
**Projeto SIGPS**
**Coordenação de Geodésia – CGED**

# RELATÓRIO

# CENTRO DE PROCESSAMENTO

# SIRGAS - IBGE

**Março de 2010**

ÍNDICE

# 1. INTRODUÇÃO

Desde 2005, o Sistema de Referência Geocêntrico para as Américas – SIRGAS, na sua realização 2000, tornou-se oficialmente o novo sistema de referência geodésico para o Brasil, conforme publicado na Resolução do Presidente do IBGE, R.PR-1/2005. Por se tratar de um sistema de referência preciso e com origem no centro de massa da Terra, a componente temporal passou a ser um fator importante para a sua manutenção. Fatores como terremotos, movimento de placas litosféricas, subsidência de solo, influenciam na posição de cada uma das estações que materialização esse sistema, e, portanto, devem ser monitoradas.

Define-se por redes ativas GNSS (*Global Navigation Satellite System*), o conjunto de estações geodésicas estabelecidas em locais estáveis da superfície terrestre ou litosfera, materializadas por uma estrutura rígida, nas quais são instalados receptores GNSS de dupla-freqüência, os quais coletam dados continuamente. Com a implantação deste novo conceito de estações geodésicas, torna-se possível avaliar sistematicamente as variações ocorridas na realização de um sistema de referência geodésico ao longo do tempo, possibilitando assim, a determinação de novos parâmetros para esse sistema, assim como o aprimoramento dos modelos de velocidades.

Além das estações passivas, ou seja, marcos construídos “in loco” com coordenadas conhecidas, o SIRGAS é materializado também por uma rede denominada SIRGAS-CON, rede de estações GNSS de operação contínua, distribuídas na América do Sul, Central e Caribe, conforme apresentada na Figura 1. Essa rede além de auxiliar na materialização do sistema, também ajuda na definição do mesmo. Maiores informações podem ser encontrados em www.sirgas.org.

Os Centros de Processamento SIRGAS foram instituídos com a finalidade de determinar de forma sistemática, as coordenadas das estações pertencentes à rede SIRGAS-CON, assim como outras informações referente à rede, seguindo critérios pré-estabelecidos, a fim de dar suporte à manutenção do SIRGAS. Essas informações são utilizadas na avaliação do SIRGAS, e para uma futura realização desse sistema. Atualmente existem seis centros de processamento SIRGAS oficial: IBGE através da Coordenação de Geodésia; *Instituto Geográfico Agustín Codazzi* - IGAC (Colômbia), *Instituto de Geodésia y Geodinâmica de la Universidad Nacional del Cuyo*, IGG-CIMA (Argentina), *Instituto Geográfico Militar de*

*Ecuador* - IGM (Equador), *Servicio Geográfico Militar del Uruguayi* - SGM (Uruguai), *Laboratorio de Geodesia Física y Satelital, Universidad del Zulia* - LGFS (Venezuela).

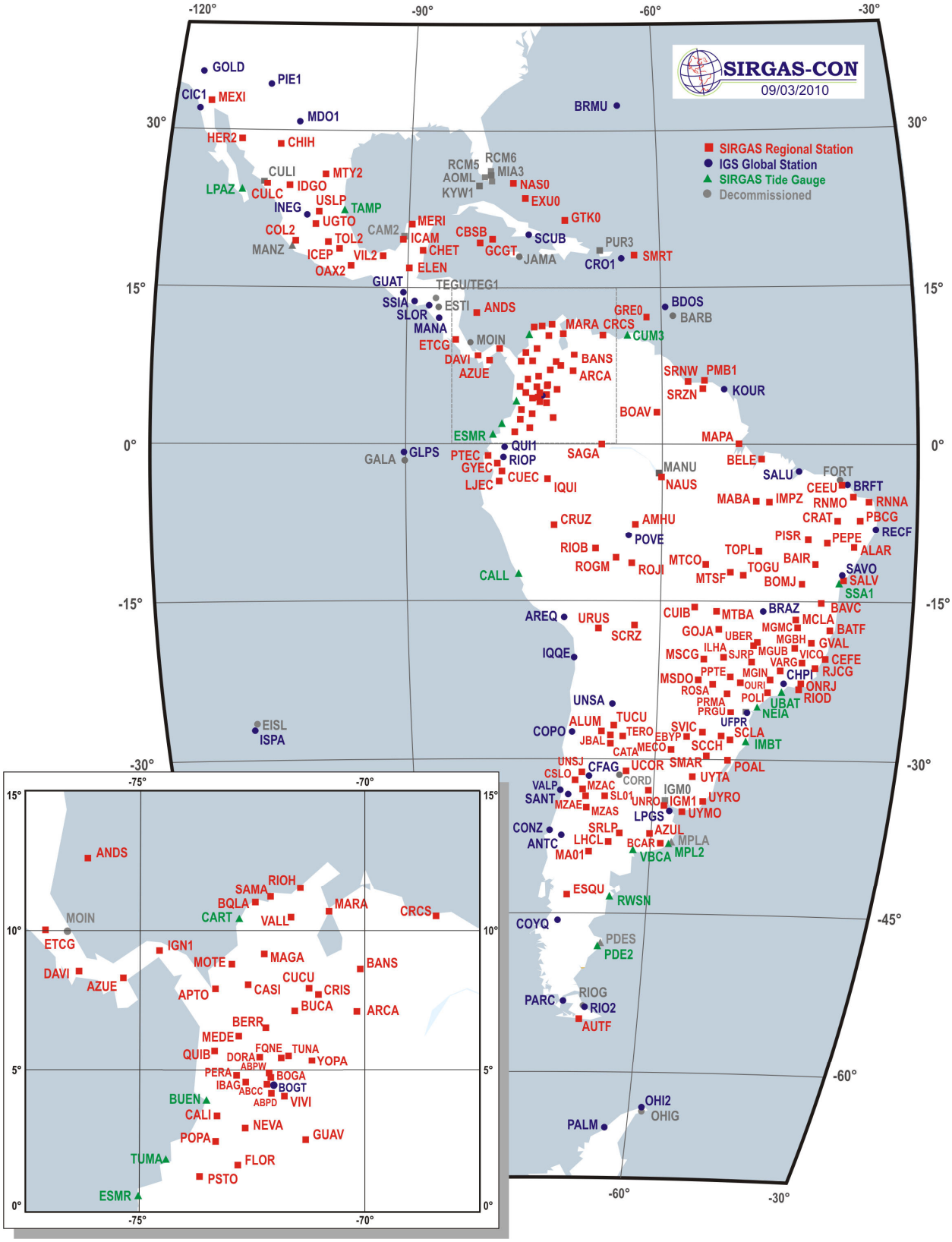



Figura 01: Rede SIRGAS-CON – março de 2010 (www.sirgas.org)

## 2. CENTRO DE PROCESSAMENTO SIRGAS – IBGE

O centro de processamento SIRGAS – IBGE apesar de ter iniciado oficialmente suas atividades em 2008, tem resultados do processamento dos dados GNSS coletados desde janeiro de 2003 (semana GPS 1199). Responsável pelo processamento GNSS de parte das estações pertencentes à rede SIRGAS-CON, tem como finalidade determinar as coordenadas dessas estações, e enviá-las para os Centros de Combinações, responsável pela combinação dos resultados de todos os centros de processamentos.

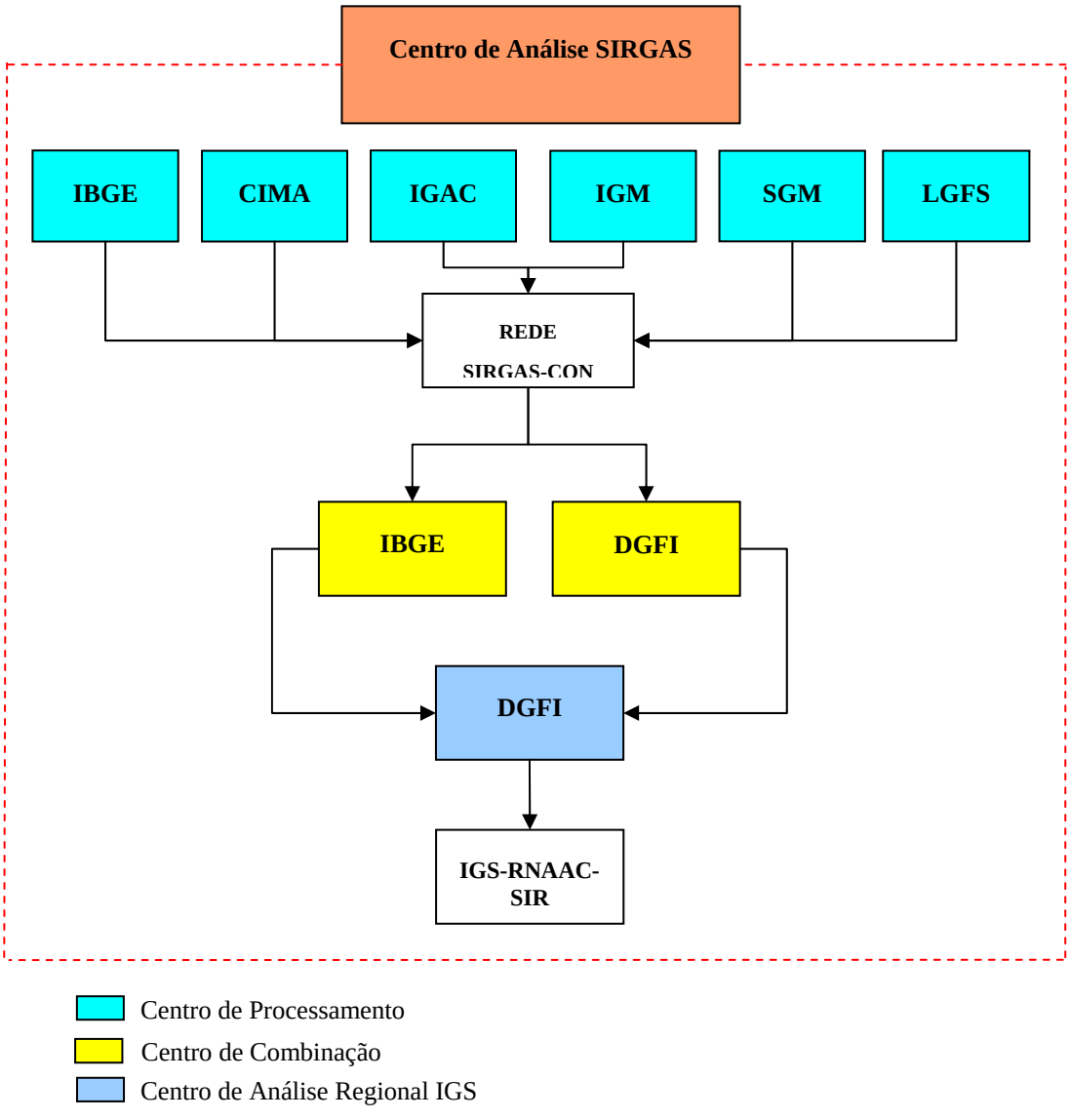



Figura 02: Organograma – Centro de Análise SIRGAS

Desde o início das atividades do Centro de Processamento SIRGAS – IBGE, o número de estações GNSS pertencentes à rede SIRGAS-CON e processadas pelo IBGE, vêm aumentando de forma significativa. Apesar do aumento, algumas estações deixaram de ser

utilizadas, por não mais existirem, ou porque os dados não foram mais disponibilizados. A figura 03 apresenta as estações processadas pelo IBGE, desde o início oficial das atividades como centro de processamento, que foi em agosto de 2008 (semana GPS 1495).

