XL
IF(LL.GT.70)LL=70
IF(LL.LE.0) LL=71
GO TO 46
45 LL=72
46 AZB(K) = SIB (LL)
50 CONTINUE
C
C IMPRESSAO DO MAPA
C
C IF (NL .NE. 0) GO TO 330
WRITE (6,200)
200 FORMAT (1H1)
WRITE (6,202) TITL,
*FLI,FCD,NESC,CORR(IG),NPT,IG
202 FORMAT ( 1X,16A5//,1X,16A5, 20X, " FOLHA=","I3,"",13, //
* " ESCALA DO MAPA =" ,F10.2,
* " CORR= ",F5.2," N DE PTOS = ",I5,
* " MAPA DO GRAU =" ,I3)
WRITE(6,204) (LIC(L),L=1,NCL/10+ 1)
204 FORMAT (T5,12(F8.2,2X))
WRITE (6,205) NCL +2

```

```

00007770 T 0091004410
00007790 T 0091004612
00007810 T 0091004812
00007830 T 0091005011
00007850 T 0091005210
00007870 T 0091005411
00007890 T 0091005610
00007910 T 0091005810
00007930 T 0091006010
00007950 T 0091006210
00007970 T 0091006410
00007990 T 0091006612
00080010 T 0091006811
00080030 T 0091007010
00080050 T 0091007210
00080070 T 0091007410
00080090 T 0091007612
00080110 T 0091007810
00080130 T 0091008011
00080150 T 0091008210
00080170 T 0091008413
00080190 T 0091008613
00080210 T 0091008810
00080230 T 0091009014
00080250 T 0091009212
00080270 T 0091009410
00080290 T 0091009610
00080310 T 0091009813
00080330 T 0091010015
00080350 T 0091010210
00080370 T 0091010412
00080390 T 0091010613
00080410 T 0091010813
00080430 T 0091011010
00080450 T 0091011210
00080470 T 0091011411
00080490 T 0091011615
00080510 T 0091011815
00080530 T 0091012014
00080550 T 0091012210
00080570 T 0091012411
00080590 T 0091012610
00080610 T 0091012812
00080630 T 0091013013
00080650 T 0091013214
00080670 T 0091013413
00080690 T 0091013613
00080710 T 0091013813
00080730 T 0091014013
00080750 T 0091014214
00080770 T 0091014412
00080790 T 0091014612
00080810 T 0091014810
00080830 T 0091015012
00080850 T 0091015212
00080870 T 0091015412
00080890 T 0091015612
00080910 P 0091015812
00080930 P 0091016012
00080950 T 0091016212

```

```

IGRAU = KK
IF(INDET(KK).EQ.KK) GO TO 498
  KT = KT + 1
  IF (KT.EQ. 1 ) YY = MAP
  ZMN= 135.
  ZMX= 40.
  CALL MAPAS(XMAX,XMIN,YMAX,YMIN,ZMX,ZMN,ESC, C,IGRAU,TITLE,
*COUNT,CORR)
498  CONTINUE
      STOP
      END

```

```

00006450 T 0021031015
00006470 T 0021031112
00006490 T 0021031212
00006510 T 0021031314
00006530 P 0021031412
00006550 P 0021031512
00006570 T 0021031611
00006590 T 0021031713
00006610 T 0021031812
00006630 T 0021031913
00006650 T 0021032012

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0021032714 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 00001592
 SEGMENT 002 IS 33BE LONG

```

205 FORMAT (T10, *(" "))
DO 300 I=1,6
C300 COL(I) = YM + PASL + (I-1)*PASL*10 + PASL/2
300 COL(I) = YM - PASL + (I-1)*PASL*10 - PASL/2
KC = 1
330 CONTINUE
IF (MOD(NL,10) .NE. 0) GO TO 340
WRITE (6,206) COL(KC)
206 FORMAT (1H, F8.2)
KC = KC + 1
340 CONTINUE
WRITE (6,208) NCL, (AZB(K),K=1,NCL)
208 FORMAT (T10,"I", *A1,"I")
NL = NL + 1
IF (NL .NE. 51) GO TO 15
IF (NL .NE. 53) GO TO 15
WRITE (6,205) NCL + 2
NL = 0
FLI = FLI + 1
GO TO 15
1111 CONTINUE
C
YM = YMAX
YM = YMIN
IF (XMIN .GE. XMAX) GO TO 2222
NL=0
FLI = 1
FCD = FCD + 1
GO TO 1
2222 CONTINUE
C
IF (NL.NE.51)WRITE(6,205) NCL +2
IF (NL.NE.53)WRITE(6,205) NCL +2
RETURN
END

```

```

00006970 T 009:00B112
00006990 T 009:00B112
00009010 T 009:00B219
00009030 T 009:00B219
00009050 T 009:00B911
00009070 T 009:00B915
00009090 T 009:00B915
00009110 T 009:00B914
00009130 T 009:00C312
00009150 T 009:00C312
00009170 T 009:00C414
00009190 T 009:00C414
00009210 T 009:00C212
00009230 T 009:00C212
00009250 T 009:00D319
00009270 T 009:00D314
00009290 T 009:00D414
00009310 T 009:00D412
00009330 T 009:00D319
00009350 T 009:00D311
00009370 T 009:00D514
00009390 T 009:00D514
00009410 T 009:00D511
00009430 T 009:00D513
00009450 T 009:00E015
00009470 T 009:00E113
00009490 T 009:00E211
00009510 T 009:00E112
00009530 T 009:00E315
00009550 T 009:00E315
00009570 T 009:00E315
00009590 T 009:00E312
00009610 T 009:00E312

```

SEGMENT 009 IS 0110 LONG

FORMAT SEGMENT IS 0005 *DN
START OF SEGMENT 003
SEGMENT 006 IS 0025 LONG

NO ERRORS DETECTED. NUMBER OF CARDS = 430.
COMPILATION TIME = 30 SECONDS ELAPSED. 7.79 SECONDS PROCESSING.
D2 STACK SIZE = 18 WORDS. FILESIZE = 602 WORDS. ESTIMATED CORE STORAGE REQUIREMENT = 24057 WORDS.
TOTAL PROGRAM CODE = 1506 WORDS. ADPAY STORAGE = 26619 WORDS.
NUMBER OF PROGRAM SEGMENTS = 12. NUMBER OF DISK SEGMENTS = 127.
PROGRAM CODE FILE = (1460GE)STREND ON PACK. COMPILER COMPILED ON 03/11/76(2V8/FORTRAN ON PACK)

ALT/BOUG
=====

```

FILE 1=LER,UNIT=READER
FILE 2=LET,UNIT=READER
FILE 3=ONRJ,UNIT=DISK,RECORD=14,SAVE=90
FILE 4=IBGE,UNIT=DISK,RECORD=14,SAVE=90

      DIMENSION ALT(5000),GRAV(5000),AG(80,100),FBOUG(100),FALT(80),
      *COL(9),ALINH(100),LIC(11),GO(5000)
      DIMENSION SIB(41)
      DATA SIB/" ", "1", "2", "3", "4", "5", "6", "7", "8", "9", "A", "B", "C", "D",
      * "E", "F", "G", "H", "I", "J", "K", "L", "M", "N", "O", "P", "Q", "R", "S", "T",
      * "U", "V", "W", "X", "Y", "Z", " ", " ", " ", " ", " ", " ", " ", " ", " ", " ",
      ASSIGN 1 TO L
      PI=.017453293
      P2= 2*PI
      READ (5,100) DENS

100  FORMAT (F6.2)
      1  CONTINUE
      K = K + 1
C****  FORMATO ONRJ
      READ (1,110,DATA=99,END=200) LAT,ALAT,LON,ALON,ALT(K),GRAV(K)
110  FORMAT (15X,I2,1X,F5.2,3X,I2,1X,F5.2,F7.2,2X,F9.2)
C      WRITE(3,110,DATA=99,END=200) LAT,ALAT,LON,ALON,ALT(K),GRAV(K)
C****
      5  CONTINUE
      IF (GRAV(K) .EQ. 0 .OR. ALT(K) .EQ. 0 ) GO TO 6
      IF (GRAV(K) .LT. 0 .OR. ALT(K) .LE. 0 ) GO TO 6
      IF ( ALT(K) .GT. 1600) ALT(K) = 1600
      AALAT = ALAT/60.
      AALAT = AALAT + FLOAT(LAT)
      AALON = ALON/60.
      AALON = AALON + FLOAT(LON)
C****  VERIFICACAO DOS LIMITES DA AREA ****
C*****
      IF(AALON .LE. 49. .AND. AALON .GE. 48.5 .AND.
      * AALAT .LE. 18.5 .AND. AALAT .GE. 17.5 ) GO TO 4
      IF(AALON .LE. 48.5 .AND. AALON .GE. 48. .AND.
      * AALAT .LE. 19. .AND. AALAT .GE. 17.5 ) GO TO 4
      IF(AALON .LE. 48. .AND. AALON .GE. 47. .AND.
      * AALAT .LE. 19.5 .AND. AALAT .GE. 17.5 ) GO TO 4
      IF(AALON .LE. 47. .AND. AALON .GE. 46.5 .AND.
      * AALAT .LE. 22. .AND. AALAT .GE. 17.5 ) GO TO 4
      GO TO 6
      4  CONTINUE
C*****
C      GO(K)=978031.8*(1+.0053024*(SIN(AALAT*PI))**2. -.0000058*
      *(SIN(AALAT*PI))**2.)
      BOUG = 0.3086*ALT(K) - 0.0419*ALT(K)*DENS + GRAV(K) - GO(K)
      IF (BOUG .GE. + 90 .OR. BOUG .LE. -210) GO TO 6

```

```

00000050 C
100 C
00000110 C
00000120 C
00000150 C
00000155 C
00000160 C
00000200 C
00000210 C
00000220 C
00000300 C
00000310 C
00000320 C
00000350 C
00000400 C
00000450 C
00000500 C
00000550 C
00000600 C
00000650 C
00000660 C
00000700 C
00000750 C
00000800 C
00000805 C
00000810 C
00000850 C
00000860 C
00000870 C
00000880 C
00000882 C
00000888 C
00000900 C
00000920 C
00000950 C

```

GO TO 20	00001000	C	002:0063:5
6 CONTINUE	00001050	C	002:0064:2
K = K - 1	00001100	C	002:0064:2
GO TO LW	00001150	C	002:0065:4
20 SALT = SALT + ALT(K)	00001200	C	002:0068:3
SGRAV = SGRAV + BOUG	00001250	C	002:006A:3
SXY = SXY + ALT(K) * BOUG		C	002:006B:5
SXQ = SXQ + BOUG * BOUG		C	002:006E:2
SYQ = SYQ + ALT(K) * ALT(K)		C	002:0070:0
IA = 80 - ALT(K) / 20. + 1	00001300	C	002:0073:1
IG = 30 - BOUG / 3. + 1	00001350	C	002:0076:1
AG(IA,IG) = AG(IA,IG) + 1	00001400	C	002:0078:3
FBOUG(IG) = FBOUG(IG) + 1	00001450	C	002:007B:2
FALT(IA) = FALT(IA) + 1	00001500	C	002:007D:2
GO TO LW	00001550	C	002:007F:2
C	00001600	C	002:0081:3
99 CONTINUE	00001650	C	002:0081:3
GO TO 6	00001700	C	002:0081:3
200 CONTINUE	00001750	C	002:0082:0
K = K - 1	00001800	C	002:0082:0
ASSIGN 201 TO LW	00001850	C	002:0083:2
KONRJ = K	00001851	G	002:0084:1
WRITE (6,560) K	00001852	C	002:0085:0
			FIB IS 0005 LONG
560 FORMAT (1X,"CARTOES APROVEITADOS DO ARQ ONRJ = ", 15)	00001854	C	002:008B:2
201 CONTINUE	00001860	C	002:008B:2
K = K + 1	00001870	C	002:008B:2
C**** FORMAT IBGE	00001900	C	002:008C:4
READ (2,120,DATA=99,END=300) LAT,ALAT,LON,ALON,ALT(K),GRAV(K)	00001950	C	002:008C:4
120 FORMAT (15X,12,1X,F5.2,3X,12,1X,F5.2,3X,F7.2,3X,F9.2)	00002000	C	002:00A1:0
C WRITE (4,120,DATA=99,END=300) LAT,ALAT,LON,ALON,ALT(K),GRAV(K)	00002010	C	002:00A1:0
GO TO 5	00002050	C	002:00A1:0
300 CONTINUE	00002100	C	002:00A1:3
K = K - 1	00002101	C	002:00A1:3
WRITE (6,561) X = KONRJ	00002102	C	002:00A2:5
561 FORMAT (1X,"CARTOES APROVEITADOS DO ARQ IBGE = ",15,////)	00002104	C	002:00AA:2
KOUNT = K		C	002:00AB:1
SBOUG = SGRAV		C	002:00AC:0
ALTMED = SALT / K		C	002:00AD:2
BOUGMD = SGRAV / K		C	002:00AE:4
QSBGUG = SBOUG * SBOUG		C	002:00AF:5
QSALT = SALT * SALT		C	002:00B1:0
SXX = K * SXQ - QSBGUG		C	002:00B2:5
SYX = K * SYQ - QSALT		C	002:00B4:4
BETA = (K * SXY - SALT * SBOUG) / (K * SXQ - QSBGUG)		C	002:00B8:3
CORR = 100. * SXY / SQRT(SXX * SYX)		C	002:00B8:3
CUR = BETA * 100. * SQRT(SXX / SYX)		C	002:00BE:3
WRITE (6,9999) DENS, ALTMED, HFTA, BOUGMD, CORR		C	002:00CB:2
9999 FORMAT (1X,"EQUACAO DA REGRESSAO LINEAR PARA DENSIDADE = ",		C	002:00CB:2
* F6.2,/,," ALTITUDE = ",F10.2,," + ",F12.6,," * (BOUG = ",F12.6,,") * ,		C	002:00CB:2
* /,," COEFICIENTE DE CORRELACAO = ", F7.2,," X",/)		C	002:00CB:2
WRITE (6,999H) SALT,SGRAV,SXY,SXQ,SYQ,ALTMED,BOUGMD,QSBGUG,		C	002:00DA:0
* QSALT,SXX,SYX,BETA,CORR		C	002:00E4:2
9998 FORMAT (" SALT = ",E12.6,/,," SGRAV = ",E12.6,/,," /,,"		C	002:00E4:2
* " SXY = ",E12.6,/,," SXQ = ",E12.6,/,," SYQ = ",E12.6,/,," /,,"		C	002:00E4:2
* " ALTMED = ",E12.6,/,," BOUGMD = ",E12.6,/,," QSBGUG = ",E12.6,/,," /,,"		C	002:00E4:2
* " QSALT = ",E12.6,/,," SXX = ",E12.6,/,," SYX = ",E13.6,/,," /,,"		C	002:00E4:2
* " BETA = ",E12.6,/,," CORR = ",E12.6,/,," /)		C	002:00E4:2
LOCK 3		C	002:00E5:5
LOCK 4			

210	CONTINUE	C	002:00E7:2
	WRITE (6,520)	00002106	C 002:00E7:2
C****	IMPRESSAO DOS GRAFICOS	00002110	C 002:00E8:2
C****	PRIMEIRO ALT*BOUG	00002120	C 002:00E8:2
	WRITE (6,490)	00002123	C 002:00E8:2
490	FORMAT (IX,"TABELA DE SIMBOLOS",/,IX,"VALOR",3X,"SIMBOLO",/)	00002124	C 002:00EF:2
	DO 48 I = 1,39	00002125	C 002:00EF:2
	WRITE (6,495) I,SIB(I+I)	00002126	C 002:00F0:0
495	FORMAT (3X,I2,7X,A1)	00002127	C 002:00F8:2
48	CONTINUE	00002128	C 002:00F8:2
	WRITE(6,496)		C 002:00FA:3
496	FORMAT (IX,"MAIOR",6X,">")		C 002:00FE:2
	WRITE (6,520)	00002129	C 002:00FE:2
	WRITE (6,500)	00002130	C 002:0102:2
500	FORMAT (IX,"ALTITUDES(M)",/)	00002140	C 002:0106:2
	DO 49 L=1,100	00002150	C 002:0106:2
	ALINH(L)= "	00002160	C 002:0107:0
49	CONTINUE	00002170	C 002:010A:1
	AA=1600.	00002180	C 002:010C:2
	DO 50 I=1,9	00002190	C 002:010D:2
	COL(I)=AA	00002200	C 002:010E:0
	AA = AA - 200	00002210	C 002:010E:4
50	CONTINUE	00002220	C 002:0111:0
51	CONTINUE	00002230	C 002:0113:1
	IC = 1	00002235	C 002:0113:1
	DO 61 I=1,80	00002240	C 002:0113:5
	IF (MOD(IK,10).NE. 0) GO TO 55	00002250	C 002:0115:0
	WRITE (6,505) COL (IC)	00002300	C 002:0116:5
505	FORMAT(1H+,I5)	00002310	C 002:011E:2
	IC = IC + 1	00002320	C 002:011E:2
55	CONTINUE	00002330	C 002:011F:4
	DO 60 J =31,100	00002340	C 002:011F:4
	AS = AG (I,J) + 1	00002350	C 002:0121:0
	IF (AS .GT. 40) AS = 41	00002360	C 002:0124:0
	ALINH (J) = SIB (AS)	00002370	C 002:0125:5
60	CONTINUE	00002380	C 002:0128:2
	WRITE (6,510)(ALINH(J),J=31,100)	00002390	C 002:012A:3
510	FORMAT (T13,"I",100A1)	00002400	C 002:0136:2
	IK = IK + 1	00002410	C 002:0136:2
61	CONTINUE	00002420	C 002:0137:4
	AA = 90	00002430	C 002:0139:5
	DO 65 I = 1,11	00002440	C 002:013A:4
	LIC(I) = AA	00002450	C 002:013C:0
	AA = AA - 30	00002460	C 002:013D:5
65	CONTINUE	00002470	C 002:013F:1
	WRITE (6,514)	00002480	C 002:0141:2
514	FORMAT (T13, 81(" "))	00002490	C 002:0145:2
	WRITE (6,515)(LIC(I),I=4,11)	00002495	C 002:0145:2
515	FORMAT (T11,I5,10(SX,I5))	00002496	C 002:0151:2
	WRITE (6,516)	00002510	C 002:0151:2
516	FORMAT (TA0 , "ANOMALIA BOUGUER")	00002520	C 002:0155:2
	WRITE (6,520)	00002540	C 002:0155:2
C	HISTOGRAMA DA ANOMALIA BOUGUER	00002541	C 002:0159:2
520	FORMAT (1H1)	00002550	C 002:0159:2
	WRITE (6,521)	00002555	C 002:0159:2
521	FORMAT (T50 , "HISTOGRAMA DA ANOMALIA BOUGUER",///)	00002556	C 002:015D:2
	WRITE (6,522)(I,I =1,100,10)	00002560	C 002:015D:2
522	FORMAT (T10,10(I3,7X),/)	00002580	C 002:0169:2
	K = 0		C 002:0169:2
	IC = 1		C 002:016A:0

```

DO 70 J = 1,100
  IF (FBOUG(J) .GT. 100) FBOUG(J) = 100
  IF (FBOUG(J) .EQ. 0) WRITE(6,525)
  IF (FBOUG(J) .EQ. 0) GO TO 67
  WRITE(6,524) FBOUG(J)
524  FORMAT (T11,"I",*(**))
67  IF (MOD(K,10) .NE. 0) GO TO 66
  WRITE(6,505) LIC(IC)
  IC = IC + 1
66  CONTINUE
  K = K + 1
70  CONTINUE
  IF (DENS .NE. 2.67) GO TO 81
  HISTOGRAMA DA ALTITUDE
  WRITE(6,520)
  WRITE(6,530)
530  FORMAT (T60, " HISTOGRAMA DA ALTITUDE ",///)
  WRITE(6,522) (I,I=1,100,10)
  K = 0
  IC = 1
DO 80 J = 1,80
  IF (FALT(J) .GT. 100) FALT(J) = 100
  IF (FALT(J) .EQ. 0) WRITE(6,525)
  IF (FALT(J) .EQ. 0) GO TO 79
525  FORMAT (T11,"I")
  WRITE(6,524) FALT(J)
79  IF (MOD(K,10) .NE. 0) GO TO 75
  WRITE(6,505) COL(IC)
  IC = IC + 1
75  CONTINUE
  K = K + 1
80  CONTINUE
81  CONTINUE
  KE = 0
  READ(5,100,END=90) DENS
  WRITE(6,520)
  DO 305 I = 1,80
  DO 305 J = 1,100
    AG(I,J) = 0
    FALT(I) = 0
    FBOUG(J) = 0
305  CONTINUE
  SALT = 0
  SGRAV = 0
  SXY = 0
  SXQ = 0
  SYQ = 0
DO 310 K = 1,KOUNT
  BOUG = 0.3086*ALT(K) - 0.0419*ALT(K)*DENS + GRAV(K) - GO(K)
  IF (BOUG .GE. + 90 .OR. BOUG .LE. - 210) GO TO 306
  SALT = SALT + ALT(K)
  SGRAV = SGRAV + BOUG
  SXY = SXY + ALT(K)*BOUG
  SXQ = SXQ + BOUG*BOUG
  SYQ = SYQ + ALT(K)*ALT(K)
  IA = 80 - ALT(K)/20. + 1
  IG = 30 - BOUG/3. + 1
  AG(IA,IG) = AG(IA,IG) + 1
  FBOUG(IG) = FBOUG(IG) + 1
  FALT(IA) = FALT(IA) + 1

```

```

00002585 C 002:016A:4
00002590 C 002:016C:0
C 002:016F:4
00002591 C 002:0175:2
00002592 C 002:0177:1
00002594 C 002:017E:2
C 002:017E:2
C 002:0180:1
C 002:0187:2
C 002:0188:4
C 002:0188:4
00002596 C 002:018A:0
00002597 C 002:018C:1
00002600 C 002:018E:4
00002630 C 002:018E:4
00002640 C 002:0192:2
00002660 C 002:0196:2
00002670 C 002:0196:2
C 002:01A2:2
C 002:01A3:0
00002680 C 002:01A3:4
00002690 C 002:01A5:0
00002691 C 002:01A8:4
00002692 C 002:01AE:2
00002693 C 002:0180:1
00002700 C 002:0180:1
C 002:0187:2
C 002:0189:1
C 002:01C0:2
C 002:01C1:4
C 002:01C1:4
00002710 C 002:01C3:0
C 002:01C5:1
C 002:01C5:1
C 002:01C5:5
C 002:01CE:0
C 002:01D2:2
C 002:01D3:0
C 002:01D4:0
C 002:01D6:4
C 002:01D8:1
C 002:01D9:4
C 002:01DE:0
C 002:01DE:4
C 002:01DF:2
C 002:01E0:0
C 002:01E0:4
C 002:01E1:2
C 002:01E2:0
C 002:01EB:4
C 002:01ED:5
C 002:01EF:5
C 002:01F1:1
C 002:01F3:4
C 002:01F5:2
C 002:01F8:3
C 002:01FB:3
C 002:01FD:5
C 002:0200:4
C 002:0202:4

```

```

GO TO 310
306 CONTINUE
    KE = KE + 1
310 CONTINUE
    K = KOUNT - KE
    SBOUG=SGRAV
    ALTHED=SALT/K
    BOUGMD=SGRAV/K
    QSBORG=SHOUG * SBOUG
    QSALT=SALT*SALT
    SXX=K*SXQ-QSBORG
    SYY=K*SYQ-QSALT
    BETA=(K*SXY-SALT*SHOUG)/(K*SXQ-QSBORG)
    CORR=100.*SXY/SQRT(SXX*SYY)
    COR =BETA*100.*SQRT(SXX/SYY)
    WRITE(6,9999) DENS, ALTHED,BETA,BOUGMD ,CORR
    WRITE (6,9998) SALT,SGRAV,SXY,SXQ,SYQ,ALTHED,BOUGMD,QSBORG,
    * QSALT,SXX, SYY,BETA,COR
    GO TO 210
90 CONTINUE
    STOP
    END
002:0248:0 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 002:01C5
002:024C:3 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 00001950
002:0251:0 IS THE LOCATION FOR EXCEPTIONAL ACTION ON THE I/O STATEMENT AT 00000600

```

```

C 002:0204:4
C 002:0205:1
C 002:0205:1
C 002:0206:3
C 002:0208:4
C 002:020A:1
C 002:020B:0
C 002:020C:2
C 002:020D:4
C 002:020E:5
C 002:0210:0
C 002:0211:5
C 002:0213:4
C 002:0217:3
C 002:021A:3
C 002:021D:3
C 002:022A:2
C 002:0239:0
C 002:0243:2
C 002:0247:5
C 002:0243:5
C 002:0244:4

```

00002720

00002730

SEGMENT 002 IS 0289 LONG

=====

FORMAT SEGMENT IS 0040 LONG
 START OF SEGMENT 007
 SEGMENT 007 IS 0029 LONG

NO ERRORS DETECTED. NUMBER OF CARDS = 249.
 COMPILATION TIME = 11 SECONDS ELAPSED, 3.61 SECONDS PROCESSING.
 D2 STACK SIZE = 21 WORDS. FILESIZE = 388 WORDS. ESTIMATED CORE STORAGE REQUIREMENT = 24564 WORDS.
 TOTAL PROGRAM CODE = 748 WORDS. ARRAY STORAGE = 23341 WORDS.
 NUMBER OF PROGRAM SEGMENTS = 8. NUMBER OF DISK SEGMENTS = 61.
 PROGRAM CODE FILE = (146GGE)ALT/BOUG ON PACK.
 COMPILER COMPILED ON 08/09/78 (FORTRAN ON PACK).

T A M A

START OF SEGMENT 002

5	DIMENSION FX(150),FZ(150),PDELZ	(150),SSELZ(150),X(200),Z(200)	C 002:000010
30	FORMAT(//,LNO='14,' A='14,' RHO='F10.3)		C 002:000010
	READ (5,11)K		C 002:000010
11	FORMAT(14)		C 002:000010
	WRITE(6,13)		C 002:000010
13	FORMAT(1X,2X,"FX(K) FZ(K) ")		C 002:000010
520	DO 451 K=1,K		C 002:000010
3	READ (5,3)L,NO,CONS		C 002:000010
	FORMAT(15,15,F10.3)		C 002:000010
2	WRITE(6,2) FX(K),FZ(K)		C 002:000010
451	FORMAT(2F10.3)		C 002:000010
	CONTINUE		C 002:000010
6	WRITE(6,6)L,NO,CONS		C 002:000010
	FORMAT(//, L='14,' NO='14,' CONS='F10.3//)		C 002:000010
53	DO 53 K=1,K		C 002:000010
60	SSELZ(K)=CONS		C 002:000010
	READ(5,3) LFO,N,RHO		C 002:000010
	WRITE(6,5)LNO,N,RHO		C 002:000010
14	WRITE(6,14)		C 002:000010
	FORMAT(1X,3X,3X,"X(I) Y(I) ")		C 002:000010
	DO 801 I=1,N		C 002:000010
12	READ (5,12) X(I),Z(I)		C 002:000010
8011	FORMAT(2F10.3)		C 002:000010
801	WRITE(6,12) X(I),Z(I)		C 002:000010
	CONTINUE		C 002:000010
7	WRITE(6,7)		C 002:000010
	FORMAT(//, K FX(K) FZ(K) ANOMALY)		C 002:000010
	DO 420 K=1,K		C 002:000010
	SSELZ=0		C 002:000010
	I=1		C 002:000010
205	EXXX=X(1) -FX(K)		C 002:000010
	ZEEE=Z(1)-FZ(K)		C 002:000010
	RR=EXXX**2+ZEEE**2		C 002:000010
210	IF(XXX)210,240,280		C 002:000010
220	IF(ZEEE)220,230,230		C 002:000010
	THETB=ATAN(ZEEE/EXXX)+3.1415927		C 002:000010
	GO TO 300		C 002:000010
230	THETB=ATAN(ZEEE/EXXX)+3.1415927		C 002:000010
	GO TO 300		C 002:000010
240	IF(ZEEE)250,260,270		C 002:000010
250	THETB=-1.5707963		C 002:000010
	GO TO 300		C 002:000010
260	THETB=0		C 002:000010
	GO TO 300		C 002:000010
270	THETB=1.5707963		C 002:000010
	GO TO 300		C 002:000010
280	THETB=ATAN(ZEEE/EXXX)		C 002:000010
300	IF(I-1)3001,3002,3001		C 002:000010
3002	EXX=EXX		C 002:000010
	ZEE=ZEE		C 002:000010
	R=RR		C 002:000010
	THETA=THETB		C 002:000010

```

200 IF(I-1)205,200,205
    I=2
    GO TO 205
3001 CHECK=EXX*ZEEE-ZEE*EXXX
    IF(CHECK)320,310,320
310 DELZ=0.
    GO TO 400
320 OMEGA = THETA-THETB
    IF (OMEGA ) 3201,3202,3202
3202 IF(OMEGA=3.1415927)330,330,340
3201 IF(OMEGA=3.1415927)340,330,330
330 DTHET=OMEGA
    GO TO 370
340 IF(OMEGA)350,360,360
350 DTHET=OMEGA+6.2831853
    GO TO 370
360 DTHET=OMEGA+6.2831853
370 A=CHECK*((EXX-EXX)**2+(ZEEE-ZEE)**2)
    B=(EXX-EXX)*DTHET
    C=.5*(ZEEE-ZEE)*ALOG(RR/R)
    DELZ=A*(B+C)
400 SDELZ=SDELZ+DELZ
    IF(I-N)3003,3005,3005
3003 I=I+1
    GO TO 3002
3005 PDELZ(K)=13.34*RHO*SDELZ
    SSELZ(K)=SSELZ(K)+PDELZ(K)
    WRITE(6,4)K,FX(K),FZ(K),PDELZ(K)
4   FORMAT(15,F10.3,F10.3,F10.3)
420 CONTINUE
    GO TO 60
430 WRITE(6,7)
    DD 43J1 K=1,M
    WRITE(6,4)K,FX(K),FZ(K),SSELZ(K)
4301 CONTINUE
    IF(N0)30,52,30
    STOP
    END

```

```

C 0021008513
C 0021008614
C 0021008713
C 0021008810
C 0021008912
C 0021009011
C 0021009115
C 0021009212
C 0021009314
C 0021009418
C 0021009711
C 0021009915
C 0021009A14
C 0021009B11
C 0021009C14
C 0021009E14
C 0021009F11
C 002100CA11A
C 002100CA511
C 002100CA710
C 002100CAC11
C 002100CAE10
C 002100CAF12
C 002100CB14
C 002100CB210
C 002100CB213
C 002100CB311
C 002100CB910
C 002100CC12
C 002100CC12
C 002100CC13
C 002100CC310
C 002100CC312
C 002100CE10
C 002100D312
C 002100D313
C 002100DF11
C 002100E310

```

SEGMENT 002 IS 00FA LONG

=====

FORMAT SEGMENT IS 004A LONG
 START OF SEGMENT 007
 SEGMENT 007 IS 0018 LONG

NO ERRORS DETECTED. NUMBER OF CARDS = 90.
 COMPILATION TIME = 6 SECONDS ELAPSED, 1.87 SECONDS PROCESSING.
 D2 STACK SIZE = 12 WORDS. FILESIZE = 140 WORDS. ESTIMATED CORE STORAGE REQUIREMENT = 1503 WORDS.
 TOTAL PROGRAM CODE = 314 WORDS. ARRAY STORAGE = 1000 WORDS.
 NUMBER OF PROGRAM SEGMENTS = 7. NUMBER OF DISK SEGMENTS = 29.
 PROGRAM CODE FILE = (146GGE)TALWA ON PACK.
 COMPILER COMPILED ON 08/09/78 (FORTRAN ON PACK).

5. Interpretação da Carta Gravimétrica

5.1. Considerações Preliminares

Dada a escala da Carta Gravimétrica preparada (1:1.000.000) decorrente da densidade média de 66,2 pontos (calculado no item 3.2.2) por grau quadrado, a mesma apresenta filtragem das anomalias de pequeno tamanho, a interpretação é semi-qualitativa, estrutural.

Para auxílio de sua interpretação são buscados apoios nas cartas geológicas preparadas pelo Departamento Nacional da Produção Mineral do Ministério das Minas e Energia, das cartas aeromagnéticas e aero-cintilométricas preparadas pela Missão Geofísica Brasil-Alemanha e dos levantamentos aerogeofísicos (aeromagnetometria, aerogamaespectometria, aeroeletromagnetismo) e geológicos do Centro de Geofísica Aplicada, CGA, do DNPM.

Naturalmente não poderiam deixar de ser consultadas e utilizadas informações de muitos trabalhos geológicos executados em nível regional, de reconhecimento e de detalhe na área abrangida pelo estudo.

Os principais traços que podemos reconhecer na carta correspondem às grandes estruturas já conhecidas e descritas na literatura geológica, que ganham novas dimensões à luz do enfoque gravimétrico.

Além da extensa área sedimentar da Bacia do Paraná, na borda oeste do craton do São Francisco, da zona de arqueamento entre ambas, ainda se pode estudar as zonas de rochas precambianas (Grupo Araxá, F. Canastra) de faixas de dobramentos e bacias sedimentares locais.

Os detalhes dos valores gravimétricos em cada estação, as suas localizações, os parâmetros estatísticos e equações de regressão para cada quadrícula são listados no final do trabalho, sob o ítem "anexos" a fim de oferecer leitura mais fácil e permitir sua consulta para esclarecimentos, quando necessário.

Dado o caráter de carta de tendências, na qual intervem uma suavização (e filtragem das pequenas anomalias), o método de interpretação mais adequado é qualitativo ou semi-qualitativo em áreas de especial interesse.

Veremos que esta primeira carta gravimétrica regional ao milionésimo (apenas precedida da carta 1:20.000.000 preparada por Wilcox, 1973), como toda primeira carta, é preparada com diversas limitações, servindo de base para o preparo de cartas de detalhe, para delimitação e programação de campanhas em alvos para serem estudados em detalhe, incorporando o acervo de dados gravimétricos que durante muitos anos não foi estudado pelos nossos geólogos e geofísicos.

O presente estudo tem também como objetivo o preparo de um esboço gravimétrico para apoio da interpretação dos dados colhidos pela Missão Franco Brasileira de Gravimetria, cuja campanha de detalhe no campo foi completada recentemente. A área detalhada por este convênio abrange a parte Norte da área estudada, entre coordenadas 44° e 49° Oeste de longitude e latitudes de 17° e 19° Sul.

5.1.1. Considerações Estatísticas

Dada a relativa baixa densidade de estações gravimétricas na área estudada, e daí decorrente o

caráter regional da carta preparada, aliada aos problemas de erros nas coordenadas de diversas estações, do "ruído" geológico (anomalias de pequenos comprimentos de onda), o valor médio do desvio padrão (σ) de 2,30 mgal, representa a fidelidade de ajuste do campo gravitacional pelas funções polinomiais calculadas. Lembrando que o desvio padrão σ para uma distribuição normal tem o significado de que 68,27% dos pontos tem valores contidos no intervalo $(\mu - \sigma, \mu + \sigma)$, onde μ (média) no nosso caso corresponde à função polinomial $z = f(x,y)$. Do mesmo modo para 95,4 % temos: $f(x,y) \pm 2\sigma$ e para 99,7 % temos:

$$f(x,y) \pm 3\sigma$$

As zonas perturbadas por intrusões, por falhamentos com rejeitos verticais apreciáveis, de topografia acentuada, etc. apresentam maiores desvios padrões. Alguns pontos que apresentaram elevados desvios padrões ($>3\sigma$) foram eliminados, de modo que a carta final apresenta uma certa uniformidade e consistência. Abaixo são tabelados os coeficientes de correlações (ρ), os valores dos desvios padrões (σ) e o número de estações efetivamente utilizadas no preparo da carta gravimétrica Bouguer nas diversas quadrículas.

Longitudes	51°	50°	49°	48°	47°	46°	45°	17°30				
		98,74	93,97	96,34	87,61	92,98	84,51	86,90	92,52		18°	
	99,83	99,32	98,78	97,69	92,17	98,26	90,89	95,93	97,20	99,09	97,64	19°
	94,37	95,20	98,76	91,74	96,31	81,90	92,42	95,70	93,68	90,05	81,61	20°
98,50	98,91	98,24	97,90	98,28	95,53	94,12	97,08	96,34	87,82	96,16	98,03	21°
97,01	91,47	99,14	97,25	98,30	98,58	95,27	96,90	92,33	98,72	99,03	94,80	22°
99,57	96,23	98,64	94,09	95,11	98,81	98,00	97,84	98,92	98,95	98,51	98,42	23°
98,61	89,82	83,56	96,75	86,73	74,95	95,34	99,09	97,48	99,92	97,52	97,77	24°
86,87	92,61	97,53	94,49	94,56	91,26	78,48	95,19	98,21	99,71	97,29	96,19	25°
												Latitudes

Tabela: 18 Coeficientes de Correlação (ρ) verificados no ajuste polinomial da carta gravimétrica Bouguer para as diversas quadrículas

Longitudes	51°	50°	49°	48°	47°	46°	45°	17°30'				
		3,66	2,19	2,71	3,14	5,24	1,72	2,08	1,80			18°
	0,45	2,36	1,81	1,67	2,37	1,16	1,66	1,84	1,87	0,62	1,21	18°30'
	2,14	3,74	3,59	3,19	2,49	4,00	3,03	4,14	2,49	4,93	4,80	19°
0,92	1,37	2,21	3,33	3,50	3,07	2,62	1,71	2,67	1,85	1,24	1,57	19°30'
1,10	2,02	1,59	1,96	2,17	2,16	2,52	1,87	2,45	0,94	0,80	2,95	20°
0,56	1,84	1,37	3,02	3,45	2,05	3,32	4,40	1,12	1,91	1,60	1,50	20°30'
0,97	3,05	4,34	1,61	3,36	5,50	2,24	1,74	1,99	0,31	1,84	2,12	21°
1,88	1,98	1,24	1,67	1,60	2,70	2,91	2,03	1,98	1,14	3,31	2,71	21°30'

Tabela: 19 Desvio Padrão (σ) verificados no ajuste polinomial da Carta Gravimétrica Bouguer para as diversas quadrículas

Longitudes	51°	50°	49°	48°	47°	46°	45°					
		17	32	32	19	18	32	33	18			18°
	14	21	44	29	26	27	37	38	28	23	14	
	26	25	35	33	35	43	36	43	37	26	20	19°
23	32	36	36	20	24	36	52	53	41	44	34	
29	40	29	36	38	119	64	37	31	23	30	25	20°
21	34	30	30	36	25	45	40	24	18	30	30	
18	41	47	37	41	38	38	36	39	20	23	29	21°
28	41	37	43	43	36	44	17	17	15	40	33	Latitudes

Tabela: 20 Número total de estações gravimétricas efetivamente utilizadas, em cada quadrícula, para o preparo da Carta Gravimétrica Bouguer (Inclui pontos correspondentes à N.ENV = 0,2)

Longitudes	51°	50°	49°	48°	47°	46°	45°					
		4	5	5	3	3	4	4	3			18°
	3	3	5	4	3	5	5	5	5	4	3	
	4	3	4	4	5	5	5	5	4	4	4	19°
5	5	5	4	3	3	3	4	4	5	5	4	
5	5	4	5	5	3	4	5	3	3	4	3	20°
4	4	5	3	4	4	5	4	3	4	5	4	
3	3	3	5	4	3	4	5	5	4	5	4	21°
3	3	5	5	4	4	5	4	3	3	4	4	Latitudes

Tabela: 21 Grau dos polinômios ajustados à anomalia Bouguer em cada quadrícula

O grau médio assim ajustado é 4

Partindo-se da carta gravimétrica assim preparada, comparando-a com as cartas geológicas, definimos o tipo principal de estrutura presente em cada quadrícula.

Fig. 30 Principal tipo de estrutura associada às quadrículas

Escala
 1:5.000.000

- = Sineclise do Paraná (Bacia Sedimentar do Paraná)
- = Flexuras; zonas de falha
- = Arco Transbrasiliano Central
- = Zona Deprimidas
- = Embasamento Cristalino (= Craton do São Francisco)

Dessa definição, para efeitos estatísticos, podemos calcular a correlação e desvio padrão médio para cada tipo de estrutura e compará-los entre si:

Tipo de Estrutura Geológica	Desvio padrão médio (σ)	Coefficiente de correlação médio (ρ)
Sineclise (Bacia do Paraná)	2,08	94,1
Flexuras	2,71	98,1
Embasamento Cristalino (exceto Craton)	2,26	94,6
Embasamento Cristalino (inclusive Craton)	2,31	94,5
Zona de Intrusões	2,64	94,7
Média para a área mapeada	2,30	94,9

Tabela: 22. Correspondência entre o tipo de estrutura, o desvio padrão médio e o coeficiente de correlação médio

Dessa tabela verifica-se que a Bacia Sedimentar do Paraná apresenta-se bem caracterizada pelo menor desvio padrão médio (aprox. 2,1 mgal) enquanto que as zonas de flexuras e intrusões apresentam o maior desvio padrão médio (aprox. 2,7

mgal). Já o Craton do São Francisco não se difere muito do restante da área de Embasamento Cristalino, podendo ser confundidas, com desvio padrão médio de 2,3 mgal.

Em decorrência pode-se estabelecer critérios para adensamento e detalhe das quadrículas estudadas e possivelmente estender os resultados obtidos a similares estruturas geológicas. Assim, há necessidade de maior densificação de estações nas zonas de intrusões. Estimamos que para carta na escala de 1:500.000, em nível de reconhecimento, a densidade mínima adequada de 340 estações por grau quadrado na área de intrusões e flexuras, de 250 na área da Bacia Sedimentar do Paraná, e de 290 na área do Embasamento Cristalino (e suas coberturas sedimentares).

5.1.2. Considerações isostáticas

A carta de anomalias isostáticas pode ser definida como a diferença entre o valor da gravidade medida e o valor da gravidade teórica no modelo isostático em um determinado ponto. Para o cálculo da anomalia isostática pode-se partir da anomalia Bouguer, acrescentando-se a esta a influência das massas na parte exterior e interior a uma circunferência de 166 km de raio em torno do ponto e do relevo além do raio de 167 km.

Os cálculos das correções correspondem aos termos C_i e C_{ti} da fórmula:

$$\Delta g_i = \Delta g_b + C_i + C_{ti}, \text{ onde}$$

Δg_i é anomalia isostática

Δg_b é a anomalia Bouguer

C_i é a correção isostática relativa às zonas de Hayford (A-0) (até o raio de 166 km a partir da estação)

C_{ti} é a correção topo-isostática relativa às zonas numeradas de Hayford (18 a 1) que se estendem do limite externo da zona 0 de Hayford (raio = 166 km) até o antipoda da estação.

Gamael, C. e Hatschbach, F. (1973) elaboraram uma carta de redução topo-isostática para o estado de Minas Gerais, abrangendo a parte sudeste do estado de Goiás, e Gamael, C. (1965) elaborou a carta topo-isostática para o estado de São Paulo, cobrindo toda a área estudada. Nas cartas para profundidade de compensação $T = 30$ km no sistema Airy/Heiskanen podemos verificar que a correção topo-isostática de aproximadamente 1,5 a 8,5 mgal, sendo de 5,5 a 8,5 na maior parte da área estudada.

Este gradiente de 3 (ou 7) mgal na extensão da área praticamente não altera as feições das anomalias mapeadas, em face de suas amplitudes serem substancialmente maiores.

O princípio da compensação isostática admite que um excedente da massa de um cilindro com densidade admitida para a crosta terrestre $2,67 \text{ t/m}^3$, pelo princípio de Arquimedes se encontra em equilíbrio com o magma de densidade $3,27 \text{ t/m}^3$.

A profundidade de compensação usual em diversas cartas isostáticas tem sido de 30 km. Nos trabalhos efetuados na África Ocidental por Crenu, Y. (1956), Appud, Louis, P. (1970), foi verificado que a influência da variação do modelo não é sensível, senão nas zonas muito montanhosas e próximo à costa, o que não é o caso na área estudada.

Os termos de correção isostática, C_i , são pequenos até distâncias de 20-28 km de estação da ordem de 0,1 - 0,3 mgal). As zonas situadas além de 28 e até 133 km, correspondendo às zonas L, M, N, e O de Hayford são as que representam correções mais importantes no cálculo de C_i . Por este motivo a carta de correções isostáticas deve ser preparada a partir de uma carta de altitude média. Um dos métodos é o da subdivisão da área em quadrículas de 5 x 5 minutos de grau, calculando a altitude média na quadrícula, e finalmente se estabelece a carta desejada.

O procedimento, relativamente mais simples, que leva em conta que a malha da rede de estações gravimétricas é aproximadamente regular, abrange as principais feições topográficas. Sendo a área estudada de gradientes de altitude relativamente suaves as cotas das estações gravimétricas podem ser empregadas para tal fim. É evidente que nas regiões da borda da área mapeada, onde não existam estações gravimétricas é necessário a elaboração de uma malha de altitudes médias para completar o banco de dados necessários à elaboração da carta das altitudes médias e das correções isostáticas.

Assim, se pode criar uma pseudo carta de altitudes médias, especialmente em regiões não montanhosas. Incorre-se porém em erros, previsíveis pelo fato de que as campanhas gravimétricas geralmente não abrangem todas as feições topográficas e que podem não representar exatamente o relevo médio. Este método pode porém servir bem para uma orientação, com eventual necessidade de introdução de pontos de altitude auxiliares ou optar pelo método das quadrículas de 5 x 5 minutos de grau.

Dado o caráter de carta regional, e de que estamos elaborando carta de tendências, eliminando os efeitos de pequenos corpos e considerando relativamente boa a densidade de estações, é adequado o preparo de uma carta topográfica média, e de correções isostáticas pelo mesmo método de ajuste polinomial empregado para a elaboração da carta gravimétrica Bouguer.

A estimativa de erros pode ser obtida a partir do desvio padrão observado para a carta de altitudes médias e para a carta de correção isostática (σ_{ci}).

O desvio padrão no cálculo da anomalia Bouguer, σ_{boug} , deve ser acrescido ao desvio padrão da correção isostática para se ter a estimativa do provável desvio na carta isostática:

$$\sigma_i = \sigma_{boug} + \sigma_{ci}$$

Dada a pequena variação do valor da correção isostática em relação às das anomalias Bouguer, a ordem de grandeza do desvio padrão final da carta isostática é a mesma da carta Bouguer, de modo que pode ser desenhada com o mesmo intervalo de curvas isogal.

5.2. Métodos de interpretação

A interpretação das anomalias gravimétricas pode ser classificada, de acordo com seu nível, em qualitativas e quantitativas.

Quando os processos quantitativos são empregados em anomalias determinadas aproximadamente, o método será semi-quantitativo, sendo exatamente o caso da sua aplicação às anomalias desenhadas empregando procedimento de contorno automático por superfície de tendências polinomiais.

Entre os diversos tipos de procedimentos de interpretação salientamos:

Cálculo de massa anômala. Este processo baseia-se no fato de que se acrescentarmos uma camada horizontal à superfície, teremos um acréscimo de 1 mgal para uma "densidade" por superfície de $2,38 \text{ kg/cm}^2$. Este efeito é independente da espessura da camada. Assim, por exemplo 1 mgal corresponderá a uma camada com contraste de densidade de $0,238 \text{ kg/cm}^3$, e espessura de 100 m. O seu sinal + ou - será dado pelo contraste de densidade ser positivo ou negativo em relação à densidade considerada no cálculo da anomalia.

Para o cálculo prático da deficiência ou acréscimo das massas, calcularemos as massas necessárias para produzir as anomalias de cada contorno de isogals da carta (na anomalia em estudo). Medindo-se a área abrangida pelo contorno de isogals em km^2 e multiplicando-se pelo valor da anomalia em mgal, e pela constante $2,38 \text{ kg/cm}^2/\text{mgal}$ ou $23,8 \text{ t/m}^2/\text{mgal}$ ou $23,8 \text{ milhões t/km}^2/\text{mgal}$, teremos a anomalia de massa correspondente à anomalia.

Definindo-se a anomalia de massa por ΔM , teremos:

$$\Delta M = 23,8.10^6 \text{ t/km}^2/\text{mgal} \times \text{anomalia (km}^2) \times \Delta g \text{ (mgal)}$$

A partir desta massa anômala e da própria anomalia podemos esboçar o corpo que a produz, pressupor as densidades das rochas envolvidas e estimar as dimensões físicas da estrutura.

Cálculo teórico de anomalias. Uma vez que se tenha uma idéia aproximada do tipo de estrutura que provoca a anomalia e de suas dimensões pode-se proceder ao cálculo teórico da anomalia deste modelo. Analisadas as divergências refazemos o modelo e, por sucessivas iterações, chegaremos a um modelo que melhor se ajustará à anomalia observada.

O método de cálculo da anomalia teórica bidimensional, que empregamos, é o proposto por Talwani e por programação para computador eletrônico desenvolvido pelo departamento de geofísica da Universidade Nacional (Autônoma do México, a qual modificamos e adaptamos às condições de uso no sistema B6700 do centro de computação Eletrônica da USP. No item 4.3. se acha inclusa a listagem do programa sob o nome TALWA.

Similares programas foram desenvolvidos por outros institutos, como por exemplo o DIME2 pelo Centro de Geologia e Geofísica de Montpellier, e, entre outros, o Laboratório de Geofísica Aplicada da Sorbonne e a Compagnie Generale de Geophysique.

Modelos tridimensionais, baseados no mesmo processo matemático são calculáveis por programas como o DIME3.

Os modelos bidimensionais se adaptam melhor à interpretação de anomalias alongadas ou lineares e os tridimensionais para anomalias circulares ou ovais.

Naturalmente deve-se procurar sempre o modelo que mais se adapte à realidade geológica, pois diversos modelos teóricos podem apresentar anomalias similares.

Comparação com ábacos teóricos. Vários autores desenvolveram ábacos e gráficos para interpretação de anomalias gravimétricas por comparação.

Entre outros vale ressaltar a utilização de Ábacos Bilogarítmicos (Gery, I.C. e Naudy, H./1957, Naudy, H./1962 e Neumann, R./1962) de maneira similar ao da sua utilização em eletroresistividade.

Como processo de cálculo teórico da anomalia apresenta a vantagem de se poder utilizar o sistema de computação eletrônica, evitando interpretações errôneas dos ábacos, ou erros de cálculos, optamos por este método de interpretação iterativo apoiado nos modelos obtidos dos cálculos da massa anômala.

5.3. Interpretação das principais unidades gravimétricas

5.3.1. Bacia do Paraná

A bacia do Paraná se destaca na carta gravimétrica pelo relativamente alto valor médio da anomalia Bouguer ($d=2,67 \text{ g/cm}^3$), $\overline{\text{Boug}}_{\text{BP}} = -53,24 \text{ mgal}$, quando comparado com o do embasamento Cristalino $\overline{\text{Boug}}_{\text{EC}} = -93,20 \text{ mgal}$.

A diferença $39,96 \text{ mgal}$ corresponde à anomalia de massa por km^2 de superfície,

$$\Delta M = 39,66 \times 23,8 \times 10^6 \text{ ou}$$

$$\Delta M = 566,44 \times 10^6 \text{ t/km}^2$$

Sem levar em conta a influência que a cobertura cretácea da sequência de derrames basálticos (formação Baurú) é menos densa, aumentando a anomalia Bouguer e a anomalia de massa, um contraste de densidade de $0,38 \text{ g/cm}^3$ ou $0,3 \times 10^9 \text{ t/km}^3$ nos propicia a interpretar a espessura equivalente de basaltos em

$$\Delta h = \frac{\Delta M}{\Delta d \times \text{área}}, \text{ e para área unitária}$$

$$\Delta h = \frac{566,44 \times 10^9}{0,38 \times 10^9} = 1,490 \text{ km ou } 1.490 \text{ m}$$

Como na área estudada as espessuras médias de basaltos conhecidos na região a partir de sondagens são da ordem de 800 m e não sendo em média o basalto mais denso que $3,05$ (contraste = $0,38 \text{ g/cm}^3$) o excedente de massa deve ser relacionado ao basalto que é contido nas falhas alimentadoras dos derrames e nos sils e diques que cortam a própria sequência sedimentar da bacia, per fazendo aproximadamente o mesmo volume que o dos derrames propriamente ditos.

5.3.2. Arqueamento Transbrasiliano Central

Corresponde ao alto estrutural anteriormente denominado por Arco do Alto Paranaíba (Ladeira et alii, 1971), Arco da Canastra (Suguio, 1973). Ha^u sui e colaboradores (1975) sugeriram a designação de flexura de Goiania, com a qual discordamos pelo fato de que a partir dos dados gravimétricos o arqueamento não se confunde com a flexura, sendo suas unidades distintas.

Haralyi e colaboradores (1978), baseados em dados gravimétricos e geológicos concluíram pela extensão do arco desde a região costeira (Campos, no estado do Rio de Janeiro) até a divisa do Peru, envolvendo o arco de Iquitos, o arco do Alto Paranaíba, as zonas arqueadas e falha das de Rondônia (RO), alto Aripuanã, a norte de Diamantino - (MT), de Barra do Garças.

No intuito de evitar confusão desta estrutura e a flexura propriamente dita, no presente texto adotamos aquela denominação (zona de) Arqueamento(s) Transbrasiliano Central.

Sua caracterização gravimétrica, embora definida, é mascarada por diversas intrusões alcalinas, falhamentos transversais e depressões. A eliminação cuidadosa destas anomalias pode permitir ao autor estimar uma anomalia máxima de 6 a 7mgal para esta estrutura e uma largura média de 80 - 100 km. A sua parte central associam-se anomalias magnéticas lineares de falhas, preenchidas pro-

vavelmente por diques de intrusivas básicas. A datação de alguns destes corpos verificados ao longo da estrutura oferecem idades de 736 ma para gabros na região de Monte Carmelo, idades ao redor de 1.000 ma, 500-600 ma em metabasitos (Hasui, comunicação pessoal) bem como diques de caráter alcalino com idades próximas de 80 ma, além de intrusivas alcalinas com 82 ma (Hasui, et alli, 1968), Kimberlitos com 86 ma (Davies, 1977) e que confirmam as idéias de reativação desta estrutura repetidas vezes no tempo geológico.

A anomalia de 6-7 mgal, na largura de 80-100 km corresponde a cerca de 8×10^9 t por km de extensão do arco.

Essa anomalia de massa, para contraste de densidade na base da estrutura de $0,33 \text{ g/cm}^3$, representa uma elevação de 480 metros.

Tal valor de arqueamento concorda com as interpretações de Hasui para estrutura.

5.3.3. Flexuras

5.3.3.1. Flexura de Goiania

A flexura de Goiania (Hasui, et alli, 1975) pode ser delimitada na carta gravimétrica. Não se limita à extensão originalmente descrita e se estende na área mapeada mais para sudeste, sendo seus limites um pouco diversos dos apresentados na sua definição. Assim seu limite

nordeste, início da flexura, situa-se à cerca de 50 km a SW de Goiânia, estendendo-se a SE, pouco a sul de Uberlândia, a cerca de 30 km a norte de Uberaba, a sul de Piuí, passando por Campo Belo e estendendo-se além da região de Perdões-Lavras na direção ESE.

Esta zona, de borda da flexura, até a altura de Delfinópolis (MG) limita a grosso modo as transgressões dos sedimentos da Bacia do Paraná sobre o embasamento Cristalino.

A zona de inflexão da flexura é caracterizada por falhamentos profundos, associando-se a elas uma anomalia magnética característica, altamente perturbada, como a verificada nos aerolevantamentos do Convênio Geofísica Brasil Alemanha na região de Passos-Carmo do Rio Claro. É também a zona de inflexão o limite NE para as grandes espessuras dos derrames de basaltos e das maiores espessuras dos sedimentos da Bacia do Paraná. A partir deste ponto devido à maior participação dos basaltos temos um alto gradiente gravimétrico de cerca + 1,2 mgal/km no sentido da borda da flexura-centro da bacia.

Apenas para efeito de comparação vale mencionar que gradientes similares são os encontrados nas margens continentais,

quando da passagem da crosta continental para a crosta oceânica.

As zonas de inflexão e bordas dessa estrutura geológica são frequentemente falhadas e intrudidas por corpos básicos e ultra-básicos, como o caso dos corpos ultra-básicos de Morrinhos, Mairipotaba /Cromínia, de gabros e metabasitos na região de Lavras e Campos Gerais, Kimberlitos em Franca (SP), provavelmente em Ituiutaba, Conquista e possivelmente em Frutal.

5.3.3.2. Flexura de Ribeirão Preto

Descrevemos no ítem das zonas de falhamentos que na região de Ribeirão Preto-Franca, essa zona de falhas apresenta caráter flexural com gradientes gravimétricos de 0,4 - 0,6 mgal/km.

5.3. . Corpos intrusivos

Entre os corpos intrusivos, presentes na área de estudo, especial feição gravimétrica está associada aos corpos alcalinos, notadamente aos de maior expressão geográfica. Um rápido comentário de suas características gravimétricas merece ser feita, apenas a título de complementar sua excelente caracterização a partir dos levantamentos aeromagnéticos executados, pela Missão Geofísica Brasil-Alemanha.

a) Serra Negra / Salitre

Estes dois corpos alcalinos se acham localizados ao longo do eixo do arqueamento Transbrasiliano Central na altura do paralelo 19°S e meridiano 47°W . Suas características geológicas tem sido descritas sob vários enfoques por diversos autores; sua característica magnética, em face da presença dos dois corpos próximos, é de um quadripolo.

Gravimetricamente, na escala do estudo, os corpos são indistinguíveis representando na anomalia suavizada pelo processo de superfície de tendência com valores de $-82,5$ a -53 mgal ou uma anomalia líquida de $+29,5$ mgal.

As massas anômalas calculadas a partir de uma carta gravimétrica preparada em quadrículas de $\frac{1}{2} \times \frac{1}{2}^{\circ}$, ajustada por superfícies polinomiais de tendência nos dá:

$$\Delta M = 1329 \times 10^9 \text{ t.}$$

Tendo em vista a expressão em superfície dos corpos de cerca 150 km^2 e um contraste de densidade como as rochas encaixantes de $0,33 \text{ g/cm}^3$ segundo o esquema abaixo, supondo o corpo representado por uma estrutura cilíndrica, podemos calcular a profundidade H na qual a densidade iguala $3,0 \text{ g/cm}^3$, igual à admitida para a intrusão alcalina.

Para corpo cilíndrico, sendo $\Delta M = 1329 \cdot 10^9 \text{ t}$, a área em superfície de 150 km^2 , a profundi-

dade da camada $d=3,0$ situa-se ao redor de:

$$H = \frac{\Delta M}{\Delta d \times \text{área}} \quad \text{ou}$$

$$H = \frac{1329 \times 10^9}{0,33 \times 10^9 \text{ t/km}^3 \times 150 \text{ km}^2} = 26,85 \text{ km}$$

Como tal profundidade é um pouco grande, uma vez que H deve estar ao redor de 20-22 km, o modelo acima deve sofrer algumas modificações (por exemplo um modelo de intrusão com forma de cone truncado, modificações no contraste de densidade, delimitação mais precisa da área dos corpos em superfície, etc.).

b) Catalão

Dois corpos alcalinos intrusivos conhecidos, Catalão I e II, acham-se localizados em uma estrutura gravimetricamente complexa. Dados aeromagnéticos desta área não nos foram possíveis de obter.

Com a disponibilidade em 1979 dos dados gravimétricos da Missão Franco Brasileira de Gravimetria, será possível uma melhor interpretação destas estruturas e quiçá a descoberta de novos corpos intrusivos nesta região.

c) Vazantes

A NW e a norte de Vazantes (MG) há área gravimetricamente positiva, onde poderá ocorrer a

presença de corpos intrusivos. Esta zona se acha gravimetricamente arqueada, com a bacia deprimida de pontos a SE. Nos seus flancos SE as zonas de falhas associam-se às conhecidas mineralizações (Pb - Zn) de Vazantes.

d) Indianópolis

Nesta zona encontramos uma anomalia gravimétrica positiva, situada aproximadamente a $19^{\circ}50'S$, $48^{\circ}10'W$ e cerca + 5 mgal (descontada regional), que pode representar uma estrutura intrusiva (possivelmente alcalina). Os poucos afloramentos que comprovam ser esta zona arqueada são a presença de rochas precambrianas no leito do Rio Araguaí. Provavelmente a estrutura esteja encoberta pelos sedimentos cretáceos da Formação Baurū. Sua origem também deve estar relacionada à depressão de Perdizes.

e) Monte Carmelo e Romaria

Entre Monte Carmelo e Romaria aparecem afloramentos de gabros (magneticamente interpretáveis como dois corpos principais) que se apresentam gravimetricamente definidos com pequena anomalia.

Outras intrusivas, alcalinas, conhecidas como Tapira e Araxã apresentam-se previsíveis gravimetricamente pela distorção das curvas isogal. Na região de São Gotardo-Ibiã possivelmente mais intrusivas poderão ser localizadas dada a extensão da anomalia positiva.

A presença de anomalia positiva na região de Corumbazul (GO) poderá estar associada à intrusivas básicas/ultra-básicas ligadas às falhas da borda da flexura de Goiânia.

Outras anomalias que sugerem intrusivas se acham localizadas próximo a São Gonçalo do Abaeté (+ 12 mgal) associadas à bem definida anomalia aeromagnética e outra próxima à Quintinas ... (46°10'W, 18°50'S).

5.3.5. Zonas Deprimidas

5.3.5.1. Depressão de Caldas Novas

A anomalia gravimétrica denominada de Depressão de Caldas Novas, pode ser estudada em termos de deficiência de massa. Em primeiro lugar temos que preparar a carta apenas da influência da estrutura. Para isto, a curva de isogal = - 112,5 mgal delimita a separação das anomalias da depressão de Caldas Novas do efeito da flexura da borda da bacia do Paraná e da influência dos al_tos gravimétricos adjacentes.

Fig.: 31. Detalhe da carta gravimétrica na região de Caldas Novas (escala: 1 : 1.000.000)

Entre isogals (mgal)	Anomalia média (mgal)	Área (km ²)	Δm (x10 ⁹ t)
- 115 a - 112,5	- 1,25	736,96	21,92
- 117,5 a - 115	- 3,75	544,86	48,63
- 120 a - 117,5	- 6,25	451,46	67,15
- 122,5 a - 120	- 8,75	358,05	74,56
- 125 a - 122,5	- 11,25	306,16	81,98
- 127,5 a - 125	- 13,75	280,22	91,70
- 130 a - 127,5	- 16,25	254,27	98,34
- 132,5 a - 130	- 18,75	243,89	108,84
(- 134,5) a - 132,5	- 21,0	77,84	38,90
Total		3.253,6	632,02 x 10 ⁹ t

Tabela: 23 Cálculo da anomalia de massa na anomalia gravimétrica da Depressão de Caldas Novas

Para comparação da interpretação foi preparada outra carta gravimétrica com passo = $1/4$ de grau, polinômios de regressão ajustados até grau 3 , com N.ENV = 0,6, suavizando bastante os contornos das anomalias, eliminando anomalias de corpos pequenos.

Nesta carta de detalhes a amplitude total da anomalia é cerca de - 17,5 mgal, a partir da curva de - 113 mgal. As áreas envolvidas por cada curva de isogals e as deficiências massas correspondentes são:

Entre isogals (mgal)	Anomalia média (mgal)	Área (km ²)	Δm ($\times 10^9 t$)
- 113 a - 116	- 1,5	1.026,0	- 36,6
- 116 a - 119	- 4,5	698,7	- 74,8
- 119 a - 122	- 7,5	581,4	- 103,8
- 122 a - 125	- 10,5	561,9	- 140,4
- 125 a - 128	- 13,5	395,8	- 127,2
- 128 a - 131	- 16,5	203,3	- 79,8
- 131 a - 133	- 17,5	19,5	- 12,2
Total	- 17,5	3.486,6	- 574,8

Tabela: 24 Cálculo da deficiência de massa para a Depressão de Caldas Novas (desenho da anomalia em quadriculas de $\frac{1}{4} \times \frac{1}{4}$ de grau, N.ENV = 0,6)

Resumindo, podemos comparar os valores obtidos no cálculo da anomalia de massa para a Depressão das Caldas Novas para os dois tipos de contorno das curvas isogal:

Tipo de contorno das curvas Isogal	Área da anomalia (km ²)	Anomalia de massa (x 10 ⁹ t)
$\frac{1}{2} \times \frac{1}{2}$ grau; N.ENV= 0,2	3.253,6	632,0
$\frac{1}{4} \times \frac{1}{4}$ grau; N.ENV= 0,6	3.486,6	574,8

Deste modo se pode verificar que mesmo preparando-se a carta gravimétrica com N.ENV grande (0,6) a suavização do contorno das anomalias não afeta substancialmente o cálculo da massa anomala e da área da anomalia (diferenças de 6,7 % na área da anomalia e 9,0% na massa anomala).

A anomalia de massa de 632×10^9 t corresponde a um possível corpo com área de 1.520 km² (área envolvida abaixo da curva de - 120 mgal).

Corresponde bem à área delimitada pela Formação Canastra na zona deprimida e situada entre falhamentos, conforme mapeada por Braun (1968), e na carta geológica ao milionésimo do DNPM, onde corresponde a uma área de aproximadamente 1.594 km².

Fig.: 32 Detalhe do mapa geológico ao milionésimo na Região de Caldas Novas e arredores.

O cálculo de um modelo simplificado para o rejeito vertical de um só bloco deprimido cobrindo a área $A = 1.594 \text{ km}^2$ nos fornece para contraste de densidade em profundidade, $\Delta g = \dots 0,33 \text{ g/cm}^3$ (ou $0,33 \times 10^9 \text{ t/km}^3$):

$$\Delta H = \frac{\Delta m}{\Delta g \cdot A} = \frac{632 \times 10^9}{0,33 \times 10^9 \times 1594} = 1,20 \text{ km}$$

ou

$$\Delta H = 1.200 \text{ metros}$$

A interpretação por modelo tridimensional teórico de uma dupla depressão circular, com falhamentos concêntricos, que melhor se adapta à anomalia e que poderá representar a estrutura depressiva de Caldas Novas está esquematizada abaixo:

Fig.: 33. Interpretação gravimétrica da Depressão de Caldas Novas

Dos levantamentos geológicos efetuados por Braun (1970), Schobbenhaus et alli (1975), Hsui et alli (1976), Veneziani e Santos (1978), se pode confirmar a existência de tal acidente tectônico, com falhamentos radiais e concêntricos e situado na zona de inflexão do Arco Transbrasiliano Central (Haralyi, 1978).

É justamente esta estrutura que permitiu a preservação dos remanescentes das rochas da Formação Canastra sobreposta ao Grupo Araxá (Cunha e Matos (1978)) dispostos circularmente ao redor do centro da depressão aonde encontramos feição

geomorfológica denominada Serra de Caldas. Tal serra mapeada como englobando sedimentos detríticos terciários/quaternários, efetivamente deve representar sedimentações mais antigas, ali preservadas. Como não são preservadas na estrutura restos de sedimentos ou derrames de lavas basálticas da Bacia do Paraná e dada a existência de reativação tectônica da zona do Arqueamento Transbrasiliiano Central (Haralyi 1978) durante o Cretáceo (etapa final do magmatismo basáltico da Bacia do Paraná, precedendo e continuando até o derradeiro episódio da intrusão dos corpos alcalinos da região), acreditamos poder correlacioná-los à sequência basal da formação Bauru ou à facies Uberaba.

Corroborar a esta idéia o fato de os derrames de lavas basálticas e os sedimentos cretáceos da Bacia do Paraná se destacarem de seu limite NW-SE justamente na altura da anomalia, avançando para NE, cerca de 30 km, em direção à Caldas Novas.

A interpretação tectônica exposta para a depressão de Caldas Novas permite anomalia magnética ser associada, bipolar, com intensidade de ± 500 gamas.

Aparentemente existe similar estrutura situada a 70 km a NW de Caldas Novas, centrada aproximadamente nas coordenadas $48^{\circ}W$ e $17^{\circ}35'S$, mas que não pode ser devidamente interpretada pela deficiência de estações nesta zona causando sua má definição na carta gravimétrica.

Em face destes resultados, um detalhamento gravimétrico da região destas anomalias foi por nós proposto e acrescido à Missão Franco Brasileira de Gravimetria.

Quando disponíveis estes dados (previsto para o 2º trimestre de 1979) permitirão detalhar a sua interpretação.

5.3.5.2. Depressão de Perdizes

A anomalia magnético-gravimétrica situada nas proximidades da cidade de Perdizes, no Triângulo Mineiro, a 50 km a SW de Patrocínio e a NW de Araxá, denominamos Depressão de Perdizes face suas características de zona rebaixada.

A presença deste corpo era prevista a partir dos mapas aero-magnetométricos preparados através do Convênio Geofísica Brasil-Alemanha pela CPRM/Prakla-Seismos (1972) e apresentado em cartas na escala 1 : 100.000 e por Bosun (1973) em escala de 1:1.000.000.

A figura 34 na página seguinte mostra detalhe, simplificado, do mapa aero-magnetométrico da região de Perdizes, Patrocínio, Araxá (MG), em escala 1 : 1.000.000.

Fig.: 34. Detalhe das cartas gravimetrica e aeromagnética na região de Perdizes. Escala 1:1.000.000

A amplitude da anomalia associada, de característica bipolar, cerca de -350 a + 150 gamas, com separação entre polos de aproximadamente 38 km, permitiu prever-se tratar de estrutura profunda, com polo magnético a cerca de 19 km de profundidade, correlatável à superfície de Curie local.

A anomalia magnética está distorcida localmente pelas anomalias magnéticas dos corpos intrusivos alcalinos de Serra Negra/Salitre, Araxá e dos derrames de lavas basálticas da Bacia do Paraná.

Gravimetricamente a anomalia é negativa em relação ao gradiente do arco Transbrasiliano Central, excluídos das influências das intrusões alcalinas (Serra Negra, Salitre, Araxá, Tapira) que o rodeiam. Sua amplitude é aproximada de 15 mgal. A deficiência de massa a ela associada pode ser estimada na ordem de grandeza de $360 \times 10^9 t$, abrangendo uma área de cerca 2.400 km². Suas características são similares às da Depressão de Caldas Novas, exceto sua caracterização geológica na superfície.

A maior parte da anomalia gravimétrica se acha na zona encoberta pela formação Baurú e espessuras de lavas basálticas da Bacia do Paraná. Tal fato opina por idade do início da etapa de subsidência concomitante com o final do magmatismo basáltico, a etapa de soerguimento do Arco Transbrasiliano Central e precedendo à etapa de intrusões alcalinas.

5.3.5.3. Anomalia Gravimétrica de Patos de Minas

A área de Patos de Minas com anomalia gravimétrica negativa de cerca 8-10 mgal está contida entre a borda SW do Craton do São Francisco (Baía Marginal) a NE do Arco Transbrasiliiano Central e a NW pela zona arqueada de Vazantes, Magneticamente está associada a sedimentos cretáceos, tufos vulcânicos, com característica anomalia altamente perturbada, situados na parte sul da anomalia gravimétrica, enquanto que na parte norte se associa aos sedimentos do Cretáceo.

A anomalia de massa, estimada em $185,6 \times 10^9 \text{ t}$, calculada na anomalia que cobre a área de 3.670 km^2 , é devida à baixa densidade dos sedimentos cretáceos ($2,2 \text{ g/cm}^3$) conforme verificado pelo autor em algumas localidades por determinação em amostras de 1m^3 "in situ".

Não se trata de acidente tectônico, no que é confirmada pela ausência de característica anomalia magnética (como o caso da depressão de Perdizes).

Para a anomalia de massa de $185,6 \times 10^9 \text{ t}$, e contraste de densidade $\Delta d = 0,47 \text{ g/cm}^3$ (ou $0,47 \times 10^9/\text{km}^3$), o volume de sedimentos abrangidos pela anomalia é de

$$V = \frac{\Delta m}{\Delta d} = \frac{185,6 \times 10^9}{0,47 \times 10^9} = 394,9 \text{ km}^3$$

Tal volume, para superfície $A = 1.070 \text{ km}^2$ de sedimentos, representa uma espessura média $\underline{h}$ de:

$$h = \frac{V}{A} = \frac{394,9}{917,5} = 0,369 \text{ km ou } h \approx 370 \text{ m}$$

Em vista desta espessura ser muito superior à conhecida para as formações cretáceas e recentes na área, acreditamos que parte da anomalia seja devida a suave depressão do tipo sinéclise.

5.3.6. Zonas de Falhas

Algumas zonas de falhas podem ser detectadas gravimetricamente pelos seus efeitos nas estruturas. As principais zonas assim definidas são:

5.3.6.1. Zona de Falhas de Goiandira (GO)- Ituiutaba (MG)

Esta zona de falhas é bem definida pela borda ocidental da depressão de Caldas Novas, pela delimitação erosiva do cretáceo a NE de Ituiutaba, a leste desta zona de falhas e seu possível relacionamento com as intrusões alcalinas de Catalão. A sua extensão na parte SW de área mapeada aparentemente está associada às falhas que delimitam o Vale do Rio Grande, entre a Cachoeira Monte Alto e sua junção com o Rio Parnaíba formando o Rio Paranã.

Seu rejeito vertical, na zona da borda e áreas de transgressão da bacia do Paranã sobre o embasamento, pode se estimado dos dados gravimétricos e geológicos em cerca de duas centenas de metros sendo o bloco oriental o deprimido.

5.3.6.2. Zona de falhas de Ribeirão Preto (SP) Abaeté (MG)

Esta zona se apresenta bem definida gravimetricamente no estado de São Paulo, desde a SW de Ribeirão Preto (Guariba) até a divisa do estado de Minas Gerais.

Apresenta nesta região caráter flexural, com parte deprimida a oeste, aonde aumentam consideravelmente as espessuras dos sedimentos da Bacia do Paraná.

Entre Franca (SP) e Campos Altos (MG) de limita a Serra da Canastra. A essa zona também se associam diversos corpos intrusivos, entre os quais ressaltamos as alcalinas de São Gotardo, Kimberlitos de Franca e Guia Lopes, metabasitos e gabros. Possivelmente sua idade seja muito antiga, reativada no Ciclo Brasília-no, ativa no paleozoico, e só se estabilizando no final do cretáceo. O fato de associar a ela intrusões kimberlíticas indica ser uma zona de falhas muito profundas.

Seu caráter transcorrente é evidenciado pelo deslocamento dextral dos blocos ocidental e oriental de 10-12 km, como verificado na zona de baixos gravimétricos de Passos (início da flexura da Borda NE da Bacia do Paraná), pelo deslocamento do eixo do arqueamento Transbrasiliano Central, bem como das falhas a ela transversais que delimitam o trajeto do Rio das Velhas (pouco a leste da área mapeada) e do Rio Pardo (SP).

A sua extensão além da área estudada pode ser acompanhada à nordeste até a região do Vale do Jequitinhonha (MG) aon-

de o curso do rio o acompanha por quase 200 km de extensão.

A sudoeste, detalhamento das cartas gravimétricas, em execução, permitem estendê-la, ao menos, até a região de Avaí (SP).

5.3.6.3. Zona de falhas de Patrocínio

Esta zona de falhas, direção aproximada SW-NE, abrange diversas anomalias gravimétricas e magnetométricas como a da depressão de Perdizes, das intrusões alcalinas de Serra Negra e Salitre, da anomalia gravimétrica de Patos de Minas - Presidente Olegário.

A sua extensão à nordeste, a partir dos dados aeromagnéticos parece estar relacionada uma zona deprimida, similar à de Perdizes, entre Pirapora e Jequitaiá.

5.3.7. Craton do São Francisco

O craton do São Francisco, com limites aproximados, abrangendo as quadrículas 2 a 15 e de 12 a 14, coberto por relativamente poucas estações gravimétricas, destaca-se gravimetricamente do restante do embasamento Cristalino pela diferença de anomalia Bouguer média de:

$$- 82,30 \text{ mgal} - (-93,20 \text{ mgal}) = + 10,90 \text{ mgal}$$

Este valor é perfeitamente concordante com os valores encontrados em outras regiões como 10 - 15 mgal na Algeria (Rechenmann, 1973).

Esta anomalia é explicada pela diminuição da espessura da crosta terrestre sob regiões cratonizadas pelas correntes de convecção no manto superior.

6. Conclusões

Em conclusão podemos salientar que o método de traçado das curvas isogal no preparo da carta gravimétrica Bouguer é satisfatório, uma vez que diferentes condições de suavização a apresentam coerentes resultados para a interpretação das anomalias profundas (por exemplo Caldas Novas) e da sua correlação com as estruturas geológicas conhecidas.

Como a carta gravimétrica anexa a este texto foi preparada pelo ajuste de superfícies polinomiais, representa as tendências gravimétricas. No Ítem "anexos" encontram-se listados os valores das anomalias Bouguer ($d=2,67 \text{ g/cm}^3$), valores residuais em relação às funções polinomiais ajustadas e os parâmetros estatísticos para cada quadrícula, a fim de permitir a quem desejar um estudo das áreas em detalhe.

Permitiu também a boa delimitação da zona da flexura de Goiânia, sua extensão na parte SE da área mapeada, identificação e delimitação de extensas zonas de falhas, interpretação de corpos intrusivos e previsão de ocorrência de outros não conhecidos.

Sob enfoque de evolução geotectônica foi possível se concluir que as zonas de falhas descritas devem ser antigas, reativadas em diversos estágios da história geológica, e que no final do mesozóico, concomitante com os últimos eventos do magmatismo basáltico na Bacia do Paraná (ao redor de 100 ma) se iniciou a reativação tectônica na zona do Arco Transbrasiliano Central, com a formação gradual das depressões de Caldas Novas, Perdizes. Em etapa seguinte se inicia o vulcanismo ultra-básico (Kimberlitos (87 ma)) passando-se a intrusões de caráter mais alcalino com diques (80 ma) e mesmo in-

trusivas alcalinas (78-85 ma). No final do cretáceo cessam as atividades tectono-magmáticas nessa região, estabilizando-se o arco e advindo a etapa de erosão do relevo e das bacias se dimentares locais.

7. Bibliografia

A lista bibliográfica que se segue refere-se aos livros , textos, publicações, periódicos, mapas, documentos de base que o autor utilizou durante o Curso de Pós-Graduação e principalmente para levar a efeito a execução da tese.