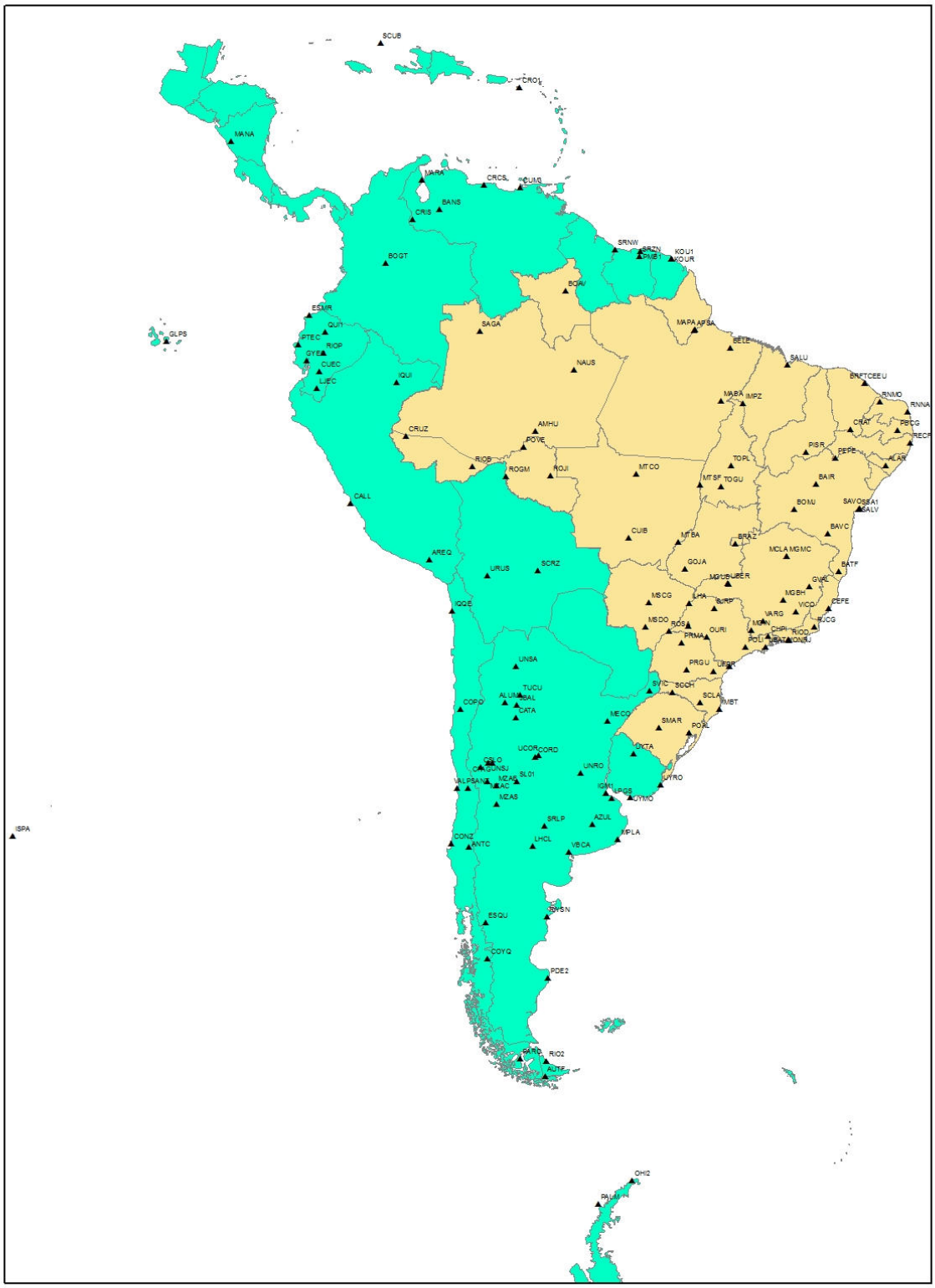



Figura 03 – Estações processadas pelo IBGE

# 3. CARACTERÍSTICAS DAS ESTAÇÕES SIRGAS

As estações pertencentes à rede SIRGAS-CON são materializadas em locais estáveis, dispostas com rede elétrica e lógica, e equipadas com receptores e antenas com ao menos duas freqüências na banda L. A maioria dos equipamentos coletam dados GNSS (GPS e GLONASS), restando ainda alguns que coletam apenas dados GPS.

Figura 04 – Estações MZAS (Argentina) à esq. e BOMJ (Brasil) à dir.

O anexo 01 apresenta a relação de todas as estações utilizadas no processamento pelo Centro de Processamento SIRGAS - IBGE, além das informações relativas ao receptor e antena, e o local onde elas se encontram.

# 4. METODOLOGIA APLICADA

O *software* de processamento GNSS utilizado pelo IBGE para a realização das atividades do Centro de Processamento SIRGAS é o Bernese 5.0, desenvolvido pela Universidade de Berne na Suíça (Hugentobler U. et al.,2006). Trata-se de um *software* científico, que tem como principal característica, o processamento de longas linhas de base (acima de 1000 km). Além disso, pode ser utilizado de forma automática através do módulo BPE.

As principais características do processamento realizado pelo IBGE com o Bernese 5.0 são apresentadas na tabela 01.

Tabela 01 – Características principais do processamento

| | |
|---|---|
| Observações | Dupla Diferença |
| Software | Bernese 5.0 ( BPE mode) |
| Taxa de coleta | 30 sec |
| Ângulo de Elevação | 03º |
| Estratégia de Linha de Base | SHORTEST |
| Órbita/EOP | IGS final - IGS05<br>EOP week |
| Modelo de Troposfera a priori | Niell dry component |
| Troposfera | Zenith delay estimated each 2 hours (12 daily corrections p/station)<br>A priori sigmas applied with respect to prediction model Niell(wet component)<br>-first parameter +/- 5 m absolute and +/- 5 cm relative |
| Ambiguidades | QIF strategy with GIM from CODE |
| Modelo de Carga Oceânica | FES2004 |
| Variação de Centro de Fase | Absolute (IGS_05) |
| Coordenadas e Velocidades | IGS05_R |
| Soluções Diárias | All the constraint stations (σ=±1m)<br>OUTPUT FILES: SINEX<br>Troposphere maps |
| Soluções Semanais | All the constraint stations (σ=±1m)<br>OUTPUT FILES: SINEX |

O processamento das observações é realizado duas semanas após a sua coleta, isso porque as órbitas utilizadas são as órbitas precisas finais IGS que só ficam disponíveis 14 dias após a data correspondente. O resultado gerado por cada um dos centros de processamentos é

disponibilizado para o DGFI dentro de um intervalo de três semanas após as observações terem sido realizadas.

As informações das estações utilizadas no processamento tais como tipo de receptor e antena, *domes number*, altura da antena, entre outras, são obtidos através dos *logfile* disponíveis no site do DGFI e IGS:

ftp://ftp.dgfi.badw-muenchen.de/pub/gps/DGF/station/log/

ftp://igscb.jpl.nasa.gov/pub/station/log/

Cada centro de processamento gera resultados diários, e semanais. Esses resultados semanais são disponibilizados para os centros de combinações, e estes têm a tarefa de combinar as soluções de cada centro gerando resultado único para aquela semana, que serão utilizados posteriormente em um ajustamento global. Os resultados determinados pelo IBGE são disponibilizados no seguinte endereço: ftp://geoftp.ibge.gov.br/SIRGAS/.

# 5. SERIE TEMPORAL DAS ESTAÇÕES

Com o processamento sistemático das estações pertencentes à rede SIRGAS-CON, séries temporais são geradas para cada uma das estações processadas. Com essas séries, é possível detectar problemas que possa haver ocorrido em alguma estação, avaliar o comportamento geodinâmico local, determinar a velocidade das estações devido ao movimento das placas litosféricas. As séries temporais de todas as estações da rede SIRGAS-CON processadas pelo IBGE são apresentadas no anexo 2.

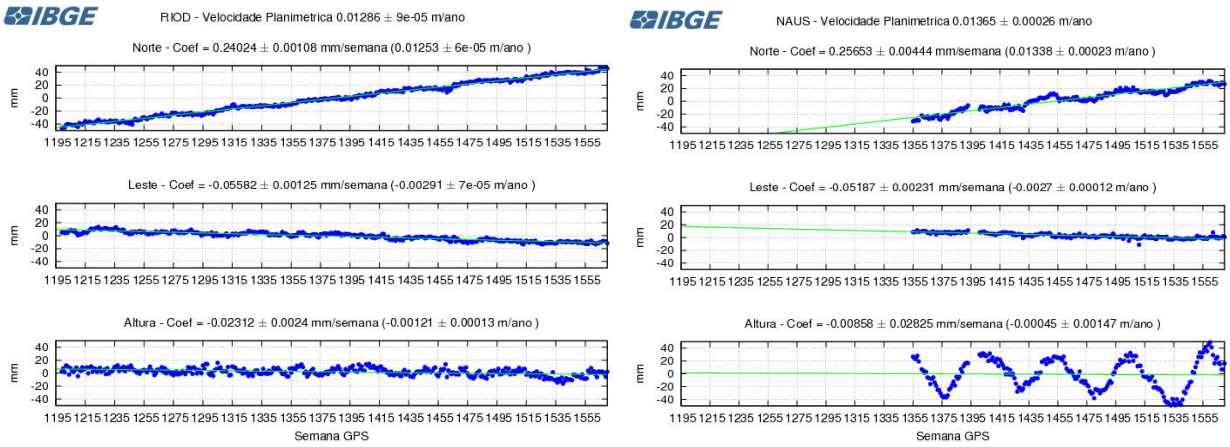



Figura 05 – Série temporal das estações RIOD (esq) e NAUS (dir)

A figura 05 apresenta o comportamento temporal das estações RIOD e NAUS localizadas no Rio de Janeiro e Manaus respectivamente. Observem que tanto a componente norte, quanto a leste apresentam o mesmo comportamento (direção) para ambas as estações. Esse movimento é em grande parte, devido ao deslocamento das placas litosféricas, sendo que ambas estão sobre a placa Sulamericana. Entretanto, a componente altimétrica por ser mais dependente do local, e não do movimento das placas litosféricas, apresentam comportamento variável. A componente altimétrica para a estação NAUS, vem se comportando de forma sazonal oscilando aproximadamente 8 cm, e está diretamente relacionado com o período de cheia e vazante do Rio Negro. Isso é verificado quando comparamos o resultado determinado pela estação NAUS, com os resultados de linígrafos dispostos às margens do Rio Negro.

Com a determinação das séries temporais é possível calcular o vetor velocidade para as estações da rede SIRGAS-CON, conforme apresentado na figura 06. Nota-se que o comportamento para as estações localizadas no Brasil apresenta concordância entre si, o que não ocorre com as estações localizadas nos Andes, e que sofrem grande influência da placa

litosférica Nazca. A velocidade com que as estações brasileiras se deslocam é de aproximadamente 1,2 cm/ano, enquanto que para a estação CONZ localizada no Chile, esse deslocamento é de aproximadamente 3,8 cm/ano.

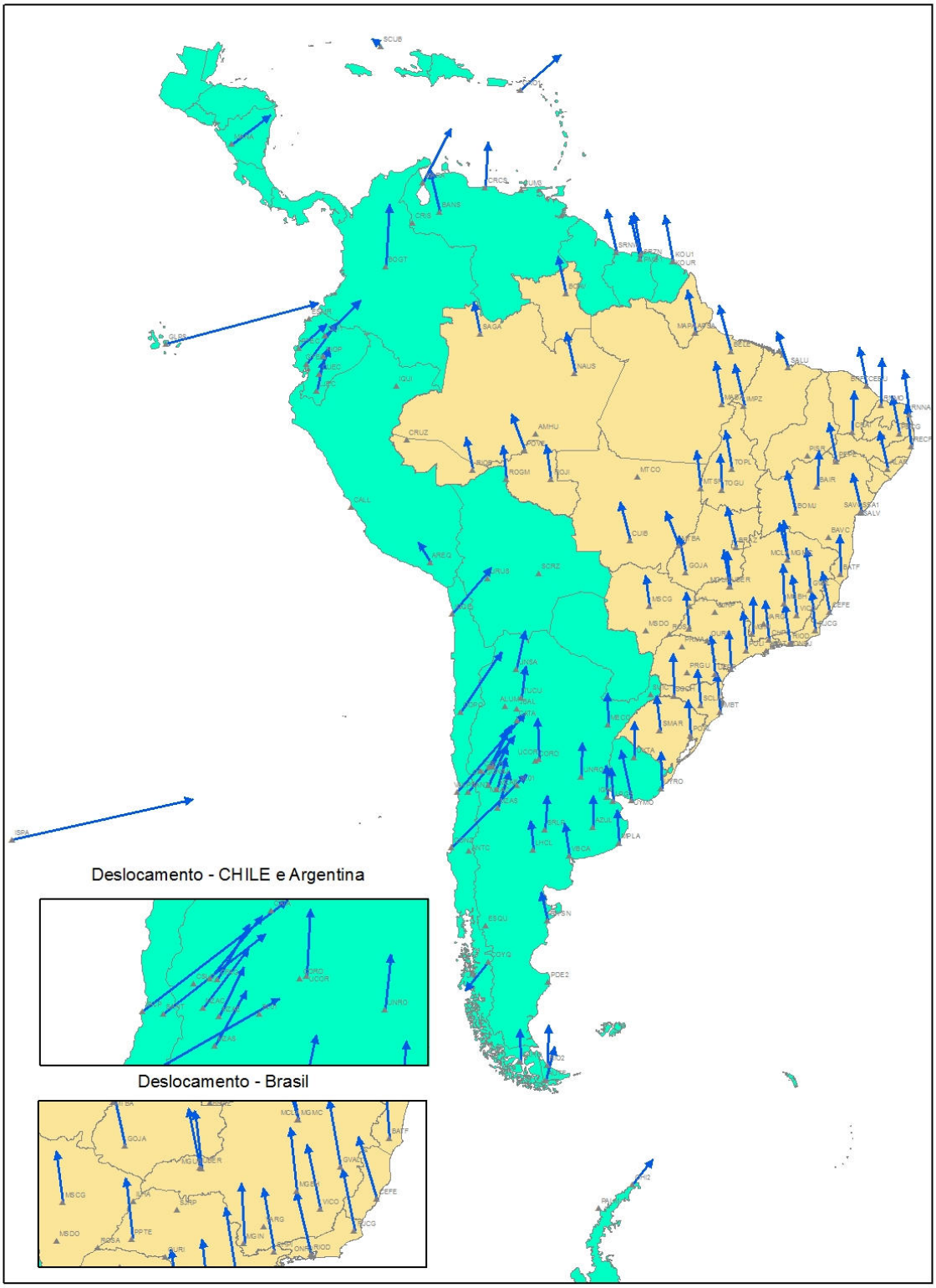



Figura 06 – Velocidade das estações determinadas pelo IBGE

# ANEXO 01 – DESCRIÇÃO DAS ESTAÇOES SIRGAS

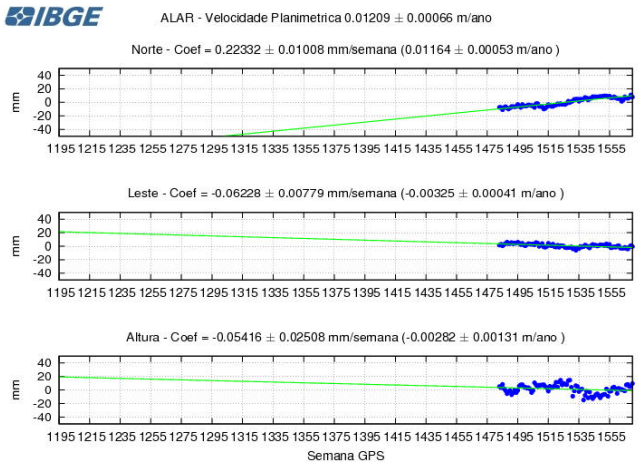
Tabela 02 – Descrição das estações SIRGAS processadas pelo IBGE

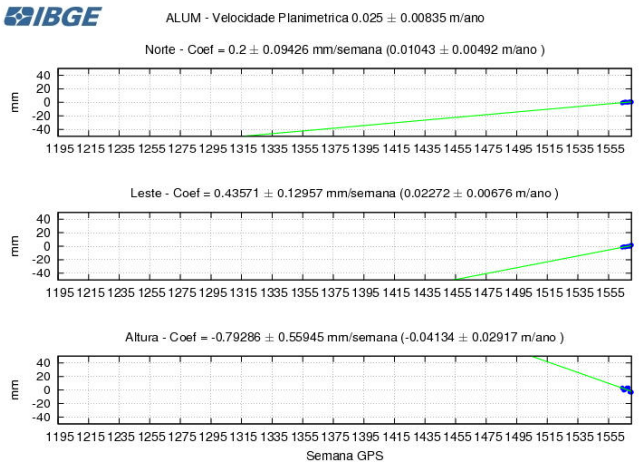
| EST | RECEPTOR | ANTENA | | ALTURA (m) | CIDADE | PAÍS |
|---|---|---|---|---|---|---|
| | | | | | | |
| **ALAR** | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0010 | Arapiraca | Brazil |
| ALUM | TRIMBLE NETR5 | TRM55971.00 | TZGD | 0.0000 | Mina Alumbrera | Argentina |
| AMHU | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Humaita | Brazil |
| ANTC | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Los Angeles | Chile |
| AREQ | ASHTECH UZ-12 | AOAD/M_T | JPLA | 0.0610 | Arequipa | Peru |
| AUTF | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Ushuaia | Argentina |
| AZUL | TRIMBLE NETR5 | TRM55971.00 | TZGD | 0.0000 | Azul | Argentina |
| BAIR | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Irece | Brazil |
| BANS | TRIMBLE 5700 | TRM29659.00 | NONE | 0.0000 | Barinas | Venezuela |
| BATF | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0100 | Teixeira de Freitas | Brazil |
| BAVC | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Vitória da Conquista | Brazil |
| BELE | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Belem | Brazil |
| BOAV | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Boa Vista | Brazil |
| BOGT | ASHTECH UZ-12 | ASH701945E_M | NONE | 0.0610 | Bogota | Colombia |
| BOMJ | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Bom Jesus da Lapa | Brazil |
| BRAZ | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Brasilia | Brazil |
| BRFT | LEICA GRX1200PRO | LEIAT504 | NONE | 0.0083 | Eusebio | Brazil |
| CALL | LEICA GRX1200GGPRO | LEIAT504GG | LEIS | 0.1100 | El Callao | Peru |
| CATA | TRIMBLE NETR5 | TRM55971.00 | TZGD | 0.0000 | San Fernando de Catamarca | Argentina |
| CEEU | LEICA GRX1200+GNSS | LEIAX1203+GNSS | NONE | 0.0020 | Euzebio | Brazil |
| CEFE | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Vitoria | Brazil |
| CFAG | TRIMBLE NETRS | ASH700936D_M | NONE | 0.0000 | Caucete | Argentina |
| CHPI | ASHTECH UZ-12 | ASH701945C_M | NONE | 0.0792 | Cachoeira | Brazil |
| CONZ | LEICA GRX1200GGPRO | TPSCR3_GGD | CONE | 0.0574 | Concepcion | Chile |
| COPO | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Copiapo | Chile |
| CORD | ASHTECH UZ-12 | ASH701945G_M | NONE | 0.0792 | Cordoba | Argentina |
| COYQ | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Coyhaique | Chile |
| CRAT | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Crato | Brazil |
| CRCS | TRIMBLE 5700 | TRM29659.00 | NONE | 0.0160 | Caracas | Venezuela |
| CRIS | SOK GSR2700 RS | NOV533+CR | NOVC | 0.1100 | San Cristobal | Venezuela |
| CRO1 | ASHTECH UZ-12 | ASH701945G_M | JPLA | 0.0814 | Saint Croix | USA |
| CRUZ | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Cruzeiro do Sul | Brazil |
| CSLO | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0000 | Complejo Astronomico El Leoncito | Argentina |
| CUEC | LEICA GRX1200GGPRO | LEIAT504GG | NONE | 0.0080 | Cuenca | Ecuador |
| CUIB | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Cuiaba | Brazil |
| CUM3 | SOK GSR2700 RS | NOV533+CR | NOVC | 0.1440 | Cumana | Venezuela |
| ESMR | TRIMBLE NETRS | TRM41249.00 | NONE | 1.1840 | Esmeraldas | Ecuador |
| ESQU | ASHTECH Z-XII3 | TRM41249.00 | NONE | 0.0000 | Esquel | Argentina |
| GLPS | ASHTECH UZ-12 | ASH701945B_M | SCIT | 0.0083 | Puerto Ayora | Ecuador |
| GOJA | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Jatai | Brazil |
| GVAL | ASHTECH UZ-12 | ASH700700.B | NONE | 0.0500 | Gov. Valadares | Brazil |
| GYEC | LEICA GRX1200GGPRO | LEIAT504GG | NONE | 0.0080 | Guayaquil | Ecuador |
| IGM1 | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Buenos Aires | Argentina |
| ILHA | LEICA GRX1200GGPRO | LEIAX1202GG | NONE | 0.0080 | Ilha Solteira | Brazil |
| IMBT | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Imbituba | Brazil |

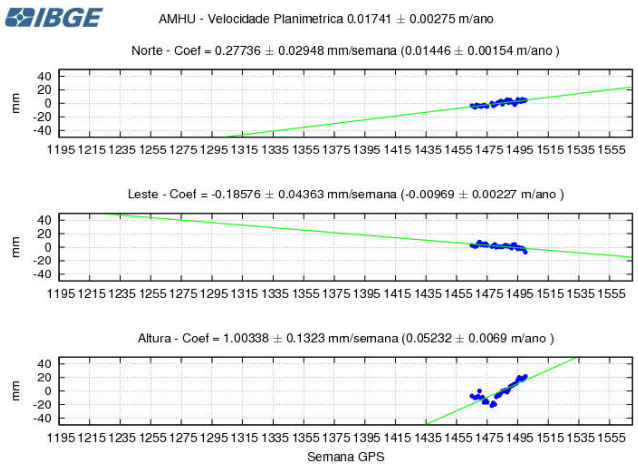
| | | | | | | |
|---|---|---|---|---|---|---|
| IMPZ | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Imperatriz | Brazil |
| IQQE | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Iquique | Chile |
| IQUI | LEICA GRX1200GGPRO | LEIAT504GG | LEIS | 0.0000 | Iquitos | Peru |
| ISPA | ASHTECH UZ-12 | ASH701945E_M | SCIT | 0.0083 | Easter Island | Chile |
| JBAL | TRIMBLE NETRS | TRM41249.00 | TZGD | 0.0000 | Juan Bautista Alberdi | Argentina |
| KOUR | JPS LEGACY | ASH701946.3 | NONE | 0.0450 | Kourou | France |
| LHCL | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Lihuel Calel | Argentina |
| LJEC | LEICA GRX1200GGPRO | LEIAT504GG | NONE | 0.0080 | Loja | Ecuador |
| LPGS | AOA BENCHMARK ACT | AOAD/M_T | NONE | 0.0460 | La Plata | Argentina |
| MABA | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Maraba | Brazil |
| MANA | TRIMBLE 4000SSI | TRM29659.00 | UNAV | 0.0000 | Managua | Nicaragua |
| MAPA | TRIMBLE NETRS | TRM29659.00 | NONE | 0.0880 | Macapa | Brazil |
| MARA | SOK GSR2700 RS | NOV533+CR | NOVC | 0.0780 | Maracaibo | Venezuela |
| MCLA | ASHTECH UZ-12 | ASH700700.B | NONE | 0.0600 | Montes Claros | Brazil |
| MECO | TRIMBLE NETRS | TRM41249.00 | TZGD | 0.5350 | Mercedes | Argentina |
| MGBH | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0060 | Belo Horizonte | Brazil |
| MGIN | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Inconfidentes | Brazil |
| MGMC | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Montes Claros | Brazil |
| MGUB | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Uberlandia | Brazil |
| MPLA | LEICA MC1000 | LEIAT504 | LEIS | 0.0000 | Mar del Plata | Argentina |
| MSCG | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Campo Grande | Brazil |
| MSDO | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Dourados | Brazil |
| MTBA | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Barra do Garças | Brazil |
| MTCO | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Colider | Brazil |
| MTSF | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | São Felix do Araguaia | Brazil |
| MZAC | ASHTECH Z-XII3 | ASH701933C_M | SNOW | 0.0000 | Mendoza | Argentina |
| MZAE | TRIMBLE NETRS | TRM29659.00 | UNAV | 0.0000 | Santa Rosa | Argentina |
| MZAS | TRIMBLE NETRS | TRM29659.00 | UNAV | 0.0000 | San Rafael | Argentina |
| NAUS | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Manaus | Brazil |
| NEIA | TRIMBLE NETR8 | TRM59800.00 | NONE | 0.1003 | Cananeia | Brazil |
| OHI2 | JPS E_GGD | TPSCR.G3 | TPSH | 0.0375 | O'Higgins | Antartica |
| ONRJ | LEICA GRX1200+GNSS | LEIAX1203+GNSS | NONE | 0.0080 | Rio de Janeiro | Brazil |
| OURI | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Ourinhos | Brazil |
| PALM | ASHTECH UZ-12 | ASH700936D_M | SCIS | 0.0794 | Palmer | Antartica |
| PARC | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Punta Arenas | Chile |
| PBCG | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Campina Grande | Brazil |
| PDE2 | LEICA RS500 | LEIAT504 | LEIS | 0.0000 | Puerto Deseado | Argentina |
| PEPE | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Petrolina | Brazil |
| PISR | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | São Raimundo Nonato | Brazil |
| PMB1 | TRIMBLE NETRS | TRM55971.00 | NONE | 0.0000 | Paramaribo | Surinam |
| POAL | TRIMBLE NETRS | TRM29659.00 | NONE | 0.0075 | Porto Alegre | Brazil |
| POLI | LEICA GRX1200 PRO | LEIAX1202 | NONE | 0.0500 | Sao Paulo | Brazil |
| POVE | TRIMBLE NETR5 | TRM29659.00 | NONE | 0.0075 | Porto Velho | Brazil |
| PPTE | TRIMBLE NETR8 | TRM59800.00 | NONE | 0.0020 | Presidente Prudente | Brazil |
| PRGU | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Guarapuava | Brazil |
| PRMA | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Maringá | Brazil |
| PTEC | LEICA GRX1200GGPRO | LEIAT504GG | NONE | 0.0080 | Portoviejo | Ecuador |
| QUI1 | ASHTECH Z-XII3 | ASH700936B_M | SNOW | 0.0000 | Quito | Ecuador |
| RECF | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0710 | Recife | Brazil |
| RIO2 | ASHTECH Z-XII3 | ASH700936C_M | SNOW | 0.0350 | Rio Grande | Argentina |
| RIOB | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Rio Branco | Brazil |
| RIOD | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Rio de Janeiro | Brazil |
| RIOP | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0729 | Riobamba | Ecuador |
| | | | | | | |