A Bibliografia divide-se em 3 campos principais:

- A) Geologia
- B) Geofísica, principalmente Gravimetria
- C) Computação

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A N E X O S

Longitudes

51°	50°	49°	48°	47°	46°	45°						
111	101	91	81	71	61	51	41	31	21	11	1	17°30'
112	102	92	82	72	62	52	42	32	22	12	2	18°
113	103	93	83	73	63	53	43	33	23	13	3	19°
114	104	94	84	74	64	54	44	34	24	14	4	20°
115	105	95	85	75	65	55	45	35	25	15	5	21°
116	106	96	86	76	66	56	46	36	26	16	6	21°30'
117	107	97	87	77	67	57	47	37	27	17	7	
118	108	98	88	78	68	58	48	38	28	18	8	

Latitudes

CROQUIS DA NUMERAÇÃO DAS QUADRÍCULAS

**** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

1

VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 17/4A	846.41	17.960	45.585	-76.330	.457E+00						
ONRJ 17/3A	558.26	18.097	45.450	-72.380	.121E+01						
SE-23-0- 1240	805.91	18.045	45.500	-77.130	-.200E+01						
SE-23-I- 1239	833.42	17.974	45.566	-78.100	.333E+00						

COEFICIENTES DE GRAU = 1
 -.247049E+05 .400914E+03 .382312E+03

PARAMETROS ESTATISTICOS	DESPAD	CORR%	CDEP%	PSTG	SSRED	YBAPOB	YBARCP	SYRES	SYRESQ
GRAU= 1	1.20531	83.21799	69.25233	69.25233	69.25233	-75.98500	-75.98500	0.00000	5.81109

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

2

V A L O R E S R E S I D U A I S

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 17/4A	846,41	17,960	45,585	-76,330	-.808E+00	.190E-01	.175E+01				
ONRJ 17/2A	686,02	18,487	45,058	-84,110	.346E+01	.256E+01	.446E+00				
ONRJ 17/3	531,65	18,170	45,233	-85,470	-.113E+01	.224E+01	.501E+00				
ONRJ 17/3A	558,26	18,097	45,450	-72,380	.622E+01	.344E+01	.194E+01				
SE-23-0- 1856	580,36	18,547	45,508	-76,920	-.241E+01	-.471E+00	.966E-02				
SE-23-0- 1857	650,52	18,532	45,558	-72,120	.106E+01	.396E+00	-.689E-02				
SE-23-0- 1240	805,91	18,045	45,500	-77,130	.335E+00	-.128E+01	-.309E+01				
SE-23-0- 1242	740,55	18,137	45,378	-78,080	.234E+01	.815E+00	.107E+01				
SE-23-0- 1243	531,62	18,181	45,254	-86,620	-.293E+01	-.135E+01	-.615E+00				
SE-23-0- 1244	538,66	18,200	45,232	-86,550	-.232E+01	-.109E+01	-.315E+00				
SE-23-0- 1245	708,49	18,295	45,158	-85,570	.208E+00	-.120E+01	.137E-01				
SE-23-0- 1246	821,97	18,461	45,102	-89,150	-.267E+01	-.422E+01	-.883E+00				
SE-23-0- 1247	685,88	18,527	45,049	-86,830	.779E+00	.145E+01	.230E+00				
SE-23-I- 1239	833,42	17,974	45,566	-78,100	-.211E+01	-.130E+01	-.105E+01				

COEFICIENTES DE GRAU = 1
-.146327E+04 .543267E+01 .283026E+02

2

COEFICIENTES DE GRAU = 2
-.122324E+06 .137314E+05 -.219795E+03 -.215086E+03 -.128852E+03 .291248E+02

COEFICIENTES DE GRAU = 3
.148715E+09 -.444398E+07 -.803426E+07 .943155E+05 .119894E+06 .152735E+06 -.708394E+03 -.122652E+04 -.825449E+03 -.101005E+04

PARAMETROS ESTADISTICOS DESPAD	CORRX	CDEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ	
GRAU= 1	2.55513	88.92213	79.07145	79.07145	79.07145	-81.09714	-81.09714	0.00000	91.40156
GRAU= 2	1.92968	93.84206	88.06331	88.06331	88.06331	-81.09714	-81.09714	0.00000	52.13127
GRAU= 3	1.20670	97.63822	95.33221	95.33222	95.33222	-81.09714	-81.09714	0.00000	20.38569

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO * ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

3

V A L O R E S R E S I D U A I S											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 17/2	614,05	18,760	44,905	-80,420	.470E+01	.137E+01	.226E+00	.192E+00			
ONRJ 17/24	686,02	18,487	45,058	-84,110	-.264E+01	.171E+01	.342E+01	.793E+00			
SE-23-U- 1848	674,69	19,097	45,520	-93,540	-.145E+01	.288E+01	.145E+01	.585E+01			
SE-23-O- 1849	624,42	18,999	45,541	-96,020	-.535E+01	-.297E+01	-.359E+01	-.186E+01			
SE-23-O- 1850	643,36	18,901	45,522	-91,490	-.236E+01	-.546E+00	.499E+01	.702E+01			
SE-23-O- 1851	673,19	18,847	45,538	-84,030	.435E+01	.411E+01	-.180E+00	-.175E+01			
SE-23-O- 1852	632,92	18,783	45,510	-84,740	.259E+01	.254E+01	.388E+00	-.133E+01			
SE-23-O- 1853	613,46	18,706	45,445	-75,060	.109E+02	.126E+02	.131E+02	.125E+02			
SE-23-O- 1854	608,39	18,657	45,391	-85,570	-.507E+00	.260E+01	.182E+01	.144E+01			
SE-23-O- 1855	597,42	18,605	45,351	-86,010	-.186E+01	.164E+01	-.257E+01	-.232E+01			
SE-23-O- 1856	580,36	18,547	45,508	-76,920	.685E+01	-.669E+00	-.268E+01	-.226E+01			
SE-23-O- 1857	650,52	18,532	45,558	-72,120	.116E+02	-.808E+00	.105E+01	.114E+01			
SE-23-O- 1241	558,09	18,768	45,461	-109,300	-.224E+02	-.200E+02	-.138E+02	-.128E+02			
SE-23-O- 1246	821,97	18,461	45,102	-89,150	-.793E+01	-.339E+01	-.424E+00	.958E+00			
SE-23-O- 1247	685,88	18,527	45,049	-86,830	-.477E+01	-.225E+00	-.260E+01	-.265E+01			
SE-23-O- 1248	623,58	18,634	45,015	-87,330	-.377E+01	.786E+01	-.157E+01	.986E+00			
SE-23-P- 1249	595,97	18,739	44,931	-82,710	.218E+01	.901E+00	.191E+01	.467E+00			
SE-23-P- 1250	613,84	18,795	44,904	-82,980	.267E+01	-.139E+01	-.322E+01	-.359E+00			
SE-23-P- 1251	573,00	18,882	44,940	-84,020	.305E+01	-.135E+00	.354E+01	-.388E+00			
SE-23-Y- 1252	739,00	19,021	44,970	-85,140	.412E+01	-.296E+00	-.126E+01	.158E+00			

COEFICIENTES DE GRAU = 1
 ,335068E+03 -.150716E+02 -.306088E+01

COEFICIENTES DE GRAU = 2
 ,178780E+06 ,204060E+04 -.874453E+04 ,310671E+02 -.713614E+02 ,111439E+03

COEFICIENTES DE GRAU = 3
 -.101469E+09 ,451583E+07 ,487192E+07 -.532978E+05 -.155261E+06 -.758830E+05 ,130163E+04 -.442823E+03 ,189824E+04 ,299747E+03

COEFICIENTES DE GRAU = 4
 ,199835E+11 -.333714E+09 -.163017E+10 -.325012E+07 ,247869E+08 ,469740E+08 -.174833E+05 ,164929E+06 -.615227E+06 -.637721E+06
 -.394042E+04 ,694809E+04 -.615473E+04 ,622936E+04 ,288475E+04

PARAMETROS ESTADISTICOS
 DESPAD

	CORPX	CDEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESU	
GRAU= 1	7,18322	37,61975	14,15245	14,15245	14,15245	-85,87450	-85,87450	-0,00000	1031,97191
GRAU= 2	5,61478	68,95567	47,54885	47,54885	47,54885	-85,87450	-85,87450	0,00000	630,51442
GRAU= 3	4,84430	78,07444	60,95617	60,95618	60,95618	-85,87450	-85,87450	0,00000	469,34516
GRAU= 4	4,48022	81,61159	66,60451	65,88908	65,88908	-85,87450	-85,87450	-0,00000	401,44658

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

4

VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/26	647.06	19.160	45.448	-90.680	-.256E+01	-.139E+01	.131E+01	.105E+01	.118E+01		
ONRJ 07/30	717.89	19.460	45.600	-96.960	-.328E+01	.038E+00	-.633E+00	.526E+00	.455E+00		
ONRJ 07/20	667.14	19.300	44.925	-69.270	.348E+01	-.196E+01	.183E+01	.128E+01	.126E+01		
ONRJ 07/21	657.61	19.210	44.985	-71.790	.348E+01	.234E+01	.170E+01	.450E+00	.461E+00		
ONRJ 07/22	651.17	19.170	45.085	-74.720	.405E+01	.504E+01	.279E+01	.213E+01	.207E+01		
ONRJ 07/23	712.57	19.175	45.195	-82.520	-.200E+00	.534E+00	-.969E+00	-.128E+01	-.176E+01		
ONRJ 07/24	676.00	19.185	45.285	-88.580	-.340E+01	-.330E+01	-.328E+01	-.273E+01	-.253E+01		
ONRJ 07/25	672.75	19.200	45.353	-90.960	-.365E+01	-.424E+01	-.322E+01	-.207E+01	-.208E+01		
ONRJ 07/26	647.14	19.160	45.448	-90.650	.437E+02	-.136E+01	.134E+01	.108E+01	.121E+01		
ONRJ 07/27	680.20	19.230	45.500	-89.670	.222E+01	.189E+00	.151E+01	.154E+01	.108E+01		
ONRJ 07/28	668.66	19.285	45.555	-90.930	.241E+01	.576E+00	.227E+00	-.918E+00	-.107E+01		
ONRJ 07/29	663.31	19.372	45.600	-91.370	.288E+01	.324E+01	.100E+01	.267E+00	.536E+00		
ONRJ 07/30	717.97	19.460	45.600	-97.010	-.331E+01	.808E+00	-.663E+00	.496E+00	.425E+00		
SE-23-U- 1256	684.17	19.255	45.008	-72.060	.368E+01	.110E+01	-.462E+00	-.257E+01	-.249E+01		
SE-23-U- 1257	729.65	19.368	45.091	-74.180	.354E+01	-.149E+00	-.286E+01	-.172E+01	-.163E+01		
SE-23-U- 1258	713.29	19.436	45.160	-78.640	.895E+00	-.153E+01	-.330E+01	.609E+00	.525E+00		
SE-23-U- 1259	674.02	19.348	45.226	-74.770	.746E+01	.590E+01	.255E+01	.238E+01	.276E+01		
SE-23-U- 1261	710.90	19.481	45.314	-83.860	.394E+00	.186E+01	.186E+01	-.420E+01	-.646E+00		
SE-23-U- 1262	667.84	19.573	45.306	-92.060	-.865E+01	-.446E+01	.114E+01	-.889E+01	.123E+00		
SE-23-U- 1924	607.17	19.359	45.391	-85.220	.232E+01	.216E+01	.126E+01	.195E+01	.241E+01		
SE-23-U- 1925	730.04	19.424	45.491	-94.330	-.397E+01	-.196E+01	-.213E+01	-.254E+01	-.249E+01		
SE-23-U- 1895	691.65	19.196	45.352	-90.500	-.321E+01	-.375E+01	-.267E+01	-.165E+01	-.184E+01		
SE-23-U- 1896	758.47	19.174	45.231	-82.330	.115E+01	.179E+01	.956E+00	.853E+00	.986E+00		
SE-23-U- 1897	651.17	19.168	45.083	-74.710	.401E+01	.509E+01	.288E+01	.222E+01	.228E+01		
SE-23-U- 1847	647.06	19.157	45.449	-90.820	-.132E+00	-.149E+01	.125E+01	.974E+00	.140E+01		
SE-23-U- 1848	674.69	19.097	45.520	-93.540	-.174E+00	-.247E+01	-.179E+00	-.990E+00	-.102E+01		
SE-23-U- 1845	668.64	19.287	45.663	-91.290	.231E+01	.432E+00	-.141E+00	-.156E+01	-.136E+01		
SE-23-U- 1846	680.18	19.221	45.484	-89.490	.195E+01	.402E+01	.163E+01	.193E+01	.135E+01		
SE-23-U- 1849	624.42	18.999	45.541	-96.020	-.135E+01	-.280E+01	-.277E+01	-.185E+00	-.826E+01		
SE-23-U- 1850	643.36	18.901	45.522	-91.490	.319E+01	.526E+01	.131E+01	.113E+00	.537E+01		
SE-23-V- 1252	739.00	19.021	44.970	-85.140	-.916E+01	.122E+00	.151E+01	.122E+00	.164E+00		
SE-23-V- 1253	732.00	19.111	44.940	-86.100	-.117E+02	-.808E+01	-.610E+01	-.201E+01	-.216E+01		
SE-23-V- 1254	718.00	19.169	44.958	-74.120	.542E+00	.108E+01	.179E+01	.256E+01	.293E+01		
SE-23-V- 1255	657.53	19.226	44.993	-73.200	.222E+01	.516E+00	-.466E+00	-.216E+01	-.249E+01		

COEFICIENTES DE GRAU = 1
 .126684E+04 .630798E+01 -.325282E+02

COEFICIENTES DE GRAU = 2
 -.580363E+05 .678048E+04 -.297025E+03 -.697292E+02 -.901120E+02 .220759E+02

COEFICIENTES DE GRAU = 3
 -.154067E+08 -.306532E+06 .114946E+07 .572936E+04 .883580E+04 -.272630E+05 -.244650E+03 .182870E+03 -.176034E+03 .225733E+03

COEFICIENTES DE GRAU = 4
 -.213102E+10 .158269E+09 .120356E+09 .104006E+07 -.113789E+08 -.154620E+07 -.216957E+06 .231411E+06 .152837E+06 .792615E+03
 .553504E+03 .382835E+04 -.498983E+04 .287761E+03 -.330806E+02

PARAMETROS ESTADISTICOS									
	DESPAD	CORR $\times$	CDEP $\times$	PSTG	SSRED	YBAROB	YBARCP	SYRES	SYRESU
GRAU= 1	4.05585	87.17131	75.98838	75.98838	75.98838	-85.26471	-85.26471	0.00000	559.29600
GRAU= 2	2.99030	93.24575	86.94770	86.94770	86.94770	-85.26471	-85.26471	-0.00000	304.02363
GRAU= 3	2.12430	96.65037	93.41295	93.41295	93.41295	-85.26471	-85.26471	-0.00000	153.43035
GRAU= 4	1.56735	98.19071	96.41415	96.42440	96.42440	-85.26471	-85.26471	-0.00000	83.52414
GRAU= 5	1.63299	98.03444	96.10751	96.56310	96.56310	-85.26471	-85.26470	-0.00004	90.66670

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

5

VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/30	717,89	19,460	45,600	-96,980	-,111E+01	-,905E+00	,106E+01	,423E+00	,366E+00		
ONRJ 07/21	657,53	19,710	44,985	-100,210	-,248E+02	-,104E+02	,609E+00	,126E+00	,177E+00		
ONRJ 13/4	660,89	19,732	45,568	-95,350	-,260E+01	,530E+01	-,595E+01	-,226E+01	-,211E+01		
ONRJ 07/30	717,97	19,460	45,600	-97,010	-,114E+01	-,935E+00	,103E+01	,393E+00	,336E+00		
SE-23-U- 1258	713,29	19,436	45,160	-78,640	,422E+01	,216E+01	-,395E+01	-,712E+00	-,642E+00		
SE-23-U- 1260	724,66	19,439	45,284	-66,380	,202E+02	,142E+02	,996E+01	,285E+01	,253E+01		
SE-23-U- 1261	710,90	19,481	45,314	-83,860	,325E+01	-,119E+01	-,156E+01	-,216E+01	-,186E+01		
SE-23-U- 1262	667,84	19,573	45,306	-92,060	-,592E+01	-,694E+01	-,473E+01	-,200E+01	-,220E+01		
SE-23-U- 1263	655,67	19,606	45,314	-88,900	-,277E+01	-,297E+01	-,257E+00	,312E+01	,338E+01		
SE-23-U- 1264	769,61	19,733	45,254	-82,380	,931E+00	,297E+01	,317E+01	-,270E+00	-,866E+00		
SE-23-U- 1265	768,09	19,860	45,254	-81,990	,309E+00	,113E+01	-,230E+00	-,133E+01	-,570E+00		
SE-23-U- 1266	873,17	19,915	45,262	-79,690	,240E+01	,180E+01	,933E+00	,151E+01	,188E+01		
SE-23-U- 1267	800,84	19,936	45,160	-77,350	,153E+01	,210E+01	-,200E+01	-,573E+00	-,460E+00		
SE-23-U- 1268	809,32	19,941	45,081	-73,160	,329E+01	,678E+01	,145E+01	,908E+00	,492E+00		
SE-23-U- 1946	655,53	19,837	45,415	-88,000	-,694E+00	,139E+01	,259E+01	,256E+01	,183E+01		
SE-23-U- 1947	670,52	19,858	45,318	-88,210	-,397E+01	-,341E+01	-,299E+01	-,272E+01	-,232E+01		
SE-23-U- 1948	942,30	19,982	45,284	-83,450	-,122E+01	-,418E+01	-,235E+01	-,130E+01	-,174E+01		
SE-23-U- 1949	780,86	19,903	45,333	-84,090	,231E+00	-,895E+01	,993E+00	,706E+00	,704E+00		
SE-23-U- 1950	660,89	19,730	45,545	-95,580	-,350E+01	,320E+01	,302E+00	,143E+01	,149E+01		
SE-23-U- 1925	730,04	19,424	45,491	-94,330	-,146E+01	-,759E+01	-,446E+01	-,114E+01	-,101E+01		
SF-23-C- 1269	747,47	20,064	45,023	-68,400	,534E+01	,563E+01	,688E+00	-,715E+00	-,483E+00		
SF-23-C- 1270	846,65	20,073	45,109	-72,260	,399E+01	-,231E+00	-,244E+01	,153E+00	-,921E+01		
SF-23-C- 1271	833,90	20,069	45,199	-74,810	,417E+01	-,218E+01	,485E+00	,198E+01	,202E+01		
SF-23-C- 1272	934,38	20,086	45,286	-80,220	,123E+01	-,667E+01	,288E+01	-,114E+01	-,104E+01		
SF-23-C- 1914	652,00	20,023	45,544	-91,580	-,189E+01	,948E+00	-,111E+01	,165E+00	,201E+00		

COEFICIENTES DE GRAU = 1
 .111710E+04 .796753E+01 -.300003E+02

COEFICIENTES DE GRAU = 2
 -.222635E+06 -.171399E+04 .105940E+05 .820674E+02 -.335381E+02 -.109895E+03

COEFICIENTES DE GRAU = 3
 -.643458E+08 .696760E+05 .422718E+07 .300496E+05 -.292969E+05 -.868411E+05 -.342670E+03 -.213592E+03 .416023E+03 .577962E+03

COEFICIENTES DE GRAU = 4
 -.146067E+11 .950746E+09 .871550E+09 -.134818E+08 -.511547E+08 -.175962E+08 .238578E+05 .564285E+06 .881930E+06 .129330E+06
 .140947E+04 -.299579E+04 -.426483E+04 -.524162E+04 -.135281E+03

COEFICIENTES DE GRAU = 5
 -.664701E+10 -.768465E+08 .200411E+09 .627988E+08 -.173619E+08 .131901E+08 -.224315E+07 -.174042E+07 .546294E+06 -.657169E+06
 .409519E+05 .311136E+05 .271671E+05 -.701375E+04 .101901E+05 -.113149E+04 .158456E+04 -.178303E+04 .535858E+03 -.118162E+03
 -.407101E+02

PARAMETROS ESTADISTICOS									
	DESPAD	CORR%	COEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.98674	65.71297	43.18194	43.18194	43.18194	-84.59560	-84.59560	0.00000	1220.36272
GRAU= 2	5.09004	83.57247	69.84358	69.84358	69.84358	-84.59560	-84.59560	-0.00000	647.71260
GRAU= 3	2.95016	94.79955	89.86954	89.86954	89.86954	-84.59560	-84.59560	-0.00000	217.58634
GRAU= 4	1.58828	98.52094	97.06376	96.57915	96.57915	-84.59560	-84.59560	0.00000	63.06572
GRAU= 5	1.51432	98.65639	97.33084	96.98474	96.98474	-84.59560	-84.59558	-0.00038	57.32937

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = ,5 GRAU **** ESCALA FINAL DO MAPA 1:11,000,000 **** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-U- 1266*	873,17	19,915	45,262	-79,690	,167E+01	,158E+01	,160E+01	,144E+01	,154E+01		
SE-23-U- 1267*	800,84	19,936	45,160	-77,350	-,168E+01	-,803E+00	-,389E+00	-,415E+00	-,425E+00		
SE-23-U- 1268*	809,32	19,941	45,081	-73,160	-,175E+01	-,107E+00	,103E+01	,147E+00	,105E+00		
SE-23-U- 1948*	942,30	19,982	45,284	-83,450	-,204E+01	-,232E+01	-,234E+01	-,166E+01	-,177E+01		
SE-23-U- 1949*	786,86	19,903	45,333	-84,090	,121E+01	,409E+00	-,345E-01	-,572E+00	-,598E+00		
SF-23-C- 1269*	747,47	20,064	45,023	-68,400	-,209E+01	-,646E+00	-,406E+00	,778E-01	,128E+00		
SF-23-C- 1270*	846,65	20,073	45,109	-72,260	-,159E+01	-,776E+00	-,141E+01	-,758E+00	-,819E+00		
SF-23-C- 1271*	833,90	20,069	45,199	-74,810	,657E+00	,915E+00	,426E+00	,137E+01	,149E+01		
SF-23-C- 1272*	934,38	20,086	45,286	-80,220	-,471E+00	-,726E+00	-,690E+00	-,138E+00	-,999E-01		
SF-23-C- 1273*	845,79	20,181	45,248	-76,210	-,367E-01	-,172E+00	-,539E+00	-,372E+00	-,212E+00		
SF-23-C- 1274*	835,11	20,258	45,209	-71,410	,139E+01	,121E+01	,390E+00	,194E-01	-,789E-01		
SF-23-C- 1275*	838,95	20,283	45,148	-66,820	,237E+01	,218E+01	,946E+00	,140E+00	,148E-01		
SF-23-C- 1276*	916,89	20,340	45,152	-65,470	,297E+01	,256E+01	,147E+01	,547E+00	,480E+00		
SF-23-C- 1277*	835,83	20,469	45,113	-63,030	,120E+01	,133E+00	,390E-01	-,376E+00	-,157E+00		
SF-23-C- 1278*	848,92	20,551	45,090	-62,120	-,514E+00	-,215E+01	-,731E+00	-,748E-02	-,805E-01		
SF-23-C- 1957*	983,37	20,399	45,481	-85,290	-,589E+00	-,265E+00	,711E+00	,167E+01	,179E+01		
SF-23-C- 1958*	936,20	20,383	45,378	-81,840	-,224E+01	-,230E+01	-,151E+01	-,548E+00	-,593E+00		
SF-23-C- 1959*	1056,94	20,344	45,274	-75,590	-,821E+00	-,112E+01	-,125E+01	-,113E+01	-,977E+00		
SF-23-C- 1960*	989,90	20,451	45,236	-68,020	,297E+01	,243E+01	,214E+01	,160E+01	,142E+01		
SF-23-C- 1961*	1044,28	20,450	45,309	-77,050	-,221E+01	-,245E+01	-,230E+01	-,187E+01	-,181E+01		
SF-23-C- 1962*	869,61	20,475	45,569	-85,960	,210E+01	,327E+01	,250E+01	,281E+01	,296E+01		
SF-23-C- 1963*	875,66	20,489	45,545	-93,020	-,649E+01	-,537E+01	-,590E+01	-,554E+01	-,578E+01		
SF-23-C- 1941*	741,36	20,216	45,501	-88,720	,130E+00	-,428E+00	,742E+00	-,612E+00	-,607E+00		
SF-23-C- 1942*	814,55	20,175	45,451	-85,040	,190E+01	,122E+01	,237E+01	,111E+01	,955E+00		
SF-23-C- 1943*	989,76	20,117	45,356	-81,960	,926E+00	,375E+00	,950E+00	,756E+00	,733E+00		
SF-23-C- 1918*	834,65	20,449	45,555	-87,360	,393E+00	,132E+01	,114E+01	,170E+01	,163E+01		
SF-23-C- 1919*	841,45	20,465	45,426	-81,520	-,779E+00	-,450E+00	,142E+00	,141E+01	,141E+01		
SF-23-C- 1920*	801,10	20,574	45,487	-79,960	,214E+01	,327E+01	,233E+01	,528E+00	,596E+00		
SF-23-C- 1914*	652,00	20,023	45,544	-91,580	,278E+01	,870E+00	-,751E+00	,236E+00	,260E+00		
SF-23-C- 1916*	746,80	20,283	45,540	-91,260	-,150E+01	-,167E+01	-,702E+00	-,157E+01	-,150E+01		

COEFICIENTES DE GRAU = 1
 .195953E+04 .168580E+02 -.525085E+02

COEFICIENTES DE GRAU = 2
 -.259722E+05 .113737E+04 .678896E+03 .119703E+01 -.258097E+02 -.229319E+01

COEFICIENTES DE GRAU = 3
 -.126720E+08 .185509E+06 .755947E+06 -.598681E+04 -.281046E+04 -.160571E+05 -.543560E+01 .139519E+03 -.316723E+02 .122895E+03

COEFICIENTES DE GRAU = 4
 -.447814E+09 -.947915E+08 .815651E+08 .135198E+07 .507165E+07 -.382341E+07 -.515292E+05 .923567E+04 -.116065E+06 .733973E+05
 .336396E+03 .536968E+03 -.460680E+03 .990776E+03 -.514809E+03

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	2.04811	97.01617	94.12138	94.12138	94.12138	-78.42200	-78.42200	0.00000	125.84226
GRAU= 2	1.86704	97.52683	95.11483	95.11483	95.11483	-78.42200	-78.42200	0.00000	104.57567
GRAU= 3	1.69533	97.96536	95.97212	95.97212	95.97212	-78.42200	-78.42200	-0.00000	86.22386
GRAU= 4	1.49768	98.41572	96.85653	96.84667	96.84667	-78.42200	-78.42200	-0.00000	67.29142
GRAU= 5	1.53189	98.34190	96.71130	96.89274	96.89274	-78.42200	-78.42200	-0.00001	70.40048

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 08/22	905,12	20,808	44,910	-61,810	-,845E-03	-,436E+01	-,373E+01	-,233E+01	-,226E+01		
ONRJ 08/23	1052,94	20,885	44,935	-59,930	-,388E+01	-,282E+01	-,148E+01	-,290E+00	-,342E+00		
ONRJ 08/24	1032,10	20,920	44,940	-58,340	-,614E+01	-,689E+01	-,561E+01	-,406E+01	-,365E+01		
ONRJ 08/25	1013,52	20,945	44,917	-64,190	-,278E+00	-,213E+01	-,223E+01	-,221E+01	-,276E+01		
ONRJ 08/26	980,45	20,995	44,965	-74,820	-,836E+01	-,325E+01	-,359E+01	-,329E+01	-,352E+01		
ONRJ 08/27	909,43	21,040	44,980	-81,010	-,134E+02	-,527E+01	-,413E+01	-,282E+01	-,299E+01		
ONRJ 08/28	940,27	21,075	45,048	-79,760	-,898E+01	-,633E+00	-,262E+01	-,269E+01	-,288E+01		
SF-23-C-1277°	835,83	20,469	45,113	-63,030	-,211E+01	-,694E+00	-,216E+01	-,156E+00	-,256E+00		
SF-23-C-1278°	848,92	20,551	45,090	-62,120	-,319E+01	-,224E+01	-,130E+01	-,117E+01	-,100E+01		
SF-23-C-1279°	945,61	20,625	45,157	-63,510	-,542E+01	-,165E+00	-,224E+01	-,102E+01	-,120E+01		
SF-23-C-1280°	1048,10	20,696	45,222	-65,520	-,688E+01	-,149E+01	-,961E+00	-,607E+00	-,223E+00		
SF-23-C-1281°	970,89	20,769	45,274	-66,400	-,901E+01	-,410E+01	-,246E+01	-,198E+01	-,185E+01		
SF-23-C-1282°	987,28	20,833	45,288	-69,830	-,702E+01	-,296E+01	-,181E+01	-,143E+01	-,162E+01		
SF-23-C-1283°	839,06	20,891	45,271	-76,150	-,775E+00	-,185E+01	-,297E+01	-,285E+01	-,285E+01		
SF-23-C-1284°	850,25	20,944	45,331	-78,250	-,173E+01	-,433E+00	-,114E+01	-,658E+00	-,108E+01		
SF-23-C-1285°	819,34	20,943	45,393	-81,860	-,519E+00	-,136E+01	-,121E+00	-,107E+01	-,183E+01		
SF-23-C-1286°	838,28	20,949	45,522	-88,170	-,707E+00	-,349E+01	-,276E+01	-,449E+00	-,794E+00		
SF-23-C-1960°	989,90	20,451	45,236	-66,020	-,165E+01	-,225E+01	-,231E+01	-,474E+00	-,521E+00		
SF-23-C-1961°	1044,28	20,450	45,309	-77,050	-,455E+01	-,226E+01	-,278E+01	-,237E+01	-,233E+01		
SF-23-C-1962°	869,61	20,475	45,569	-85,960	-,305E+01	-,360E+01	-,274E+01	-,228E+01	-,200E+01		
SF-23-C-1963°	875,66	20,489	45,545	-93,020	-,109E+02	-,560E+01	-,573E+01	-,537E+01	-,509E+01		
SF-23-I-1287°	760,55	21,025	45,536	-89,220	-,160E+00	-,804E+00	-,123E+01	-,802E+00	-,106E+01		
SF-23-I-1288°	776,09	21,090	45,566	-88,040	-,304E+01	-,464E+01	-,194E+01	-,555E+00	-,720E+00		
SF-23-C-1918°	834,65	20,449	45,555	-87,360	-,534E+01	-,265E+01	-,120E+01	-,791E+00	-,923E+00		
SF-23-C-1919°	841,45	20,465	45,426	-81,520	-,429E+01	-,139E+00	-,465E+00	-,213E+01	-,185E+01		
SF-23-C-1920°	801,10	20,574	45,487	-79,960	-,112E+01	-,119E+01	-,274E+01	-,299E+01	-,317E+01		
SF-23-C-1921°	815,65	20,684	45,486	-80,850	-,167E+01	-,158E+01	-,608E+00	-,205E+01	-,218E+01		
SF-23-C-1922°	848,44	20,798	45,506	-80,430	-,438E+01	-,396E+01	-,197E+01	-,330E+00	-,294E+00		
SF-23-C-1923°	873,39	20,874	45,517	-84,900	-,139E+01	-,267E+01	-,125E+01	-,205E+01	-,192E+00		

COEFICIENTES DE GRAU = 1
 .196377E+04 -.134791E+02 -.388578E+02

COEFICIENTES DE GRAU = 2
 .219792E+05 .778453E+03 -.127999E+04 -.880803E+02 .631439E+02 -.803699E+00

COEFICIENTES DE GRAU = 3
 -.292458E+08 .706795E+06 .161278E+07 -.710750E+04 -.246349E+05 -.299662E+05 -.595109E+02 .236234E+03 .164161E+03 .195400E+03

COEFICIENTES DE GRAU = 4
 -.803638E+10 .102048E+09 .662693E+09 .628460E+07 -.125102E+08 -.190736E+08 -.200748E+06 -.175414E+04 .276922E+06 .238354E+06
 .173418E+04 .125264E+04 -.838764E+03 -.178200E+04 -.111094E+04

PARAMETROS ESTADISTICOS	DESPAD	CORRZ	CDEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	5,38185	84,63707	71,63434	71,63434	71,63434	-75,55276	-75,55276	0,00000	839,96510
GRAU= 2	3,01330	95,45035	91,10769	91,10769	91,10769	-75,55276	-75,55276	-0,00000	263,31938
GRAU= 3	2,64218	96,52108	93,16318	93,16318	93,16318	-75,55276	-75,55276	0,00000	202,45208
GRAU= 4	2,12343	97,76719	95,58423	95,39087	95,39087	-75,55276	-75,55276	-0,00000	130,75998
GRAU= 5	2,15041	97,70942	95,47130	95,61118	95,61118	-75,55276	-75,55275	-0,00033	134,10401

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO * .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG.	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 08/43	925.13	21.553	45.438	-58.400	.775E+01	-.560E+00	-.315E+00	-.206E+01	-.209E+01		
ONRJ 08/24	1032.10	20.920	44.940	-58.340	.217E+02	.482E+01	.642E+01	.229E+01	.366E+01		
ONRJ 08/25	1013.52	20.945	44.917	-64.190	.148E+02	.549E+00	-.347E+00	-.943E+00	-.148E+01		
ONRJ 08/26	980.45	20.995	44.965	-74.820	.321E+01	-.495E+01	-.411E+01	-.168E+01	-.349E+01		
ONRJ 08/27	909.43	21.040	44.980	-81.010	-.422E+01	-.781E+01	-.745E+01	-.344E+01	-.422E+01		
ONRJ 08/28	940.27	21.075	45.048	-79.760	-.325E+01	-.384E+01	-.163E+01	-.259E+00	.433E+00		
ONRJ 08/29	790.61	21.130	45.013	-75.750	-.138E+01	.253E+01	.227E+01	.537E+01	.729E+01		
ONRJ 08/30	907.02	21.203	45.005	-74.290	-.232E+01	.696E+01	.503E+01	.549E+01	.681E+01		
ONRJ 08/31	910.23	21.240	44.990	-80.760	-.101E+02	.196E+01	-.114E+01	-.361E+01	-.437E+01		
ONRJ 08/32	885.19	21.228	45.055	-81.100	-.932E+01	.154E+00	.612E-01	-.138E+01	-.218E+01		
ONRJ 08/33	885.88	21.215	45.123	-81.560	-.855E+01	-.137E+01	-.219E+00	-.180E+01	-.153E+01		
ONRJ 08/34	872.74	21.240	45.180	-79.760	-.686E+01	.396E-01	.908E+00	-.125E+01	-.137E+01		
ONRJ 08/35	840.46	21.230	45.238	-75.400	-.149E+01	.397E+01	.416E+01	.155E+01	.111E+01		
ONRJ 08/36	936.19	21.315	45.245	-78.560	-.724E+01	-.571E+00	-.648E+00	-.201E+01	-.297E+01		
ONRJ 08/37	924.58	21.380	45.263	-76.420	-.692E+01	-.755E+00	-.556E+00	-.739E+00	-.199E+01		
ONRJ 08/38	965.00	21.445	45.285	-74.850	-.713E+01	-.267E+01	-.151E+01	-.127E+00	.188E+00		
ONRJ 08/39	1158.42	21.465	45.295	-73.840	-.663E+01	-.309E+01	-.157E+01	.366E+00	.940E+00		
ONRJ 08/40	888.01	21.490	45.333	-69.360	-.248E+01	-.173E+01	-.610E+00	.222E+01	.221E+01		
ONRJ 08/41	960.27	21.500	45.403	-62.680	.472E+01	.124E+01	.453E+00	.185E+01	.410E+01		
ONRJ 08/42	838.77	21.545	45.413	-57.740	.837E+01	.206E+01	.269E+01	.319E+01	.366E+01		
SF-23-C- 1284	850.25	20.944	45.331	-78.250	.573E+01	.128E+01	-.165E-01	.567E+00	.657E+00		
SF-23-C- 1285	819.34	20.943	45.393	-81.880	.291E+01	.672E+00	-.206E+01	-.935E+00	-.148E+01		
SF-23-C- 1286	838.28	20.949	45.522	-88.170	-.206E+01	.120E+01	-.359E+00	.661E+00	.140E+01		
SF-23-I- 1293	885.72	21.367	45.513	-76.140	-.325E+01	-.515E+01	-.703E+01	-.406E+01	-.489E+01		
SF-23-I- 1294	781.03	21.436	45.481	-66.790	.354E+01	-.512E+00	-.323E+01	-.257E+01	-.276E+01		
SF-23-I- 163	925.12	21.559	45.430	-59.010	.686E+01	-.128E+01	-.536E+00	-.163E+01	-.324E+01		
SF-23-I	916.66	21.555	45.434	-58.930	.711E+01	-.102E+01	-.577E+00	-.197E+01	-.223E+01		
SF-23-I	916.66	21.467	45.533	-53.890	.161E+02	.822E+01	.642E+01	.417E+01	.472E+01		
SF-23-I- 1287	760.55	21.025	45.536	-89.220	-.532E+01	-.579E+00	.848E+00	-.203E+01	-.316E+01		
SF-23-I- 1288	776.09	21.090	45.566	-88.040	-.584E+01	-.444E+00	.349E+01	.318E+01	.334E+01		
SF-23-I- 1289	815.73	21.178	45.543	-91.880	-.127E+02	-.894E+01	-.676E+01	-.510E+01	-.451E+01		
SF-23-I- 1290	846.97	21.190	45.441	-74.120	.347E+01	.675E+01	.551E+01	.243E+01	.428E+01		
SF-23-I- 1291	825.31	21.249	45.506	-75.810	.693E+00	.288E+01	.241E+01	.425E+01	.317E+01		

COEFICIENTES DE GRAU = 1
 -.200960E+03 .313819E+02 -.119189E+02

COEFICIENTES DE GRAU = 2
 .140447E+06 -.107876E+05 -.115971E+04 .767814E+02 .166576E+03 -.262061E+02

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COEFICIENTES DE GRAU = 3
 .249203E+08 .331305E+06 -.180365E+07 .283264E+03 -.151211E+05 .433681E+05 -.162311E+03 .251101E+03 .512709E+02 -.327512E+03

COEFICIENTES DE GRAU = 4
 .688203E+09 -.250959E+09 .572807E+08 .816427E+07 .900394E+07 -.402965E+07 .563557E+04 -.368592E+06 -.267292E+05 .639304E+05
 -.798444E+03 .137451E+04 .310298E+04 -.767852E+03 -.265934E+03

PARAMETROS ESTADISTICOS

	DESPAD	CORRZ	COEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	7.91234	60.29280	36.35221	36.35221	36.35221	-73.96061	-73.96061	0.00000	2065.96926
GRAU= 2	3.74006	92.61693	85.77896	85.77896	85.77896	-73.96061	-73.96061	-0.00000	461.60655
GRAU= 3	3.39531	93.95737	88.27987	88.27986	88.27986	-73.96061	-73.96061	0.00000	380.42857
GRAU= 4	2.71050	96.19296	92.53085	92.53296	92.53296	-73.96061	-73.96061	0.00000	242.44425
GRAU= 5	3.35603	94.10075	88.54951	93.54534	93.54534	-73.96061	-73.96061	0.00012	371.67614

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 17/4A	846,41	17,960	45,585	-76,330	-.236E+01	.139E+00					
ONRJ 17/3A	558,26	18,097	45,450	-72,380	.119E+01	-.112E+00					
ONRJ 17/4B	766,46	17,957	45,848	-73,790	.346E+01	.310E+00					
SE-23-0- 1772*	826,31	18,022	45,666	-71,230	.435E+01	-.836E-01					
SE-23-0- 1240*	805,91	18,045	45,500	-77,130	-.342E+01	.330E+00					
SE-23-H- 1235*	828,74	17,942	46,093	-84,610	-.443E+01	.219E+00					
SE-23-I- 1239*	833,42	17,974	45,566	-78,100	-.424E+01	-.442E+00					
SE-23-I- 1236*	746,74	17,942	45,999	-79,860	-.856E+00	-.441E+00					
SE-23-I- 1237*	745,03	17,947	45,839	-74,090	.294E+01	-.558E-01					
SE-23-I- 1238*	802,02	17,924	45,697	-71,650	.338E+01	.138E+00					

COEFICIENTES DE GRAU = 1
 .669990E+03 -.949975E+01 -.125774E+02

COEFICIENTES DE GRAU = 2
 .424973E+06 -.559527E+05 .338013E+04 .118702E+04 .291077E+03 -.940416E+02

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PARAMETROS ESTADISTICOS	DESPAD	CORRZ	COEPZ	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESU
GRAU= 1	3.28591	56.29729	31.69384	31.69384	31.69384	-75.91700	-75.91700	0.00000	107.97196
GRAU= 2	0.26525	99.77720	99.55490	99.55490	99.55490	-75.91700	-75.91700	0.00000	0.70357

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU **** ESCALA FINAL DO MAPA 1:1,000,000 ***** (RED. 4X)

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				V A L O R E S R E S I D U A I S							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
QNRJ 17/4A	846,41	17,960	45,585	-76,330	-.172E+01	-.221E+01	.422E+00	.640E+00	.605E+00		
QNRJ 17/3A	558,26	18,097	45,450	-72,380	-.292E+00	.525E+01	.143E+01	.350E+00	.459E+00		
QNRJ 17/4B	766,46	17,957	45,848	-73,790	.342E+01	.563E+00	-.193E+00	.446E+00	.555E+00		
SE-23-0- 1856	580,36	18,547	45,508	-76,920	-.826E+01	-.374E+01	-.655E+00	-.703E+00	-.783E+00		
SE-23-0- 1857	650,52	18,532	45,558	-72,120	-.283E+01	-.564E+00	.106E+01	.112E+01	.120E+01		
SE-23-0- 1858	782,09	18,516	45,669	-70,910	-.404E+00	-.136E+01	-.147E+01	-.475E+00	-.346E+00		
SE-23-0- 1859	704,62	18,473	45,655	-66,780	.397E+01	.299E+01	.150E+01	.955E+00	.106E+01		
SE-23-0- 1800	799,31	18,345	45,824	-69,920	.362E+01	.102E+01	.772E+00	.149E+01	.182E+01		
SE-23-0- 1801	645,73	18,395	45,742	-68,430	.386E+01	.131E+01	-.570E+00	-.420E+00	-.658E+00		
SE-23-0- 1802	806,65	18,428	45,704	-68,480	.314E+01	.109E+01	-.104E+01	-.138E+01	-.150E+01		
SE-23-0- 1803	820,75	18,507	45,722	-68,870	.224E+01	.501E+00	-.702E+00	-.176E+00	-.278E+00		
SE-23-0- 1804	816,54	18,563	45,745	-67,300	.354E+01	.206E+01	.956E+00	.851E+01	.708E+01		
SE-23-0- 1769	969,06	18,287	45,978	-79,010	-.346E+01	-.262E+01	.403E+00	-.366E+00	-.840E+00		
SE-23-0- 1770	842,55	18,259	45,928	-77,440	-.213E+01	-.305E+01	.478E+00	-.100E+00	.237E+00		
SE-23-0- 1771	816,12	18,167	45,783	-72,380	.234E+01	-.106E+01	-.839E+01	-.225E+00	-.324E+00		
SE-23-0- 1772	826,31	18,022	45,666	-71,230	.363E+01	.102E+01	.662E+00	.258E+00	.253E+00		
SE-23-0- 1240	805,91	18,045	45,500	-77,130	-.410E+01	-.121E+01	-.183E+01	-.638E+00	-.817E+00		
SE-23-H- 1235	828,74	17,942	46,093	-84,610	-.489E+01	.122E+01	.638E+00	.360E+01	.119E+00		
SE-23-N- 1768	908,49	18,338	46,062	-80,230	-.431E+01	.517E+00	-.542E+00	.787E+01	.177E+00		
SE-23-I- 1239	833,42	17,974	45,566	-78,100	-.380E+01	-.365E+01	-.118E+01	-.272E+00	-.145E+00		
SE-23-I- 1236	746,74	17,942	45,999	-79,860	-.105E+01	.363E+00	-.797E+00	-.147E+01	-.194E+00		
SE-23-I- 1237	745,03	17,947	45,839	-74,090	.312E+01	.142E+00	-.102E+01	-.433E+00	-.373E+00		
SE-23-I- 1238	802,02	17,924	45,697	-71,650	.438E+01	.141E+01	.174E+01	-.239E+00	-.300E+00		

COEFICIENTES DE GRAU = 1
 .210669E+03 .885657E+01 -.974767E+01

COEFICIENTES DE GRAU = 2
 -.189412E+06 .234406E+03 .818783E+04 -.760875E+01 .107367E+01 -.897690E+02

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COEFICIENTES DE GRAU = 3
 -.252853E+08 .155249E+07 .103672E+07 -.250398E+05 -.479398E+05 -.130440E+05 -.775107E+02 .639976E+03 .269219E+03 .587585E+02

COEFICIENTES DE GRAU = 4
 -.459198E+10 .129913E+09 .348846E+09 .226861E+07 -.102724E+08 -.937321E+07 -.104626E+06 .250872E+05 .213671E+06 .108061E+06
 .446509E+03 .157316E+04 -.120441E+04 -.123322E+04 -.467214E+03

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	COEP%	PSTG	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.61831	62.63969	39.23730	39.23730	39.23730	-73.82435	-73.82435	-0.00000	301.11973
GRAU= 2	2.11988	88.96250	79.14327	79.14327	79.14327	-73.82435	-73.82435	-0.00000	103.35903
GRAU= 3	0.99205	97.68947	95.43232	95.43232	95.43232	-73.82435	-73.82435	-0.00000	22.63592
GRAU= 4	0.62448	99.09091	98.19009	98.18135	98.18135	-73.82435	-73.82435	0.00000	8.96931
GRAU= 5	0.72875	98.75992	97.53522	98.45526	98.45526	-73.82435	-73.82434	-0.00026	12.21463

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-U- 1848	674.69	19.097	45.520	-93.540	.774E+01	.428E+01	.159E+01	.658E+00	.614E+00		
SE-23-U	1021.91	19.000	45.965	-95.240	-.466E+01	-.451E+01	-.268E+00	.572E+01	.589E+01		
SE-23-U- 1811	1089.31	19.064	45.945	-97.520	-.360E+01	-.409E+01	-.319E+00	-.153E+01	-.155E+01		
SE-23-O	996.12	18.757	45.908	-95.490	-.160E+02	-.158E+02	-.135E+02	-.848E+01	-.868E+01		
SE-23-O- 1849	624.42	18.999	45.541	-96.020	.195E+00	-.118E+01	-.201E+01	-.370E+01	-.354E+01		
SE-23-O- 1850	643.36	18.901	45.522	-91.490	.177E+00	.263E+00	.273E+00	.777E+01	.769E+01		
SE-23-O- 1851	673.19	18.847	45.538	-84.030	.482E+01	.548E+01	.324E+01	.626E+00	.338E+00		
SE-23-O- 1852	632.92	18.783	45.510	-84.740	.136E+01	.258E+01	.112E+01	-.143E+01	-.101E+01		
SE-23-O- 1853	613.46	18.706	45.445	-75.060	.815E+01	.100E+02	.159E+02	.105E+02	.104E+02		
SE-23-O- 1856	580.36	18.547	45.508	-76.920	-.231E+01	-.105E+01	-.222E+01	-.319E+01	-.311E+01		
SE-23-O- 1857	650.52	18.532	45.558	-72.120	.105E+01	.172E+01	-.235E+01	.498E+00	.429E+00		
SE-23-O- 1858	782.09	18.516	45.669	-70.910	.141E+01	-.504E+00	-.401E+01	-.289E+01	-.278E+01		
SE-23-O- 1859	704.62	18.473	45.655	-66.780	.224E+01	.129E+01	.898E+00	.440E+01	.423E+01		
SE-23-O- 1802	806.65	18.428	45.704	-68.480	-.231E+01	-.451E+01	.259E+01	-.111E+01	-.105E+01		
SE-23-O- 1803	820.75	18.507	45.722	-68.870	.900E+00	-.233E+00	-.526E+00	-.961E+00	-.980E+00		
SE-23-O- 1804	816.54	18.563	45.745	-67.300	.489E+01	.428E+01	.167E+01	.175E+01	.181E+01		
SE-23-O- 1805	900.94	18.660	45.779	-72.070	.434E+01	.448E+01	.953E+00	.786E+00	.872E+00		
SE-23-O- 1806	914.33	18.721	45.795	-73.780	.546E+01	.584E+01	.306E+01	.169E+01	.157E+01		
SE-23-O- 1807	935.93	18.777	45.811	-76.380	.539E+01	.589E+01	.455E+01	.146E+01	.133E+01		
SE-23-O- 1808	1016.02	18.812	45.841	-80.760	.231E+01	.281E+01	.336E+01	.828E+00	.105E+01		
SE-23-O- 1809	1037.32	18.945	45.909	-96.010	-.740E+01	-.713E+01	-.264E+01	-.453E+01	-.472E+01		
SE-23-O- 1241	558.09	18.768	45.461	-109.300	-.233E+02	-.218E+02	-.176E+02	-.128E+02	-.128E+02		
SE-23-N- 879	770.37	18.696	46.055	-76.090	-.157E+01	-.224E+01	-.478E+00	-.271E+01	-.741E+01		
SE-23-N- 881	931.37	18.825	46.002	-77.220	.430E+01	.476E+01	.717E+01	.717E+01	.748E+01		
SE-23-N- 883	951.50	18.968	46.082	-86.540	.917E+00	.171E+01	-.212E+01	-.649E+01	-.668E+01		
SE-23-T- 884	937.73	19.007	46.093	-82.280	.689E+01	.763E+01	.171E+01	.323E+01	.330E+01		

COEFICIENTES DE GRAU = 1
 .219098E+03 -.487647E+02 .134205E+02

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COEFICIENTES DE GRAU = 2
 -.169153E+05 .113040E+03 .693882E+03 .273612E+02 -.259979E+02 -.207783E+01

COEFICIENTES DE GRAU = 3
 -.631810E+08 .466207E+06 .394819E+07 -.115643E+05 -.108884E+05 -.839875E+05 .323822E+03 -.146746E+03 .179527E+03 .586762E+03

COEFICIENTES DE GRAU = 4
 .116951E+11 .725827E+08 -.105475E+10 -.231721E+08 .141923E+08 .317632E+08 -.392863E+04 .101693E+07 -.725716E+06 -.365184E+06
 .176799E+04 -.279791E+04 -.939323E+04 .784448E+04 .120082E+04

PARAMETROS ESTADISTICOS									
	DESPAD	CORR1	COEPX	PSTQ	SSRED	YBAR08	YBARCP	SYRES	SYRESQ
GRAU= 1	6.89328	79.42134	63.07749	63.07749	63.07749	-82.11308	-82.11308	-0.00000	1235.45163
GRAU= 2	6.79693	80.06401	64.10246	64.10246	64.10246	-82.11308	-82.11308	-0.00000	1201.15537
GRAU= 3	5.90963	85.35990	72.86313	72.86313	72.86313	-82.11308	-82.11308	-0.00000	908.01767
GRAU= 4	4.93225	90.05391	81.09708	80.84848	80.84848	-82.11308	-82.11308	-0.00000	632.50439
GRAU= 5	4.95969	89.93675	80.88619	80.83919	80.83919	-82.11308	-82.11307	-0.00013	639.56078

VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/26	647.06	19.160	45.448	-90.680	.380E+01	-.199E-01	-.192E+01	.145E+00	.262E+00		
ONRJ 07/30	717.89	19.460	45.600	-96.980	-.493E+01	-.283E+01	-.172E+01	-.474E-01	.959E-01		
ONRJ 07/34	717.74	19.435	45.780	-89.140	.753E+00	.175E+01	-.112E+01	-.895E+00	-.745E+00		
ONRJ 07/26	647.14	19.160	45.448	-90.650	.383E+01	.101E-01	-.189E+01	.175E+00	.292E+00		
ONRJ 07/27	660.20	19.230	45.500	-89.670	.404E+01	.251E+01	.221E+01	-.610E+00	-.695E+00		
ONRJ 07/28	668.66	19.285	45.555	-90.930	.200E+01	.219E+01	.224E+01	-.194E+00	-.264E+00		
ONRJ 07/29	663.31	19.372	45.600	-91.370	.847E+00	.224E+01	.178E+01	.162E+01	.166E+01		
ONRJ 07/30	717.97	19.460	45.600	-97.010	-.496E+01	-.286E+01	-.175E+01	-.774E-01	.659E-01		
ONRJ 07/31	721.32	19.515	45.660	-96.070	-.488E+01	-.228E+01	-.880E+00	.109E+01	.114E+01		
ONRJ 07/32	718.90	19.540	45.725	-89.770	.593E+00	.269E+01	.316E+01	.194E+01	.189E+01		
ONRJ 07/33	652.20	19.500	45.735	-91.520	-.120E+01	.560E+00	-.780E+00	-.858E+00	-.114E+01		
ONRJ 07/35	911.43	19.415	45.855	-84.910	.410E+01	.368E+01	.767E+00	-.324E+00	-.460E-01		
ONRJ 07/36	777.00	19.385	45.890	-82.860	.578E+01	.469E+01	.246E+01	.162E+01	.161E+01		
ONRJ 07/37	1034.86	19.320	45.970	-83.370	.442E+01	.173E+01	.212E+01	.136E+01	.131E+01		
ONRJ 07/38	1157.18	19.300	46.005	-86.380	.102E+01	-.254E+01	-.940E+00	-.151E+01	-.165E+01		
ONRJ 07/39	1125.68	19.322	46.058	-85.800	.908E+00	-.519E+01	-.205E+01	.293E+00	.349E+00		
SE-23-U- 1925	730.04	19.424	45.491	-94.330	-.874E+00	-.568E+00	.186E+01	-.728E-01	-.206E+00		
SE-23-U- 1901	723.04	19.460	45.604	-97.610	-.561E+01	-.349E+01	-.251E+01	-.708E+00	-.749E+00		
SE-23-U- 1902	699.57	19.575	45.702	-96.370	-.580E+01	-.313E+01	.242E+00	-.109E+01	-.102E+01		
SE-23-U- 1903	717.74	19.431	45.785	-89.300	.530E+00	.140E+01	-.145E+01	-.114E+01	-.130E+01		
SE-23-U- 1847	647.06	19.157	45.449	-90.820	.300E+01	-.161E+00	-.203E+01	.262E+00	.191E+00		
SE-23-U- 1848	674.69	19.097	45.520	-93.540	.192E+00	.127E+01	.495E+00	.583E+00	.551E+00		
SE-23-U	1054.98	19.323	45.960	-85.350	.258E+01	.199E+00	.310E+00	-.422E+00	-.571E+00		
SE-23-U- 1836	984.89	19.363	45.929	-82.990	.523E+01	.327E+01	.199E+01	.913E+00	.115E+01		
SE-23-U- 1837	789.27	19.385	45.888	-83.860	.481E+01	.378E+01	.152E+01	.723E+00	.731E+00		
SE-23-U- 1838	863.19	19.421	45.818	-88.270	.119E+01	.155E+01	-.147E+01	-.164E+01	-.178E+01		
SE-23-U- 1839	887.44	19.378	45.839	-86.270	.301E+01	.316E+01	.706E+00	.985E+00	.894E+00		
SE-23-U- 1840	926.14	19.302	45.801	-91.850	-.196E+01	-.724E+00	-.132E+01	.333E+00	.153E+00		
SE-23-U- 1841	935.39	19.235	45.768	-95.090	-.467E+01	-.272E+01	-.117E+01	.406E+00	.480E+00		
SE-23-U- 1842	870.04	19.270	45.736	-96.670	-.592E+01	-.409E+01	-.359E+01	-.203E+01	-.183E+01		
SE-23-U- 1843	708.24	19.290	45.686	-94.400	-.308E+01	-.136E+01	-.131E+01	-.225E+00	-.218E+00		
SE-23-U- 1844	693.19	19.269	45.626	-92.020	.808E-01	.133E+01	.193E+01	.143E+01	.150E+01		
SE-23-U- 1845	668.64	19.287	45.563	-91.290	.154E+01	.189E+01	.198E+01	-.196E+00	-.228E+00		
SE-23-U- 1846	680.18	19.221	45.484	-89.490	.443E+01	.235E+01	.168E+01	-.794E+00	-.802E+00		
SE-23-U	1021.91	19.000	45.965	-95.240	-.677E+01	-.269E+01	-.151E+01	-.128E+01	-.116E+01		
SE-23-U- 1811	1089.31	19.064	45.945	-97.520	-.893E+01	-.610E+01	-.274E+01	-.351E+01	-.322E+01		
SE-23-U- 1812	1031.70	19.102	45.961	-88.280	.427E-01	.172E+01	.516E+01	.378E+01	.369E+01		
SE-23-U- 1849	624.42	18.999	45.541	-90.020	-.230E+01	-.297E+01	-.123E+00	-.270E+00	-.478E+00		
SE-23-U- 1850	643.36	18.901	45.522	-91.490	.259E+01	.166E+01	.105E+01	-.109E+00	-.225E-02		
SE-23-U- 1809	1037.32	18.945	45.909	-96.010	-.675E+01	-.675E+00	-.204E+00	.148E+01	.130E+01		
SE-23-N- 883	951.50	18.968	46.082	-86.540	.566E+00	.316E+01	-.206E+01	-.149E+01	-.138E+01		
SE-23-T- 884	937.73	19.007	46.093	-82.280	.461E+01	.557E+01	.308E+01	.186E+01	.172E+01		
SE-23-T- 1814	1154.89	19.266	46.015	-86.620	.723E+00	-.256E+01	-.177E+00	-.105E+01	-.133E+01		
SE-23-T- 1815	1069.09	19.317	46.051	-86.040	.763E+00	-.494E+01	-.205E+01	-.458E+00	-.219E+00		

COEFICIENTES DE GRAU = 1
 -.687402E+03 .193227E+01 .122314E+02

COEFICIENTES DE GRAU = 2
 .168273E+06 -.180105E+04 -.662007E+04 -.176080E+02 .543549E+02 .610723E+02

COEFICIENTES DE GRAU = 3
 .237039E+08 -.685558E+06 -.126187E+07 .625546E+04 .246605E+05 .223144E+05 -.267998E+03 .200787E+03 -.353160E+03 -.112587E+03

COEFICIENTES DE GRAU = 4
 -.810516E+10 .193312E+09 .627640E+09 .146243E+07 -.139072E+08 -.176631E+08 -.824482E+05 .399594E+05 .287249E+06 .217236E+06
 .339990E+03 .122548E+04 -.120538E+04 -.175668E+04 -.100284E+04

COEFICIENTES DE GRAU = 5
 -.252235E+10 -.261475E+08 .935495E+08 -.114727E+07 .863449E+07 .141249E+07 .280638E+06 -.269624E+06 -.350187E+06 -.116580E+06
 -.109669E+05 .447287E+04 .394672E+04 .638260E+04 .182674E+04 -.457132E+02 .343441E+03 -.325600E+03 .967411E+02 -.658740E+02
 -.690265E+01

PARAMETROS ESTADISTICOS DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.82078	53.31102	28.42065	28.42065	-90.51477	-90.51477	-0.00000	642.32924
GRAU= 2	2.82884	77.95034	60.76256	60.76256	-90.51477	-90.51477	0.00000	352.10372
GRAU= 3	1.93212	90.38570	81.69576	81.69575	-90.51477	-90.51477	0.00000	164.25619
GRAU= 4	1.25947	96.03240	92.22221	91.73881	-90.51477	-90.51477	0.00000	69.79529
GRAU= 5	1.23994	96.15692	92.46154	92.24830	-90.51477	-90.51477	0.00001	67.64766

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1,000,000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/30	717,89	19,460	45,600	-96,980	-.505E+01	-.715E+00	-.790E-01	-.614E+00	-.104E+01		
ONRJ 13/4	660,89	19,732	45,568	-95,350	-.790E+00	-.978E+00	-.174E+01	-.490E+00	-.430E+00		
ONRJ 07/34	717,74	19,435	45,780	-89,140	-.795E+00	-.144E+00	-.641E+00	-.288E+00	-.261E+00		
ONRJ 07/30	717,97	19,460	45,600	-97,010	-.508E+01	-.745E+00	-.109E+00	-.584E+00	-.101E+01		
ONRJ 07/31	721,32	19,515	45,660	-96,070	-.389E+01	-.161E+01	-.940E+00	-.201E+00	-.175E+01		
ONRJ 07/32	718,90	19,540	45,725	-89,770	-.218E+01	-.294E+01	-.261E+01	-.230E+01	-.144E+01		
ONRJ 07/33	652,20	19,500	45,735	-91,520	-.238E+00	-.488E+00	-.324E+00	-.713E+00	-.267E+01		
ONRJ 07/35	911,43	19,415	45,855	-84,910	-.406E+01	-.338E+00	-.144E+00	-.125E+01	-.296E+01		
SE-23-U- 1970	689,65	19,874	45,922	-99,640	-.466E+01	-.247E+01	-.277E+01	-.869E+00	-.205E+01		
SE-23-U- 1946	655,53	19,837	45,415	-88,000	-.111E+02	-.153E+00	-.809E+00	-.181E-01	-.276E+00		
SE-23-U- 1950	660,89	19,730	45,545	-95,580	-.741E+00	-.155E+01	-.105E+01	-.145E+00	-.585E+00		
SE-23-U- 1951	627,05	19,649	45,626	-98,710	-.429E+01	-.380E+01	-.221E+01	-.474E+00	-.165E+01		
SE-23-U- 1952	732,00	19,905	45,741	-96,900	-.184E+00	-.133E+01	-.145E+01	-.496E+00	-.991E+00		
SE-23-U- 1925	730,04	19,424	45,491	-94,330	-.193E+01	-.479E+01	-.776E+00	-.343E+00	-.855E+00		
SE-23-U- 1901	723,04	19,460	45,604	-97,610	-.572E+01	-.143E+01	-.741E+00	-.115E+00	-.427E+00		
SE-23-U- 1902	699,57	19,575	45,702	-96,370	-.371E+01	-.276E+01	-.275E+01	-.184E+01	-.580E+00		
SE-23-U- 1903	717,74	19,431	45,785	-89,300	-.538E+00	-.335E+00	-.205E+00	-.664E+00	-.220E+01		
SE-23-U- 1905	699,30	19,667	45,787	-91,030	-.219E+01	-.187E+01	-.156E+00	-.711E-01	-.449E+00		
SE-23-U- 1906	729,41	19,730	45,839	-91,010	-.266E+01	-.235E+01	-.697E-01	-.134E-01	-.244E+00		
SE-23-U- 1907	982,45	19,705	45,9	-85,260	-.737E+01	-.518E+01	-.226E+01	-.129E-01	-.503E+00		
SE-23-U	683,55	19,819	45,891	-95,590	-.112E+01	-.208E+00	-.175E+01	-.350E+00	-.114E+01		
SE-23-U- 1911	717,93	19,826	45,779	-95,550	-.465E-01	-.108E+01	-.533E+00	-.142E+01	-.155E+01		
SE-23-U- 1912	674,96	19,798	45,687	-97,140	-.113E+01	-.130E+01	-.100E+00	-.923E+00	-.595E+00		
SE-23-U- 1838	863,19	19,421	45,818	-88,270	-.112E+01	-.128E+01	-.750E+00	-.902E+00	-.185E+01		
SE-23-T- 1908	1131,14	19,710	46,006	-84,100	-.775E+01	-.277E+01	-.214E+01	-.104E+01	-.272E+01		
SE-23-T- 1829	1124,96	19,638	46,059	-83,070	-.727E+01	-.283E+01	-.159E+01	-.570E+00	-.153E+01		
SF-23-C- 485	700,68	20,007	45,977	-108,260	-.986E+01	-.290E+01	-.135E+01	-.154E+00	-.452E+00		
SF-23-C- 1953	717,00	20,007	45,824	-102,470	-.468E+01	-.450E-01	-.139E+01	-.487E+00	-.518E-01		
SF-23-C- 1954	755,00	20,059	45,880	-104,410	-.637E+01	-.103E+01	-.223E+00	-.206E+00	-.111E+00		
SF-23-C- 1914	652,00	20,023	45,544	-91,580	-.899E+01	-.117E+01	-.132E+00	-.361E-01	-.241E+00		

COEFICIENTES DE GRAU = 1
 -.224785E+03 -.144372E+02 .907463E+01

COEFICIENTES DE GRAU = 2
 .144465E+05 .649795E+04 -.344017E+04 -.152809E+02 -.129244E+03 .655746E+02

COEFICIENTES DE GRAU = 3
 .398401E+08 -.548597E+06 -.237668E+07 .173551E+04 .226394E+05 .470513E+05 .125202E+03 -.200241E+03 -.162624E+03 -.319089E+03

COEFICIENTES DE GRAU = 4
 -.307171E+10 -.214729E+09 .361950E+09 .453403E+07 .101634E+08 -.140830E+08 -.704740E+05 -.106911E+06 -.175944E+06 .230846E+06
 -.784593E+03 .289596E+04 -.707560E+03 .148531E+04 -.142342E+04

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PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAR08	YBARCP	SYRES	SYRESQ
GRAU= 1	4.91826	51.66684	26.69463	26.69463	26.69462	-93.76433	-93.76433	0.00000	725.67947
GRAU= 2	2.14499	92.76677	86.05674	86.05674	86.05674	-93.76433	-93.76433	-0.00000	138.02996
GRAU= 3	1.37147	97.10810	94.29984	94.29983	94.29983	-93.76433	-93.76433	-0.00000	56.42821
GRAU= 4	0.79902	99.02788	98.06522	97.67462	97.67462	-93.76433	-93.76433	0.00000	19.15319
GRAU= 5	1.36451	97.13784	94.35761	100.28201	100.28201	-93.76433	-93.76434	0.00008	55.85632

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-U- 1952*	732,00	19,905	45,741	-96,900	.386E+01	.114E+01	-.872E+00	-.794E+00	-.424E+00		
SF-23-B- 1965*	816,15	20,419	46,040	-105,120	.357E+01	.305E+01	.265E+01	.458E+00	-.569E-02		
SF-23-B- 1966*	657,00	20,348	46,069	-109,230	.134E+01	.131E+01	.106E+01	-.823E-01	-.582E+00		
SF-23-B- 1967*	787,00	20,239	46,059	-112,680	-.153E+01	-.108E+01	-.839E+00	.854E+00	.134E+01		
SF-23-B- 1968*	748,00	20,192	46,047	-114,510	-.345E+01	-.298E+01	-.249E+01	-.549E+00	-.441E+00		
SF-23-B- 1969*	805,21	20,120	46,018	-113,140	-.266E+01	-.244E+01	-.173E+01	-.791E+00	-.852E+00		
SF-23-C- 485*	700,68	20,007	45,977	-106,260	.352E+01	.257E+01	.289E+01	-.105E-01	.625E-01		
SF-23-C- 487*	793,69	20,466	45,958	-103,880	.905E+00	.241E+00	-.165E+00	.397E+00	.121E+01		
SF-23-C- 1953*	717,00	20,007	45,824	-102,470	.871E+00	.239E+00	.119E+00	.141E+01	.601E+00		
SF-23-C- 1954*	755,00	20,059	45,880	-104,410	.834E+00	.899E+00	.957E+00	.810E+00	.656E+00		
SF-23-C- 1955*	710,00	20,126	45,740	-102,470	-.377E+01	-.288E+01	-.221E+01	-.762E+00	.119E+00		
SF-23-C- 1956*	646,00	20,238	45,661	-95,990	-.163E+01	-.236E+00	.206E+00	-.197E+00	-.617E+00		
SF-23-C- 1957*	983,37	20,399	45,481	-85,290	.147E-01	.356E+00	-.782E+00	.927E+00	.147E+00		
SF-23-C- 1962*	869,61	20,475	45,569	-85,960	.237E+01	.218E+01	.249E+01	.256E+01	.224E+01		
SF-23-C- 1963*	875,66	20,489	45,545	-93,020	-.584E+01	-.630E+01	-.597E+01	-.599E+01	-.455E+01		
SF-23-C- 1964*	816,00	20,463	45,874	-106,010	-.471E+01	-.494E+01	-.548E+01	-.416E+01	-.336E+01		
SF-23-C- 1935*	802,09	20,540	45,795	-97,590	-.342E+00	-.162E+01	.205E+00	.222E+01	.142E+01		
SF-23-C- 1936*	782,12	20,479	45,799	-100,530	-.255E+01	-.280E+01	-.272E+01	-.176E+01	-.172E+01		
SF-23-C- 1937*	720,94	20,383	45,804	-96,570	.251E+01	.339E+01	.230E+01	.917E+00	.268E+00		
SF-23-C- 1938*	714,96	20,393	45,800	-93,470	.535E+01	.615E+01	.513E+01	.381E+01	.405E+01		
SF-23-C- 1939*	667,00	20,253	45,780	-98,860	.379E+00	.184E+01	.133E+01	-.107E+01	-.140E+01		
SF-23-C- 1940*	671,00	20,174	45,711	-100,950	-.388E+01	-.266E+01	-.205E+01	-.158E+01	-.102E+01		
SF-23-C- 1941*	741,36	20,216	45,501	-88,720	-.893E+00	-.770E-01	.485E+00	.127E+01	.219E+01		
SF-23-C- 1942*	814,55	20,175	45,451	-85,040	.107E+01	.139E+01	.176E+01	-.134E+01	-.139E+01		
SF-23-C- 1918*	834,65	20,449	45,555	-87,360	.614E+00	.719E+00	.630E+00	.871E+00	.128E+01		
SF-23-C- 1919*	841,45	20,465	45,426	-81,520	.897E+00	.302E+00	-.183E+01	.313E+00	.271E+00		
SF-23-C- 1920*	801,10	20,574	45,487	-79,960	.403E+01	.194E+01	.353E+01	.766E+00	.523E+00		
SF-23-C- 1914*	652,00	20,023	45,544	-91,580	-.186E+00	-.117E+01	.638E-01	.907E+00	.464E+00		
SF-23-C- 1916*	746,80	20,283	45,540	-91,260	-.241E+01	-.131E+01	-.115E+01	-.216E+00	-.575E+00		
SF-23-C- 1917*	695,05	20,368	45,663	-91,540	.171E+01	.278E+01	.249E+01	.818E+00	.123E+00		

COEFICIENTES DE GRAU = 1
 .164492E+04 .911568E+01 -.421317E+02

COEFICIENTES DE GRAU = 2
 .406288E+05 -.156612E+04 -.104916E+04 .335787E+02 .469389E+01 .996952E+01

COEFICIENTES DE GRAU = 3
 .942247E+07 -.186054E+06 -.534807E+06 .104957E+05 -.117719E+04 .119396E+05 -.142875E+03 -.392204E+02 .302359E+02 -.913814E+02

COEFICIENTES DE GRAU = 4
 .878761E+10 -.411502E+09 -.585382E+09 .720130E+07 .205892E+08 .146144E+08 -.818786E+05 -.205643E+06 -.358778E+06 -.159742E+06
 .919698E+03 .154988E+03 .214389E+04 .197987E+04 .652433E+03

COEFICIENTES DE GRAU = 5
 -.178686E+11 .307468E+10 .870404E+09 -.196473E+09 -.106227E+09 -.241921E+08 .727765E+07 .345101E+07 .222388E+07 .371741E+06
 -.178337E+06 -.540222E+04 -.748955E+05 -.133154E+05 -.412339E+04 .249110E+04 -.159284E+04 .148196E+04 -.937202E+02 .106262E+03
 .141867E+02

PARAMETROS ESTADISTICOS	DESPA	CORR	CDEP	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	2.76437	95.48870	91.18092	91.18092	91.18092	-97.40967	-97.40967	0.00000	229.25173
GRAU= 2	2.58617	96.06312	92.28124	92.28124	92.28124	-97.40967	-97.40967	0.00000	200.64903
GRAU= 3	2.43248	96.52535	93.17143	93.17143	93.17143	-97.40967	-97.40967	-0.00000	177.50843
GRAU= 4	1.82442	98.06052	96.15866	95.95785	95.95785	-97.40967	-97.40967	0.00000	99.85559
GRAU= 5	1.59909	98.51341	97.04893	96.72646	96.72646	-97.40967	-97.40967	-0.00001	76.71310

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1,000,000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-23-H	830.46	21.077	46.061	-90.190	.396E+01	-.258E+01	.623E+00	.568E+01	.603E-01		
SF-23-B- 488°	766.02	20.615	46.050	-105.010	-.385E+01	-.483E+01	-.123E+01	-.235E+00	-.221E+00		
SF-23-B- 1965°	816.15	20.419	46.040	-105.120	-.113E+01	.599E+01	.378E+00	-.436E+00	-.394E+00		
SF-23-C- 487°	793.69	20.466	45.958	-103.880	-.288E+01	.131E+01	.160E+01	.255E+01	.237E+01		
SF-23-C- 1286°	838.28	20.949	45.522	-88.170	-.663E+01	-.312E+01	-.170E+01	-.586E+00	-.594E+00		
SF-23-C- 1962°	869.61	20.475	45.569	-85.960	.436E+01	.272E+01	.296E+01	.317E+01	.308E+01		
SF-23-C- 1963°	875.66	20.489	45.545	-93.020	-.359E+01	-.587E+01	-.616E+01	-.532E+01	-.538E+01		
SF-23-C- 1964°	816.00	20.463	45.874	-106.010	-.722E+01	-.377E+01	-.189E+01	-.302E+01	-.285E+01		
SF-23-I- 1930°	779.66	21.053	45.977	-87.470	.477E+01	.840E+00	-.739E+00	-.116E+00	-.141E+00		
SF-23-I- 1267°	760.55	21.025	45.536	-89.220	-.848E+01	-.229E+01	-.277E+00	-.641E-01	.348E-01		
SF-23-I- 1288°	776.09	21.090	45.566	-88.040	-.754E+01	.876E+00	.150E+01	.260E+00	.196E+00		
SF-23-C	793.29	20.966	45.862	-85.320	.518E+01	.325E+01	-.502E+00	.193E+00	.299E+00		
SF-23-C- 1932°	875.51	20.939	45.826	-86.660	.328E+01	.177E+01	-.231E+01	-.754E+00	-.752E+00		
SF-23-C- 1933°	770.74	20.796	45.850	-84.040	.882E+01	.614E+01	.605E+01	.219E+01	.192E+01		
SF-23-C- 1934°	773.97	20.672	45.841	-96.800	-.220E+01	-.390E+01	-.256E+01	-.301E+01	-.270E+01		
SF-23-C- 1935°	802.09	20.540	45.795	-97.590	-.217E+01	-.173E+01	.188E+03	.251E+01	.238E+01		
SF-23-C- 1936°	782.12	20.479	45.799	-100.530	-.404E+01	-.203E+01	.199E+00	.749E-01	.417E-01		
SF-23-C- 1918°	834.65	20.449	45.555	-87.360	.299E+01	.140E+01	.207E+01	.842E+00	.988E+00		
SF-23-C- 1919°	841.45	20.465	45.426	-81.520	.510E+01	.374E+00	-.120E+00	.687E-01	.373E-01		
SF-23-C- 1920°	801.10	20.574	45.487	-79.960	.658E+01	.301E+01	.150E+01	.185E+01	.189E+01		
SF-23-C- 1921°	815.65	20.684	45.486	-80.850	.393E+01	.118E+01	-.152E+00	-.142E+01	-.135E+01		
SF-23-C- 1922°	848.44	20.798	45.506	-80.430	.306E+01	.237E+01	.175E+01	.132E+01	.123E+01		
SF-23-C- 1923°	873.39	20.874	45.517	-84.900	-.230E+01	-.111E+01	-.990E+00	-.126E+00	-.138E+00		

COEFICIENTES DE GRAU = 1
 .821646E+03 .156242E+02 -.271231E+02

COEFICIENTES DE GRAU = 2
 .764814E+05 -.121466E+04 -.278071E+04 -.466626E+02 .692090E+02 .144484E+02

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COEFICIENTES DE GRAU = 3
 .160052E+07 -.351900E+06 .537981E+05 -.117587E+05 .259990E+05 -.704115E+04 .125069E+02 .239220E+03 -.391715E+03 .110152E+03

COEFICIENTES DE GRAU = 4
 -.194175E+10 .983125E+08 .125423E+09 -.212057E+07 -.452940E+07 -.309145E+07 -.139262E+05 .112081E+06 .481083E+05 .378756E+05
 .104874E+04 -.160432E+04 -.134115E+03 -.309292E+03 -.172520E+03

COEFICIENTES DE GRAU = 5
 -.675391E+10 .981443E+09 .243802E+09 -.718777E+08 -.178813E+08 -.506282E+07 .303784E+07 .530993E+06 .278026E+06 .450067E+05
 -.859267E+05 .231439E+05 -.263094E+05 .456887E+04 -.825335E+03 .112314E+04 -.648504E+03 .316058E+03 .494781E+02 -.400669E+02
 .677837E+01

PARAMETHOS ESTADISTICOS	DESPAD	CORR λ	COEP λ	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESu
GRAU= 1	4.97487	80.16232	64.25998	64.25998	64.25998	-90.78478	-90.78478	-0.00000	569.23460
GRAU= 2	3.18426	92.38925	85.35774	85.35774	85.35774	-90.78478	-90.78478	-0.00000	233.20863
GRAU= 3	2.28507	96.15594	92.45965	92.45965	92.45965	-90.78478	-90.78478	-0.00000	120.09586
GRAU= 4	1.90313	97.34972	94.76968	94.76426	94.76426	-90.78478	-90.78478	-0.00000	83.30372
GRAU= 5	1.84137	97.52110	95.10366	94.78576	94.78576	-90.78478	-90.78478	0.00003	77.98449

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 09/34	777,79	21,410	45,825	-59,370	,290E+01	,281E+01	-,918E+00	-,829E+00	-,710E+00		
ONRJ 08/43	925,13	21,553	45,438	-58,400	-,139E+01	,394E+00	,144E+01	,237E+00	,258E+00		
ONRJ 08/41	966,27	21,500	45,403	-62,680	-,184E+01	,136E+01	-,469E+01	-,240E+01	-,236E+01		
ONRJ 08/42	836,77	21,545	45,413	-57,740	,734E-01	,259E+01	,809E+00	,133E+01	,135E+01		
ONRJ 09/31	911,41	21,550	46,050	-53,660	-,285E+01	-,274E+01	,539E+00	,367E+00	,320E+00		
ONRJ 09/31A	878,45	21,548	46,045	-53,400	-,242E+01	-,237E+01	,222E+00	,357E+00	,432E+00		
ONRJ 09/32	879,76	21,430	45,945	-54,490	,522E+01	,610E+01	,161E+01	,733E+00	,673E+00		
ONRJ 09/33	884,25	21,410	45,870	-56,990	,481E+01	,508E+01	,519E+00	,764E+00	,815E+00		
ONRJ 09/35	883,77	21,430	45,795	-49,110	,122E+02	,117E+02	,823E+01	,759E+01	,757E+01		
ONRJ 09/36	885,07	21,510	45,735	-50,370	,634E+01	,471E+01	,231E+01	,557E+00	,319E+00		
ONRJ 09/37	826,30	21,550	45,735	-51,900	,222E+01	-,122E+00	-,213E+01	-,149E+01	-,149E+01		
ONRJ 09/38	864,72	21,590	45,680	-54,010	-,192E+01	-,472E+01	-,268E+01	-,221E+00	-,210E+00		
ONRJ 09/39	886,64	21,595	45,625	-55,500	-,315E+01	-,549E+01	-,582E+00	-,169E+00	-,234E+00		
ONRJ 28/13	879,54	21,430	45,945	-54,540	,517E+01	,605E+01	,156E+01	,683E+00	,623E+00		
SF-23-H	830,46	21,077	46,061	-90,190	-,878E+01	-,361E+01	,440E+00	,152E+01	,144E+01		
SF-23-H- 5010	878,37	21,548	46,040	-54,280	-,320E+01	-,321E+01	-,123E+01	-,886E+00	-,914E+00		
SF-23-C- 12860	838,28	20,949	45,522	-88,170	,725E+01	,309E+01	-,199E+01	,882E+00	,894E+00		
SF-23-I- 12930	885,72	21,367	45,513	-76,140	-,778E+01	-,624E+01	-,534E+01	-,333E+01	-,348E+01		
SF-23-I- 12940	781,03	21,436	45,481	-66,790	-,260E+01	-,721E+00	-,175E+01	-,137E+01	-,119E+01		
SF-23-I- 19260	851,45	21,398	45,647	-73,040	-,813E+01	-,811E+01	-,591E+01	-,661E+01	-,681E+01		
SF-23-I- 19270	839,48	21,369	45,779	-75,590	-,102E+02	-,101E+02	-,110E+02	-,991E+01	-,986E+01		
SF-23-I- 19280	862,00	21,227	45,760	-76,020	-,118E+01	-,886E+00	,442E+01	,770E+01	,777E+01		
SF-23-I- 19290	781,33	21,107	45,827	-87,980	-,603E+01	-,5F4E+01	-,824E+00	-,489E+00	-,706E+00		
SF-23-I	903,80	21,473	45,748	-50,610	,838E+01	,728E+01	,459E+01	,271E+01	,275E+01		
SF-23-I- 1230	826,27	21,547	45,667	-52,240	,277E+01	,878E+00	,198E+01	-,239E+00	-,243E+00		
SF-23-I	857,64	21,556	45,719	-51,920	,195E+01	-,438E+00	-,154E+01	-,103E+01	-,683E+00		
SF-23-I- 1630	925,12	21,559	45,430	-59,010	-,228E+01	-,362E+00	,507E+00	-,212E+00	-,277E+00		
SF-23-I	808,57	21,571	45,711	-51,460	,157E+01	-,106E+01	-,134E+01	,284E+00	,301E+00		
SF-23-I	860,74	21,583	45,643	-54,380	-,147E+01	-,379E+01	-,311E+00	-,393E+00	-,339E+00		
SF-23-I- 19300	779,66	21,053	45,977	-87,470	-,362E+01	-,102E+01	-,824E+00	-,230E+01	-,211E+01		
SF-23-I	916,66	21,555	45,434	-58,930	-,198E+01	-,108E+00	,731E+00	-,209E+00	-,252E+00		
SF-23-I	910,66	21,467	45,533	-53,890	,775E+01	,651E+01	,103E+02	,764E+01	,768E+01		
SF-23-I	565,64	21,365	45,976	-67,000	-,337E+01	-,110E+01	-,254E+01	-,214E+01	-,208E+01		
SF-23-I- 12870	760,55	21,025	45,536	-89,220	,110E+01	-,122E+01	,108E+01	-,229E+01	-,232E+01		
SF-23-I- 12880	776,09	21,090	45,566	-88,040	-,226E+01	-,345E+01	,331E+01	,117E+01	,124E+01		
SF-23-I- 12890	815,73	21,178	45,543	-91,880	-,116E+02	-,114E+02	-,566E+01	-,516E+01	-,503E+01		
SF-23-I- 12900	846,97	21,190	45,441	-74,120	,650E+01	,610E+01	,240E+01	,762E+00	,632E+00		
SF-23-I- 12910	825,31	21,249	45,506	-75,810	,244E+00	,151E+01	,359E+01	,607E+01	,614E+01		
SF-23-C	793,29	20,966	45,862	-85,320	,538E+01	,416E+01	,108E+01	-,717E+00	-,744E+00		
SF-23-C- 19320	875,51	20,939	45,826	-86,660	,621E+01	,377E+01	-,397E+00	,102E+01	,103E+01		