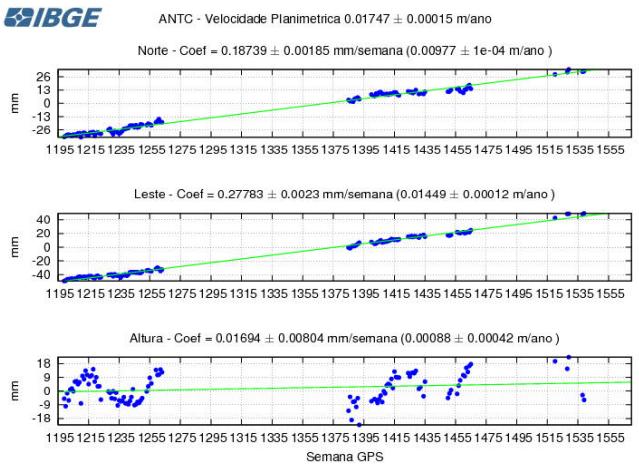
| | | | | | | |
|---|---|---|---|---|---|---|
| RJCG | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Campos dos Goytacazes | Brazil |
| RNMO | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Mossoro | Brazil |
| RNNA | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Natal | Brazil |
| ROGM | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Guajara-Mirim | Brazil |
| ROJI | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Ji-Paraná | Brazil |
| ROSA | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Rosana | Brazil |
| RWSN | ASHTECH UZ-12 | ASH700936D_M | NONE | 0.0000 | Rawson | Argentina |
| SAGA | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0100 | S.G.da Cachoeira | Brazil |
| SALU | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Sao Luis | Brazil |
| SALV | TRIMBLE 4000SSI | TRM29659.00 | NONE | 0.1570 | Salvador | Brazil |
| SANT | ASHTECH UZ-12 | AOAD/M_T | JPLA | 0.0614 | Santiago de Chile | Chile |
| SAVO | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0010 | Salvador | Brazil |
| SCCH | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Chapecó | Brazil |
| SCLA | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0000 | Lages | Brazil |
| SCRZ | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0000 | Santa Cruz de la Sierra | Bolivia |
| SCUB | ASHTECH Z-XII3 | ASH700936C_M | SNOW | 0.0460 | Santiago de Cuba | Cuba |
| SJRP | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Sao Jose do Rio Preto | Brazil |
| SL01 | TRIMBLE NETR5 | TRM57971.00 | TZGD | 0.0000 | La Punta - San Luis | Argentina |
| SMAR | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Santa Maria | Brazil |
| SRLP | NOV MILLEN-STD | AERAT2775_43 | NONE | 0.0000 | Santa Rosa | Argentina |
| SRNW | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0000 | Nieuw Nickerie | Surinam |
| SRZN | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0000 | Paramatibo | Surinam |
| SSA1 | TRIMBLE 4000SSI | TRM29659.00 | NONE | 0.0000 | Salvador Capitania | Brazil |
| SVIC | ASHTECH Z-XII3 | TRM41249.00 | NONE | 0.0000 | San Vicente | Argentina |
| TOGU | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Gurupi | Brazil |
| TOPL | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0080 | Palmas | Brazil |
| TUCU | TRIMBLE NETRS | ASH700936C_M | SNOW | 0.0000 | Tucuman | Argentina |
| UBAT | TRIMBLE NETR8 | TRM59800.00 | NONE | 0.1000 | Ubatuba | Brazil |
| UBER | ASHTECH UZ-12 | ASH700700.B | NONE | 0.0400 | Uberlandia | Brazil |
| UCOR | SOKKIA GSR2700 RSX | NOV702GG | NONE | 0.0000 | Cordoba | Argentina |
| UFPR | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.1000 | Curitiba | Brazil |
| UNRO | ASHTECH Z-XII3 | TRM41249.00 | NONE | 0.0000 | Rosario | Argentina |
| UNSA | SEPT POLARX2 | TPSCR3_GGD | NONE | 0.1300 | Salta | Argentina |
| UNSJ | ASHTECH Z-XII3 | TRM41249.00 | NONE | 0.0000 | San Juan | Argentina |
| URUS | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0000 | Oruro | Bolivia |
| UYMO | LEICA GRX1200PRO | LEIAT504GG | LEIS | 0.0000 | Montevideo | Uruguay |
| UYRO | LEICA GRX1200PRO | LEIAX1202GG | NONE | 0.0000 | Santa Teresa National Park | Uruguay |
| UYTA | TRIMBLE NETRS | TRM41249.00 | NONE | 0.0000 | Tacuarembó | Uruguay |
| VALP | TRIMBLE NETRS | ASH700936D_M | SNOW | 0.0000 | Valparaiso | Chile |
| VARG | ASHTECH UZ-12 | ASH700700.B | NONE | 0.0650 | Varginha | Brazil |
| VBCA | LEICA SR9500 | LEIAT303 | NONE | 1.0707 | Bahia Blanca | Argentina |
| VESL | TPS GB-1000 | TRM29659.00 | TCWD | -0.0112 | Sanae Veslesk. | Antartica |
| VICO | TRIMBLE NETR5 | TRM55971.00 | NONE | 0.0080 | Vicosa | Brazil |

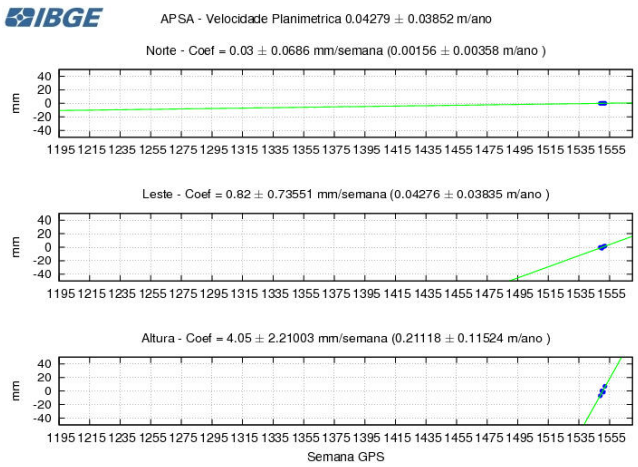
# ANEXO 02 – SÉRIE TEMPORAL DAS ESTAÇÕES

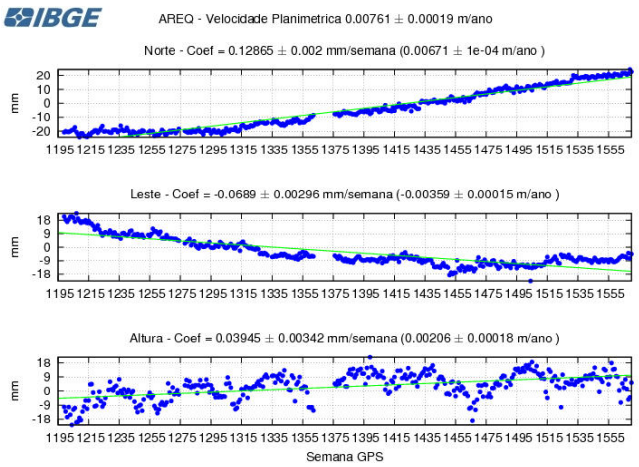


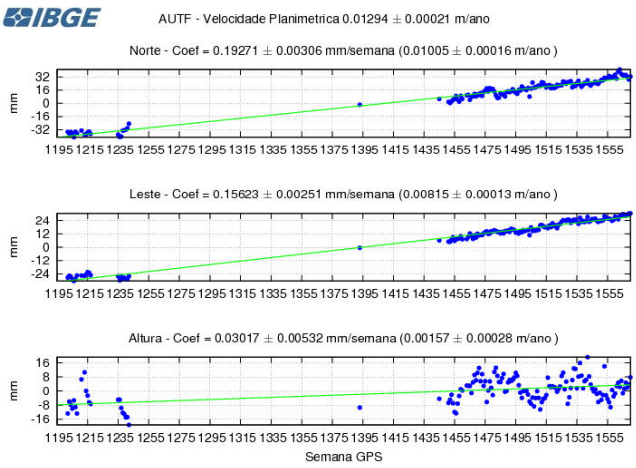



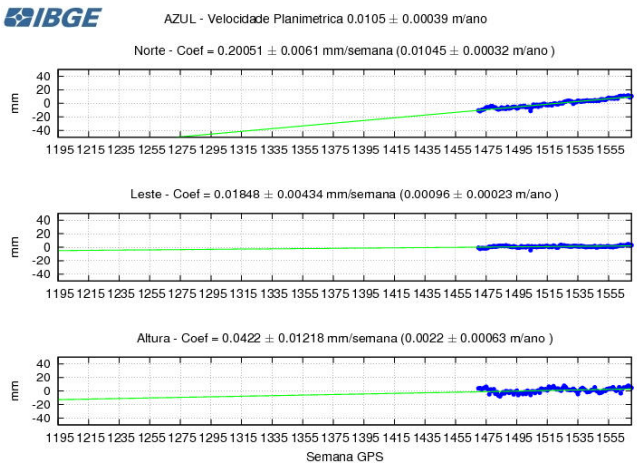



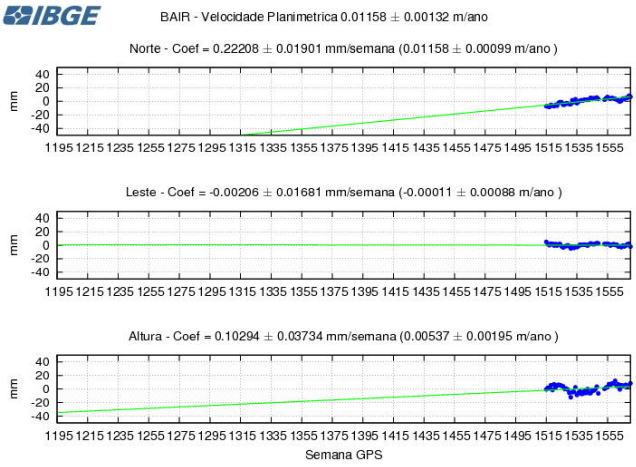



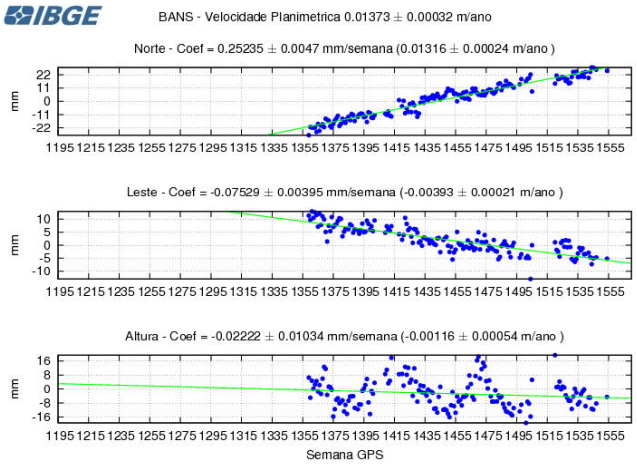



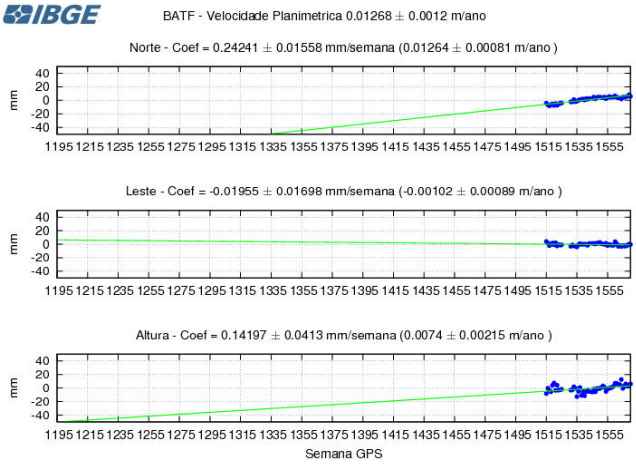



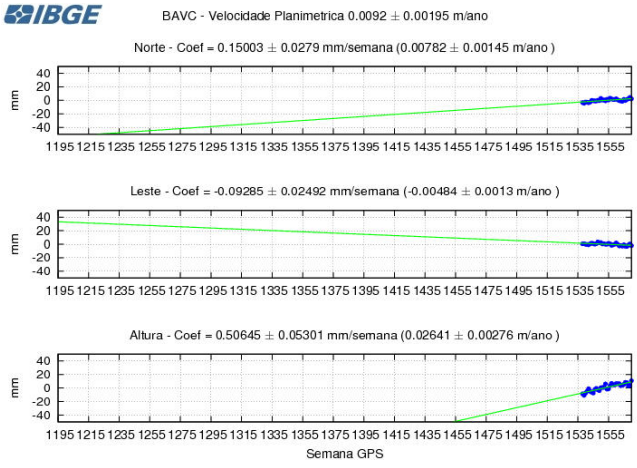

IBGE
AUTF - Velocidade Planimetrica 0.01294 ± 0.00021 m/ano
Norte - Coef = 0.19271 ± 0.00306 mm/semana (0.01005 ± 0.00016 m/ano )
Leste - Coef = 0.15623 ± 0.00251 mm/semana (0.00815 ± 0.00013 m/ano )
Altura - Coef = 0.03017 ± 0.00532 mm/semana (0.00157 ± 0.00028 m/ano )
mm
Semana GPS

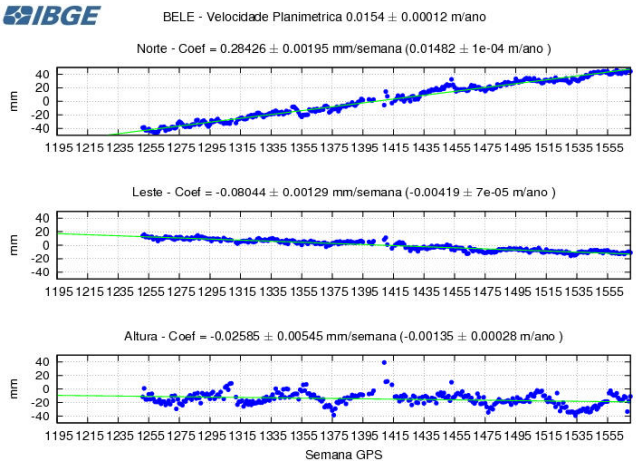

IBGE
AZUL - Velocidade Planimetrica 0.0105 ± 0.00039 m/ano
Norte - Coef = 0.20051 ± 0.0061 mm/semana (0.01045 ± 0.00032 m/ano )
Leste - Coef = 0.01848 ± 0.00434 mm/semana (0.00096 ± 0.00023 m/ano )
Altura - Coef = 0.0422 ± 0.01218 mm/semana (0.0022 ± 0.00063 m/ano )
mm
Semana GPS

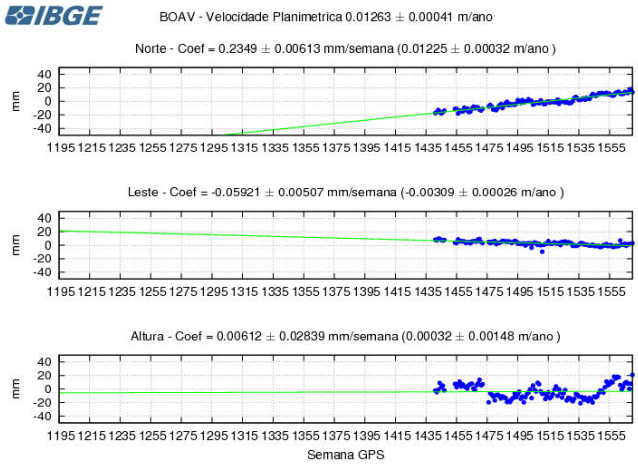

IBGE
BAIR - Velocidade Planimetrica 0.01158 ± 0.00132 m/ano
Norte - Coef = 0.22208 ± 0.01901 mm/semana (0.01158 ± 0.00099 m/ano )
Leste - Coef = -0.00206 ± 0.01681 mm/semana (-0.00011 ± 0.00088 m/ano )
Altura - Coef = 0.10294 ± 0.03734 mm/semana (0.00537 ± 0.00195 m/ano )
mm
Semana GPS

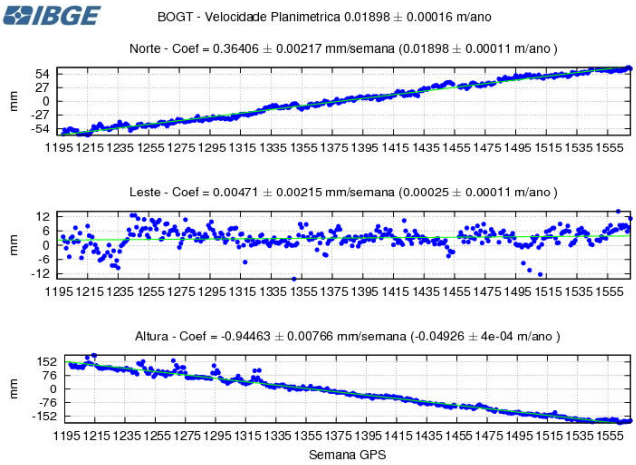

IBGE
BANS - Velocidade Planimetrica 0.01373 ± 0.00032 m/ano
Norte - Coef = 0.25235 ± 0.0047 mm/semana (0.01316 ± 0.00024 m/ano )
Leste - Coef = -0.07529 ± 0.00395 mm/semana (-0.00393 ± 0.00021 m/ano )
Altura - Coef = -0.02222 ± 0.01034 mm/semana (-0.00116 ± 0.00054 m/ano )
mm
Semana GPS

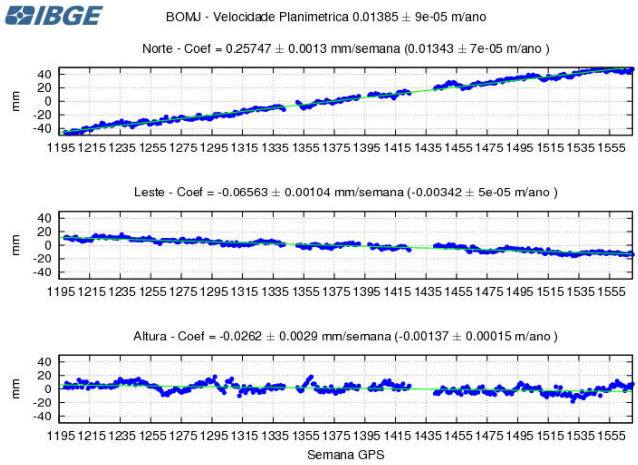

IBGE
BATF - Velocidade Planimetrica 0.01268 ± 0.0012 m/ano
Norte - Coef = 0.24241 ± 0.01558 mm/semana (0.01264 ± 0.00081 m/ano )
Leste - Coef = -0.01955 ± 0.01698 mm/semana (-0.00102 ± 0.00089 m/ano )
Altura - Coef = 0.14197 ± 0.0413 mm/semana (0.0074 ± 0.00215 m/ano )
mm
Semana GPS

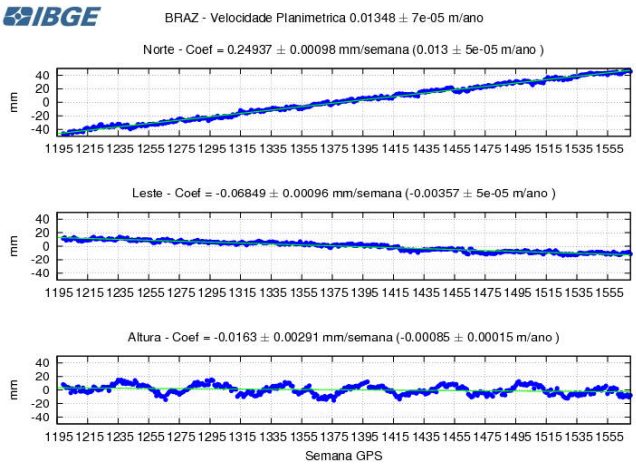

IBGE
BAVC - Velocidade Planimetrica 0.0092 ± 0.00195 m/ano
Norte - Coef = 0.15003 ± 0.0279 mm/semana (0.00782 ± 0.00145 m/ano )
Leste - Coef = -0.09285 ± 0.02492 mm/semana (-0.00484 ± 0.0013 m/ano )
Altura - Coef = 0.50645 ± 0.05301 mm/semana (0.02641 ± 0.00276 m/ano )
mm
Semana GPS

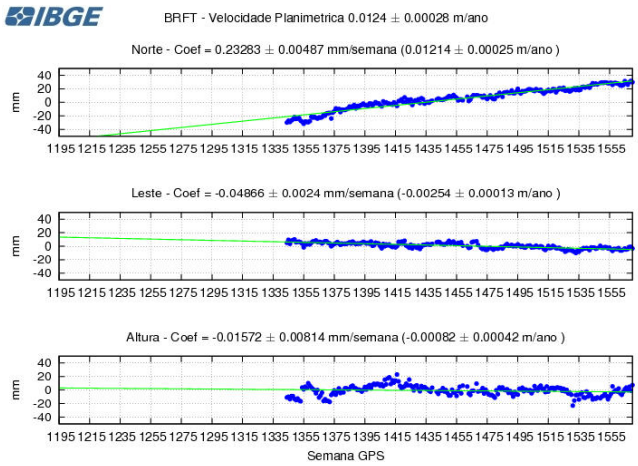

IBGE
BELE - Velocidade Planimetrica 0.0154 ± 0.00012 m/ano
Norte - Coef = 0.28426 ± 0.00195 mm/semana (0.01482 ± 1e-04 m/ano )
Leste - Coef = -0.08044 ± 0.00129 mm/semana (-0.00419 ± 7e-05 m/ano )
Altura - Coef = -0.02585 ± 0.00545 mm/semana (-0.00135 ± 0.00028 m/ano )
mm
Semana GPS

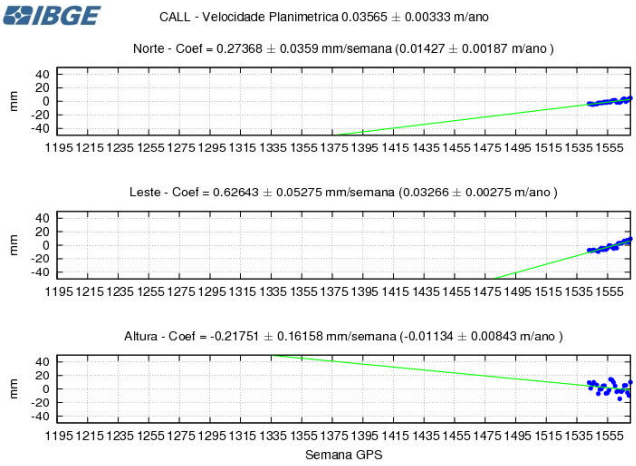

IBGE
BOAV - Velocidade Planimetrica 0.01263 ± 0.00041 m/ano
Norte - Coef = 0.2349 ± 0.00613 mm/semana (0.01225 ± 0.00032 m/ano )
Leste - Coef = -0.05921 ± 0.00507 mm/semana (-0.00309 ± 0.00026 m/ano )
Altura - Coef = 0.00612 ± 0.02839 mm/semana (0.00032 ± 0.00148 m/ano )
mm
Semana GPS

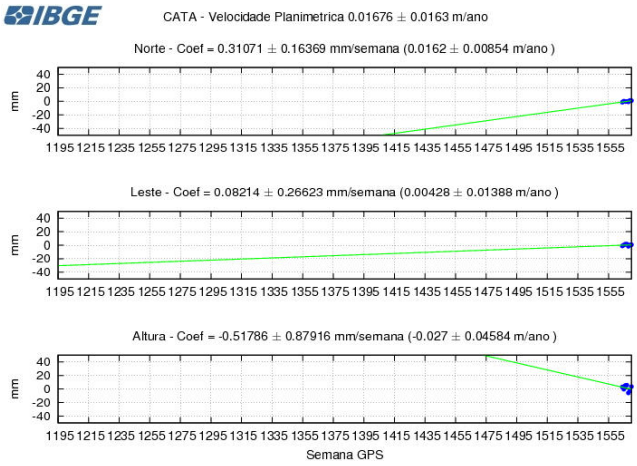

IBGE
BOGT - Velocidade Planimetrica 0.01898 ± 0.00016 m/ano
Norte - Coef = 0.36406 ± 0.00217 mm/semana (0.01898 ± 0.00011 m/ano )
Leste - Coef = 0.00471 ± 0.00215 mm/semana (0.00025 ± 0.00011 m/ano )
Altura - Coef = -0.94463 ± 0.00766 mm/semana (-0.04926 ± 4e-04 m/ano )
mm
Semana GPS

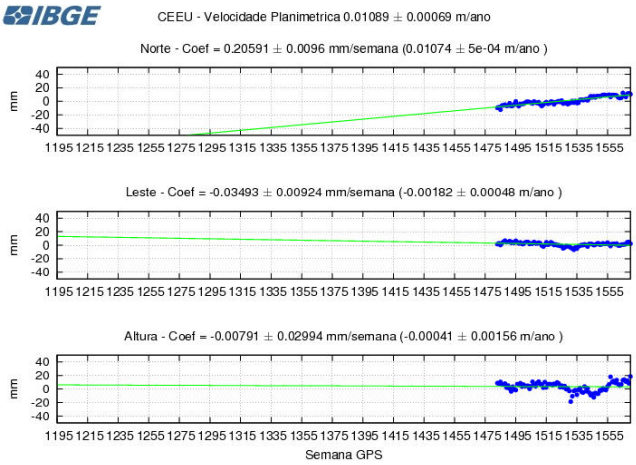

IBGE
BOMJ - Velocidade Planimetrica 0.01385 ± 9e-05 m/ano
Norte - Coef = 0.25747 ± 0.0013 mm/semana (0.01343 ± 7e-05 m/ano )
Leste - Coef = -0.06563 ± 0.00104 mm/semana (-0.00342 ± 5e-05 m/ano )
Altura - Coef = -0.0262 ± 0.0029 mm/semana (-0.00137 ± 0.00015 m/ano )
mm
Semana GPS