COEFICIENTES DE GRAU = 1
 -.193343E+04 .649605E+02 .104825E+02

COEFICIENTES DE GRAU = 2
 -.375803E+05 -.249500E+04 .276324E+04 .348293E+02 .235670E+02 -.356092E+02

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COEFICIENTES DE GRAU = 3
 .670057E+08 -.948636E+06 -.395127E+07 .172053E+05 .253600E+05 .804627E+05 -.350595E+03 .114671E+03 -.330007E+03 -.535109E+03

COEFICIENTES DE GRAU = 4
 .272513E+10 .183043E+07 -.237649E+09 -.885163E+07 .807902E+07 .587312E+07 .242111E+06 .499216E+05 -.199420E+06 -.541453E+05
 -.206545E+04 -.146154E+04 .474046E+03 .130315E+04 .141834E+03

PARAMETROS ESTADISTICOS
 DESPAD

	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARQ8	YBARCP	SYRES	SYRESQ
GRAU= 1	5.37693	92.67790	85.89194	85.89194	85.89194	-65.95800	-65.95800	0.00000	1156.45655
GRAU= 2	5.00609	93.68612	87.77089	87.77089	87.77089	-65.95800	-65.95800	0.00000	1002.43637
GRAU= 3	3.66099	96.67457	93.45973	93.45973	93.45973	-65.95800	-65.95800	-0.00000	536.11457
GRAU= 4	3.30871	97.29227	94.65785	94.64499	94.64499	-65.95800	-65.95800	0.00000	437.90315
GRAU= 5	3.31578	97.28053	94.63501	94.67159	94.67159	-65.95800	-65.95800	-0.00009	439.77550

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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V A L O R E S R E S I D U A I S											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 17/5	774.13	17.740	46.163	-81.730	.227E+01	.213E+01	.849E+00	.464E+00			
ONRJ 17/5A	540.20	17.750	46.302	-91.020	-.332E+01	-.321E+01	-.230E+01	-.236E+01			
SE-23-H- 1228	543.07	17.536	46.536	-90.700	.449E+00	.178E+01	.983E-01	-.104E-01			
SE-23-H- 1229	556.09	17.620	46.482	-92.220	-.144E+01	-.203E+01	.301E+00	-.182E-01			
SE-23-H- 1230	566.12	17.692	46.355	-90.920	-.256E+01	-.211E+01	-.178E+01	-.864E+00			
SE-23-H- 1231	539.07	17.699	46.364	-89.260	-.584E+00	-.426E+00	.447E+00	.154E+01			
SE-23-H- 1232	607.09	17.759	46.259	-86.380	.332E+00	.557E+00	.115E+01	.121E+01			
SE-23-H- 1233	806.12	17.739	46.165	-82.070	.198E+01	.187E+01	.555E+00	-.326E+00			
SE-23-H- 1234	914.49	17.847	46.116	-87.490	-.341E+01	-.446E+01	-.301E+01	-.332E+00			
SE-23-H- 1235	828.74	17.942	46.093	-84.610	.382E-01	.521E+00	-.424E+00	.247E+00			
SE-23-H- 1879	575.23	17.905	46.522	-88.810	.648E+01	.220E+01	.889E+00	-.506E+00			
SE-23-H- 1860	577.13	17.909	46.463	-92.490	.131E+01	-.697E+00	-.194E+01	.853E+00			
SE-23-H- 1881	605.84	17.979	46.468	-96.800	-.202E+01	-.193E+01	.225E+00	.115E+00			
SE-23-H- 1869	577.79	17.947	46.273	-90.980	-.161E+01	.890E+00	-.762E+00	.536E-01			
SE-23-H- 1870	799.06	17.924	46.335	-91.870	-.119E+01	.106E+00	-.134E+01	-.104E+01			
SE-23-H- 1871	792.46	17.999	46.353	-96.380	-.432E+01	-.569E+00	.701E+00	.201E-01			
SE-23-H- 1793	760.01	17.844	46.287	-83.250	.522E+01	.542E+01	.545E+01	.103E+01			
SE-23-I- 1236	746.74	17.942	45.999	-79.860	.237E+01	-.630E-01	.896E+00	-.716E-01			

COEFICIENTES DE GRAU = 1
 .132476E+04 -.122008E+02 -.258283E+02

COEFICIENTES DE GRAU = 2
 .128671E+06 .392685E+04 -.704847E+04 -.110129E+03 -.410418E+00 .759994E+02

COEFICIENTES DE GRAU = 3
 .252542E+08 -.366874E+07 -.219187E+06 .128405E+06 .595159E+05 -.680668E+04 -.123387E+04 -.134833E+04 -.122598E+03 .652089E+02

COEFICIENTES DE GRAU = 4
 .308408E+11 -.353948E+10 -.129964E+10 .199947E+09 .749930E+08 .276754E+08 -.404266E+07 -.395765E+07 -.915072E+05 -.387423E+06
 .255740E+05 .478470E+05 .150465E+05 -.322008E+04 .240711E+04

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PARAMETROS ESTADISTICOS									
	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	2.83096	80.24791	64.39728	64.39728	64.39728	-88.71333	-88.71333	-0.00000	144.25795
GRAU= 2	2.23920	88.16228	77.72587	77.72587	77.72587	-88.71333	-88.71333	-0.00000	90.25208
GRAU= 3	1.80007	92.52331	85.60562	85.60562	85.60562	-88.71333	-88.71333	0.00000	56.32430
GRAU= 4	0.87582	98.28144	96.59242	96.00988	96.00988	-88.71333	-88.71333	-0.00000	13.80710

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/3	833,82	18,595	46,517	-98,330	,269F+01	-,423E+00	,866E+00	-,137E+01	,714E+00		
SE-23-O- 1769-	969,06	18,287	45,978	-79,010	,120F+01	,109E+01	-,927E-01	-,470E+00	-,874E+00		
SE-23-O- 1770-	842,55	18,259	45,928	-77,440	,824E+00	-,559E+00	,730E+00	,126E+00	,362E+00		
SE-23-H- 1235°	828,74	17,942	46,093	-84,610	-,160E+01	-,530E+00	-,638E+00	-,943E-01	,110E-01		
SE-23-H- 1879-	575,23	17,905	46,522	-88,810	,968E+01	,462E+01	,332E+00	,727E-01	-,863F+00		
SE-23-H- 1880-	577,13	17,909	46,463	-92,490	,386E+01	,757E+00	-,915E+00	-,136E+01	,146E+01		
SE-23-H- 1881-	605,84	17,979	46,468	-96,800	-,221E-02	-,110E+01	,344E+00	,217E+01	,478E+00		
SE-23-H- 1869-	577,79	17,947	46,273	-90,980	-,138E+01	,461E-01	,110F+01	,188E+00	,154E+01		
SE-23-H- 1870-	799,06	17,924	46,335	-91,870	-,123E+00	-,966E-02	,978E+00	,526E+00	-,202E+01		
SE-23-H- 1871-	792,46	17,999	46,353	-96,380	-,368E+01	-,190E+01	-,192E+00	-,101E+01	-,589E+00		
SE-23-N- 1882-	999,52	18,527	46,510	-99,280	,121E+01	,754E-01	-,645E+00	-,666E+00	-,242E+00		
SE-23-N- 1874-	992,53	18,308	46,516	-103,560	-,369E+01	-,201E+01	-,962E+00	-,203E+01	-,221E+01		
SE-23-N- 1873-	987,69	18,230	46,486	-105,720	-,726E+01	-,492E+01	-,326E+01	-,264E+01	-,250E+01		
SE-23-N- 1872-	819,96	18,131	46,485	-104,450	-,641E+01	-,488E+01	-,180E+01	,207E+00	,122E+01		
SE-23-N- 476-	947,50	18,414	46,419	-94,540	,220E+01	,457E+01	,653E+00	,176E+01	,196E+00		
SE-23-N- 874-	1045,35	18,585	46,424	-101,300	-,368E+01	-,542E+01	-,523E+01	-,441E+01	-,377E+01		
SE-23-N- 875-	1041,09	18,583	46,335	-86,930	,744F+01	,602E+01	,703E+01	,491E+01	,508E+01		
SE-23-N- 1761-	1020,67	18,294	46,534	-101,650	-,118E+01	,881E-01	,200E+01	,228E+00	,724E+00		
SE-23-N- 1762-	1071,32	18,495	46,449	-97,790	,353E+00	,837E+00	-,173E+01	-,307F+00	,422E+00		
SE-23-N- 1763-	1075,93	18,473	46,368	-94,590	,524E+00	,216E+01	-,212E+01	-,133E+01	-,103E+01		
SE-23-N- 1764-	1065,83	18,546	46,236	-88,710	,189E+01	,106E+01	,230E+01	-,215E+00	-,150E+01		
SE-23-N- 1765-	1039,06	18,519	46,171	-93,030	-,488E+01	-,577E+01	-,360E+01	-,403E+01	-,347E+01		
SE-23-N- 1766-	971,18	18,507	46,116	-90,330	-,423E+01	-,580E+01	-,113E+01	,180E+01	,168E+01		
SE-23-N- 1767-	943,33	18,403	46,108	-83,300	,210E+01	,317E+01	,181E+00	,103E+01	,237E+01		
SE-23-N- 1768-	908,49	18,338	46,062	-80,230	,324E+01	,459E+01	,752E+00	,922E-01	-,663E+00		
SE-23-N-	945,75	18,360	46,478	-96,810	,188E+01	,404E+01	,281E+01	,286E+01	,292E+01		
SE-23-N- 1740-	1017,79	18,294	46,524	-100,810	-,706E+00	,812E+00	,241E+01	,118E+01	,566E+00		
SE-23-I- 1236	746,74	17,942	45,999	-79,860	-,260E+00	-,610E+00	-,368E+00	,434E-01	-,867E-02		

COEFICIENTES DE GRAU = 1
 .166513E+04 -.395858E+01 -.363856E+02

COEFICIENTES DE GRAU = 2
 .104772E+06 -.580638E+03 -.426716E+04 .476996E+02 -.250860E+02 .506638E+02

COEFICIENTES DE GRAU = 3
 -.688285E+07 -.233665E+06 .538300E+06 -.619190E+04 .149581E+05 -.145749E+05 -.219594E+03 .393243E+03 -.316285E+03 .146449E+03

COEFICIENTES DE GRAU = 4
 .317588E+10 -.730903E+07 -.272472E+09 -.472367E+07 .419874E+07 .803127E+07 .420234E+05 .153812E+06 -.151135E+06 -.962589E+05
 .349134E+03 -.145937E+04 -.791605E+03 .129311E+04 .395191E+03

COEFICIENTES DE GRAU = 5
 .685460E+11 -.836319E+10 -.393024E+10 .548005E+09 .289237E+09 .105399E+09 -.117004E+08 -.216615E+08 -.794958E+06 -.201704E+07
 .849500E+05 .370595E+06 .249015E+06 -.546002E+05 .255422E+05 .274299E+04 -.721325E+04 .167195E+04 -.244872E+04 .780075E+03
 -.165004E+03

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PARAMETROS ESTADISTICOS	DESPAD	CORRX	CDEPX	PSTG	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.70631	88.45693	78.24629	78.24629	78.24629	-92.84321	-92.84321	0.00000	384.62894
GRAU= 2	3.21367	91.45763	83.64498	83.64498	83.64498	-92.84321	-92.84321	-0.00000	289.17422
GRAU= 3	2.25977	95.87135	91.91316	91.91316	91.91316	-92.84321	-92.84321	-0.00000	142.98394
GRAU= 4	1.89304	97.12104	94.32497	94.26614	94.26614	-92.84321	-92.84321	0.00000	100.34068
GRAU= 5	1.86829	97.19689	94.47236	96.18383	96.18383	-92.84321	-92.84322	0.00015	97.73452

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = 5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/1	1062.10	18.997	46.320	-87.460	.202E+01	-.266E+01	-.112E+01	.333E+00	.575E+00		
ONRJ 14/3	833.82	18.595	46.517	-98.330	-.421E+01	-.870E+01	.123F+01	.166E+01	.197E+01		
SE-23-U	1021.91	19.000	45.965	-95.240	-.108E+02	-.359E+01	-.374E+01	-.234E+01	-.229E+01		
SE-23-U- 1811*	1089.31	19.064	45.945	-97.520	-.136E+02	-.244E+01	.266E+01	.577E+00	.105E+01		
SE-23-O	996.12	18.757	45.908	-95.490	-.107E+02	-.782E+01	-.203E+01	-.197E+01	-.185E+01		
SE-23-O- 1809*	1037.32	18.945	45.909	-96.010	-.121E+02	-.356E+01	.181E+00	.139E+01	.802E+00		
SE-23-N- 1884*	864.06	18.924	46.415	-88.570	.259E+01	-.226E+01	.836E+00	.170E+01	.146E+01		
SE-23-N- 1883*	896.46	18.703	46.453	-96.650	-.393E+01	-.567E+01	-.249E+00	-.208E+01	-.211E+01		
SE-23-N- 1882*	999.52	18.527	46.510	-99.280	-.495E+01	.138E+01	.251E+00	.116E+01	.325E+00		
SE-23-N- 1868*	877.29	18.708	46.561	-97.380	-.317E+01	-.305E+00	-.831E+00	-.148E+01	-.998E+00		
SE-23-N- 1866*	851.99	18.833	46.597	-88.960	.518E+01	.693F+01	.525E+00	.139E+01	.109E+01		
SE-23-N- 476*	947.50	18.414	46.419	-94.540	-.958E+00	.532E+01	.598E+00	-.237E+01	-.229E+01		
SE-23-N- 477*	832.83	18.602	46.518	-100.100	-.600E+01	-.206E+01	-.603E+00	-.277E+00	-.469E+01		
SE-23-N- 478*	876.99	18.779	46.409	-91.730	.181E+01	-.424E+01	.855E+00	-.164E+01	-.246E+01		
SE-23-N- 873*	850.03	18.624	46.589	-97.940	-.294E+01	.431E+01	-.545E+00	-.587E+00	-.430E+00		
SE-23-N- 874*	1085.35	18.585	46.424	-101.300	-.844E+01	-.827E+01	-.381E+01	-.334E+01	-.294E+01		
SE-23-N- 875*	1041.09	18.583	46.335	-86.930	.469E+01	.202E+01	.584E+01	.622E+01	.618E+01		
SE-23-N- 876*	972.81	18.630	46.291	-88.570	.221F+01	-.232E+01	.642E+00	-.564E+00	-.628E+00		
SE-23-N- 877*	821.49	18.626	46.177	-83.840	.536E+01	.673E+01	-.523E+00	-.108E+01	-.936E+00		
SE-23-N- 878*	653.35	18.667	46.113	-79.930	.817E+01	.322E+01	.860E+00	-.284E+00	.999E+01		
SE-23-N- 879*	776.37	18.696	46.055	-76.090	.111E+02	.735E+01	.459E+01	.360E+01	.405E+01		
SE-23-N- 880*	876.52	18.761	46.131	-72.490	.154E+02	.105E+02	.643E+01	.365E+01	.346E+01		
SE-23-N- 881*	931.37	18.825	46.002	-77.220	.859E+01	.847E+01	.437E+01	.380E+01	.393E+01		
SE-23-N- 882*	1080.15	18.846	46.101	-82.540	.456E+01	.130E+01	-.449E+01	-.588E+01	-.613E+01		
SE-23-N- 883*	951.50	18.968	46.082	-86.540	-.281E+00	-.957E+01	-.540E+01	-.370E+01	-.376E+01		
SE-23-N- 1762*	1071.32	18.495	46.449	-97.790	-.417E+01	.180E+00	.389E+00	.156E+01	.107E+01		
SE-23-N- 1763*	1075.93	18.473	46.368	-94.590	-.200E+01	-.369E+00	.893E+01	.146E+01	.214E+01		
SE-23-N- 1764*	1065.83	18.546	46.236	-88.710	.168E+01	-.212E+01	-.111E+01	.613E+00	.661E+00		
SE-23-N- 1765*	1039.06	18.519	46.171	-93.030	-.342E+01	-.731E+01	-.737E+01	-.474E+01	-.498E+01		
SE-23-N- 1766*	971.16	18.507	46.116	-90.330	-.144E+01	-.518E+01	-.491E+01	-.187E+01	-.262E+01		
SE-23-N- 1767*	943.33	18.403	46.108	-83.300	.596E+01	.422E+01	.433E+01	.204E+01	.226E+01		
SE-23-T- 1862*	870.70	19.022	46.436	-88.010	.299E+01	-.108E+01	.750E+00	.195E+01	.229E+01		
SE-23-T- 1863*	905.22	19.067	46.481	-87.960	.346E+01	.353E+00	-.528E+01	-.180E+01	-.192E+01		
SE-23-T- 479*	1055.01	19.002	46.320	-89.020	.434E+00	-.416E+01	-.260E+01	-.117E+01	-.694E+00		
SE-23-T- 884*	937.73	19.007	46.093	-82.280	.397E+01	.482E+01	.590E+00	.236E+01	.235E+01		
SE-23-T- 885*	1016.08	19.038	46.154	-83.000	.396E+01	.347E+01	.106E+01	.217E+01	.253E+01		
SE-23-T- 886*	1134.06	19.097	46.166	-86.130	.720E+00	.171E+01	.230E+01	-.453E+00	-.120E+01		

COEFICIENTES DE GRAU = 1
 .473959E+03 .464505E+01 -.140691E+02

COEFICIENTES DE GRAU = 2
 -.120323E+06 -.150856E+04 .583942E+04 -.448097E+02 .699709E+02 -.774744E+02

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COEFICIENTES DE GRAU = 3
 -.567490E+08 .527376E+06 .346381E+07 -.451551E+04 -.191425E+05 -.709387E+05 -.170488E+03 .304158E+03 .839635E+02 .499336E+03

COEFICIENTES DE GRAU = 4
 .142183E+10 -.911397E+08 -.872291E+08 .463852E+07 .216214E+07 .242751E+07 -.109249E+06 -.678312E+05 -.194441E+05 -.328650E+05
 .137655E+04 .125964E+03 .660253E+03 -.378631E+02 .184141E+03

PARAMETROS ESTADISTICOS

	DESPAD	CORRZ	CDEPX	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESU
GRAU= 1	6.33991	45.79109	20.96824	20.96824	20.96824	-89.85946	-89.85946	0.00000	1487.19710
GRAU= 2	4.47539	77.85765	60.61813	60.61813	60.61813	-89.85946	-89.85946	0.00000	741.07672
GRAU= 3	2.96346	90.95731	82.73233	82.73233	82.73233	-89.85946	-89.85946	0.00000	324.93805
GRAU= 4	2.49457	93.68266	87.76441	87.76746	87.76746	-89.85946	-89.85946	0.00000	230.24576
GRAU= 5	2.56995	93.28117	87.01378	88.06582	88.06582	-89.85946	-89.85946	-0.00013	244.37106

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/1	1062.10	18.997	46.320	-87.460	.623F+00	.629E+00	-.184E+01	-.488E+00	-.433E+00		
ONRJ 07/40	1188.38	19.352	46.123	-88.540	-.184E+01	-.229E+01	-.189E+01	-.923E+00	-.898E+00		
ONRJ 07/37	1034.86	19.320	45.970	-83.370	.446E+01	.349E+01	.245E+01	.163E+01	.162E+01		
ONRJ 07/38	1157.18	19.300	46.005	-86.380	.139E+01	.664E+00	.863E+00	.203E+00	.159E+01		
ONRJ 07/39	1125.68	19.322	46.058	-85.800	.150E+01	.892E+00	.115E+01	.157E+01	.153E+01		
ONRJ 07/41	1170.59	19.432	46.188	-88.080	-.234E+01	-.257E+01	-.163E+01	.283E+00	.404E+00		
ONRJ 07/42	1208.47	19.450	46.295	-86.760	-.178E+01	-.159E+01	.129E+00	-.512E+00	-.653E+00		
ONRJ 07/43	1108.98	19.450	46.345	-83.430	.126E+01	.159E+01	.304E+01	.148E+01	.145E+01		
ONRJ 07/44	998.50	19.440	46.440	-81.500	.270E+01	.315E+01	.301E+01	.139E+01	.142E+01		
ONRJ 07/45	895.61	19.490	46.518	-83.370	.706E-02	.892E+00	.875E+00	-.961E+00	-.109E+01		
ONRJ 07/46	896.66	19.540	46.600	-85.200	-.266E+01	-.124E+01	-.122E+01	.619E+00	.595E+00		
SE-23-U	1054.98	19.323	45.960	-85.330	.255E+01	.151E+01	.125E+00	-.841E+00	-.985E+00		
SE-23-U- 1836	984.89	19.363	45.929	-82.990	.478E+01	.337E+01	-.168E+01	-.825E+00	-.725E+00		
SE-23-U	1021.91	19.000	45.965	-95.240	-.509E+01	-.381E+01	-.261E+01	-.342E+01	-.348E+01		
SE-23-U- 1811	1089.31	19.064	45.945	-97.520	.770E+01	.697E+01	-.362E+01	-.450E+01	-.424E+01		
SE-23-U- 1812	1031.70	19.102	45.961	-88.280	.117E+01	.158E+01	.487E+01	.355E+01	.347E+01		
SE-23-O- 1809	1037.32	18.945	45.909	-96.010	-.513E+01	-.320E+01	-.229E+01	.256E+01	.252E+01		
SE-23-N- 1884	864.06	18.924	46.415	-88.570	.522E+00	.106E+01	.574E+00	.297E+00	.260E+00		
SE-23-N- 883	951.50	18.968	46.082	-86.540	.315E+01	.442E+01	.106E+01	-.293E+01	-.276E+01		
SE-23-T- 1862	870.70	19.022	46.436	-88.010	-.797E+00	-.157E+01	-.342E+00	.710E+00	.712E+00		
SE-23-T- 1863	905.22	19.067	46.481	-87.960	-.133E+01	-.235E+01	-.389E+00	.988E-01	.485E-01		
SE-23-T- 1864	1142.51	19.111	46.520	-84.400	.168E+01	.512E+00	.243E+01	.194E+01	.190E+01		
SE-23-T- 479	1055.01	19.002	46.320	-89.020	-.973E+00	-.977E+00	-.341E+01	-.194E+01	-.183E+01		
SE-23-T- 480	1064.77	19.201	46.263	-91.670	-.471E+01	-.482E+01	-.578E+01	-.130E+01	-.140E+01		
SE-23-T- 481	1188.43	19.346	46.128	-89.430	-.272E+01	-.314E+01	-.268E+01	-.180E+01	-.170E+01		
SE-23-T- 689	895.58	19.483	46.519	-83.960	-.532E+00	.295E+00	-.383E-01	-.181E+01	-.196E+01		
SE-23-T- 690	953.15	19.387	46.536	-82.340	.167E+01	.180E+01	-.129E+01	-.568E+00	-.432E+00		
SE-23-T- 691	853.09	19.317	46.572	-79.630	.467E+01	.425E+01	.866E+00	.195E+01	.184E+01		
SE-23-T- 692	1174.22	19.169	46.569	-83.520	.186E+01	.610E+00	.179E+01	-.994E+00	-.984E+00		
SE-23-T- 693	1206.99	19.151	46.533	-87.720	-.200E+01	-.312E+01	-.229E+01	-.206E+01	-.197E+01		
SE-23-T- 884	937.73	19.007	46.093	-82.280	.707E+01	.803E+01	.609E+01	.289E+01	.271E+01		
SE-23-T- 885	1016.08	19.038	46.154	-83.000	.577E+01	.637E+01	.432E+01	.288E+01	.276E+01		
SE-23-T- 886	1134.06	19.097	46.166	-86.130	.215E+01	.245E+01	.153E+01	.212E+01	.204E+01		
SE-23-T- 887	1116.83	19.192	46.141	-88.250	-.512E+00	-.539E+00	-.124E-01	.127E+01	.137E+01		
SE-23-T- 888	1146.69	19.262	46.155	-93.530	-.637E+01	-.658E+01	-.600E+01	-.457E+01	-.449E+01		
SE-23-T- 1814	1154.89	19.266	46.015	-86.620	.133E+01	.805E+00	.189E+01	.961E+00	.102E+01		
SE-23-T- 1815	1069.09	19.317	46.051	-86.040	.133E+01	.714E+00	.987E+00	.117E+01	.121E+01		
SE-23-T- 1816	1170.56	19.425	46.190	-88.560	-.278E+01	-.301E+01	-.210E+01	-.369E+00	-.423E+00		
SE-23-T- 1817	1108.97	19.444	46.350	-84.050	.652E+00	.971E+00	.221E+01	.621E+00	.686E+00		
SE-23-T- 1818	1005.79	19.437	46.406	-82.740	.168E+01	.207E+01	.241E+01	.756E+00	.882E+00		
SE-23-T- 1819	896.64	19.542	46.600	-86.190	-.367E+01	-.222E+01	-.207E+01	-.161E+00	-.337E-01		

COEFICIENTES DE GRAU = 1
 -.497657E+03 .716765E+01 .590267E+01

COEFICIENTES DE GRAU = 2
 -.665268E+04 .115317E+04 -.205238E+03 -.645828E+01 -.193926E+02 .631989E+01

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COEFICIENTES DE GRAU = 3
 -.312198E+07 .138407E+06 .144446E+06 .209218E+05 -.233622E+05 .173991E+04 -.912041E+02 -.338672E+03 .393183E+03 -.670482E+02

COEFICIENTES DE GRAU = 4
 -.133468E+10 .196004E+09 .335596E+08 -.205846E+07 -.109985E+08 .120964E+07 .564254E+05 .189368E+05 .229726E+06 -.494134E+05
 -.135554E+04 .102589E+04 -.842440E+03 -.142126E+04 .415486E+03

COEFICIENTES DE GRAU = 5
 .779746E+09 -.271431E+09 .143239E+07 .327522E+08 .422266E+06 .145195E+06 -.164673E+07 -.115738E+06 -.822795E+05 .182338E+05
 .390501E+05 .769102E+04 -.219807E+04 .344761E+04 -.836541E+03 -.897682E+03 .986220E+03 -.889175E+03 .379022E+03 -.104994E+03
 .141981E+02

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAROB	YBARCP	SYMES	SYRESQ
GRAU= 1	3.23751	54.41611	29.61113	29.61113	29.61113	-86.71756	-86.71756	0.00000	429.74160
GRAU= 2	3.13147	58.43538	34.14693	34.14694	34.14694	-86.71756	-86.71756	0.00000	402.04940
GRAU= 3	2.59403	74.03454	54.81114	54.81114	54.81114	-86.71756	-86.71756	0.00000	275.88929
GRAU= 4	1.88543	87.25094	76.12727	76.00342	76.00342	-86.71756	-86.71756	-0.00000	145.74897
GRAU= 5	1.84579	87.81837	77.12066	76.31425	76.31425	-86.71756	-86.71756	0.00000	139.68407

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/41	1170.59	19.432	46.188	-88.080	-.433E+01	-.558E+01	.683E+00	-.452E+00	.143E+01		
ONRJ 07/42	1208.47	19.450	46.295	-86.760	-.323E+01	-.253E+01	-.383E+01	-.610E+00	-.502E+00		
ONRJ 07/43	1108.98	19.450	46.345	-83.430	-.227E+00	.133E+01	-.154E+01	.457E+01	.309E+01		
ONRJ 07/44	998.50	19.440	46.440	-81.500	.807E+00	.403E+01	.291E+01	-.426E+01	-.463E+01		
ONRJ 07/45	895.61	19.490	46.518	-83.370	-.239E+00	.222E+01	-.175E+01	.444E+01	.527E+01		
ONRJ 07/46	896.66	19.540	46.600	-85.200	-.127E+01	-.240E+00	.316E+01	-.571E+00	-.147E+01		
SE-23-U- 1970	689.65	19.874	45.922	-99.640	-.228E+01	.315E+01	.251E+01	-.120E+01	-.141E+01		
SE-23-U- 1907	982.45	19.705	45.912	-85.260	.764E+01	.398E+01	-.588E+01	.300E+00	.285E+00		
SF-23-B- 684	900.31	20.047	46.287	-94.470	.512E+01	.786E+01	-.101E+01	-.256E+00	-.199E+00		
SE-23-T- 1908	1131.14	19.710	46.006	-84.100	.831E+01	.576E+01	.609E+01	.302E+01	.418E+01		
SE-23-T	900.41	19.876	46.143	-135.750	-.398E+02	-.386E+02	-.269E+02	-.603E+01	-.559E+01		
SE-23-T- 483	1047.25	19.695	46.145	-83.610	.748E+01	.559E+01	.597E+01	.393E+01	.326E+01		
SE-23-T- 686	1250.21	19.854	46.301	-83.460	.109E+02	.995E+01	.139E+02	.255E+01	.201E+01		
SE-23-T- 687	1172.56	19.758	46.356	-83.960	.744E+01	.549E+01	.187E+01	-.542E+01	-.481E+01		
SE-23-T- 689	895.58	19.483	46.519	-83.960	-.103E+01	.167E+01	-.139E+01	.402E+00	.899E+00		
SE-23-T- 1816	1170.56	19.425	46.190	-88.560	-.499E+01	-.614E+01	.140E+01	.356E+00	-.973E+00		
SE-23-T- 1817	1108.97	19.444	46.350	-84.050	-.103E+01	.726E+00	-.123E+01	.120E+01	.214E+01		
SE-23-T- 1818	1005.79	19.437	46.406	-82.740	-.282E+00	.254E+01	.137E+01	-.236E+01	-.269E+01		
SE-23-T- 1819	896.64	19.542	46.600	-86.190	-.220E+01	-.125E+01	.265E+01	-.139E+01	-.102E+01		
SE-23-T- 1824	985.70	19.752	46.586	-94.100	-.438E+01	-.905E+01	-.979E+00	-.151E+01	-.875E+00		
SE-23-T- 1825	923.32	19.701	46.546	-86.770	.183E+01	-.126E+01	-.247E+01	.309E+01	.241E+01		
SE-23-T- 1826	1219.81	19.699	46.488	-85.430	.350E+01	.969E+00	-.544E+01	.691E+00	.248E+00		
SE-23-T- 1827	1163.73	19.803	46.286	-81.880	.112E+02	.996E+01	.120E+02	.616E+01	.523E+01		
SE-23-T- 1828	1113.41	19.753	46.234	-83.590	.846E+01	.720E+01	.834E+01	.926E+01	.911E+01		
SE-23-T- 1829	1124.96	19.638	46.059	-83.070	.706E+01	.375E+01	.119E+01	-.457E+01	-.576E+01		
SE-23-S- 1466	1165.82	19.713	46.291	-99.370	-.876E+01	-.104E+02	-.150E+02	-.125E+02	-.108E+02		
SF-23-C- 485	700.68	20.007	45.977	-106.260	-.569E+01	.199E+01	.395E+01	.114E+01	.114E+01		

COEFICIENTES DE GRAU = 1
 .132213E+03 -.268245E+02 .660957E+01

COEFICIENTES DE GRAU = 2
 .965335E+05 -.222776E+04 -.322291E+04 -.352051E+02 .775131E+02 .184019E+02

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COEFICIENTES DE GRAU = 3
 .535110E+08 .110934E+07 -.394234E+07 -.573288E+05 .887716E+03 .850206E+05 .986503E+03 -.241224E+02 .171114E+01 -.612925E+03

COEFICIENTES DE GRAU = 4
 -.447799E+11 .273822E+10 .270523E+10 -.474978E+08 -.137011E+09 -.585446E+08 .464662E+06 .145802E+07 .233924E+07 .511866E+06
 .322046E+04 -.155391E+05 -.580725E+04 -.152023E+05 -.114944E+04

COEFICIENTES DE GRAU = 5
 -.125504E+11 -.513905E+10 .246368E+10 .347404E+09 .217698E+09 -.120872E+09 -.698643E+07 -.148606E+08 -.243782E+07 .250963E+07
 .116226E+06 .115567E+06 .267199E+06 -.217586E+05 -.219700E+05 -.207040E+04 .197923E+04 -.313011E+04 -.651428E+03 .166406E+03
 .761826E+02

PARAMETROS ESTADISTICOS
 DESPAD

	CORRZ	CDEPX	PSTQ	SSRED	YBAR08	YBARCP	SYRES	SYRESQ
GRAU= 1	9.47957	50.40106	25.40267	25.40267	-89.05778	-89.05778	-0.00000	2426.28011
GRAU= 2	9.08403	56.12310	31.49802	31.49802	-89.05778	-89.05778	0.00000	2228.02878
GRAU= 3	7.64452	71.75538	51.48835	51.48834	-89.05778	-89.05778	0.00000	1577.84286
GRAU= 4	4.22498	92.29397	85.18178	82.96918	-89.05778	-89.05778	-0.00000	481.96312
GRAU= 5	4.00883	93.09094	86.65924	85.03680	-89.05778	-89.05778	-0.00037	433.90859

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:11.000.000 **** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-23-B- 678	1291,17	20,240	46,586	-117,490	-.534E+01	-.709E+01	.811E-01	.506E+00			
SF-23-B- 679	1356,31	20,243	46,446	-107,620	.396E+01	.154E+01	-.938E+01	-.201E+01			
SF-23-H- 680	808,78	20,245	46,366	-100,520	.107E+02	.797E+01	.803E+01	.154E+00			
SF-23-B- 684	900,31	20,047	46,267	-94,470	.218E+02	.233E+02	.514E+01	.346E+00			
SF-23-B- 1978	769,99	20,363	46,267	-110,470	-.270E+01	-.345E+01	-.529E+01	-.214E+01			
SF-23-B- 1979	827,25	20,384	46,155	-108,900	-.208E+01	-.226E+01	.299E+01	-.116E+01			
SF-23-B- 1973	951,14	20,466	46,541	-109,650	-.364E+01	.152E+01	-.294E+00	.152E+00			
SF-23-B- 1974	1329,59	20,406	46,504	-110,250	-.278E+01	-.101E+01	.798E+00	-.441E+00			
SF-23-B- 1975	916,73	20,346	46,483	-110,110	-.111E+01	-.173E+01	.355E+01	-.576E+00			
SF-23-B- 1976	763,01	20,327	46,366	-102,590	.649E+01	.493E+01	.189E+01	.379E+01			
SF-23-B- 1977	792,10	20,352	46,310	-107,640	.586E+00	-.438E+00	-.432E+01	.636E+00			
SF-23-B- 1965	816,15	20,419	46,040	-105,120	.365E+00	.168E+01	.153E+01	.288E+01			
SF-23-B- 1966	657,00	20,388	46,069	-109,230	-.176E+01	-.343E+01	.143E+01	-.206E+01			
SF-23-B- 1967	787,00	20,239	46,059	-112,680	-.235E+01	-.601E+01	.168E+01	.116E+01			
SF-23-B- 1968	748,00	20,192	46,047	-114,510	-.299E+01	-.654E+01	-.681E+00	.224E+00			
SF-23-B- 1969	805,21	20,120	46,018	-113,140	.197E+00	-.204E+01	-.516E+01	-.720E+00			
SE-23-T	1103,48	19,972	46,198	-147,180	-.293E+02	-.236E+02	-.384E+01	-.171E+00			
SF-23-C- 485	700,68	20,007	45,977	-106,260	.993E+01	.125E+02	.316E+01	.181E+00			
SF-23-C- 487	793,69	20,466	45,958	-103,880	.533E-01	.413E+01	-.130E+01	-.738E+00			

COEFICIENTES DE GRAU = 1
 -.483516E+03 .265146E+02 -.354833E+01

COEFICIENTES DE GRAU = 2
 -.571220E+05 .524899E+04 .164639E+03 -.135545E+03 .566075E+01 -.309100E+01

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COEFICIENTES DE GRAU = 3
 .385610E+09 .975531E+06 -.254221E+08 -.281111E+06 .204157E+06 .504548E+06 .204476E+03 .582519E+04 -.476637E+04 -.293639E+04

COEFICIENTES DE GRAU = 4
 .163852E+11 -.118323E+10 -.900022E+09 -.918017E+07 .847687E+08 .106684E+08 .137676E+07 -.140958E+07 -.121602E+07 .232317E+05
 -.142789E+05 -.479690E+04 .183932E+05 .339659E+04 -.495029E+03

PARAMETROS ESTADISTICOS

	DESPAD	CORRZ	CDEPZ	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	9.41137	37.03083	13.71283	13.71283	13.71283	-110.09000	-110.09000	0.00000	1682.90310
GRAU= 2	9.00020	45.92133	21.08769	21.08769	21.08769	-110.09000	-110.09000	0.00000	1539.06737
GRAU= 3	4.05300	91.65001	83.99725	83.99726	83.99726	-110.09000	-110.09000	0.00000	312.10988
GRAU= 4	1.46494	98.94916	97.90936	97.89658	97.89658	-110.09000	-110.09000	-0.00000	40.77487

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 28/9	879.66	20.863	46.385	-90.420	.823E+00	-.780E+00	-.136E+01	.696E+00			
ONRJ 28/10	830.78	20.972	46.115	-82.750	.517E+01	.520E+01	.468E+01	.500E+01			
SF-23-H	830.46	21.077	46.061	-90.190	-.583E+01	-.310E+01	-.276E+01	-.155E+01			
SF-23-H- 1069	989.13	21.018	46.516	-83.060	.264E+01	.329E+01	.499E+01	.267E+02			
SF-23-H- 488	766.02	20.615	46.050	-105.010	-.467E+01	-.676E+01	-.509E+01	.332E+01			
SF-23-H- 489	729.98	20.709	46.127	-92.420	.455E+01	.211E+01	.313E+01	-.515E+01			
SF-23-H- 490	879.25	20.878	46.391	-92.370	-.164E+01	-.311E+01	-.369E+01	-.985E+00			
SF-23-H- 520	712.33	20.822	46.466	-90.650	.190E+01	.598E+00	-.571E+02	-.187E+00			
SF-23-H- 521	757.79	20.791	46.471	-90.070	.355E+01	.224E+01	.174E+01	.444E+00			
SF-23-H- 522	793.73	20.774	46.514	-91.060	.306E+01	.215E+01	.165E+01	.531E+01			
SF-23-H- 523	748.46	20.747	46.553	-92.730	.228E+01	.186E+01	.145E+01	-.177E+00			
SF-23-H- 668	784.30	20.640	46.505	-97.090	.169E+01	.141E+01	.188E+01	-.818E+01			
SF-23-H- 1068	1040.31	20.955	46.460	-91.200	-.324E+01	-.369E+01	-.360E+01	.324E+00			
SF-23-H- 1070	1049.11	20.941	46.544	-89.430	-.113E+01	-.114E+01	-.103E+01	-.279E+00			
SF-23-H- 1071	1043.50	20.883	46.598	-92.640	-.241E+01	-.227E+01	-.272E+01	.153E+00			
SF-23-H- 1973	981.14	20.466	46.541	-109.650	-.493E+01	-.208E+01	-.134E+01	.577E+01			
SF-23-H- 1974	1329.59	20.406	46.504	-110.250	-.341E+01	.196E+00	.117E+00	-.299E+01			
SF-23-H- 1965	816.15	20.419	46.040	-105.120	.200E+01	.184E+01	.546E+00	.794E+02			
SF-23-C- 487	793.69	20.466	45.958	-103.880	.173E+01	.110E+01	.101E+01	-.123E+01			
SF-23-I- 1930	779.66	21.053	45.977	-87.470	-.215E+01	.950E+00	.393E+00	-.299E+02			

COEFICIENTES DE GRAU = 1
 -.883224E+03 .345257E+02 .154493E+01

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COEFICIENTES DE GRAU = 2
 -.353256E+05 .587033E+03 .124526E+04 -.312124E+02 .160284E+02 -.170566E+02

COEFICIENTES DE GRAU = 3
 .301453E+07 -.290239E+06 -.663021E+05 .102037E+05 .341834E+04 .682122E+03 -.109504E+03 -.739664E+02 -.367230E+01 -.449188E+01

COEFICIENTES DE GRAU = 4
 -.199886E+09 -.529637E+09 .254803E+09 .178532E+08 .183296E+08 -.123711E+08 -.325936E+06 -.333056E+06 -.246883E+06 .215174E+06
 .230890E+04 .289521E+04 .165472E+04 .128355E+04 -.130659E+04

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAR08	YBARCP	SYRES	SYRESQ
GRAU= 1	3.25797	91.09210	82.97770	82.97770	82.97770	-94.37300	-94.37300	-0.00000	212.28689
GRAU= 2	2.76970	93.64700	87.69761	87.69761	87.69761	-94.37300	-94.37300	-0.00000	153.42442
GRAU= 3	2.66149	94.14886	88.64008	88.64008	88.64008	-94.37300	-94.37300	0.00000	141.67083
GRAU= 4	0.31163	99.92200	99.84406	99.88187	99.88187	-94.37300	-94.37300	0.00000	1.94477

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 09/31	911.41	21.550	46.050	-53.660	-.215E+01	-.147E+01	.596E+00				
DNRJ 09/31A	878.45	21.548	46.045	-53.400	-.176E+01	-.112E+01	.214E+00				
DNRJ 09/32	879.76	21.430	45.945	-54.490	.533E+01	.461E+01	.847E+00				
DNRJ 28/10	830.78	20.972	46.115	-82.750	.657E+01	.769E+01	-.380E+01				
DNRJ 28/13	879.54	21.430	45.945	-54.540	.528E+01	.456E+01	.797E+00				
SF-23-4	830.46	21.077	46.061	-90.190	-.760E+01	-.831E+01	.137E+01				
SF-23-4- 501	878.37	21.548	46.040	-54.280	-.257E+01	-.193E+01	-.121E+01				
SF-23-4- 549	878.00	21.326	46.367	-61.620	.338E+01	.115E+01	-.172E+01				
SF-23-4- 550	879.00	21.355	46.400	-57.650	.534E+01	.439E+01	.247E+01				
SF-23-4- 551	1005.00	21.375	46.525	-66.730	-.556E+01	-.233E+01	-.605E+00				
SF-23-4- 1069	989.13	21.018	46.516	-83.060	.164E+01	.580E+00	-.982E+01				
SF-23-3- 1068	1040.31	20.955	46.460	-91.200	-.213E+01	-.303E+01	-.931E+00				
SF-23-3- 1070	1049.11	20.941	46.544	-89.430	.215E+00	.631E+00	.736E+00				
SF-23-1- 1930	779.66	21.053	45.977	-87.470	-.297E+01	-.644E+00	-.652E+00				
SF-23-1	565.64	21.365	45.976	-67.000	-.300E+01	-.477E+01	-.178E+01				

COEFICIENTES DE GRAU = 1
 -.165050E+04 .658310E+02 .391613E+01

COEFICIENTES DE GRAU = 2
 -.177451E+06 .473133E+04 .546779E+04 -.577565E+02 -.479000E+02 -.480972E+02

COEFICIENTES DE GRAU = 3
 .813383E+08 -.601392E+07 -.251835E+07 .153219E+06 .119593E+06 .270181E+05 -.117128E+04 -.170159E+04 -.513090E+03 -.116125E+03

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PARAMETROS ESTATISTICOS	DESPAD	CORRZ	CDEPZ	PSTQ	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.22394	95.96453	92.09191	92.09191	92.09191	-69.83133	-69.83133	0.00000	267.62462
GRAU= 2	3.97160	96.44094	93.00855	93.00855	93.00855	-69.83133	-69.83133	0.00000	236.60367
GRAU= 3	1.14164	99.71074	99.42231	99.42231	99.42231	-69.83133	-69.83133	0.00000	19.55005

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-3- 1638	676.31	17.849	47.090	-81.390	.981E+00	.197E+01	.778E+00	.131E+00	-.385E+00		
SE-23-3- 1639	616.28	17.776	47.098	-81.180	.989E+00	.258E+01	.275E+01	.921E+00	.172E+01		
SE-23-3- 1640	616.78	17.705	47.046	-85.730	-.288E+01	-.202E+01	-.933E+00	-.321E+00	-.138E+01		
SE-23-3- 1641	645.59	17.614	47.015	-85.320	-.210E+01	-.781E+00	.123E+01	.152E+01	.322E+01		
SE-23-3- 1661	635.50	17.892	47.037	-80.310	.288E+01	.267E+01	.147E+01	.234E+01	.345E+01		
SE-23-3- 1662	899.50	17.869	47.010	-63.150	.415E+00	-.349E+00	-.129E+01	-.442E+01	.760E+01		
SE-23-3- 1683	683.50	17.983	47.094	-83.100	-.641E+00	.721E+00	-.123E+01	-.184E+01	-.334E+01		
SE-23-4- 1226	631.99	17.403	46.764	-85.180	.149E+01	.253E+01	.288E+00	.151E+01	.225E+01		
SE-23-4- 1227	555.24	17.473	46.660	-68.420	-.158E+00	-.106E+01	-.162E+01	-.290E+01	-.335E+01		
SE-23-4- 1228	543.07	17.536	46.536	-90.700	-.554E+00	-.142E+01	.163E+00	.146E+01	.221E+00		
SE-23-4- 1229	556.09	17.620	46.482	-92.220	-.119E+01	-.156E+01	.958E+01	-.315E+00	.118E+01		
SE-23-4- 1875	637.99	17.859	46.809	-80.580	.591E+01	.316E+01	.299E+01	.219E+01	.323E+01		
SE-23-4- 1876	644.50	17.870	46.727	-84.790	.292E+01	.493E+00	.520E+00	.587E+02	.206E+01		
SE-23-4- 1877	556.71	17.855	46.661	-87.160	.150E+01	-.508E+00	-.707E+00	-.443E+00	-.476E+00		
SE-23-4- 1878	532.42	17.879	46.603	-92.710	-.317E+01	-.407E+01	-.421E+01	-.295E+01	-.372E+01		
SE-23-4- 1879	575.23	17.905	46.522	-88.810	.194E+01	.314E+01	.270E+01	.382E+01	.372E+01		
SE-23-4- 1880	577.13	17.909	46.463	-92.490	-.874E+00	.201E+01	.894E+00	-.175E+01	-.310E+01		
SE-23-4- 1881	605.84	17.979	46.468	-96.800	-.518E+01	-.878E+00	-.108E+01	.147E+00	.115E+01		
SE-23-4- 1642	919.75	17.616	46.980	-91.340	-.761E+01	-.718E+01	-.584E+01	-.482E+01	-.663E+01		
SE-23-4- 1643	605.72	17.521	46.960	-84.460	-.541E+00	.119E+01	.272E+01	.282E+01	.375E+01		
SE-23-4- 1651	544.70	17.456	46.835	-84.800	.691E+00	.161E+01	.652E+00	-.167E+00	.986E+01		
SE-23-4- 1652	913.79	17.450	46.903	-90.650	-.617E+01	-.408E+01	-.409E+01	-.342E+01	-.588E+01		
SE-23-4- 1653	597.82	17.488	46.850	-82.280	.322E+01	.349E+01	.302E+01	.182E+01	.330E+01		
SE-23-4- 1654	561.13	17.534	46.874	-82.650	.255E+01	.229E+01	.233E+01	.152E+01	.223E+01		
SE-23-4- 1655	557.85	17.503	46.866	-82.230	.316E+01	.171E+01	.163E+01	.133E+01	.181E+01		
SE-23-4- 1656	787.61	17.757	46.910	-88.500	-.359E+01	-.576E+01	-.623E+01	-.456E+01	-.500E+01		
SE-23-4- 1657	597.26	17.695	46.821	-82.390	.375E+01	.990E+00	.414E+00	.223E+00	-.183E+01		
SE-23-4- 1658	659.38	17.824	46.866	-80.050	.558E+01	.293E+01	.240E+01	.263E+01	.225E+01		
SE-23-4- 1659	665.49	17.940	46.935	-82.130	.260E+01	.115E+01	.129E+01	.406E+00	.475E+00		
SE-23-4- 1660	611.20	17.927	46.995	-83.150	.689E+00	-.108E+00	-.781E+00	-.619E+00	.159E+00		
SE-23-4- 1744	671.29	18.027	46.902	-87.620	-.251E+01	-.315E+01	-.415E+00	-.225E+01	-.425E+01		
SE-23-4- 1744	665.09	18.077	47.005	-86.280	-.242E+01	-.147E+01	.962E+00	.161E+01	.235E+01		
SE-23-4- 1635	707.73	18.047	47.077	-84.640	-.187E+01	-.243E+00	-.865E+00	-.111E+01	.637E+00		

COEFICIENTES DE GRAU = 1
 -.753373E+03 -.106687E+01 .146482E+02

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COEFICIENTES DE GRAU = 2
 -.808582E+05 -.122141E+03 .348764E+04 -.349092E+02 .290873E+02 -.426588E+02

COEFICIENTES DE GRAU = 3
 -.616307E+07 .344410E+06 .262231E+06 .493017E+04 -.154617E+05 -.205874E+04 -.110866E+03 .194717E+02 .190396E+03 -.978387E+01

COEFICIENTES DE GRAU = 4
 .249501E+10 .180782E+09 -.282406E+09 -.241964E+07 -.974168E+07 .109128E+08 .489308E+05 .475970E+05 .189904E+06 -.179634E+06
 -.772389E+03 .123770E+03 -.576101E+03 -.120621E+04 .107479E+04

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CEP%	PSTG	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.11082	67.22492	45.19190	45.19190	45.19190	-85.86697	-85.86697	0.00000	319.34809
GRAU= 2	2.61386	78.30102	61.31050	61.31050	61.31050	-85.86697	-85.86697	-0.00000	225.43053
GRAU= 3	2.33618	83.12002	69.08937	69.08937	69.08937	-85.86697	-85.86697	-0.00000	180.10569
GRAU= 4	2.07898	86.90281	75.52098	75.39683	75.39683	-85.86697	-85.86697	-0.00000	142.63089
GRAU= 5	2.90816	72.18068	52.10050	83.10193	83.10193	-85.86697	-85.86697	0.00005	279.09405

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU *** ESCALA FINAL DO MAPA 1:1.000.000 *** (RED. 4X)

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VALORES RESIDUAIS

CGDIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 14/3	633.82	18.595	46.517	-98.330	.242E+01	-.419E+01	-.350E+01	-.949E+00	-.211E+01		
SE-23-3-	683.50	17.953	47.094	-83.100	.280E+01	-.576E+00	-.190E+01	.163E+01	-.111E+01		
SE-23-4- 1879	575.23	17.905	46.522	-88.810	.551E+01	.213E+01	.341E+01	.319E+00	-.667E+00		
SE-23-4- 1880	577.13	17.909	46.463	-92.490	.280E+01	.766E+00	-.371E+00	-.148E+01	-.105E+01		
SE-23-4- 1881	605.84	17.979	46.468	-96.800	-.938E+00	-.330E+00	-.125E+01	.258E+01	.322E+01		
SE-23-4- 1659	665.49	17.940	46.935	-82.130	.591E+01	.756E+01	.784E+00	-.323E+00	.214E+01		
SE-23-4- 1660	611.20	17.927	46.995	-83.150	.381E+01	-.264E+01	-.304E+01	.461E+00	-.114E+01		
SE-23-4- 1682	999.52	18.527	46.510	-99.280	.957E+00	-.216E+01	-.172E+01	.430E+00	-.148E+01		
SE-23-4- 1874	992.53	18.308	46.516	-103.560	-.544E+01	-.219E+01	-.198E+01	-.184E+01	.286E+00		
SE-23-4- 1873	987.89	18.230	46.486	-105.720	-.784E+01	-.360E+01	-.391E+01	-.380E+01	-.346E+01		
SE-23-4- 1872	819.96	18.131	46.485	-104.450	-.746E+01	-.368E+01	-.400E+01	-.950E+00	-.203E+01		
SE-23-4-	671.29	18.027	46.902	-87.820	.155E+01	-.577E+00	.480E+00	-.132E+01	-.156E+01		
SE-23-4-	601.60	18.218	46.809	-83.740	-.112E+01	.758E+00	.153E+01	.122E+01	-.816E+01		
SE-23-4-	947.50	18.414	46.419	-94.540	.811E+01	.819E+01	.713E+01	.197E+00	-.143E+01		
SE-23-4-	922.79	18.471	46.889	-94.520	-.843E+00	-.174E+01	-.326E+01	-.380E+01	-.228E+01		
SE-23-4-	866	18.398	46.929	-92.110	.223E+00	.145E+01	.488E+00	.236E+01	.268E+01		
SE-23-4-	870	18.275	46.873	-92.950	-.838E+00	.124E+01	.115E+01	.129E+01	.288E+00		
SE-23-4-	871	18.561	46.732	-79.230	.178E+02	.126E+02	.112E+02	.460E+01	.287E+01		
SE-23-4-	874	18.585	46.424	-101.300	.838E+00	-.456E+01	-.378E+01	-.830E+00	.222E+01		
SE-23-4-	1057.01	18.474	46.913	-92.890	.423E+00	-.353E+00	-.184E+01	-.198E+01	-.631E+00		
SE-23-4-	1066.82	18.471	46.692	-98.890	-.208E+01	-.368E+01	-.415E+01	-.455E+01	-.122E+01		
SE-23-4-	1020.67	18.294	46.534	-101.650	-.394E+01	-.728E+00	-.275E+00	.688E+00	.107E+01		
SE-23-4-	1071.32	18.495	46.449	-97.790	.313E+01	.191E+01	.195E+01	.109E+01	-.764E+00		
SE-23-4-	945.75	18.360	46.478	-96.810	.239E+01	.518E+01	.488E+01	.282E+01	.332E+01		
SE-23-4-	1017.79	18.294	46.524	-100.810	-.295E+01	.381E+00	.715E+00	.137E+01	.165E+01		
SE-23-4-	984.23	18.255	46.604	-100.930	-.469E+01	-.184E+01	-.698E+00	.138E+01	.183E+01		
SE-23-4-	814.21	18.279	46.725	-99.220	-.469E+01	-.263E+01	-.183E+01	-.101E+01	-.112E+01		
SE-23-4-	801.94	18.110	46.864	-89.330	.141E+01	.172E+01	.281E+01	.133E+01	-.103E+01		
SE-23-4-	1002.17	18.214	47.086	-90.210	-.208E+01	.117E+01	.162E+01	-.630E+00	.275E+01		
SE-23-4-	863	18.580	47.100	-90.090	.122E+01	-.768E+00	.138E+01	-.166E+00	.192E+01		
SE-23-4-	867	18.429	47.027	-95.130	-.405E+01	-.249E+01	-.260E+01	.152E+01	.414E+00		
SE-23-4-	868	18.345	47.012	-92.650	-.210E+01	.542E+00	.331E+00	.296E+01	.263E+01		
SE-23-4-	869	18.389	47.013	-97.580	-.666E+01	-.452E+01	-.479E+01	-.126E+01	-.274E+01		
SE-23-4-	1744	18.077	47.005	-86.280	.192E+01	.164E+01	.151E+01	.596E+00	.248E+01		
SE-23-4-	1745	18.195	47.007	-92.420	-.317E+01	-.878E+00	-.961E+00	-.190E+01	-.262E+01		
SE-23-4-	1746	18.227	47.092	-88.720	-.550E+00	.288E+01	.348E+01	.132E+01	.989E+00		
SE-23-4-	1634	18.142	47.097	-89.200	-.189E+01	.219E+00	.329E+00	-.301E+01	-.130E+01		
SE-23-4-	1635	18.047	47.077	-84.640	.213E+01	.129E+01	.645E+00	.385E+00	.168E+01		

COEFICIENTES DE GRAU = 1
 -.672296E+03 -.920559E+01 .159668E+02

COEFICIENTES DE GRAU = 2
 -.385630E+05 -.174876E+04 .231339E+04 .732283E+02 -.199594E+02 -.206489E+02

COEFICIENTES DE GRAU = 3
 .142458E+08 -.242565E+06 -.819565E+06 -.549557E+03 .107669E+05 .154381E+05 -.718799E+01 .217391E+02 -.123832E+03 -.939972E+02

COEFICIENTES DE GRAU = 4
 .261705E+10 .473618E+08 -.241894E+09 .176488E+07 -.443673E+07 .860704E+07 -.107012E+06 .497015E+05 .755549E+05 -.132287E+06

COEFICIENTES DE GRAU = 5
 .230220E+11 -.401608E+10 -.814425E+09 .334118E+09 .843061E+08 .146692E+08 -.141814E+08 -.480946E+07 -.885668E+06 -.111715E+06
 .149329E+06 .371447E+06 -.113922E+06 .429191E+05 -.398170E+04 -.180371E+04 .343846E+03 -.423241E+04 .245603E+04 -.710648E+03
 .768545E+02

PARAMETROS ESTADISTICOS
 DESPAD

	CORR%	COEF%	PSTQ	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.56694	71.15403	50.62896	50.62896	-93.66500	-93.66500	0.00000	792.56234
GRAU= 2	3.33061	85.87290	73.74155	73.74155	-93.66500	-93.66500	0.00000	421.53179
GRAU= 3	3.21987	86.86691	75.45860	75.45860	-93.66500	-93.66500	-0.00000	393.96756
GRAU= 4	1.98150	95.23961	90.70583	90.81133	-93.66500	-93.66500	-0.00000	149.20107
GRAU= 5	1.83587	95.92800	92.02181	95.85663	-93.66500	-93.66500	-0.00002	128.07542

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/5	863.95	18.942	46.098	-76.630	-.236E+01	-.456E-01	+.112E+01	-.200E+01	+.339E+01		
ONRJ 14/3	833.82	18.595	46.417	-98.330	+.346E+01	-.380E+01	+.259E+01	+.266E+01	+.307E+01		
ONRJ 14/4	871.00	18.830	46.420	-87.700	+.311E+01	-.742E+01	+.223E+01	+.946E+00	+.265E+00		
SE-23-N- 1865	894.41	18.956	46.463	-86.470	+.716E+01	+.126E+02	+.115E+02	+.326E+01	+.565E+01		
SE-23-N- 1884	864.06	18.924	46.415	-88.570	+.399E+01	+.660E+01	+.415E+01	+.154E+01	+.628E+00		
SE-23-N- 354	882.35	18.867	46.929	-82.970	+.152E+02	+.132E+02	+.293E+01	+.324E+00	+.601E+00		
SE-23-N- 1883	896.46	18.703	46.453	-96.650	+.465E+01	+.881E+00	+.523E+00	+.422E+01	+.306E+01		
SE-23-N- 1882	899.52	18.527	46.410	-99.280	+.180E+01	+.231E+01	+.359E+01	+.220E+01	+.171E+01		
SE-23-N- 1868	877.29	18.708	46.461	-97.380	+.734E+01	+.947E+01	+.167E+01	+.514E+00	+.599E+00		
SE-23-N- 1867	830.26	18.761	46.409	-90.760	+.345E+01	+.760E+01	+.942E+00	+.140E+00	+.275E+00		
SE-23-N- 1866	851.99	18.533	46.497	-88.900	+.409E+01	+.743E+01	+.134E+01	+.405E+01	+.285E+01		
SE-23-N- 355	1164.33	18.742	46.958	-81.350	+.889E+00	+.752E+00	+.990E+01	+.538E+01	+.481E+01		
SE-23-N- 476	947.50	18.414	46.419	-94.540	+.856E+01	+.140E+02	+.750E+00	+.259E+00	+.435E+00		
SE-23-N- 477	832.83	18.602	46.416	-100.100	+.851E+01	+.585E+01	+.987E+00	+.916E+00	+.108E+01		
SE-23-N- 478	876.99	18.779	46.409	-91.730	+.180E+01	+.247E+01	+.825E+00	+.581E+00	+.395E+00		
SE-23-N- 701	870.13	18.960	46.474	-79.820	+.855E+00	+.661E+01	+.640E+01	+.200E+01	+.940E+00		
SE-23-N- 702	828.17	18.887	46.703	-78.090	+.828E+01	+.211E+01	+.310E+01	+.056E+01	+.544E+01		
SE-23-N- 703	905.04	18.836	46.793	-54.550	+.270E+02	+.205E+02	+.133E+02	+.561E+01	+.592E+01		
SE-23-N- 704	912.26	18.825	46.820	-51.600	+.299E+02	+.236E+02	+.151E+02	+.355E+01	+.796E+01		
SE-23-N- 865	922.79	18.471	46.889	-94.520	+.126E+01	+.612E+01	+.673E+01	+.198E+01	+.290E+00		
SE-23-N- 871	1097.63	18.561	46.732	-79.230	+.133E+02	+.540E+01	+.114E+02	+.555E+01	+.744E+01		
SE-23-N- 872	861.93	18.619	46.465	-93.840	+.229E+01	+.905E+01	+.123E+01	+.734E+01	+.563E+01		
SE-23-N- 873	850.03	18.674	46.469	-97.940	+.834E+01	+.950E+01	+.622E+01	+.208E+01	+.205E+01		
SE-23-N- 874	1085.35	18.589	46.424	-101.300	+.655E+01	+.248E+01	+.727E+01	+.555E+01	+.504E+01		
SE-23-N- 1759	1057.01	18.474	46.413	-92.690	+.150E+00	+.373E+01	+.565E+01	+.377E+01	+.213E+01		
SE-23-N- 1760	1066.82	18.471	46.492	-98.080	+.241E+01	+.108E+02	+.280E+01	+.408E+01	+.429E+01		
SE-23-N- 1762	1071.32	18.495	46.449	-97.790	+.185E+01	+.568E+01	+.530E+00	+.952E+00	+.601E+00		
SE-23-N- 1754	1272.69	18.934	46.475	-42.780	+.338E+02	+.293E+02	+.191E+02	+.122E+02	+.106E+02		
SE-23-N- 1752	1260.54	18.728	46.464	-80.300	+.391E+01	+.970E+00	+.107E+02	+.123E+02	+.118E+02		
SE-23-N- 863	963.36	18.942	46.098	-78.070	+.381E+01	+.155E+01	+.271E+01	+.369E+01	+.425E+01		
SE-23-T- 1862	874.70	19.022	46.436	-88.010	+.740E+01	+.145E+01	+.357E+01	+.286E+01	+.222E+01		
SE-23-T- 1883	905.22	19.067	46.481	-87.960	+.969E+01	+.478E+01	+.594E+00	+.486E+01	+.260E+01		
SE-23-T- 695	883.73	19.075	46.402	-58.490	+.142E+02	+.746E+01	+.300E+00	+.231E+01	+.203E+01		
SE-23-T- 696	919.97	19.057	46.417	-53.550	+.195E+02	+.131E+02	+.455E+01	+.136E+01	+.163E+01		
SE-23-T- 700	932.66	19.005	46.464	-51.160	+.368E+01	+.917E+01	+.875E+01	+.124E+01	+.747E+00		
SE-23-T- 346	922.90	19.015	47.447	-91.750	+.210E+02	+.151E+02	+.725E+00	+.171E+01	+.150E+01		
SE-23-M- 344	874.43	18.961	47.451	-90.560	+.179E+02	+.113E+02	+.324E+00	+.147E+01	+.207E+01		
SE-23-M- 705	960.50	18.894	47.473	-95.360	+.206E+02	+.117E+02	+.115E+00	+.194E+01	+.333E+01		
SE-23-M- 863	1007.31	18.580	47.100	-90.090	+.430E+01	+.786E+01	+.120E+02	+.925E+00	+.158E+01		
SE-23-M- 864	1061.68	18.660	47.020	-85.770	+.165E+01	+.319E+01	+.311E+01	+.402E+01	+.526E+01		
SE-23-M- 867	856.84	18.429	47.027	-95.130	+.266E+01	+.185E+01	+.177E+01	+.314E+01	+.873E+00		
SE-23-M- 1753	1022.58	18.950	47.018	-85.020	+.113E+02	+.771E+01	+.525E+01	+.519E+01	+.544E+01		
SE-23-M- 1751	1082.60	18.670	47.008	-86.850	+.280E+01	+.552E+00	+.735E+01	+.339E+00	+.116E+01		

COEFICIENTES DE GRAU = 1
 -.154158E+04 .364558E+02 .165277E+02

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COEFICIENTES DE GRAU = 2
 -.316819E+06 -.966123E+03 .139096E+05 .854921E+01 .144904E+02 -.151512E+03

COEFICIENTES DE GRAU = 3
 .117033E+09 -.149918E+07 -.691745E+07 .585036E+04 .594969E+05 .136206E+06 .489368E+02 -.135091E+03 -.562216E+03 -.897191E+03

COEFICIENTES DE GRAU = 4
 .591148E+10 .304372E+09 -.625265E+09 .114882E+07 -.204564E+08 .240869E+08 .309309E+05 -.544140E+05 .472091E+06 -.405577E+06
 .725688E+03 -.102490E+04 .151737E+04 -.377586E+04 .254234E+04

COEFICIENTES DE GRAU = 5
 .543281E+10 .128584E+10 -.978458E+09 -.150227E+09 .167444E+08 .322430E+08 .702222E+07 .122572E+07 -.124448E+07 -.361757E+06
 -.705620E+06 .302232E+05 -.455933E+05 .334402E+05 -.153170E+04 .389896E+04 -.341644E+04 .240869E+04 -.628360E+03 -.730631E+02
 .228395E+02

PARAMETROS ESTADISTICOS		CORR1	COEF2	PSTQ	SSRED	YBARQB	YBARCP	SYRES	SYRESQ
CESPAD									
GRAU=	1	11.49892	59.21886	35.06873	35.06873	-84.92116	*84.92116	0.00000	5685.68100
GRAU=	2	9.91688	71.90715	51.70638	51.70638	-84.92116	*84.92116	0.00000	4228.81193
GRAU=	3	6.57136	88.76622	78.79442	78.79442	-84.92116	*84.92116	0.00000	1856.85866
GRAU=	4	4.48856	94.92441	90.10643	90.27365	-84.92116	*84.92116	0.00000	866.32670
GRAU=	5	4.14182	95.69531	91.57593	90.86563	-84.92116	*84.92117	0.00022	737.65024

VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BORG	GRAU 1	GRAU 2	GRAU 3	GRAU 4	GRAU 5	GRAU 6	GRAU 7
ONRJ 14/5	963.95	18.942	46.998	-76.630	.450E+01	-.175E+01	-.844E+00	.150E+00	-.101E+00		
ONRJ 07/44	998.50	19.440	46.440	-81.530	.333E+01	.611E+01	-.191E+01	-.572E+01	-.455E+01		
ONRJ 07/45	896.61	19.490	46.518	-83.370	.317E+01	.117E+01	.223E+00	.161E+01	.195E+01		
ONRJ 07/46	896.66	19.500	46.600	-85.200	.308E+01	-.230E+01	.883E+00	-.318E+00	-.613E+00		
ONRJ 07/47	984.51	19.530	46.700	-84.460	.462E+01	-.107E+01	.425E+01	.496E+01	.467E+00		
ONRJ 07/48	1025.69	19.545	46.778	-87.010	.313E+01	-.208E+01	.186E+01	-.318E+00	-.628E+00		
ONRJ 07/49	1062.54	19.555	46.840	-87.130	.381E+01	-.128E+00	.185E+01	.213E+01	.246E+01		
ONRJ 07/50	997.48	19.590	46.900	-89.720	.246E+01	.477E+01	-.309E+00	.895E+00	.422E+00		
ONRJ 07/51	905.11	19.595	47.015	-96.300	-.362E+01	.352E+00	-.277E+01	-.122E+01	-.113E+01		
ONRJ 07/52	971.37	19.545	47.100	-97.890	-.455E+01	.525E+01	.308E+01	-.661E+00	-.609E+00		
SE-23-N- 1865	894.41	18.956	46.603	-86.470	-.842E+01	-.115E+02	-.147E+02	-.506E+01	-.561E+01		
SE-23-N- 1884	864.06	18.924	46.415	-88.570	-.136E+02	-.195E+01	.395E+01	.453E+01	.510E+01		
SE-23-N- 701	870.13	18.960	46.674	-79.320	-.158E+01	-.494E+01	-.867E+01	-.926E+00	-.127E+01		
SE-23-N- 1754	1272.69	18.934	46.875	-82.780	.370E+02	.292E+02	.218E+02	.125E+01	.178E+01		
SE-23-N	963.36	18.942	46.998	-76.070	.306E+01	-.319E+01	-.224E+01	-.169E+01	-.918E+00		
SE-23-T- 1862	870.70	19.922	46.436	-83.010	-.110E+02	-.777E+00	.246E+01	-.676E+01	-.769E+01		
SE-23-T- 1863	905.22	19.907	46.461	-87.960	-.960E+01	-.256E+01	.400E+00	-.217E+01	-.225E+01		
SE-23-T- 1864	1142.51	19.111	46.520	-84.490	-.486E+01	-.168E+00	.262E+01	.311E+01	.357E+01		
SE-23-T- 284	868.81	19.464	46.952	-90.670	-.305E+00	.977E+00	-.866E+00	.305E+01	.370E+01		
SE-23-T- 285	991.66	19.560	46.968	-93.770	-.146E+01	-.220E+00	-.254E+01	.123E+00	.122E+01		
SE-23-T- 383	997.40	19.598	46.904	-91.350	.103E+01	-.138E+01	-.195E+01	-.456E+00	-.189E+01		
SE-23-T- 384	1048.97	19.594	46.907	-89.510	.282E+01	.648E+00	-.149E+01	.121E+01	.109E+01		
SE-23-T- 689	895.58	19.483	46.519	-83.960	.244E+01	.679E+00	.226E+01	.403E+01	.165E+00		
SE-23-T- 690	953.15	19.387	46.536	-82.340	.246E+01	.279E+01	.544E+01	-.310E+01	-.385E+01		
SE-23-T- 691	853.09	19.317	46.572	-79.630	.423E+01	.476E+01	.885E+01	.393E+01	.353E+01		
SE-23-T- 692	1174.22	19.160	46.569	-83.520	-.245E+01	-.306E+00	.246E+01	.486E+01	.454E+01		
SE-23-T- 693	1206.99	19.151	46.533	-87.720	-.733E+01	-.347E+01	-.597E+00	-.109E+01	-.517E+00		
SE-23-T- 694	1197.69	19.115	46.688	-81.930	-.661E+00	-.247E+01	-.424E+01	.946E+00	.221E+01		
SE-23-T- 695	883.73	19.075	46.802	-58.490	.232E+02	.192E+02	.126E+02	.266E+01	.300E+01		
SE-23-T- 696	919.97	19.057	46.817	-53.550	.279E+02	.235E+02	.163E+02	.288E+01	.260E+01		
SE-23-T- 697	882.30	19.429	46.882	-83.680	.328E+00	.801E+00	-.133E+01	.263E+01	.962E+00		
SE-23-T- 698	824.83	19.300	46.843	-90.850	-.462E+01	-.631E+01	-.846E+01	-.678E+01	-.788E+01		
SE-23-T- 699	961.58	19.173	46.676	-86.740	-.452E+01	-.586E+01	-.571E+01	.454E+01	.957E+00		
SE-23-T- 700	932.66	19.805	46.664	-81.180	-.220E+01	-.451E+01	-.734E+01	.472E+00	-.239E+00		
SE-23-T- 1618	1005.79	19.437	46.406	-82.740	.171E+01	.631E+01	-.693E+01	.430E+00	.653E+00		
SE-23-T- 1619	896.64	19.542	46.600	-86.190	.213E+01	-.340E+01	-.195E+00	-.101E+01	-.128E+01		
SE-23-T- 1620	1017.09	19.547	46.720	-86.290	.331E+01	-.271E+01	.230E+01	-.161E+01	-.158E+01		
SE-23-T- 1621	907.69	19.569	46.829	-80.230	.449E+01	.350E+00	.271E+01	.246E+01	.292E+01		
SE-23-T- 1773	931.54	19.325	46.872	-90.250	-.327E+01	-.439E+01	-.608E+01	-.495E+01	-.558E+01		
SE-23-T- 1755	1254.49	19.118	46.682	-81.990	-.731E+00	-.236E+01	-.379E+01	.183E+01	.187E+01		
SE-23-T- 1756	1046.75	19.512	46.824	-88.650	.134E+01	-.220E+01	.112E+00	.159E+01	.267E+01		
SE-23-T- 1757	994.21	19.472	46.720	-90.700	-.250E+01	-.683E+01	-.188E+01	-.361E+01	-.294E+01		
SE-23-T- 1758	1060.02	19.493	46.934	-96.770	-.405E+01	-.377E+01	-.538E+01	-.131E+01	-.124E+01		
SE-23-S- 277	971.41	19.541	47.100	-98.960	-.579E+01	.410E+01	.204E+01	-.146E+01	-.160E+01		
SE-23-S- 278	965.73	19.394	47.086	-91.720	-.133E+01	.700E+01	.774E+01	.697E+01	.655E+01		
SE-23-S- 282	810.25	19.321	47.050	-90.810	-.214E+01	.331E+01	.241E+01	-.100E+00	.332E+00		
SE-23-S- 283	897.20	19.373	47.007	-90.410	-.120E+01	.258E+01	.356E+00	.163E+01	-.279E+00		
SE-23-S- 346	922.90	19.015	47.047	-91.750	-.677E+01	-.109E+02	-.615E+01	.319E+00	-.140E+01		
SE-23-S- 351	839.21	19.118	47.073	-93.330	-.819E+01	-.586E+01	-.846E+00	.128E+01	.160E+01		

SE-23-S-	352	780.28	19.199	47.379	-95.960	-.925E+01	-.446E+01	-.796E+00	-.229E+01	-.240E+01
SE-23-S-	353	770.59	19.206	47.678	-95.840	-.982E+01	-.413E+01	-.719E+00	-.241E+01	-.139E+01
SE-23-S-	382	885.46	19.549	47.023	-97.636	-.499E+01	-.507E+00	-.361E+01	-.233E+01	-.210E+01
SE-23-M-	1753	1022.58	18.950	47.016	-85.020	-.356E+01	-.908E+01	-.011E+01	.809E+00	.110E+01

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COEFICIENTES DE GRAU = 1
 .737284E+03 -.185611E+02 -.993296E+01

COEFICIENTES DE GRAU = 2
 -.232692E+06 .125748E+04 .944643E+04 .396238E+02 -.599765E+02 -.867405E+02

COEFICIENTES DE GRAU = 3
 .218432E+08 .968714E+06 -.180606E+07 -.533769E+03 -.469644E+05 .471751E+05 .949840E+02 -.169658E+03 .482515E+03 -.443249E+03

COEFICIENTES DE GRAU = 4
 .361253E+10 -.285239E+09 -.189957E+09 -.648385E+07 .236854E+08 .115576E+07 -.375846E+05 .323180E+06 -.690335E+06 .723865E+05
 -.934644E+03 .234820E+04 -.499295E+04 .591484E+04 -.100153E+04

PARAMETROS ESTADISTICOS

	DESPAD	CORR2	CORP2	PSTG	SSRED	YR4P08	YR4RCP	SYNFS	SYNFSU
GRAU= 1	8.61619	50.06336	25.06340	25.00340	25.06340	-85.81925	-85.81925	0.00000	3934.65341
GRAU= 2	7.11907	69.88732	48.84237	48.84237	48.84237	-85.81925	-85.81925	0.00000	2680.10443
GRAU= 3	5.96431	60.05783	64.09256	64.09256	64.09256	-85.81925	-85.81925	0.00000	1865.37150
GRAU= 4	2.66678	96.34387	92.82142	92.69374	92.69374	-85.81925	-85.81925	-0.00000	370.92179
GRAU= 5	2.87081	95.75017	91.68096	92.94304	92.94304	-85.81925	-85.81923	-0.00055	430.60310

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
BNRJ 07/44	998.50	19.440	46.640	-81.500	-.167E+01	.550E+00	+.243E+01	.270E+00	+.502E+00		
BNRJ 07/45	995.61	19.490	46.618	-83.370	+.692E+00	+.193E+02	+.443E+00	.154E+01	.111E+01		
BNRJ 07/46	996.66	19.540	46.400	-85.209	.406E+00	+.525E+01	+.148E+01	+.547E+00	+.191E+00		
BNRJ 07/47	984.51	19.530	46.700	-84.460	.313E+01	.198E+01	.151E+01	.204E+01	.246E+01		
BNRJ 07/48	1025.69	19.545	46.778	-87.010	.265E+01	.137E+01	.319E+00	+.327E+00	.109E+01		
BNRJ 07/49	1002.54	19.555	46.840	-87.130	.412E+01	.302E+01	.151E+01	+.365E+00	.684E+00		
BNRJ 07/50	997.48	19.590	46.800	-89.720	.364E+01	.294E+01	.330E+01	.111E+01	.776E+00		
BNRJ 07/51	905.11	19.555	47.015	-96.300	+.118E+01	+.402E+00	+.665E+00	.524E+01	.322E+00		
BNRJ 07/52	971.37	19.545	47.100	-97.390	+.112E+01	.129E+01	.199E+01	.153E+01	.187E+01		
SE-23-A 674	1254.77	20.095	47.036	-108.390	+.697E+00	.729E+00	.915E+01	.417E+02	.539E+02		
SE-23-T	1211.93	19.638	46.967	-105.610	+.110E+02	+.117E+02	+.786E+01	.213E+01	.179E+01		
SE-23-T 264	968.81	19.464	46.952	-90.670	.102E+01	.976E+00	+.116E+01	.174E+01	.171E+01		
SE-23-T 285	991.66	19.560	46.968	-93.770	.620E+00	.496E+00	+.494E+01	+.336E+00	.127E+00		
SE-23-T 383	997.40	19.598	46.904	-91.350	.228E+01	.161E+01	.252E+01	.110E+01	.831E+00		
SE-23-T 384	1048.97	19.594	46.907	-89.510	.411E+01	.347E+01	.419E+01	.243E+01	.244E+01		
SE-23-T 609	995.58	19.483	46.719	-83.960	+.144E+01	+.743E+00	+.414E+00	.133E+01	.646E+00		
SE-23-T 697	992.30	19.429	46.882	-89.680	.654E+00	+.417E+01	.321E+01	.312E+00	.213E+00		
SE-23-T 1818	1005.79	19.437	46.806	-82.740	+.372E+01	+.752E+00	+.104E+01	+.946E+00	.547E+01		
SE-23-T 1819	996.64	19.542	46.400	-86.190	+.532E+00	+.994E+00	+.271E+01	.211E+01	.144E+01		
SE-23-T 1820	1017.09	19.547	46.720	-86.290	.213E+01	.890E+00	+.609E+01	.112E+01	.857E+00		
SE-23-T 1821	907.69	19.549	46.829	-85.230	.465E+01	.350E+01	.223E+01	.543E+00	.366E+00		
SE-23-T 1822	1043.52	19.617	46.741	-84.740	.351E+01	.258E+01	.111E+01	.179E+01	.183E+01		
SE-23-T 1823	913.95	19.686	46.456	-89.960	.118E+01	.699E+01	.123E+01	.968E+00	.519E+00		
SE-23-T 1824	985.70	19.752	46.886	-94.100	+.403E+01	+.406E+01	+.172E+01	.779E+00	.763E+00		
SE-23-T 1825	923.32	19.701	46.846	-86.770	.124E+01	.121E+01	.104E+01	.188E+01	.249E+01		
SE-23-T 1826	1219.81	19.699	46.888	-95.430	.126E+01	.211E+01	.486E+00	.531E+00	.994E+00		
SE-23-T 1756	1046.75	19.512	46.824	-88.660	.128E+01	.157E+00	+.657E+00	.242E+00	.156E+01		
SE-23-T 1757	990.21	19.472	46.720	-90.700	+.397E+01	+.511E+01	+.173E+01	.115E+01	.902E+00		
SE-23-T 1758	1066.02	19.493	46.934	-94.770	+.284E+01	+.313E+01	+.545E+01	+.199E+01	.256E+01		
SE-23-S 277	971.41	19.541	47.100	-95.960	+.228E+01	.120E+00	.350E+00	+.980E+00	.109E+01		
SE-23-S 382	985.46	19.549	47.023	-97.630	+.248E+01	+.157E+01	+.218E+01	+.177E+01	.182E+01		

COEFICIENTES DE GRAU = 1
 .138303E+04 -.224407E+02 -.251062E+02

COEFICIENTES DE GRAU = 2
 -.716670E+05 .164197E+03 .302389E+04 -.184874E+01 -.240427E+01 -.320677E+02

COEFICIENTES DE GRAU = 3
 .257811E+08 .395860E+06 -.182739E+07 -.669824E+05 .396382E+05 .308450E+05 .944701E+03 .238538E+03 .525802E+03 -.146661E+03

COEFICIENTES DE GRAU = 4
 -.179464E+11 .123464E+10 .102405E+10 .177128E+08 -.940269E+08 -.132680E+08 -.186136E+07 .151204E+07 .134023E+07 .296706E+04
 .281549E+05 -.745222E+04 -.126008E+05 -.605558E+04 .615462E+03

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PARAMETROS ESTADISTICOS

	DESPAD	CORR2	COEF2	PSTG	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.16598	86.79983	75.34211	75.34211	75.34211	-90.21548	-90.21548	-0.00000	310.72664
GRAU= 2	2.92614	88.84623	78.93652	78.93652	78.93652	-90.21548	-90.21548	-0.00000	265.43161
GRAU= 3	2.44641	92.33247	85.25285	85.25285	85.25285	-90.21548	-90.21548	0.00000	185.83629
GRAU= 4	1.31218	97.85924	95.76430	94.37264	94.37264	-90.21548	-90.21548	-0.00000	53.37618
GRAU= 5	1.32085	97.83053	95.70813	95.66343	95.66343	-90.21548	-90.21548	0.00000	54.06397