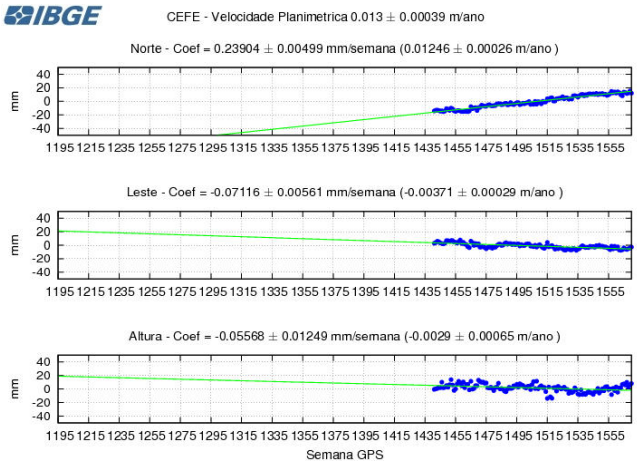

IBGE
BRAZ - Velocidade Planimetrica 0.01348 ± 7e-05 m/ano
Norte - Coef = 0.24937 ± 0.00098 mm/semana (0.013 ± 5e-05 m/ano )
Leste - Coef = -0.06849 ± 0.00096 mm/semana (-0.00357 ± 5e-05 m/ano )
Altura - Coef = -0.0163 ± 0.00291 mm/semana (-0.00085 ± 0.00015 m/ano )
mm
Semana GPS

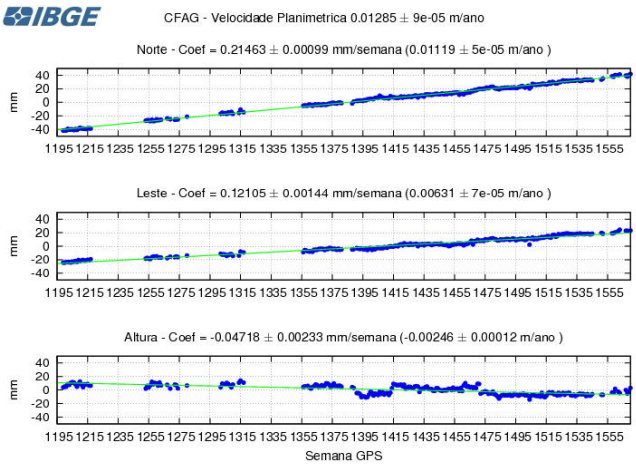

IBGE
BRFT - Velocidade Planimetrica 0.0124 ± 0.00028 m/ano
Norte - Coef = 0.23283 ± 0.00487 mm/semana (0.01214 ± 0.00025 m/ano )
Leste - Coef = -0.04866 ± 0.0024 mm/semana (-0.00254 ± 0.00013 m/ano )
Altura - Coef = -0.01572 ± 0.00814 mm/semana (-0.00082 ± 0.00042 m/ano )
mm
Semana GPS

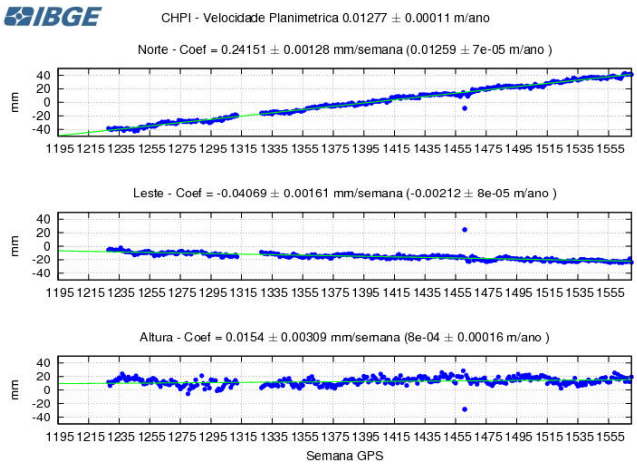

IBGE
CALL - Velocidade Planimetrica 0.03565 ± 0.00333 m/ano
Norte - Coef = 0.27368 ± 0.0359 mm/semana (0.01427 ± 0.00187 m/ano )
Leste - Coef = 0.62643 ± 0.05275 mm/semana (0.03266 ± 0.00275 m/ano )
Altura - Coef = -0.21751 ± 0.16158 mm/semana (-0.01134 ± 0.00843 m/ano )
mm
Semana GPS

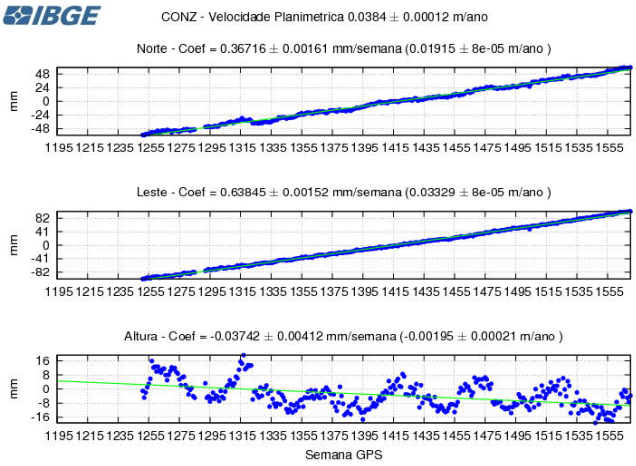

IBGE
CATA - Velocidade Planimetrica 0.01676 ± 0.0163 m/ano
Norte - Coef = 0.31071 ± 0.16369 mm/semana (0.0162 ± 0.00854 m/ano )
Leste - Coef = 0.08214 ± 0.26623 mm/semana (0.00428 ± 0.01388 m/ano )
Altura - Coef = -0.51786 ± 0.87916 mm/semana (-0.027 ± 0.04584 m/ano )
mm
Semana GPS

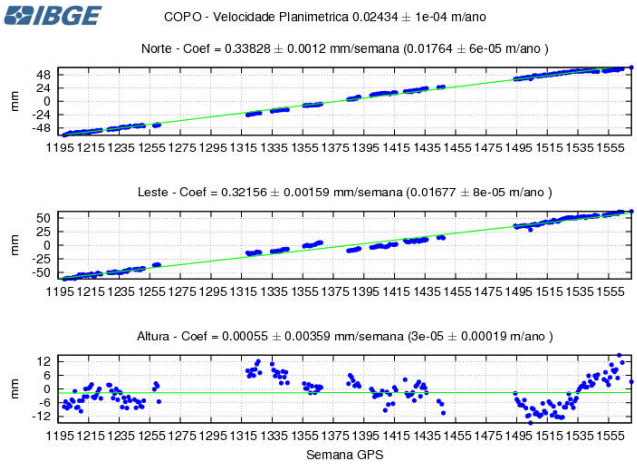

IBGE
CEEU - Velocidade Planimetrica 0.01089 ± 0.00069 m/ano
Norte - Coef = 0.20591 ± 0.0096 mm/semana (0.01074 ± 5e-04 m/ano )
Leste - Coef = -0.03493 ± 0.00924 mm/semana (-0.00182 ± 0.00048 m/ano )
Altura - Coef = -0.00791 ± 0.02994 mm/semana (-0.00041 ± 0.00156 m/ano )
mm
Semana GPS

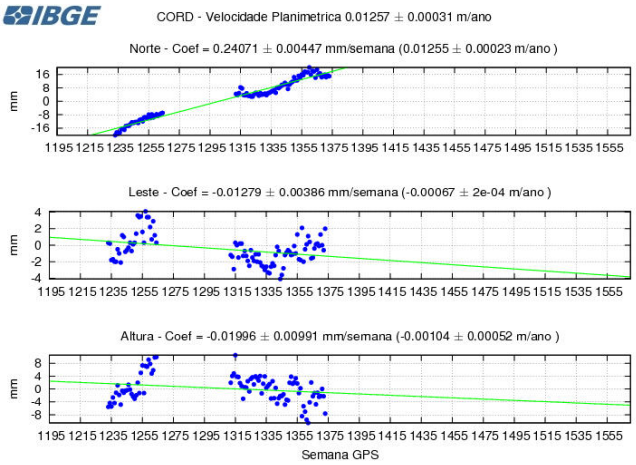

IBGE
CEFE - Velocidade Planimetrica 0.013 ± 0.00039 m/ano
Norte - Coef = 0.23904 ± 0.00499 mm/semana (0.01246 ± 0.00026 m/ano )
Leste - Coef = -0.07116 ± 0.00561 mm/semana (-0.00371 ± 0.00029 m/ano )
Altura - Coef = -0.05568 ± 0.01249 mm/semana (-0.0029 ± 0.00065 m/ano )
mm
Semana GPS

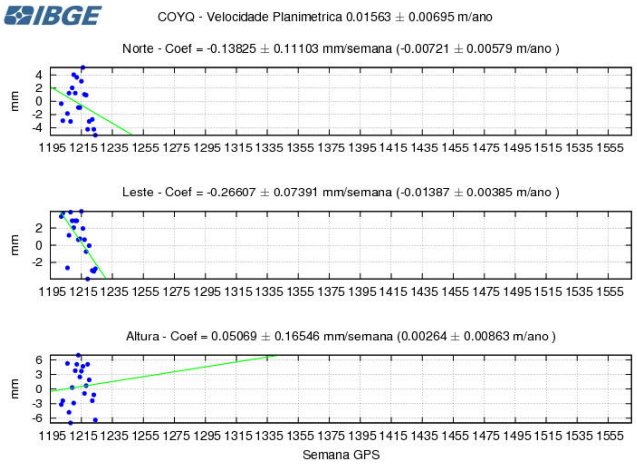

IBGE
CFAG - Velocidade Planimetrica 0.01285 ± 9e-05 m/ano
Norte - Coef = 0.21463 ± 0.00099 mm/semana (0.01119 ± 5e-05 m/ano )
Leste - Coef = 0.12105 ± 0.00144 mm/semana (0.00631 ± 7e-05 m/ano )
Altura - Coef = -0.04718 ± 0.00233 mm/semana (-0.00246 ± 0.00012 m/ano )
mm
Semana GPS

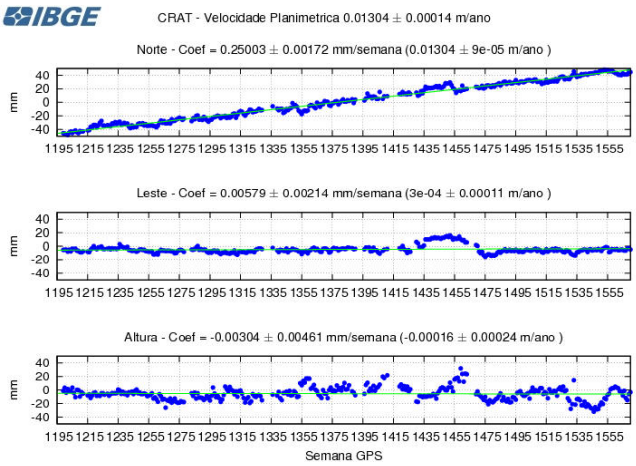

IBGE
CHPI - Velocidade Planimetrica 0.01277 ± 0.00011 m/ano
Norte - Coef = 0.24151 ± 0.00128 mm/semana (0.01259 ± 7e-05 m/ano )
Leste - Coef = -0.04069 ± 0.00161 mm/semana (-0.00212 ± 8e-05 m/ano )
Altura - Coef = 0.0154 ± 0.00309 mm/semana (8e-04 ± 0.00016 m/ano )
mm
Semana GPS

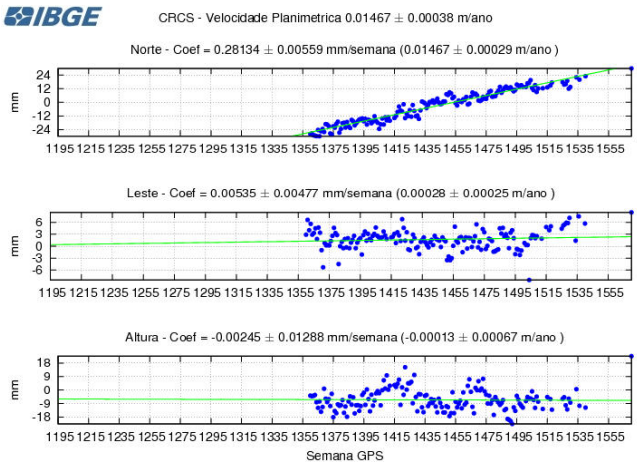

IBGE
CONZ - Velocidade Planimetrica 0.0384 ± 0.00012 m/ano
Norte - Coef = 0.36716 ± 0.00161 mm/semana (0.01915 ± 8e-05 m/ano )
Leste - Coef = 0.63845 ± 0.00152 mm/semana (0.03329 ± 8e-05 m/ano )
Altura - Coef = -0.03742 ± 0.00412 mm/semana (-0.00195 ± 0.00021 m/ano )
mm
Semana GPS