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
QMRJ 28/A	713.04	20.580	46.030	-97.570	-.335E+01	-.220E+01	-.240E+01	-.787E+00	-.934E+00		
SF-23-B- 528	712.96	20.579	46.032	-98.720	-.450E+01	-.341E+01	-.127E+01	-.167E+01	-.165E+01		
SF-23-B- 529	844.99	20.576	46.060	-95.730	-.200E+01	-.989E+00	-.131E+01	-.159E+01	-.196E+01		
SF-23-B- 669	690.82	20.481	46.448	-101.920	-.122E+00	-.280E+00	-.284E+01	-.365E+01	-.986E+00		
SF-23-B- 670	713.22	20.424	46.722	-97.510	-.436E+01	-.954E+00	-.319E+01	-.230E+01	-.254E+01		
SF-23-B- 671	683.29	20.331	46.877	-89.040	-.119E+02	-.676E+01	-.752E+01	-.106E+01	-.891E+00		
SF-23-B- 672	726.62	20.256	46.891	-98.580	-.175E+01	-.407E+00	-.123E+01	-.317E+00	-.160E+00		
SF-23-B- 676	1358.36	20.137	46.787	-104.160	-.289E+01	-.137E+01	-.663E+00	-.827E+00	-.754E+00		
SF-23-B- 677	1200.10	20.135	46.453	-104.490	-.526E+01	-.378E+01	-.549E+01	-.909E+00	-.759E+00		
SF-23-B- 678	1291.17	20.240	46.586	-117.490	-.880E+01	-.116E+02	-.713E+01	-.324E+00	-.145E+00		
SF-23-B- 679	1358.31	20.243	46.446	-107.620	-.378E+01	-.505E+01	-.353E+01	-.902E+00	-.809E+00		
SF-23-B- 1074	710.70	20.577	46.701	-95.700	-.314E+01	-.701E+01	-.427E+01	-.444E+00	-.229E+00		
SF-23-B- 1075	692.23	20.542	46.804	-95.820	-.177E+01	-.171E+01	-.102E+01	-.130E+01	-.834E+00		
SF-23-B- 1076	670.66	20.501	46.841	-94.440	-.332E+01	-.118E+01	-.130E+00	-.166E+01	-.137E+01		
SF-23-B- 1077	701.66	20.518	46.824	-95.560	-.280E+01	-.441E+01	-.590E+01	-.339E+00	-.671E+00		
SF-23-B- 1078	697.92	20.442	46.860	-91.820	-.691E+01	-.291E+01	-.187E+01	-.351E+00	-.123E+01		
SF-23-B- 1087	998.63	20.552	46.964	-101.420	-.724E+01	-.730E+01	-.697E+01	-.183E+01	-.153E+01		
SF-23-B- 1973	981.14	20.466	46.541	-109.650	-.516E+01	-.222E+01	-.434E+01	-.116E+01	-.114E+01		
SF-23-B- 1974	1329.59	20.406	46.804	-110.250	-.367E+01	-.170E+01	-.109E+01	-.541E+01	-.211E+00		
SF-23-B- 1975	916.73	20.346	46.883	-110.110	-.174E+01	-.591E+00	-.177E+01	-.198E+01	-.184E+01		
SF-23-A- 674	1254.77	20.095	47.036	-108.390	-.532E+01	-.126E+01	-.256E+01	-.125E+00	-.132E+00		
SF-23-A- 673	1241.99	20.160	47.023	-109.410	-.756E+01	-.512E+01	-.415E+01	-.526E+00	-.144E+00		
SF-23-A- 1103	982.76	20.545	47.087	-85.920	-.499E+01	-.631E+01	-.716E+01	-.139E+01	-.110E+01		
SF-23-A- 1104	1165.66	20.481	47.082	-91.400	-.200E+01	-.145E+01	-.298E+01	-.108E+01	-.106E+01		

COEFICIENTES DE GRAU = 1
 -.148798E+04 .225591E+02 .198059E+02

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COEFICIENTES DE GRAU = 2
 -.123436E+06 .208767E+04 .433408E+04 -.119216E+03 .542074E+02 -.578570E+02

COEFICIENTES DE GRAU = 3
 .37030E+08 -.236365E+07 -.134648E+07 .759462E+05 .350532E+05 .211520E+05 -.549019E+03 -.905341E+03 .196345E+02 -.153577E+03

COEFICIENTES DE GRAU = 4
 .218943E+11 -.978639E+09 -.144543E+10 .401763E+08 .277428E+08 .402961E+08 -.946491E+06 -.480584E+05 -.363445E+06 -.518489E+06
 .943759E+04 .379800E+04 .264642E+04 .194435E+04 .255615E+04

COEFICIENTES DE GRAU = 5
 .157045E+11 -.564453E+09 -.894498E+09 .185899E+08 .141981E+08 .160381E+08 -.375758E+06 .130645E+06 -.391577E+06 .788468E+05
 -.614134E+04 .843853E+04 -.141114E+05 .709209E+04 -.550923E+04 .255556E+03 -.240760E+03 .154943E+03 .566706E+02 -.492511E+02
 .443689E+02

PARAMETROS ESTADISTICOS	DESPAD	COGRP	COEP%	PSTG	SSRED	YBARGB	YBARCP	SYRES	BYRESG
GRAU= 1	5.06280	74.63451	55.70310	55.70310	55.70310	-100.69917	-100.69917	0.00000	615.16550
GRAU= 2	4.34228	82.10613	67.41417	67.41417	67.41417	-100.69917	-100.69917	0.00000	452.53003
GRAU= 3	3.81155	86.54071	74.89295	74.89295	74.89295	-100.69917	-100.69917	0.00000	346.66985
GRAU= 4	1.15415	98.84227	97.69794	96.81420	96.81420	-100.69917	-100.69917	0.00000	31.96948
GRAU= 5	1.11740	98.91522	97.84220	97.86340	97.86340	-100.69917	-100.69917	0.00001	29.96605

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONPJ 28/7	739.23	20.717	46.425	-92.930	.110E+01	.175E+01	.842E+00	.935E+00	.826E+00		
ONPJ 28/3	771.95	20.615	47.058	-84.676	.345E+01	.222E+01	.275E+00	.136E+01	.912E+00		
ONPJ 28/4	713.04	20.580	46.930	-97.570	.495E+01	.435E+01	.111E+01	.145E+01	.151E+01		
ONPJ 28/5	686.51	20.658	46.758	-100.550	.719E+01	.585E+01	.452E+01	.427E+01	.459E+01		
ONRJ 28/6	810.26	20.700	46.675	-89.790	.378E+01	.485E+01	.465E+01	.469E+01	.461E+01		
SF-23-H- 1069	989.13	21.018	46.516	-83.060	.134E+01	.202E+01	.633E+01	.210E+01	.187E+01		
SF-23-B- 520	712.33	20.622	46.666	-93.650	.276E+01	.144E+01	.972E+00	.125E+01	.141E+01		
SF-23-B- 521	757.79	20.791	46.671	-95.070	.447E+01	.307E+01	.157E+01	.175E+01	.194E+01		
SF-23-B- 522	793.73	20.774	46.514	-91.060	.317E+01	.251E+01	.774E+00	.156E+01	.120E+01		
SF-23-B- 523	748.46	20.747	46.553	-92.730	.172E+01	.158E+01	.144E+00	.547E+00	.658E+00		
SF-23-B- 524	739.23	20.717	46.411	-84.060	.288E+00	.504E+00	.165E+00	.150E+01	.150E+00		
SF-23-B- 525	761.13	20.689	46.573	-95.350	.131E+01	.290E+00	.430E+00	.509E+00	.542E+00		
SF-23-B- 526	686.48	20.601	46.761	-92.310	.314E+01	.191E+01	.243E+00	.547E+00	.260E+00		
SF-23-B- 527	695.27	20.619	46.843	-100.180	.714E+01	.594E+01	.375E+01	.406E+01	.192E+01		
SF-23-B- 528	712.96	20.579	46.932	-95.720	.608E+01	.550E+01	.225E+01	.247E+00	.246E+00		
SF-23-B- 529	644.99	20.576	46.960	-95.730	.361E+01	.332E+01	.277E+00	.303E+01	.284E+01		
SF-23-B- 546	640.00	20.914	46.993	-84.480	.133E+02	.130E+02	.769E+01	.726E+00	.574E+00		
SF-23-B- 547	687.00	20.742	46.863	-94.290	.652E+01	.536E+01	.395E+01	.196E+01	.140E+01		
SF-23-B- 668	704.30	20.640	46.805	-97.090	.274E+01	.116E+01	.625E+01	.314E+01	.310E+01		
SF-23-B- 669	692.82	20.481	46.448	-101.920	.105E+01	.100E+01	.187E+01	.134E+00	.231E+01		
SF-23-B- 670	713.22	20.474	46.722	-97.510	.608E+01	.556E+01	.265E+01	.907E+00	.790E+00		
SF-23-B- 1068	1040.31	20.955	46.660	-91.200	.300E+01	.365E+01	.585E+01	.263E+01	.281E+01		
SF-23-B- 1070	1049.11	20.941	46.544	-89.430	.257E+01	.188E+01	.277E+01	.338E+00	.441E+00		
SF-23-B- 1071	1043.50	20.883	46.598	-92.640	.466E+01	.357E+01	.446E+01	.193E+01	.204E+01		
SF-23-B- 1072	801.74	20.804	46.408	-94.330	.340E+01	.255E+01	.481E+01	.243E+01	.276E+01		
SF-23-B- 1073	710.37	20.617	46.676	-95.240	.166E+01	.243E+01	.294E+01	.178E+01	.167E+01		
SF-23-B- 1074	710.70	20.577	46.701	-95.700	.223E+01	.306E+01	.340E+01	.249E+01	.257E+01		
SF-23-B- 1075	692.23	20.542	46.804	-95.620	.120E+01	.232E+01	.323E+01	.216E+01	.200E+01		
SF-23-B- 1076	670.66	20.501	46.841	-94.440	.336E+01	.437E+01	.434E+01	.187E+01	.179E+01		
SF-23-B- 1077	701.66	20.518	46.924	-95.560	.329E+01	.267E+01	.240E+00	.490E+00	.393E+00		
SF-23-B- 1078	697.92	20.442	46.960	-91.620	.794E+01	.681E+01	.471E+01	.144E+01	.147E+01		
SF-23-B- 1057	998.63	20.552	46.964	-101.420	.844E+01	.821E+01	.513E+01	.235E+01	.259E+01		
SF-23-B- 1973	981.14	20.466	46.541	-109.650	.366E+01	.551E+01	.277E+01	.801E+01	.383E+01		
SF-23-B- 1974	1329.59	20.406	46.554	-110.250	.102E+01	.402E+01	.106E+01	.266E+01	.250E+01		
SF-23-A- 530	792.83	20.611	47.559	-85.200	.324E+01	.201E+01	.352E+00	.102E+01	.803E+00		
SF-23-A- 1103	982.76	20.545	47.887	-86.920	.356E+01	.187E+01	.745E+00	.138E+01	.616E+00		
SF-23-A- 1104	1165.66	20.481	47.882	-91.460	.171E+01	.207E+00	.565E+00	.115E+00	.329E+00		
SF-23-G- 544	996.00	21.078	47.649	-77.450	.751E+01	.917E+01	.617E+01	.125E+01	.112E+01		
SF-23-G- 545	1054.00	21.005	47.816	-86.190	.745E+01	.661E+01	.482E+01	.184E+01	.166E+01		

COEFICIENTES DE GRAU = 1
 -.197937E+04 .401269E+02 .226068E+02

COEFICIENTES DE GRAU = 2
 .892483E+05 -.577777E+03 -.360336E+04 .614798E+00 .126149E+02 .359649E+02

COEFICIENTES DE GRAU = 3
 -.686926E+08 .709531E+06 .409621E+07 .377018E+05 -.637303E+05 -.735624E+05 -.602627E+03 -.537215E+01 .684186E+03 .423904E+03

COEFICIENTES DE GRAU = 4
 .167459E+11 -.179329E+09 -.135514E+10 -.119061E+08 .220612E+08 .386414E+08 .214476E+06 .224990E+05 -.572793E+06 -.467074E+06
 -.292492E+03 -.408188E+04 .307785E+03 .399857E+04 .205759E+04

COEFICIENTES DE GRAU = 5
 .546338E+10 .595024E+09 .436250E+09 .417727E+08 .178501E+08 .101210E+08 .786000E+06 .138561E+07 .197062E+05 .330116E+05
 -.104336E+05 -.103238E+05 -.206072E+05 -.777077E+03 -.286524E+04 .883156E+03 .174688E+04 .151356E+04 .564751E+03 .150227E+03
 .771037E+01

PARAMETROS ESTADISTICOS	DESPAD	CDER%	CDEF%	PSTG	SSRED	YBARDB	YBARLP	SYRES	SYRESQ
GRAU= 1	4.76462	84.41536	71.25953	71.25953	71.25953	-92.78564	-92.78564	-0.00000	892.81264
GRAU= 2	4.65110	85.34712	72.84130	72.84130	72.84130	-92.78564	-92.78564	-0.00000	843.67535
GRAU= 3	3.62258	91.39182	83.52464	83.52464	83.52464	-92.78564	-92.78564	0.00000	511.80103
GRAU= 4	2.02244	97.39360	94.86487	94.86350	94.86360	-92.78564	-92.78564	0.00000	159.52100
GRAU= 5	1.98915	97.48465	95.03257	94.97428	94.97428	-92.78564	-92.78564	-0.00012	134.31154

***** MAPA GRAVIMETRICO (TENDENCIA FOUQUER) **** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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V A L O R E S R E S I D U A I S

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	B006	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-23-H- 539	574.00	21.426	46.874	-63.770	.777E+01	-.484E+01	-.462E+01	.504E+00			
SF-23-H- 542	894.00	21.188	46.869	-60.170	.406E+01	.535E+01	.215E+01	.191E+01			
SF-23-H- 543	886.00	21.146	46.899	-68.880	-.413E+01	-.240E+01	-.294E+01	-.115E+01			
SF-23-H- 551	1005.00	21.375	46.825	-66.730	.433E+01	.289E+01	-.365E+01	.199E+01			
SF-23-H- 552	821.00	21.306	46.716	-71.540	-.381E+01	-.681E+01	.162E+00	-.819E+00			
SF-23-H- 553	769.00	21.300	46.812	-61.370	.370E+01	.155E+01	.222E+01	.168E+01			
SF-23-H- 554	789.00	21.273	46.877	-60.830	.344E+01	.263E+01	-.315E+00	-.249E+01			
SF-23-H- 555	876.00	21.229	46.819	-57.540	.676E+01	.687E+01	.195E+01	-.395E+01			
SF-23-H- 665	1044.05	21.135	46.898	-72.390	.167E+01	-.103E+01	-.312E+01	.424E+00			
SF-23-H- 772	772.00	21.421	46.762	-61.480	.972E+00	-.287E+01	-.884E+01	-.716E+01			
SF-23-H- 1069	989.13	21.018	46.816	-83.060	.369E+00	.252E+01	.175E+01	-.286E+00			
SF-23-E- 546	840.00	20.914	46.893	-68.480	.832E+01	.334E+01	-.206E+00	.209E+01			
SF-23-E- 1068	1040.31	20.955	46.880	-91.200	-.396E+01	.918E+00	-.121E+01	.211E+00			
SF-23-E- 1070	1049.11	20.941	46.844	-89.430	-.421E+01	-.395E+01	.661E+00	-.116E+00			
SF-23-C- 538	840.00	21.471	47.007	-54.190	.710E+00	.383E+01	.273E+01	-.325E+00			
SF-23-C- 544	896.00	21.078	47.849	-77.450	-.119E+02	-.964E+01	.438E+00	.848E+01			
SF-23-C- 545	1064.00	21.005	47.016	-66.190	.284E+01	.165E+01	.479E+00	-.632E+02			

COEFICIENTES DE GRAU = 1
 -.217874E+04 .339450E+02 .297069E+02

COEFICIENTES DE GRAU = 2
 -.219726E+06 .672875E+03 .195824E+04 .374685E+02 -.519010E+02 -.837157E+02

COEFICIENTES DE GRAU = 3
 .104399E+09 .253262E+07 .785510E+07 -.473234E+05 -.653742E+05 .182987E+06 .752549E+03 -.913638E+01 .701643E+03 -.141157E+04

COEFICIENTES DE GRAU = 4
 -.485413E+11 -.254526E+09 .428036E+10 .554149E+08 -.320137E+08 -.130399E+09 -.113302E+07 -.532265E+05 .106385E+07 .170027E+07
 .116700E+05 .309216E+04 .680249E+04 -.965499E+04 -.800458E+04

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PARAMETROS ESTATISTICOS									
	DESPAD	CORR1	CDEF1	PSTQ	SSRED	YBARQB	YBARCP	SYRES	SYRESQ
GRAU= 1	5.17297	87.00141	75.69244	75.69246	75.69246	-68.85176	-68.85176	0.00000	454.91322
GRAU= 2	4.35723	90.96934	82.75421	82.75421	82.75421	-68.85176	-68.85176	0.00000	322.75316
GRAU= 3	1.97834	98.20632	96.44481	96.44481	96.44481	-68.85176	-68.85176	0.00000	56.53505
GRAU= 4	0.93734	99.60016	99.20191	100.15811	100.15811	-68.85176	-68.85176	0.00000	14.93616

***** MAPA GRAVIMETRICO (TENDENCIA POUQUER) **** HARALYI
PASSO = .5 GRAU *** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-23-G- 1621	960.52	17.405	47.266	-87.445	-.171E+00	-.372E+01	-.285E+00	-.523E+01	-.496E+01		
SF-23-G- 1626	988.08	17.425	47.142	-90.260	-.328E+01	-.149E+01	-.217E+01	-.135E+00	-.184E+00		
SF-23-G- 1627	985.07	17.512	47.125	-86.790	-.274E+00	-.551E+00	-.645E+01	-.199E+01	-.209E+01		
SF-23-G- 1628	948.52	17.597	47.134	-80.610	-.528E+01	-.334E+01	-.433E+01	-.217E+01	-.242E+01		
SF-23-G- 1629	995.36	17.751	47.179	-83.540	-.180E+01	-.143E+01	-.145E+01	-.721E+00	-.123E+01		
SE-23-G- 1630	1006.17	17.844	47.175	-81.780	-.308E+01	-.439E+00	-.393E+00	-.502E+00	-.511E+00		
SF-23-G- 1631	953.52	17.953	47.153	-78.420	-.586E+01	-.496E+01	-.382E+01	-.330E+01	-.330E+01		
SF-23-G- 1637	962.11	17.922	47.125	-80.460	-.393E+01	-.250E+01	-.908E+00	-.539E+00	-.850E+00		
SF-23-G- 1638	976.31	17.849	47.090	-81.390	-.337E+01	-.114E+01	-.283E+00	-.238E+00	-.146E+00		
SF-23-G- 1639	916.28	17.776	47.098	-81.180	-.396E+01	-.127E+01	-.595E+00	-.145E+01	-.156E+01		
SF-23-G- 1640	916.78	17.705	47.046	-85.730	-.271E+00	-.234E+01	-.215E+01	-.135E+01	-.131E+01		
SF-23-G- 1641	945.59	17.614	47.015	-85.320	-.580E+00	-.987E+01	-.656E+00	-.726E+00	-.674E+00		
SF-23-G- 1661	935.50	17.892	47.037	-80.310	-.418E+01	-.274E+01	-.118E+01	-.966E+00	-.110E+01		
SE-23-G- 1662	899.50	17.869	47.010	-83.150	-.144E+01	-.239E+01	-.104E+01	-.954E+00	-.103E+01		
SE-23-G- 1663	906.61	17.911	47.212	-84.110	-.435E+00	-.127E+01	-.165E+01	-.115E+01	-.129E+01		
SE-23-G- 1664	787.20	17.974	47.283	-87.410	-.313E+01	-.324E+01	-.135E+01	-.173E+01	-.169E+01		
SE-23-G- 1665	802.39	17.988	47.264	-87.780	-.350E+01	-.266E+01	-.119E+01	-.136E+00	-.316E+00		
SE-23-G- 1666	856.59	17.949	47.243	-87.090	-.254E+01	-.200E+01	-.577E+00	-.124E+01	-.657E+00		
SF-23-G- 1667	850.58	17.929	47.528	-87.610	-.288E+01	-.176E+01	-.220E+01	-.911E+00	-.426E+00		
SE-23-G- 1668	883.50	17.983	47.094	-83.100	-.978E+00	-.793E+00	-.908E+00	-.189E+01	-.191E+01		
SF-23-G- 1669	859.47	17.940	47.087	-82.640	-.178E+01	-.413E+01	-.115E+01	-.270E+00	-.455E+01		
SE-23-H- 1642	919.75	17.616	46.980	-91.340	-.548E+01	-.567E+01	-.451E+01	-.405E+01	-.407E+01		
SE-23-H- 1643	905.72	17.521	46.960	-84.460	-.186E+01	-.403E+01	-.410E+01	-.392E+01	-.356E+01		
SF-23-H- 1652	913.79	17.450	46.903	-90.850	-.421E+01	-.132E+01	-.532E+00	-.102E+01	-.911E+00		
SF-23-H- 1654	787.61	17.757	46.610	-88.500	-.342E+01	-.390E+01	-.670E+00	-.720E+00	-.810E+00		
SF-23-H- 1659	965.49	17.940	46.035	-82.130	-.203E+01	-.208E+01	-.269E+01	-.155E+01	-.118E+01		
SF-23-H- 1660	911.20	17.927	46.005	-83.150	-.113E+01	-.458E+00	-.720E+00	-.159E+01	-.140E+01		
SF-23-H- 1744	985.09	18.077	47.005	-87.820	-.413E+01	-.223E+01	-.145E+00	-.522E+00	-.567E+00		
SF-23-H- 1632	985.86	18.039	47.153	-84.540	-.276E+01	-.275E+00	-.972E+00	-.972E+00	-.819E+00		
SF-23-H- 1633	975.01	18.091	47.126	-87.580	-.403E+01	-.126E+01	-.443E+00	-.548E+00	-.406E+00		
SF-23-H- 1635	707.73	18.047	47.077	-84.640	-.908E+00	-.546E+00	-.571E+00	-.525E+00	-.610E+00		

COEFICIENTES DE GRAU = 1
 -.135479E+03 .512065E+01 -.863825E+00

COEFICIENTES DE GRAU = 2
 -.832351E+05 .268675E+04 .243383E+04 -.470975E+02 -.249991E+02 -.210506E+02

COEFICIENTES DE GRAU = 3
 -.149217E+08 -.700751E+06 .122489E+07 .140232E+05 .204679E+05 -.297777E+05 -.123711E+03 -.171529E+03 -.153084E+03 .229379E+03

COEFICIENTES DE GRAU = 4
 .208868E+10 -.121795E+09 -.131522E+09 .180716E+07 .536459E+07 .299341E+07 .257742E+05 -.106593E+05 -.946660E+05 -.305705E+05
 -.931310E+03 .856169E+03 .646564E+03 .505712E+03 .115274E+03

COEFICIENTES DE GRAU = 5
 -.851212E+10 .152488E+10 .374428E+09 -.100778E+09 -.545263E+08 -.708565E+07 .353648E+07 .238481E+07 .627652E+06 .693468E+05
 -.621279E+05 -.559489E+05 -.243458E+05 -.620208E+04 -.331104E+03 .402135E+03 .542318E+03 .193452E+03 .104001E+03 .160679E+02
 .786141E+00

PARAMETROS ESTADISTICOS

	DESPAD	CORP2	CDEP2	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.06183	31.36378	9.83686	9.83686	9.83686	-84.93531	-84.93531	0.00000	299.99312
GRAU= 2	2.39560	66.93689	44.80548	44.80548	44.80548	-84.93531	-84.93531	-0.00000	183.64465
GRAU= 3	1.85409	81.81568	66.93806	66.93806	66.93806	-84.93531	-84.93531	0.00000	110.00456
GRAU= 4	1.56299	67.46706	76.50487	76.49845	76.49846	-84.93531	-84.93531	-0.00000	78.17362
GRAU= 5	1.53313	67.97361	77.39399	76.88562	76.88562	-84.93531	-84.93531	-0.00012	75.21559

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-G- 1631	953.52	17.953	47.153	-79.420	.661E+01	.469E+01	.465E+01	.346E+01	.321E+01		
SE-23-G- 1637	662.11	17.922	47.125	-80.480	.631E+01	.146E+01	.953E+00	.583E+00	.247E+00		
SE-23-G- 1663	906.61	17.911	47.212	-84.110	.250E+00	-.222E+01	-.181E+01	-.164E+01	-.115E+01		
SE-23-G- 1664	787.20	17.974	47.283	-87.410	-.261E+01	-.309E+01	-.204E+01	-.169E+01	-.213E+01		
SE-23-G- 1665	802.39	17.988	47.264	-87.780	-.312E+01	-.249E+01	-.175E+01	.304E+00	.759E+00		
SE-23-G- 1666	856.59	17.949	47.443	-87.090	-.315E+01	-.197E+01	-.767E+00	.156E+01	.134E+01		
SE-23-G- 1667	850.58	17.929	47.528	-87.610	-.419E+01	-.176E+01	.159E+01	-.129E+01	.704E+00		
SE-23-G- 1683	883.50	17.983	47.694	-83.100	.247E+01	.951E+00	.644E+00	-.105E+01	-.155E+01		
SE-23-G- 1659	859.47	17.940	47.587	-82.946	.399E+00	.419E+01	.261E+01	.414E+00	.711E+01		
SE-23-H- 1659	665.49	17.940	46.935	-82.130	.354E+01	.627E+00	-.143E+00	.141E+01	.165E+01		
SE-23-H- 1660	611.20	17.927	46.095	-83.150	.216E+01	-.935E+00	.228E+01	-.132E+01	-.112E+01		
SE-23-H- 1671	671.29	18.027	46.002	-87.620	-.107E+01	-.135E+01	-.337E+00	-.940E+00	-.113E+01		
SE-23-H- 866	947.14	18.396	46.029	-92.110	-.137E+01	.154E+01	.275E+01	.267E+01	.314E+01		
SE-23-H- 1759	1057.01	18.474	46.913	-92.890	-.123E+01	.133E+01	.240E+01	.584E+00	.658E+00		
SE-23-K- 471	741.98	18.482	47.405	-84.240	.574E+01	.428E+01	.496E+01	.219E+01	.222E+01		
SE-23-K- 472	905.03	18.470	47.204	-87.496	.308E+01	.239E+01	.174E+01	.123E+00	.130E+00		
SE-23-K- 473	1002.17	18.214	47.086	-90.210	.205E+01	-.485E+00	-.515E+00	.456E+00	.674E+00		
SE-23-M- 708	813.40	18.540	47.194	-88.080	.331E+01	.125E+01	.742E+00	.561E+00	.120E+01		
SE-23-M- 709	840.66	18.537	47.869	-89.110	.125E+01	-.161E+01	.169E+00	.429E+00	.208E+00		
SE-23-M- 710	759.08	18.483	47.571	-89.270	.136E+00	-.739E+00	-.103E+01	-.239E+00	-.199E+00		
SE-23-M- 861	771.20	18.566	47.324	-91.620	-.612E+00	-.414E+01	-.290E+01	-.241E+01	-.239E+01		
SE-23-M- 862	937.51	18.509	47.160	-88.320	.285E+01	.175E+01	.879E+00	.420E+00	.104E+01		
SE-23-M- 863	1007.31	18.580	47.100	-90.090	.208E+01	.103E+00	-.101E+01	.112E+01	.524E+00		
SE-23-M- 867	856.84	18.429	47.027	-95.130	-.437E+01	-.295E+01	-.359E+01	-.268E+01	-.235E+01		
SE-23-M- 868	755.35	18.345	47.012	-92.650	-.277E+01	-.625E+00	-.593E+00	.123E+01	.671E+00		
SE-23-M- 869	774.60	18.389	47.013	-97.580	-.722E+01	-.531E+01	-.559E+01	-.414E+01	.419E+01		
SE-23-M- 1776	922.10	18.354	47.522	-89.600	-.145E+01	.276E+00	-.125E+01	-.363E+00	-.212E+00		
SE-23-V- 1744	685.09	18.077	47.005	-96.280	.659E+00	.989E+00	.131E+01	.407E+00	.347E+01		
SE-23-V- 1745	986.62	18.195	47.007	-92.420	-.418E+01	-.236E+01	-.180E+01	-.561E+00	.537E+00		
SE-23-V- 1746	840.97	18.227	47.092	-89.720	-.440E+00	.115E+01	.106E+01	.211E+01	.220E+01		
SE-23-V- 1747	744.05	18.328	47.021	-88.170	.113E+01	.252E+01	.196E+01	.269E+01	.220E+01		
SE-23-V- 1748	803.13	18.385	47.161	-87.080	.264E+01	.329E+01	.257E+01	.182E+01	.122E+01		
SE-23-V- 1738	1028.08	18.341	47.256	-92.100	-.314E+01	-.225E+01	-.248E+01	-.365E+01	-.391E+01		
SE-23-V- 1632	985.86	18.039	47.153	-84.540	.145E+01	.119E+01	.138E+01	.461E+01	.444E+00		
SE-23-V- 1633	975.01	18.091	47.126	-87.580	.928E+00	-.499E+00	-.373E+00	-.122E+01	.645E+00		
SE-23-V- 1634	992.17	18.142	47.097	-89.200	-.167E+01	-.657E+00	-.771E+00	-.339E+00	-.281E+02		
SE-23-V- 1635	707.73	18.047	47.077	-84.640	.171E+01	.144E+01	.142E+01	-.375E+01	-.234E+00		

COEFICIENTES DE GRAU = 1
 -.552847E+02 -.110758E+02 .258609E+01

COEFICIENTES DE GRAU = 2
 -.474796E+04 -.263919E+04 .121771E+04 .374652E+02 .264221E+02 -.179651E+02

COEFICIENTES DE GRAU = 3
 -.608103E+07 -.289245E+06 .497810E+06 .624019E+04 .740661E+04 -.119578E+05 -.295590E+02 -.952813E+02 -.409885E+02 .895457E+02

COEFICIENTES DE GRAU = 4
 .119823E+09 .102377E+09 -.497398E+08 -.28481E+07 -.42807E+07 .240922E+07 .869928E+05 .215873E+05 .823414E+05 -.446525E+05
 -.641899E+03 -.852611E+03 .264473E+03 -.649269E+03 .299269E+03

COEFICIENTES DE GRAU = 5
 -.499829E+10 .137296E+10 -.178896E+07 -.150597E+09 .283227E+07 -.962274E+06 .751542E+07 .734046E+06 -.452944E+06 .977512E+05
 -.153811E+06 -.784499E+05 .291596E+05 .343864E+03 -.127430E+04 .226781E+04 -.113971E+04 .170069E+04 -.660897E+03 .163641E+03
 -.574306E+01

PARAMETROS ESTADISTICOS
 DESPAD

	CORR2	CDEF2	PST0	SSRED	YBAR0B	YBARCP	SYRES	SYRESQ	
GRAU= 1	2.99983	65.73035	43.20480	43.20480	43.20480	-87.87459	-87.87459	0.00000	332.96264
GRAU= 2	2.31861	81.28395	66.07081	66.07081	66.07081	-87.87459	-87.87459	0.00000	198.91032
GRAU= 3	2.16844	63.92430	70.43289	70.43289	70.43289	-87.87459	-87.87459	0.00000	173.33758
GRAU= 4	1.70153	90.40327	81.72751	81.73552	81.73552	-87.87459	-87.87459	0.00000	107.12274
GRAU= 5	1.65963	90.89351	82.61630	82.62608	82.62608	-87.87459	-87.87459	0.00000	101.91218

***** MAPA GRAVIMETRICO (TENDENCIA POUQUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 14/6	865.41	18.725	47.898	-74.410	.155E+02	.587E+01	.637E+01	.597E+01	.670E+01		
DNRJ 14/5	863.95	18.942	46.898	-76.630	.103E+02	.638E+01	.237E+01	.339E+01	.344E+01		
SF-23-M- 354	982.35	18.867	46.829	-62.979	.232E+02	.127E+02	.646E+01	.118E+01	.118E+01		
SF-23-M- 355	1164.33	18.742	46.858	-81.350	.454E+01	.347E+01	.237E+01	.311E+01	.300E+01		
SF-23-M- 1759	1057.01	18.474	46.813	-92.690	.834E+01	.401E+01	.127E+00	.290E+00	.184E+00		
SF-23-M- 346	963.36	18.942	46.898	-78.070	.888E+01	.490E+01	.603E+00	.180E+01	.105E+01		
SF-23-S- 346	922.60	18.015	47.847	-91.750	.415E+01	.159E+01	.757E+01	.239E+01	.224E+01		
SF-23-S- 348	1015.21	19.005	47.831	-101.690	.105E+02	.209E+01	.141E+01	.383E+00	.844E+01		
SF-23-S- 349	920.40	19.036	47.898	-99.070	.722E+01	.165E+01	.193E+01	.204E+01	.195E+01		
SF-23-M- 333	864.62	18.726	47.899	-75.860	.141E+02	.743E+01	.491E+01	.546E+01	.526E+01		
SF-23-M- 334	990.27	18.804	47.873	-82.330	.846E+01	.494E+00	.370E+01	.348E+01	.525E+01		
SF-23-M- 340	1023.23	18.820	47.876	-81.300	.882E+01	.633E+01	.220E+01	.223E+01	.213E+01		
SF-23-M- 341	1026.37	18.895	47.805	-93.610	.376E+01	.386E+00	.138E+01	.239E+01	.234E+01		
SF-23-M- 342	895.67	18.932	47.837	-92.930	.421E+01	.131E+01	.621E+01	.446E+01	.451E+01		
SF-23-M- 343	957.89	18.955	47.178	-95.130	.677E+01	.145E+01	.442E+01	.383E+01	.367E+01		
SF-23-M- 344	174.43	18.961	47.851	-93.580	.314E+01	.311E+01	.255E+01	.104E+01	.975E+00		
SF-23-M- 350	962.40	18.987	47.869	-105.200	.145E+02	.592E+01	.343E+01	.380E+01	.405E+01		
SF-23-M- 471	741.98	18.482	47.805	-84.240	.407E+01	.529E+01	.156E+01	.292E+01	.290E+01		
SF-23-M- 472	905.03	18.470	47.804	-87.490	.751E+00	.804E+01	.148E+01	.374E+00	.354E+00		
SF-23-M- 705	860.50	18.894	47.873	-95.360	.802E+01	.934E+01	.795E+01	.511E+01	.489E+01		
SF-23-M- 706	815.66	18.768	47.102	-89.700	.161E+01	.360E+01	.629E+00	.115E+00	.345E+01		
SF-23-M- 707	826.74	18.687	47.161	-87.280	.287E+01	.710E+01	.245E+01	.101E+01	.124E+01		
SF-23-M- 708	813.40	18.540	47.194	-86.060	.115E+01	.362E+01	.195E+01	.348E+00	.790E+00		
SF-23-M- 709	840.66	18.537	47.869	-89.110	.117E+00	.457E+01	.352E+01	.358E+00	.331E+00		
SF-23-M- 710	759.08	18.483	47.871	-89.270	.296E+00	.101E+02	.172E+01	.455E+00	.461E+00		
SF-23-M- 860	795.34	18.640	47.834	-85.510	.255E+01	.219E+01	.580E+00	.672E+00	.601E+00		
SF-23-M- 861	771.20	18.566	47.824	-91.620	.381E+01	.250E+01	.517E+01	.355E+01	.543E+01		
SF-23-M- 862	937.51	18.509	47.160	-89.320	.177E+01	.489E+01	.244E+01	.190E+01	.191E+01		
SF-23-M- 863	1007.31	18.580	47.100	-90.690	.373E+01	.126E+01	.139E+01	.205E+01	.192E+01		
SF-23-M- 864	1061.68	18.660	47.824	-85.770	.322E+00	.243E+01	.227E+01	.352E+01	.323E+01		
SF-23-M- 867	856.84	18.429	47.827	-95.130	.088E+01	.191E+01	.241E+01	.979E+00	.105E+01		
SF-23-M- 1775	963.40	18.649	47.858	-89.790	.461E+00	.587E+01	.708E+01	.547E+01	.539E+01		
SF-23-M- 1753	1022.58	18.950	47.816	-85.620	.210E+01	.409E+00	.282E+01	.139E+01	.158E+01		
SF-23-M- 1749	1052.56	18.752	47.107	-92.610	.555E+01	.736E+01	.424E+01	.382E+01	.376E+01		
SF-23-M- 1750	1048.80	18.629	47.174	-90.270	.316E+01	.186E+01	.215E+00	.176E+01	.165E+01		
SF-23-M- 1751	1082.60	18.670	47.806	-85.850	.858E+00	.464E+01	.645E+01	.102E+01	.103E+01		

COEFICIENTES DE GRAU = 1
 .339949E+03 -.375589E+01 -.757005E+01

COEFICIENTES DE GRAU = 2
 .102431E+06 .866229E+04 -.776508E+04 -.125737E+03 -.837798E+02 .987169E+02

COEFICIENTES DE GRAU = 3
 .512728E+07 .460414E+06 -.505708E+06 .334630E+05 -.458254E+05 .196973E+05 5.371171E+03 -.259487E+03 .590765E+03 -.216263E+03

COEFICIENTES DE GRAU = 4
 .535157E+10 .787369E+08 -.483974E+09 .425587E+06 -.532191E+07 .164080E+08 -.456192E+05 .371528E+05 .974033E+05 -.244155E+06
 .111333E+04 -.806995E+03 .534041E+02 -.708779E+03 .136003E+04

COEFICIENTES DE GRAU = 5
 .468281E+08 .843846E+09 -.222268E+09 -.407421E+06 -.376647E+08 .116262E+08 -.124757E+07 .408308E+07 -.474336E+06 -.657859E+05
 .877994E+05 -.874980E+05 -.339946E+05 .162923E+05 -.222178E+04 -.131147E+04 .767545E+03 .307888E+03 .118713E+03 -.113135E+03
 .241454E+02

PARAMETROS ESTADISTICOS	DESPAD	CORR1	COEP%	PST6	SSRED	YBAROB	YBARLP	SYRES	SYRES9
GRAU= 1	7.72256	22.17672	4.91807	4.91807	4.91807	-87.95500	-87.95500	0.00000	2146.96476
GRAU= 2	5.20867	75.32970	56.74564	56.74554	56.74564	-87.95500	-87.95500	0.00000	976.69023
GRAU= 3	3.41874	90.20308	81.36596	81.36596	81.36596	-87.95500	-87.95500	0.00000	420.75942
GRAU= 4	3.09495	92.04806	84.72845	84.87954	84.87954	-87.95500	-87.95500	0.00000	344.83401
GRAU= 5	3.02500	92.41808	85.41101	84.78128	84.78128	-87.95500	-87.95500	0.00004	329.42165

VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	POUS	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/5	963.95	18.942	46.998	-75.630	.953E+01	.727E+01	.504E+01	.299E+01	.306E+01		
ONRJ 07/50	997.48	19.590	46.900	-89.720	.198E+01	.122E+01	.273E+01	.595E+00	.495E+00		
ONRJ 07/51	905.11	19.555	47.115	-95.300	.189E+01	.159E+01	.210E+01	.113E+01	.108E+00		
ONRJ 07/52	971.37	19.545	47.100	-97.690	.127E+01	.530E+00	.116E+01	.427E+00	.504E+00		
ONRJ 07/53	938.89	19.530	47.105	-99.030	.265E+00	.636E+00	.215E+00	.539E+00	.570E+00		
ONRJ 07/54	1118.32	19.505	47.100	-103.110	.150E+01	.811E+00	.998E+00	.140E+01	.146E+01		
ONRJ 07/55	1050.43	19.467	47.005	-103.290	.717E+00	.887E+00	.422E+00	.599E+00	.579E+00		
ONRJ 07/56	990.61	19.480	47.005	-105.020	.190E+01	.792E+00	.267E+00	.186E+01	.188E+01		
ONRJ 07/57	1005.37	19.540	47.095	-106.020	.412E+01	.596E+00	.171E+01	.113E+01	.115E+01		
SF-23-M	963.36	18.942	46.998	-78.070	.817E+01	.586E+01	.359E+01	.157E+01	.150E+01		
SF-23-T- 284	968.81	19.464	46.952	-90.670	.882E+00	.625E+00	.107E+01	.113E+01	.110E+01		
SF-23-T- 285	991.66	19.560	46.968	-93.770	.587E+00	.660E+00	.791E+00	.758E+00	.659E+00		
SF-23-T- 383	997.40	19.598	46.904	-91.350	.557E+00	.164E+00	.167E+01	.910E+00	.101E+01		
SF-23-T- 384	1048.97	19.594	46.907	-89.510	.244E+01	.176E+01	.337E+01	.130E+01	.126E+01		
SF-23-T- 1774	1251.01	19.126	46.909	-86.600	.476E+00	.294E+01	.143E+01	.363E+00	.325E+00		
SF-23-T- 1758	1066.02	19.493	46.934	-94.770	.337E+01	.380E+01	.514E+01	.299E+01	.280E+01		
SF-23-S- 239	1029.92	19.547	47.000	-106.980	.312E+01	.971E+01	.111E+01	.408E+00	.324E+00		
SF-23-S- 251	1016.14	19.546	47.009	-109.920	.111E+00	.305E+01	.189E+01	.269E+01	.286E+01		
SF-23-S- 252	948.80	19.539	47.035	-104.690	.105E+01	.332E+00	.174E+01	.163E+01	.181E+01		
SF-23-S- 255	988.90	19.540	47.145	-100.170	.238E+01	.153E+01	.193E+01	.102E+01	.106E+01		
SF-23-S- 256	1111.44	19.514	47.285	-102.380	.108E+01	.360E+00	.450E+00	.211E+00	.689E+00		
SF-23-S- 257	1121.06	19.372	47.302	-99.750	.237E+00	.153E+01	.928E+00	.116E+01	.109E+01		
SF-23-S- 258	1047.85	19.293	47.002	-106.800	.532E+01	.413E+01	.377E+01	.451E+01	.443E+01		
SF-23-S- 259	974.25	19.279	47.071	-104.170	.710E+00	.263E+01	.153E+00	.929E+00	.103E+01		
SF-23-S- 260	933.88	19.309	47.028	-105.020	.372E+00	.291E+00	.109E+01	.393E+00	.109E+01		
SF-23-S- 266	1008.71	19.388	47.062	-100.740	.327E+00	.524E+00	.187E+01	.367E+00	.319E+00		
SF-23-S- 267	1029.26	19.212	47.088	-105.210	.211E+01	.126E+01	.657E+00	.134E+01	.124E+01		
SF-23-S- 268	975.67	19.187	47.069	-106.360	.824E+00	.928E+00	.238E+01	.699E+00	.984E+00		
SF-23-S- 271	959.08	19.411	47.023	-95.600	.272E+01	.401E+01	.283E+01	.104E+01	.991E+00		
SF-23-S- 272	976.69	19.454	47.163	-93.980	.324E+01	.437E+01	.283E+01	.240E+01	.232E+01		
SF-23-S- 273	1000.07	19.352	47.269	-99.830	.451E+00	.939E+00	.544E+00	.189E+01	.196E+01		
SF-23-S- 274	932.00	19.171	47.174	-93.650	.319E+00	.151E+01	.396E+01	.352E+01	.363E+01		
SF-23-S- 275	905.05	19.128	47.205	-96.930	.266E+01	.138E+01	.172E+01	.264E+01	.269E+01		
SF-23-S- 277	971.41	19.541	47.100	-98.960	.239E+01	.164E+01	.228E+01	.776E+00	.811E+00		
SF-23-S- 278	965.73	19.394	47.066	-91.720	.261E+01	.349E+01	.189E+01	.130E+01	.104E+01		
SF-23-S- 279	969.75	19.322	47.116	-90.990	.326E+01	.430E+01	.380E+01	.179E+01	.176E+01		
SF-23-S- 280	816.76	19.289	47.157	-94.830	.151E+00	.141E+01	.165E+01	.873E+00	.814E+00		
SF-23-S- 281	948.37	19.270	47.022	-95.680	.174E+00	.133E+01	.215E+01	.452E+00	.374E+00		
SF-23-S- 282	816.25	19.321	47.050	-90.810	.161E+01	.212E+01	.145E+01	.561E+00	.539E+00		
SF-23-S- 283	897.20	19.373	47.007	-90.410	.150E+01	.169E+01	.243E+00	.586E+00	.677E+00		
SF-23-S- 346	922.90	19.015	47.047	-91.750	.322E+01	.415E+01	.294E+01	.436E+00	.499E+00		
SF-23-S- 348	1015.21	19.005	47.031	-101.690	.393E+01	.103E+01	.171E+01	.569E+00	.464E+00		
SF-23-S- 349	920.40	19.036	47.098	-99.670	.483E+01	.526E+01	.371E+01	.292E+01	.509E+00		
SF-23-S- 351	839.21	19.118	47.073	-93.330	.200E+01	.274E+01	.385E+00	.120E+01	.117E+01		
SF-23-S- 352	780.28	19.199	47.079	-95.960	.425E+01	.378E+01	.222E+01	.265E+01	.253E+01		
SF-23-S- 353	776.59	19.206	47.078	-95.840	.408E+01	.359E+01	.214E+01	.268E+01	.267E+01		
SF-23-S- 382	885.46	19.549	47.023	-97.630	.308E+01	.272E+01	.331E+01	.121E+01	.999E+00		
SF-23-M- 342	895.97	18.932	47.037	-92.930	.254E+00	.479E+00	.805E+00	.175E+01	.176E+01		
SF-23-M- 343	957.89	18.955	47.178	-95.130	.377E+01	.345E+01	.265E+01	.580E+00	.695E+00		

SE-23-M= 344	874.43	18.961	47.051	-90.560	-261E+01	-390E+01	-445E+01	-363E+01	-389E+01
SE-23-M= 350	962.40	18.987	47.069	-105.200	-546E+01	-407E+01	-287E+01	-163E+01	-166E+01
SE-23-M= 1753	1022.58	18.950	47.016	-85.020	-183E+01	-134E+00	-167E+01	-252E+01	-254E+01

COEFICIENTES DE GRAU = 1
 .144102E+04 -.125493E+02 -.274387E+02

COEFICIENTES DE GRAU = 2
 .716753E+05 -.119619E+04 -.251672E+04 .850043E+01 .180683E+02 .226438E+02

COEFICIENTES DE GRAU = 3
 -.393190E+06 -.469439E+06 .218564E+06 .145272E+05 .500903E+04 -.630221E+04 -.206672E+03 -.545768E+02 -.623674E+02 .532194E+02

COEFICIENTES DE GRAU = 4
 .203276E+10 -.743137E+08 -.141779E+09 .413358E+07 .133347E+07 .423165E+07 -.760499E+05 -.516279E+05 .523172E+04 .604766E+05

PARAMETROS ESTADISTICOS

	DESPAD	CORR2	COEP%	PSTG	SSRED	YBARGB	YBARCP	SYRES	SYRESQ
GRAU= 1	2.96233	90.97523	82.76493	82.76492	82.76492	-96.87385	*96.87385	0.00000	456.31995
GRAU= 2	2.67439	92.71064	85.95263	85.95263	85.95263	-96.87385	*96.87385	0.00000	371.92156
GRAU= 3	2.35380	94.40262	89.11855	89.11855	89.11855	-96.87385	*96.87385	0.00000	288.09988
GRAU= 4	1.71202	97.07906	94.24345	94.20008	94.20008	-96.87385	*96.87385	0.00000	152.41190
GRAU= 5	1.71280	97.07636	94.23819	94.25707	94.25707	-96.87385	*96.87385	0.00002	152.55094

VALORES RESIDUAIS												
CODIGO/ESTACAO		ALTITUDE	LATITUDE	LONGITUDE	HOUZ	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ	07/50	997.48	19.590	46.900	-89.720	.453E+01	.373E+01	.370E+00	.907E+00	.101E+01		
ONRJ	07/51	905.11	19.555	47.015	-96.300	.197E+00	.923E+01	.909E+01	.240E+00	.499E+00		
ONRJ	07/52	971.37	19.545	47.100	-97.890	.240E+00	.999E+00	.999E+00	.755E+00	.773E+00		
ONRJ	07/53	938.89	19.530	47.185	-99.030	.990E+01	.185E+01	.118E+01	.170E+01	.181E+01		
ONRJ	07/54	1118.32	19.505	47.300	-103.110	.202E+01	.362E+00	.239E+01	.410E+00	.351E+00		
ONRJ	07/55	1050.43	19.467	47.405	-103.290	.583E+00	.124E+00	.292E+01	.082E+00	.782E+00		
ONRJ	07/56	990.61	19.480	47.505	-105.020	.228E+00	.343E+00	.179E+01	.142E+00	.379E+00		
ONRJ	07/57	1005.37	19.540	47.595	-106.020	.117E+01	.770E+01	.383E+01	.155E+00	.140E+01		
SF-23-A-	249	546.05	20.003	47.553	-94.640	.108E+02	.158E+01	.158E+01	.122E+00	.102E+00		
SF-23-A-	250	576.00	20.079	47.422	-100.180	.454E+01	.233E+01	.925E+00	.391E+01	.523E+01		
SF-23-A-	251	1254.77	20.045	47.036	-90.570	.509E+01	.434E+01	.180E+01	.606E+00	.751E+00		
SE-23-T-	244	868.81	19.464	46.952	-93.770	.147E+01	.750E+00	.250E+00	.150E+01	.161E+01		
SE-23-T-	245	991.66	19.560	46.908	-91.350	.307E+01	.285E+01	.844E+00	.900E+00	.919E+00		
SE-23-T-	383	997.40	19.598	46.904	-89.510	.493E+01	.457E+01	.120E+01	.699E+00	.678E+00		
SE-23-T-	384	1040.97	19.594	46.907	-94.770	.921E+00	.647E+01	.318E+01	.131E+01	.134E+01		
SE-23-T-	1758	1066.02	19.493	46.934	-103.700	.679E+01	.144E+01	.142E+01	.300E+01	.317E+01		
SE-23-S-	230	698.01	19.933	47.544	-110.940	.820E+00	.417E+01	.574E+01	.440E+01	.442E+01		
SE-23-S-	231	667.71	19.901	47.543	-112.930	.519E+01	.334E+01	.210E+01	.440E+01	.928E+01		
SE-23-S-	232	804.84	19.865	47.440	-117.680	.804E+01	.882E+01	.561E+01	.230E+00	.367E+00		
SE-23-S-	234	808.16	19.758	47.599	-112.000	.145E+01	.470E+01	.328E+01	.152E+00	.360E+01		
SE-23-S-	236	804.07	19.862	47.569	-108.300	.175E+01	.232E+01	.290E+01	.283E+02	.584E+00		
SE-23-S-	237	1070.47	19.764	47.436	-105.680	.552E+00	.340E+01	.209E+01	.718E+00	.535E+00		
SE-23-S-	238	1025.05	19.609	47.507	-106.980	.190E+00	.979E+00	.217E+01	.663E+00	.451E+01		
SE-23-S-	239	1029.92	19.547	47.590	-117.410	.122E+02	.700E+01	.444E+01	.454E+01	.163E+01		
SE-23-S-	240	1131.90	19.914	47.282	-114.780	.968E+01	.507E+01	.241E+01	.154E+01	.235E+01		
SE-23-S-	241	1151.20	19.966	47.248	-109.920	.279E+01	.199E+01	.888E+00	.253E+01	.440E+01		
SE-23-S-	251	1016.14	19.536	47.589	-104.690	.210E+00	.200E+01	.370E+00	.108E+00	.185E+00		
SE-23-S-	252	944.88	19.539	47.435	-107.080	.473E+01	.252E+00	.165E+01	.220E+01	.150E+00		
SE-23-S-	253	1140.24	19.608	47.307	-100.170	.171E+01	.609E+02	.353E+00	.254E+00	.254E+00		
SE-23-S-	255	948.90	19.540	47.145	-102.380	.149E+01	.452E+00	.144E+01	.307E+00	.108E+01		
SE-23-S-	256	1111.44	19.514	47.285	-95.600	.297E+01	.114E+01	.882E+00	.104E+01	.920E+00		
SE-23-S-	271	959.08	19.411	47.223	-93.980	.390E+01	.129E+01	.533E+01	.112E+01	.449E+00		
SE-23-S-	272	970.69	19.454	47.163	-98.980	.130E+01	.323E+00	.200E+00	.508E+00	.555E+01		
SE-23-S-	277	971.41	19.469	47.100	-102.010	.004E+01	.623E+01	.727E+01	.571E+01	.410E+01		
SE-23-S-	324	961.10	19.855	47.296	-100.240	.142E+01	.462E+01	.624E+01	.417E+01	.158E+01		
SE-23-S-	328	1155.02	19.549	47.023	-97.630	.144E+01	.109E+01	.125E+01	.145E+01			
SE-23-S-	382	885.46										

COEFICIENTES DE GRAU = 1
 .102937E+04 -.109087E+02 -.194013E+02

COEFICIENTES DE GRAU = 2
 .186896E+06 -.694254E+04 -.499765E+04 .818402E+02 .781856E+02 .364482E+02

COEFICIENTES DE GRAU = 3
 -.212385E+07 .107552E+07 -.310022E+06 -.204946E+05 -.285167E+05 .124510E+05 .135566E+03 .265237E+03 .191506E+03 -.114125E+03

COEFICIENTES DE GRAU = 4
 -.446837E+10 -.696495E+08 .407139E+09 .115256E+08 -.519749E+07 -.118499E+06 -.132446E+06 -.321782E+06 .243374E+06 .133597E+06
 .435721E+01 .279009E+04 .165942E+04 -.217242E+04 -.482204E+03

COEFICIENTES DE GRAU = 5
 -.159498E+10 .187654E+09 -.144624E+08 -.267262E+08 .435346E+05 .533028E+07 .831627E+06 .516611E+06 -.273942E+06 -.167955E+06
 -.150739E+05 -.128337E+05 -.627016E+04 .733809E+04 .179963E+04 .210143E+03 -.120953E+03 .267444E+03 -.565926E+02 -.374312E+02
 -.685721E+01

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PARAMETROS ESTADISTICOS		DESPAD	CORRZ	COEPX	PSIQ	SSPED	YBAROH	YBARCP	SYRES	SYRESU
GRAU=	1	5.12727	73.59780	54.16518	54.16518	54.16518	-102.52324	-102.52324	0.00000	972.68928
GRAU=	2	3.01519	87.87190	77.21312	77.21312	77.21312	-102.52324	-102.52324	0.00000	483.57453
GRAU=	3	2.79451	92.94325	86.38448	86.38448	86.38448	-102.52324	-102.52324	0.00000	288.94347
GRAU=	4	1.69090	96.83290	93.76610	93.49795	93.49795	-102.52324	-102.52324	0.00000	132.29349
GRAU=	5	1.87058	96.90169	93.89938	93.82155	93.82155	-102.52324	-102.52325	0.00000	120.40501

V A L O R E S R E S I D U A I S											
COORDEN/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	ECUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 10/15	1001.80	20.540	47.400	-61.520	-.134E+01	.115E+01	.291E+00	-.579E+00	.174E+01		
ONRJ 10/10	860.92	20.315	47.595	-48.860	.122E+02	.364E+01	.284E+01	.773E+00	.229E+01		
ONRJ 10/11	965.04	20.355	47.530	-51.010	.123E+02	.673E+01	.218E+01	.596E+00	.177E+01		
ONRJ 10/12	1008.48	20.385	47.860	-56.030	.108E+02	.618E+01	.151E+01	.736E+00	.155E+01		
ONRJ 10/13	996.87	20.410	47.420	-55.100	.131E+02	.121E+02	.522E+01	.514E+01	.588E+01		
ONRJ 10/14	1022.35	20.455	47.010	-59.330	.735E+01	.736E+01	.119E+01	.715E+00	.302E+01		
ONRJ 10/16	993.89	20.595	47.382	-61.220	.363E+01	.164E+01	.639E+01	.518E+01	.464E+01		
ONRJ 28/4	713.04	20.580	46.030	-97.570	-.211E+01	.186E+01	.259E+00	.106E+01	-.463E+01		
SF-23-B- 528	712.96	20.579	46.032	-98.720	-.329E+01	.642E+00	-.662E+00	-.301E+00	.753E+01		
SF-23-B- 529	844.99	20.576	46.060	-95.730	-.237E+01	.255E+01	.843E+01	.252E+01	.295E+01		
SF-23-B- 672	726.62	20.256	46.091	-98.580	.160E+02	.377E+01	.651E+01	.341E+01	.829E+01		
SF-23-E- 1077	701.66	20.518	46.024	-98.560	.206E+01	.534E+00	-.926E+00	-.152E+01	.521E+01		
SF-23-E- 1087	998.03	20.552	46.064	-101.420	-.666E+01	-.348E+01	-.310E+01	-.558E+01	.429E+01		
SF-23-A- 224	898.98	20.379	47.063	-52.520	.637E+01	-.121E+01	-.173E+01	.309E+01	.240E+01		
SF-23-A- 225	859.22	20.465	47.090	-55.590	-.531E+01	-.151E+02	-.307E+00	.912E+01	.426E+01		
SF-23-A- 242	1095.72	20.126	47.118	-109.540	.538E+01	-.124E+01	.656E+01	.199E+01	.476E+01		
SF-23-A- 243	961.52	20.472	47.005	-62.990	-.625E+01	-.104E+02	-.905E+01	-.942E+01	.975E+01		
SF-23-A- 244	996.51	20.539	47.002	-63.090	-.290E+01	-.601E+00	-.148E+01	-.222E+01	.317E+01		
SF-23-A- 245	996.79	20.406	47.025	-55.940	.122E+02	.110E+02	.412E+01	.400E+01	.674E+01		
SF-23-A- 246	1041.99	20.257	47.090	-63.530	.103E+02	.767E+01	.303E+01	.344E+01	.642E+01		
SF-23-A- 247	884.12	20.208	47.508	-65.270	.596E+01	.178E+01	-.135E+01	-.529E+01	.262E+01		
SF-23-A- 249	546.05	20.003	47.553	-94.640	-.705E+01	-.118E+01	.100E+01	.136E+01	.429E+01		
SF-23-A- 250	576.00	20.079	47.022	-100.180	-.759E+01	-.440E+01	.174E+01	.210E+01	.240E+01		
SF-23-A- 534	1017.68	20.575	47.045	-71.910	.986E+01	-.393E+01	-.442E+01	-.525E+01	.275E+01		
SF-23-A- 674	1254.77	20.095	47.036	-108.390	.145E+02	.214E+01	-.605E+01	-.297E+00	.430E+01		
SF-23-A- 673	1241.99	20.160	47.023	-109.410	.065E+01	-.276E+01	-.351E+01	-.233E+01	.757E+01		
SF-23-A- 1079	583.08	20.229	47.665	-91.400	-.854E+01	-.595E+01	-.672E+01	-.700E+01	.432E+01		
SF-23-A- 1080	1005.37	20.185	47.028	-100.180	-.782E+01	-.762E+01	-.104E+00	.523E+00	.206E+01		
SF-23-A- 1081	700.85	20.263	47.754	-108.420	-.140E+02	-.144E+02	-.908E+01	-.794E+01	.771E+01		
SF-23-A- 1082	661.05	20.328	47.002	-85.330	-.140E+01	-.120E+01	-.574E+00	.127E+01	.106E+01		
SF-23-A- 1083	749.44	20.397	47.084	-70.370	.982E+01	.112E+02	.907E+01	.108E+02	.549E+01		
SF-23-A- 1084	1010.02	20.416	47.007	-91.250	-.619E+01	-.440E+01	-.313E+01	-.208E+01	.210E+01		
SF-23-A- 1085	1058.31	20.449	47.142	-92.060	-.406E+01	-.187E+01	.941E+00	.710E+00	.129E+00		
SF-23-A- 1086	1265.50	20.505	47.135	-103.340	-.190E+02	-.141E+02	-.134E+02	-.130E+02	.922E+01		
SF-23-A- 1103	982.76	20.545	47.087	-86.920	-.161E+01	.489E+01	.590E+01	.512E+01	.664E+01		
SF-23-A- 1104	1165.66	20.481	47.082	-91.460	-.981E+00	.150E+01	.475E+01	.409E+01	.317E+01		
SF-23-S- 230	698.01	19.933	47.544	-103.700	-.102E+02	.356E+00	.149E+01	.183E+01	.292E+01		
SF-23-S- 231	667.71	19.901	47.043	-110.940	-.150E+02	-.216E+01	-.268E+01	-.237E+01	.301E+00		
SE-23-S- 240	1131.99	19.914	47.082	-117.410	-.115E+01	.517E+01	-.665E+00	-.722E+00	.221E+01		
SE-23-S- 241	1151.20	19.966	47.048	-114.780	.397E+00	.311E+01	.347E+01	.138E+01	.184E+00		

COEFICIENTES DE GRAU = 1
 -544264E+04 .742346E+02 .813857E+02

COEFICIENTES DE GRAU = 2
 .293975E+06 -.214844E+04 -.116191E+05 -.699951E+02 .106901E+03 .100718E+03

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COEFICIENTES DE GRAU = 3
 .138094E+09 -.509247E+07 -.656767E+07 .851001E+05 .142276E+06 .108204E+06 -.578244E+03 -.105639E+04 -.104974E+04 -.611638E+03

COEFICIENTES DE GRAU = 4
 -.136331E+11 .647311E+09 .677564E+09 -.129929E+08 -.300648E+08 -.214317E+06 .121060E+06 .390875E+05 .469590E+06 .235508E+06
 -.480200E+03 -.174605E+04 -.301755E+04 -.245242E+04 -.984158E+03

PARAMETROS ESTADISTICOS	DESPAD	CORR1	COEP2	PST0	SSRED	YBARD0	YBARCP	SYRES	SYRES2
GRAU= 1	8.80570	91.03098	82.86630	82.86639	82.86639	-83.93025	*83.93025	0.00000	3101.61423
GRAU= 2	6.52163	95.18510	90.60204	90.60204	90.60204	-83.93025	*83.93025	0.00000	1701.26763
GRAU= 3	4.71496	97.51297	95.08780	95.08780	95.08780	-83.93025	*83.93025	0.00000	889.23240
GRAU= 4	4.39888	97.83880	95.72431	95.74321	95.74321	-83.93025	*83.93025	0.00000	774.00683
GRAU= 5	4.40985	97.82790	95.70297	97.55701	97.55701	-83.93025	*83.93025	0.00004	777.87025

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	GRAU 1	GRAU 2	GRAU 3	GRAU 4	GRAU 5	GRAU 6	GRAU 7
ONRJ 10/15	1001.80	20.540	47.400	-61.520	.965E+01	.450E+01	.132E+01	-.558E+00	-.900E+00		
ONRJ 10/13	996.87	20.410	47.420	-55.100	.157E+02	.591E+01	.256E+01	.131E+01	.129E+01		
ONRJ 10/14	1022.35	20.455	47.410	-58.530	.127E+02	.477E+01	.946E+00	-.123E+01	-.630E+00		
ONRJ 10/16	943.89	20.595	47.362	-61.220	.105E+02	.757E+01	.567E+01	.491E+01	.509E+01		
ONRJ 10/17	801.91	20.700	47.445	-71.140	-.242E+01	-.277E+01	-.216E+01	-.243E+01	-.242E+01		
ONRJ 10/18	744.57	20.795	47.467	-73.490	-.601E+01	-.131E+01	.162E+01	.949E+00	.109E+01		
ONRJ 10/19	778.91	20.850	47.528	-71.130	-.645E+01	.266E+01	.397E+01	.165E+01	.138E+01		
ONRJ 10/20	903.65	20.898	47.600	-73.000	-.115E+02	.351E+01	-.463E+00	-.220E+01	-.225E+01		
ONRJ 28/1	742.99	20.645	47.297	-78.550	-.335E+01	-.350E+01	-.249E+01	.204E+00	.526E+00		
ONRJ 28/2	1018.16	20.633	47.112	-85.730	-.263E+01	-.137E+01	.657E+00	-.412E+00	-.126E+01		
ONRJ 28/3	771.95	20.615	47.658	-84.670	.558E+00	.269E+01	.379E+01	.126E+01	.102E+01		
ONRJ 28/4	713.04	20.580	46.930	-97.570	-.657E+01	-.195E+01	-.462E+01	.445E+00	.999E+00		
SF-23-B- 528	712.96	20.579	46.932	-98.720	-.774E+01	-.367E+01	-.554E+01	-.676E+00	-.469E+00		
SF-23-B- 529	844.99	20.576	46.960	-95.730	-.598E+01	-.113E+01	-.186E+01	-.223E+01	-.250E+01		
SF-23-B- 546	940.00	20.914	46.943	-64.460	.227E+02	.867E+01	.110E+01	.668E+00	.575E+00		
SF-23-B- 1077	701.66	20.518	46.924	-98.560	-.704E+01	.275E+01	.553E+01	.168E+01	.792E+00		
SF-23-A- 225	859.22	20.465	47.590	-55.590	.775E+01	-.125E+02	-.247E+01	-.549E+01	.755E+02		
SF-23-A- 244	996.51	20.539	47.402	-63.040	.800E+01	.272E+01	-.467E+00	-.272E+01	-.284E+01		
SF-23-A- 245	996.70	20.406	47.425	-55.940	.146E+02	.441E+01	.135E+01	-.277E+00	-.569E+00		
SF-23-A- 530	742.83	20.611	47.059	-85.200	.203E+00	.251E+01	.580E+01	.120E+01	.435E+00		
SF-23-A- 531	1018.08	20.626	47.117	-86.460	-.357E+01	-.209E+01	-.247E+01	-.744E+00	-.406E+00		
SF-23-A- 532	864.50	20.635	47.228	-84.250	-.608E+01	-.555E+01	-.377E+01	-.711E+00	-.651E+00		
SF-23-A- 533	742.91	20.642	47.299	-79.540	-.446E+01	-.475E+01	-.342E+01	-.107E+01	-.766E+00		
SF-23-A- 534	1017.68	20.575	47.345	-71.910	.147E+01	-.801E+00	-.294E+01	-.174E+01	-.190E+01		
SF-23-A- 541	858.78	20.468	47.544	-72.420	-.106E+02	.161E+01	-.100E+01	.226E+01	.250E+01		
SF-23-A- 562	758.75	20.821	47.524	-73.760	-.682E+01	-.173E+01	-.792E+00	-.103E+00	-.135E+00		
SF-23-A- 583	744.60	20.801	47.487	-74.500	-.791E+01	-.263E+01	-.396E+00	-.683E+00	-.759E+00		
SF-23-A- 584	801.92	20.723	47.460	-73.040	-.580E+01	-.438E+01	-.339E+01	-.316E+01	-.312E+01		
SF-23-A- 585	980.72	20.613	47.468	-59.290	.113E+02	.807E+01	.654E+01	.515E+01	.479E+01		
SF-23-A- 1064	1010.02	20.416	47.207	-91.250	-.115E+02	-.672E+01	-.806E+01	.184E+00	.712E+01		
SF-23-A- 1065	1050.31	20.449	47.142	-92.060	-.960E+01	-.236E+01	-.855E+00	-.240E+00	.246E+01		
SF-23-A- 1102	840.76	20.602	47.202	-84.900	-.553E+01	-.430E+01	-.323E+01	-.345E+00	-.477E+00		
SF-23-A- 1103	982.76	20.545	47.087	-86.920	-.246E+01	.261E+01	.467E+01	.153E+01	.146E+01		
SF-23-A- 1104	1165.66	20.481	47.082	-91.460	-.657E+01	.172E+01	.514E+01	-.802E+00	-.695E+00		
SF-23-G- 544	996.60	21.078	47.449	-77.450	.683E+01	-.783E+01	-.161E+01	.224E+00	.219E+00		
SF-23-G- 545	1064.00	21.005	47.016	-60.190	.197E+02	.395E+01	.160E+01	-.704E+00	-.645E+00		

COEFICIENTES DE GRAU = 1
 -.215350E+04 .337457E+01 .424687E+02

COEFICIENTES DE GRAU = 2
 -.163688E+06 .123240E+05 .142689E+04 -.301332E+02 -.234390E+03 .360203E+02

COEFICIENTES DE GRAU = 3
 -.112882E+08 .205993E+07 -.186746E+06 -.487702E+04 -.825323E+05 .219666E+05 .488438E+02 .370919E+02 .653833E+03 -.278715E+03

COEFICIENTES DE GRAU = 4
 -.978743E+10 -.612597E+09 .109666E+10 .144689E+08 .262638E+08 -.405690E+08 -.672448E+05 -.524402E+06 -.326854E+06 .620260E+06
 -.195129E+03 .176889E+04 .438974E+04 .102865E+04 -.339564E+04

COEFICIENTES DE GRAU = 5
 -.102731E+09 -.780428E+09 .136239E+09 .499815E+08 .908152E+07 .429364E+07 -.192655E+07 -.332475E+06 .141726E+06 -.400117E+06
 .418798E+05 .591113E+04 -.192440E+04 -.397518E+04 .817092E+04 -.116805E+04 .166968E+04 -.149924E+04 .644750E+03 -.123016E+03
 -.389891E+02

PARAMETROS ESTADISTICOS									
	DESPAD	CORR%	CDEF%	PSTD	SSRED	YHARDH	YHACCP	SYHFS	SYHESN
GRAU= 1	9.27936	69.73373	48.62793	48.62793	48.62793	-76.51250	-76.51250	-0.00000	3099.03622
GRAU= 2	4.66662	93.27718	87.00632	87.00632	87.00632	-76.51250	-76.51250	0.00000	784.05006
GRAU= 3	3.40777	96.47303	93.97162	93.97161	93.97161	-76.51250	-76.51250	0.00000	418.06000
GRAU= 4	1.75799	99.07370	98.15617	97.81312	97.81312	-76.51250	-76.51250	-0.00000	111.25649
GRAU= 5	1.74115	99.09153	98.19131	98.16927	98.16927	-76.51250	-76.51250	0.00002	100.13622

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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V A L O R E S R E S I D U A I S											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-23-H- 539	574.00	21.426	46.974	-63.770	.143E+01	-.351E+01	-.420E+01	-.208E+01			
SF-23-H- 542	894.00	21.188	46.869	-60.170	.460E+01	.243E+01	.402E+01	.326E+01			
SF-23-H- 543	886.00	21.146	46.999	-68.880	-.376E+01	-.404E+01	-.780E+00	-.389E+01			
SF-23-H- 555	876.00	21.229	46.619	-57.540	.664E+01	.133E+01	-.111E+01	-.127E+00			
SF-23-B- 546	940.00	20.914	46.093	-64.480	.202E+00	.388E+01	-.669E+00	-.211E+00			
SF-23-G- 538	640.00	21.471	47.007	-54.190	.115E+02	.797E+01	.694E+01	.205E+01			
SF-23-G- 544	996.00	21.078	47.049	-77.450	-.118E+02	-.952E+01	-.500E+01	.332E+00			
SF-23-G- 545	1064.00	21.005	47.016	-66.190	-.106E+01	.151E+01	.345E+01	.751E+00			
SF-23-C- 557	767.00	21.275	47.907	-68.220	.119E+01	.464E+01	.245E+01	.150E+01			
SF-23-G- 558	615.00	21.291	47.030	-68.080	.300E+01	.430E+01	-.714E+00	-.179E+01			
SF-23-C- 559	609.40	21.311	47.066	-69.120	.380E+01	.621E+01	-.219E+01	.126E+01			
SF-23-G- 560	668.40	21.211	47.896	-69.650	.412E+01	-.291E+01	.187E+01	-.229E+00			
SF-23-G- 1000	587.51	21.534	47.900	-79.700	-.113E+02	-.775E+01	-.335E+01	-.135E+01			
SF-23-G- 1001	550.96	21.489	47.276	-72.000	-.326E+01	.123E+01	.230E+01	.257E+01			
SF-23-G- 1002	705.22	21.476	47.362	-75.610	-.545E+01	-.107E+01	-.241E+01	-.351E+01			
SF-23-G- 1003	700.77	21.495	47.265	-72.080	-.226E+00	.277E+01	.201E+01	.251E+01			
SF-23-G- 1004	649.53	21.466	47.584	-73.040	.356E+00	-.132E+01	.234E+00	-.105E+01			

COEFICIENTES DE GRAU = 1
 .5938P9E+03 -.15301E+01 -.133332E+02

COEFICIENTES DE GRAU = 2
 .134624E+06 .2P1316E+04 -.695252E+04 -.116808E+02 -.490577E+02 .844601E+02

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COEFICIENTES DE GRAU = 3
 .400017E+08 -.720976E+06 -.221203E+07 .304087E+05 .323901E+04 .459955E+05 -.203E35E+03 -.359953E+03 .131967E+03 -.34359PE+03

COEFICIENTES DE GRAU = 4
 .140512E+11 -.722090E+09 -.861123E+09 .109511E+08 .356709E+08 .191635E+08 .296757E+06 -.853505E+05 -.368342E+06 -.214582E+06
 -.198099E+04 -.270007E+04 .109431E+05 -.695135E+03 .121039E+04

PARAMETROS ESTADISTICOS DESPAD	CORR2	COEF%	PST0	SSRED	YBAR0B	YBARLP	SYRES	SYPESQ
GRAU= 1	5.76326	49.60769	24.60923	24.60923	-68.26294	-68.26294	-0.00030	554.65826
GRAU= 2	4.39637	74.91979	56.12976	56.12976	-68.26294	-68.26294	-0.00030	328.57732
GRAU= 3	3.25788	87.12589	75.90921	75.90921	-68.26294	-68.26294	0.00030	180.43410
GRAU= 4	2.03327	95.19263	90.61637	90.67385	-68.26294	-68.26294	-0.00030	70.28109

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-23-G- 1609	677.14	17.865	47.961	-109.600	-.851E+01	-.122E+02	-.669E+01	-.582E+01			
SF-23-G- 1610	601.19	17.776	47.857	-106.640	-.886E+01	-.140E+02	-.497E+01	-.172E+00			
SF-23-G- 1611	682.78	17.652	47.758	-104.230	-.868E+01	-.488E+01	-.481E+01	-.139E+01			
SF-23-G- 1612	950.01	17.555	47.764	-107.600	-.809E+01	-.358E+01	-.594E+01	-.140E+00			
SF-23-G- 1613	677.05	17.403	47.848	-104.600	-.103E+01	-.178E+01	-.652E+00	-.528E+02			
SF-23-G- 1666	656.59	17.949	47.843	-87.090	-.141E+02	-.205E+01	-.570E+01	-.287E+00			
SF-23-G- 1667	650.58	17.929	47.828	-87.610	-.988E+01	-.641E+01	-.994E+01	-.859E+00			
SF-23-G	659.47	17.940	47.857	-82.940	-.245E+01	-.890E+01	-.245E+01	-.237E+00			
SF-23-G	674.65	17.864	47.862	-72.630	-.131E+02	-.815E+01	-.113E+01	-.397E+00			
SF-23-G	618.34	17.870	47.709	-71.540	-.167E+02	-.763E+01	-.608E+01	-.951E+00			
SF-23-G	699.23	17.860	47.754	-73.570	-.171E+02	-.695E+01	-.936E+01	-.974E+00			
SF-23-G- 1672	662.12	17.799	47.723	-75.200	-.143E+02	-.109E+02	-.301E+01	-.261E+00			
SE-23-C- 1673	666.51	17.757	47.756	-83.440	-.963E+01	-.751E+01	-.406E+01	-.190E+01			
SF-23-C- 1675	962.37	17.699	47.757	-101.080	-.661E+01	-.516E+01	-.708E+01	-.253E+01			
SF-22-R- 411	700.11	18.070	48.090	-107.450	-.440E+01	-.142E+01	-.430E+00	-.449E+02			
SE-22-L- 1608	618.48	17.761	48.058	-111.200	-.292E+01	-.770E+01	-.360E+01	-.154E+02			
SE-22-L- 1679	924.42	17.409	48.015	-111.360	-.258E+01	-.108E+01	-.380E+00	-.117E+01			

COEFICIENTES DE GRAU = 1
 +193007E+04 +222141E+02 +506245E+02

COEFICIENTES DE GRAU = 2
 +.865123E+06 +.644505E+04 +.337948E+05 +99+624E+02 +.206948E+03 +.315331E+03

COEFICIENTES DE GRAU = 3
 +.795476E+08 +.342150E+06 +.512933E+07 +.33+602E+05 +.107701E+05 +.105496E+06 +.154156E+04 +.130766E+04 +.258844E+03 +.76867+E+03

COEFICIENTES DE GRAU = 4
 +.302440E+10 +.112365E+09 +.315993E+09 +.37+778E+08 +.346267E+08 +.169740E+08 +.593420E+06 +.221742E+07 +.154114E+07 +.43542+E+06
 +.122421E+05 +.562725E+04 +.200600E+05 +.15+665E+05 +.376669E+04

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PARAMETROS ESTADISTICOS

	DESPAD	CORRE	CDEP%	PSTC	SSRED	YBAR08	YBARLP	SYRES	SYRESQ
GRAU= 1	10.04650	72.72651	52.89436	52.89436	52.89436	-94.05765	-94.05765	-0.00000	1715.84509
GRAU= 2	7.46731	86.00936	73.97609	73.97609	73.97609	-94.05765	-94.05765	0.00000	947.93308
GRAU= 3	5.30994	93.18853	86.84102	86.84102	86.84102	-94.05765	-94.05765	-0.00000	479.32207
GRAU= 4	0.94048	99.79338	99.58720	99.71049	99.71049	-94.05765	-94.05765	0.00000	15.03658

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-G- 1666	856.59	17.949	47.443	-87.090	-.218E+01	-.486E+00	+.104E+01	+.113E+00	+.128E+00		
SE-23-G- 1667	850.58	17.929	47.528	-87.610	-.795E+00	+.187E+01	+.197E+01	+.421E+00	+.511E+00		
SE-23-G- 389	859.47	17.940	47.587	-82.940	+.508E+01	+.262E+01	+.115E+01	+.377E+00	+.468E+00		
SE-22-P- 411	848.22	18.132	48.089	-102.135	+.438E+01	+.152E+01	+.394E+01	+.105E+00	+.148E+00		
SE-22-P- 719	700.11	18.070	48.090	-107.450	+.937E+01	+.246E+01	+.272E+01	+.992E+01	+.107E+00		
SE-22-R- 720	531.28	18.442	48.017	-99.100	+.444E+01	+.352E+01	+.334E+01	+.121E+01	+.129E+01		
SE-22-R- 1781	714.68	18.518	48.053	-95.430	+.320E+00	+.242E+01	+.305E+01	+.188E+01	+.193E+01		
SE-23-V- 471	883.53	18.515	48.046	-93.640	+.366E+01	+.121E+01	+.933E+00	+.146E+01	+.158E+01		
SE-23-V- 709	741.98	18.482	47.805	-84.240	+.273E+01	+.590E+01	+.184E+01	+.985E+01	+.159E+00		
SE-23-V- 710	840.66	18.537	47.669	-89.110	+.452E+01	+.275E+00	+.859E+00	+.282E+00	+.622E+00		
SE-23-V- 711	759.08	18.483	47.571	-89.270	+.423E+01	+.366E+01	+.233E+01	+.261E+01	+.253E+01		
SE-23-V- 712	714.84	18.415	47.805	-85.040	+.104E+01	+.539E+00	+.105E+01	+.132E+01	+.113E+01		
SE-23-V- 713	640.77	18.453	47.844	-93.320	+.341E+01	+.139E+01	+.26 E+01	+.133E+01	+.137E+01		
SE-23-V- 714	670.33	18.487	47.723	-84.110	+.414E+01	+.131E+01	+.141E+01	+.944E+00	+.868E+00		
SE-23-V- 715	567.05	18.379	47.778	-85.470	+.447E+01	+.217E+00	+.625E+01	+.393E+01	+.280E+00		
SE-23-V- 716	696.11	18.352	47.797	-85.900	+.459E+01	+.228E+00	+.219E+00	+.975E+01	+.122E+00		
SE-23-V- 717	827.26	18.226	47.842	-84.430	+.761E+01	+.350E+01	+.247E+01	+.329E+00	+.155E+00		
SE-23-V- 718	842.25	18.172	47.854	-92.260	+.244E+01	+.154E+01	+.236E+00	+.982E+00	+.663E+00		
SE-23-V- 721	799.52	18.285	47.886	-95.150	+.132E+01	+.165E+01	+.149E+01	+.962E+00	+.116E+01		
SE-23-V- 722	723.86	18.568	47.875	-86.590	+.449E+01	+.291E+01	+.684E+00	+.116E+01	+.132E+01		
SE-23-V- 723	765.25	18.581	47.850	-88.750	+.174E+01	+.109E+00	+.179E+01	+.139E+01	+.136E+01		
SE-23-V- 724	776.36	18.505	47.786	-81.580	+.621E+01	+.386E+01	+.423E+01	+.172E+01	+.176E+01		
SE-23-V- 725	785.02	18.589	47.834	-90.780	+.493E+01	+.421E+01	+.223E+01	+.111E+01	+.954E+00		
SE-23-V- 1776	759.09	18.585	47.839	-87.790	+.180E+01	+.132E+01	+.502E+00	+.135E+01	+.935E+00		
SE-23-V- 1777	922.10	18.354	47.822	-89.600	+.499E+01	+.461E+01	+.305E+01	+.561E+01	+.130E+00		
SE-23-V- 1778	839.34	18.348	47.769	-87.520	+.238E+01	+.209E+01	+.215E+01	+.231E+01	+.225E+01		
	806.02	18.340	47.865	-87.950	+.404E+01	+.386E+00	+.670E+00	+.127E+01	+.133E+01		

COEFICIENTES DE GRAU = 1
 .836829E+03 .487784E+01 -.212738E+02

COEFICIENTES DE GRAU = 2
 -.168579E+06 -.449653E+03 .724989E+04 -.244536E+02 .281716E+02 -.815272E+02

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COEFICIENTES DE GRAU = 3
 .212395E+08 .242366E+06 .143165E+07 .450756E+03 -.105115E+05 .320889E+05 .123314E+03 .132305E+03 .593843E+02 -.232241E+03

COEFICIENTES DE GRAU = 4
 .515067E+10 .757089E+08 .460577E+09 -.240666E+07 -.287041E+07 .150197E+08 .103075E+06 -.158169E+05 .659905E+05 -.218119E+06
 -.223447E+04 .126871E+04 .565242E+03 -.314571E+03 .117189E+04

COEFICIENTES DE GRAU = 5
 .437206E+10 .198406E+09 .246927E+09 .184436E+07 .154276E+08 .136846E+07 -.429267E+06 .327130E+05 -.625637E+06 .179276E+06
 .143002E+05 .208623E+04 .571217E+04 .104252E+05 .423811E+04 .160719E+02 .313047E+03 .276385E+03 .12283E+02 .411326E+02
 .266207E+02

PARAMETROS ESTADISTICOS	DESPAD	CORR2	CDEP%	PST0	SSRED	YBAROB	YBARCP	SYRES	SYRES0
GRAU= 1	4.35330	71.60258	51.26929	51.26929	51.26929	-89.64111	-89.64111	0.00000	511.68351
GRAU= 2	2.55924	91.19115	83.15826	83.15826	83.15826	-89.64111	-89.64111	0.00000	176.84205
GRAU= 3	2.10374	94.13808	88.61978	88.61978	88.61978	-89.64111	-89.64111	0.00000	119.49489
GRAU= 4	1.16342	98.24437	96.51955	96.10447	96.10447	-89.64111	-89.64111	0.00000	36.54547
GRAU= 5	1.15754	98.26221	96.55461	96.51501	96.51501	-89.64111	-89.64111	0.00001	36.17734

***** MAPA GRAVIMETRICO (TENDENCIA EQUIGRA) **** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/6	865.41	18.725	47.498	-74.410	.139E+02	.130E+02	.105E+02	.053E+01	.643E+01		
ONRJ 14/7	765.59	18.743	47.492	-94.670	.043E+01	-.582E+01	-.624E+01	-.255E+01	-.277E+01		
SF-22-R- 338	961.86	18.644	48.049	-95.020	-.352E+01	-.204E+01	-.192E+01	-.364E+01	-.391E+01		
SF-22-R- 339	937.25	18.715	48.093	-95.600	-.191E+01	-.220E+01	.803E+00	-.142E+01	-.123E+01		
SF-22-P- 363	941.95	18.816	48.027	-86.710	.748E+01	.462E+01	.662E+01	.567E+01	.673E+01		
SF-22-R- 710	911.67	18.757	48.070	-89.710	.423E+01	.266E+01	.536E+01	.316E+01	.328E+01		
SF-22-R- 716	531.26	18.442	48.017	-99.160	-.017E+01	-.677E+00	.406E+01	-.111E+01	-.767E+00		
SF-22-P- 720	714.68	18.518	48.053	-95.430	-.428E+01	.175E+01	.102E+01	.372E+01	.326E+01		
SF-22-P- 1701	883.53	18.515	48.046	-98.640	-.758E+01	-.156E+01	-.249E+01	-.580E+00	-.635E+00		
SF-22-Y- 294	901.97	19.023	48.077	-89.900	.704E+01	.968E+00	.532E+01	-.191E+01	-.187E+01		
SF-23-S- 346	1015.21	19.005	47.531	-101.690	-.998E+01	-.420E+01	.174E+01	-.275E+00	-.765E+00		
SF-23-S- 349	920.40	19.036	47.598	-99.070	-.639E+01	-.145E+01	.186E+01	.718E+03	.726E+01		
SF-23-S- 358	954.83	19.061	47.050	-100.280	-.501E+01	-.416E+01	.685E+01	-.102E+02	-.100E+02		
SF-23-S- 359	971.46	19.037	47.796	-83.110	.114E+02	.113E+02	.123E+02	.731E+01	.957E+01		
SF-23-S- 360	814.80	19.043	47.918	-84.420	.113E+02	.835E+01	.623E+01	.516E+01	.581E+01		
SF-23-N- 333	864.82	18.726	47.899	-75.860	.125E+02	.116E+02	.905E+01	.215E+01	.462E+01		
SF-23-N- 334	990.27	18.804	47.573	-82.330	.756E+01	.749E+01	.649E+01	.367E+01	.341E+01		
SF-23-N- 335	767.72	18.744	47.493	-91.300	-.966E+00	-.243E+01	.283E+01	.713E+00	.534E+00		
SF-23-N- 336	991.16	18.723	47.782	-90.760	.157E+00	-.140E+01	.127E+01	.268E+01	.317E+01		
SF-23-N- 337	980.47	18.655	47.000	-86.350	.491E+01	.465E+01	.494E+01	.309E+01	.312E+01		
SF-23-N- 340	1023.23	18.820	47.476	-81.300	.788E+01	.924E+01	.701E+01	.175E+00	.500E+00		
SF-23-N- 341	1026.37	18.895	47.405	-93.610	-.427E+01	.595E+00	-.176E+01	-.965E+00	-.720E+00		
SF-23-N- 347	947.20	18.889	47.427	-95.260	-.394E+01	-.321E+01	-.235E+01	-.500E+01	-.469E+01		
SF-23-N- 350	962.40	18.987	47.469	-105.200	-.142E+02	-.747E+01	.614E+01	.549E+00	.512E+00		
SF-23-N- 471	741.98	18.462	47.405	-84.240	.557E+00	-.385E+01	.892E+00	.952E+01	.346E+01		
SF-23-N- 709	840.66	18.537	47.469	-89.110	-.313E+01	-.641E+01	.564E+01	-.293E+01	-.262E+01		
SF-23-N- 710	759.08	18.483	47.571	-89.270	-.293E+01	-.503E+01	.391E+01	-.134E+01	-.140E+01		
SF-23-N- 711	714.84	18.415	47.405	-85.040	.859E+00	.766E+01	.265E+01	-.158E+01	-.145E+01		
SF-23-N- 712	640.77	18.453	47.444	-83.320	.335E+01	.276E+01	.329E+01	.104E+01	.807E+00		
SF-23-N- 713	670.33	18.487	47.723	-84.110	.367E+01	.406E+01	.282E+01	.415E+00	.826E+00		
SF-23-N- 721	723.86	18.568	47.075	-85.590	.347E+01	.475E+01	.362E+01	.123E+01	.124E+01		
SF-23-N- 722	765.25	18.581	47.050	-88.750	.123E+01	.186E+01	.624E+00	.236E+01	.225E+01		
SF-23-N- 723	776.36	18.505	47.706	-81.580	.623E+01	.607E+01	.489E+01	.360E+01	.353E+01		
SF-23-N- 724	785.02	18.589	47.434	-93.780	.270E+01	-.441E+01	.577E+01	-.143E+01	.155E+01		
SF-23-N- 725	759.09	18.585	47.439	-87.790	.294E+00	-.136E+01	.273E+01	.143E+01	.206E+01		
SF-23-N- 726	954.80	18.696	47.714	-95.620	-.342E+01	-.390E+01	-.244E+01	-.182E+01	-.174E+01		
SF-23-N- 727	983.20	18.847	47.755	-99.480	-.744E+01	.584E+01	.765E+01	-.446E+01	.450E+01		
SF-23-N- 728	982.70	18.842	47.906	-98.360	-.499E+01	-.763E+01	-.601E+01	-.228E+01	-.241E+01		
SF-23-N- 729	963.07	18.764	47.097	-100.090	-.674E+01	-.862E+01	-.655E+01	-.751E+01	-.735E+01		
SF-23-N- 731	971.37	18.727	47.883	-90.600	.130E+01	-.176E+00	.633E+00	.238E+01	.204E+01		
SF-23-N- 1700	911.53	18.621	47.454	-89.490	-.871E+00	-.250E+01	-.393E+01	.438E+00	.797E+00		
SF-23-N- 1775	963.40	18.649	47.458	-89.790	-.267E+01	-.473E+01	-.707E+01	-.359E+01	-.988E+01		
SF-23-N- 1779	994.99	18.658	47.467	-89.770	.121E+01	.659E+00	.734E+00	.344E+00	.390E+00		

COEFICIENTES DE GRAU = 1
 .554738E+03 -.110255E+02 -.919232E+01

COEFICIENTES DE GRAU = 2
 .380252E+05 -.251827E+04 -.596615E+03 -.335506E+02 .788644E+02 -.930953E+01

COEFICIENTES DE GRAU = 3
 -.885003E+07 .842272E+06 .226457E+06 -.164376E+05 -.221129E+05 -.413794E+03 .612119E+02 .279794E+03 .122560E+03 -.131812E+02

COEFICIENTES DE GRAU = 4
 -.136990E+10 -.554913E+08 .136473E+09 -.187926E+07 .498357E+07 -.526736E+07 -.100370E+06 .196483E+05 -.181780E+06 .973914E+05
 .152794E+03 .186127E+04 -.314830E+04 .209351E+04 -.715743E+03

COEFICIENTES DE GRAU = 5
 -.116290E+10 .801278E+08 .547301E+08 -.392180E+07 -.471270E+07 .333976E+06 .112053E+07 -.111171E+07 .633900E+06 -.132072E+06
 -.209992E+05 -.140685E+05 .347832E+05 -.191811E+05 .382776E+04 .601909E+03 -.735551E+03 .754553E+03 -.564176E+03 .221759E+03
 -.366336E+02

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PARAMETROS ESTADISTICOS	DESFAD	CORR1	CDEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.33224	40.58798	16.47380	16.47384	16.47384	-90.57140	-90.57140	0.00030	1724.18080
GRAU= 2	5.53908	60.07314	36.08783	36.08783	36.08783	-90.57140	-90.57140	-0.00030	1319.30099
GRAU= 3	5.13280	67.17113	45.11960	45.11960	45.11960	-90.57140	-90.57140	0.00030	1132.86336
GRAU= 4	4.00240	81.62757	66.63060	66.53852	66.53852	-90.57140	-90.57140	-0.00030	688.82459
GRAU= 5	3.97549	81.90102	67.07777	66.78257	66.78257	-90.57140	-90.57139	-0.00013	679.59407

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
QNRJ 07/55	1050.43	19.467	47.405	-103.290	.579E+01	.433E+01	-.120E+01	-.214E+01	.403E+01		
QNRJ 07/56	990.61	19.480	47.505	-105.020	.305E+01	.330E+00	.488E+01	-.852E+00	.283E+01		
QNRJ 07/57	1005.37	19.540	47.595	-106.020	.208E+01	-.345E+01	.768E+00	-.865E+01	.154E+01		
QNRJ 07/58	1007.47	19.565	47.705	-103.730	.347E+01	-.121E+01	.195E+01	.191E+01	.102E+01		
SE-22-Y- 212	936.63	19.337	48.033	-108.370	-.973E+01	.240E+00	.118E+01	.234E+00	.243E+01		
SE-22-Y	897.30	19.106	48.037	-.97.910	-.381E+01	-.381E+01	.112E+01	.347E+00	-.151E+01		
SE-22-Y- 294	901.97	19.023	48.077	-.89.900	.209E+01	-.364E+01	-.994E+00	-.151E+00	.856E+00		
SE-23-S- 210	980.00	19.517	47.908	-102.730	.986E+00	.530E+01	-.498E+00	-.197E+00	-.120E+01		
SE-23-S- 211	988.16	19.481	47.904	-103.450	-.400E+00	.464E+01	-.505E+00	-.370E+00	.995E+00		
SE-23-S- 215	1017.27	19.391	47.634	-.98.010	.670E+01	.803E+01	.693E+01	.656E+01	.472E+01		
SE-23-S- 216	999.13	19.428	47.693	-106.490	-.180E+01	.968E+00	-.199E+01	-.288E+01	-.391E+01		
SE-23-S- 217	1003.12	19.315	47.699	-103.900	-.148E+01	.135E+01	.647E+00	.193E+01	-.632E+00		
SE-23-S- 218	993.36	19.210	47.712	-107.950	-.773E+01	-.546E+01	-.481E+01	-.376E+01	-.327E+01		
SE-23-S- 219	794.00	19.135	47.682	-101.460	-.233E+01	.151E+01	-.243E+00	-.673E+00	.852E+00		
SE-23-S- 239	1029.92	19.547	47.590	-106.980	.131E+01	-.471E+01	.662E+01	-.435E+00	.127E+01		
SE-23-S- 251	1016.14	19.546	47.569	-109.920	-.163E+01	-.759E+01	-.290E+01	-.337E+01	-.468E+01		
SE-23-S- 252	948.88	19.539	47.435	-104.690	.542E+01	-.117E+01	.526E+00	.323E+01	-.346E+00		
SE-23-S- 259	974.25	19.279	47.471	-104.170	.428E+00	.562E+01	.150E+01	.841E+00	-.550E+00		
SE-23-S- 260	933.88	19.309	47.528	-105.020	-.546E+00	.311E+01	.525E+00	.109E+01	-.104E+01		
SE-23-S- 266	1008.71	19.388	47.492	-105.740	.704E+00	.242E+01	-.128E+01	-.199E+01	-.174E+01		
SE-23-S- 267	1029.26	19.212	47.488	-105.210	-.212E+01	.345E+01	.157E+01	.950E+00	.135E+01		
SE-23-S- 268	975.67	19.187	47.589	-106.360	-.502E+01	-.169E+01	-.107E+01	-.280E+00	-.954E+00		
SE-23-S- 269	935.58	19.176	47.605	-105.220	-.431E+01	-.141E+01	-.484E+00	.242E+00	.600E+00		
SE-23-S- 270	727.46	19.161	47.645	-105.030	-.491E+01	-.290E+01	-.169E+01	-.134E+01	-.861E+00		
SE-23-S- 286	731.12	19.162	47.647	-104.920	-.482E+01	-.284E+01	-.163E+01	-.131E+01	.154E+01		
SE-23-S- 290	976.45	19.214	47.718	-103.820	-.359E+01	-.128E+01	-.663E+00	.438E+00	.166E+01		
SE-23-S- 291	939.53	19.174	47.952	-104.210	-.773E+01	-.526E+01	-.261E+01	-.184E+01	.285E+00		
SE-23-S- 292	948.55	19.186	47.966	-102.910	-.639E+01	-.313E+01	-.683E+01	.912E+00	.154E+01		
SE-23-S- 348	1015.21	19.005	47.531	-101.690	-.317E+01	-.284E+01	-.707E+01	.554E+00	-.210E+01		
SE-23-S- 349	920.40	19.036	47.598	-.99.070	-.796E+00	-.158E+01	.236E+00	-.127E+00	.379E+01		
SE-23-S- 359	971.46	19.037	47.796	-.83.110	.127E+02	.775E+01	.606E+01	.307E+01	.198E+01		
SE-23-S- 360	814.80	19.043	47.918	-.84.420	.994E+01	.463E+01	.301E+01	.733E+00	-.209E+01		
SE-23-S- 361	952.47	19.556	47.802	-103.740	.206E+01	.869E+00	-.440E+00	.176E+00	.558E+00		
SE-23-Y- 350	962.40	18.987	47.469	-105.200	-.623E+01	-.391E+01	-.240E+00	-.382E+00	.111E+01		
SE-23-Y- 361	876.63	18.936	47.895	-70.750	.218E+02	.831E+01	-.273E+01	-.104E+01	.725E+01		

COEFICIENTES DE GRAU = 1
 -.330204E+03 -.194028E+02 .126323E+02

COEFICIENTES DE GRAU = 2
 -.154279E+06 .434084E+03 .628568E+04 .100186E+03 -.905267E+02 -.474705E+02

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COEFICIENTES DE GRAU = 3
 .690380E+07 .824706E+06 -.769012E+06 -.353174E+04 -.317195E+05 .225659E+05 -.276445E+03 .411065E+03 .165559E+03 -.180127E+03

COEFICIENTES DE GRAU = 4
 .451253E+10 -.255119E+08 -.367745E+09 -.384005E+07 .472559E+07 .105947E+08 .966807E+05 .436347E+05 -.117003E+06 -.132066E+06

COEFICIENTES DE GRAU = 5
 -.344189E+11 .634845E+10 .114254E+10 -.490320E+09 -.138166E+09 -.237641E+08 .221908E+08 .397646E+07 .278693E+07 .195318E+06
 -.377301E+06 -.320939E+06 .111044E+06 -.695181E+05 .428213E+04 .682908E+04 -.586149E+04 .810004E+04 -.404758E+04 .118523E+04
 -.111385E+03

PARAMETROS ESTADISTICOS
 DESPAD

	CORR%	CDEP%	PST0	SSRED	YBARCB	YBARCP	SYRES	SYRESG
GRAU= 1	6.15002	62.27544	38.78230	38.78230	101.72600	101.72600	0.00000	1323.79490
GRAU= 2	4.09581	85.35093	72.84782	72.84782	101.72600	101.72600	0.00000	587.14919
GRAU= 3	2.19456	96.02342	92.20497	92.20497	101.72600	101.72600	0.00000	168.56261
GRAU= 4	1.90774	97.00998	94.10936	94.05601	101.72600	101.72600	0.00000	127.38152
GRAU= 5	1.85092	97.18797	94.45502	98.54062	101.72600	101.72601	0.00048	119.90667

					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 07/61	756.40	19.758	47.930	-101.860	.117E+01	.288E+01	.226E+01	.280E+01	.276E+01		
DNRJ 07/55	1050.43	19.467	47.405	-103.290	.840E+01	.117E+01	.126E+01	.118E+01	.128E+01		
DNRJ 07/56	990.61	19.480	47.505	-105.020	.627E+01	.160E+01	.790E+00	.205E+01	.197E+01		
DNRJ 07/57	1005.37	19.540	47.595	-106.020	.349E+01	.161E+00	.131E+01	.608E+00	.645E+00		
DNRJ 07/58	1007.47	19.565	47.705	-103.730	.504E+01	.209E+01	.294E+01	.188E+00	.324E+01		
DNRJ 07/59	875.74	19.630	47.820	-102.450	.438E+01	.439E+01	.301E+01	.882E+00	.866E+00		
DNRJ 07/60	849.38	19.690	47.865	-104.560	.494E+00	.206E+01	.622E+00	.219E+00	.367E+00		
DNRJ 07/62	754.28	19.795	47.990	-104.690	.275E+01	.162E+01	.134E+01	.119E+01	.129E+01		
DNRJ 10/1	602.31	19.765	47.917	-102.920	.914E+01	.156E+01	.116E+01	.190E+01	.185E+01		
DNRJ 10/2	624.43	19.865	47.835	-101.620	.235E+01	.334E+01	.179E+01	.635E+00	.703E+00		
DNRJ 10/3	557.77	20.000	47.755	-82.580	.133E+02	.719E+01	.760E+01	.583E+01	.585E+01		
DNRJ 10/3A	576.73	20.033	47.772	-82.280	.126E+02	.326E+01	.212E+01	.868E+00	.913E+00		
DNRJ 10/4	559.64	20.070	47.785	-76.380	.174E+02	.420E+01	.747E+00	.145E+01	.142E+01		
SE-22-Y	761.14	19.762	48.099	-105.960	.304E+01	.224E+00	.186E+00	.577E+01	.143E+00		
SE-22-Y	760.85	19.762	48.098	-105.930	.301E+01	.199E+00	.203E+00	.811E+01	.122E+00		
SE-22-Y	763.09	19.764	48.099	-106.140	.328E+01	.501E+00	.531E+02	.206E+00	.834E+01		
SE-22-Y	763.88	19.764	48.099	-106.180	.331E+01	.530E+00	.295E+01	.203E+00	.337E+00		
SE-22-Y	763.68	19.763	48.100	-106.160	.329E+01	.496E+00	.964E+03	.184E+00	.148E+00		
SE-22-Y	763.87	19.763	48.100	-106.200	.332E+01	.517E+00	.282E+01	.202E+00	.337E+00		
SE-22-Y	763.97	19.763	48.100	-106.190	.330E+01	.493E+00	.983E+02	.193E+00	.126E+00		
SE-22-Y	757.99	19.760	48.099	-105.850	.287E+01	.917E+02	.328E+00	.276E+00	.231E+00		
SE-22-Y	758.58	19.760	48.100	-105.880	.291E+01	.453E+01	.307E+00	.247E+00	.336E+00		
SE-22-Y	759.12	19.760	48.100	-105.920	.296E+01	.955E+01	.265E+00	.170E+00	.261E+00		
SE-22-Y	759.65	19.760	48.100	-105.940	.298E+01	.117E+00	.254E+00	.182E+00	.173E+00		
SF-23-A- 220	576.65	20.032	47.771	-83.120	.118E+02	.259E+01	.151E+01	.197E+00	.244E+00		
SF-23-A- 249	546.05	20.003	47.553	-94.640	.115E+01	.264E+01	.479E+01	.114E+01	.103E+01		
SF-23-A- 250	576.00	20.079	47.422	-100.180	.664E+01	.347E+01	.306E+01	.148E+00	.117E+00		
SF-23-A- 299	557.73	20.006	47.865	-83.950	.117E+02	.228E+01	.171E+01	.164E+01	.181E+01		
SF-23-A- 400	605.26	20.083	47.806	-79.730	.137E+02	.149E+01	.609E+01	.382E+01	.389E+01		
SE-22-Y- 261	802.18	19.645	48.032	-105.460	.928E+00	.291E+01	.162E+01	.368E+00	.512E+00		
SE-22-Y- 314	639.64	19.998	48.058	-85.180	.107E+02	.516E+00	.198E+01	.239E+01	.236E+01		
SE-22-Y	760.42	19.761	48.100	-106.000	.304E+01	.184E+00	.199E+00	.109E+00	.313E+01		
SE-22-Y	762.56	19.762	48.100	-106.080	.316E+01	.326E+00	.110E+00	.543E+01	.150E+01		
SE-22-Y	762.23	19.762	48.100	-106.070	.315E+01	.319E+00	.113E+00	.914E+02	.393E+02		
SE-22-Y	761.94	19.762	48.100	-106.040	.312E+01	.293E+00	.133E+00	.236E+02	.409E+01		
SE-22-Y	761.66	19.762	48.099	-106.020	.310E+01	.277E+00	.143E+00	.314E+01	.137E+01		
SE-23-S- 207	756.40	19.757	47.929	-105.990	.307E+01	.253E+00	.160E+00	.561E+01	.102E+00		
SE-23-S	705.31	19.715	47.944	-102.780	.291E+00	.202E+01	.137E+01	.190E+01	.190E+01		
SE-23-S- 210	980.00	19.517	47.908	-102.350	.195E+01	.386E+01	.208E+01	.192E+01	.203E+01		
SE-23-S- 211	988.16	19.481	47.904	-102.730	.744E+01	.204E+01	.733E+00	.984E+00	.107E+01		
SE-23-S- 216	999.13	19.428	47.693	-103.450	.781E+01	.365E+00	.200E+01	.852E+00	.808E+00		
SE-23-S- 228	567.55	19.988	47.786	-106.490	.634E+01	.866E+01	.316E+00	.798E+00	.943E+00		
SE-23-S- 229	669.82	19.896	47.692	-95.650	.578E+00	.548E+01	.497E+01	.622E+01	.629E+01		
SE-23-S- 230	698.01	19.933	47.544	-99.910	.951E+00	.794E+00	.321E+01	.425E+01	.426E+01		
SE-23-S- 231	667.71	19.901	47.543	-103.700	.583E+01	.249E+00	.227E+01	.278E+00	.313E+00		
SE-23-S- 232	844.84	19.865	47.440	-110.940	.121E+02	.535E+01	.310E+01	.372E+01	.358E+01		
SE-23-S- 233	680.28	19.738	47.776	-112.930	.131E+02	.932E+00	.162E+01	.448E+01	.463E+01		
SE-23-S- 234	608.16	19.758	47.599	-103.360	.280E+00	.293E+01	.319E+01	.556E+01	.544E+01		
				-117.680	.146E+02	.835E+01	.771E+01	.290E+01	.285E+01		

SE-23-S-	235	710.41	19.793	47.611	-120.420	-.184E+02	-.123E+02	-.110E+02	-.660E+01	-.671E+01
SE-23-S-	236	804.67	19.862	47.569	-112.040	-.121E+02	-.530E+01	-.328E+01	-.159E+01	-.162E+01
SE-23-S-	237	1076.47	19.764	47.436	-108.300	-.542E+01	.657E+01	.277E+01	.252E+01	.255E+01
SE-23-S-	238	1025.05	19.609	47.507	-105.680	.179E+01	.480E+01	.248E+01	.420E+01	.425E+01
SE-23-S-	239	1029.92	19.547	47.590	-106.980	.233E+01	-.731E+00	.453E+00	-.123E+01	-.434E+01
SE-23-S-	251	1016.14	19.546	47.589	-109.920	-.572E+00	-.371E+01	-.251E+01	-.290E+01	-.279E+01
SE-23-S-	252	948.88	19.539	47.435	-104.690	.485E+01	.430E+01	.253E+01	-.128E+01	-.115E+01
SE-23-S-	306	806.31	19.765	47.962	-104.130	-.130E+01	.366E+00	-.195E+00	.147E+00	.155E+00
SE-23-S-	312	786.46	19.767	47.993	-105.520	-.336E+01	-.203E+01	-.194E+01	-.181E+01	-.169E+01
SE-23-S-	313	693.38	19.890	47.995	-103.630	-.450E+01	-.727E+01	-.523E+01	-.553E+01	-.556E+01
SE-23-S-	324	961.10	19.869	47.485	-102.610	-.284E+01	.718E+01	.791E+01	.709E+01	.716E+01
SE-23-S-	379	698.42	19.699	47.873	-108.110	-.331E+01	-.163E+01	-.302E+01	-.322E+01	-.324E+01
SE-23-S-	380	603.62	19.638	47.860	-103.480	.312E+01	.342E+01	.139E+01	-.684E+00	-.706E+00
SE-23-S-	381	952.47	19.556	47.802	-103.740	.529E+01	.157E+01	.105E+01	-.324E+01	-.331E+01
SE-23-S		806.30	19.767	47.967	-104.230	-.145E+01	.201E+00	-.319E+00	-.356E+01	.211E+01

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COEFICIENTES DE GRAU = 1
 -.690558E+03 .296489E+02 .358914E+01

COEFICIENTES DE GRAU = 2
 .269111E+05 -.934663E+04 .270914E+04 .159702E+03 .641696E+02 -.414869E+02

COEFICIENTES DE GRAU = 3
 .171992E+08 .177986E+06 -.115273E+07 -.238834E+05 .121383E+05 .216332E+05 .287403E+03 .146633E+03 .187305E+03 .125269E+03

COEFICIENTES DE GRAU = 4
 .173395E+10 .657297E+08 -.171844E+09 -.602883E+07 .865932E+06 .519878E+07 .106966E+06 .119458E+06 .675876E+05 .629744E+05
 -.178190E+04 .717167E+03 -.169803E+04 .940940E+03 .230797E+03

PARAMETROS ESTADISTICOS	DESPAD	CORR%	COEP%	PSTQ	SSREQ	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.82049	56.99652	32.48604	32.48604	32.48604	-102.77594	-102.77594	0.00000	2977.21922
GRAU= 2	3.58509	90.19226	81.34644	81.34644	81.34644	-102.77594	-102.77594	0.00000	822.58161
GRAU= 3	2.98102	93.32891	87.10286	87.10286	87.10286	-102.77594	-102.77594	0.00000	568.73575
GRAU= 4	2.02187	95.27322	90.76987	90.71999	90.71999	-102.77594	-102.77594	0.00000	407.02886
GRAU= 5	2.53598	95.21886	90.66631	90.75816	90.75816	-102.77594	-102.77594	0.00002	411.59557

VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 10/15	1001.80	20.540	47.400	-61.520	-.910E+01	-.776E+00	-.699E+00	+.372E+00	+.117E+00		
DNRJ 10/3	557.77	20.000	47.755	-82.580	+.163E+01	+.371E+01	+.397E+01	+.630E+01	+.631E+01		
DNRJ 10/3A	576.73	20.333	47.772	-82.280	-.934E+00	-.182E+01	-.909E+00	+.310E+00	+.415E+00		
DNRJ 10/4	559.64	20.070	47.785	-76.380	+.193E+01	+.161E+01	+.271E+00	+.343E+00	+.434E+01		
DNRJ 10/5	588.74	20.195	47.785	-56.740	+.123E+02	+.365E+01	+.481E+01	+.319E+01	+.360E+01		
DNRJ 10/6	575.74	20.290	47.790	-52.660	+.919E+01	+.654E+00	+.157E+01	+.145E+01	+.135E+01		
DNRJ 10/7	606.16	20.335	47.775	-53.720	+.514E+01	+.245E+01	+.184E+01	+.757E+00	+.494E+00		
DNRJ 10/8	759.74	20.355	47.695	-55.290	+.396E+01	+.371E+01	+.459E+01	+.292E+01	+.295E+01		
DNRJ 10/9	858.98	20.340	47.635	-53.890	+.788E+01	+.140E+00	+.197E+01	+.148E+01	+.145E+01		
DNRJ 10/10	860.92	20.315	47.595	-48.660	+.157E+02	+.764E+01	+.560E+01	+.481E+01	+.437E+01		
DNRJ 10/11	965.04	20.355	47.530	-51.010	+.121E+02	+.619E+01	+.415E+01	+.275E+01	+.244E+01		
DNRJ 10/12	1008.48	20.385	47.460	-56.030	+.649E+01	+.353E+01	+.303E+01	+.687E+00	+.893E+00		
DNRJ 10/13	996.67	20.410	47.420	-55.100	+.650E+01	+.593E+01	+.703E+01	+.477E+01	+.480E+01		
DNRJ 10/14	1022.35	20.455	47.410	-58.330	+.166E+00	+.211E+01	+.300E+01	+.140E+01	+.185E+01		
SF-22-F- 403	513.87	20.171	48.048	-58.260	+.641E+01	+.607E+01	+.272E+01	+.251E+00	+.486E+00		
SF-22-F- 1030	552.16	20.436	48.033	-56.410	+.111E+02	+.181E+01	+.681E+01	+.148E+01	+.424E+00		
SF-23-A- 220	576.65	20.032	47.771	-83.120	+.167E+01	+.245E+01	+.156E+01	+.301E+00	+.800E+01		
SF-23-A- 221	652.66	20.186	47.726	-68.120	+.293E+01	+.572E+01	+.559E+01	+.674E+01	+.649E+01		
SF-23-A- 222	660.10	20.245	47.660	-53.890	+.144E+02	+.518E+01	+.404E+01	+.315E+01	+.309E+01		
SF-23-A- 223	660.84	20.313	47.603	-49.620	+.147E+02	+.650E+01	+.451E+01	+.374E+01	+.371E+01		
SF-23-A- 224	698.98	20.379	47.563	-52.520	+.603E+01	+.218E+01	+.283E+00	+.363E+00	+.488E+00		
SF-23-A- 225	859.22	20.465	47.590	-55.590	+.204E+01	+.364E+01	+.627E+01	+.307E+01	+.310E+01		
SF-23-A- 226	774.06	20.414	47.691	-51.180	+.375E+01	+.112E+01	+.206E+01	+.105E+01	+.131E+01		
SF-23-A- 227	606.13	20.326	47.782	-54.080	+.531E+01	+.248E+01	+.175E+01	+.951E+00	+.866E+00		
SF-23-A- 243	961.52	20.472	47.505	-62.990	+.796E+01	+.783E+01	+.105E+02	+.934E+01	+.935E+01		
SF-23-A- 244	996.51	20.539	47.402	-63.690	+.106E+02	+.248E+01	+.249E+01	+.143E+01	+.159E+01		
SF-23-A- 245	996.79	20.406	47.425	-55.940	+.589E+01	+.496E+01	+.586E+01	+.355E+01	+.360E+01		
SF-23-A- 246	1041.99	20.257	47.490	-63.530	+.778E+01	+.253E+01	+.251E+01	+.403E+00	+.226E+02		
SF-23-A- 247	884.12	20.208	47.568	-65.270	+.792E+01	+.111E+01	+.235E+00	+.196E+01	+.223E+01		
SF-23-A- 249	546.05	20.003	47.553	-94.640	+.591E+01	+.125E+01	+.540E+00	+.402E+00	+.369E+00		
SF-23-A- 250	576.00	20.079	47.422	-100.180	+.140E+02	+.721E+01	+.204E+01	+.480E+01	+.463E+01		
SF-23-A- 299	557.73	20.006	47.665	-83.950	+.279E+01	+.123E+01	+.144E+01	+.334E+01	+.254E+01		
SF-23-A- 400	005.26	20.083	47.606	-79.730	+.285E+01	+.709E+01	+.533E+01	+.601E+01	+.562E+01		
SF-23-A- 401	586.33	20.163	47.842	-60.670	+.918E+01	+.193E+01	+.396E+01	+.148E+01	+.156E+01		
SF-23-A- 402	546.85	20.155	47.966	-59.950	+.780E+01	+.404E+01	+.512E+01	+.642E+00	+.134E+00		
SF-23-A- 498	620.49	20.576	47.877	-52.450	+.139E+02	+.174E+01	+.556E+01	+.151E+01	+.180E+01		
SF-23-A- 499	572.88	20.424	47.832	-52.680	+.173E+01	+.332E+01	+.187E+01	+.525E+00	+.190E+00		
SF-23-A- 1031	585.77	20.509	47.943	-52.330	+.103E+02	+.685E+00	+.166E+01	+.925E+00	+.735E+00		
SF-23-A- 1032	687.80	20.566	47.793	-54.130	+.129E+02	+.198E+01	+.101E+01	+.546E+00	+.472E+00		
SF-23-A- 1033	714.01	20.593	47.659	-52.570	+.101E+02	+.645E+00	+.623E+00	+.387E+01	+.423E+01		
SF-23-A- 1079	983.08	20.229	47.405	-91.400	+.160E+02	+.167E+02	+.113E+02	+.948E+01	+.905E+01		
SE-22-Y- 314	639.64	19.998	48.058	-85.180	+.795E+01	+.671E+00	+.133E+01	+.479E+00	+.137E+00		
SE-23-S- 228	567.55	19.988	47.786	-95.650	+.113E+02	+.626E+01	+.734E+01	+.430E+01	+.449E+01		
SE-23-S- 230	698.01	19.933	47.544	-103.700	+.956E+01	+.627E+01	+.327E+01	+.136E+01	+.129E+01		
SE-23-S- 231	667.71	19.901	47.543	-110.940	+.144E+02	+.580E+01	+.193E+01	+.223E+01	+.213E+01		

COEFICIENTES DE GRAU = 1
 -.268825E+04 .742764E+02 .234219E+02

COEFICIENTES DE GRAU = 2
 -.337760E+06 .107526E+05 .953622E+04 -.186793E+03 -.652140E+02 -.858467E+02

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COEFICIENTES DE GRAU = 3
 -.393438E+08 .400061E+05 .244891E+07 .867248E+04 -.880818E+04 -.493410E+05 -.759435E+02 -.889688E+02 .129341E+03 .325704E+03

COEFICIENTES DE GRAU = 4
 -.613336E+10 -.742750E+07 .517521E+09 .664818E+07 -.503794E+07 -.151693E+08 -.134019E+06 -.108087E+06 .151230E+06 .190152E+06
 .662227E+03 .168631E+04 .584610E+02 -.107127E+04 -.880737E+03

COEFICIENTES DE GRAU = 5
 -.316854E+10 .291992E+09 .483327E+08 -.339568E+08 .448734E+07 .366577E+07 .191403E+07 -.168096E+06 -.130790E+06 -.188484E+06
 -.236521E+05 -.428472E+05 .297574E+05 -.544689E+04 .379113E+04 .310659E+03 -.149349E+03 .592784E+03 -.459408E+03 .120029E+03
 -.307427E+02

PARAMETROS ESTADISTICOS									
	DESPAD	CORR%	CDEP%	PSTC	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	9.01542	84.16047	70.82985	70.82985	70.82985	-65.96778	-65.96778	0.00000	3657.50288
GRAU= 2	4.80953	95.75918	91.69821	91.69821	91.69821	-65.96778	-65.96778	-0.00000	1040.92146
GRAU= 3	4.28948	96.64186	93.39649	93.39648	93.39648	-65.96778	-65.96778	-0.00000	827.98255
GRAU= 4	3.37898	97.92974	95.90233	95.82882	95.82882	-65.96778	-65.96778	-0.00000	513.78629
GRAU= 5	3.32195	97.99973	96.03947	95.95529	95.95529	-65.96778	-65.96778	-0.00003	496.59119

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 10/15	1001.80	20.540	47.400	-61.520	.144E+01	.304E+01	.307E+00	-.312E+00	-.445E+00		
DNRJ 10/13	996.87	20.410	47.420	-55.100	.413E+01	.275E+01	.469E+00	.400E+00	.429E+00		
DNRJ 10/14	1022.35	20.455	47.410	-58.330	.226E+01	.192E+01	-.997E+00	-.589E+00	-.900E+00		
DNRJ 10/17	601.91	20.700	47.445	-71.140	-.507E+01	-.216E+01	-.836E+00	-.833E+00	-.681E+00		
DNRJ 10/18	744.57	20.795	47.467	-73.490	-.546E+01	-.149E+01	.455E+00	-.122E+01	-.165E+01		
DNRJ 10/19	778.91	20.850	47.528	-71.130	-.300E+01	-.554E+00	.185E+01	.237E+01	.230E+01		
DNRJ 10/20	903.65	20.898	47.600	-73.000	-.515E+01	-.447E+01	-.275E+01	-.203E+01	-.189E+01		
DNRJ 10/2A	861.95	20.995	47.660	-64.570	.447E+01	.466E+01	.360E+01	.358E+01	.362E+01		
DNRJ 10/22	630.08	21.050	47.723	-65.060	.405E+01	.324E+01	.172E+00	-.935E+01	-.984E+02		
SF-22-F- 788	552.07	20.727	48.087	-53.590	-.353E+00	.492E+01	.301E+01	.516E+00	.137E+00		
SF-22-F- 1019	540.43	20.897	48.008	-61.110	-.186E+01	.207E+01	-.204E+01	-.544E+00	-.296E+00		
SF-22-F- 1020	538.05	20.759	48.051	-56.020	-.120E+01	.185E+01	-.595E+00	.162E+01	.327E+00		
SF-22-F- 1030	552.16	20.436	48.033	-55.410	-.942E+01	-.140E+01	.168E+00	-.299E+00	-.365E+00		
SF-23-A- 225	659.22	20.465	47.590	-55.590	.145E+01	-.232E+01	.121E+01	.154E+01	.160E+01		
SF-23-A- 226	774.06	20.414	47.691	-51.180	.247E+01	-.126E+01	.358E+01	.820E+00	.349E+00		
SF-23-A- 243	961.52	20.472	47.505	-62.990	-.397E+01	-.653E+01	-.463E+01	-.170E+01	-.125E+01		
SF-23-A- 244	996.51	20.539	47.402	-63.090	-.215E+00	.129E+01	-.134E+01	-.161E+01	-.170E+01		
SF-23-A- 245	996.79	20.406	47.425	-55.940	.308E+01	.149E+01	.425E+00	.402E+00	.218E+00		
SF-23-A- 497	684.89	20.721	47.887	-51.680	.562E+01	.394E+01	.441E+00	.107E+01	.115E+01		
SF-23-A- 498	620.49	20.576	47.677	-52.450	.139E+01	.537E+00	-.256E+01	-.141E+01	-.127E+01		
SF-23-A- 499	572.88	20.424	47.832	-52.680	-.177E+01	-.261E+01	.680E+01	-.176E+00	.549E+01		
SF-23-A- 578	661.92	20.987	47.668	-64.690	.398E+01	.385E+01	.302E+01	.300E+01	.293E+01		
SF-23-A- 579	692.97	20.941	47.633	-68.600	-.351E+00	-.676E+01	.553E+00	.915E+00	.972E+00		
SF-23-A- 580	653.04	20.883	47.609	-71.360	-.409E+01	-.390E+01	-.197E+01	-.118E+01	-.114E+01		
SF-23-A- 581	658.78	20.868	47.588	-72.420	-.508E+01	-.444E+01	-.218E+01	-.104E+01	-.934E+00		
SF-23-A- 582	758.75	20.821	47.524	-73.760	-.628E+01	-.419E+01	-.149E+01	-.422E+00	-.289E+00		
SF-23-A- 583	744.60	20.801	47.487	-74.500	-.675E+01	-.355E+01	-.119E+01	-.143E+01	-.150E+01		
SF-23-A- 584	801.92	20.723	47.460	-73.680	-.673E+01	-.392E+01	-.208E+01	-.164E+01	-.119E+01		
SF-23-A- 585	980.72	20.613	47.408	-59.290	.534E+01	.806E+01	.684E+01	.567E+01	.559E+01		
SF-23-A- 1018	548.02	20.969	47.845	-60.130	.437E+01	.165E+01	.474E+00	-.190E+00	-.155E+00		
SF-23-A- 1031	585.77	20.509	47.943	-52.330	-.161E+01	.623E+00	-.180E+01	.129E+01	.148E+01		
SF-23-A- 1032	687.80	20.566	47.793	-54.130	.121E+01	-.143E+01	-.248E+01	-.341E+01	-.367E+01		
SF-23-A- 1033	714.01	20.593	47.659	-52.570	.629E+01	.287E+01	.469E+01	.463E+01	.474E+01		
SF-23-A- 1034	617.33	20.652	47.677	-61.640	-.167E+01	-.486E+01	-.350E+01	-.373E+01	-.380E+01		
SF-23-A- 1035	773.75	20.724	47.763	-56.650	.335E+01	.233E+00	-.398E+00	-.172E+01	-.196E+01		
SF-23-A- 1036	727.46	20.771	47.858	-51.240	.794E+01	.552E+01	.300E+01	.263E+01	.261E+01		
SF-23-A- 1037	860.68	20.783	47.729	-56.540	.565E+01	.277E+01	.321E+01	.215E+01	.200E+01		
SF-23-3- 496	583.71	21.019	47.764	-63.690	.356E+01	.169E+01	-.230E+00	-.764E+00	-.103E+01		
SF-23-3- 575	585.61	21.065	47.743	-67.900	.116E+01	.514E+01	-.348E+01	-.379E+01	-.350E+01		
SF-23-3- 576	740.98	21.039	47.717	-66.390	.259E+01	.182E+01	-.852E+00	-.107E+01	-.111E+01		
SF-23-3- 577	645.63	21.032	47.693	-65.360	.392E+01	.366E+01	.121E+01	.112E+01	.878E+00		
SF-22-L- 608	529.45	21.030	48.047	-71.590	-.980E+01	-.103E+02	-.500E+01	-.497E+01	-.512E+01		
SF-22-L- 609	520.66	21.070	48.037	-62.900	.103E+00	-.981E+00	.448E+01	.484E+01	.488E+01		

COEFICIENTES DE GRAU = 1
 -.538610E+03 -.254046E+02 .210436E+02

COEFICIENTES DE GRAU = 2
 -.110452E+06 -.251906E+04 .570862E+04 -.100465E+02 .608990E+02 -.727770E+02

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COEFICIENTES DE GRAU = 3
 .290327E+08 -.428015E+06 -.154100E+07 .130380E+04 .167776E+05 .307657E+05 .150997E+03 -.224389E+03 -.779106E+02 -.204105E+03

COEFICIENTES DE GRAU = 4
 .655534E+10 .601612E+08 -.574691E+09 .152466E+07 .510848E+07 .191424E+08 -.354063E+04 .590549E+05 .132639E+06 .286180E+06

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	CDEP%	PST0	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.41120	80.46007	64.73822	64.73822	64.73822	.62.02395	.62.02395	.0.00000	836.72284
GRAU= 2	3.58433	87.56924	76.71875	76.71875	76.71875	.62.02395	.62.02395	0.00000	552.43832
GRAU= 3	2.55092	93.91915	88.20806	88.20806	88.20806	.62.02395	.62.02395	0.00000	279.80953
GRAU= 4	2.24103	95.34098	90.89902	90.34347	90.34347	.62.02395	.62.02395	0.00000	215.95619
GRAU= 5	2.24121	95.34023	90.89759	91.02309	91.02309	.62.02395	.62.02395	.0.00002	215.99013

VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 10/2A	861.95	20.995	47.660	-64.570	.210E+01	.239E+01	.170E+01	.266E+01	.255E+01		
DNRJ 10/22	630.08	21.050	47.723	-65.060	.211E+01	.267E+01	.397E+01	.398E+01	.393E+01		
DNRJ 10/23	532.28	21.120	47.768	-75.940	-.797E+01	-.742E+01	-.563E+01	-.525E+01	-.453E+01		
DNRJ 10/24	533.59	21.165	47.800	-74.450	-.598E+01	-.545E+01	-.422E+01	-.347E+01	-.329E+01		
DNRJ 10/25	561.81	21.190	47.805	-73.780	-.498E+01	-.446E+01	-.357E+01	-.278E+01	-.272E+01		
DNRJ 10/26	570.56	21.275	47.825	-68.840	-.108E+01	-.164E+01	-.690E+00	.200E+01	.166E+01		
DNRJ 10/27	764.14	21.317	47.805	-67.000	.360E+01	.427E+01	.305E+01	.467E+01	.476E+01		
DNRJ 10/28	788.92	21.340	47.737	-69.910	.132E+01	.192E+01	.133E+01	.261E+01	.258E+01		
DNRJ 10/29	761.58	21.420	47.687	-74.530	-.195E+01	-.139E+01	-.227E+01	-.117E+01	-.122E+01		
DNRJ 10/30	692.92	21.482	47.640	-75.130	-.147E+01	-.107E+01	-.167E+01	-.123E+01	-.891E+00		
DNRJ 10/31	732.02	21.590	47.635	-76.110	-.686E+00	.125E+00	.197E+01	.718E+00	.968E+00		
SF-23-A- 578	661.92	20.987	47.668	-64.690	.183E+01	.223E+01	.115E+01	.137E+01	.153E+01		
SF-23-A- 579	892.97	20.941	47.633	-68.600	-.258E+01	-.232E+01	-.672E+01	-.511E+01	-.513E+01		
SF-23-A- 1018	548.02	20.969	47.845	-60.130	.536E+01	.625E+01	.458E+01	.412E+00	.842E+01		
SF-23-3-	561.73	21.163	47.817	-74.490	-.583E+01	-.533E+01	-.450E+01	-.377E+01	-.408E+01		
SF-23-3- 495	546.79	21.176	47.811	-74.820	-.622E+01	-.570E+01	-.473E+01	-.400E+01	-.388E+01		
SF-23-3- 496	583.71	21.019	47.764	-63.890	.266E+01	.344E+01	.373E+01	.236E+01	.278E+01		
SF-23-3- 558	615.80	21.291	47.430	-68.080	.379E+01	.389E+00	.262E+01	.365E+00	.766E+00		
SF-23-3- 559	609.40	21.311	47.566	-69.120	.245E+01	.119E+01	.253E+01	.190E+01	-.252E+01		
SF-23-3- 560	568.40	21.211	47.596	-69.050	.969E+00	.835E+01	.281E+01	.451E+00	.302E+01		
SF-23-3- 570	711.17	21.532	47.661	-74.170	.120E+00	.103E+01	.108E+01	.153E+01	.164E+01		
SF-23-3- 571	788.57	21.340	47.730	-70.240	.102E+01	.156E+01	.109E+01	.209E+01	.285E+01		
SF-23-3- 572	764.17	21.315	47.805	-67.490	.308E+01	.374E+01	.261E+01	.411E+01	.417E+01		
SF-23-3- 573	570.57	21.255	47.823	-68.280	.137E+01	.190E+01	.153E+01	.265E+01	.236E+01		
SF-23-3- 574	532.30	21.108	47.802	-75.710	-.809E+01	-.750E+01	-.605E+01	-.568E+01	-.580E+01		
SF-23-3- 575	585.61	21.065	47.743	-67.900	-.610E+00	-.130E+01	.149E+01	.164E+01	.146E+01		
SF-23-3- 576	740.98	21.039	47.717	-66.390	.658E+00	.121E+01	.226E+01	.212E+01	.208E+01		
SF-23-3- 577	845.63	21.032	47.693	-65.360	.169E+01	.212E+01	.300E+01	.311E+01	.306E+01		
SF-23-3- 610	544.16	21.138	47.990	-59.950	.730E+01	.645E+01	.659E+01	.507E+01	.485E+01		
SF-23-3- 843	665.47	21.167	47.913	-69.160	-.116E+01	-.115E+01	-.110E+01	-.191E+01	-.189E+01		
SF-23-3- 842	535.32	21.185	47.812	-75.240	-.655E+01	-.604E+01	-.517E+01	-.443E+01	-.454E+01		
SF-23-3- 841	622.90	21.209	47.898	-67.970	.692E+00	.632E+00	.359E+00	.134E+00	-.101E+00		
SF-23-3- 840	594.30	21.237	47.973	-61.870	.686E+01	.627E+01	.475E+01	.239E+01	.253E+01		
SF-23-3- 1003	700.77	21.495	47.465	-72.080	.254E+01	.120E+00	-.188E+01	.320E+00	.373E+01		
SF-23-3- 1004	649.53	21.466	47.584	-73.640	.646E+00	.196E+00	-.370E+00	-.141E+01	-.126E+01		
SF-23-3- 1012	657.92	21.555	47.704	-75.600	-.137E+01	.484E+01	.652E+00	-.790E+01	-.513E+00		
SF-23-3- 1013	596.98	21.515	47.829	-76.390	-.306E+01	-.160E+01	-.281E+01	-.343E+01	-.354E+01		
SF-23-3- 1014	565.56	21.480	47.961	-69.650	.239E+01	.278E+01	.259E+00	.148E+01	-.174E+01		
SF-23-3- 1017	726.88	21.264	47.895	-64.830	.463E+01	.484E+01	.343E+01	.306E+01	.312E+01		
SF-22-L- 608	529.45	21.030	48.047	-71.590	-.612E+01	-.770E+01	-.670E+01	-.385E+01	-.365E+01		
SF-22-L- 609	520.66	21.070	48.037	-62.900	.318E+01	.168E+01	.262E+01	.359E+01	.366E+01		
SF-22-L- 844	539.20	21.173	48.075	-64.670	.271E+01	.408E+00	.420E+00	-.209E+00	-.511E+00		
SF-22-L- 839	533.60	21.360	48.066	-67.660	.241E+01	.636E+00	-.246E+01	-.338E+01	-.310E+01		
SF-22-L- 836	530.62	21.587	48.071	-77.020	-.374E+01	-.429E+01	-.568E+01	.138E+01	.144E+01		

COEFICIENTES DE GRAU = 1
 .230453E+02 -.141975E+02 .437190E+01

COEFICIENTES DE GRAU = 2
 .757113E+05 .467987E+03 -.337673E+04 -.950485E+01 -.165946E+01 .357396E+02

COEFICIENTES DE GRAU = 3
 .165777E+08 -.667364E+06 -.742032E+06 .228625E+05 .758108E+04 .138052E+05 -.243666E+03 -.153205E+03 -.110908E+02 -.944069E+02

COEFICIENTES DE GRAU = 4
 -.115122E+11 .273875E+09 .841742E+09 -.230950E+07 -.151275E+08 -.230576E+08 -.849877E+05 .210319E+06 .222659E+06 .288713E+06
 .860359E+03 .243384E+03 -.236239E+04 -.850324E+03 -.141638E+04

COEFICIENTES DE GRAU = 5
 .453955E+10 -.118647E+10 -.243044E+09 .670618E+08 .474087E+08 .102777E+08 -.255768E+07 -.838730E+06 -.133950E+07 -.205970E+06
 .559200E+05 .497378E+04 .168268E+05 .160530E+05 .209068E+04 -.868065E+03 .787220E+03 -.749293E+03 .196468E+03 .135644E+03
 -.317775E+01

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PARAMETROS ESTADISTICOS	DESPAD	CORR%	COEP%	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.81974	58.38564	34.08883	34.08883	34.08883	-.69.63068	-.69.63068	0.00000	641.97803
GRAU= 2	3.65110	63.07145	39.78008	39.78008	39.78008	-.69.63068	-.69.63068	-.0.00000	586.54498
GRAU= 3	3.31446	70.97393	50.37299	50.37299	50.37299	-.69.63068	-.69.63068	-.0.00000	483.36952
GRAU= 4	2.91977	78.41465	61.48857	60.16827	60.16827	-.69.63068	-.69.63068	0.00000	375.10320
GRAU= 5	2.91607	78.47689	61.58622	61.64518	61.64518	-.69.63068	-.69.63068	0.00004	374.15207

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-23-J- 1609	677.14	17.865	47.961	-109.600	-.730E+00	+.164E+01	-.234E+00	-.593E+01			
SE-22-R- 411	700.11	18.070	48.090	-107.450	+.465E+01	-.215E+01	-.902E+00	-.835E+01			
SE-22-L- 385	754.79	17.722	48.162	-110.050	-.210E+01	-.277E+01	-.215E+01	-.115E+01			
SE-22-L- 386	738.69	17.724	48.162	-110.110	-.214E+01	-.280E+01	-.221E+01	-.143E+01			
SE-22-L- 387	672.81	17.842	48.179	-110.740	-.118E+01	-.226E+01	-.375E+01	-.217E+01			
SE-22-L- 388	615.51	17.924	48.172	-103.730	+.686E+01	+.510E+01	+.430E+01	+.105E+01			
SE-22-L- 1202	811.78	17.469	48.193	-.99.180	+.565E+01	+.112E+01	+.313E+00	+.294E+00			
SE-22-L- 1203	896.49	17.585	48.206	-102.000	+.438E+01	+.153E+01	+.284E+01	+.942E+00			
SE-22-L- 1604	692.61	17.706	48.558	-118.920	-.937E+01	+.676E+00	+.191E+01	+.138E+01			
SE-22-L- 1605	704.08	17.774	48.429	-117.610	-.777E+01	-.226E+01	-.204E+01	-.145E+01			
SE-22-L- 1606	790.45	17.765	48.303	-108.100	+.105E+01	+.125E+01	-.272E+00	+.511E+00			
SE-22-L- 1607	613.84	17.733	48.239	-102.680	+.575E+01	+.456E+01	+.349E+01	+.379E+01			
SE-22-L- 1608	818.48	17.761	48.058	-111.200	-.323E+01	-.141E+01	+.809E+00	+.997E+00			
SE-22-L- 1679	924.42	17.409	48.015	-111.360	-.813E+01	+.113E+01	+.272E+00	+.123E+00			
SE-22-L- 1680	929.86	17.484	48.143	-106.410	-.162E+01	-.297E+01	-.165E+01	+.663E+00			
SE-22-L- 1683	818.56	17.437	48.582	-.97.300	+.889E+01	-.831E+00	-.120E+01	+.332E+00			
SE-22-L- 1684	749.87	17.485	48.593	-100.230	+.664E+01	+.168E+01	+.167E+01	+.686E+00			
SE-22-L- 1686	707.80	17.627	48.582	-116.240	-.760E+01	-.147E+01	-.166E+01	-.124E+01			

COEFICIENTES DE GRAU = 1
 .341541E+03 -.128971E+02 -.458916E+01

COEFICIENTES DE GRAU = 2
 -.418522E+06 .702841E+04 .147805E+05 .321054E+02 -.169832E+03 -.122059E+03

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COEFICIENTES DE GRAU = 3
 .146351E+08 -.143735E+07 -.399092E+06 .497898E+05 .233519E+05 .423399E+04 -.392972E+03 -.599239E+03 -.253787E+02 -.274506E+02

COEFICIENTES DE GRAU = 4
 .271350E+11 -.869947E+09 -.193031E+10 .198431E+08 .396320E+08 .527185E+08 -.311604E+06 -.482110E+06 -.645684E+06 -.649006E+06
 .713385E+03 .542776E+04 .202669E+04 .396867E+04 .299608E+04

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	COEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	5.64227	35.88150	12.87482	12.87482	12.87482	-107.93944	-107.93944	-0.00000	573.03373
GRAU= 2	2.39759	91.79756	84.26792	84.26792	84.26792	-107.93944	-107.93944	0.00000	103.47196
GRAU= 3	2.12920	93.59111	87.59295	87.59295	87.59295	-107.93944	-107.93944	0.00000	81.60278
GRAU= 4	1.34680	97.48633	95.03584	93.65482	93.65482	-107.93944	-107.93944	-0.00000	32.64990

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-R- 389	648.22	18.132	48.089	-102.130	.217E+00	.612E+00	.258E+01	.126E+01	.122E+01		
SE-22-R- 390	692.60	18.273	48.148	-106.780	-.407E+01	-.187E+01	-.119E+00	-.953E+00	-.994E+00		
SE-22-R- 391	518.73	18.329	48.212	-105.130	-.119E+01	.152E+01	.229E+01	.325E+01	.321E+01		
SE-22-R- 392	629.44	18.475	48.265	-110.100	-.601E+01	-.447E+01	-.497E+01	-.437E+01	-.430E+01		
SE-22-R- 393	953.06	18.522	48.187	-99.550	.207E+01	.283E+01	.315E+01	.180E+01	.128E+01		
SE-22-R- 411	700.11	18.070	48.090	-107.450	-.454E+01	-.487E+01	-.339E+01	-.122E+01	-.123E+01		
SE-22-R- 412	625.68	18.135	48.562	-115.620	-.983E+00	-.278E+01	-.258E+01	-.171E+01	-.163E+01		
SE-22-R- 417	630.27	18.442	48.562	-110.280	.195E+01	-.162E+01	.171E+00	-.128E+01	-.125E+01		
SE-22-R- 418	690.73	18.402	48.425	-102.930	.602E+01	.671E+01	.530E+01	.468E+01	.479E+01		
SE-22-R- 419	932.45	18.557	48.312	-105.250	-.607E+00	-.662E+00	-.728E+00	-.145E+01	-.130E+01		
SE-22-R- 428	509.25	18.381	48.482	-109.620	.812E+00	.446E+00	-.550E+00	-.222E+01	-.213E+01		
SE-22-R- 719	531.28	18.442	48.017	-99.160	-.134E+01	-.228E+01	-.261E+01	.616E+00	.656E+00		
SE-22-R- 720	714.68	18.518	48.053	-95.430	.268E+01	.175E+01	.199E+01	.139E+01	.131E+01		
SE-22-R- 732	521.25	18.262	48.316	-113.170	-.592E+01	-.307E+01	-.302E+01	-.182E+01	-.160E+01		
SE-22-R- 733	676.12	18.227	48.387	-113.620	-.418E+01	-.197E+01	-.248E+01	-.101E+01	-.971E+00		
SE-22-R- 734	777.11	18.113	48.465	-109.900	.257E+01	.312E+01	.256E+01	.110E+01	.953E+00		
SE-22-R- 735	620.58	18.235	48.593	-112.140	.268E+01	-.110E+00	.114E+01	.199E+01	.198E+01		
SE-22-R- 742	536.92	18.327	48.430	-108.590	.112E+01	.236E+01	.104E+01	.109E+01	.682E+00		
SE-22-R- 743	576.89	18.297	48.446	-112.480	-.208E+01	-.993E+00	-.219E+01	-.194E+01	-.190E+01		
SE-22-R- 744	772.61	18.121	48.365	-109.990	-.229E+00	.182E+01	.209E+01	.808E+00	.882E+00		
SE-22-R- 1781	883.53	18.515	48.046	-98.640	-.679E+00	-.171E+01	-.156E+01	-.180E+01	-.170E+01		
SE-22-R- 1782	951.63	18.518	48.195	-101.220	.660E+00	.151E+01	.176E+01	.603E+00	.966E+00		
SE-22-R- 1785	935.45	18.537	48.429	-107.840	.513E+01	-.139E+01	-.133E+01	.174E+01	.162E+01		
SE-23-M- 717	642.25	18.172	47.954	-92.260	.620E+01	.313E+01	.958E+00	.704E+00	.743E+00		
SE-23-M- 718	799.52	18.285	47.986	-96.150	.219E+01	.853E+00	.313E+00	-.131E+01	-.135E+01		
SE-22-L- 386	615.51	17.924	48.172	-103.730	.260E+01	.115E+01	.191E+00	.526E+01	.573E+01		

COEFICIENTES DE GRAU = 1
 .101317E+04 .852431E+01 -.264530E+02

COEFICIENTES DE GRAU = 2
 .152353E+06 -.176301E+04 -.561474E+04 .310546E+02 .132071E+02 .553901E+02

COEFICIENTES DE GRAU = 3
 .271778E+08 -.496450E+06 -.149769E+07 .941134E+04 .134128E+05 .284223E+05 -.104538E+03 -.755536E+02 -.110264E+03 -.181912E+03

COEFICIENTES DE GRAU = 4
 -.456302E+10 .354791E+09 .244117E+09 -.138013E+08 -.115906E+08 -.539816E+07 .148185E+06 .403390E+06 .872502E+05 .636475E+05
 .714128E+03 -.415544E+04 -.181485E+04 -.144358E+03 -.316515E+03

COEFICIENTES DE GRAU = 5
 .267357E+10 -.695176E+08 -.357792E+09 -.573374E+08 .563162E+08 .726895E+07 .394979E+07 -.120802E+07 -.146635E+07 -.231724E+05
 -.606734E+05 -.691805E+05 .687541E+05 .251693E+04 .479051E+03 .184028E+04 -.221250E+04 .235418E+04 -.136239E+04 .249419E+03
 -.229103E+02

PARAMETROS ESTADISTICOS									
	DESPAD	CORR%	COEP%	PSTQ	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.11900	86.00230	73.96396	73.96396	73.96396	-105.75231	-105.75231	0.00000	252.93262
GRAU= 2	2.58711	90.60177	82.08681	82.08681	82.08681	-105.75231	-105.75231	0.00000	174.02148
GRAU= 3	2.37062	92.17339	84.95934	84.95934	84.95934	-105.75231	-105.75231	0.00000	146.11571
GRAU= 4	1.92795	94.89575	90.05203	90.03596	90.03596	-105.75231	-105.75231	0.00000	96.64170
GRAU= 5	1.87947	95.15570	90.54607	90.17321	90.17321	-105.75231	-105.75231	0.00002	91.84224

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 14/8	941.07	18.640	48.185	-98.660	.386E+00	-.180E+01	-.226E+01	-.828E+00	-.768E+00		
DNRJ 14/9A	863.18	18.925	48.273	-97.460	.416E+01	.200E+01	-.977E+00	-.123E+01	-.130E+01		
DNRJ 14/9	857.90	18.925	48.273	-97.420	.420E+01	.204E+01	-.937E+00	-.119E+01	-.126E+01		
SE-22-R- 399	877.49	18.868	48.566	-126.400	-.131E+02	-.597E+01	-.506E+01	-.136E+01	-.121E+01		
SE-22-R- 295	941.54	18.973	48.142	-90.530	.577E+01	.251E+01	.151E+01	.184E+01	.161E+01		
SE-22-R- 296	863.18	18.911	48.269	-97.610	.368E+01	.127E+01	-.146E+01	-.210E+01	-.224E+01		
SE-22-R- 338	961.86	18.644	48.049	-96.020	-.235E+01	-.100E+01	-.118E+00	-.181E+01	-.216E+01		
SE-22-R- 339	937.25	18.715	48.093	-95.600	-.412E+00	-.176E+01	-.331E+00	-.164E+01	-.168E+01		
SE-22-R	941.95	18.816	48.027	-86.710	.555E+01	.426E+01	.540E+01	.593E+01	.600E+01		
SE-22-R- 363	911.67	18.757	48.070	-89.710	.443E+01	.300E+01	.425E+01	.336E+01	.331E+01		
SE-22-R- 392	629.44	18.475	48.265	-110.100	-.739E+01	-.873E+01	-.667E+01	-.199E+01	-.197E+01		
SE-22-R- 393	953.06	18.522	48.187	-99.550	-.650E+01	-.396E+00	.183E+01	.497E+01	.500E+01		
SE-22-R- 394	921.67	18.641	48.187	-98.380	.750E+00	-.140E+01	.280E+00	-.551E+00	-.389E+00		
SE-22-R- 395	591.19	18.737	48.268	-93.200	.862E+01	.541E+01	.521E+01	.293E+01	.277E+01		
SE-22-R- 417	630.27	18.442	48.562	-110.280	.423E+01	.273E+01	.364E+00	.347E+00	.401E+00		
SE-22-R- 418	690.73	18.402	48.425	-102.930	.631E+01	.388E+01	.337E+01	.171E+00	.102E+00		
SE-22-R- 419	932.45	18.557	48.312	-105.250	-.936E+00	-.385E+01	-.255E+01	-.195E+01	-.193E+01		
SE-22-R- 422	621.00	18.723	48.410	-101.230	.642E+01	.453E+01	.306E+01	.206E+01	.163E+01		
SE-22-R- 519	938.48	18.923	48.303	-96.420	.639E+01	.481E+01	.150E+01	.110E+01	.156E+01		
SE-22-R- 719	531.28	18.442	48.017	-99.160	-.610E+01	.295E+01	-.772E+00	-.181E+01	-.171E+01		
SE-22-R- 720	714.66	18.518	48.053	-95.430	-.120E+01	.340E+01	.311E+01	.244E+01	.214E+01		
SE-22-R- 1781	883.53	18.515	48.046	-98.640	-.467E+01	.332E+00	-.253E+00	-.132E+01	-.118E+01		
SE-22-R- 1782	951.63	18.516	48.195	-101.220	-.139E+01	-.188E+01	.373E+00	.383E+01	.369E+01		
SE-22-R- 1783	950.07	18.639	48.232	-101.080	-.180E+00	-.302E+01	-.156E+01	-.247E+01	-.212E+01		
SE-22-R- 1784	944.76	18.704	48.122	-93.930	.245E+01	.607E+00	.211E+01	.652E+00	.704E+00		
SE-22-R- 1785	935.45	18.537	48.429	-107.840	.112E+01	-.170E+01	-.191E+01	-.166E+01	-.165E+01		
SE-22-R- 1792	854.86	18.727	48.431	-102.840	.562E+01	.423E+01	.267E+01	.227E+01	.223E+01		
SE-22-R	920.60	18.642	48.200	-102.110	-.248E+01	-.493E+01	-.325E+01	-.415E+01	-.390E+01		
SE-22-Y- 294	901.97	19.023	48.077	-89.900	.367E+01	.449E+00	.833E+00	-.524E+00	-.564E+00		
SE-22-Y- 297	952.35	19.094	48.154	-97.620	-.123E+01	-.333E+01	-.512E+01	-.134E+00	-.302E+01		
SE-22-Y- 396	701.70	19.367	48.571	-129.940	-.170E+02	-.178E+01	.260E+01	.466E+00	.396E+00		
SE-23-X- 360	814.80	19.043	47.918	-84.420	.286E+01	.122E+01	.514E+01	.251E+01	.344E+02		
SE-23-X- 337	980.47	18.655	47.900	-86.350	.144E+01	.920E+01	.415E+01	.221E+01	.223E+01		
SE-23-X- 728	982.70	18.842	47.906	-98.360	-.109E+02	-.890E+01	-.906E+01	-.961E+00	-.853E+00		
SE-23-X- 729	963.07	18.764	47.997	-100.090	-.883E+01	-.835E+01	-.770E+01	-.690E+01	-.690E+01		

COEFICIENTES DE GRAU = 1
 .173385E+04 .314883E+01 -.393605E+02

COEFICIENTES DE GRAU = 2
 -.243119E+06 .514401E+04 .811314E+04 -.305979E+02 -.827585E+02 -.684088E+02

COEFICIENTES DE GRAU = 3
 .295657E+08 -.734037E+06 -.155747E+07 .489254E+04 .267043E+05 .271671E+05 -.508558E+02 -.425632E+02 -.260824E+03 -.154347E+03

COEFICIENTES DE GRAU = 4
 .557930E+09 -.280260E+09 .636935E+08 .122941E+07 .164516E+08 -.520546E+07 .870839E+05 -.152282E+06 -.281484E+06 .108745E+06
 -.261292E+03 -.136989E+04 .237576E+04 .132723E+04 -.694070E+03

COEFICIENTES DE GRAU = 5
 .746104E+09 -.686860E+09 .197629E+09 .647503E+08 .137045E+07 -.775173E+07 -.239739E+07 -.120285E+07 .576633E+06 .512937E+05
 .879552E+05 -.357923E+05 .443042E+05 -.211519E+05 .205179E+04 -.853755E+03 -.169554E+03 .490878E+03 -.481961E+03 .209170E+03
 -.274245E+02

PARAMETROS ESTADISTICOS	DESPAD	CORRZ	CDEPX	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESO
GRAU= 1	5.86213	77.36027	59.84611	59.84611	59.84611	-99.50257	-99.50257	0.00000	1202.76091
GRAU= 2	4.15115	89.36718	79.86493	79.86493	79.86493	-99.50257	-99.50257	0.00000	603.12173
GRAU= 3	3.55087	92.34024	85.26720	85.26720	85.26720	-99.50257	-99.50257	0.00000	441.30321
GRAU= 4	2.52978	96.18840	92.52207	92.48245	92.48245	-99.50257	-99.50257	0.00000	223.99218
GRAU= 5	2.49120	96.30597	92.74841	92.69753	92.69753	-99.50257	-99.50257	0.00002	217.21273

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 14/9A	863.18	18.925	48.273	-97.460	.160E+01	-.174E+00	-.218E+00	-.708E+00	-.763E+00		
ONRJ 14/9	857.90	18.925	48.273	-97.420	.164E+01	-.134E+00	-.178E+00	-.668E+00	-.743E+00		
SE-22-R- 295	941.54	18.973	48.142	-90.530	.501E+01	.221E+01	-.329E+01	.457E+00	.275E+00		
SE-22-R- 296	863.18	18.911	48.269	-97.810	.528E+00	-.226E+01	-.262E+01	-.493E-01	-.120E+00		
SE-22-R- 519	938.48	18.923	48.303	-96.420	.379E+01	.273E+01	.499E+01	.107E+01	.135E+01		
SE-22-Y- 214	958.95	19.188	48.133	-104.790	-.156E+01	.320E+01	.217E+01	-.771E+00	-.668E+00		
SE-22-Y- 213	968.19	19.280	48.119	-109.110	-.306E+01	.161E+01	.197E+01	.118E+01	.773E+00		
SE-22-Y- 212	936.63	19.337	48.033	-108.370	-.366E+01	.560E+00	.162E+01	-.658E+00	-.477E+00		
SE-22-Y- 262	845.83	19.558	48.123	-111.240	.535E+01	-.318E+01	-.147E+00	.717E-01	.121E+00		
SE-22-Y- 263	867.86	19.472	48.214	-114.020	.301E+01	-.214E+01	.133E+01	-.334E+00	-.308E+00		
SE-22-Y- 264	715.30	19.360	48.279	-118.380	-.289E+01	-.307E+01	-.175E+01	.135E+01	.868E+00		
SE-22-Y- 265	820.41	19.316	48.304	-120.800	-.595E+01	-.462E+01	-.401E+01	-.147E+01	-.100E+01		
SE-22-Y- 276	894.74	19.232	48.267	-114.170	-.393E+01	.516E+00	.718E+00	.164E+00	.409E+00		
SE-22-Y	897.30	19.106	48.037	-97.910	-.167E+01	-.451E+00	-.175E+01	-.167E+01	-.107E+01		
SE-22-Y- 294	901.97	19.023	48.077	-89.900	.488E+01	.306E+01	-.120E+01	.456E+00	.772E+00		
SE-22-Y- 297	952.35	19.094	48.154	-97.620	.291E+01	.603E+01	.336E+01	.652E+00	.431E-01		
SE-22-Y- 302	667.90	19.244	48.562	-109.460	.131E+02	.111E+02	.206E+01	.824E-01	.621E-01		
SE-22-Y- 396	701.70	19.067	48.571	-129.940	-.136E+02	-.956E+01	-.177E+01	-.400E-01	-.635E-01		
SE-23-S- 210	980.00	19.517	47.908	-102.730	.364E+01	.365E+01	-.722E+00	.165E+00	-.607E-01		
SE-23-S- 211	988.16	19.481	47.904	-103.450	.140E+01	.298E+01	.538E+00	-.182E+00	.641E-01		
SE-23-S- 291	939.53	19.174	47.952	-104.210	-.883E+01	-.687E+01	-.342E+01	.214E-01	-.337E+00		
SE-23-S- 292	948.55	19.186	47.968	-102.910	-.647E+01	-.380E+01	-.117E+01	.906E+00	.101E+01		
SE-23-S- 360	814.80	19.043	47.918	-84.420	.469E+01	-.143E+01	.348E+01	-.257E-01	-.116E+00		

COEFICIENTES DE GRAU = 1
 .255388E+04 -.372417E+02 -.403566E+02

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COEFICIENTES DE GRAU = 2
 .246091E+06 -.107137E+05 -.589361E+04 .125701E+03 .121392E+03 .365406E+02

COEFICIENTES DE GRAU = 3
 -.474700E+08 .740213E+06 .266480E+07 .140676E+05 -.422242E+05 -.469204E+05 -.144013E+02 -.272044E+03 .548456E+03 .251682E+03

COEFICIENTES DE GRAU = 4
 .149863E+11 -.182954E+10 -.517459E+09 .464397E+08 .769850E+08 .827901E+06 -.438843E+06 -.140434E+07 -.103937E+07 .125972E+06
 .105011E+04 .743694E+04 .101340E+05 .450504E+04 -.109980E+04

COEFICIENTES DE GRAU = 5
 .898310E+10 -.902464E+09 -.216989E+09 .314572E+08 .186011E+08 -.327228E+07 -.108421E+07 .420067E+05 .977560E+05 .141344E+05
 .193134E+05 .860796E+04 -.173091E+05 -.336487E+04 -.137469E+04 -.216353E+03 .329474E+02 -.592455E+02 .199090E+03 .104510E+01
 .479469E+01

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	5.57698	84.59005	71.55477	71.55477	71.55477	-104.48130	-104.48130	0.00000	715.36328
GRAU= 2	4.29249	91.18599	83.14884	83.14884	83.14884	-104.48130	-104.48130	-0.00000	423.78635
GRAU= 3	2.32620	97.49417	95.05113	95.05113	95.05113	-104.48130	-104.48130	0.00000	124.45803
GRAU= 4	0.75648	99.73798	99.47664	99.69601	99.69601	-104.48130	-104.48130	-0.00000	13.16187
GRAU= 5	0.63507	99.81540	99.63114	99.64479	99.64479	-104.48130	-104.48130	-0.00009	9.27627

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/65	606.87	19.915	48.305	-95.600	-.229E+02	-.539E+01	-.116E+00	.156E+01	.927E+00		
ONRJ 07/66	509.56	19.925	48.380	-85.420	-.135E+02	-.426E+01	-.240E+01	-.179E+01	-.187E+01		
ONRJ 07/67	530.70	19.958	48.380	-76.410	-.564E+01	-.767E+00	.713E+00	.121E+01	.202E+01		
ONRJ 07/68	526.66	19.990	48.525	-58.120	.106E+02	-.253E+01	-.544E+01	-.470E+01	-.528E+01		
SF-22-F- 315	526.14	20.059	48.133	-79.110	-.101E+02	-.353E+01	-.306E+01	-.367E+01	-.355E+01		
SF-22-F- 316	479.15	20.110	48.160	-65.660	.143E+01	.227E+01	.243E+01	.147E+01	.148E+01		
SF-22-F- 403	513.87	20.171	48.048	-58.260	.753E+01	.355E+01	.127E+01	.108E+01	.478E+00		
SF-22-F- 404	499.25	20.232	48.234	-55.060	.742E+01	.159E+01	.190E+01	.115E+00	.190E+00		
SF-22-F- 405	511.32	20.318	48.314	-53.360	.567E+01	.871E+00	.126E+01	-.758E+00	-.477E+00		
SF-22-F- 470	459.38	20.451	48.462	-59.730	-.621E+01	.270E+00	.150E+01	.132E+01	.118E+01		
SF-22-F- 783	563.55	20.565	48.564	-75.460	-.265E+02	-.488E+00	-.235E+00	-.323E+00	-.274E+00		
SF-22-F- 1022	572.67	20.510	48.130	-54.650	-.917E+00	.558E+01	-.136E+01	.176E+00	.126E+00		
SF-22-F- 1023	536.39	20.427	48.240	-53.960	.186E+01	.442E+01	-.600E+00	-.424E+00	-.516E+00		
SF-22-F- 1024	486.74	20.231	48.407	-56.010	.534E+01	-.527E+01	-.934E+00	-.280E+01	-.577E+01		
SF-22-F- 1025	500.86	20.149	48.508	-54.340	.911E+01	-.879E+01	-.284E+01	.594E+00	.139E+01		
SF-22-F- 1026	472.60	20.051	48.474	-51.530	.155E+02	.333E+01	.440E+01	.445E+01	.443E+01		
SF-22-F- 1028	527.43	20.371	48.214	-53.950	.395E+01	.160E+01	-.813E+00	-.731E+00	-.381E+00		
SF-22-F- 1029	541.35	20.362	48.126	-49.800	.900E+01	.371E+01	.242E+01	.366E+01	.409E+01		
SF-22-F- 1030	552.16	20.436	48.033	-56.410	.504E+00	-.601E+01	-.463E+01	-.273E+01	-.316E+01		
SF-23-A- 402	546.85	20.155	47.966	-59.950	.692E+01	.231E+01	-.274E+01	-.452E+00	-.206E+00		
SF-23-A- 1031	585.77	20.509	47.943	-52.330	.272E+01	-.624E+01	.304E+01	.659E+00	.788E+00		
SE-22-Y- 314	639.64	19.998	48.058	-85.180	-.136E+02	.278E+01	.278E+01	.900E+00	.985E+00		
SE-22-Y- 319	573.98	19.914	48.554	-48.510	.226E+02	.133E+02	.416E+01	.153E+01	.162E+01		
SE-22-Y- 377	509.48	19.914	48.388	-85.930	-.137E+02	-.370E+01	-.205E+01	-.146E+01	-.101E+01		
SE-22-Y	590.24	19.976	48.427	-66.910	.294E+01	.142E+01	.134E+01	.112E+01	.786E+00		

COEFICIENTES DE GRAU = 1
 -.107182E+04 .338983E+02 .670727E+01

COEFICIENTES DE GRAU = 2
 -.501974E+05 .194299E+05 -.610502E+04 -.259135E+03 -.184560E+03 .102163E+03

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COEFICIENTES DE GRAU = 3
 .301210E+08 -.277341E+06 -.175923E+07 -.343343E+05 .406464E+05 .279197E+05 .271254E+03 .366038E+03 -.576550E+03 -.111904E+03

COEFICIENTES DE GRAU = 4
 -.629175E+10 -.595307E+08 .547890E+09 .641744E+07 -.168738E+07 -.167191E+08 -.834731E+05 -.161904E+06 .103390E+06 .217035E+06
 .700360E+03 .563206E+03 .132778E+04 -.109030E+04 -.101221E+04

PARAMETROS ESTADISTICOS	DESPAD	CORRZ	CDEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	11.37818	52.08586	27.12937	27.12937	27.12937	-63.66600	-63.66600	-0.00000	3236.57193
GRAU= 2	4.64515	93.59053	87.59187	87.59187	87.59187	-63.66600	-63.66600	-0.00000	551.11097
GRAU= 3	2.58089	98.10745	96.25072	96.25072	96.25072	-63.66600	-63.66600	-0.00000	166.52534
GRAU= 4	2.05229	98.80752	97.62926	97.53876	97.53876	-63.66600	-63.66600	0.00000	105.29694
GRAU= 5	2.20849	98.61777	97.25465	97.75326	97.75326	-63.66600	-63.66622	0.00545	121.93540