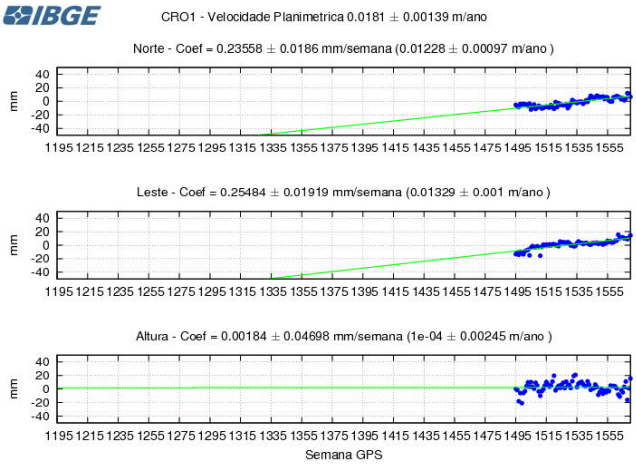

IBGE
COPO - Velocidade Planimetrica 0.02434 ± 1e-04 m/ano
Norte - Coef = 0.33828 ± 0.0012 mm/semana (0.01764 ± 6e-05 m/ano )
Leste - Coef = 0.32156 ± 0.00159 mm/semana (0.01677 ± 8e-05 m/ano )
Altura - Coef = 0.00055 ± 0.00359 mm/semana (3e-05 ± 0.00019 m/ano )
mm
Semana GPS

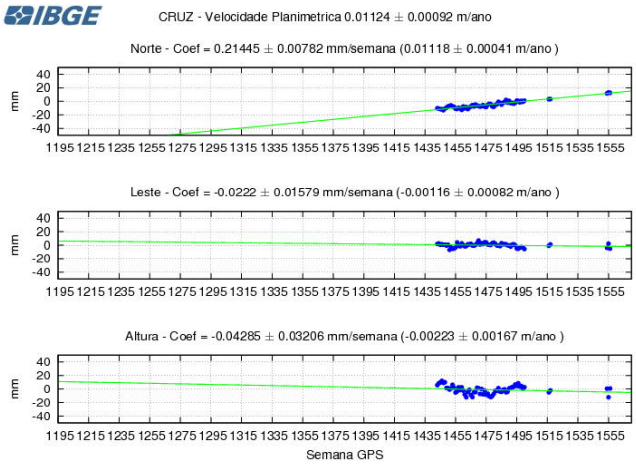

IBGE
CORD - Velocidade Planimetrica 0.01257 ± 0.00031 m/ano
Norte - Coef = 0.24071 ± 0.00447 mm/semana (0.01255 ± 0.00023 m/ano )
Leste - Coef = -0.01279 ± 0.00386 mm/semana (-0.00067 ± 2e-04 m/ano )
Altura - Coef = -0.01996 ± 0.00991 mm/semana (-0.00104 ± 0.00052 m/ano )
mm
Semana GPS

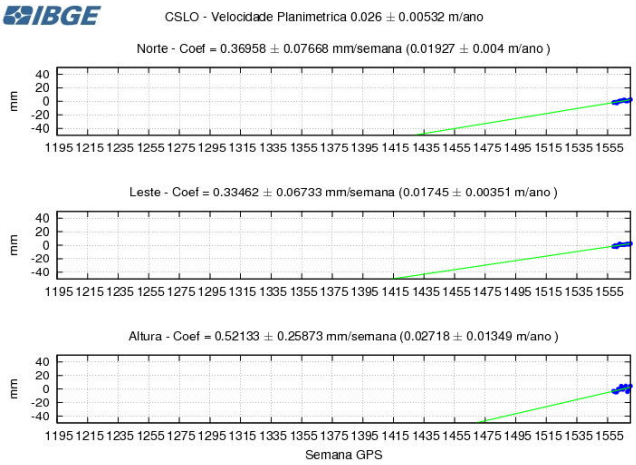

IBGE
COYQ - Velocidade Planimetrica 0.01563 ± 0.00695 m/ano
Norte - Coef = -0.13825 ± 0.11103 mm/semana (-0.00721 ± 0.00579 m/ano )
Leste - Coef = -0.26607 ± 0.07391 mm/semana (-0.01387 ± 0.00385 m/ano )
Altura - Coef = 0.05069 ± 0.16546 mm/semana (0.00264 ± 0.00863 m/ano )
mm
Semana GPS

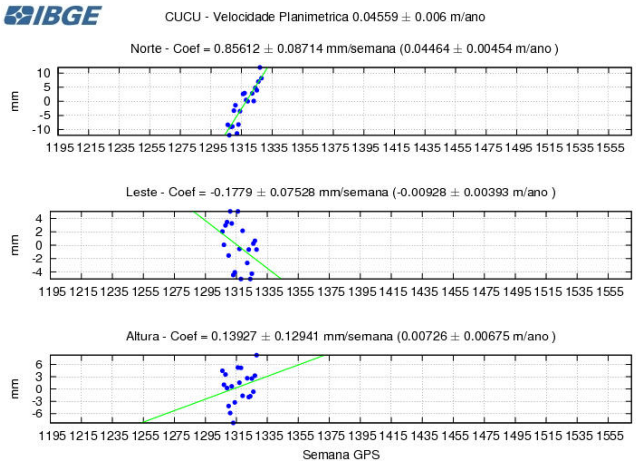

IBGE
CRAT - Velocidade Planimetrica 0.01304 ± 0.00014 m/ano
Norte - Coef = 0.25003 ± 0.00172 mm/semana (0.01304 ± 9e-05 m/ano )
Leste - Coef = 0.00579 ± 0.00214 mm/semana (3e-04 ± 0.00011 m/ano )
Altura - Coef = -0.00304 ± 0.00461 mm/semana (-0.00016 ± 0.00024 m/ano )
mm
Semana GPS

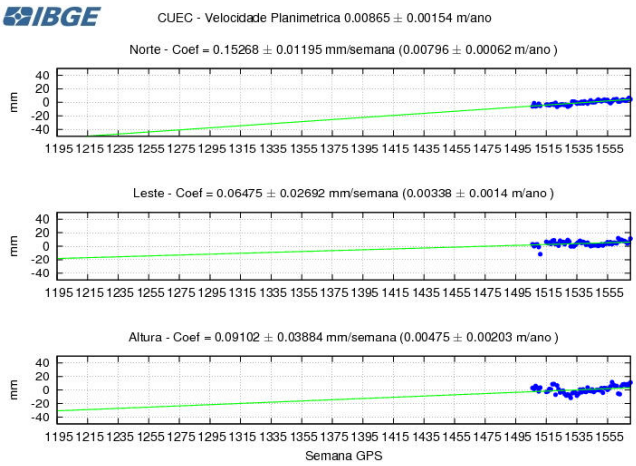

IBGE
CRCS - Velocidade Planimetrica 0.01467 ± 0.00038 m/ano
Norte - Coef = 0.28134 ± 0.00559 mm/semana (0.01467 ± 0.00029 m/ano )
Leste - Coef = 0.00535 ± 0.00477 mm/semana (0.00028 ± 0.00025 m/ano )
Altura - Coef = -0.00245 ± 0.01288 mm/semana (-0.00013 ± 0.00067 m/ano )
mm
Semana GPS

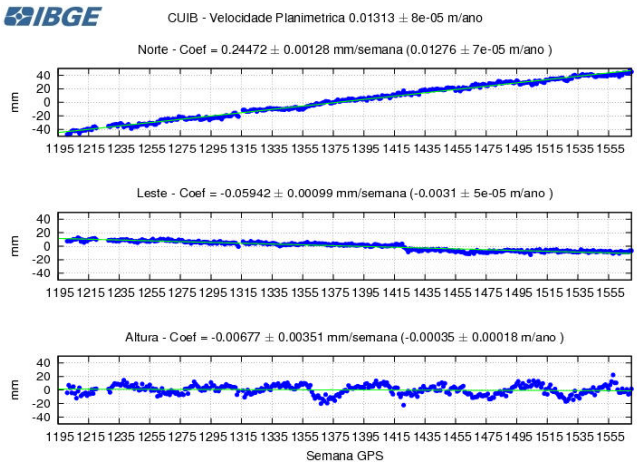

IBGE
CRO1 - Velocidade Planimetrica 0.0181 ± 0.00139 m/ano
Norte - Coef = 0.23558 ± 0.0186 mm/semana (0.01228 ± 0.00097 m/ano )
Leste - Coef = 0.25484 ± 0.01919 mm/semana (0.01329 ± 0.001 m/ano )
Altura - Coef = 0.00184 ± 0.04698 mm/semana (1e-04 ± 0.00245 m/ano )
mm
Semana GPS

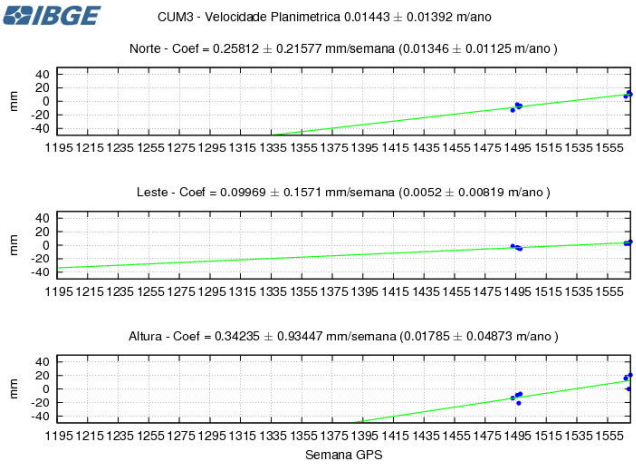

IBGE
CRUZ - Velocidade Planimetrica 0.01124 ± 0.00092 m/ano
Norte - Coef = 0.21445 ± 0.00782 mm/semana (0.01118 ± 0.00041 m/ano )
Leste - Coef = -0.0222 ± 0.01579 mm/semana (-0.00116 ± 0.00082 m/ano )
Altura - Coef = -0.04285 ± 0.03206 mm/semana (-0.00223 ± 0.00167 m/ano )
mm
Semana GPS

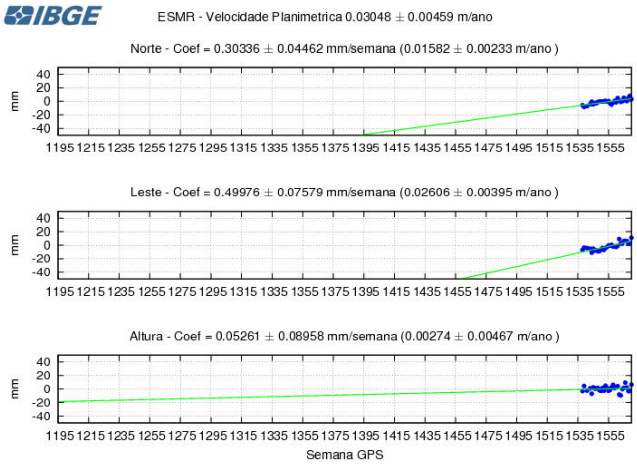

IBGE
CSLO - Velocidade Planimetrica 0.026 ± 0.00532 m/ano
Norte - Coef = 0.36958 ± 0.07668 mm/semana (0.01927 ± 0.004 m/ano )
Leste - Coef = 0.33462 ± 0.06733 mm/semana (0.01745 ± 0.00351 m/ano )
Altura - Coef = 0.52133 ± 0.25873 mm/semana (0.02718 ± 0.01349 m/ano )
mm
Semana GPS

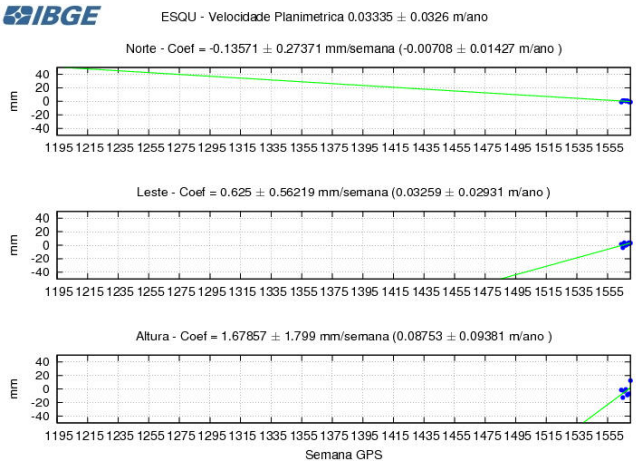

IBGE
CUCU - Velocidade Planimetrica 0.04559 ± 0.006 m/ano
Norte - Coef = 0.85612 ± 0.08714 mm/semana (0.04464 ± 0.00454 m/ano )
Leste - Coef = -0.1779 ± 0.07528 mm/semana (-0.00928 ± 0.00393 m/ano )
Altura - Coef = 0.13927 ± 0.12941 mm/semana (0.00726 ± 0.00675 m/ano )
mm
Semana GPS