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	HOUO	HGRAU 1	HGRAU 2	HGRAU 3	HGRAU 4	HGRAU 5	HGRAU 6	HGRAU 7
SF-22-F- 466	602,76	20,997	48,548	-59,800	.228E+01	-.473E+01	-.932E+01	-.880E+00	-.628E+00		
SF-22-F- 467	573,01	20,945	48,483	-53,040	.659E+01	-.358E+01	-.778E+01	-.199E+01	-.234E+01		
SF-22-F- 468	590,31	20,718	48,544	-55,850	.247E+01	.210E+01	.304E+01	.139E+01	.135E+01		
SF-22-F- 470	459,38	20,451	48,462	-59,730	-.477E+01	.750E+01	.459E+01	.209E+01	.194E+01		
SF-22-F- 602	571,10	20,987	48,414	-51,080	.108E+02	.791E+01	.662E+01	.438E+01	.404E+01		
SF-22-F- 603	628,25	20,999	48,330	-64,240	-.130E+01	-.219E+01	.708E+00	-.841E+00	-.694E+00		
SF-22-F- 763	563,55	20,565	48,564	-75,460	-.193E+02	-.113E+02	-.389E+01	-.379E+01	-.388E+01		
SF-22-F- 784	501,06	20,616	48,408	-64,350	-.723E+01	-.357E+01	-.495E+01	.114E+01	.167E+01		
SF-22-F- 785	504,46	20,688	48,434	-62,760	-.447E+01	-.439E+01	-.805E+01	-.459E+01	-.510E+01		
SF-22-F- 786	465,46	20,613	48,347	-58,730	-.117E+01	.741E+01	-.641E+01	.278E+01	.265E+01		
SF-22-F- 787	492,36	20,676	48,211	-56,000	.288E+01	.731E+00	.632E+00	.119E+01	.110E+01		
SF-22-F- 788	552,07	20,727	48,087	-53,590	.640E+01	.307E+01	.458E+01	.866E+00	.939E+00		
SF-22-F- 789	545,56	20,769	48,248	-57,420	.260E+01	.430E+00	.977E+00	.183E+01	.243E+01		
SF-22-F- 791	489,46	20,811	48,250	-62,840	-.225E+01	-.429E+01	-.307E+01	-.108E+01	-.177E+01		
SF-22-F- 790	538,65	20,867	48,314	-57,060	.468E+01	.169E+01	.233E+01	.203E+01	.201E+01		
SF-22-F- 792	543,55	20,938	48,273	-65,210	-.297E+01	-.371E+01	-.528E+00	.126E+01	.158E+01		
SF-22-F- 848	544,89	20,935	48,468	-50,960	.106E+02	.593E+01	.269E+01	-.157E+00	.185E+00		
SF-22-F- 849	539,47	20,849	48,423	-50,770	.976E+01	.646E+01	.357E+01	.188E+00	-.177E+00		
SF-22-F- 850	504,15	20,784	48,353	-58,760	.111E+01	-.112E+01	-.324E+01	-.356E+01	-.502E+01		
SF-22-F- 851	510,03	20,833	48,484	-49,540	.106E+02	.690E+01	.361E+01	-.565E+00	-.499E+00		
SF-22-F- 852	576,89	20,715	48,562	-56,160	.295E+01	.196E+01	.442E+01	.212E+01	.198E+01		
SF-22-F- 853	589,57	20,654	48,574	-63,810	-.640E+01	-.354E+01	.220E+01	.136E+01	.149E+01		
SF-22-F- 1019	540,43	20,897	48,008	-61,110	.146E+01	.333E+01	-.317E+01	.125E+01	.984E+00		
SF-22-F- 1020	538,95	20,759	48,051	-50,020	.453E+01	.153E+01	.148E+01	-.222E+01	-.165E+01		
SF-22-F- 1021	673,32	20,616	48,121	-51,800	.657E+01	.315E+01	.472E+01	.909E+00	.273E+00		
SF-22-F- 1022	572,67	20,510	48,130	-54,650	.224E+01	.253E+00	.696E+00	-.991E+00	-.802E+00		
SF-22-F- 1023	530,34	20,427	48,240	-53,900	.142E+01	.618E+01	.101E+00	-.195E+01	-.181E+01		
SF-22-F- 1030	552,16	20,436	48,033	-56,410	-.200E+00	-.473E+01	-.129E+01	.136E+01	.121E+01		
SF-23-A- 1031	565,77	20,509	47,943	-52,330	.517E+01	-.344E+01	-.158E+01	-.608E+00	-.459E+00		
SF-22-L- 604	548,75	21,012	48,273	-69,000	-.575E+01	-.473E+01	.388E+00	.235E+00	.544E+01		
SF-22-L- 605	512,19	21,010	48,221	-77,210	-.138E+02	-.114E+02	-.558E+01	-.354E+01	-.342E+01		
SF-22-L- 606	495,24	21,019	48,178	-75,470	-.118E+02	-.790E+01	-.225E+01	.106E+01	.795E+00		
SF-22-L- 607	508,45	21,021	48,114	-70,240	-.123E+02	-.065E+01	-.372E+01	.528E+00	.344E+00		
SF-22-L- 608	529,45	21,030	48,047	-71,590	-.732E+01	.063E+00	-.299E+01	-.116E+01	-.102E+01		
SF-22-L- 609	520,66	21,070	48,037	-62,900	.195E+01	.120E+02	.740E+01	.500E+00	.679E+00		
SF-22-L- 847	645,09	21,072	48,410	-59,920	.369E+01	.177E+01	.297E+01	.706E+01	.683E+01		

COEFICIENTES DE GRAU = 1
 .594988E+02 -.136520E+02 .339940E+01

COEFICIENTES DE GRAU = 2
 .108153E+06 -.314243E+04 -.312851E+04 -.636927E+02 .119671E+03 .668197E+01

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COEFICIENTES DE GRAU = 3
 .253216E+08 .127246E+07 -.211795E+07 .429063E+04 -.564022E+05 .559654E+05 -.469643E+02 -.297152E+02 .598745E+03 -.472097E+03

COEFICIENTES DE GRAU = 4
 -.836795E+10 .553261E+09 .456555E+09 -.804466E+07 -.274567E+08 -.831823E+07 .161547E+05 .312546E+06 .434171E+06 .531545E+05
 .177920E+04 -.339561E+04 -.104763E+04 -.269601E+04 .117347E+02

PARAMETROS ESTADISTICOS	DESPAD	CORR%	COEP%	PSTQ	SSHPD	YBARUP	YBARCP	SYRES	SYRESU
GRAU= 1	7.08977	35.93376	12.91235	12.91235	12.91235	-60.17806	-60.17806	0.00000	1809.53311
GRAU= 2	5.33296	71.22123	50.72464	50.72464	50.72464	-60.17806	-60.17806	-0.00000	1023.85810
GRAU= 3	3.92010	85.65933	73.37520	73.37520	73.37520	-60.17806	-60.17806	-0.00000	553.21800
GRAU= 4	1.95799	96.62182	93.35776	93.02972	93.02972	-60.17806	-60.17806	0.00000	138.01441
GRAU= 5	1.98752	96.51732	93.15594	93.53106	93.53106	-60.17806	-60.17806	0.00005	142.20797

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-22-F- 466	602.76	20.997	48.548	-59.840	-.443E+00	-.777E+01	-.596E+01	-.141E+01	-.166E+01		
SF-22-F- 467	573.01	20.945	48.483	-53.040	-.653E+01	-.237E+01	-.499E+01	-.243E+01	-.293E+01		
SF-22-F- 602	571.10	20.987	48.414	-51.680	-.941E+01	-.834E+01	-.632E+01	-.185E+01	-.154E+01		
SF-22-F- 603	628.25	20.999	48.330	-64.240	-.184E+01	-.346E+00	-.178E+01	-.283E+01	-.304E+01		
SF-22-F- 792	543.55	20.938	48.273	-65.210	-.268E+01	-.916E+01	-.147E+01	-.472E+01	-.509E+01		
SF-22-F- 848	544.89	20.935	48.468	-50.950	-.867E+01	-.518E+01	-.233E+01	-.729E+00	-.328E+00		
SF-22-G- 610	544.16	21.138	47.990	-59.950	-.901E+01	-.758E+01	-.665E+01	-.355E+01	-.370E+01		
SF-23-G- 843	665.47	21.107	47.913	-69.100	-.126E+01	-.378E+01	-.710E+01	-.357E+01	-.306E+01		
SF-23-G- 840	594.30	21.237	47.973	-61.870	-.869E+01	-.520E+01	-.103E+01	-.695E+00	-.153E+00		
SF-23-G- 1014	565.56	21.480	47.961	-69.850	-.422E+01	-.237E+01	-.131E+01	-.161E+01	-.165E+01		
SF-22-L- 604	548.75	21.012	48.273	-69.000	-.565E+01	-.311E+01	-.367E+01	-.228E+01	-.284E+01		
SF-22-L- 605	512.19	21.010	48.221	-77.210	-.132E+02	-.101E+02	-.924E+01	-.602E+01	-.659E+01		
SF-22-L- 606	495.24	21.019	48.178	-75.470	-.107E+02	-.751E+01	-.572E+01	-.306E+01	-.262E+01		
SF-22-L- 607	505.45	21.021	48.114	-76.240	-.106E+02	-.771E+01	-.398E+01	-.291E+01	-.338E+01		
SF-22-L- 608	529.45	21.030	48.047	-71.590	-.488E+01	-.314E+01	-.206E+01	-.139E+00	-.279E+00		
SF-22-L- 609	520.66	21.070	48.037	-62.900	-.448E+01	-.542E+01	-.801E+01	-.483E+01	-.491E+01		
SF-22-L- 793	556.21	21.126	48.276	-65.060	-.180E+00	-.195E+01	-.301E+00	-.243E+01	-.286E+01		
SF-22-L- 794	588.67	21.013	48.321	-54.250	-.847E+01	-.101E+02	-.873E+01	-.793E+01	-.849E+01		
SF-22-L- 795	547.31	21.375	48.323	-73.100	-.544E+01	-.291E+01	-.298E+01	-.982E+00	-.181E+01		
SF-22-L- 796	609.35	21.515	48.330	-71.860	-.237E+01	-.148E+01	-.629E+00	-.243E+01	-.259E+01		
SF-22-L- 836	505.61	21.429	48.148	-71.240	-.432E+00	-.581E+00	-.866E+00	-.124E+01	-.625E+00		
SF-22-L- 837	614.21	21.360	48.228	-70.310	-.155E+01	-.699E+00	-.595E+01	-.217E+01	-.169E+01		
SF-22-L- 838	506.21	21.316	48.136	-68.780	-.639E+00	-.153E+01	-.162E+00	-.352E+00	-.276E+00		
SF-22-L- 844	539.20	21.173	48.075	-64.670	-.362E+01	-.414E+01	-.224E+01	-.116E+01	-.595E+00		
SF-22-L- 839	533.50	21.360	48.066	-67.660	-.332E+01	-.212E+01	-.463E+00	-.264E+01	-.251E+01		
SF-22-L- 845	508.88	21.194	48.164	-70.150	-.279E+01	-.946E+00	-.294E+01	-.962E+00	-.196E+00		
SF-22-L- 846	552.88	21.186	48.370	-63.600	-.827E+00	-.161E+01	-.157E+01	-.184E+01	-.235E+01		
SF-22-L- 847	645.09	21.072	48.410	-59.920	-.240E+01	-.160E+01	-.971E+00	-.217E+01	-.263E+01		
SF-22-L- 834	530.52	21.587	48.071	-77.020	-.298E+01	-.450E+01	-.137E+01	-.801E+00	-.914E+00		
SF-22-L- 965	722.88	21.261	48.495	-66.390	-.265E+01	-.478E+01	-.453E+00	-.222E+00	-.323E+01		
SF-22-L- 966	677.98	21.220	48.442	-65.880	-.198E+01	-.281E+01	-.249E+00	-.119E+01	-.102E+01		
SF-22-L- 967	655.27	21.239	48.387	-67.570	-.266E+01	-.193E+01	-.105E+01	-.677E+00	-.899E+00		
SF-22-L- 968	611.65	21.328	48.405	-68.640	-.274E+01	-.161E+01	-.111E+00	-.562E+00	-.192E+00		
SF-22-L- 969	566.74	21.412	48.498	-65.180	-.594E+00	-.608E+00	-.295E+01	-.427E+00	-.361E+00		
SF-22-L- 970	541.22	21.475	48.599	-64.740	-.529E+00	-.170E+01	-.770E+01	-.541E+00	-.596E+00		
SF-22-L- 971	547.81	21.556	48.481	-64.750	-.323E+01	-.633E+01	-.106E+01	-.102E+01	-.108E+01		

COEFICIENTES DE GRAU = 1
 -.435621E+03 -.137409E+02 .136926E+02

COEFICIENTES DE GRAU = 2
 .118620E+06 .291553E+04 -.621095E+04 -.136442E+02 -.487026E+02 .752257E+02

COEFICIENTES DE GRAU = 3
 -.316499E+07 .158036E+07 -.499052E+06 -.333768E+05 -.360111E+05 .182480E+05 .118529E+03 .534386E+03 .137141E+03 -.145926E+03

COEFICIENTES DE GRAU = 4
 -.842838E+10 -.187994E+09 .781568E+09 -.324423E+07 .145796E+08 -.275166E+08 .949953E+05 .829210E+04 -.306210E+06 .425320E+06
 -.900273E+03 -.381094E+03 .171654E+03 .206601E+04 -.243219E+04

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PARAMETROS ESTADISTICOS	DESPAD	CORRZ	CDEPZ	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	5.43654	56.61625	32.05400	32.05400	32.05400	-66.08278	-66.08278	0.00000	1064.01363
GRAU= 2	4.65946	70.77410	50.08973	50.08973	50.08973	-66.08278	-66.08278	0.00000	781.57959
GRAU= 3	3.78606	81.87593	67.03667	67.03667	67.03667	-66.08278	-66.08278	0.00000	516.19567
GRAU= 4	2.69605	91.25929	83.28257	82.00345	82.00345	-66.08278	-66.08278	0.00000	261.78980
GRAU= 5	2.81758	90.41550	81.74962	83.08705	83.08705	-66.08278	-66.08278	0.00000	285.79534

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/103	843.66	17.675	49.050	-99.010	.857E+01	.414E+01	.328E+01	-.278E+01	.257E+01		
ONRJ 07/104	760.25	17.585	49.075	-106.330	-.201E+01	-.285E+01	-.446E+01	-.263E+01	-.248E+01		
ONRJ 07/105	868.46	17.490	49.080	-102.420	-.113E+01	.186E+01	.131E+01	.329E+01	.302E+01		
ONRJ 07/106	861.49	17.400	49.060	-108.050	-.916E+01	-.370E+01	-.684E+00	-.259E+01	-.239E+01		
SE-22-- 414	672.28	18.078	48.754	-118.180	.755E+01	.810E+00	-.102E+01	.106E+01	.117E+01		
SE-22-R- 1689	600.87	18.054	48.692	-122.230	.394E+01	.356E+01	.116E+01	-.157E+01	-.180E+01		
SE-22-L- 413	624.17	17.991	48.643	-127.000	-.184E+01	.282E+01	.279E+01	.500E+00	.665E+00		
SE-22-L- 1599	612.98	17.446	48.822	-103.550	.133E+01	.275E+01	-.141E+01	.176E+01	.184E+01		
SE-22-L- 1600	765.03	17.533	48.812	-107.510	.237E+00	.352E+01	-.252E+01	-.162E+01	-.185E+01		
SE-22-L- 1601	757.57	17.620	48.742	-111.130	.680E+00	.434E+01	.143E+01	-.114E+01	-.119E+01		
SE-22-L- 1602	749.31	17.691	48.679	-122.080	-.690E+01	-.273E+01	-.219E+01	-.394E+01	-.364E+01		
SE-22-L- 1603	685.66	17.742	48.626	-130.730	-.129E+02	.827E+01	-.578E+01	-.544E+01	-.540E+01		
SE-22-L- 1604	692.61	17.706	48.558	-118.920	-.949E+00	.768E+00	.268E+01	.470E+01	.438E+01		
SE-22-L- 1605	704.08	17.774	48.429	-117.610	.497E+01	.506E+01	-.330E+00	-.533E+00	-.449E+00		
SE-22-L- 1701	765.98	17.723	48.937	-105.450	.579E+01	.513E+01	.137E+01	.461E+00	.498E+00		
SE-22-L- 1702	652.51	17.736	48.767	-110.610	.428E+01	.872E+01	.772E+01	.594E+01	.597E+01		
SE-22-L- 1703	704.68	17.704	48.687	-114.680	.760E+00	.528E+01	.588E+01	.423E+01	.421E+01		
SE-22-L- 1704	764.52	17.716	48.651	-125.190	-.868E+01	-.433E+01	-.263E+01	-.327E+01	-.328E+01		
SE-22-L- 1692	731.24	17.875	48.761	-127.960	-.864E+01	-.645E+01	-.396E+01	-.689E+00	-.870E+00		
SE-22-L- 1693	636.00	17.840	48.875	-118.540	-.249E+01	-.509E+01	-.410E+01	-.338E+01	-.337E+01		
SE-22-L- 1694	715.37	17.833	48.968	-107.020	.700E+01	-.177E+01	.113E+01	.440E+00	.426E+00		
SE-22-L- 1683	818.56	17.437	48.582	-97.300	.119E+02	-.292E+01	-.756E+00	-.999E+00	-.105E+01		
SE-22-L- 1684	749.87	17.485	48.593	-100.230	.103E+02	.357E+00	.134E+01	-.113E+01	.104E+01		
SE-22-L- 1685	689.28	17.542	48.616	-106.350	.545E+01	.113E+01	.140E+01	.434E+00	.783E+00		
SE-22-L- 1686	707.80	17.627	48.582	-116.240	-.117E+01	-.248E+01	-.141E+01	-.698E+00	-.721E+00		
SE-22-L- 1687	758.23	17.810	48.632	-128.980	-.921E+01	-.329E+01	-.880E+01	.133E+01	.114E+01		
SE-22-L- 1688	610.36	17.911	48.664	-131.000	-.910E+01	-.456E+01	-.160E+01	.150E+01	.156E+01		
SE-22-- 1695	841.20	17.770	49.012	-103.490	.776E+01	-.186E+00	.150E+01	-.424E+00	-.472E+00		
SE-22-- 1697	847.12	17.676	49.046	-100.110	.759E+01	.334E+01	.220E+01	.186E+01	.186E+01		
SE-22-- 1698	760.23	-17.587	49.077	-107.670	-.334E+01	-.437E+01	-.576E+01	-.415E+01	-.384E+01		
SE-22-- 1699	868.44	17.425	49.079	-100.360	-.106E+01	.382E+01	.656E+01	.465E+01	.461E+01		
SE-22-- 1700	879.21	17.423	49.063	-109.010	-.946E+01	-.439E+01	-.305E+01	-.282E+01	-.293E+01		

COEFICIENTES DE GRAU = 1
 -.502826E+03 -.309075E+02 .191955E+02

COEFICIENTES DE GRAU = 2
 .474346E+06 -.141765E+05 -.143283E+05 .869153E+02 .226973E+03 .105986E+03

COEFICIENTES DE GRAU = 3
 .549208E+08 -.328784E+06 -.325237E+07 -.315058E+03 .135279E+05 .641289E+05 .272207E+03 -.288864E+03 -.323743E+02 -.433850E+03

COEFICIENTES DE GRAU = 4
 .986684E+09 .858363E+08 -.111627E+09 .248683E+07 -.708225E+07 .470411E+07 .997302E+04 -.112421E+06 .185802E+06 -.865593E+05
 .920674E+03 -.153556E+04 .198119E+04 -.174598E+04 .600693E+03

COEFICIENTES DE GRAU = 5
 -.807961E+10 .857437E+09 .593864E+09 -.376789E+08 -.442618E+08 -.192202E+08 .665220E+06 .166281E+07 .772230E+06 .358088E+06
 -.210826E+05 .357627E+04 -.375916E+05 -.128376E+04 -.415630E+04 .656146E+03 -.741270E+03 .486489E+03 .962847E+02 -.146617E+02
 .206351E+02

PARAMETROS ESTADISTICOS	DESPA0	CORR%	CDEP%	PSTQ	SSRED	YBAR08	YBARCP	SYRES	SYRESQ
GRAU= 1	6.62446	75.49712	56.99815	56.99815	56.99815	-112.65438	-112.65438	0.00000	1404.27209
GRAU= 2	4.09259	91.42605	83.58723	83.58723	83.58723	-112.65438	-112.65438	0.00000	535.97701
GRAU= 3	3.24684	94.69417	89.66985	89.66985	89.66985	-112.65438	-112.65438	0.00000	337.34222
GRAU= 4	2.76349	96.18554	92.51658	92.54256	92.54256	-112.65438	-112.65438	0.00000	244.37923
GRAU= 5	2.70773	96.34081	92.81552	92.51734	92.51734	-112.65438	-112.65438	0.00025	234.61711

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-P- 406	856,39	18,591	48,705	-115,710	-.844E+01	-.418E+00	-.497E+00	.201E+01	.209E+01		
SE-22-R- 407	783,87	18,595	48,883	-106,610	.200E+00	.421E+01	.148E+01	.275E+01	.317E+01		
SE-22-R- 412	625,68	18,135	48,562	-115,820	-.230E+01	-.135E+01	-.139E+00	.332E+00	-.303E+00		
SE-22-R- 414	672,28	18,078	48,754	-116,180	-.557E+01	-.467E+01	-.419E+01	.418E+00	.623E+00		
SE-22-P- 417	630,27	18,442	48,562	-110,280	-.192E+00	-.306E+01	.507E+00	.810E+00	.678E+00		
SE-22-R- 418	890,73	18,402	48,425	-102,930	.872E+01	.397E+01	.284E+01	.340E+01	.426E+01		
SE-22-R- 428	509,25	18,381	48,482	-109,820	.160E+01	-.304E+01	-.136E+01	.447E-01	.484E+00		
SE-22-R- 734	777,11	18,113	48,465	-109,900	.465E+01	.851E+01	.448E+01	.107E+01	.174E+01		
SE-22-R- 735	620,58	18,235	48,593	-112,140	.174E-01	-.350E+01	-.744E+00	-.195E+01	-.153E+01		
SE-22-P- 736	551,16	18,254	48,646	-104,110	.741E+01	.315E+01	.590E+01	.247E+01	.295E+01		
SE-22-P- 737	576,35	18,288	48,771	-97,780	.124E+02	.731E+01	.761E+01	.208E+01	.209E+01		
SE-22-R- 738	538,24	18,241	48,852	-102,660	.741E+01	.194E+01	.418E+00	-.268E+01	-.269E+01		
SE-22-R- 739	474,83	18,267	48,957	-99,450	.942E+01	.339E+01	.101E+01	.543E+00	-.196E+00		
SE-22-R- 742	536,92	18,327	48,430	-108,590	.385E+01	-.614E+00	-.285E+01	-.767E+00	-.104E+01		
SE-22-R- 743	576,89	18,297	48,446	-112,480	.163E+00	-.406E+01	-.549E+01	-.287E+01	-.408E+01		
SE-22-R- 1785	935,45	18,537	48,429	-107,840	.226E+01	.157E+01	.189E+01	-.113E+01	-.130E+01		
SE-22-R- 1786	906,65	18,493	48,708	-113,050	-.470E+01	-.372E+01	-.267E+01	-.333E+01	-.401E+01		
SE-22-R- 1791	893,66	18,551	48,859	-114,200	-.772E+01	-.324E+00	-.326E+01	-.277E+01	-.243E+01		
SE-22-P- 1689	600,87	18,054	48,692	-122,230	-.885E+01	-.510E+01	-.375E+01	.350E+00	.582E+00		
SE-22-P- 1690	526,49	18,140	48,838	-108,230	.301E+01	-.394E+00	-.167E+01	-.286E+00	-.387E+00		
SE-22-R- 1691	844,20	18,141	48,949	-102,900	.744E+01	.235E+01	-.345E+00	.668E+00	.105E+01		
SE-22-L- 413	624,17	17,991	48,643	-127,000	-.125E+02	-.245E+01	-.140E+01	-.119E+01	-.177E+01		
SE-22-L- 1688	616,36	17,911	48,684	-131,000	-.160E+02	.115E+01	.198E+01	.261E+00	.412E+00		
SE-22-G- 415	781,31	18,139	49,040	-97,550	.121E+02	.563E+01	.424E+01	-.119E+00	-.305E+00		
SE-22-G- 429	726,03	18,529	49,000	-113,370	-.778E+01	-.113E+00	-.129E+01	.108E+01	.689E+00		
SE-22-G- 430	743,70	18,566	49,054	-115,190	-.104E+02	.171E+01	.364E+01	-.561E+00	-.577E+00		
SE-22-G- 740	491,93	18,314	49,031	-105,200	.255E+01	-.275E+01	-.332E+01	-.916E+00	-.822E+00		
SE-22-G- 1588	466,89	18,311	49,097	-105,390	.185E+01	-.366E+01	-.513E+00	.521E+00	.233E+00		
SE-22-G- 1719	586,65	18,327	49,091	-107,660	-.543E+00	-.546E+01	-.259E+01	-.234E+00	.393E+00		

COEFICIENTES DE GRAU = 1
 -.707813E+03 .111764E+02 .806401E+01

COEFICIENTES DE GRAU = 2
 -.116150E+06 .909652E+04 .133344E+04 -.145118E+03 -.775274E+02 .982792E+00

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COEFICIENTES DE GRAU = 3
 .420837E+08 -.408223E+06 -.243788E+07 .514915E+03 .165200E+05 .469040E+05 .251106E+02 -.415229E+02 -.154471E+03 -.301279E+03

COEFICIENTES DE GRAU = 4
 .769325E+10 -.325155E+09 -.508103E+09 .151001E+08 .864557E+07 .139829E+08 -.179739E+06 -.417026E+06 -.202529E+05 -.188363E+06
 .111647E+04 .201225E+04 .314249E+04 -.651287E+03 .102574E+04

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTG	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	7.28784	35.59852	12.67255	12.67255	12.67255	-110.24862	-110.24862	0.00000	1540.26623
GRAU= 2	3.70062	88.02468	77.48344	77.48344	77.48344	-110.24862	-110.24862	-0.00000	397.14306
GRAU= 3	3.09580	91.78348	84.24207	84.24207	84.24207	-110.24862	-110.24862	0.00000	277.93556
GRAU= 4	1.66724	97.68811	95.42966	95.29506	95.29506	-110.24862	-110.24862	-0.00000	80.61076
GRAU= 5	1.92489	96.90611	93.90794	95.41679	95.41679	-110.24862	-110.24862	-0.00002	107.45072

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = ,5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED, 4x)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/87	730,44	18,860	48,875	-114,140	-.295E+00	.168E+01	.437E+01	.451E+01	.433E+01		
ONRJ 07/84	600,05	19,893	48,888	-94,990	.202E+02	.136E+02	.231E+01	-.473E+00	-.288E+00		
ONRJ 07/85	725,88	18,997	48,860	-113,360	.128E+01	.217E+00	-.635E+00	.425E+00	-.200E+00		
ONRJ 07/86	733,97	18,970	48,865	-114,760	-.843E+00	.136E+01	.421E+01	.414E+01	.477E+01		
ONRJ 07/88	714,41	18,820	48,930	-115,650	-.211E+01	-.195E+01	.588E-01	.709E+00	.492E+00		
ONRJ 07/89	758,07	18,785	49,025	-104,530	.867E+01	.384E+01	.625E+01	.465E+01	.459E+01		
SE-22-R- 399	877,49	18,868	48,566	-126,400	-.121E+02	-.598E+01	-.174E+01	-.172E+01	-.167E+01		
SE-22-R- 406	856,30	18,591	48,705	-115,710	-.314E+01	.235E+01	.901E-01	.169E+01	.130E+01		
SE-22-P- 407	783,87	18,505	48,883	-106,610	.521E+01	.971E+01	.425E+01	.230E+01	.209E+01		
SE-22-R- 417	830,27	18,442	48,562	-110,280	.167E+01	-.246E+01	-.122E+01	-.999E+00	-.673E+00		
SE-22-R- 418	890,73	18,402	48,425	-102,930	.899E+01	-.756E+01	.302E+01	.139E+01	.120E+01		
SE-22-R- 422	821,00	18,723	48,410	-101,230	.125E+02	.931E+01	.123E+01	-.478E+00	-.492E+00		
SE-22-R- 826	745,34	18,878	48,966	-109,560	.425E+01	.565E+00	.289E+00	.294E+01	.268E+01		
SE-22-R- 827	733,88	18,870	48,878	-116,000	-.211E+01	-.491E+00	.201E+01	.241E+01	.239E+01		
SE-22-R- 828	781,69	18,792	48,855	-126,410	-.129E+02	-.884E+01	-.593E+01	-.702E+01	-.628E+01		
SE-22-R- 829	791,34	18,719	48,791	-122,150	-.898E+01	-.265E+01	-.102E+01	-.248E+01	-.221E+01		
SE-22-R- 830	799,19	18,659	48,755	-114,290	-.141E+01	.515E+01	.484E+01	.467E+01	.420E+01		
SE-22-R- 1785	935,45	18,537	48,429	-107,840	.484E+01	-.431E+01	-.604E+01	-.220E+01	-.199E+01		
SE-22-R- 1786	906,05	18,493	48,708	-113,050	-.104E+01	.252E+01	-.171E+01	-.294E+01	-.302E+01		
SE-22-P- 1787	914,65	18,683	48,643	-116,950	-.376E+01	.201E+01	.232E+01	.202E+01	.209E+01		
SE-22-R- 1788	805,34	18,733	48,800	-121,950	-.871E+01	-.258E+01	-.558E+00	-.209E+01	-.234E+01		
SE-22-P- 1789	907,49	18,614	48,734	-116,020	-.336E+01	.275E+01	.101E+01	.191E+01	.159E+01		
SE-22-R- 1790	876,16	18,618	48,877	-118,170	-.570E+01	-.809E+00	-.226E+01	-.825E+00	-.536E+00		
SE-22-R- 1791	893,66	18,551	48,859	-114,200	-.208E+01	.305E+01	-.960E+00	-.347E+00	.354E+00		
SE-22-R- 1792	854,60	18,727	48,431	-102,840	.109E+02	.912E+01	.268E+01	.183E+01	.174E+01		
SE-22-R- 1722	779,70	18,772	48,961	-119,430	-.621E+01	-.660E+01	-.438E+01	-.429E+01	-.483E+01		
SE-22-R- 1723	838,12	18,855	48,858	-125,090	-.112E+02	-.842E+01	-.528E+01	-.575E+01	-.548E+01		
SE-22-Y- 396	781,70	19,067	48,571	-129,940	-.145E+02	-.907E+01	-.102E+01	.223E+00	.232E+00		
SE-22-Q- 425	790,81	18,772	49,069	-103,560	.949E+01	.176E+01	.538E+01	.444E+00	.429E+00		
SE-22-Q- 429	726,03	18,529	49,000	-113,370	-.159E+01	-.409E+00	-.150E+01	-.169E+00	-.559E+00		
SE-22-G- 430	743,70	18,566	49,054	-115,190	-.326E+01	-.511E+01	-.190E+01	-.778E+00	-.494E+00		
SE-22-G- 825	641,76	18,890	49,041	-104,510	.926E+01	-.532E+00	-.350E+01	-.179E+01	-.178E+01		
SE-22-Q- 1724	734,61	18,900	49,030	-105,800	.804E+01	-.124E+01	-.467E+01	-.169E+01	-.162E+01		

COEFICIENTES DE GRAU = 1
 -.799253E+02 -.566684E+01 .149272E+01

COEFICIENTES DE GRAU = 2
 .351977E+06 -.610795E+04 -.121050E+05 .428317E+02 .922621E+02 .106521E+03

COEFICIENTES DE GRAU = 3
 -.374762E+07 .193076E+07 -.501658E+06 -.305254E+05 -.559420E+05 .208774E+05 .164492E+03 .438093E+03 .406764E+03 -.193921E+03

COEFICIENTES DE GRAU = 4
 .600836E+10 .463242E+06 -.493356E+09 -.146998E+07 .114247E+07 .149615E+08 -.127155E+06 .207333E+06 -.103492E+06 -.191307E+06
 .185731E+04 -.259421E+03 -.197691E+04 .121493E+04 .864053E+03

COEFICIENTES DE GRAU = 5
 .691203E+10 -.149924E+10 -.193165E+08 .149451E+09 .883636E+07 -.569575E+07 -.626212E+07 -.201881E+07 .499256E+06 .151731E+06
 .598996E+05 .162427E+06 -.499935E+05 .546853E+04 -.304551E+04 -.164585E+04 .197369E+04 .318886E+04 .155444E+04 -.321605E+03
 .407691E+02

PARAMETROS ESTADISTICOS	DESPAD	CORRZ	CDEPZ	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESU
GRAU= 1	7.96418	11.69686	1.36817	1.36817	1.36817	-113.23970	-113.23970	0.00000	2093.13154
GRAU= 2	5.42266	73.67121	54.27447	54.27447	54.27447	-113.23970	-113.23970	0.00000	970.37186
GRAU= 3	3.27910	91.25774	83.27974	83.27974	83.27974	-113.23970	-113.23970	0.00000	354.83164
GRAU= 4	2.77889	93.80394	87.99179	87.84331	87.84331	-113.23970	-113.23970	0.00000	254.83426
GRAU= 5	2.68240	94.23973	88.81126	87.96329	87.96329	-113.23970	-113.23970	-0.00000	237.44367

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = ,5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/78	699,74	19,490	48,828	-82,100	-.180E+01	.677E+01	.619E+00	.141E+00			
ONRJ 07/79	664,15	19,395	48,865	-83,120	-.335E+01	-.281E+01	-.136E+01	-.848E+00			
ONRJ 07/80	651,41	19,355	48,885	-81,070	-.198E+01	-.361E+01	-.245E+01	.137E+01			
ONRJ 07/81	625,33	19,308	48,925	-72,160	.442E+01	.123E+01	.152E+01	.138E+01			
ONRJ 07/82	710,52	19,275	48,930	-68,230	.899E+01	.474E+01	.384E+01	.185E+01			
ONRJ 07/83	650,05	19,210	48,935	-65,160	.137E+02	.910E+01	.529E+01	.311E+00			
ONRJ 07/84	600,05	19,093	48,888	-94,990	-.737E+01	-.514E+01	-.922E+01	-.696E-01			
ONRJ 07/85	725,88	18,997	48,860	-113,360	-.196E+02	-.447E+01	.320E+01	.531E-01			
SE-22-X- 762	660,54	19,184	49,041	-56,310	.127E+02	.701E+01	.481E+01	.406E+00			
SE-22-X- 764	618,03	19,368	49,033	-74,980	-.114E+02	-.817E+01	-.337E+01	.929E+00			
SE-22-X- 1728	769,27	19,462	49,061	-73,440	-.159E+02	.594E+00	.167E+01	-.249E+00			
SE-22-X- 1725	794,13	19,163	49,090	-60,950	.370E+01	-.278E+01	-.208E+01	-.196E+00			
SE-22-Y- 302	667,00	19,244	48,562	-109,460	.634E+01	-.150E+01	-.159E+00	-.123E+00			
SE-22-Y- 303	700,00	19,254	48,682	-104,810	-.160E+01	-.825E+01	-.317E+01	-.602E+00			
SE-22-Y- 304	735,70	19,257	48,816	-81,450	.803E+01	.273E+01	.382E+01	-.767E+00			
SE-22-Y- 305	650,23	19,309	48,925	-73,410	.315E+01	-.184E-01	.286E+00	.382E+00			
SE-22-Y- 396	701,70	19,067	48,571	-129,940	-.912E+01	.511E+01	-.303E+00	-.123E+00			
SE-22-Y- 397	646,18	19,210	48,637	-104,210	.507E+01	.677E+00	.247E+01	.886E+00			
SE-22-Y- 763	655,39	19,179	48,950	-70,240	.823E+01	.406E+01	-.982E+00	-.296E+00			
SE-22-Y- 1726	764,83	19,303	48,955	-76,060	-.232E+01	-.531E+01	-.502E+01	-.443E+01			

COEFICIENTES DE GRAU = 1
 -.571739E+04 .338864E+02 .101921E+03

COEFICIENTES DE GRAU = 2
 -.272076E+06 .219576E+05 .237046E+04 -.290206E+03 -.219916E+03 .200541E+02

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COEFICIENTES DE GRAU = 3
 .869388E+09 .656602E+06 -.560779E+07 -.909397E+05 .451924E+05 .106013E+06 .125181E+04 .375948E+03 -.612554E+03 -.643493E+03

COEFICIENTES DE GRAU = 4
 .483131E+10 .363925E+10 -.183219E+10 .277470E+08 -.245530E+09 .104746E+09 -.454034E+07 .423222E+07 .336159E+07 -.187295E+07
 .804250E+04 .803327E+05 -.908486E+05 .919221E+03 .950530E+04

PARAMETROS ESTATISTICOS	DESPAD	CORR%	COEP%	PSTQ	SSRED	YBAROH	YBARCP	SYRES	SYRESU
GRAU= 1	8.94512	88.18840	77.77194	77.77194	77.77194	-83.77450	-83.77450	-0.00000	1600.30476
GRAU= 2	4.96420	96.51640	93.15416	93.15416	93.15416	-83.77450	-83.77450	0.00000	492.86515
GRAU= 3	3.50447	98.27934	96.58828	96.58828	96.58828	-83.77450	-83.77450	0.00000	245.62584
GRAU= 4	1.24106	99.78583	99.57213	99.51617	99.51617	-83.77450	-83.77450	-0.00001	30.80466

				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/69	495,39	20,090	48,625	-54,230	-.945E+01	-.407E+00	-.124E+01	-.289E+00	-.111E+01		
ONRJ 07/68	526,66	19,990	48,525	-58,120	-.327E+01	-.290E+01	-.220E+01	-.527E+01	-.364E+01		
ONRJ 07/71	525,32	20,075	48,718	-53,920	-.129E+02	-.320E+01	-.340E+01	-.339E+00	-.137E+01		
ONRJ 07/72	514,87	19,975	48,665	-51,070	-.229E+01	-.326E+01	-.185E+01	-.133E+01	-.773E-01		
ONRJ 07/73	524,10	19,910	48,695	-46,110	-.456E+01	-.113E+00	-.120E+01	-.106E+01	-.105E+01		
ONRJ 07/74	596,82	19,850	48,740	-47,430	-.414E+01	-.208E+01	-.165E+01	-.268E+01	-.339E+01		
ONRJ 07/75	620,11	19,775	48,740	-48,630	-.682E+01	-.132E+01	-.132E+01	-.931E+00	-.146E+01		
ONRJ 07/76	739,72	19,690	48,760	-62,630	-.376E+01	-.535E+01	-.572E+01	-.348E+01	-.285E+01		
ONRJ 07/77	752,55	19,605	48,815	-74,950	-.144E+02	-.100E+02	-.106E+02	-.630E+01	-.586E+01		
ONRJ 07/78	699,74	19,490	48,828	-82,100	-.162E+02	-.399E+01	-.582E+01	-.161E+01	-.117E+01		
SE-22-X- 773	560,98	19,693	49,084	-37,940	-.495E+01	-.216E+01	-.439E+00	-.221E+00	-.363E+00		
SE-22-X- 803	564,96	19,640	49,022	-36,200	-.125E+02	-.816E+01	-.732E+01	-.410E+01	-.285E+01		
SE-22-X- 807	528,76	19,918	49,094	-39,640	-.887E+01	-.699E+01	-.380E+01	-.316E-01	-.271E+00		
SE-22-X- 1728	769,27	19,462	49,061	-73,440	-.175E+02	-.359E+01	-.303E+01	-.957E+00	-.499E+00		
SF-22-F- 323	517,34	20,026	48,938	-36,320	-.353E+01	-.594E+01	-.383E+01	-.158E+01	-.119E+01		
SF-22-F- 777	515,45	20,024	48,929	-36,140	-.280E+01	-.605E+01	-.401E+01	-.437E-01	-.164E+00		
SF-22-F- 858	540,63	20,042	48,710	-55,190	-.121E+02	-.655E+01	-.605E+01	-.150E+01	-.404E+00		
SF-22-F- 1026	472,60	20,051	48,474	-51,530	-.263E+01	-.752E+01	-.711E+01	-.315E+01	-.211E+01		
SE-22-Y- 310	624,47	19,759	48,572	-62,350	-.212E+01	-.238E+01	-.253E+01	-.215E+01	-.174E+01		
SE-22-Y- 311	534,63	19,907	48,700	-46,960	-.363E+01	-.936E+00	-.103E+00	-.156E+00	-.406E+00		
SE-22-Y- 318	565,53	19,880	48,533	-54,020	-.610E+01	-.348E+01	-.353E+01	-.229E+01	-.124E+01		
SE-22-Y- 319	573,98	19,914	48,554	-48,510	-.886E+01	-.606E+01	-.677E+01	-.404E+01	-.443E+01		
SE-22-Y- 320	571,52	19,920	48,677	-48,240	-.278E+01	-.120E+01	-.348E-01	-.687E+00	-.169E+01		
SE-22-Y- 321	471,14	19,910	48,766	-43,730	-.344E+01	-.109E+01	-.643E+00	-.192E+01	-.894E+00		
SE-22-Y- 322	596,19	19,950	48,864	-39,010	-.351E+00	-.246E+00	-.918E+00	-.330E+01	-.688E+00		
SE-22-Y- 398	739,75	19,652	48,794	-61,380	-.220E+01	-.180E+01	-.247E+01	-.722E+00	-.605E+00		
SE-22-Y- 774	687,31	19,735	48,971	-37,040	-.915E+01	-.155E+01	-.630E+00	-.329E+01	-.117E+01		
SE-22-Y- 775	658,06	19,855	48,961	-36,310	-.416E+01	-.164E+01	-.188E+01	-.186E+01	-.902E+00		
SE-22-Y- 776	535,89	19,926	48,958	-33,620	-.355E+01	-.224E+01	-.183E+01	-.382E+01	-.274E+01		
SE-22-Y- 800	599,37	19,786	48,735	-46,860	-.827E+01	-.257E+01	-.267E+01	-.189E+01	-.123E+01		
SE-22-Y- 801	718,63	19,633	48,882	-51,600	-.426E+01	-.355E+01	-.196E+01	-.344E+01	-.271E+01		
SE-22-Y	705,12	19,651	48,973	-43,070	-.741E+01	-.321E+01	-.168E+01	-.156E+01	-.183E+01		
SE-22-Y	590,24	19,976	48,427	-66,910	-.654E+01	-.541E+01	-.840E+01	-.157E+01	-.842E+00		
SE-22-Y- 1597	711,05	19,743	48,595	-66,470	-.226E+01	-.179E+01	-.142E+01	-.189E+01	-.369E+00		
SE-22-Y- 1732	683,86	19,838	48,962	-37,490	-.388E+01	-.268E+01	-.248E+01	-.347E+01	-.244E+01		
SE-22-Y- 1733	758,00	19,662	48,822	-53,090	-.419E+01	-.283E+01	-.177E+01	-.387E+01	-.424E+01		
SE-22-Y- 1734	595,00	19,825	48,733	-44,650	-.859E+01	-.236E+01	-.270E+01	-.143E+01	-.916E+00		
SE-22-Y- 1735	615,05	19,850	48,554	-58,710	-.197E+01	-.861E+00	-.630E+00	-.186E+01	-.355E+01		

COEFICIENTES DE GRAU = 1
 -.346212E+04 .517113E+02 .489143E+02

COEFICIENTES DE GRAU = 2
 -.369379E+06 .183698E+05 .759896E+04 -.275689E+03 -.151505E+03 -.465035E+02

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COEFICIENTES DE GRAU = 3
 .157225E+08 .580556E+06 -.121077E+07 -.182223E+05 -.861982E+04 .266569E+05 .157468E+03 .176042E+03 .152628E+02 -.184582E+03

COEFICIENTES DE GRAU = 4
 .848083E+10 -.163215E+10 -.317797E+08 .520990E+08 .580462E+08 -.108316E+08 -.713422E+06 -.126680E+07 -.675184E+06 .239696E+06
 .398247E+04 .815889E+04 .801179E+04 .244330E+04 -.147772E+04

COEFICIENTES DE GRAU = 5
 .272976E+11 -.130171E+10 -.234584E+10 -.719240E+08 .147501E+09 .729369E+08 .721464E+07 -.368425E+07 -.277274E+07 -.129335E+07
 -.112163E+06 -.124116E+06 .143539E+06 -.256321E+04 .154567E+05 .323594E+04 -.420047E+04 .473401E+04 -.287170E+04 .598000E+03
 -.120035E+03

PARAMETROS ESTADISTICOS
 DESPAD CORRZ CDEPZ PSTQ SSRED YBAROB YHARCP SYRES SYRESQ

GRAU= 1	7.51844	77.14238	59.50947	59.50947	59.50947	-50.67395	-50.67395	-0.00000	2148.02172
GRAU= 2	4.10134	93.78221	87.95102	87.95102	87.95102	-50.67395	-50.67395	0.00000	639.19809
GRAU= 3	3.93057	94.30457	88.93351	88.93351	88.93351	-50.67395	-50.67395	-0.00000	587.07681
GRAU= 4	2.56682	97.61176	95.28057	94.70132	94.70132	-50.67395	-50.67395	-0.00000	250.36591
GRAU= 5	2.16930	98.30013	96.62916	95.66980	95.66980	-50.67395	-50.67395	0.00001	178.82277

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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				VALORES RESIDUAIS							
COUGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/69	495.39	20.090	48.625	-54.230	.194E+00	.268E+00	.118E+01	-.357E+00	-.228E+01		
ONRJ 07/68	526.66	19.990	48.525	-58.120	-.366E+01	-.434E+01	-.131E+01	-.412E+01	-.320E+01		
ONRJ 07/70	489.18	20.120	48.690	-50.650	.250E+01	.297E+01	.313E+01	.370E+01	.690E+01		
ONRJ 07/71	525.32	20.075	48.718	-53.920	-.321E+01	-.244E+01	-.384E+01	-.242E+01	-.582E+01		
ONRJ 07/72	514.87	19.975	48.665	-51.070	-.193E+01	-.436E+00	-.132E+01	-.144E+01	-.295E+01		
ONRJ 07/73	526.10	19.910	48.695	-46.110	-.215E+00	.234E+01	.693E+00	.471E+00	-.349E+00		
SE-22-X- 807	528.76	19.918	49.094	-39.640	-.719E+01	-.111E+02	.315E+00	-.548E+00	-.183E+01		
SF-22-F- 323	517.34	20.026	48.938	-36.320	.516E+01	.428E+01	.107E+01	.833E+00	-.502E+01		
SF-22-F- 470	459.38	20.451	48.462	-59.730	.126E+02	.106E+02	.370E+01	.233E+01	.503E+01		
SF-22-F- 777	515.45	20.024	48.929	-36.140	.556E+01	.468E+01	.137E+01	.156E+01	.175E+00		
SF-22-F- 779	472.66	20.379	48.898	-52.870	-.323E+01	-.417E+01	-.455E+01	-.585E+01	.142E+01		
SF-22-F- 780	430.42	20.414	48.877	-46.680	.819E+01	.766E+01	.944E+01	.836E+01	.664E+01		
SF-22-F- 781	464.56	20.455	48.829	-55.390	.138E+01	.149E+01	.306E+01	.306E+01	.516E+01		
SF-22-F- 782	481.31	20.522	48.672	-65.790	-.598E+01	-.483E+01	-.168E+01	-.682E+00	-.797E+01		
SF-22-F- 783	563.55	20.565	48.564	-73.390	-.587E+01	-.347E+01	.701E+00	.460E+01	.187E+02		
SF-22-F- 854	484.93	20.387	48.644	-75.460	-.279E+01	-.901E+00	-.230E+01	-.300E+01	-.666E+01		
SF-22-F- 855	524.80	20.275	48.665	-78.510	-.146E+02	-.140E+02	-.890E+01	-.470E+01	-.908E+01		
SF-22-F- 856	488.98	20.157	48.673	-71.210	-.119E+02	-.118E+02	-.794E+01	-.619E+01	-.127E+02		
SF-22-F- 857	480.75	20.121	48.695	-50.690	.439E+01	.456E+01	.584E+01	.600E+01	.862E+01		
SF-22-F- 858	540.63	20.042	48.710	-50.590	.246E+01	.296E+01	.296E+01	.374E+01	.439E+01		
SF-22-F- 914	480.87	20.499	48.944	-55.190	-.532E+01	-.431E+01	-.607E+01	-.460E+01	-.355E+01		
SF-22-F- 915	499.79	20.536	48.831	-56.060	.129E+01	.114E+01	.133E+01	-.447E+01	-.628E+01		
SF-22-F- 917	550.13	20.575	48.612	-62.730	-.206E+00	.203E+01	.352E+01	.502E+00	.142E+01		
SF-22-F- 1024	486.74	20.231	48.407	-74.380	-.301E+01	-.261E+00	.601E+00	.444E+00	-.400E+01		
SF-22-F- 1025	500.86	20.149	48.508	-56.010	.107E+02	.560E+01	-.108E+01	-.125E+01	-.142E+01		
SF-22-F- 1026	472.60	20.051	48.474	-54.340	.610E+01	.391E+01	.486E+01	.671E+00	-.151E+01		
SE-22-Y- 311	534.63	19.967	48.700	-51.530	.676E+01	.428E+01	.591E+01	.426E+01	.830E+01		
SE-22-Y- 319	573.98	19.914	48.554	-46.900	-.132E+01	.130E+01	-.495E+00	-.798E+00	-.189E+01		
SE-22-Y- 320	571.52	19.920	48.677	-48.510	.238E+01	.326E+01	.764E+01	.373E+01	.820E+01		
SE-22-Y- 321	471.14	19.910	48.766	-48.240	-.140E+01	.919E+00	-.114E+00	-.680E+00	-.396E+01		
SE-22-Y- 322	596.19	19.950	48.884	-43.730	-.277E+00	.232E+01	-.181E+01	.843E+01	.794E+00		
SE-22-Y- 776	535.69	19.926	48.958	-39.010	.173E+01	.270E+01	-.238E+01	-.278E+00	-.559E+01		
SE-22-Y- 912	590.24	19.976	48.427	-33.620	.379E+01	.373E+01	.115E+01	.861E+00	.991E+01		
SF-22-E- 913	557.93	20.523	49.060	-66.910	-.954E+01	-.127E+02	-.884E+01	-.185E+01	-.555E+01		
SF-22-E- 913	553.01	20.482	49.006	-47.250	.697E+01	.397E+01	-.904E+00	.371E+01	.339E+01		
				-55.200	-.538E+00	-.244E+01	-.436E+01	-.569E+01	-.376E+01		

COEFICIENTES DE GRAU = 1
 -.104301E+04 -.340095E+02 .343946E+02

COEFICIENTES DE GRAU = 2
 .110648E+06 .898064E+03 -.493618E+04 -.249346E+02 .156423E+01 .506740E+02

COEFICIENTES DE GRAU = 3
 .138766E+08 .128142E+07 -.138300E+07 -.123251E+05 -.423194E+05 .370891E+05 .147957E+03 .685256E+02 .405396E+03 -.309224E+03

COEFICIENTES DE GRAU = 4
 -.131942E+11 .173529E+09 .101108E+10 .148734E+07 -.118800E+08 -.286666E+08 -.632853E+05 .172977E+05 .236030E+06 .359730E+06

PARAMETROS ESTADISTICOS

	DESPAD	CORRZ	COEPZ	PSTQ	SSRED	YBARQB	YBARCP	SYRES	SYRESQ
GRAU= 1	5.87398	85.08977	72.40268	72.40268	72.40268	-54.06056	-54.06056	0.00000	1242.13155
GRAU= 2	5.54192	86.85313	75.43467	75.43467	75.43467	-54.06056	-54.06056	0.00000	1105.66443
GRAU= 3	4.21717	92.61494	85.77527	85.77527	85.77527	-54.06056	-54.06056	0.00000	640.24276
GRAU= 4	3.45439	95.10821	90.45572	90.30016	90.30016	-54.06056	-54.06056	0.00000	429.58001
GRAU= 5	6.23974	82.98124	68.85886	103.65046	103.65046	-54.06056	-54.06055	-0.00020	1401.63617

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 30/3	501.65	20.738	48.910	-61.780	.392E+00	.866E-01	.316E+01	-.124E+01	-.128E+01		
SF-22-F- 466	602.70	20.997	48.548	-59.840	.615E+00	-.705E-01	-.134E+00	-.142E+01	-.172E+01		
SF-22-F- 467	573.01	20.945	48.483	-53.040	.732E+01	.346E+01	.232E+01	-.480E+00	-.737E+00		
SF-22-F- 468	596.31	20.718	48.544	-55.850	.518E+01	.684E+01	.534E+01	.418E+01	.443E+01		
SF-22-F- 470	459.38	20.451	48.462	-59.730	.160E+01	.409E+01	.655E+01	.288E+01	.303E+01		
SF-22-F- 597	583.26	20.809	48.813	-70.230	-.852E+01	-.500E+01	-.420E+01	-.593E+01	-.365E+01		
SF-22-F- 598	586.30	20.846	48.789	-70.980	-.943E+01	-.531E+01	-.536E+01	-.362E+01	-.322E+01		
SF-22-F- 599	588.19	20.875	48.714	-67.270	-.602E+01	-.158E+01	-.279E+01	-.868E+00	.139E-02		
SF-22-F- 600	611.24	20.907	48.644	-64.480	-.352E+01	-.181E+00	-.194E+01	-.135E+01	-.155E+01		
SF-22-F- 601	608.04	20.924	48.617	-63.280	-.245E+01	.103E+00	-.172E+01	-.169E+01	-.167E+01		
SF-22-F- 602	571.10	20.987	48.414	-51.680	.836E+01	-.961E+00	.447E+00	.102E+01	.106E+01		
SF-22-F- 595	501.50	20.743	48.910	-62.790	-.629E+00	-.874E+00	.216E+01	-.208E+01	-.245E+01		
SF-22-F- 596	576.53	20.797	48.853	-70.100	-.824E+01	-.580E+01	-.425E+01	-.507E+01	-.554E+01		
SF-22-F- 780	430.42	20.414	48.877	-55.390	.736E+01	.572E+01	.210E+01	.246E+01	.174E+01		
SF-22-F- 781	464.56	20.455	48.829	-65.790	-.328E+01	-.224E+01	-.267E+01	-.292E+01	-.208E+01		
SF-22-F- 782	481.31	20.522	48.672	-73.390	-.115E+02	-.655E+01	-.444E+01	-.368E+01	-.393E+01		
SF-22-F- 783	563.55	20.565	48.564	-75.360	-.140E+02	-.102E+02	-.896E+01	-.689E+01	-.701E+01		
SF-22-F- 784	501.06	20.616	48.488	-64.350	-.328E+01	-.245E+01	-.391E+01	.719E+00	.470E+00		
SF-22-F- 785	504.46	20.688	48.434	-62.760	-.202E+01	-.500E+01	-.768E+01	-.368E+01	-.373E+01		
SF-22-F- 848	544.89	20.935	48.468	-50.960	.937E+01	.473E+01	.339E+01	.597E+00	-.198E-01		
SF-22-F- 849	539.47	20.849	48.423	-50.770	.959E+01	.315E+01	-.467E-01	-.170E+01	-.154E+01		
SF-22-F- 851	510.03	20.833	48.484	-49.540	.111E+02	.867E+01	.572E+01	.229E+01	.277E+01		
SF-22-F- 852	576.09	20.715	48.562	-56.160	.494E+01	.720E+01	.599E+01	.488E+01	.526E+01		
SF-22-F- 853	589.57	20.654	48.574	-63.810	-.255E+01	.612E+00	.529E+00	.104E+01	.569E+00		
SF-22-F- 914	480.87	20.499	48.944	-56.060	.673E+01	.167E+01	.114E+01	.354E+00	.118E+01		
SF-22-F- 915	499.70	20.536	48.831	-62.730	-.387E+00	.983E+00	.283E+01	.197E+01	.211E+01		
SF-22-F- 916	509.81	20.605	48.765	-57.410	.458E+01	.820E+01	.105E+02	.100E+02	.944E+01		
SF-22-F- 917	550.13	20.575	48.612	-74.380	-.128E+02	-.633E+01	-.682E+01	-.528E+01	-.528E+01		
SF-22-F- 918	584.53	20.660	48.639	-61.900	-.439E+00	.379E+01	.483E+01	.452E+01	.479E+01		
SF-22-F- 919	480.12	20.739	48.777	-62.560	-.820E+00	.296E+01	.427E+01	.302E+01	.283E+01		
SF-22-F- 920	463.76	20.858	48.978	-61.300	.839E+00	-.110E+01	.139E+01	.195E+01	.182E+01		
SF-22-F- 957	544.24	20.875	48.808	-70.460	-.891E+01	-.485E+01	-.510E+01	-.228E+01	-.249E+01		
SF-22-F- 958	552.44	20.982	48.835	-64.650	-.324E+01	.133E+01	.222E-01	.420E+01	.428E+01		
SF-22-L- 847	645.09	21.072	48.410	-59.920	-.691E-01	-.110E+02	-.350E+01	.497E-01	.278E+00		
SF-22-L- 921	534.31	21.021	48.957	-60.630	.110E+01	.295E+01	.181E+01	.230E+01	.166E+01		
SF-22-L- 464	508.23	21.083	48.801	-62.220	-.113E+01	.460E+01	.337E+01	-.165E+01	-.140E+01		
SF-22-L- 959	580.24	21.016	48.774	-64.690	-.355E+01	.167E+01	.200E+00	.307E+01	.300E+01		
SF-22-E- 637	527.06	20.970	49.034	-60.730	.135E+01	-.157E+01	-.660E+00	.374E+01	.435E+01		
SF-22-E- 912	557.93	20.523	49.060	-47.250	.159E+02	.200E+01	.948E+00	.134E+01	.133E+01		
SF-22-E- 913	553.01	20.482	49.006	-55.200	.782E+01	-.208E+01	-.472E+01	-.290E+01	-.321E+01		
SF-22-K- 636	506.26	21.052	49.057	-59.190	.279E+01	.389E+00	-.591E+00	-.385E+01	-.389E+01		

COEFICIENTES DE GRAU = 1
 .517547E+02 .211641E+01 -.322668E+01

COEFICIENTES DE GRAU = 2
 .200638E+06 .314573E+04 -.957883E+04 -.482182E+01 -.604276E+02 .111166E+03

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COEFICIENTES DE GRAU = 3
 .657865E+06 .175322E+06 -.111123E+06 -.618423E+04 -.186348E+04 .258046E+04 -.121519E+03 .282151E+03 -.101693E+03 -.246260E+01

COEFICIENTES DE GRAU = 4
 -.451624E+10 -.159844E+09 .438505E+09 .972629E+07 .156242E+07 -.138232E+08 -.234284E+06 -.999747E+05 .104405E+05 .187536E+06
 .151526E+04 .222592E+04 -.394665E+03 .406851E+02 -.965958E+03

PARAMETROS ESTADISTICOS									
	DESPA0	CORR2	CDEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.69946	11.67664	1.36349	1.36349	1.36349	-61.48073	-61.48073	-0.00000	1840.19348
GRAU= 2	4.67773	72.05058	51.91287	51.91287	51.91287	-61.48073	-61.48073	-0.00000	897.12851
GRAU= 3	4.17291	78.56970	61.73197	61.73197	61.73197	-61.48073	-61.48073	0.00000	713.94025
GRAU= 4	3.35784	86.73022	75.22131	74.58322	74.58322	-61.48073	-61.48073	-0.00000	462.27887
GRAU= 5	3.37257	86.60452	75.00342	75.20209	75.20209	-61.48073	-61.48073	-0.00010	466.34388

				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	HOUO	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SF-22-F-466	602.76	20.997	48.548	-59.840	.209E+01	-.836E+00	-.139E+00	-.207E+01	-.574E+01		
SF-22-F-467	573.01	20.945	48.483	-53.040	.955E+01	.340E+01	.166E+01	.948E+00	.144E+00		
SF-22-F-600	611.24	20.907	48.644	-64.480	-.310E+01	-.580E+01	-.207E+01	-.130E+00	.515E+00		
SF-22-F-601	605.04	20.924	48.617	-63.200	-.173E+01	-.474E+01	-.232E+01	-.154E+01	.508E+01		
SF-22-F-602	571.10	20.987	48.010	-51.060	.114E+02	.471E+01	.880E+00	.904E+00	.184E+01		
SF-22-F-846	544.89	20.935	48.468	-50.960	.116E+02	.488E+01	.291E+01	-.171E+01	.701E+00		
SF-22-F-954	552.44	20.982	48.835	-69.650	-.501E+01	-.202E+01	.155E+01	.152E+01	.057E+00		
SF-22-L-847	645.09	21.072	48.010	-59.920	.244E+01	-.889E+00	-.281E+01	-.143E+01	-.101E+01		
SF-22-L-921	534.31	21.021	48.957	-60.630	-.208E+01	.170E+01	.183E+01	.213E+01	.120E+01		
SF-22-L-922	517.43	21.139	48.973	-59.230	-.110E+01	.162E+01	.573E+00	.111E+01	.351E+01		
SF-22-L-459	484.59	21.595	48.813	-56.120	.210E+01	-.918E+00	-.342E+01	.419E+01	-.964E+00		
SF-22-L-460	489.10	21.446	48.786	-54.740	.413E+01	.443E+01	.267E+01	.159E+01	.173E+01		
SF-22-L-462	537.68	21.186	48.964	-63.360	-.480E+01	-.254E+01	-.330E+01	-.290E+01	-.248E+01		
SF-22-L-403	503.01	21.135	48.974	-59.370	-.125E+01	.154E+01	.470E+00	.101E+01	.151E+01		
SF-22-L-464	508.23	21.083	48.801	-62.220	-.256E+01	-.244E+00	.119E+01	.437E+00	.208E+01		
SF-22-L-959	580.24	21.010	48.774	-64.690	-.464E+01	-.297E+01	-.445E+00	-.510E+00	-.713E+00		
SF-22-L-960	580.22	21.186	48.787	-64.170	-.466E+01	-.230E+01	-.204E+01	-.209E+01	-.523E+01		
SF-22-L-961	604.51	21.171	48.629	-57.490	.334E+01	.465E+01	.590E+01	.443E+01	.578E+01		
SF-22-L-962	554.20	21.237	48.644	-61.170	-.619E+00	.154E+01	.224E+01	.173E+01	.130E+01		
SF-22-L-963	533.00	21.265	48.605	-61.500	-.136E+01	.953E+00	.110E+01	.768E+00	.147E+01		
SF-22-L-964	608.89	21.326	48.630	-64.570	-.413E+01	-.149E+01	-.134E+01	-.123E+01	-.165E+01		
SF-22-L-965	722.88	21.261	48.495	-66.390	-.470E+01	-.274E+01	-.130E+01	-.527E+00	.368E+01		
SF-22-L-966	677.98	21.220	48.442	-65.860	-.365E+01	-.291E+01	-.175E+01	-.143E+00	-.362E+01		
SF-22-L-968	611.85	21.320	48.405	-68.640	-.638E+01	-.350E+01	-.626E+00	.559E+01	-.162E+01		
SF-22-L-969	566.74	21.412	48.498	-65.180	-.389E+01	.603E+01	.171E+01	.131E+01	.832E+00		
SF-22-L-970	541.22	21.475	48.599	-69.740	-.442E+01	-.128E+01	-.192E+01	-.123E+01	.579E+00		
SF-22-L-971	547.61	21.556	48.481	-64.750	-.368E+01	.145E+01	.302E+01	.514E+00	.902E+00		
SF-22-L-979	540.76	21.517	48.690	-61.610	-.214E+01	-.812E+00	-.299E+01	-.148E+01	-.270E+01		
SF-22-L-980	524.91	21.475	48.625	-64.680	-.155E+01	-.162E+01	-.280E+01	-.211E+01	-.255E+01		
SF-22-L-981	463.95	21.433	48.649	-60.410	-.474E+00	.194E+01	.900E+00	.116E+01	.137E+01		
SF-22-L-982	530.10	21.363	48.764	-50.970	.289E+00	.183E+01	.746E+00	-.178E+01	.073E+00		
SF-22-L-983	509.23	21.312	48.619	-60.090	-.115E+01	.294E+00	-.563E+00	-.150E+01	-.344E+01		
SF-22-L-984	550.94	21.257	48.978	-60.670	-.280E+01	-.210E+01	-.316E+01	-.259E+01	-.273E+01		
SF-22-L-985	492.47	21.348	48.985	-53.760	.370E+01	.140E+01	.127E+01	-.247E+01	-.457E+00		
SF-22-L-986	430.51	21.465	48.922	-59.600	.686E+01	.399E+01	.341E+01	.779E+00	.208E+01		
SF-22-L-987	597.68	21.555	48.850	-51.300	.676E+01	.356E+01	.182E+01	.191E+01	.251E+01		
SF-22-L-988	425.43	21.577	48.984	-50.270	.679E+01	-.711E+00	.955E+00	-.241E+00	.479E+01		
SF-22-E-637	527.06	20.970	49.034	-60.750	-.208E+01	.232E+01	.475E+00	-.721E+00	-.121E+01		
SF-22-K-948	465.24	21.318	49.056	-54.670	.233E+01	.619E+00	.402E+00	.213E+01	.174E+01		
SF-22-K-974	471.95	21.517	49.068	-53.030	.330E+01	-.523E+01	-.569E+00	-.175E+01	-.102E+01		
SF-22-K-975	510.50	21.468	49.087	-53.920	.260E+01	-.255E+01	-.267E+00	.107E+01	.473E+00		
SF-22-K-976	461.23	21.254	49.038	-58.170	-.861E+00	-.647E+00	-.152E+01	-.825E+01	.072E+00		
SF-22-K-636	546.26	21.052	49.057	-54.190	-.153E+01	.258E+01	.513E+01	-.112E+01	.159E+01		

COEFICIENTES DE GRAU = 1
 -.508509E+03 .250743E+01 .811431E+01

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COEFICIENTES DE GRAU = 2
 .124352E+06 -.468474E+04 -.307423E+04 .236702E+02 .755493E+02 .151702E+02

COEFICIENTES DE GRAU = 3
 .147598E+08 -.699049E+06 -.600998E+06 .300548E+04 .259164E+05 .665092E+04 .137308E+02 -.810621E+02 -.229713E+03 -.120095E+02

COEFICIENTES DE GRAU = 4
 -.183285E+10 .430932E+08 .131925E+09 -.187883E+06 -.259094E+07 -.352114E+07 .611290E+05 -.721819E+05 .630042E+05 .341520E+04
 -.636745E+03 -.139597E+03 .239724E+03 -.810315E+03 -.972580E+02

PARAMETROS ESTADISTICOS	DESPAD	CORR2	CDLPA	PSTG	SSRFO	YRAHOB	YRAFCP	SYNFS	SYREB4
GRAU= 1	4.54523	37.89589	14.36098	14.36098	14.36098	-59.65023	-59.65023	0.00000	828.44181
GRAU= 2	2.75243	82.42232	68.54537	68.54537	68.54537	-59.65023	-59.65023	0.00000	329.76332
GRAU= 3	2.06305	90.74303	82.34298	82.34298	82.34298	-59.65023	-59.65023	0.00000	163.15796
GRAU= 4	1.59732	94.56395	89.42340	89.37413	89.37413	-59.65023	-59.65023	0.00000	104.71200
GRAU= 5	1.06452	91.65245	84.00172	93.35602	93.35602	-59.65023	-59.65024	0.00025	165.95171

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUET) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/97	766,22	18,005	49,388	-99,380	-.521E+01	.706E+00	.619E+01	.194E+01	.140E+01		
ONRJ 07/98	798,93	18,005	49,375	-99,930	-.565E+01	-.274E+01	-.749E+00	.810E+00	.100E+01		
ONRJ 07/99	811,62	17,905	49,325	-99,140	-.365E+01	-.252E+01	-.225E+01	-.495E+00	-.250E+00		
ONRJ 07/100	898,10	17,915	49,270	-91,900	-.476E+01	.341E+01	.157E+01	.227E+01	.183E+01		
ONRJ 07/101	909,65	17,825	49,220	-91,580	-.608E+01	.349E+01	.128E+01	.525E+01	-.697E+00		
ONRJ 07/102	753,29	17,705	49,100	-99,150	-.524E+01	.365E+01	.222E+01	.271E+00	.762E+00		
ONRJ 07/103	643,66	17,675	49,050	-99,010	-.259E+01	.191E+01	.166E+01	.507E+00	.988E+00		
ONRJ 07/104	760,25	17,585	49,075	-106,330	-.570E+01	-.425E+01	-.384E+01	.574E+00	.128E+00		
SE-22-L- 1701	760,98	17,723	48,937	-105,350	-.703E+00	-.174E+01	.362E+01	.281E+01	.207E+01		
SE-22-L- 1694	715,37	17,833	48,968	-107,020	-.272E+01	-.592E+01	-.856E+01	-.324E+01	-.310E+01		
SE-22-G- 416	774,57	18,012	49,358	-100,680	-.619E+01	-.400E+01	-.266E+01	-.909E+00	-.726E+00		
SE-22-G- 749	837,18	18,029	49,284	-103,160	-.569E+01	-.474E+01	-.522E+01	-.653E+01	-.618E+01		
SE-22-G- 1590	820,30	18,041	49,105	-98,160	-.328E+01	.196E+01	.100E+01	.123E+01	.110E+01		
SE-22-G- 1712	823,68	18,012	49,383	-99,920	-.588E+01	-.328E+01	-.166E+01	.490E+00	.102E+01		
SE-22-K- 1184	634,90	17,403	49,495	-85,460	-.364E+01	.102E+01	-.133E+01	.504E+01	.950E+01		
SE-22-K- 1186	675,36	17,517	49,401	-91,210	-.618E+00	-.142E+01	.223E+01	-.499E+00	-.669E+00		
SE-22-K- 1591	858,30	17,926	49,151	-86,750	.131E+02	.108E+02	.650E+01	.529E+01	.527E+01		
SE-22-K- 1592	912,28	17,834	49,215	-90,760	.705E+01	.444E+01	.203E+01	.625E+00	.605E+00		
SE-22-K- 1593	794,36	17,769	49,292	-90,990	.457E+01	.189E+01	.234E+01	.211E+01	.186E+01		
SE-22-K- 1594	640,54	17,768	49,386	-92,790	.309E+00	-.239E+01	-.809E+00	-.145E+01	-.136E+01		
SE-22-K- 1595	604,83	17,727	49,482	-84,420	.601E+01	.282E+01	.293E+01	.203E+01	.177E+01		
SE-22-K- 1706	752,07	17,567	49,214	-96,150	-.122E+01	-.120E+01	.647E+00	.506E+01	.265E+01		
SE-22-K- 1696	753,21	17,730	49,101	-97,810	.264E+01	.610E+00	-.120E+01	-.414E+01	-.395E+01		
SE-22-K- 1697	847,12	17,676	49,046	-100,110	.161E+01	.929E+00	.763E+00	-.622E+00	-.320E+00		
SE-22-K- 1698	760,23	17,587	49,077	-107,670	-.709E+01	-.573E+01	-.553E+01	-.928E+00	-.116E+01		
SE-22-K- 1699	808,44	17,425	49,079	-100,360	-.391E+00	.710E+01	.517E+01	.249E+01	.321E+01		
SE-22-K- 1700	879,21	17,423	49,063	-109,010	-.262E+01	-.574E+00	-.250E+01	-.323E+01	-.329E+01		
SE-22-K- 748	492,48	17,924	49,456	-92,020	-.226E+00	.583E+00	.203E+00	.607E+00	.169E+00		
SE-22-K- 1709	817,65	17,625	49,342	-95,140	-.438E+01	-.693E+01	-.310E+01	-.238E+01	-.181E+01		
SE-22-K- 747	621,19	17,973	49,565	-86,060	.420E+00	.403E+01	-.909E+00	-.915E+00	-.812E+00		
SE-22-K- 1710	876,71	17,785	49,317	-94,310	.656E+00	-.190E+01	-.133E+01	-.165E+01	-.125E+01		
SE-22-K- 1711	895,33	17,924	49,286	-95,590	.760E+00	-.273E+00	-.172E+01	-.592E+00	-.890E+00		

COEFICIENTES DE GRAU = 1
 -.132967E+04 -.349022E+01 .262947E+02

COEFICIENTES DE GRAU = 2
 -.855379E+05 .516782E+04 .157971E+04 -.514557E+02 -.678758E+02 -.351985E+01

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COEFICIENTES DE GRAU = 3
 -.441617E+08 -.441588E+06 .284750E+07 .108215E+05 .102538E+05 -.596524E+05 -.209577E+03 .562950E+01 -.106891E+03 .416549E+03

COEFICIENTES DE GRAU = 4
 -.389360E+10 -.112306E+09 .355519E+09 -.451577E+07 .100995E+08 -.126124E+08 -.149350E+06 .345086E+06 -.329583E+06 .209855E+06
 .218747E+04 -.132049E+03 -.342841E+04 .365452E+04 -.133811E+04

COEFICIENTES DE GRAU = 5
 .157783E+10 .117532E+10 -.644683E+09 -.155629E+09 .100810E+08 .265700E+08 .575986E+07 .314636E+07 -.140898E+07 -.434770E+06
 -.150308E+06 -.199189E+05 -.508768E+05 .299652E+05 .263101E+04 .266634E+04 -.171465E+04 .143799E+04 -.193575E+03 -.102815E+03
 -.801652E+01

PARAMETROS ESTADISTICOS

	DESPA	CORR%	CDEP%	PSTG	SSRED	YBAROB	YBARCP	SYNFS	SYNLSO
GRAU= 1	4.90600	64.25397	41.28573	41.28573	41.28573	-96.91094	-96.91094	-0.00000	778.26320
GRAU= 2	3.87023	79.06210	63.46050	63.46050	63.46050	-96.91094	-96.91094	-0.00000	474.51857
GRAU= 3	3.01219	88.28169	77.86632	77.86632	77.86632	-96.91094	-96.91094	-0.00000	290.31571
GRAU= 4	2.31921	93.26886	86.87892	87.09940	87.09940	-96.91094	-96.91094	0.00000	172.11993
GRAU= 5	2.18966	93.97015	88.30388	87.18306	87.18306	-96.91094	-96.91094	-0.00020	153.42755

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/92	495.23	18.500	49.165	-104.160	-.314E+01	.712E+00	.142E+01	.197E+01	.138E+01		
ONRJ 07/93	448.88	18.425	49.215	-104.720	-.547E+01	-.256E+00	-.593E+00	.496E+00	.525E+00		
ONRJ 07/94	556.24	18.340	49.235	-106.410	-.745E+01	-.340E+00	-.100E+01	.636E+00	.315E+00		
ONRJ 07/95	598.70	18.270	49.315	-107.690	-.119E+02	-.516E+01	-.395E+01	-.342E+01	-.200E+01		
ONRJ 07/96	791.99	18.180	49.350	-102.950	-.615E+01	-.891E+00	.108E+01	.792E+00	-.575E+01		
ONRJ 07/97	766.22	18.095	49.386	-.99.380	-.573E+01	.106E+01	.304E+01	.134E+01	.553E+00		
ONRJ 07/98	796.93	18.025	49.375	-.99.930	-.513E+01	.229E+00	.353E+00	.224E+00	-.326E+00		
ONRJ 07/99	611.62	17.995	49.325	-.99.140	-.179E+01	.714E+00	-.316E+00	.843E+00	.116E+01		
ONRJ 07/100	698.10	17.915	49.270	-.91.900	.861E+01	.169E+01	-.116E+00	.178E+00	.734E+00		
SE-22-R- 739	474.83	18.267	48.957	-.99.450	.130E+02	.547E+01	.291E+01	.161E+01	.240E+01		
SE-22-R- 1691	644.20	18.141	48.949	-102.900	.109E+02	-.994E+01	-.575E+01	-.141E+01	-.643E+00		
SE-22-J- 408	466.69	18.429	49.189	-105.630	-.517E+01	.674E+00	-.327E+01	.101E+01	.327E+00		
SE-22-J- 409	448.80	18.426	49.216	-106.090	-.688E+01	-.174E+01	-.205E+01	-.966E+00	-.105E+01		
SE-22-J- 415	781.31	18.139	49.040	-.97.550	.120E+02	.261E+01	.282E+01	.156E+01	-.462E+00		
SE-22-J- 416	774.57	18.012	49.358	-100.880	-.519E+01	-.668E+00	-.108E+01	-.653E+00	-.267E+00		
SE-22-J- 423	514.97	18.550	49.199	-.97.450	.160E+01	.978E+00	.330E+01	.294E+01	.307E+01		
SE-22-J- 429	726.03	18.529	49.000	-113.370	-.488E+01	-.329E+00	.832E+00	.505E+00	-.253E+01		
SE-22-J- 430	743.70	18.566	49.054	-115.190	-.947E+01	-.548E+01	-.202E+01	-.122E+01	-.824E+00		
SE-22-J- 740	491.93	18.314	49.031	-105.200	.348E+01	.521E+01	.111E+01	-.204E+01	-.273E+01		
SE-22-J- 741	527.42	18.356	49.135	-106.240	-.272E+01	.432E+01	.160E+01	.168E+01	.146E+01		
SE-22-J- 749	637.18	18.029	49.254	-103.160	-.277E+01	-.208E+01	-.262E+01	-.144E+01	.553E+00		
SE-22-J- 750	520.67	18.146	49.288	-104.390	-.642E+01	.495E+00	.766E+00	.204E+01	.222E+01		
SE-22-J- 751	593.53	18.320	49.236	-108.790	-.974E+01	-.231E+01	-.302E+01	-.146E+01	.584E+00		
SE-22-J- 752	468.71	18.491	49.293	-.92.550	.256E+01	-.428E+00	.386E+00	-.666E+00	-.224E+01		
SE-22-J- 753	497.02	18.523	49.423	-.65.440	.234E+02	.309E+01	.454E+00	-.241E+01	-.294E+01		
SE-22-J- 754	419.83	18.508	49.482	-.54.250	.319E+02	.501E+01	.113E+00	.153E+01	.238E+01		
SE-22-J- 1584	519.03	18.340	49.552	-.74.020	.102E+02	-.666E+01	-.489E+01	-.203E+01	-.177E+01		
SE-22-J- 1585	507.45	18.342	49.434	-.78.500	.112E+02	.744E+01	.101E+02	.728E+01	.586E+01		
SE-22-J- 1586	697.28	18.396	49.331	-.97.340	-.327E+01	-.246E+01	-.133E+01	-.194E+01	-.193E+01		
SE-22-J- 1587	447.90	18.419	49.221	-105.730	-.673E+01	-.152E+01	-.183E+01	-.793E+00	.104E+01		
SE-22-J- 1588	466.89	18.311	49.097	-108.390	.218E+00	.546E+01	.189E+01	.682E+00	.150E+01		
SE-22-J- 1590	626.30	18.041	49.105	-.98.160	.911E+01	-.243E+01	-.266E+00	-.139E+01	-.936E+00		
SE-22-J- 1712	623.68	18.012	49.383	-.99.920	-.538E+01	-.274E+00	-.430E+00	-.657E+00	-.188E+01		
SE-22-J- 1713	789.17	18.135	49.377	-101.290	-.742E+01	-.392E+00	.191E+01	.457E+00	.780E+00		
SE-22-J- 1714	793.19	18.236	49.354	-105.760	-.116E+02	-.519E+01	-.296E+01	-.372E+01	-.396E+01		
SE-22-J- 1716	614.91	18.176	49.192	-104.290	-.211E+01	.277E+01	.129E+01	.263E+01	.734E+00		
SE-22-J- 1717	624.62	18.137	49.375	-102.860	-.889E+01	.183E+01	.432E+00	-.967E+00	-.792E+01		
SE-22-J- 1718	841.78	18.047	49.273	-102.720	-.334E+01	-.585E+00	-.103E+01	.285E+00	.807E+00		
SE-22-J- 1719	586.85	18.327	49.091	-107.660	-.188E+01	.351E+01	-.115E+00	-.146E+01	-.220E+01		
SE-22-J- 1720	512.80	18.531	49.170	-106.560	-.638E+01	-.426E+01	-.250E+01	-.227E+01	-.140E+01		
SE-22-K- 1591	858.39	17.926	49.151	-.86.750	.192E+02	.592E+00	.445E+01	.145E+01	.118E+01		
SE-22-K- 748	492.46	17.924	49.456	-.92.020	-.252E+00	.314E+01	-.587E+00	.908E+00	.980E+00		
SE-22-K- 747	621.19	17.973	49.565	-.88.680	-.234E+01	.635E+00	.979E+00	-.277E+00	-.463E+01		
SE-22-K- 1711	895.33	17.924	49.286	-.95.500	.420E+01	-.613E+00	-.273E+01	-.186E+01	-.280E+01		

COEFICIENTES DE GRAU = 1
 -.252928E+04 .749083E+01 .465714E+02

COEFICIENTES DE GRAU = 2
 .741325E+06 -.167632E+05 -.232224E+05 .140611E+03 .276877E+03 .184908E+03

COEFICIENTES DE GRAU = 3
 -.406377E+08 .167513E+07 .197003E+07 -.220387E+05 -.521656E+05 -.285134E+05 -.446234E+02 .499729E+03 .347013E+03 .151214E+03

COEFICIENTES DE GRAU = 4
 -.156357E+11 .307036E+09 .115549E+10 -.141448E+07 -.176259E+08 -.319124E+08 -.422254E+05 .103957E+06 .316934E+06 .392434E+06
 .131033E+03 .662746E+03 -.141918E+04 -.180619E+04 -.182411E+04

COEFICIENTES DE GRAU = 5
 .493375E+10 -.312099E+10 .213563E+09 .277846E+09 .563270E+08 -.282129E+07 -.782014E+07 -.831295E+07 .112891E+07 -.383458E+06
 .272714E+06 -.869849E+05 .218965E+06 -.666339E+05 .126685E+05 -.164846E+04 -.248372E+04 .272769E+04 -.250644E+04 .791255E+03
 -.121426E+03

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PARAMETROS ESTADISTICOS		DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU=	1	9.46790	57.99855	33.63831	33.63831	33.63831	-98.82636	-98.82636	-0.00000	3944.21361
GRAU=	2	3.42987	95.54637	91.29109	91.29109	91.29109	-98.82636	-98.82636	-0.00000	517.61497
GRAU=	3	2.63733	97.39139	94.85083	94.85083	94.85083	-98.82636	-98.82636	0.00000	306.04141
GRAU=	4	1.92625	98.61701	97.25314	96.61740	96.61740	-98.82636	-98.82636	0.00000	163.26008
GRAU=	5	1.81103	98.77850	97.57192	98.00376	98.00376	-98.82636	-98.82636	-0.00003	144.31320

***** MAPA GRAVIMÉTRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/88	714.41	18.820	48.930	-115.650	-.314E+00	.117E+01	.237E+01	.157E+01	-.735E+01		
ONRJ 07/89	758.07	18.785	49.025	-104.530	.232E+01	.272E+01	-.909E+00	.363E+01	-.212E+02		
ONRJ 07/90	732.08	18.700	49.195	-84.180	.827E+01	.761E+01	.566E+01	.205E+01	.427E+01		
ONRJ 07/91	630.37	18.630	49.185	-86.060	.990E+01	.974E+01	.650E+01	.496E+01	-.102E+01		
ONRJ 07/92	495.23	18.500	49.165	-104.160	-.154E+01	-.948E+00	-.597E+00	.128E+01	-.120E+02		
ONRJ 07/93	448.68	18.425	49.215	-104.720	-.456E+01	-.513E+01	.684E+00	.643E+00	.118E+02		
SE-22-X- 759	661.28	19.036	49.327	-57.430	.956E+01	.668E+01	-.579E+00	.223E+01	.843E+01		
SE-22-X- 821	572.59	19.040	49.504	-42.690	.606E+01	.776E+01	-.456E+01	-.634E+01	-.271E+02		
SE-22-R- 826	745.34	18.878	48.966	-109.560	-.380E+03	-.655E+00	.511E+01	.118E+01	-.360E+01		
SE-22-R- 1722	779.70	18.772	48.961	-119.430	-.553E+01	-.361E+01	-.780E+01	-.325E+01	.856E+01		
SE-22-J- 408	466.69	18.429	49.189	-105.630	-.289E+01	-.285E+01	.370E+01	.342E+01	.249E+02		
SE-22-J- 409	448.80	18.426	49.216	-106.090	-.606E+01	-.664E+01	-.984E+00	-.904E+00	.205E+02		
SE-22-J- 423	514.97	18.550	49.199	-97.450	-.108E+00	-.229E+00	-.213E+01	-.828E+00	.193E+00		
SE-22-J- 424	654.84	18.727	49.210	-84.500	.544E+01	.448E+01	.379E+01	-.669E+00	.250E+01		
SE-22-J- 425	790.81	18.772	49.069	-103.560	-.779E+00	-.828E+00	-.471E+01	-.178E+01	.217E+02		
SE-22-J- 426	558.60	18.969	49.464	-48.070	.731E+01	.795E+01	.866E+01	.106E+02	.640E+02		
SE-22-J- 429	726.03	18.529	49.000	-113.370	.513E+01	.997E+01	.656E+01	.254E+01	.117E+01		
SE-22-J- 430	743.70	18.566	49.054	-115.190	-.347E+01	-.581E+00	-.601E+01	-.500E+01	-.629E+01		
SE-22-J- 752	468.71	18.491	49.293	-92.550	-.275E+01	-.434E+01	-.536E+01	-.256E+01	-.486E+01		
SE-22-J- 753	497.02	18.523	49.423	-.65.440	.995E+01	.778E+01	-.209E+01	.361E+01	.152E+02		
SE-22-J- 754	419.83	18.508	49.482	-.54.250	.156E+02	.133E+02	.195E+01	-.225E+01	-.178E+02		
SE-22-J- 755	484.55	18.604	49.526	-.57.330	.469E+01	.410E+01	.294E+00	.130E+01	.160E+02		
SE-22-J- 756	526.85	18.681	49.572	-.59.320	-.480E+01	-.358E+01	-.650E+00	.248E+00	.329E+01		
SE-22-J- 757	619.37	18.815	49.534	-.71.130	-.175E+02	-.156E+02	-.471E+01	-.385E+01	-.362E+02		
SE-22-J- 758	631.08	18.897	49.485	-.70.500	-.148E+02	-.136E+02	-.577E+01	-.504E+01	-.268E+01		
SE-22-J- 822	611.24	18.920	49.368	-.75.490	-.853E+01	-.977E+01	-.552E+01	-.522E+01	-.246E+02		
SE-22-J- 823	661.48	18.902	49.266	-.81.610	-.357E+01	-.591E+01	-.282E+01	-.415E+01	-.240E+02		
SE-22-J- 824	670.22	18.887	49.149	-.86.390	.413E+01	.166E+01	.347E+01	.354E+01	.132E+02		
SE-22-J- 825	641.76	18.890	49.041	-104.510	-.305E+01	-.495E+01	-.147E+01	-.137E+01	.147E+02		
SE-22-J- 1572	600.75	18.993	49.527	-.43.330	.470E+01	.719E+01	.401E+01	.225E+01	-.462E+01		
SE-22-J- 1573	562.86	18.907	49.528	-.56.590	-.563E+01	-.335E+01	.426E+01	.414E+01	.201E+02		
SE-22-J- 1587	447.90	18.419	49.221	-105.730	-.602E+01	-.675E+01	-.681E+00	-.111E+01	-.381E+02		
SE-22-J- 1724	734.61	18.900	49.030	-105.800	-.357E+01	-.557E+01	-.939E+00	-.230E+01	.416E+01		
SE-22-J- 1720	512.80	18.531	49.170	-106.960	-.591E+01	-.547E+01	-.699E+01	-.517E+01	-.231E+02		
SE-22-J- 1721	725.19	18.664	49.158	-.89.180	.831E+01	.829E+01	.429E+01	.260E+01	.262E+02		

COEFICIENTES DE GRAU = 1
 -.579486E+04 .354823E+02 .102427E+03

COEFICIENTES DE GRAU = 2
 -.140735E+06 .204590E+04 .481320E+04 .169320E+02 -.536042E+02 -.376043E+02

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COEFICIENTES DE GRAU = 3
 -.239961E+08 .122985E+07 .991257E+06 -.725404E+05 .526068E+04 -.210859E+05 .408327E+03 .100764E+04 -.437541E+03 .197987E+03

COEFICIENTES DE GRAU = 4
 .120322E+11 -.320855E+09 -.855252E+09 .109788E+08 .111973E+08 .239194E+06 -.336749E+05 -.408366E+06 -.717581E+05 -.314724E+06
 .197606E+04 -.231598E+04 .547295E+04 -.905411E+03 .166418E+04

PARAMETROS ESTATISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBAROE	YBARCP	SYRES	SYRESQ
GRAU= 1	7.09250	95.09249	90.42582	90.42582	90.42582	-86.52514	-86.52514	0.00000	1760.62332
GRAU= 2	6.87836	95.39141	90.99521	90.99521	90.99521	-86.52514	-86.52514	-0.00000	1655.91598
GRAU= 3	4.30313	98.22205	96.47571	96.47571	96.47571	-86.52514	-86.52514	0.00000	648.09125
GRAU= 4	3.59509	98.76238	97.54008	97.47147	97.47147	-86.52514	-86.52514	0.00000	452.36247
GRAU= 5	20.14201	47.73227	22.78369	162.46061	162.46061	-86.52514	-86.52565	0.01768	14199.52687

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	RCUG	PGRAU 1	PGRAU 2	PGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 07/81	628.33	19.308	48.925	-72.180	-.665E+00	-.195E+00	.349E+01	.198E+01	.215E+01		
ONRJ 07/82	710.52	19.275	48.930	-68.230	.424E+01	.479E+01	.367E+01	.283E+01	.243E+01		
ONRJ 07/83	680.05	19.210	48.935	-65.180	.942E+01	.110E+02	.106E+01	.180E+01	.869E+01		
SE-22-X- 1568	541.97	19.192	49.595	-29.570	.652E+01	.192E+01	.280E+01	.286E+01	.267E+01		
SE-22-X- 759	661.28	19.036	49.327	-57.430	.416E+00	-.671E+00	.110E+01	.135E+01	.106E+01		
SE-22-X- 760	616.33	19.113	49.207	-61.300	.831E+00	-.200E+01	-.696E+00	-.337E+01	-.343E+01		
SE-22-X- 761	741.76	19.153	49.142	-60.550	.391E+01	.102E+01	.191E+01	.355E+01	.956E+02		
SE-22-X- 762	680.54	19.184	49.041	-56.310	.130E+02	.118E+02	.867E+01	.806E+01	.809E+01		
SE-22-X- 764	618.03	19.368	49.033	-74.980	-.121E+02	-.143E+02	.225E+01	.344E+00	-.970E+00		
SE-22-X- 765	585.92	19.416	49.169	-64.350	-.113E+02	-.144E+02	-.647E+01	.605E+01	-.601E+01		
SE-22-X- 766	567.02	19.377	49.201	-50.770	.180E+01	.265E+01	.275E+01	.521E+01	.556E+01		
SE-22-X- 767	519.52	19.488	49.289	-32.620	.106E+02	.104E+02	.572E+01	.465E+01	.506E+01		
SE-22-X- 768	544.11	19.484	49.368	-32.070	.654E+01	.682E+01	.145E+01	.610E+00	-.112E+01		
SE-22-X- 769	506.11	19.523	49.298	-33.130	.622E+01	.102E+02	.196E+01	.778E+00	.111E+01		
SE-22-X- 770	525.16	19.558	49.253	-36.180	.649E+01	.105E+02	-.500E+00	-.149E+01	-.118E+01		
SE-22-X- 771	591.69	19.574	49.159	-42.130	.551E+01	.105E+02	.295E+01	.140E+01	.689E+00		
SE-22-X- 815	601.91	19.509	49.565	-43.650	-.179E+02	-.120E+02	.477E+00	.379E+01	.377E+01		
SE-22-X- 816	708.02	19.417	49.590	-35.620	-.784E+01	-.698E+01	.418E+01	-.127E+01	-.149E+01		
SE-22-X- 818	553.25	19.270	49.576	-25.180	.914E+01	.474E+01	.441E+01	.163E+01	.175E+01		
SE-22-X- 819	485.67	19.200	49.516	-30.050	.105E+02	.471E+01	.411E+00	.274E+01	.297E+01		
SE-22-X- 820	532.38	19.121	49.519	-38.630	.464E+01	-.932E+01	.609E+01	.236E+01	.230E+01		
SE-22-X- 821	572.59	19.040	49.504	-42.690	.450E+01	.224E+01	-.250E+01	.212E+00	.322E+00		
SE-22-X- 1727	708.48	19.294	49.117	-69.720	-.904E+01	-.135E+02	.566E+01	.388E+01	-.429E+01		
SE-22-X- 1728	769.27	19.462	49.061	-73.440	-.157E+02	-.159E+02	.483E+01	.331E+01	-.260E+01		
SE-22-X- 1729	759.90	19.484	49.163	-51.290	-.497E+00	-.776E+00	.160E+01	.251E+01	.273E+01		
SE-22-X- 1730	675.64	19.443	49.345	-36.060	.552E+01	.341E+01	.523E+00	.878E+00	.167E+01		
SE-22-X- 1725	794.13	19.163	49.090	-60.950	.621E+01	.427E+01	.299E+01	.156E+01	.177E+01		
SE-22-X- 495.55		19.531	49.479	-41.500	-.112E+02	-.601E+01	-.757E+01	.491E+01	.458E+01		
SE-22-Y- 305	630.23	19.309	48.925	-73.410	-.192E+01	-.146E+01	.230E+01	.806E+00	.115E+01		
SE-22-Y- 763	655.39	19.179	48.950	-70.240	.466E+01	.663E+01	.895E+01	.664E+01	.641E+01		
SE-22-Y- 1726	764.83	19.303	48.955	-76.060	-.612E+01	-.659E+01	.150E+01	.201E+01	.222E+01		
SE-22-J- 426	558.60	18.969	49.464	-48.070	.418E+01	.555E+01	.625E+01	.557E+01	.563E+01		
SE-22-J- 822	611.24	18.920	49.368	-75.490	-.157E+02	-.102E+02	.280E+01	.525E+01	.521E+01		
SE-22-J- 823	661.48	18.902	49.266	-81.610	-.151E+02	-.629E+01	-.125E+01	.290E+01	.272E+01		
SE-22-J- 1572	600.75	18.993	49.527	-43.330	.425E+01	.425E+01	.178E+00	.126E+01	.240E+00		
SE-22-J- 1573	562.86	18.907	49.528	-56.590	-.587E+01	-.574E+00	.123E+01	-.128E+01	-.833E+00		

COEFICIENTES DE GRAU = 1
 -.369920E+04 .374596E+02 .593644E+02

COEFICIENTES DE GRAU = 2
 -.190359E+06 .674526E+04 .502809E+04 -.117937E+03 -.439410E+02 -.417664E+02

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COEFICIENTES DE GRAU = 3
 .984755E+08 -.315717E+07 -.476065E+07 .523574E+04 .124001E+06 .723716E+05 .317777E+03 -.479548E+03 -.107002E+04 -.350198E+03

COEFICIENTES DE GRAU = 4
 -.610991E+10 .612733E+09 .257795E+09 -.175950E+08 -.235860E+08 -.327079E+07 .241281E+06 .431017E+06 .310992E+06 .406991E+04
 -.109297E+04 -.317942E+04 -.251221E+04 -.145382E+04 .120165E+03

PARAMETROS ESTATISTICOS	DESPAD	CORRZ	COEPZ	PSTO	SSRED	YBAROB	YBAPCP	SYRES	SYRESQ
GRAU= 1	8.58487	85.05799	72.34861	72.34861	72.34861	-53.06222	-53.06222	0.00000	2653.20146
GRAU= 2	7.84986	87.68170	76.88080	76.88080	76.88080	-53.06222	-53.06222	-0.00000	2218.32937
GRAU= 3	4.04784	96.87752	93.85255	93.85254	93.85254	-53.06222	-53.06222	0.00000	589.85937
GRAU= 4	3.32993	97.89778	95.83976	95.60099	95.60099	-53.06222	-53.06222	0.00000	399.18253
GRAU= 5	3.33993	97.88500	95.81473	95.87019	95.87019	-53.06222	-53.06223	0.00012	401.58430

***** MAPA GRAVIMÉTRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 765	585.92	19.416	49.169	-64.350	-.178E+02	-.104E+02	-.465E+01	.494E+00	.702E+00		
SE-22-X- 767	519.52	19.488	49.289	-32.020	.112E+02	.118E+02	.637E+01	.299E+01	.323E+01		
SE-22-X- 768	544.11	19.484	49.366	-32.070	.109E+02	.961E+01	.215E+01	.870E+00	.128E+01		
SE-22-X- 769	506.11	19.523	49.298	-33.130	.990E+01	.923E+01	.374E+01	.298E+01	.228E+01		
SE-22-X- 770	525.16	19.558	49.253	-36.180	.671E+01	.606E+01	.220E+01	.220E+01	.133E+01		
SE-22-X- 771	591.89	19.574	49.159	-42.130	.155E+01	.248E+01	.186E+01	-.136E+01	-.190E+01		
SE-22-X- 772	537.17	19.605	49.108	-43.040	.670E+00	.174E+01	.210E+01	-.164E+01	-.214E+01		
SE-22-X- 773	560.98	19.693	49.064	-37.940	.441E+01	.352E+01	.307E+01	.357E+01	.364E+01		
SE-22-X- 803	569.96	19.640	49.022	-36.200	.786E+01	.959E+01	.966E+01	.456E+01	.515E+01		
SE-22-X- 804	661.71	19.717	49.111	-43.030	-.144E+01	-.316E+01	-.326E+01	.608E+01	-.163E+00		
SE-22-X- 805	587.53	19.756	49.164	-49.330	-.908E+01	-.117E+02	-.108E+02	-.385E+01	-.268E+01		
SE-22-X- 806	581.15	19.826	49.111	-44.520	-.497E+01	-.763E+01	-.498E+01	-.906E+00	-.209E+00		
SE-22-X- 807	528.76	19.918	49.094	-39.640	-.159E+01	-.382E+01	.220E+01	.253E+00	-.412E+00		
SE-22-X- 808	477.26	19.948	49.187	-36.640	-.235E+00	-.126E+01	.652E+01	.111E+01	.119E+01		
SE-22-X- 809	437.69	19.922	49.278	-37.600	-.197E+01	-.272E+01	.237E+01	.925E+01	.178E+00		
SE-22-X- 810	414.83	19.887	49.473	-32.470	.174E+01	.218E+01	.367E+01	.983E+00	.936E+00		
SE-22-X- 811	446.35	19.860	49.583	-31.300	.215E+01	.297E+01	.911E+01	-.956E+00	-.145E+01		
SE-22-X- 814	521.80	19.642	49.526	-41.470	-.330E+01	-.841E+01	-.340E+01	.363E+01	.307E+01		
SE-22-X- 815	601.91	19.509	49.565	-43.650	-.366E+01	-.927E+01	-.463E+01	-.298E+01	-.141E+01		
SE-22-X- 816	708.02	19.417	49.590	-35.620	.580E+01	.868E+00	.412E+01	.189E+01	.114E+01		
SE-22-X- 951	431.63	19.984	49.573	-35.760	-.453E+01	.259E+01	-.418E+01	.576E+00	.113E+01		
SE-22-X- 1728	769.27	19.462	49.061	-73.440	-.265E+02	-.178E+02	-.577E+01	.942E+00	.382E+00		
SE-22-X- 1729	759.90	19.484	49.163	-51.290	-.597E+01	-.168E+01	.355E+00	-.389E+01	-.313E+01		
SE-22-X- 1730	675.64	19.443	49.345	-36.680	.793E+01	.861E+01	.936E+00	-.278E+01	-.250E+01		
SE-22-X	673.64	19.716	49.124	-44.780	-.333E+01	-.518E+01	-.524E+01	-.141E+01	-.167E+01		
SE-22-X	495.55	19.531	49.479	-41.500	-.716E+00	-.512E+01	-.788E+01	-.323E+01	-.362E+01		
SE-22-X- 433	484.41	19.902	49.370	-37.570	-.244E+01	-.275E+01	-.280E+00	-.970E+00	-.426E+00		
SF-22-F- 323	517.34	20.026	48.938	-36.320	.152E+01	-.520E+00	.688E+00	-.732E+00	-.654E+00		
SF-22-F- 777	515.45	20.024	48.929	-36.140	.184E+01	-.302E+00	-.391E+00	-.504E+00	-.963E+01		
SE-22-Y- 774	687.31	19.735	48.971	-37.040	.582E+01	.556E+01	.115E+01	-.352E+00	-.741E+00		
SE-22-Y- 775	658.06	19.855	48.961	-36.310	.443E+01	.217E+01	-.234E+01	.289E+00	.211E+00		
SE-22-Y- 776	535.69	19.926	48.958	-33.620	.584E+01	.326E+01	.102E+01	.261E+01	.190E+01		
SE-22-Y	705.12	19.651	48.973	-43.070	.135E+01	.372E+01	.237E+01	-.295E+01	-.232E+01		
SE-22-Y- 1732	683.85	19.838	48.962	-37.490	.358E+01	.150E+01	-.337E+01	-.107E+01	-.111E+01		
SF-22-E	410.52	20.007	49.475	-36.720	-.477E+01	.135E+01	-.455E+01	-.113E+01	-.137E+01		
SF-22-E- 953	445.00	20.031	49.401	-35.160	-.279E+01	.288E+01	.755E+01	.608E+00	.272E+00		

COEFICIENTES DE GRAU = 1
 -.978785E+03 .166293E+02 .116041E+02

COEFICIENTES DE GRAU = 2
 -.147447E+06 .699186E+04 .315843E+04 -.707232E+02 -.846698E+02 -.148803E+02

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COEFICIENTES DE GRAU = 3
 -.115415E+06 .272358E+07 -.108876E+07 -.421552E+05 -.766263E+05 .375101E+05 .159735E+03 .661911E+03 .511549E+03 -.322391E+03

COEFICIENTES DE GRAU = 4
 -.844789E+10 .519928E+09 .356746E+09 -.292262E+08 -.264502E+08 -.555019E+07 .434084E+06 .663741E+06 .270130E+06 .389615E+05
 -.274614E+04 -.440568E+04 -.408119E+04 -.733970E+03 -.124207E+03

COEFICIENTES DE GRAU = 5
 .724269E+10 -.177139E+10 -.206880E+09 .178001E+09 .174737E+08 .898964E+07 -.577626E+07 -.448698E+07 .100783E+07 -.365526E+06
 .105746E+06 .736006E+05 .536545E+05 -.263101E+05 .667019E+04 -.186246E+04 .153112E+04 -.201787E+04 .417058E+03 .472732E+02
 -.319724E+02

PARAMETROS	ESTADISTICOS								
DESPAD	CORR%	CDEP%	PSTQ	SSRED	YEARGB	YBARCP	SYRES	SYRESQ	
GRAU= 1	7.35551	48.74683	23.76253	23.76253	-40.16167	-40.16167	-0.00000	1947.72591	
GRAU= 2	6.47073	64.03154	41.00038	41.00038	-40.16167	-40.16167	-0.00000	1507.33075	
GRAU= 3	4.51940	84.39140	71.21908	71.21907	-40.16167	-40.16167	-0.00000	735.29918	
GRAU= 4	2.12777	96.75764	93.62042	93.37627	-40.16167	-40.16167	-0.00000	162.98650	
GRAU= 5	1.96375	97.24507	94.56604	94.08524	-40.16167	-40.16167	-0.00003	138.82769	

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 807	528.76	19.918	49.094	-39.640	-.229E+01	-.599E+01	-.432E+01	.355E+00	.238E+00		
SE-22-X- 808	477.28	19.948	49.187	-36.640	.193E+01	.716E+00	-.187E+01	-.847E+00	-.845E+00		
SE-22-X- 809	437.69	19.922	49.278	-37.800	.594E+00	-.295E+01	-.335E+00	-.133E+01	-.114E+01		
SE-22-X- 951	431.63	19.984	49.573	-35.780	.566E+01	-.619E+00	-.249E+01	-.155E+00	-.190E+00		
SE-22-X- 433	484.41	19.902	49.370	-37.570	.814E+00	-.547E+01	.218E+01	.114E+01	.100E+01		
SF-22-F- 323	517.34	20.026	48.938	-36.320	.291E+01	.383E+01	-.600E+00	.205E+00	.319E+00		
SF-22-F- 777	515.45	20.024	48.929	-36.140	.299E+01	.359E+01	-.838E+01	-.603E+00	-.727E+00		
SF-22-F- 914	480.87	20.899	48.944	-56.060	-.509E+01	-.719E+01	-.191E+01	.108E+01	.132E+01		
SE-22-Y- 776	535.69	19.926	48.958	-33.620	.325E+01	-.172E+01	.342E+01	.385E+00	.435E+00		
SF-22-E- 434	446.93	20.340	49.195	-57.150	-.883E+01	-.171E+01	-.809E+00	-.863E+00	-.730E+00		
SF-22-E- 435	538.04	20.529	49.311	-52.450	.114E+01	-.228E+01	-.392E+01	.355E+00	.197E+00		
SF-22-E- 436	549.84	20.390	49.433	-56.300	-.553E+01	-.356E+01	.258E+01	.341E+01	.320E+01		
SF-22-E- 4361	449.67	20.167	49.364	-53.600	-.869E+01	-.239E+01	-.612E+01	-.594E+01	-.597E+01		
SF-22-E- 901	486.68	20.252	49.550	-50.790	-.283E+01	-.127E+01	.194E+01	.223E+01	.152E+00		
SF-22-E- 902	468.92	20.287	49.489	-53.450	-.494E+01	-.174E+01	.182E+01	.291E+01	.291E+01		
SF-22-E- 903	433.68	20.233	49.407	-56.280	-.954E+01	-.368E+01	-.337E+01	-.240E+01	-.258E+01		
SF-22-E- 904	482.16	20.312	49.382	-62.620	-.140E+02	-.852E+01	-.481E+01	-.441E+01	-.431E+01		
SF-22-E- 905	472.96	20.406	49.334	-59.740	-.902E+01	-.572E+01	-.726E+00	-.178E+01	-.164E+01		
SF-22-E- 906	468.65	20.432	49.332	-58.010	-.671E+01	-.450E+01	.188E+00	-.560E+00	-.434E+00		
SF-22-E- 910	446.70	20.578	49.164	-41.310	.127E+02	.670E+01	-.222E+01	-.947E+00	-.824E+00		
SF-22-E- 911	513.18	20.519	49.128	-41.450	.110E+02	.944E+01	.765E+01	.364E+01	.379E+01		
SF-22-E- 912	557.93	20.523	49.060	-47.250	.491E+01	.275E+01	.151E+01	-.177E+01	-.201E+01		
SF-22-E- 913	553.01	20.482	49.006	-55.200	-.432E+01	-.438E+01	-.150E+01	-.144E+01	-.176E+01		
SF-22-E- 410.52	410.52	20.007	49.475	-36.720	.479E+01	.302E+01	.616E+00	-.796E+00	-.749E+00		
SF-22-E- 953	445.00	20.031	49.401	-35.160	.656E+01	.783E+01	.348E+01	.713E+00	.900E+00		
SF-22-E- 954	486.95	20.112	49.353	-37.740	.575E+01	.111E+02	.527E+01	.429E+01	.412E+01		
SF-22-E- 955	448.09	20.182	49.351	-47.090	-.188E+01	.485E+01	.147E+01	.175E+01	.160E+01		
SF-22-E- 956	420.94	20.260	49.271	-49.600	-.287E+01	.510E+01	.372E+01	.442E+01	.454E+01		
SF-22-E- 1511	501.00	20.512	49.581	-41.680	.135E+02	.383E+01	.156E+00	.702E+00	.755E+00		
SF-22-E- 1512	513.88	20.477	49.577	-45.530	.812E+01	.957E+00	.100E+01	-.153E+01	-.158E+01		

COEFICIENTES DE GRAU = 1
 .706316E+03 -.247479E+02 -.510750E+01

COEFICIENTES DE GRAU = 2
 .167333E+06 -.518349E+04 -.463146E+04 .122298E+03 .427712E+01 .466798E+02

COEFICIENTES DE GRAU = 3
 -.380187E+08 .116406E+07 .183989E+07 -.466342E+05 -.906051E+04 -.355199E+05 .671099E+03 .121751E+03 .421970E+02 .234748E+03

COEFICIENTES DE GRAU = 4
 .934771E+10 -.169754E+09 -.690049E+09 -.405854E+07 .136765E+08 .182248E+08 .147594E+06 -.174782E+05 -.270386E+06 -.209921E+06
 -.148377E+04 -.537863E+03 .506247E+03 .169122E+04 .893167E+03

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PST0	SSRED	YBARDB	YBARCP	SYRES	SYRES0
GRAU= 1	6.85891	63.72810	40.61271	40.61271	40.61271	-46.26967	-46.26967	0.00000	1411.33967
GRAU= 2	4.98682	62.82944	68.60716	68.60716	68.60716	-46.26967	-46.26967	0.00000	746.05112
GRAU= 3	3.01504	94.08751	88.52459	88.52459	88.52459	-46.26967	-46.26967	0.00000	272.71325
GRAU= 4	2.27195	96.68714	93.48403	93.52708	93.52708	-46.26967	-46.26967	0.00000	154.85214
GRAU= 5	2.27638	96.67397	93.45856	93.46376	93.46376	-46.26967	-46.26967	0.00023	155.45746

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = 5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 30/5	489.10	20.817	49.392	-49.540	-.440E+00	-.242E+01	.201E+01	.121E+01	.120E+01		
DNRJ 30/3	501.65	20.738	48.910	-61.780	-.381E+01	-.388E+01	-.106E+00	.391E+00	.144E+00		
DNRJ 30/4	505.10	20.797	49.222	-48.500	-.378E+01	.165E+01	-.161E+00	-.148E+00	-.207E+00		
SF-22-F- 595	501.50	20.743	48.910	-62.790	-.479E+01	-.480E+01	-.909E+00	-.584E+00	-.423E+00		
SF-22-F- 914	480.87	20.499	48.944	-56.060	-.311E+00	-.121E+01	.135E+01	.219E+01	.223E+01		
SF-22-F- 920	463.76	20.858	48.978	-61.300	-.388E+01	-.317E+01	-.310E+01	-.501E+00	-.465E+00		
SF-22-L- 921	534.31	21.021	48.957	-60.630	-.175E+01	.328E+01	.606E+01	.153E+00	.112E+00		
SF-22-E- 435	538.04	20.529	49.311	-52.450	-.365E+01	-.382E+01	-.359E+01	-.348E+01	-.358E+01		
SF-22-E- 591	547.59	20.894	49.570	-45.690	.441E+00	-.397E+00	-.137E+01	-.121E+01	-.120E+01		
SF-22-E- 592	587.55	20.817	49.513	-48.050	-.131E+01	-.254E+01	.130E+00	.138E+01	.183E+01		
SF-22-E- 593	487.79	20.819	49.384	-50.300	-.103E+01	-.304E+01	.129E+01	.409E+00	.416E+00		
SF-22-E- 594	503.57	20.800	49.223	-49.280	.300E+01	.884E+00	-.803E+00	-.889E+00	-.956E+00		
SF-22-E- 611	518.50	20.743	49.388	-55.580	-.688E+01	-.675E+01	-.593E+01	-.525E+01	-.521E+01		
SF-22-E- 612	528.21	20.625	49.471	-49.160	-.285E+01	-.272E+01	-.171E+01	.224E+01	.212E+01		
SF-22-E- 613	543.72	20.739	49.585	-41.820	.301E+01	.319E+01	-.125E+01	.466E+00	.312E+00		
SF-22-E- 637	527.06	20.970	49.034	-60.730	-.368E+01	-.149E+01	-.299E+01	-.348E+00	-.286E+01		
SF-22-E- 638	487.52	20.952	49.174	-54.270	-.552E+01	-.808E+01	-.144E+01	.813E+02	.234E+00		
SF-22-E- 639	570.53	20.911	49.263	-50.240	.199E+01	.691E+00	.234E+01	.105E+01	.667E+00		
SF-22-E- 640	514.18	20.880	49.301	-49.800	.149E+01	-.256E+00	.258E+01	.824E+00	.449E+00		
SF-22-E- 651	496.36	20.984	49.494	-48.320	-.130E+00	-.924E+00	.199E+01	.556E+00	.452E+00		
SF-22-E- 652	481.75	20.963	49.529	-49.240	-.187E+01	-.272E+01	-.117E+01	-.194E+01	-.197E+01		
SF-22-E- 905	472.96	20.408	49.334	-59.740	-.122E+02	-.939E+01	-.477E+00	.136E+01	.147E+01		
SF-22-E- 906	488.65	20.432	49.332	-58.010	-.102E+02	-.811E+01	-.153E+01	-.122E+00	-.302E+00		
SF-22-E- 907	527.48	20.625	49.287	-46.720	.317E+01	.152E+01	-.549E+00	-.903E+00	-.667E+00		
SF-22-E- 908	532.32	20.714	49.291	-45.850	.454E+01	.235E+01	.152E+01	.112E+01	.127E+01		
SF-22-E- 909	525.06	20.622	49.218	-41.390	.983E+01	.790E+01	.301E+01	.213E+01	.212E+01		
SF-22-E- 910	446.70	20.578	49.164	-41.310	.107E+02	.695E+01	.261E+01	.127E+01	.139E+01		
SF-22-E- 911	513.18	20.519	49.128	-41.450	.109E+02	.964E+01	.431E+01	.220E+01	.226E+01		
SF-22-E- 912	557.93	20.523	49.060	-47.250	.641E+01	.507E+01	-.373E+00	-.113E+01	-.133E+01		
SF-22-E- 913	553.01	20.462	49.006	-55.200	-.761E+00	-.167E+01	-.283E+01	-.321E+01	-.315E+01		
SF-22-E- 1511	501.00	20.512	49.581	-41.080	.236E+01	.689E+01	.252E+01	.116E+01	.947E+00		
SF-22-E- 1512	513.68	20.477	49.577	-45.530	-.224E+01	.321E+01	.691E+00	-.151E+01	-.128E+01		
SF-22-X- 649	477.25	21.034	49.370	-51.250	-.421E+00	-.412E+00	.195E+01	-.117E+00	.161E+00		
SF-22-X- 650	456.22	21.016	49.497	-48.860	.148E+01	.104E+01	.253E+01	.149E+01	.150E+01		
SF-22-X- 636	506.26	21.052	49.057	-59.190	-.205E+01	.194E+01	-.195E+01	.706E+00	.506E+00		
SF-22-X- 624	465.20	21.068	49.540	-44.910	.293E+01	.321E+01	-.142E+01	.225E+00	.165E+00		
SF-22-X- 634	449.76	21.084	49.250	-55.220	-.162E+01	.403E+00	-.322E+01	-.119E+01	-.118E+01		

COEFICIENTES DE GRAU = 1
 -.875735E+03 -.049031E+01 .194717E+02

COEFICIENTES DE GRAU = 2
 -.322979E+05 -.166162E+03 .136329E+04 -.363400E+02 .338468E+02 -.207738E+02

COEFICIENTES DE GRAU = 3
 -.618292E+08 .033053E+06 .349825E+07 -.249827E+05 -.464774E+04 -.700277E+05 .326566E+03 .932706E+02 .830546E+01 .472573E+03

COEFICIENTES DE GRAU = 4
 .241357E+10 .145670E+09 -.258484E+09 -.873129E+06 -.812468E+07 .961439E+07 .510306E+05 -.293910E+05 .177232E+06 -.155425E+06
 -.367557E+03 -.411179E+03 .559256E+03 -.135552E+04 .933625E+03

COEFICIENTES DE GRAU = 5
 .465381E+10 .101441E+09 -.460143E+09 -.369669E+08 .276332E+08 .996641E+07 .220432E+07 -.429843E+06 -.745500E+06 -.264574E+05
 -.475343E+05 -.843115E+04 .137525E+05 .746261E+04 -.137444E+04 .864932E+03 -.865060E+03 .810528E+03 -.430816E+03 .458247E+02
 .561346E+01

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.83574	65.16606	42.46615	42.46615	42.46615	-50.98892	-50.98892	-0.00000	865.22344
GRAU= 2	4.36201	72.92907	53.18650	53.18650	53.18650	-50.98892	-50.98892	0.00000	704.00537
GRAU= 3	2.43394	92.42549	85.42472	85.42472	85.42472	-50.98892	-50.98892	-0.00000	219.19053
GRAU= 4	1.61677	96.73097	93.56860	93.44004	93.44004	-50.98892	-50.98892	-0.00000	96.71567
GRAU= 5	1.61149	96.75262	93.61070	93.62670	93.62670	-50.98892	-50.98891	-0.00028	96.08552

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS												
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7	
SF-22-L- 921	534.31	21.021	48.957	-60.630	-.158E+01	-.216E+00	.124E+01	.637E+00	.316E+00			
SF-22-L- 922	517.43	21.139	48.973	-59.230	-.961E+00	-.956E+00	.603E+00	.149E+01	.141E+01			
SF-22-L- 463	503.61	21.135	48.974	-59.370	-.111E+01	-.105E+01	.516E+00	.141E+01	.152E+01			
SF-22-L- 984	550.94	21.257	48.978	-60.670	-.298E+01	-.407E+01	-.329E+01	-.333E+01	-.299E+01			
SF-22-L- 985	492.42	21.388	48.965	-53.700	.332E+01	.136E+01	.857E+00	.788E+00	.819E+00			
SF-22-L- 986	436.81	21.465	48.922	-50.860	.711E+01	.360E+01	-.490E+00	.451E+00	.358E+01			
SF-22-L- 988	425.43	21.577	48.968	-50.270	.632E+01	.328E+01	.940E+01	-.974E+00	-.562E+00			
SF-22-E- 637	527.06	20.970	49.034	-60.730	-.300E+01	-.749E+00	-.857E+00	-.213E+01	-.211E+01			
SF-22-E- 638	487.52	20.952	49.174	-54.270	.763E+00	.286E+01	.480E+00	.122E+01	.163E+01			
SF-22-E- 639	570.53	20.911	49.263	-50.240	.320E+01	.490E+01	.129E+01	.625E+00	.375E+00			
SF-22-E- 651	496.36	20.984	49.494	-48.320	.228E+00	-.147E+01	-.212E+00	-.130E+00	-.771E+01			
SF-22-E- 652	481.75	20.963	49.529	-49.240	-.130E+01	-.369E+01	-.490E+00	-.130E+01	-.163E+01			
SF-22-K- 646	481.35	21.518	49.167	-55.060	-.219E+01	-.189E+01	.401E+00	.141E+01	.104E+01			
SF-22-K- 647	455.48	21.466	49.222	-58.720	-.672E+01	-.602E+01	.442E+01	-.357E+01	-.346E+01			
SF-22-K- 648	443.78	21.176	49.412	-49.050	.364E+00	.181E+00	-.150E+01	-.227E+01	-.255E+01			
SF-22-K- 649	477.25	21.034	49.370	-51.350	-.535E+00	.456E+00	-.229E+01	-.989E+00	-.682E+00			
SF-22-K- 650	456.22	21.016	49.497	-46.660	-.150E+01	-.185E+00	.831E+00	.122E+01	.149E+01			
SF-22-K- 923	507.96	21.166	49.117	-56.850	-.156E+01	-.983E+00	-.307E+00	-.390E+00	-.614E+00			
SF-22-K- 924	446.92	21.149	49.189	-51.910	.194E+01	.265E+01	.251E+01	.210E+01	.182E+01			
SF-22-K- 925	430.17	21.272	49.274	-44.690	.687E+01	.743E+01	.684E+01	.527E+01	.531E+01			
SF-22-K- 926	476.33	21.374	49.214	-51.600	.923E+00	.140E+01	.211E+01	.130E+01	.154E+01			
SF-22-K- 927	441.78	21.504	49.285	-56.860	-.627E+01	-.494E+01	-.316E+01	-.162E+01	-.164E+01			
SF-22-K- 928	366.34	21.551	49.408	-50.970	-.300E+01	-.704E+00	.742E+00	.134E+01	.130E+01			
SF-22-K- 929	415.93	21.592	49.434	-50.700	-.342E+01	-.596E+00	.164E+01	-.276E+00	-.264E+00			
SF-22-K- 944	434.04	21.312	49.568	-43.850	.191E+01	.115E+01	-.160E+00	.239E+01	-.556E+01			
SF-22-K- 945	429.08	21.399	49.433	-46.200	.189E+01	.281E+01	.141E+01	.200E+01	.216E+01			
SF-22-K- 946	457.44	21.436	49.363	-51.970	-.265E+01	-.142E+01	-.163E+01	-.653E+00	-.474E+00			
SF-22-K- 947	470.67	21.390	49.160	-56.470	-.293E+01	-.283E+01	-.170E+01	-.241E+01	-.217E+01			
SF-22-K- 948	465.24	21.318	49.056	-54.670	.121E+01	.556E+00	.152E+01	.509E+00	.656E+00			
SF-22-K- 974	471.95	21.517	49.068	-53.030	.182E+01	.747E+00	.164E+01	.204E+01	.167E+01			
SF-22-K- 975	516.50	21.408	49.087	-53.920	.997E+00	.346E+00	.136E+01	.911E+00	.985E+00			
SF-22-K- 976	461.23	21.254	49.038	-58.170	-.166E+01	-.212E+01	-.973E+00	-.166E+01	-.158E+01			
SF-22-K- 636	506.26	21.052	49.057	-59.190	-.224E+01	-.685E+00	-.246E+00	.107E+01	.810E+00			
SF-22-K- 624	465.20	21.068	49.540	-44.910	.239E+01	.182E+00	.205E+01	.230E+01	.248E+01			
SF-22-K- 625	421.76	21.150	49.511	-45.670	.188E+01	.517E+00	.192E+00	-.119E+00	-.286E+00			
SF-22-K- 626	488.23	21.141	49.589	-46.820	-.577E+00	-.315E+01	-.855E+00	-.663E+00	-.551E+00			
SF-22-K- 628	441.98	21.342	49.501	-45.410	.155E+01	.167E+01	.262E+00	-.188E+00	-.367E+00			
SF-22-K- 630	408.39	21.459	49.580	-44.810	.117E+00	.102E+01	-.686E+00	-.829E+00	-.786E+00			
SF-22-K- 631	363.48	21.424	49.553	-44.260	.134E+01	.197E+01	.121E+00	.695E+00	.689E+00			
SF-22-K- 632	433.42	21.288	49.406	-48.510	.565E+00	.863E+00	-.863E+00	-.187E+01	-.190E+01			
SF-22-K- 634	449.76	21.084	49.250	-55.220	-.222E+01	-.133E+01	-.272E+01	-.155E+01	-.140E+01			
SF-22-K- 635	445.86	21.106	49.178	-57.590	-.327E+01	-.227E+01	-.270E+01	-.178E+01	-.198E+01			
SF-22-K- 633	442.05	21.201	49.292	-49.740	.195E+01	.247E+01	.136E+01	.195E+00	.584E+01			

COEFICIENTES DE GRAU = 1
 -.111520E+04 .404835E+01 .198346E+02

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COEFICIENTES DE GRAU = 2
 .115903E+05 .190342E+04 -.131549E+04 -.975819E+01 -.301361E+02 .200542E+02

COEFICIENTES DE GRAU = 3
 .452347E+07 .216294E+06 -.369143E+06 .789722E+04 -.155566E+05 .108411E+05 -.510911E+02 -.945123E+02 .198417E+03 -.101795E+03

COEFICIENTES DE GRAU = 4
 .165006E+10 -.155856E+09 -.666456E+08 .492683E+07 .524228E+07 .895102E+06 -.827674E+05 -.926836E+05 -.665600E+05 -.247684E+04
 .752236E+03 .360150E+03 .693657E+03 .252045E+03 -.150702E+02

COEFICIENTES DE GRAU = 5
 .106435E+11 -.132841E+10 -.479145E+09 .802830E+08 .351955E+08 .114560E+08 -.246597E+07 -.159017E+07 -.328409E+06 -.185365E+06
 .529064E+05 .707801E+04 .266477E+05 -.369395E+04 .233190E+04 -.782728E+03 .630650E+03 -.612313E+03 .893575E+02 .703865E+00
 -.984912E+01

PARAMETROS ESTADISTICOS	DESPAD	CORPX	CDEP%	PSTQ	SSRED	YBARDB	YBAPCP	SYRES	SYRESQ
GRAU= 1	2.94618	81.53793	66.48435	66.48435	66.48435	-52.15256	-52.15256	0.00000	373.23818
GRAU= 2	2.55368	86.49830	74.81956	74.81956	74.81956	-52.15256	-52.15256	-0.00000	280.41523
GRAU= 3	1.89101	92.83983	86.19234	86.19234	86.19234	-52.15256	-52.15256	0.00000	153.76529
GRAU= 4	1.68177	94.38165	89.07896	89.07295	89.07295	-52.15256	-52.15256	0.00000	121.61925
GRAU= 5	1.66576	94.49120	89.28587	89.21332	89.21332	-52.15256	-52.15256	-0.00001	119.31510

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-J- 746	778.21	18.054	49.611	-84.570	-.101E+02	.500E+00	.252E+01	-.910E+01			
SE-22-J- 1175	580.44	18.041	49.863	-44.850	.403E+01	.235E+01	.213E+01	.780E+00			
SE-22-J- 1171	464.33	18.090	50.034	-23.640	.737E+01	-.530E+01	.997E+00	.465E+00			
SE-22-K- 1176	632.60	17.943	49.913	-46.080	-.131E+01	-.515E+01	-.115E+02	-.510E+01			
SE-22-K- 1177	513.43	17.878	49.914	-34.740	.105E+02	.864E+01	.338E+01	.104E+01			
SE-22-K- 1178	464.20	17.809	49.838	-38.830	.149E+02	.166E+02	.130E+02	.980E+01			
SE-22-K- 1160	631.25	17.731	49.806	-69.410	-.117E+02	-.644E+01	-.507E+01	-.754E+01			
SE-22-K- 1161	495.55	17.540	49.745	-82.520	-.176E+02	-.866E+01	-.265E+01	.189E+01			
SE-22-K- 1162	545.91	17.622	49.661	-84.000	-.105E+02	-.470E+01	-.163E+01	-.430E+01			
SE-22-K- 1163	574.38	17.530	49.608	-90.290	-.104E+02	-.256E+01	.493E+00	.379E+01			
SE-22-K- 1164	634.94	17.443	49.495	-85.460	.679E+01	.984E+01	.329E+01	-.191E+01			
SE-22-K- 1165	645.91	17.520	49.449	-92.530	.363E+01	-.223E+01	-.340E+01	.180E+01			
SE-22-K- 1166	675.36	17.517	49.401	-91.210	.986E+01	-.678E+00	.153E+01	.164E+00			
SE-22-K- 1595	604.83	17.727	49.482	-84.420	.633E+01	.608E+00	.265E+01	.826E+00			
SE-22-K- 1596	601.42	17.632	49.426	-89.740	.768E+01	-.220E+01	.182E+01	-.157E+01			
SE-22-K- 748	492.46	17.924	49.456	-92.020	-.629E+00	.239E+01	.570E+00	.267E+00			
SE-22-K- 747	621.19	17.973	49.565	-88.680	-.883E+01	-.300E+01	-.510E+01	-.334E+00			

COEFICIENTES DE GRAU = 1
 -.529704E+04 .992886E+01 .101659E+03

COEFICIENTES DE GRAU = 2
 .244767E+06 -.626554E+04 -.770499E+04 -.145868E+03 .231022E+03 .370312E+02

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COEFICIENTES DE GRAU = 3
 .704323E+07 -.122877E+06 -.379361E+06 .562753E+05 -.355639E+05 .139991E+05 -.281024E+03 -.836514E+03 .661609E+03 -.173350E+03

COEFICIENTES DE GRAU = 4
 .361773E+11 .705111E+09 -.316385E+10 -.121507E+08 -.335524E+08 .101539E+09 -.796814E+06 .134919E+07 .197103E+06 -.138530E+07
 -.109359E+04 .176729E+05 -.231054E+05 .420937E+04 .656877E+04

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	COEF%	PSTO	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	9.41303	91.35922	83.46508	83.46508	83.46508	-71.94059	-71.94059	0.00000	1506.28630
GRAU= 2	6.31356	96.20883	92.56138	92.56138	92.56138	-71.94059	-71.94059	-0.00000	677.63765
GRAU= 3	4.99048	97.64856	95.35241	95.35241	95.35241	-71.94059	-71.94059	0.00000	423.38293
GRAU= 4	3.65876	98.74305	97.50190	97.60905	97.60905	-71.94059	-71.94059	-0.00001	227.57049

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-J	630.11	18.196	49.728	-57.570	-.264E+00	-.486E+00	.113E+01	.176E+01			
SE-22-J- 745	700.76	18.154	49.653	-75.760	-.108E+02	-.925E+01	-.296E+01	-.105E+01			
SE-22-J- 746	778.21	18.054	49.611	-84.570	-.131E+02	-.660E+01	-.858E+00	.727E+00			
SE-22-J- 753	497.02	18.523	49.423	-65.440	.815E+01	-.187E+01	-.480E+01	-.418E+00			
SE-22-J- 754	419.63	18.508	49.482	-54.250	.148E+02	.710E+01	.566E+01	.559E+00			
SE-22-J- 1172	500.03	18.150	49.941	-27.750	.128E+02	.792E+01	.174E+01	-.136E+01			
SE-22-J- 1173	621.39	18.200	49.832	-38.220	.102E+02	.833E+01	.387E+01	.278E+01			
SE-22-J- 1174	624.57	18.130	49.812	-50.730	.137E+01	-.909E+00	-.198E+01	-.244E+01			
SE-22-J- 1175	580.44	18.041	49.863	-44.650	.553E+01	.396E+00	.909E+00	.765E+00			
SE-22-J- 1580	576.30	18.423	49.844	-31.820	.895E+01	.105E+02	-.195E+01	-.929E+00			
SE-22-J- 1581	603.63	18.380	49.745	-42.550	.788E+01	.760E+01	.137E+01	.119E+01			
SE-22-J- 1582	672.37	18.297	49.715	-56.040	-.643E+00	-.100E+01	-.176E+01	-.931E+00			
SE-22-J- 1583	496.04	18.289	49.647	-66.790	-.534E+01	-.547E+01	-.176E+01	-.686E+00			
SE-22-J- 1584	519.03	18.340	49.552	-74.020	-.602E+01	-.721E+01	-.994E+00	-.489E+00			
SE-22-J- 1585	507.45	18.342	49.434	-78.500	-.522E+00	-.221E+01	.225E+01	.361E+00			
SE-22-J- 1171	464.33	18.090	50.034	-23.640	.108E+02	.131E+01	-.106E+01	.362E+00			
SE-22-J- 1577	425.59	18.593	50.051	-37.230	-.191E+02	-.556E+01	.192E+00	-.313E+02			
SE-22-J- 1578	382.13	18.595	50.047	-34.120	-.130E+02	-.384E+01	-.109E+00	.121E+00			
SE-22-K- 1176	632.60	17.943	49.913	-46.080	.294E+01	-.653E+01	-.670E+00	-.110E+00			
SE-22-K- 748	492.46	17.924	49.456	-92.020	-.361E+01	.124E+02	-.105E+01	.108E+02			
SE-22-K- 747	621.19	17.973	49.565	-88.680	-.109E+02	-.255E+01	.283E+01	-.202E+00			

COEFICIENTES DE GRAU = 1
 -.482181E+04 .294845E+02 .850226E+02

COEFICIENTES DE GRAU = 2
 -.149197E+06 .745681E+04 .315299E+04 -.202942E+01 -.147840E+03 -.363584E+01

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COEFICIENTES DE GRAU = 3
 .105371E+09 -.201231E+07 -.563192E+07 .866585E+04 .746426E+05 .995713E+05 .186771E+03 -.379101E+03 -.612357E+03 -.592478E+03

COEFICIENTES DE GRAU = 4
 .895399E+10 .213362E+09 -.796938E+09 -.846467E+07 -.670779E+07 .252231E+08 -.242930E+06 .608255E+06 -.874766E+05 -.326926E+06
 .330362E+04 .363834E+02 -.614472E+04 .208613E+04 .144989E+04

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	9.43940	68.48511	78.29614	78.29614	78.29614	-55.74429	-55.74429	0.00000	1871.14934
GRAU= 2	6.37068	94.92841	90.11403	90.11403	90.11403	-55.74429	-55.74429	-0.00000	852.29664
GRAU= 3	2.36363	99.31725	98.63916	98.63916	98.63916	-55.74429	-55.74429	0.00000	117.32172
GRAU= 4	1.10202	99.85198	99.70418	99.59329	99.59329	-55.74429	-55.74429	-0.00000	25.50350

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 1464	534.39	19.072	49.909	-38.990	-.382E+01	-.967E+01	-.240E+01	-.185E+01	-.233E+01		
SE-22-X- 1570	453.01	19.036	49.697	-32.980	-.111E+02	-.393E+01	-.127E+01	-.358E+01	-.292E+01		
SE-22-X- 821	572.59	19.040	49.504	-42.690	-.913E+01	-.214E+01	-.509E+01	-.142E+01	-.307E+01		
SE-22-Y- 1463	562.15	19.032	50.007	-38.010	-.622E+01	-.569E+01	-.172E+00	-.113E+01	-.513E+01		
SE-22-J- 426	558.60	18.969	49.464	-48.070	-.630E+01	-.571E+01	-.857E+01	-.296E+01	-.387E+01		
SE-22-J- 753	497.02	18.523	49.423	-65.440	-.349E+01	-.228E+00	-.559E+00	-.126E+01	-.105E+01		
SE-22-J- 754	419.83	18.508	49.482	-54.250	-.554E+01	-.554E+01	-.181E+01	-.163E+01	-.194E+01		
SE-22-J- 755	484.55	18.604	49.526	-57.330	-.566E+00	-.275E+01	-.436E+01	-.566E+00	-.226E+00		
SE-22-J- 756	526.85	18.661	49.572	-59.320	-.544E+01	-.123E+01	-.189E+01	-.239E+01	-.280E+01		
SE-22-J- 757	619.37	18.815	49.534	-71.130	-.175E+02	-.126E+02	-.640E+01	-.142E+01	-.535E+01		
SE-22-J- 758	631.08	18.897	49.485	-70.500	-.160E+02	-.129E+02	-.603E+01	-.556E+01	-.759E+01		
SE-22-J- 1456	435.48	18.695	49.946	-39.330	-.617E+00	-.244E+01	-.775E+00	-.258E+00	-.108E+02		
SE-22-J- 1571	606.40	18.982	49.632	-31.470	-.160E+02	-.125E+02	-.774E+01	-.402E+01	-.678E+01		
SE-22-J- 1572	600.75	18.993	49.527	-43.330	-.616E+01	-.473E+01	-.118E+01	-.840E+00	-.355E+01		
SE-22-J- 1573	562.86	18.907	49.528	-56.590	-.398E+01	-.219E+01	-.501E+00	-.211E+01	-.278E+00		
SE-22-J- 1574	570.85	18.852	49.608	-58.070	-.790E+01	-.517E+01	-.434E+01	-.145E+01	-.820E+01		
SE-22-J- 1575	466.83	18.783	49.704	-48.300	-.107E+01	-.195E+01	-.128E+01	-.463E+00	-.851E+00		
SE-22-J- 1576	498.41	18.733	49.841	-41.130	-.126E+01	-.408E+01	-.272E+01	-.137E+01	-.257E+01		
SE-22-J- 1580	576.30	18.423	49.844	-31.620	-.146E+02	-.228E+01	-.246E+01	-.368E+00	-.778E+00		
SE-22-P- 1455	380.87	18.701	50.019	-39.120	-.342E+01	-.138E+01	-.270E+01	-.965E+00	-.116E+02		
SE-22-P- 1457	372.77	18.640	50.051	-35.690	-.634E+00	-.212E+01	-.252E+00	-.168E+01	-.105E+00		
SE-22-P- 1458	385.45	18.644	50.079	-36.660	-.281E+01	-.954E+00	-.324E+01	-.215E+00	-.162E+00		
SE-22-P- 1462	525.91	18.947	50.083	-30.230	-.370E+00	-.731E+01	-.237E+01	-.271E+01	-.424E+01		
SE-22-P- 1577	425.59	18.593	50.051	-37.230	-.135E+01	-.157E+01	-.541E+00	-.232E+01	-.313E+01		
SE-22-P- 1578	382.13	18.505	50.047	-34.120	-.308E+01	-.446E+01	-.440E+01	-.209E+00	-.323E+00		

COEFICIENTES DE GRAU = 1
 -.228303E+04 .133254E+02 .400474E+02

COEFICIENTES DE GRAU = 2
 -.135236E+06 -.285471E+04 .646685E+04 .145509E+03 -.522010E+02 -.547355E+02

COEFICIENTES DE GRAU = 3
 -.292432E+08 -.161256E+07 .236697E+07 .509050E+05 .263131E+05 -.524197E+05 -.149301E+03 -.850510E+03 .560608E+02 .343411E+03

COEFICIENTES DE GRAU = 4
 .233349E+10 .486302E+09 -.371281E+09 -.176679E+08 -.160052E+08 .142122E+08 .495501E+06 .151610E+06 .264531E+06 -.223696E+06
 -.567919E+04 -.139822E+04 -.740786E+03 -.158407E+04 .127320E+04

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PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	7.96950	75.77814	57.42326	57.42326	57.42326	-45.68800	-45.68800	0.00000	1587.82253
GRAU= 2	5.89246	87.59239	76.72427	76.72427	76.72427	-45.68800	-45.68800	-0.00000	866.02644
GRAU= 3	3.73769	95.20231	90.63479	90.63479	90.63479	-45.68800	-45.68800	-0.00000	349.25851
GRAU= 4	2.04281	96.59134	97.20253	97.14865	97.14865	-45.68800	-45.68800	0.00000	104.32664
GRAU= 5	4.79851	91.95891	84.56442	108.45955	108.45955	-45.68800	-45.68803	0.00070	575.64217

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 1464	534.34	19.972	49.999	-38.999	.538E+01	-.237E+01	.787E+00	.399E+01	-.426E+01		
SE-22-X- 1465	533.23	19.182	49.864	-42.560	.267E+01	-.421E+01	-.143E+01	-.107E+01	-.639E+00		
SE-22-X- 1467	597.44	19.275	49.783	-39.310	.636E+01	-.125E+01	.795E+00	.862E+00	.212E+00		
SE-22-X- 1469	507.71	19.347	49.884	-49.820	.767E+01	-.183E+01	.198E+01	.114E+01	.117E+00		
SE-22-X- 1470	527.26	19.294	49.996	-56.410	-.480E+01	-.358E+01	.276E+00	.110E+01	.130E+01		
SE-22-X- 1556	473.85	19.507	49.600	-41.620	.605E+01	-.762E+01	-.117E+01	.359E+00	-.115E+01		
SE-22-X- 1557	560.88	19.534	49.773	-45.680	.554E+01	.501E+01	.341E+01	.199E+01	.164E+01		
SE-22-X- 1558	520.30	19.560	49.895	-60.880	-.575E+01	.374E+01	.694E+00	-.173E+01	-.954E+00		
SE-22-X- 1561	501.05	19.349	49.984	-60.250	-.773E+01	-.438E+01	-.321E+00	.131E+00	.701E+00		
SE-22-X- 1565	508.55	19.217	49.967	-49.000	.129E+00	-.323E+01	.590E+00	.156E+01	.213E+01		
SE-22-X- 1566	514.84	19.201	49.901	-45.090	.195E+01	-.374E+01	-.107E+00	.599E+00	.188E+01		
SE-22-X- 1567	580.56	19.193	49.791	-35.240	.644E+01	.285E+00	-.234E+01	-.918E+00	-.168E+01		
SE-22-X- 1568	541.97	19.192	49.595	-29.570	.436E+01	.542E+01	.772E+00	.239E+01	.210E+01		
SE-22-X- 1569	567.81	19.132	49.724	-39.270	.160E+01	-.412E+01	-.579E+01	-.940E+01	-.352E+01		
SE-22-X- 1570	453.01	19.036	49.697	-32.980	.509E+01	.237E+01	.168E+01	.494E+00	.284E+00		
SE-22-X- 815	601.91	19.509	49.565	-43.450	.182E+01	-.683E+01	-.523E+01	-.244E+01	-.860E+00		
SE-22-X- 816	708.02	19.417	49.599	-35.820	.802E+01	.361E+00	-.603E+00	-.230E+01	.369E+01		
SE-22-X- 817	701.13	19.329	49.644	-31.200	.120E+02	.503E+01	.228E+01	.178E+01	.359E+00		
SE-22-X- 818	555.25	19.270	49.576	-25.180	.150E+02	.995E+01	.570E+01	.467E+01	.459E+01		
SE-22-X- 819	465.67	19.200	49.510	-30.050	.700E+01	.655E+01	.200E+01	-.105E+01	-.154E+01		
SE-22-X- 820	532.38	19.121	49.519	-38.630	-.327E+01	-.133E+00	-.478E+01	-.464E+01	-.442E+01		
SE-22-X- 821	572.59	19.046	49.580	-42.690	-.454E+01	-.724E+00	-.293E+01	-.166E+01	-.200E+01		
SE-22-X- 427	525.50	19.214	49.758	-46.500	.580E+01	-.294E+01	-.234E+01	-.177E+01	-.164E+01		
SE-22-X	495.55	19.531	49.470	-41.500	.203E+01	-.715E+01	.180E+01	.123E+01	.354E+00		
SE-22-V- 1548	494.02	19.560	50.012	-71.420	-.129E+02	.750E+01	.139E+01	.271E+01	.251E+01		
SE-22-V- 1559	512.43	19.488	50.012	-74.100	-.177E+02	-.351E+01	-.413E+01	-.371E+01	-.364E+01		
SE-22-V- 1560	480.64	19.424	50.011	-67.750	-.128E+02	-.311E+01	-.313E+01	-.719E+00	-.961E+00		
SE-22-V- 1563	443.86	19.142	50.872	-43.630	.655E+01	.418E+01	.170E+01	-.596E+00	-.103E+01		
SE-22-V- 1564	502.79	19.200	50.029	-51.060	-.714E+00	-.236E+01	-.655E+00	-.667E+00	-.738E+00		
SE-22-V- 1463	562.15	19.032	50.007	-38.010	.799E+01	.410E+01	.320E+00	-.832E+02	-.136E+01		
SE-22-V- 1471	459.40	19.302	50.069	-58.550	-.488E+01	.119E+01	.179E+01	.110E+01	.115E+01		
SE-22-Q- 426	558.60	18.969	49.464	-48.070	-.175E+02	-.252E+00	.344E+01	.388E+01	.375E+01		
SE-22-Q- 1571	600.40	18.982	49.632	-31.470	.368E+01	.604E+01	.698E+01	.539E+01	.511E+01		
SE-22-Q- 1572	600.75	18.993	49.527	-43.330	-.106E+02	-.679E+00	-.975E+00	.911E+00	.202E+01		
SE-22-Q- 1573	562.86	18.907	49.528	-50.590	-.258E+02	-.100E+02	-.317E+01	-.424E+01	-.459E+01		
SE-22-P- 1462	525.91	18.947	50.083	-39.230	.158E+02	.651E+01	-.124E+01	.136E+01	.604E+00		

COEFICIENTES DE GRAU = 1
 .167741E+04 -.224671E+02 -.259129E+02

COEFICIENTES DE GRAU = 2
 -.402508E+06 .106628E+05 .120918E+05 -.542815E+02 -.172819E+03 -.483752E+02

COEFICIENTES DE GRAU = 3
 -.462973E+08 .809366E+06 .262524E+07 -.266016E+05 .432726E+04 -.534788E+05 .194612E+03 .387337E+03 -.163855E+03 .378778E+03

COEFICIENTES DE GRAU = 4
 .572100E+10 .189347E+09 -.533442E+09 -.160345E+07 -.101582E+10 .180510E+08 -.382807E+05 .991763E+05 .165620E+06 -.263251E+06
 -.297797E+03 .106816E+04 -.161118E+04 -.694244E+03 .139004E+04

COEFICIENTES DE GRAU = 5
 -.370808E+10 .190010E+10 -.230049E+09 -.124092E+09 -.539490E+08 .138100E+08 .480325E+07 .179767E+07 .802101E+06 -.261779E+06
 -.808722E+04 -.183769E+06 .717727E+05 -.294674E+05 .414636E+04 .156255E+04 -.285402E+04 .495824E+04 -.200045E+04 .545150E+03
 -.534089E+02

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PARAMETROS ESTADISTICOS

	DESPAD	CORR2	CDEF2	PSTG	SSRFD	YRANO4	YRANCP	SYRES	SYRESL
GRAU= 1	9.35944	61.55173	37.88610	37.88616	37.88616	-44.72056	-44.72056	0.00000	3133.50504
GRAU= 2	4.54567	92.38419	85.34839	85.34839	85.34839	-44.72056	-44.72056	-0.00000	743.87310
GRAU= 3	2.75707	97.26770	94.61005	94.61005	94.61005	-44.72056	-44.72056	-0.00000	273.05160
GRAU= 4	2.33858	98.04189	96.12213	95.82673	95.82673	-44.72056	-44.72056	-0.00000	196.88229
GRAU= 5	2.21806	98.24028	96.51153	96.57164	96.57164	-44.72056	-44.72055	-0.00000	177.11195

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CGDIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BLOG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X	438.95	19.981	49.681	-40.360	.119E+01	-.267E+00	-.111E+01	-.121E+01	-.133E+01		
SE-22-X- 1551	466.90	19.786	49.969	-59.310	-.522E+00	-.242E+01	-.280E+01	.661E+01	.145E+00		
SE-22-X- 1552	462.83	19.923	49.864	-49.430	.349E+01	.351E+01	-.649E+00	.182E+00	.356E+00		
SE-22-X- 1553	478.90	19.788	49.729	-41.000	.484E+01	.136E+01	.297E+00	-.773E+00	-.927E+00		
SE-22-X- 1554	485.63	19.697	49.678	-42.620	.233E+01	-.815E+00	-.594E+00	-.107E+01	-.151E+01		
SE-22-X- 1555	455.87	19.630	49.622	-44.240	-.172E+01	-.430E+01	-.308E+01	-.235E+01	-.264E+01		
SE-22-X- 1556	473.05	19.507	49.660	-41.620	.480E+01	.270E+01	.117E+01	.107E+01	.167E+01		
SE-22-X- 1557	560.88	19.534	49.773	-45.680	.623E+01	.443E+01	.413E+01	.318E+01	.304E+01		
SE-22-X- 1558	520.30	19.566	49.895	-60.660	-.311E+01	-.351E+01	-.108E+01	-.943E+00	-.123E+01		
SE-22-X- 810	414.83	19.887	49.473	-32.470	-.458E+00	.247E+01	.219E+00	-.263E+01	-.267E+01		
SE-22-X- 811	446.35	19.560	49.583	-31.300	.670E+01	.589E+01	.297E+01	.264E+01	.284E+01		
SE-22-X- 812	452.06	19.797	49.621	-34.150	.660E+01	.444E+01	.256E+01	.204E+01	.228E+01		
SE-22-X- 813	516.69	19.713	49.603	-38.500	.237E+01	.946E+01	.242E+00	.350E+00	.607E+00		
SE-22-X- 814	521.80	19.542	49.526	-41.470	-.362E+01	-.477E+01	-.140E+01	-.619E+00	-.445E+00		
SE-22-X- 815	601.91	19.569	49.565	-43.850	-.233E+01	-.390E+01	-.296E+01	-.140E+01	-.163E+01		
SE-22-X- 816	708.02	19.417	49.590	-35.820	.812E+01	.714E+01	.716E+00	-.934E+00	-.950E+00		
SE-22-X- 951	431.63	19.984	49.573	-35.780	.171E+00	.147E+01	-.425E+00	.163E+01	.127E+01		
SE-22-X	495.55	19.531	49.479	-41.500	-.470E+01	-.504E+01	.132E+01	.191E+01	.185E+01		
SE-22-X- 432	415.26	19.863	49.773	-42.790	.496E+01	.143E+01	-.189E+00	-.920E+00	-.784E+00		
SE-22-Y- 1547	520.07	19.633	50.061	-67.780	-.230E+01	.684E+00	.364E+01	.231E+01	.229E+01		
SE-22-Y- 1548	499.02	19.566	50.012	-71.020	-.724E+01	-.445E+01	-.772E+00	-.620E+00	-.465E+00		
SE-22-Y- 1550	396.28	19.739	50.094	-64.800	.104E+01	.309E+01	.110E+01	-.349E+00	-.509E+00		
SE-22-Y- 1559	512.43	19.488	50.012	-74.100	-.935E+01	-.464E+01	-.334E+01	-.368E+01	-.274E+01		
SE-22-Y- 1560	480.04	19.424	50.011	-67.750	-.224E+01	.425E+01	.759E+00	.153E+01	.131E+01		
SF-22-E- 439	424.72	20.079	49.916	-50.120	.225E+01	.460E+00	.404E+01	.176E+01	.153E+01		
SF-22-E- 900	463.41	20.081	49.697	-48.430	-.734E+01	-.759E+01	-.140E+01	-.149E+01	-.120E+01		
SF-22-E	410.52	20.007	49.475	-36.720	-.609E+01	-.759E+00	-.204E+01	.485E+00	.468E+00		
SF-22-E- 953	445.00	20.031	49.401	-35.160	-.863E+01	.727E+00	.115E+01	.122E+00	.173E+00		
SF-22-J- 1517	414.84	20.035	50.043	-54.910	.454E+01	.264E+01	-.246E+01	-.908E+00	-.794E+00		

COEFICIENTES DE GRAU = 1
 .226252E+04 .125801E+02 -.514367E+02

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COEFICIENTES DE GRAU = 2
 -.901702E+05 -.123556E+04 .415746E+04 -.252879E+02 .451984E+02 -.512520E+02

COEFICIENTES DE GRAU = 3
 -.331575E+08 .298321E+06 .187858E+07 .203860E+05 -.282077E+05 -.321057E+05 -.381184E+03 .438649E+02 .266520E+03 .179406E+03

COEFICIENTES DE GRAU = 4
 .627342E+10 -.190459E+07 -.504511E+09 .211864E+07 -.155925E+07 .155333E+08 -.627948E+05 -.100792E+05 .350605E+05 -.212918E+06
 .258375E+03 .843631E+03 -.399217E+03 -.127853E+03 .106311E+04

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARD8	YBARCP	SYRES	SYRES0
GRAU= 1	4.86004	91.72757	84.13946	84.13946	84.13946	-47.39793	-47.39793	0.00000	684.98066
GRAU= 2	3.62463	95.48720	91.17805	91.17805	91.17805	-47.39793	-47.39793	-0.00000	380.99997
GRAU= 3	2.07263	98.54716	97.11543	97.11543	97.11543	-47.39793	-47.39793	0.00000	124.57804
GRAU= 4	1.59293	99.14442	98.29615	98.29192	98.29192	-47.39793	-47.39793	-0.00000	73.58529
GRAU= 5	1.61189	99.12384	98.25535	98.34063	98.34063	-47.39793	-47.39793	-0.00011	75.34752

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X	438.95	19.981	49.681	-40.360	.811E+01	-.368E+01	-.160E+01	-.335E+01	.212E-01		
SE-22-X- 951	431.63	19.984	49.573	-35.780	.106E+02	-.620E+00	.214E+00	.746E+00	.763E+00		
SF-22-E- 436	549.84	20.390	49.433	-56.300	-.150E+02	-.205E+01	-.117E+01	.428E+00	.411E+00		
SF-22-E- 437	471.66	20.298	49.736	-51.700	-.409E+01	-.264E+01	-.336E+01	-.973E+00	-.699E+00		
SF-22-E- 439	424.72	20.079	49.916	-50.120	.222E+01	.172E+01	.328E+01	.535E+00	.417E+00		
SF-22-E- 440	461.59	20.319	49.912	-47.530	.331E+01	.444E+01	.216E+01	.300E+01	.301E+01		
SF-22-E- 441	516.97	20.421	49.974	-46.550	.487E+01	.208E+01	.848E+00	-.430E+00	-.543E+00		
SF-22-E- 615	544.42	20.524	49.724	-36.730	.931E+01	.178E+01	.344E+00	-.441E+00	-.395E+00		
SF-22-E- 616	519.96	20.478	49.778	-39.740	.760E+01	.185E+01	-.199E+01	-.268E+01	-.268E+01		
SF-22-E- 617	525.44	20.439	49.907	-39.680	.103E+02	.583E+01	.272E+01	.178E+01	.169E+01		
SF-22-E- 900	463.41	20.081	49.697	-48.430	-.261E+00	-.436E+01	.196E+01	.478E+00	.438E+00		
SF-22-E- 901	486.68	20.252	49.550	-50.790	-.644E+01	-.612E+00	.226E+01	.128E+01	.121E+01		
SF-22-E- 902	468.92	20.287	49.489	-53.450	-.105E+02	.128E+01	.446E+00	-.698E+00	-.657E+00		
SF-22-E- 903	433.68	20.233	49.407	-56.280	-.145E+02	-.240E+01	-.112E+01	-.656E+00	-.629E+00		
SF-22-E- 953	410.52	20.007	49.475	-36.720	.768E+01	.762E+00	-.810E+00	-.190E+01	-.198E+01		
SF-22-E- 1509	445.00	20.031	49.401	-35.160	.769E+01	.583E+01	.884E+00	.116E+01	.121E+01		
SF-22-E- 1510	429.61	20.588	49.699	-40.960	.423E+01	-.756E+01	-.286E+01	-.169E+00	-.271E+00		
SF-22-E- 1511	458.47	20.522	49.735	-34.480	.118E+02	.404E+01	.240E+01	.159E+01	.177E+01		
SF-22-E- 1512	501.00	20.512	49.581	-41.080	.231E+01	.202E+01	.286E+01	.170E+01	.177E+01		
SF-22-E- 1513	513.88	20.477	49.577	-45.530	-.201E+01	-.243E+00	-.907E+00	-.268E+01	-.272E+01		
SF-22-E- 1514	464.33	20.386	49.631	-43.710	.138E+01	.399E+01	.170E+01	.134E+01	.121E+01		
SF-22-E- 1515	500.04	20.336	49.666	-47.230	-.118E+01	.129E+01	-.728E+01	.108E+01	.110E+01		
SF-22-E- 1516	477.58	20.305	49.803	-51.670	-.281E+01	-.196E+01	-.366E+01	-.129E+01	-.130E+01		
SF-22-E- 1517	449.11	20.201	49.874	-56.480	-.566E+01	-.401E+01	-.243E+01	-.221E+01	-.204E+01		
SF-22-J- 1428	510.03	20.425	50.087	-59.230	-.570E+01	-.618E+01	-.544E+00	-.743E+01	.427E+01		
SF-22-J- 1429	448.41	20.341	50.064	-59.810	-.621E+01	-.224E+01	-.796E+00	-.373E+00	-.463E+00		
SF-22-J- 1430	507.39	20.297	50.006	-57.600	-.483E+01	-.101E+01	-.156E+01	-.171E+01	-.168E+01		
SF-22-J- 1431	445.88	20.216	50.016	-57.460	-.402E+01	.163E+01	.199E+01	.112E+01	.113E+01		
SF-22-J- 1432	417.96	20.164	50.075	-63.200	-.834E+01	.624E+01	.204E+00	.478E+00	.474E+00		
SF-22-J- 1517	414.64	20.035	50.043	-54.910	.108E+00	.356E+01	-.141E+01	-.424E+00	-.399E+00		

COEFICIENTES DE GRAU = 1
 .777167E+03 .597292E+01 -.190209E+02

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COEFICIENTES DE GRAU = 2
 -.468177E+05 -.103147E+05 .609117E+04 .149870E+03 .853295E+02 -.787116E+02

COEFICIENTES DE GRAU = 3
 .391396E+08 -.172597E+07 -.166207E+07 .341754E+05 .413684E+05 .250570E+05 -.539521E+03 -.246855E+02 -.405128E+03 -.113453E+03

COEFICIENTES DE GRAU = 4
 -.490208E+10 .730362E+08 .365133E+09 -.547215E+07 .217513E+05 -.110294E+08 .120516E+06 .732139E+05 -.298243E+05 .152000E+06
 -.165373E+04 .258858E+03 -.893789E+03 .439577E+03 -.809054E+03

COEFICIENTES DE GRAU = 5
 .863541E+09 -.454260E+09 -.469488E+07 .145728E+08 .263862E+08 -.136520E+07 .412998E+06 -.150412E+07 -.186707E+06 -.228794E+05
 -.246397E+05 .262389E+05 .150410E+05 -.175339E+04 .119195E+04 .369445E+03 -.290903E+03 -.248731E+02 -.970170E+02 .306960E+02
 -.106137E+02

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEPX	PSTQ	SSRED	YBARO8	YBARCP	SYRES	SYRESQ
GRAU= 1	7.25924	48.85695	23.87002	23.87002	23.87002	-47.95567	-47.95567	0.00000	1580.89843
GRAU= 2	3.31091	91.74048	84.16316	84.16316	84.16316	-47.95567	-47.95567	-0.00000	328.86441
GRAU= 3	1.90826	97.33409	94.73926	94.73925	94.73925	-47.95567	-47.95567	0.00000	109.24345
GRAU= 4	1.36985	98.63521	97.28905	97.17221	97.17221	-47.95567	-47.95567	0.00000	56.29505
GRAU= 5	1.36817	98.63859	97.29571	97.24812	97.24812	-47.95567	-47.95568	0.00026	56.15673

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** MAPALYI
PASSO = ,5 GRAU **** ESCALA FICAL DO MAPA 1:1.000.000 **** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	GRAU 1	GRAU 2	GRAU 3	GRAU 4	GRAU 5	GRAU 6	GRAU 7
ONRJ 12/9	427,03	21,543	49,860	-54,220	.730E+00	-.591E+00	.706E+00	.705E+00	.707E+00	.707E+00	.707E+00
ONRJ 12/10	425,80	21,533	49,863	-53,850	.126E+01	-.143E+00	.117E+01	.135E+01	.125E+01	.125E+01	.125E+01
ONRJ 12/11	409,82	21,410	50,065	-50,440	.380E+01	.580E+01	.150E+01	.141E+01	.150E+01	.150E+01	.150E+01
SF-22-E- 621	439,29	20,914	49,780	-52,950	.142E+01	.302E+01	.755E+00	-.585E+00	-.750E+00	-.750E+00	-.750E+00
SF-22-E- 622	407,66	20,940	49,797	-51,120	.190E+01	.171E+01	.154E+01	-.536E+01	.271E+00	.271E+00	.271E+00
SF-22-E- 651	406,36	20,984	49,494	-43,320	-.530E+00	-.760E+00	-.302E+01	.506E+01	-.786E+00	-.786E+00	-.786E+00
SF-22-E- 652	431,75	20,963	49,529	-49,240	-.590E+00	-.943E+00	-.179E+01	-.120E+01	-.114E+01	-.114E+01	-.114E+01
SF-22-E- 1500	441,28	20,970	49,294	-57,010	-.179E+00	.199E+01	.213E+01	.200E+01	.201E+01	.201E+01	.201E+01
SF-22-K- 444	435,67	21,030	49,923	-61,020	-.305E+01	-.100E+01	.232E+00	.603E+00	.516E+00	.516E+00	.516E+00
SF-22-K- 445	358,55	21,221	49,923	-50,540	-.110E+01	-.124E+01	.170E+01	.142E+01	.120E+01	.120E+01	.120E+01
SF-22-K- 446	390,10	21,267	49,951	-59,530	-.135E+01	-.120E+01	.110E+01	.455E+00	.460E+00	.460E+00	.460E+00
SF-22-K- 447	430,42	21,261	49,951	-62,480	-.506E+01	-.566E+01	-.495E+01	.459E+01	-.451E+01	-.451E+01	-.451E+01
SF-22-K- 448	425,33	21,530	49,850	-54,080	.240E+00	-.120E+01	.101E+00	.197E+00	.200E+00	.200E+00	.200E+00
SF-22-K- 648	445,77	21,170	49,812	-49,050	-.341E+01	-.249E+01	.130E+00	-.942E+00	-.905E+00	-.905E+00	-.905E+00
SF-22-K- 650	450,22	21,010	49,497	-46,860	.900E+00	.400E+00	.903E+00	.110E+01	.100E+01	.100E+01	.100E+01
SF-22-K- 928	366,34	21,551	49,408	-50,970	-.609E+01	-.230E+01	.742E+01	.771E+00	.605E+00	.605E+00	.605E+00
SF-22-K- 929	415,93	21,592	49,434	-50,700	-.610E+01	-.170E+01	.323E+00	-.722E+00	-.522E+00	-.522E+00	-.522E+00
SF-22-K- 937	405,36	21,625	49,406	-51,740	.229E+01	.183E+00	.942E+00	.640E+00	.793E+00	.793E+00	.793E+00
SF-22-K- 938	362,36	21,520	49,722	-47,070	.464E+01	.225E+01	.190E+01	.150E+01	.150E+01	.150E+01	.150E+01
SF-22-K- 939	424,55	21,153	49,720	-51,090	.115E+01	-.845E+00	.101E+00	.100E+00	.115E+00	.115E+00	.115E+00
SF-22-K- 940	414,85	21,130	49,752	-55,530	-.123E+01	-.267E+01	-.529E+00	.310E+00	-.400E+00	-.400E+00	-.400E+00
SF-22-K- 941	421,45	21,094	49,835	-59,790	-.412E+01	-.450E+01	-.145E+01	-.150E+01	-.102E+01	-.102E+01	-.102E+01
SF-22-K- 942	420,05	21,042	49,832	-60,370	-.461E+01	-.851E+01	-.259E+01	-.209E+01	-.194E+01	-.194E+01	-.194E+01
SF-22-K- 943	460,34	21,005	49,813	-50,200	-.809E+00	-.507E+00	.464E+00	.785E+00	.705E+00	.705E+00	.705E+00
SF-22-K- 944	434,04	21,312	49,508	-43,850	.078E+01	.330E+01	.501E+00	.479E+00	.605E+00	.605E+00	.605E+00
SF-22-K- 945	429,08	21,394	49,453	-40,200	-.100E+01	.675E+00	.145E+00	.125E+01	.100E+01	.100E+01	.100E+01
SF-22-K- 623	430,53	21,053	49,690	-51,040	.455E+00	-.980E+00	-.815E+00	-.472E+00	-.590E+00	-.590E+00	-.590E+00
SF-22-K- 624	465,20	21,000	49,580	-44,910	.373E+01	.201E+01	.217E+01	.213E+01	.197E+01	.197E+01	.197E+01
SF-22-K- 625	421,70	21,150	49,511	-45,670	.204E+01	.104E+01	.537E+00	.337E+01	.145E+00	.145E+00	.145E+00
SF-22-K- 626	480,23	21,141	49,580	-46,020	.294E+01	.122E+01	.279E+00	.480E+01	-.155E+00	-.155E+00	-.155E+00
SF-22-K- 627	439,00	21,235	49,640	-48,400	.224E+01	.100E+01	-.117E+01	-.140E+01	-.147E+01	-.147E+01	-.147E+01
SF-22-K- 628	441,98	21,302	49,501	-45,410	.152E+01	.125E+01	-.125E+01	-.940E+00	-.783E+00	-.783E+00	-.783E+00
SF-22-K- 629	438,19	21,510	49,620	-46,560	.287E+01	.201E+01	-.650E+00	-.109E+01	-.131E+01	-.131E+01	-.131E+01
SF-22-K- 630	408,59	21,459	49,580	-44,810	.360E+01	.290E+01	-.393E+00	-.172E+01	-.107E+00	-.107E+00	-.107E+00
SF-22-K- 631	363,46	21,424	49,553	-44,260	.364E+01	.311E+01	-.329E+00	.112E+00	.101E+00	.101E+00	.101E+00
SF-22-K- 632	433,42	21,268	49,446	-48,510	-.573E+01	-.223E+01	-.333E+00	-.515E+00	-.452E+00	-.452E+00	-.452E+00
SF-22-J- 1499	407,60	21,052	50,051	-63,760	-.277E+01	.262E+01	-.113E+01	-.107E+01	-.100E+01	-.100E+01	-.100E+01

COEFICIENTES DE GRAD = 1
 .108506E+04 .285290E+01 -.240983E+02

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COEFICIENTES DE GRAD = 2
 -.847667E+05 -.422298E+03 .301177E+04 -.182936E+02 .242293E+02 -.417566E+02

COEFICIENTES DE GRAD = 3
 -.363643E+08 .554104E+05 .210821E+07 .245800E+04 -.435002E+04 -.426544E+05 -.112102E+03 .442164E+02 .350727E+01 .245413E+03

COEFICIENTES DE GRAD = 4
 -.129581E+08 .343580E+06 -.143206E+08 -.976171E+06 -.124032E+07 .718246E+06 -.515740E+04 .433722E+05 .641777E+04 -.106200E+05
 .253732E+03 -.372001E+03 -.190364E+03 .120102E+02 .545303E+02

COEFICIENTES DE GRAD = 5
 .100364E+10 -.198901E+09 -.727490E+08 .202238E+08 -.980507E+06 .284730E+07 .485855E+06 -.613162E+06 .204373E+06 -.500000E+05
 .313047E+04 .141303E+05 .302499E+04 -.484972E+04 .135602E+04 -.277220E+03 .530570E+03 -.005287E+03 .233015E+03 -.250000E+02
 -.297855E+01

PARAMETROS ESTADISTICOS	DESPAD	CONRZ	COEPZ	PSIG	SSAFD	YPAROB	YPARCP	SYRES	SYRESO
GRAD= 1	3.06379	83.72605	70.10051	70.10051	70.10051	-51.92514	-51.92514	0.00000	347.31135
GRAD= 2	2.43193	90.08958	81.10133	81.10133	81.10133	-51.92514	-51.92514	-0.00000	218.42935
GRAD= 3	1.36378	90.99200	94.07576	94.07575	94.07575	-51.92514	-51.92514	0.00000	67.41500
GRAD= 4	1.27319	97.38412	94.83666	94.83414	94.83414	-51.92514	-51.92514	-0.00000	59.97710
GRAD= 5	1.23856	97.52625	95.11309	94.84739	94.84739	-51.92514	-51.92513	-0.00003	50.75923

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-P- 1169	474.33	18.088	50.274	-32.430	-.473E+01						
SE-22-P- 1170	425.30	16.072	50.173	-23.190	.519E+01						
SE-22-P- 1171	464.33	18.090	50.034	-23.640	.289E+01						
SE-22-K- 1176	632.60	17.943	49.913	-46.080	-.965E+01						
SE-22-K- 1177	513.43	17.878	49.914	-34.740	.630E+01						

COEFICIENTES DE GRAU = 1
 -.109328E+04 .710198E+02 -.425675E+01

PARAMETROS ESTATISTICOS	DESPAD	CORRZ	CDEPZ	PSTO	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.17428	67.87563	46.07101	46.07101	46.07101	-32.01600	-32.01600	0.00000	190.60843

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. AX)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BLUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-J- 1172	500.03	18.150	49.941	-27.750	.357E+01	.346E+01	.117E+00				
SE-22-P- 1163	490.87	18.551	50.441	-38.640	.343E+01	.428E+01	.525E+00				
SE-22-P- 1164	504.61	18.447	50.459	-43.890	-.189E+01	.288E+01	-.659E+00				
SE-22-P- 1165	567.23	18.358	50.418	-44.290	-.340E+01	-.353E+01	.593E+00				
SE-22-P- 1166	575.14	18.270	50.427	-47.270	-.654E+01	.657E+00	.594E+00				
SE-22-P- 1167	607.13	18.225	50.366	-42.650	-.342E+01	-.464E+01	-.642E+00				
SE-22-P- 1168	495.66	18.135	50.331	-38.680	-.443E+00	.599E+00	-.566E+01				
SE-22-P- 1169	474.33	18.088	50.274	-32.430	.476E+01	.220E+01	-.301E+00				
SE-22-P- 1170	423.30	18.072	50.173	-23.190	.121E+02	.223E+01	.627E+00				
SE-22-P- 1171	464.33	18.090	50.034	-23.640	.916E+01	-.108E+00	-.378E+00				
SE-22-P- 1461	547.66	18.564	50.407	-41.070	.419E+00	-.363E+01	-.223E+00				
SE-22-P- 1577	425.59	18.593	50.051	-37.230	-.217E+01	.195E+01	-.344E+01				
SE-22-P- 1578	382.13	18.505	50.047	-34.120	.527E+00	-.345E+01	.370E+01				
SE-22-X- 1176	632.60	17.943	49.913	-46.080	-.161E+02	-.291E+01	.172E+02				

COEFICIENTES DE GRAU = 1
 .957283E+03 -.368780E+01 -.183825E+02

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COEFICIENTES DE GRAU = 2
 -.909344E+06 -.481032E+04 .380148E+05 -.168806E+03 .219175E+03 -.418963E+03

COEFICIENTES DE GRAU = 3
 -.560682E+08 .287974E+07 .229765E+07 -.951831E+04 -.107845E+06 -.260369E+05 .158599E+03 .151543E+02 .106951E+04 .423087E+02

PARAMETROS ESTADISTICOS	DESPAD	CORR2	CDEP2	PST0	SSRED	YBARDB	YBARCP	SYRES	SYRES0
GRAU= 1	6.60343	51.32092	26.33837	26.33837	26.33837	-37.23786	-37.23786	0.00000	610.47462
GRAU= 2	2.93504	92.43798	85.44780	85.44780	85.44780	-37.23786	-37.23786	0.00000	120.60208
GRAU= 3	0.44931	99.82934	99.65897	99.65897	99.65897	-37.23786	-37.23786	0.00000	2.82631

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 1464	534.39	19.072	49.909	-38.990	.350E+00	-.821E+00	-.722E+00	.485E+00	.604E+00		
SE-22-V- 1157	461.86	19.042	50.589	-55.190	-.488E+01	.359E+00	.165E+01	.134E+01	.147E+01		
SE-22-V- 1449	447.57	19.077	50.364	-51.600	-.458E+01	-.177E+01	-.487E+00	.726E+00	.854E+00		
SE-22-V- 1450	460.05	19.015	50.448	-53.080	-.551E+01	-.344E+01	-.136E+01	-.264E+01	-.292E+01		
SE-22-V- 1463	562.15	19.032	50.007	-38.010	-.240E+01	.109E+01	-.159E+01	-.236E+01	-.276E+01		
SE-22-Z- 1456	435.48	18.695	49.946	-39.330	-.466E+01	-.358E+01	.127E+01	-.165E+01	-.117E+00		
SE-22-Z- 1158	467.74	18.924	50.565	-49.640	-.140E+01	-.339E+00	-.290E+01	-.276E+01	-.320E+01		
SE-22-Z- 1159	367.89	18.539	50.504	-40.240	.579E+01	.454E+01	.267E+01	.295E+01	.383E+01		
SE-22-P- 1160	392.88	18.855	50.430	-42.110	.291E+01	.142E+01	.150E+01	.178E+01	.147E+01		
SE-22-P- 1161	387.57	18.781	50.482	-41.860	.299E+01	.958E+00	-.691E+00	-.106E+00	.726E-02		
SE-22-P- 1162	544.75	18.654	50.460	-40.300	.239E+01	.132E+00	-.757E+00	-.526E+00	-.117E+01		
SE-22-P- 1163	490.87	18.551	50.441	-38.640	.229E+01	.120E+01	.167E+01	.698E+00	.120E+01		
SE-22-P- 1164	504.61	18.447	50.459	-43.690	-.411E+01	-.325E+01	-.139E+01	.495E+00	.433E+00		
SE-22-P- 1451	388.84	18.911	50.370	-44.030	.769E+00	-.300E+00	.346E+00	.551E+00	.662E+00		
SE-22-P- 1452	433.38	18.815	50.304	-42.030	.307E+00	-.197E+01	-.149E+01	-.262E+00	-.106E+00		
SE-22-P- 1453	422.23	18.789	50.181	-42.630	-.271E+01	-.484E+01	-.466E+01	-.374E+01	-.412E+01		
SE-22-P- 1454	470.57	18.757	50.133	-39.910	-.124E+01	-.294E+01	-.257E+01	-.202E+01	-.241E+01		
SE-22-P- 1455	380.87	18.701	50.019	-39.120	-.315E+01	-.307E+01	-.119E+01	-.140E+01	-.123E+01		
SE-22-P- 1457	372.77	18.640	50.051	-35.890	-.244E+00	.822E+00	.828E+00	.222E+01	.227E+01		
SE-22-P- 1458	385.45	18.644	50.079	-36.860	-.674E+00	-.665E+01	-.296E+00	.849E+00	.857E+00		
SE-22-P- 1459	376.60	18.654	50.197	-36.080	.221E+01	.141E+01	.137E+01	.172E+01	.218E+01		
SE-22-P- 1460	435.65	18.603	50.326	-36.040	.369E+01	.265E+01	.341E+01	.133E+01	.113E+01		
SE-22-P- 1461	547.66	18.564	50.407	-41.070	-.529E+00	-.157E+01	-.775E+00	-.288E+01	-.299E+01		
SE-22-P- 1462	525.91	18.947	50.083	-30.230	.103E+02	.839E+01	.706E+01	.425E+01	.477E+01		
SE-22-P- 1577	425.59	18.593	50.051	-37.230	-.225E+01	.878E+01	-.116E+01	.191E+00	.262E+00		
SE-22-P- 1578	382.13	18.505	50.047	-34.120	-.430E+00	.491E+01	.326E+00	-.885E+00	-.980E+00		

COEFICIENTES DE GRAU = 1
 .106404E+04 -.140337E+02 -.167451E+02

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COEFICIENTES DE GRAU = 2
 -.890209E+05 .404279E+04 .205003E+04 -.483802E+02 -.445274E+02 -.122263E+02

COEFICIENTES DE GRAU = 3
 -.196239E+08 -.830059E+06 .147996E+07 .147084E+05 .221157E+05 -.335611E+05 .591826E+00 -.293861E+03 -.110772E+03 .236337E+03

COEFICIENTES DE GRAU = 4
 -.258389E+10 .101373E+09 .167143E+09 -.330226E+06 -.580173E+07 -.389348E+07 -.431007E+05 .619233E+05 .920755E+05 .400583E+05
 -.398766E+03 .144819E+04 -.142935E+04 -.252750E+03 -.175227E+03

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.57876	78.10948	61.01091	61.01091	61.01091	-41.08154	-41.08154	-0.00000	332.99629
GRAU= 2	2.89208	86.33525	74.53776	74.53776	74.53776	-41.08154	-41.08154	-0.00000	217.46671
GRAU= 3	2.24968	91.97443	84.59296	84.59296	84.59296	-41.08154	-41.08154	0.00000	131.58773
GRAU= 4	1.89657	94.36633	89.05004	89.05022	89.05022	-41.08154	-41.08154	0.00000	93.52093
GRAU= 5	2.13796	92.78215	86.08526	89.32373	89.32373	-41.08154	-41.08152	-0.00044	118.84233

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 **** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	SLUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 1464	534.39	19.072	49.909	+38.990	.687E+01	-.105E+01	-.316E+01	-.798E+00	-.615E+00		
SE-22-X- 1470	527.26	19.294	49.996	-56.410	-.301E+01	-.674E+00	.279E+00	.169E+00	.470E+00		
SE-22-X- 1561	501.05	19.349	49.984	-60.250	-.501E+01	-.121E+00	.586E+00	.174E+01	.149E+01		
SE-22-X- 1565	508.55	19.217	49.967	-49.000	.180E+01	.116E+01	.194E+01	-.342E+00	.500E+00		
SE-22-X- 1566	519.84	19.201	49.901	-45.090	.508E+01	.404E+01	.367E+01	.109E+01	.819E+00		
SE-22-X- 1544	492.13	19.513	50.426	-54.470	.678E+01	-.647E-01	.880E-01	.626E+00	.733E+00		
SE-22-X- 1545	423.58	19.484	50.184	-60.380	-.393E+00	.203E+01	.144E+01	.362E+01	.304E+01		
SE-22-V- 1548	499.02	19.566	50.012	-71.020	-.843E+01	.422E+01	.369E+01	-.907E-01	.682E+00		
SE-22-V- 1559	512.43	19.488	50.012	-74.100	-.142E+02	.454E+01	-.464E+01	-.209E+01	-.278E+01		
SE-22-V- 1560	480.04	19.424	50.011	-67.750	-.995E+01	-.279E+01	-.247E+01	.706E+00	.393E+00		
SE-22-V- 1562	467.24	19.131	50.251	-44.610	.358E+01	.164E+01	.249E+01	.218E+01	.175E+01		
SE-22-V- 1563	443.80	19.142	50.072	-43.630	.476E+01	.132E+01	.262E+01	.131E+01	.118E+01		
SE-22-V- 1564	502.79	19.200	50.029	-51.060	-.792E+00	-.242E+01	-.122E+01	-.263E+01	-.228E+01		
SE-22-V- 1157	461.86	19.342	50.589	-55.190	-.961E+01	-.220E+01	-.268E+01	-.260E+01	-.197E+01		
SE-22-V- 1443	521.71	19.589	50.415	-58.710	.507E+01	-.271E+01	-.117E+01	-.431E+00	-.154E+00		
SE-22-V- 1444	512.69	19.530	50.336	-59.370	.234E+01	-.118E+01	-.161E+01	-.161E+01	-.151E+01		
SE-22-V- 1445	403.64	19.452	50.318	-55.670	.340E+01	.964E+00	-.155E-01	-.408E+00	.198E+00		
SE-22-V- 1446	494.63	19.348	50.296	-52.990	.255E+01	.931E+00	.132E+00	-.187E+01	-.116E+01		
SE-22-V- 1447	453.58	19.278	50.376	-47.950	.533E+01	.330E+01	.227E+01	-.133E+01	-.151E+01		
SE-22-V- 1448	411.52	19.198	50.376	-44.990	.560E+01	.456E+01	.396E+01	.219E+01	.141E+01		
SE-22-V- 1449	447.57	19.377	50.364	-51.000	-.509E+01	-.489E+01	-.460E+01	-.180E+01	-.209E+01		
SE-22-V- 1450	460.05	19.015	50.448	-53.080	-.657E+01	-.496E+01	-.485E+01	.161E+00	.991E+00		
SE-22-V- 1463	562.15	19.032	50.007	-38.010	.659E+01	-.158E+01	-.200E+01	-.685E+00	-.855E+00		
SE-22-V- 1471	459.40	19.302	50.069	-58.550	-.480E+01	-.336E+01	-.241E+01	-.211E+01	-.164E+01		
SE-22-V- 1473	471.58	19.421	50.199	-60.270	-.236E+01	-.129E+01	-.175E+01	-.216E+00	.209E+00		
SE-22-V- 1474	430.07	19.479	50.272	-59.070	.848E+00	-.513E-01	-.904E+00	-.198E+00	-.195E+00		
SE-22-V- 1475	460.56	19.570	50.256	-60.210	.276E+01	.283E+01	.241E+01	.709E+00	-.689E+01		
SE-22-V- 1476	364.87	19.112	50.520	-48.040	-.185E+00	.271E+01	.185E+01	.223E+01	.187E+01		
SE-22-V- 1543	426.16	19.473	50.537	-51.460	.854E+01	-.852E+00	.410E+00	.479E+00	.197E+00		
SE-22-V- 1158	467.74	18.924	50.565	-49.640	-.807E+01	.316E+01	.348E+01	.162E+01	.102E+01		
SE-22-V- 1451	388.84	18.911	50.370	-44.030	-.309E+01	-.817E+00	.180E-01	-.157E+01	-.129E+01		
SE-22-V- 1462	525.91	18.947	50.063	-30.230	.116E+02	.266E+01	.214E+01	.126E+01	.118E+01		

COEFICIENTES DE GRAU = 1
 .649462E+03 -.336347E+02 -.107859E+01

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COEFICIENTES DE GRAU = 2
 .106290E+06 -.709497E+04 -.150283E+04 -.243555E+00 .140606E+03 -.119461E+02

COEFICIENTES DE GRAU = 3
 .151422E+08 -.519270E+06 -.702792E+06 .831589E+04 .141556E+05 .112557E+05 -.447591E+02 -.114074E+03 -.957587E+02 -.624883E+02

COEFICIENTES DE GRAU = 4
 -.136087E+10 .216883E+09 .255193E+08 -.229546E+07 -.112047E+08 .137916E+07 -.367464E+05 .133961E+06 .171818E+06 -.401888E+05
 .123329E+04 -.116766E+04 -.564847E+03 -.970231E+03 .292647E+03

COEFICIENTES DE GRAU = 5
 .397385E+10 -.880506E+09 -.861797E+08 .989221E+08 -.144261E+07 .400138E+07 -.411299E+07 -.122530E+07 .402843E+06 -.123006E+06
 .656271E+05 .621949E+05 -.988384E+04 -.173983E+04 .120732E+04 -.130463E+04 .121893E+04 .156326E+04 .658626E+03 -.121760E+03
 .557743E+01

PARAMETROS ESTATISTICOS	DESPAD	CORPX	CDEPX	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.19059	74.50246	55.50616	55.50616	55.50616	-52.99438	-52.99438	-0.00000	1226.35013
GRAU= 2	2.65012	95.83637	91.84610	91.84610	91.84610	-52.99438	-52.99437	-0.00000	224.73968
GRAU= 3	2.51261	96.26542	92.67032	92.67032	92.67032	-52.99438	-52.99437	0.00000	202.02251
GRAU= 4	1.55344	98.58918	97.19827	97.17213	97.17213	-52.99438	-52.99438	0.00000	77.22210
GRAU= 5	1.36727	98.90883	97.82957	97.40849	97.40849	-52.99438	-52.99438	0.00001	59.82188

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO * .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-X- 1551	466.90	19.786	49.969	-59.310	.557E+01	.552E+01	.221E+01	.303E+01	.242E+01		
SE-22-V- 1544	492.13	19.513	50.426	-54.470	.514E+01	.686E+00	.352E+00	.471E+01	.585E+00		
SE-22-V- 1545	423.58	19.484	50.184	-60.380	.259E+01	.283E+01	.240E+01	.196E+01	.133E+01		
SE-22-V- 1546	459.82	19.711	50.124	-71.200	-.817E+01	-.659E+01	-.551E+01	-.560E+01	-.554E+01		
SE-22-V- 1547	520.07	19.633	50.061	-67.780	-.265E+01	-.131E+01	.207E+00	-.380E+00	.111E+00		
SE-22-V- 1548	499.02	19.566	50.012	-71.620	-.601E+01	-.273E+01	-.105E+01	-.141E+01	-.147E+01		
SE-22-V- 1549	457.18	19.644	50.118	-61.740	.159E+01	.349E+01	.506E+01	.461E+01	.447E+01		
SE-22-V- 1550	396.28	19.739	50.094	-64.600	-.146E+01	-.122E+00	.561E+00	.376E+00	.138E+01		
SE-22-V- 1559	512.43	19.486	50.012	-74.100	-.883E+01	-.512E+01	-.344E+01	-.369E+01	-.360E+01		
SE-22-V- 1560	480.04	19.424	50.011	-67.750	-.226E+01	.155E+01	.220E+01	.268E+01	.277E+01		
SE-22-V- 1434	462.19	19.987	50.281	-61.620	-.179E+01	-.525E+00	.791E+01	.259E+00	.115E+00		
SE-22-V- 1435	445.45	19.980	50.290	-62.510	-.258E+01	-.108E+01	-.819E+00	-.709E+00	-.665E+00		
SE-22-V- 1436	399.55	19.952	50.247	-62.700	-.211E+01	-.122E+01	-.664E+00	-.412E+00	.142E+01		
SE-22-V- 1437	346.10	19.874	50.151	-67.010	-.486E+01	-.466E+01	-.421E+01	-.417E+01	-.386E+01		
SE-22-V- 1438	435.88	19.811	50.158	-67.320	-.506E+01	-.410E+01	-.365E+01	-.347E+01	-.303E+01		
SE-22-V- 1439	465.35	19.728	50.195	-63.910	-.189E+01	-.385E+00	.352E+00	.712E+00	.794E+00		
SE-22-V- 1440	479.75	19.725	50.266	-60.630	.455E+00	.191E+01	.202E+01	.265E+01	.222E+01		
SE-22-V- 1441	480.65	19.664	50.371	-59.970	-.112E+00	.176E+00	-.110E+00	.138E+00	-.410E+00		
SE-22-V- 1442	396.54	19.701	50.455	-60.970	-.236E+01	-.185E+01	-.216E+01	-.237E+01	-.274E+01		
SE-22-V- 1443	521.71	19.589	50.415	-58.710	-.802E+00	-.107E+01	-.973E+00	-.111E+01	-.128E+01		
SE-22-V- 1444	512.69	19.530	50.336	-59.370	.140E+01	-.603E+00	-.152E+01	-.137E+01	-.703E+00		
SE-22-V- 1445	403.64	19.452	50.318	-55.670	.559E+01	.211E+01	-.105E+01	-.735E+00	-.184E+00		
SE-22-V- 1473	471.58	19.421	50.199	-60.270	.270E+01	.148E+01	-.128E+01	-.123E+01	-.156E+01		
SE-22-V- 1474	430.07	19.479	50.272	-59.670	.272E+01	.960E+00	-.850E+00	-.686E+00	-.341E+00		
SE-22-V- 1475	460.56	19.570	50.256	-60.210	.150E+01	.156E+01	.176E+01	.191E+01	.155E+01		
SE-22-V- 1476	452.36	19.651	50.220	-61.610	.327E+00	.155E+01	.242E+01	.271E+01	.179E+01		
SE-22-V- 1477	396.31	19.739	50.533	-61.770	-.433E+01	-.316E+01	-.291E+01	-.280E+01	-.271E+01		
SE-22-V- 1478	322.98	19.901	50.554	-58.230	-.127E+01	.158E+01	.380E+00	.775E+00	.664E+00		
SE-22-V- 1529	458.00	19.922	50.400	-58.630	.201E+01	.549E+01	.258E+01	.192E+01	.169E+01		
SE-22-V- 1530	445.00	19.573	50.421	-56.010	.250E+01	.585E+01	.285E+01	.221E+01	.223E+01		
SE-22-V- 1531	326.00	19.831	50.391	-58.120	.939E+00	.359E+01	.141E+01	.118E+01	.160E+01		
SE-22-V- 1532	374.00	19.736	50.398	-58.690	.577E+00	.196E+01	.942E+00	.990E+00	.823E+00		
SE-22-V- 1533	432.59	19.537	50.450	-58.460	.430E+00	-.601E+00	-.178E+00	-.364E+00	-.259E+00		
SE-22-V- 1534	451.04	19.505	50.561	-57.980	-.486E+00	-.396E+01	.570E+00	.977E+00	.160E+01		
SE-22-V- 1543	426.16	19.473	50.537	-51.460	.679E+01	-.161E+01	.122E+01	.900E+00	.203E+00		
SF-22-E- 439	424.72	20.079	49.916	-50.120	.145E+02	.328E+01	-.166E+01	-.155E+01	-.118E+01		
SF-22-J- 1517	414.84	20.035	50.043	-54.910	.816E+01	.252E+01	.436E+01	.347E+01	.245E+01		
SF-22-J- 1518	470.74	20.072	50.137	-63.090	-.141E+01	-.532E+01	.362E+00	.593E+00	.815E+00		
SF-22-J- 1528	492.27	20.001	50.372	-61.420	-.266E+01	.508E+00	-.104E+01	-.143E+01	-.151E+01		
SF-22-J- 1527	497.53	20.075	50.340	-63.980	-.503E+01	-.300E+01	-.120E+01	-.614E+00	-.547E+00		

COEFICIENTES DE GRAU = 1
 -.801334E+03 .325228E+01 .134510E+02

COEFICIENTES DE GRAU = 2
 -.619780E+05 .324409E+04 .117686E+04 .265045E+02 -.869544E+02 .549903E+01

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COEFICIENTES DE GRAU = 3
 .115430E+08 .568555E+06 -.912672E+06 .622072E+04 -.274657E+05 .235506E+05 -.177577E+03 .860892E+02 .238729E+03 -.187339E+03

COEFICIENTES DE GRAU = 4
 -.402782E+10 .427703E+08 .303932E+09 -.713401E+06 -.198061E+07 -.868925E+07 .193383E+05 .573584E+04 .368646E+05 .110567E+06
 -.183618E+03 -.998191E+02 .251605E+01 -.243438E+03 -.526909E+03

COEFICIENTES DE GRAU = 5
 -.436354E+10 -.681050E+09 .626755E+09 .116156E+09 -.355294E+08 -.152901E+08 -.519092E+07 -.828390E+06 .134548E+07 .800307E+05
 .836752E+05 .754187E+05 -.279237E+05 -.100132E+05 .615368E+03 -.165967E+04 .159214E+04 -.200286E+04 .972401E+03 -.143832E+03
 .734562E+01

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARDB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.42222	46.85509	21.95399	21.95399	21.95399	-61.12925	-61.12925	-0.00000	782.24114
GRAU= 2	3.01154	79.87807	63.80506	63.80506	63.80506	-61.12925	-61.12925	-0.00000	362.77542
GRAU= 3	2.20269	89.79800	80.63681	80.63681	80.63681	-61.12925	-61.12925	-0.00000	194.07379
GRAU= 4	2.16238	90.18813	81.33899	81.20865	81.20865	-61.12925	-61.12925	-0.00000	187.03601
GRAU= 5	2.02244	91.47468	83.67617	82.12170	82.12170	-61.12925	-61.12925	0.00000	163.61086

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					V A L O R E S R E S I D U A I S						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-V- 1434	462.19	19.987	50.281	-61.820	-.179E+01	.585E+00	.786E+00	.118E+01	.120E+01		
SE-22-V- 1435	445.45	19.980	50.290	-62.510	-.238E+01	-.425E+00	-.182E+00	.156E+00	.264E+00		
SE-22-V- 1436	399.55	19.952	50.247	-62.700	-.210E+01	-.217E+00	-.107E+01	-.153E+01	-.150E+01		
SE-22-V- 1529	458.00	19.922	50.400	-56.630	.439E+01	-.464E+00	.184E+01	.516E+00	.513E+00		
SF-22-E- 439	424.72	20.079	49.916	-50.120	.656E+01	.182E+01	-.375E+01	-.668E+00	-.425E+00		
SF-22-E- 440	461.59	20.319	49.912	-47.530	.731E+01	-.902E+00	.173E+01	-.777E+02	.123E+00		
SF-22-E- 441	516.97	20.421	49.974	-46.550	.662E+01	.163E+01	.109E+01	.203E+01	.188E+01		
SF-22-E- 617	525.44	20.439	49.907	-39.680	.132E+02	.168E+01	-.523E+00	-.668E+00	-.645E+00		
SF-22-J- 1428	510.03	20.425	50.087	-59.230	-.617E+01	-.402E+01	-.531E+01	-.222E+01	-.205E+01		
SF-22-J- 1429	448.41	20.341	50.064	-59.810	-.538E+01	-.294E+01	-.804E+00	.382E+00	.448E+00		
SF-22-J- 1430	507.39	20.297	50.006	-57.600	-.244E+01	-.284E+01	.733E+00	-.388E+00	-.558E+00		
SF-22-J- 1431	445.68	20.216	50.016	-57.460	-.101E+01	-.236E+00	.348E+01	.100E+01	.785E+00		
SF-22-J- 1432	417.96	20.164	50.075	-63.200	-.594E+01	-.225E+01	.774E+00	-.117E+01	-.141E+01		
SF-22-J- 1433	504.56	20.146	50.195	-67.240	-.973E+01	-.325E+01	-.146E+01	-.117E+01	-.106E+01		
SF-22-J- 1462	473.09	20.103	50.586	-47.330	.107E+02	-.243E+01	-.207E+01	-.668E+00	-.480E+00		
SF-22-J- 1463	465.58	20.123	50.514	-49.690	.806E+01	.216E+01	.892E+00	.674E+00	.561E+00		
SF-22-J- 1484	491.00	20.196	50.485	-50.900	.568E+01	.366E+01	.130E+01	-.133E+00	-.786E+00		
SF-22-J- 1485	488.80	20.267	50.541	-45.970	.945E+01	.414E+01	.262E+01	.875E+00	.111E+01		
SF-22-J- 1486	455.69	20.349	50.523	-48.950	.516E+01	.205E+01	.149E+01	-.205E+00	-.147E+00		
SF-22-J- 1487	398.73	20.441	50.523	-53.390	-.751E+00	-.394E+01	-.118E+01	-.112E+00	-.121E+01		
SF-22-J- 1488	417.46	20.534	50.494	-57.610	-.647E+01	-.869E+01	-.303E+01	.252E+00	-.204E+00		
SF-22-J- 1489	455.89	20.579	50.422	-53.630	-.318E+01	-.273E+01	-.521E+00	-.650E+00	-.504E+00		
SF-22-J- 1517	414.84	20.035	50.043	-54.910	.444E+01	.529E+01	.267E+01	.152E+01	.123E+01		
SF-22-J- 1518	470.74	20.072	50.137	-63.090	-.438E+01	.234E+00	.120E+01	-.184E+02	.954E+01		
SF-22-J- 1519	467.00	20.592	50.336	-47.900	.238E+01	.476E+01	.169E+01	-.568E+00	-.687E+00		
SF-22-J- 1520	414.64	20.513	50.352	-48.220	.332E+01	.729E+01	.444E+01	.357E+01	.381E+01		
SF-22-J- 1521	401.29	20.453	50.389	-54.220	-.173E+01	.213E+01	-.159E+00	-.126E+01	-.181E+01		
SF-22-J- 1522	428.14	20.389	50.378	-56.530	-.301E+01	.180E+01	-.991E+00	-.269E+01	-.221E+01		
SF-22-J- 1523	466.88	20.325	50.308	-59.710	-.512E+01	.171E+01	-.269E+00	.437E+00	.717E+00		
SF-22-J- 1524	535.13	20.281	50.251	-64.030	-.872E+01	-.129E+01	-.159E+01	.589E+01	.301E+00		
SF-22-J- 1525	448.34	20.205	50.281	-62.150	-.563E+01	.119E+01	.112E+01	.237E+01	.241E+01		
SF-22-J- 1526	482.17	20.138	50.320	-63.920	-.633E+01	-.124E+01	-.147E+01	-.337E+00	-.174E+00		
SF-22-J- 1528	492.27	20.001	50.372	-61.420	-.165E+01	-.202E+01	-.128E+01	-.267E+00	-.511E+00		
SF-22-J- 1527	497.53	20.075	50.340	-63.980	-.538E+01	-.225E+01	-.220E+01	-.901E+00	-.671E+00		

COEFICIENTES DE GRAU = 1
 -.401597E+03 .160709E+02 .404994E+00

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COEFICIENTES DE GRAU = 2
 .331781E+06 -.468715E+02 -.131973E+05 .510267E+02 -.399009E+02 .139397E+03

COEFICIENTES DE GRAU = 3
 .423351E+08 -.163667E+07 -.186338E+07 .278118E+05 .426954E+05 .283587E+05 -.383133E+02 -.505354E+03 -.221595E+03 -.157491E+03

COEFICIENTES DE GRAU = 4
 -.899952E+10 .308723E+09 .592988E+09 -.483564E+07 -.145642E+08 -.147906E+08 .200050E+05 .168771E+06 .222225E+06 .166636E+06
 .363766E+03 -.964312E+03 -.108929E+04 -.118281E+04 -.711023E+03

PARAMETROS ESTADISTICOS	DESPAD	CORR%	COEF%	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	6.02680	45.02324	20.27092	20.27092	20.27092	-55.87147	-55.87147	0.00000	1235.77702
GRAU= 2	3.11992	88.68359	78.64780	78.64780	78.64780	-55.87147	-55.87147	-0.00000	330.95281
GRAU= 3	2.02367	95.40269	91.01674	91.01673	91.01673	-55.87147	-55.87147	0.00000	139.23791
GRAU= 4	1.19190	98.42952	96.88371	96.15202	96.15202	-55.87147	-55.87147	0.00000	48.30163
GRAU= 5	1.22651	98.33623	96.70014	96.86965	96.86965	-55.87147	-55.87147	-0.00006	51.14682

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU **** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS

CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 30/9	524.92	20.695	50.045	-45.120	.463E+01	.259F+01	.133E+01	-.515E+00	-.306E+00		
DNRJ 30/10	506.73	20.645	50.225	-46.620	.553E+01	.341E+01	.316E+01	-.968E+01	-.224E+00		
DNRJ 30/11	504.70	20.647	50.362	-52.620	.205E+01	.100E+01	.564E+00	.517E+00	.640E+00		
DNRJ 30/12	482.38	20.690	50.573	-66.990	-.772E+01	-.625E+01	-.107E+01	.577E+00	.266E+00		
SF-22-E- 441	516.97	20.421	49.974	-46.550	-.283E+01	-.405E+01	.182E+01	.347E+01	.363E+01		
SF-22-E- 443	508.61	20.307	49.967	-51.060	-.798E+00	-.748E+00	-.212E+01	-.478E+00	-.355E+00		
SF-22-E- 587	527.74	20.705	49.925	-43.570	.416E+01	.332E+01	-.237E+01	.263E+00	.992E+01		
SF-22-E- 617	525.44	20.439	49.907	-39.680	.312E+01	.166E+01	.368E+01	-.163E+01	-.180E+01		
SF-22-E- 1501	467.67	20.893	49.913	-55.890	-.511E+01	-.222E+01	-.273E+01	.277E+01	.966E+01		
SF-22-E- 1502	485.04	20.854	49.949	-53.600	-.285E+01	-.160E+01	-.216E+01	-.241E+00	-.107E+00		
SF-22-E- 1505	507.55	20.662	49.951	-41.490	.596F+01	.442E+01	.313E+00	-.914E+01	-.580E+01		
SF-22-E- 1506	450.51	20.670	49.929	-40.610	.659E+01	.533E+01	.480E+00	.697E+00	.662E+00		
SF-22-J- 442	524.93	20.695	50.040	-45.750	.390E+01	.189E+01	.523E+00	-.125E+01	-.124E+01		
SF-22-J- 1121	389.67	20.937	50.495	-56.380	.574E+01	.405E+01	.426E+01	-.123E+00	-.879E+01		
SF-22-J- 1122	413.03	20.872	50.492	-60.910	.382E+01	-.161E+01	.967E+00	-.712E+01	.138E+00		
SF-22-J- 1123	326.16	20.805	50.517	-62.360	-.213E+01	-.316E+01	.109E+01	.203E+01	.204E+01		
SF-22-J- 1124	482.30	20.687	50.556	-67.610	-.871E+01	-.752E+01	-.324E+01	-.914E+00	-.997E+00		
SF-22-J- 1423	444.83	20.950	50.108	-55.670	-.371E+00	.251E+00	.323E+01	.505E+00	.558E+00		
SF-22-J- 1424	457.97	20.851	50.091	-50.900	.238E+01	.148E+01	.352E+01	.101E+01	.692E+00		
SF-22-J- 1425	404.76	20.803	50.190	-48.870	.539E+01	.323E+01	.480E+01	.246E+01	.220E+01		
SF-22-J- 1428	510.03	20.425	50.087	-59.230	-.1134E+02	-.140E+02	-.822E+01	-.272E+01	-.261E+01		
SF-22-J- 1487	398.73	20.441	50.523	-53.390	.648E+00	.776E+01	.284E+01	.688E+00	.614E+00		
SF-22-J- 1488	417.46	20.534	50.494	-57.610	-.248E+01	.951E+00	.135E+01	-.189E+01	-.167E+01		
SF-22-J- 1489	455.89	20.579	50.422	-53.630	.967E+00	.190E+01	.324E+00	.338E+00	.562E+00		
SF-22-J- 1490	504.62	20.646	50.361	-53.340	.134E+01	.252E+00	.159E+00	-.223E+00	-.183E+00		
SF-22-J- 1491	454.00	20.715	50.398	-60.570	-.406E+01	-.551E+01	-.457E+01	-.259E+01	-.246E+01		
SF-22-J- 1492	423.14	20.763	50.343	-57.000	-.660E+00	-.283E+01	-.169E+01	.723E+00	.775E+00		
SF-22-J- 1493	411.00	20.826	50.344	-59.020	-.154E+01	-.380E+01	-.240E+01	-.126E+01	-.127E+01		
SF-22-J- 1494	385.73	20.921	50.343	-59.530	-.468E+00	-.233E+01	-.218E+01	-.111E+01	-.101E+01		
SF-22-J- 1497	357.31	20.862	50.407	-58.790	.435E+00	-.164E+01	-.240E+00	.121E+01	.136E+01		
SF-22-J- 1498	395.45	20.967	50.224	-59.130	-.142E+01	-.196E+01	-.121E+01	-.130E+01	-.149E+01		
SF-22-J- 1519	467.00	20.592	50.336	-47.900	.536E+01	.479E+01	.356E+01	.194E+01	.202E+01		
SF-22-J- 1520	414.64	20.513	50.352	-48.220	.396F+01	.510E+01	.305E+01	.202E+01	.183E+01		
SF-22-J- 1521	401.29	20.453	50.389	-54.220	-.240E+01	.946E+00	-.187E+01	-.752E+00	-.112E+01		
SF-22-J- 1503	425.00	20.856	50.262	-55.520	.959E+00	-.113E+01	.444E+00	-.346E+00	-.548E+00		
SF-22-K- 444	435.07	21.030	49.923	-61.620	-.770E+01	-.687E+00	.372E+01	.395E+00	.212E+00		
SF-22-J- 1120	316.77	21.046	50.458	-52.310	.112E+02	.102E+02	.178E+01	-.118E+01	-.128E+01		
SF-22-J- 1422	396.79	21.066	50.148	-63.850	-.580E+01	-.311E+01	-.323E+01	.442E+00	.492E+00		
SF-22-J- 1499	407.60	21.052	50.051	-63.760	-.773E+01	-.341E+01	.133E+00	-.109E+01	-.916E+00		
SF-22-J- 1495	320.42	21.044	50.359	-57.680	.382E+01	.329E+01	-.319E+01	.201E+01	.201E+01		

COEFICIENTES DE GRAU = 1
 .121380E+04 -.173182E+02 -.181866E+02

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COEFICIENTES DE GRAU = 2
 -.252207E+05 -.697949E+03 .139882E+04 -.355812E+02 .469159E+02 -.237968E+02

COEFICIENTES DE GRAU = 3
 .155334E+08 .932743E+06 -.127411E+07 -.308359E+05 -.773239E+04 .269617E+05 .208680E+03 .354898E+03 -.689781E+02 -.169510E+03

COEFICIENTES DE GRAU = 4
 .659933E+10 -.243289E+09 -.425460E+09 .265483E+06 .143391E+08 .975142E+07 .118553E+06 -.158236E+06 -.220352E+06 -.991494E+05
 -.119790E+04 -.375722E+03 .181209E+04 .963757E+03 .394223E+03

COEFICIENTES DE GRAU = 5
 .363445E+10 -.150526E+09 -.149164E+09 -.685905E+07 .125789E+08 -.160984E+07 .422106E+06 -.105439E+06 -.183291E+06 .135472E+06
 .103534E+05 -.316742E+05 .201526E+05 -.466203E+04 -.146649E+04 -.107069E+03 -.745624E+01 .317498E+03 -.252761E+03 .805972E+02
 .130017E+01

PARAMETROS ESTATISTICOS	DESFAD	CORR%	COEP%	PSTQ	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.95601	70.70559	49.99281	49.99281	49.99281	-54.19925	-54.19925	0.00000	982.48055
GRAU= 2	4.35558	78.34270	61.37578	61.37578	61.37578	-54.19925	-54.19925	0.00000	758.84176
GRAU= 3	2.76640	91.87973	84.41885	84.41885	84.41885	-54.19925	-54.19925	0.00000	306.11942
GRAU= 4	1.32862	98.18658	96.40605	96.16613	96.16613	-54.19925	-54.19925	0.00000	70.60957
GRAU= 5	1.32466	98.19748	96.42745	96.46806	96.46806	-54.19925	-54.19925	0.00000	70.18905

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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				VALORES RESIDUAIS							
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BDUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
DNRJ 12/11	449.62	21.410	50.065	-56.440	.419E+01	.339E+01	.336E+01	.145E+01	.126E+01		
DNRJ 12/12	409.57	21.428	50.155	-59.280	-.525E+00	.420E+00	.267E+00	-.369E+00	-.437E+00		
DNRJ 12/13	387.51	21.380	50.205	-58.660	-.121E+01	-.645E+00	.172E+00	-.144E+00	-.670E+01		
DNRJ 12/14	408.65	21.355	50.263	-57.770	-.138E+01	-.969E+00	-.122E+00	.337E+00	.402E+00		
DNRJ 12/15	394.40	21.318	50.300	-55.330	.246E+00	.175E+00	.938E+00	.148E+01	.153E+01		
DNRJ 12/16	412.43	21.280	50.335	-55.520	-.724E+00	-.130E+01	-.814E+00	-.394E+00	-.309E+00		
DNRJ 12/17	398.78	21.255	50.407	-50.500	.276E+01	.124E+01	.352E+00	-.982E+01	-.229E+00		
DNRJ 12/18	411.27	21.215	50.458	-45.610	.651E+01	.396E+01	.186E+01	.287E+00	.260E+00		
SF-22-J- 1121	389.67	20.937	50.495	-56.380	-.532E+01	-.460E+01	-.179E+01	.105E+01	.102E+01		
SF-22-J- 1423	444.83	20.950	50.108	-55.670	.357E+01	.846E+01	.385E+01	.112E+01	.107E+01		
SF-22-J- 1494	385.73	20.921	50.343	-59.530	-.528E+01	-.522E+00	.112E+01	-.206E+01	-.210E+01		
SF-22-J- 1498	395.45	20.967	50.224	-59.130	-.232E+01	.202E+01	.180E+01	.123E+01	.139E+01		
SF-22-K- 444	435.07	21.030	49.923	-61.020	.221E+01	.136E+01	-.271E+01	-.470E+00	-.424E+00		
SF-22-K- 445	358.55	21.221	49.923	-58.540	.489E+01	.783E+01	.391E+01	.146E+01	.160E+01		
SF-22-K- 446	396.10	21.267	49.951	-59.330	.356E+01	-.776E+00	.285E+01	-.780E+00	-.874E+00		
SF-22-K- 447	438.42	21.461	49.951	-62.480	.619E+00	-.224E+01	-.492E+01	-.777E+00	-.739E+00		
SF-22-J- 1109	512.00	21.580	50.165	-59.620	-.912E+00	.449E+01	.118E+01	.611E+00	.702E+00		
SF-22-J- 1111	496.00	21.570	50.273	-61.450	-.504E+01	.960E+00	.135E+01	-.466E+00	-.569E+00		
SF-22-J- 1115	438.00	21.466	50.311	-58.960	-.352E+01	-.232E+01	-.201E+01	.639E+00	-.611E+00		
SF-22-J- 1116	414.00	21.350	50.267	-59.430	-.312E+01	-.276E+01	-.191E+01	-.147E+01	-.131E+01		
SF-22-J- 1117	412.35	21.278	50.295	-56.140	-.498E+00	-.643E+00	.271E+00	.676E+00	.771E+00		
SF-22-J- 1118	402.91	21.206	50.439	-48.490	.404E+01	.186E+01	.477E+00	-.675E+00	-.736E+00		
SF-22-J- 1120	316.77	21.046	50.468	-52.310	-.563E+00	-.180E+01	-.141E+01	-.704E+00	-.655E+00		
SF-22-J- 1420	392.23	21.166	50.185	-62.670	-.503E+01	-.503E+01	-.234E+01	-.128E+01	-.130E+01		
SF-22-J- 1421	328.77	21.117	50.195	-62.760	-.519E+01	-.450E+01	-.212E+01	-.107E+00	-.833E+01		
SF-22-J- 1422	396.79	21.066	50.148	-63.650	-.534E+01	-.381E+01	-.245E+01	-.203E+00	-.196E+00		
SF-22-J- 1499	407.60	21.052	50.051	-63.760	-.321E+01	-.223E+01	-.264E+01	-.979E+00	-.114E+01		
SF-22-J- 1495	320.42	21.044	50.359	-57.680	-.365E+01	-.269E+01	-.862E+00	.641E+00	.678E+00		
SF-22-J- 1496	381.62	21.150	50.409	-51.710	.139E+01	.946E+02	.176E+01	-.167E+00	-.211E+00		
SF-22-J	409.84	21.203	50.513	-42.470	.849E+01	.467E+01	.711E+00	-.198E+01	-.173E+01		
SF-22-J	405.32	21.210	50.442	-45.470	.699E+01	.477E+01	.321E+01	.197E+01	.186E+01		
SF-22-J	399.90	21.217	50.400	-45.950	.441E+01	.291E+01	.245E+01	.203E+01	.194E+01		
SF-22-J	408.19	21.250	50.388	-51.680	.198E+01	.707E+00	.316E+00	.122E+00	.242E+01		
SF-22-J	399.37	21.255	50.420	-48.710	.427E+01	.254E+01	.131E+01	.632E+00	.521E+00		
SF-22-J	412.88	21.269	50.341	-54.300	.376E+00	-.184E+00	.138E+00	.576E+00	.695E+00		
SF-22-J	447.79	21.306	50.390	-54.290	-.627E+00	-.154E+01	-.222E+01	-.193E+01	-.197E+01		
SF-22-J	431.78	21.361	50.437	-52.790	-.593E+01	-.864E+00	-.236E+01	-.165E+01	-.171E+01		
SF-22-J	435.01	21.404	50.478	-50.360	.156E+01	.977E+00	-.682E+00	.531E+00	.530E+00		
SF-22-J	476.98	21.444	50.516	-50.070	.109E+01	.785E+00	-.426E+00	.108E+01	.113E+01		
SF-22-J	473.46	21.502	50.533	-54.000	-.315E+01	-.192E+01	-.535E+00	.608E+00	.539E+00		
SF-22-J	446.09	21.550	50.573	-56.530	-.646E+01	-.423E+01	.403E+00	-.578E+00	-.538E+00		

COEFICIENTES DE GRAU = 1
 -.109411E+04 -.107977E+01 .211045E+02

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COEFICIENTES DE GRAU = 2
 .658790E+05 .355679E+04 -.414937E+04 -.587237E+02 -.211492E+02 .459749E+02

COEFICIENTES DE GRAU = 3
 .608799E+07 -.111946E+07 .113033E+06 .255827E+05 .229717E+05 -.718000E+04 -.772335E+02 -.411832E+03 -.546433E+02 .558542E+02

COEFICIENTES DE GRAU = 4
 -.163582E+10 -.079513E+08 .150944E+09 .368700E+07 .913117E+06 -.493205E+07 -.142665E+06 .348271E+05 -.326368E+05 .699209E+05
 .981475E+03 .117522E+04 -.109549E+04 .524568E+03 -.402668E+03

COEFICIENTES DE GRAU = 5
 .135478E+09 -.221336E+09 .295179E+08 .851504E+07 .884495E+07 -.698272E+06 -.199929E+06 -.176998E+06 -.175602E+06 -.990379E+04
 .164154E+03 .477411E+04 .801639E+03 .164017E+04 .413971E+03 -.866775E+02 .199714E+03 -.204239E+03 .738146E+02 -.219279E+02
 -.205783E+01

PARAMETROS ESTADISTICOS	DESPAD	CORR%	COEP%	PST0	SSRED	YBAR08	YBARCP	SYRES	SYRES0
GRAU= 1	3.75397	70.04569	49.06399	49.06399	49.06399	-55.61073	-55.61073	-0.00000	577.78255
GRAU= 2	2.86227	83.89766	70.38818	70.38818	70.38818	-55.61073	-55.61073	0.00000	335.89589
GRAU= 3	1.98448	92.60976	85.76568	85.76568	85.76568	-55.61073	-55.61073	0.00000	161.46421
GRAU= 4	1.05326	97.97462	95.99025	95.83383	95.83383	-55.61073	-55.61073	0.00000	45.48376
GRAU= 5	1.04761	97.99651	96.03315	95.98934	95.98934	-55.61073	-55.61073	-0.00006	44.99717

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-P- 1163	490.87	18.551	50.441	-38.640	.161E+01						
SE-22-P- 1164	504.61	18.447	50.459	-43.690	-.116E+01						
SE-22-P- 1165	567.23	18.358	50.418	-44.290	.742E+00						
SE-22-P- 1166	575.14	18.270	50.427	-47.270	-.132E+00						
SE-22-P- 1461	547.66	18.564	50.407	-41.070	-.105E+01						

COEFICIENTES DE GRAU = 1
 -.629465E+03 .244412E+02 .269258E+01

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PARAMETROS ESTATISTICOS	DESPAD	CORR%	COEP%	PSTO	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	1.05884	93.32153	87.08909	87.08909	87.08909	-43.03200	-43.03200	0.00000	5.60572

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-1- 1157	461.86	19.042	50.589	-55.190	-.171E+02	.192E+01	.329E+01				
SE-22-1- 1450	460.05	19.015	50.448	-53.180	-.269E+01	.702E+00	-.139E+00				
SE-22-2- 1158	467.74	18.924	50.565	-49.640	-.129E+02	-.661E+01	-.378E+00				
SE-22-2- 1159	367.69	18.939	50.504	-40.240	.132E+01	.445E+01	.205E+01				
SE-22-2- 1160	392.88	18.855	50.430	-42.110	.991E+01	-.192E+01	.345E+00				
SE-22-2- 1161	387.57	18.781	50.482	-41.860	.293E+00	.273E+00	-.255E+01				
SE-22-2- 1162	544.75	18.654	50.460	-40.300	-.303E+01	-.100E+01	.509E+00				
SE-22-2- 1163	490.87	18.551	50.441	-38.640	.134E+00	.296E+01	.521E+00				
SE-22-2- 1164	504.61	18.447	50.459	-43.890	-.115E+02	-.141E+01	-.174E+00				
SE-22-2- 1461	547.66	18.564	50.407	-41.070	.277E+01	-.682E+00	-.262E+00				
SE-22-2- 343.02	343.02	18.849	50.622	-1.750	.244E+02	.125E+01	.455E+01				

COEFICIENTES DE GRAU = 1
 -.602270E+04 -.386826E+02 .132859E+03

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COEFICIENTES DE GRAU = 2
 .489336E+07 .476947E+05 -.211523E+06 -.111898E+03 -.862645E+03 .225602E+04

COEFICIENTES DE GRAU = 3
 -.526421E+10 -.281465E+08 .323201E+09 .162443E+05 .110227E+07 -.660509E+07 -.633089E+03 .360826E+03 -.110503E+05 .449678E+05

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTG	SSRED	YBARDB	YBARCP	SYRES	SYRES0
GRAU= 1	10.88782	58.38366	34.09236	34.09236	34.09236	-40.70636	-40.70636	-0.00000	1303.99059
GRAU= 2	2.78800	97.81537	95.67846	95.67846	95.67846	-40.70636	-40.70636	0.00000	85.50225
GRAU= 3	1.02623	99.70681	99.41448	99.39921	99.39921	-40.70636	-40.70636	-0.00000	11.58452

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU *** ESCALA FINAL DO MAPA 1:1.000.000 *** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-V- 1544	492.13	19.513	50.426	-54.470	-.198E+01	.317E+00	.510E+00	.255E-01	-.203E-01		
SE-22-V- 1150	322.14	19.440	50.955	-62.770	.402E+00	.582E+00	-.400E+00	.651E+00	.423E+00		
SE-22-V- 1151	365.92	19.354	50.898	-60.550	.543E+00	.434E+00	-.793E+00	-.874E+00	-.990E+00		
SE-22-V- 1152	328.39	19.293	50.853	-58.610	.342E+01	.325E+01	.294E+01	.230E+01	.234E+01		
SE-22-V- 1153	421.25	19.218	50.862	-60.870	-.117E+01	.731E+00	.940E+00	-.408E+00	-.346E+00		
SE-22-V- 1154	340.60	19.148	50.764	-61.250	-.408E+01	-.292E+01	-.814E+00	.164E-01	-.922E-01		
SE-22-V- 1155	368.28	19.144	50.726	-59.780	-.346E+01	-.313E+01	-.127E+01	-.272E+00	-.225E+00		
SE-22-V- 1156	327.55	19.103	50.656	-57.530	-.295E+01	-.295E+01	-.160E+01	-.304E-01	-.114E+00		
SE-22-V- 1157	461.86	19.042	50.589	-55.190	-.243E+01	-.186E+01	-.155E+01	.667E+00	.661E+00		
SE-22-V- 1443	521.71	19.589	50.415	-58.710	-.594E+01	-.489E+00	.469E-01	-.875E-02	.189E-02		
SE-22-V- 1450	460.05	19.015	50.448	-53.080	-.349E+01	-.370E+01	-.159E+01	-.634E+00	-.651E+00		
SE-22-V- 1535	396.59	19.560	50.661	-58.180	-.407E+00	-.163E+01	-.674E+00	.356E+00	.213E+00		
SE-22-V- 1536	375.04	19.583	50.690	-59.870	-.135E+01	-.234E+01	.118E+01	-.316E+00	-.235E+00		
SE-22-V- 1537	410.63	19.404	50.677	-51.370	.568E+01	.235E+01	.599E+00	.104E+01	.119E+01		
SE-22-V- 1538	447.52	19.320	50.701	-51.510	.553E+01	.240E+01	.143E+01	.501E+00	.321E+00		
SE-22-V- 1539	384.60	19.226	50.709	-55.610	.927E+00	-.927E+00	-.458E+00	-.129E+01	-.987E+00		
SE-22-V- 1540	409.78	19.171	50.606	-52.260	.173E+01	-.484E+00	.325E-01	-.159E+01	-.167E+01		
SE-22-V- 1541	364.87	19.112	50.520	-48.040	.373E+01	.189E+01	.358E+01	.174E+01	.179E+01		
SE-22-V- 1542	441.10	19.407	50.607	-50.470	.513E+01	.196E+01	-.869E+00	-.101E+01	-.117E+01		
SE-22-V- 1543	426.16	19.473	50.537	-51.460	.310E+01	.172E+01	-.158E+01	.795E-01	.236E+00		
SE-22-V- 1158	467.74	18.924	50.565	-49.640	.180E+01	.609E+01	.142E+01	-.420E-01	-.243E-01		
SE-22-J- 1148	368.23	19.562	51.072	-67.650	-.138E+01	.985E+00	.148E+01	.735E+00	.602E+00		
SE-22-J- 1149	417.81	19.503	51.011	-68.150	-.336E+01	-.230E+01	-.255E+01	-.163E+01	-.126E+01		

COEFICIENTES DE GRAU = 1
 .114497E+04 -.674440E+01 -.211370E+02

COEFICIENTES DE GRAU = 2
 -.765933E+05 -.122751E+04 .351694E+04 -.546772E+02 .656817E+02 -.475310E+02

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COEFICIENTES DE GRAU = 3
 -.464229E+08 -.981596E+06 .311771E+07 .275143E+05 .178385E+05 -.648434E+05 -.203976E+03 -.311726E+03 -.571351E+02 .433253E+03

COEFICIENTES DE GRAU = 4
 -.651327E+09 .102465E+09 .114832E+08 .369874E+07 -.889001E+07 .138100E+07 -.112867E+06 -.171836E+05 .182171E+06 -.416881E+05
 .148333E+04 -.406434E+02 .194600E+03 -.124945E+04 .326732E+03

COEFICIENTES DE GRAU = 5
 .890215E+09 .373093E+09 -.169632E+09 -.564864E+08 .165777E+08 .573613E+06 .295286E+07 -.457709E+04 -.587647E+06 .134598E+06
 -.373335E+05 -.621409E+05 .365480E+05 -.490052E+03 -.206903E+04 .113361E+04 -.138827E+04 .167076E+04 -.883053E+03 .166533E+03
 -.936269E+00

PARAMETROS ESTADISTICOS

	DESPAD	CORR%	CDEP%	PSTO	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.25082	79.53982	63.26583	63.26583	63.26583	-56.76174	-56.76174	-0.00000	243.06000
GRAU= 2	2.36204	89.59721	80.27661	80.27661	80.27661	-56.76174	-56.76174	0.00000	130.50431
GRAU= 3	1.49680	96.02723	92.21229	92.21228	92.21228	-56.76174	-56.76174	0.00000	51.52913
GRAU= 4	0.94525	98.43485	96.89419	96.88512	96.88512	-56.76174	-56.76174	-0.00000	20.55029
GRAU= 5	0.92475	98.50250	97.02742	96.93161	96.93161	-56.76174	-56.76171	-0.00076	19.66874

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	RGUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-V- 1544	492.13	19.513	50.426	-54.470	.774E+00	.749E+00	-.485E+00	-.264E+00	-.229E+00		
SE-22-V- 1138	306.98	19.925	50.703	-61.140	-.274E+01	-.298E+01	-.270E+01	-.122E+01	-.125E+01		
SE-22-V- 1139	352.39	19.868	50.727	-60.340	-.149E+01	-.954E+00	-.303E+00	-.231E+00	-.587E+01		
SE-22-V- 1140	378.67	19.828	50.751	-61.680	-.240E+01	-.149E+01	-.104E+01	-.202E+01	-.184E+01		
SE-22-V- 1141	378.14	19.750	50.718	-56.150	-.260E+01	-.386E+01	-.383E+01	-.265E+01	-.262E+01		
SE-22-V- 1142	423.52	19.697	50.688	-60.380	-.176E+01	-.966E+00	-.923E+00	-.174E+01	-.190E+01		
SE-22-V- 1143	470.80	19.685	50.779	-57.690	-.226E+01	-.313E+01	-.180E+01	-.150E+01	-.132E+01		
SE-22-V- 1144	421.97	19.679	50.891	-60.530	-.103E+01	-.303E+01	-.618E+00	-.560E+00	-.523E+00		
SE-22-V- 1150	322.14	19.440	50.955	-62.770	-.159E+00	-.183E+01	-.132E+01	-.444E+00	-.396E+00		
SE-22-V- 1442	396.54	19.701	50.455	-60.970	-.967E+01	-.222E+01	-.382E+01	-.212E+00	-.199E+00		
SE-22-V- 1443	521.71	19.589	50.415	-58.710	-.377E+01	-.141E+01	-.425E+00	-.395E+00	-.384E+00		
SE-22-V- 1477	396.31	19.739	50.533	-61.770	-.544E+01	-.306E+01	-.131E+01	-.170E+01	-.169E+01		
SE-22-V- 1478	322.98	19.801	50.554	-58.230	-.172E+01	-.487E+00	-.139E+01	-.176E+01	-.176E+01		
SE-22-V- 1479	386.55	19.800	50.629	-59.080	-.150E+01	-.122E+00	-.572E+00	-.497E+00	-.530E+00		
SE-22-V- 1530	445.00	19.373	50.421	-56.010	-.154E+01	-.293E+01	-.461E+00	-.100E+00	-.109E+00		
SE-22-V- 1533	432.59	19.637	50.450	-58.460	-.312E+01	-.483E+00	-.147E+01	-.106E+01	-.103E+01		
SE-22-V- 1534	451.04	19.605	50.561	-57.980	-.986E+00	-.729E+00	-.337E+00	-.160E+00	-.256E+00		
SE-22-V- 1535	396.59	19.560	50.661	-58.160	-.328E+00	-.112E+01	-.150E+01	-.401E+01	-.107E+00		
SE-22-V- 1536	375.04	19.583	50.690	-59.870	-.100E+01	-.195E+01	-.255E+01	-.113E+01	-.103E+01		
SE-22-V- 1537	410.63	19.404	50.677	-51.270	-.766E+01	-.100E+01	-.648E+00	-.561E+00	-.609E+00		
SE-22-V- 1542	441.10	19.407	50.607	-50.470	-.756E+01	-.116E+01	-.377E+00	-.990E+00	-.106E+01		
SE-22-V- 1543	426.16	19.473	50.537	-51.460	-.545E+01	-.222E+01	-.930E+00	-.121E+01	-.120E+01		
SE-22-V- 1145	306.63	19.651	51.009	-65.630	-.233E+01	-.178E+01	-.517E+00	-.659E+00	-.621E+00		
SE-22-V- 1148	368.23	19.542	51.072	-67.850	-.349E+01	-.105E+01	-.102E+01	-.733E+00	-.690E+00		
SE-22-V- 1149	417.81	19.503	51.011	-68.150	-.454E+01	-.315E+01	-.227E+01	-.105E+01	-.967E+00		
SF-22-J- 1135	384.63	20.098	50.766	-55.990	-.298E+01	-.212E+01	-.159E+00	-.985E+00	-.844E+00		
SF-22-J- 1136	385.65	20.049	50.756	-56.540	-.239E+01	-.100E+01	-.765E+00	-.194E+01	-.178E+01		
SF-22-J- 1137	419.97	20.034	50.726	-56.910	-.162E+01	-.126E+01	-.113E+01	-.118E+00	-.368E+01		
SF-22-J- 1481	362.46	20.051	50.658	-49.030	-.649E+01	-.543E+01	-.114E+01	-.138E+00	-.812E+01		

COEFICIENTES DE GRAU = 1
 .626372E+03 .191656E+01 -.142686E+02

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COEFICIENTES DE GRAU = 2
 -.711290E+05 -.261995E+04 .391522E+04 .569630E+02 .112285E+02 -.409264E+02

COEFICIENTES DE GRAU = 3
 .211119E+08 -.914301E+06 -.896303E+06 .202552E+05 .203113E+05 .137615E+05 .814172E+02 -.493258E+03 -.895422E+01 -.897313E+02

COEFICIENTES DE GRAU = 4
 -.772289E+09 .394021E+08 .458318E+08 .280070E+06 -.256939E+07 -.859139E+06 -.838658E+04 -.642875E+03 .510819E+05 .469222E+04
 .106336E+04 -.148889E+04 .868829E+03 -.560532E+03 .312177E+02

COEFICIENTES DE GRAU = 5
 .291213E+09 -.346995E+09 .829447E+08 .353281E+08 .867638E+06 -.270845E+07 -.142756E+07 -.412941E+06 .101179E+06 .301905E+05
 .318318E+05 .639500E+04 .439719E+04 -.201989E+04 -.451835E+02 -.600940E+03 .562970E+03 -.515216E+03 .177032E+03 -.277642E+02
 .237154E+01

PARAMETROS ESTADISTICOS	DESPAD	CORR%	CDEP%	PSTC	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.72110	56.82237	32.28781	32.28781	32.28781	-58.54517	-58.54517	0.00000	401.55135
GRAU= 2	2.19578	67.41985	76.42231	76.42231	76.42231	-58.54517	-58.54517	-0.00000	139.82200
GRAU= 3	1.39080	95.15294	90.54062	90.54082	90.54082	-58.54517	-58.54517	-0.00000	56.09548
GRAU= 4	1.12927	96.83174	93.76386	93.75718	93.75718	-58.54517	-58.54517	-0.00000	36.98196
GRAU= 5	1.09720	97.01183	94.11295	93.80274	93.80274	-58.54517	-58.54517	-0.00001	34.91180

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
SE-22-V- 1138	306.96	19.925	50.703	-61.140	-.890E+01	-.172E+01	.773E+00	-.591E+01			
SF-22-J- 1127	369.58	20.524	50.745	-65.670	-.408E+01	-.268E+00	.120E+01	-.312E+00			
SF-22-J- 1128	433.82	20.417	50.763	-62.090	-.140E+01	-.188E+01	-.191E+01	-.269E+00			
SF-22-J- 1129	408.79	20.441	50.823	-64.020	-.121E+01	-.373E+00	-.203E+00	.501E+00			
SF-22-J- 1130	412.71	20.450	50.880	-64.680	-.577E+01	.164E+01	.104E+01	.273E+00			
SF-22-J- 1131	404.12	20.386	50.950	-65.070	.790E+00	.662E+00	-.103E+01	-.239E+00			
SF-22-J- 1132	309.06	20.301	50.906	-62.360	.105E+01	-.138E+01	-.946E+00	-.628E+00			
SF-22-J- 1133	400.00	20.240	50.890	-58.260	.385E+01	.840E+00	.226E+01	.906E+00			
SF-22-J- 1134	425.31	20.145	50.832	-57.060	.199E+01	-.356E+00	.102E+01	-.126E+00			
SF-22-J- 1135	384.63	20.098	50.766	-55.990	.481E+00	-.618E+00	-.139E+01	-.102E+01			
SF-22-J- 1136	365.65	20.049	50.756	-56.540	-.103E+01	-.472E+00	-.454E+00	.102E+01			
SF-22-J- 1137	419.97	20.034	50.726	-56.910	-.250E+01	-.116E+01	-.213E+01	-.763E+00			
SF-22-J- 1481	362.48	20.051	50.658	-49.030	.357E+01	.463E+01	.146E+01	.978E+00			
SF-22-J- 1482	473.09	20.103	50.586	-47.330	.379E+01	.333E+01	.469E+00	-.568E+00			
SF-22-J- 1483	465.58	20.123	50.514	-49.690	-.455E+00	-.123E+01	-.418E+00	-.941E+01			
SF-22-J- 1484	491.00	20.196	50.485	-50.900	-.155E+01	-.411E+01	-.142E+01	.269E+01			
SF-22-J- 1485	488.80	20.267	50.541	-45.970	.604E+01	.260E+01	.194E+01	.696E+00			
SF-22-J- 1486	455.69	20.349	50.523	-48.950	.361E+01	.413E+00	.959E+00	-.362E+00			
SF-22-J- 1487	398.73	20.441	50.523	-53.390	.420E+00	-.101E+01	-.346E+00	-.282E+00			
SF-22-J- 1488	417.46	20.534	50.494	-57.610	-.342E+01	-.169E+01	-.168E+01	.469E+00			
SF-22-J- 1489	455.89	20.579	50.422	-53.630	-.986E+00	.213E+01	.830E+00	-.149E+00			

COEFICIENTES DE GRAU = 1
 .173315E+04 -.135030E+02 -.300049E+02

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COEFICIENTES DE GRAU = 2
 -.806625E+05 +.558976E+04 .982955E+03 -.941159E+02 -.353034E+02 -.294915E+01

COEFICIENTES DE GRAU = 3
 -.611927E+08 +.128044E+07 .310324E+07 +.171628E+04 -.517954E+05 -.507578E+05 +.112325E+03 -.171239E+03 +.579457E+03 +.255827E+03

COEFICIENTES DE GRAU = 4
 -.339337E+09 -.200639E+09 +.104957E+09 +.173633E+08 -.197326E+07 -.265768E+07 -.236236E+06 -.401962E+06 +.199017E+06 +.780848E+04
 .937262E+03 +.316587E+04 +.206587E+04 -.165518E+04 +.149560E+03

PARAMETROS ESTADISTICOS									
	DESPAD	CORR%	CDEP%	PSTQ	SSRED	YBARCB	YBARCP	SYRES	SYRESQ
GRAU= 1	3.23338	84.69377	71.73035	71.73035	71.73035	-56.49095	-56.49095	-0.00000	219.54960
GRAU= 2	1.95975	94.66519	89.61498	89.61498	89.61498	-56.49095	-56.49095	0.00000	80.65278
GRAU= 3	1.28092	97.75654	95.56341	95.56340	95.56340	-56.49095	-56.49095	-0.00000	34.45576
GRAU= 4	0.56423	99.56865	99.13916	99.06500	99.06500	-56.49095	-56.49095	-0.00000	6.68550

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) ***** HARALYI
 PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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VALORES RESIDUAIS											
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 30/12	482.38	20.690	50.573	-66.990	-.576E+01	-.526E+00	.546E+01	.817E+00			
ONRJ 30/13	408.45	20.663	50.767	-70.440	-.524E+01	.567E+00	-.572E+00	.846E-01			
ONRJ 30/14	347.44	20.648	51.098	-66.350	.574E+01	-.333E+00	.421E+01	-.755E-02			
SF-22-J- 1121	389.67	20.937	50.495	-56.380	.381E+01	.242E+01	.137E+01	-.429E-01			
SF-22-J- 1122	413.03	20.872	50.492	-60.910	-.927E+00	.372E+00	-.242E+00	-.435E+00			
SF-22-J- 1123	326.16	20.905	50.517	-62.360	-.202E+01	.155E+01	.107E+01	.669E+00			
SF-22-J- 1124	482.30	20.687	50.556	-67.610	-.675E+01	-.189E+01	-.118E+01	-.102E+01			
SF-22-J- 1125	449.93	20.650	50.662	-71.240	-.826E+01	-.237E+01	-.184E+01	-.346E+00			
SF-22-J- 1126	408.35	20.620	50.766	-69.940	-.486E+01	.516E+00	.392E+00	.902E-03			
SF-22-J- 1127	369.58	20.524	50.745	-65.670	-.126E+01	.144E+01	.272E+01	.116E+00			
SF-22-J- 1128	433.62	20.417	50.763	-62.090	.244E+01	-.672E+00	-.430E+00	.130E-01			
SF-22-J- 1129	408.79	20.441	50.823	-64.020	.182E+01	.102E+00	-.115E+00	-.981E-01			
SF-22-J- 1130	412.71	20.450	50.880	-64.680	.236E+01	.466E+00	-.478E+00	.485E-01			
SF-22-J- 1487	396.73	20.441	50.523	-53.390	.619E+01	-.361E+00	-.322E+00	-.738E-01			
SF-22-J- 1488	417.46	20.534	50.494	-57.610	.158E+01	-.164E+00	.361E+00	.314E+00			
SF-22-J- 1489	455.89	20.579	50.422	-53.630	.417E+01	.149E+01	.225E+00	-.138E+00			
SF-22-J- 1497	357.31	20.862	50.407	-58.790	-.611E+00	-.138E+01	-.469E+00	.541E-01			
SF-22-J- 1120	316.77	21.046	50.468	-52.310	.758E+01	-.120E+01	-.586E+00	.394E-01			

COEFICIENTES DE GRAU = 1
 .104570E+04 -.244721E+01 -.208865E+02

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COEFICIENTES DE GRAU = 2
 .312403E+06 -.802282E+04 -.903147E+04 .127766E+03 .538856E+02 .778822E+02

COEFICIENTES DE GRAU = 3
 .251486E+08 -.325259E+06 -.134694E+07 -.198802E+04 .141891E+05 .235596E+05 -.730907E+02 .132246E+03 -.192736E+03 -.128100E+03

COEFICIENTES DE GRAU = 4
 -.690335E+10 -.551745E+08 .566982E+09 .162604E+08 -.986672E+07 -.147644E+08 -.381133E+06 .178243E+06 .266757E+06 .158078E+06
 .100331E+04 .589709E+04 -.183379E+04 -.125337E+04 -.652856E+03

PARAMETROS ESTADISTICOS	DESPAD	CORRZ	COEPZ	PSTO	SSRED	YBAROB	YBARCP	SYRES	SYRESQ
GRAU= 1	4.61186	61.54849	37.88216	37.88216	37.88216	-62.46722	-62.46722	-0.00000	382.84674
GRAU= 2	1.22575	97.78138	95.61198	95.61198	95.61198	-62.46722	-62.46722	-0.00000	27.04439
GRAU= 3	0.97270	98.60870	97.23675	97.23675	97.23675	-62.46722	-62.46722	0.00000	17.03054
GRAU= 4	0.38137	99.78738	99.57522	99.46596	99.46596	-62.46722	-62.46722	0.00000	2.61804

***** MAPA GRAVIMETRICO (TENDENCIA BOUGUER) **** HARALYI
PASSO = .5 GRAU ***** ESCALA FINAL DO MAPA 1:1.000.000 ***** (RED. 4X)

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					VALORES RESIDUAIS						
CODIGO/ESTACAO	ALTITUDE	LATITUDE	LONGITUDE	BOUG	RGRAU 1	RGRAU 2	RGRAU 3	RGRAU 4	RGRAU 5	RGRAU 6	RGRAU 7
ONRJ 12/17	398.78	21.255	50.407	-50.500	-.118E+01	-.232E+01	-.956E+00	-.425E+00	-.263E-01		
ONRJ 12/18	411.27	21.215	50.458	-45.610	-.383E+01	-.251E+01	-.542E+00	-.680E+00	-.232E+01		
ONRJ 12/19	388.11	21.210	50.655	-45.260	-.528E+01	-.242E+01	-.812E+00	-.629E+00	-.148E+01		
ONRJ 12/20	449.90	21.230	50.863	-56.830	-.501E+01	-.506E+01	-.350E+01	-.106E+01	-.497E+00		
ONRJ 12/21	448.57	21.210	50.940	-51.770	-.398E+00	-.113E+01	-.113E+01	-.535E+00	-.121E+01		
ONRJ 12/22	460.75	21.180	51.035	-51.250	-.133E+01	-.286E+01	-.634E+00	-.137E+01	-.778E+00		
SF-22-I	414.50	21.146	51.073	-55.390	-.274E+01	-.216E+01	-.285E+01	-.249E+00	-.922E-01		
SF-22-I	449.65	21.170	51.002	-49.330	-.302E+01	-.308E+01	-.456E+01	-.340E+00	-.378E+00		
SF-22-J- 1121	389.67	20.937	50.495	-56.380	-.797E+01	-.116E+01	-.716E+00	-.301E-01	-.467E+00		
SF-22-J- 1118	402.91	21.206	50.439	-48.490	-.793E+00	-.227E-01	-.104E+01	-.202E+01	-.499E+01		
SF-22-J- 1120	316.77	21.046	50.468	-52.310	-.357E+01	-.528E+00	-.241E+01	-.159E+00	-.213E+01		
SF-22-J- 1496	381.62	21.150	50.409	-51.710	-.284E+01	-.151E+01	-.376E+00	-.276E+00	-.275E+01		
SF-22-J	399.37	21.203	50.614	-44.480	-.579E+01	-.295E+01	-.130E+00	-.362E+00	-.407E+01		
SF-22-J	409.84	21.203	50.513	-42.470	-.723E+01	-.526E+01	-.138E+01	-.518E+00	-.156E+01		
SF-22-J	448.17	21.209	50.948	-49.760	-.245E+01	-.330E+01	-.295E+01	-.209E+01	-.971E+00		
SF-22-J	450.04	21.205	50.794	-52.530	-.122E+01	-.337E+01	-.777E+00	-.158E+01	-.260E+01		
SF-22-J	405.32	21.210	50.442	-45.470	-.385E+01	-.289E+01	-.170E+01	-.646E+00	-.180E+01		
SF-22-J	398.24	21.214	50.701	-46.760	-.406E+01	-.138E+01	-.141E+01	-.177E+01	-.959E-01		
SF-22-J	421.15	21.216	50.640	-54.610	-.299E+01	-.408E+01	-.144E+01	-.995E+00	-.720E-02		
SF-22-J	399.90	21.217	50.400	-48.950	-.160E+00	-.113E+00	-.185E+01	-.162E+01	-.290E+01		
SF-22-J	458.24	21.224	50.866	-54.660	-.305E+01	-.330E+01	-.146E+01	-.249E-01	-.121E+01		
SF-22-J	408.82	21.254	50.647	-49.070	-.162E+01	-.586E+00	-.101E+01	-.120E+00	-.274E+01		
SF-22-J	399.37	21.255	50.420	-48.710	-.685E+00	-.645E+00	-.115E+00	-.323E+00	-.202E+01		
SF-22-J	431.78	21.361	50.437	-52.790	-.283E+01	-.475E+01	-.370E+01	-.982E-01	-.755E-01		
SF-22-J	435.01	21.404	50.478	-50.360	-.279E-01	-.109E+01	-.169E+00	-.374E+00	-.110E+01		
SF-22-J	476.98	21.444	50.516	-50.070	-.711E+00	-.116E+01	-.273E+01	-.664E-01	-.284E+01		
SF-22-J	473.46	21.502	50.533	-54.000	-.286E+01	-.744E-01	-.529E+00	-.271E+00	-.102E+01		
SF-22-J	446.09	21.550	50.573	-56.530	-.495E+01	-.170E+01	-.836E+00	-.913E-01	-.498E-01		

COEFICIENTES DE GRAU = 1
 .333275E+03 -.444314E+01 -.571661E+01

COEFICIENTES DE GRAU = 2
 -.300070E+06 .105639E+05 .743561E+04 -.773826E+02 -.144083E+03 -.432889E+02

COEFICIENTES DE GRAU = 3
 -.149303E+09 .470915E+07 .686572E+07 -.460547E+05 -.147329E+06 -.104605E+06 .381929E+03 .428019E+03 .127526E+04 .509732E+03

COEFICIENTES DE GRAU = 4
 .251273E+10 .163875E+09 -.269632E+09 -.227867E+08 .945097E+07 .606683E+07 .111623E+06 .758425E+06 -.505157E+06 -.999923E+04
 -.826306E+03 -.821541E+03 -.695808E+04 .526971E+04 -.499363E+03

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PARAMETROS ESTADISTICOS									
	DESPAD	CDRR%	COEP%	PST0	SSRED	YEARDB	YBARCP	SYRES	SYRES0
GRAU= 1	3.56388	33.25633	11.05983	11.05983	11.05983	-50.58036	-50.58036	-0.00000	359.63836
GRAU= 2	2.64382	71.83247	51.59904	51.59904	51.59904	-50.58036	-50.58036	-0.00000	195.71408
GRAU= 3	1.88240	86.86969	75.46342	75.46336	75.46336	-50.58036	-50.58036	0.00000	99.21607
GRAU= 4	0.92196	97.01244	94.11413	93.00365	93.00365	-50.58036	-50.58036	-0.00000	23.80011
GRAU= 5	1.97374	85.45433	73.02443	106.98379	106.98379	-50.58036	-50.58035	-0.00016	109.07839

ESCALA 1:1000000
10km 0 10 20 30 40 50 60 70 80 90 100km
PROJEÇÃO CÔNICA CONFORME LAMBERT

CARTA GRAVIMETRICA BOUGUER ($d = 2,67 \text{ g/cm}^3$)

ANOMALIAS BOUGUER (EM MGAL) CALCULADAS PELA FORMULA INTERNACIONAL DE 1967
EQUIDISTÂNCIA DAS CURVAS ISOBAL 2,5 MGAL

SAO PAULO - 1978

ELABORADA POR NICOLAU L. E. HARALYI
COM BASE NAS ESTAÇÕES GRAVIMÉTRICAS DO
I.B.G.E. E OBS. NAC. DO RIO DE JANEIRO.

T
H254
NLE.C
1.2

T458