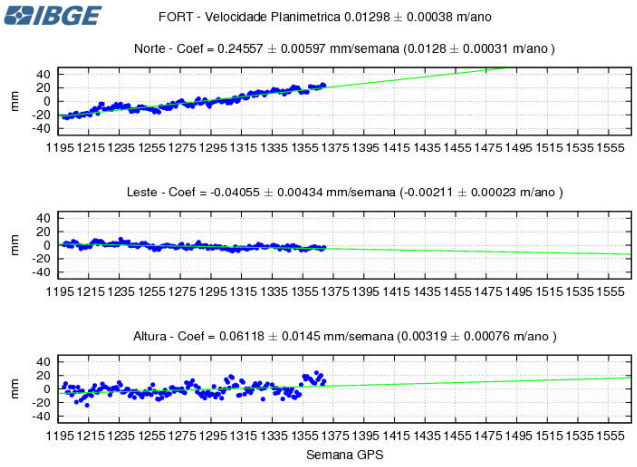

IBGE
CUEC - Velocidade Planimetrica 0.00865 ± 0.00154 m/ano
Norte - Coef = 0.15268 ± 0.01195 mm/semana (0.00796 ± 0.00062 m/ano )
Leste - Coef = 0.06475 ± 0.02692 mm/semana (0.00338 ± 0.0014 m/ano )
Altura - Coef = 0.09102 ± 0.03884 mm/semana (0.00475 ± 0.00203 m/ano )
mm
Semana GPS

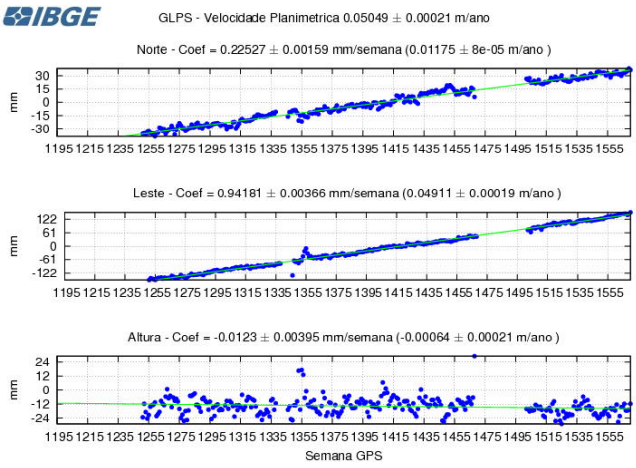

IBGE
CUIB - Velocidade Planimetrica 0.01313 ± 8e-05 m/ano
Norte - Coef = 0.24472 ± 0.00128 mm/semana (0.01276 ± 7e-05 m/ano )
Leste - Coef = -0.05942 ± 0.00099 mm/semana (-0.0031 ± 5e-05 m/ano )
Altura - Coef = -0.00677 ± 0.00351 mm/semana (-0.00035 ± 0.00018 m/ano )
mm
Semana GPS

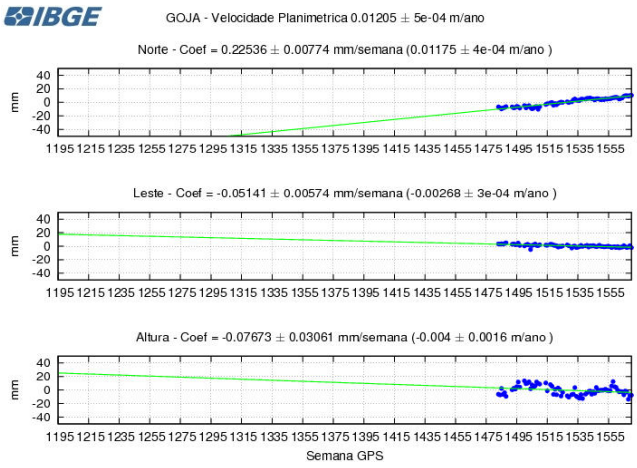

IBGE
CUM3 - Velocidade Planimetrica 0.01443 ± 0.01392 m/ano
Norte - Coef = 0.25812 ± 0.21577 mm/semana (0.01346 ± 0.01125 m/ano )
Leste - Coef = 0.09969 ± 0.1571 mm/semana (0.0052 ± 0.00819 m/ano )
Altura - Coef = 0.34235 ± 0.93447 mm/semana (0.01785 ± 0.04873 m/ano )
mm
Semana GPS

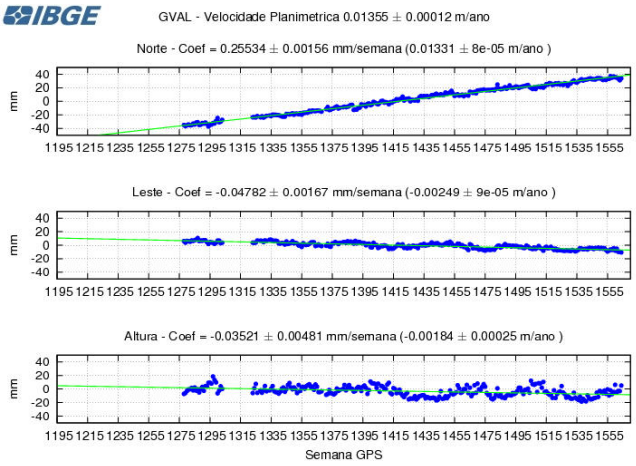

IBGE
ESMR - Velocidade Planimetrica 0.03048 ± 0.00459 m/ano
Norte - Coef = 0.30336 ± 0.04462 mm/semana (0.01582 ± 0.00233 m/ano )
Leste - Coef = 0.49976 ± 0.07579 mm/semana (0.02606 ± 0.00395 m/ano )
Altura - Coef = 0.05261 ± 0.08958 mm/semana (0.00274 ± 0.00467 m/ano )
mm
Semana GPS

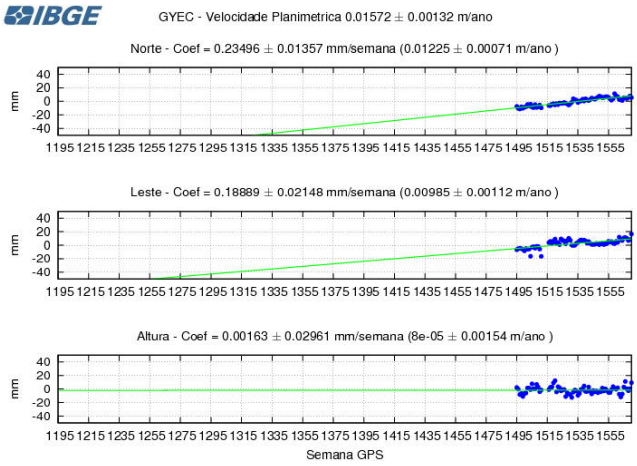

IBGE
ESQU - Velocidade Planimetrica 0.03335 ± 0.0326 m/ano
Norte - Coef = -0.13571 ± 0.27371 mm/semana (-0.00708 ± 0.01427 m/ano )
Leste - Coef = 0.625 ± 0.56219 mm/semana (0.03259 ± 0.02931 m/ano )
Altura - Coef = 1.67857 ± 1.799 mm/semana (0.08753 ± 0.09381 m/ano )
mm
Semana GPS

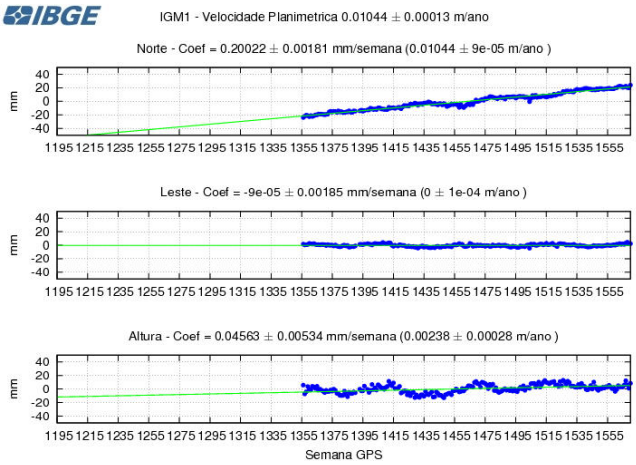

IBGE
FORT - Velocidade Planimetrica 0.01298 ± 0.00038 m/ano
Norte - Coef = 0.24557 ± 0.00597 mm/semana (0.0128 ± 0.00031 m/ano )
Leste - Coef = -0.04055 ± 0.00434 mm/semana (-0.00211 ± 0.00023 m/ano )
Altura - Coef = 0.06118 ± 0.0145 mm/semana (0.00319 ± 0.00076 m/ano )
mm
Semana GPS

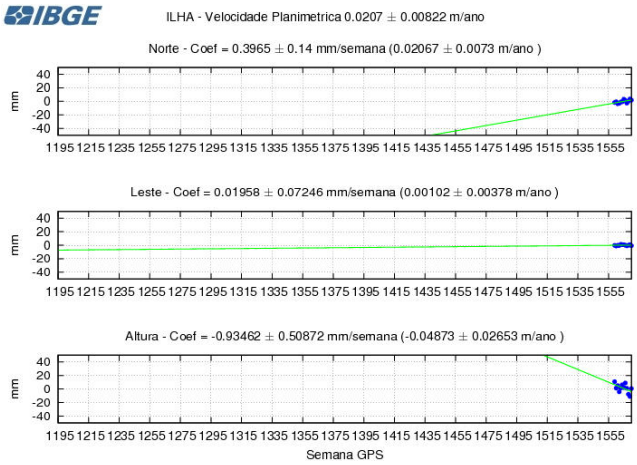

IBGE
GLPS - Velocidade Planimetrica 0.05049 ± 0.00021 m/ano
Norte - Coef = 0.22527 ± 0.00159 mm/semana (0.01175 ± 8e-05 m/ano )
Leste - Coef = 0.94181 ± 0.00366 mm/semana (0.04911 ± 0.00019 m/ano )
Altura - Coef = -0.0123 ± 0.00395 mm/semana (-0.00064 ± 0.00021 m/ano )
mm
Semana GPS

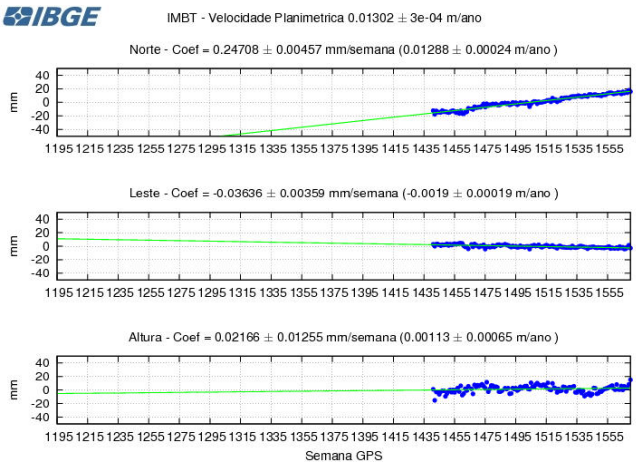

IBGE
GOJA - Velocidade Planimetrica 0.01205 ± 5e-04 m/ano
Norte - Coef = 0.22536 ± 0.00774 mm/semana (0.01175 ± 4e-04 m/ano )
Leste - Coef = -0.05141 ± 0.00574 mm/semana (-0.00268 ± 3e-04 m/ano )
Altura - Coef = -0.07673 ± 0.03061 mm/semana (-0.004 ± 0.0016 m/ano )
mm
Semana GPS

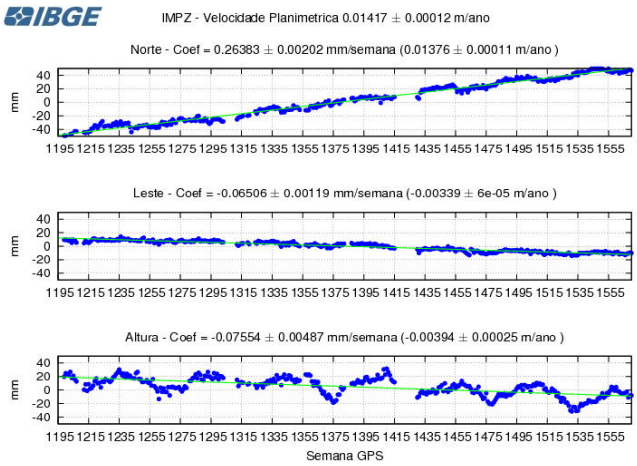

GVAL - Velocidade Planimetrica 0.01355 ± 0.00012 m/ano
Norte - Coef = 0.25534 ± 0.00156 mm/semana (0.01331 ± 8e-05 m/ano )
Leste - Coef = -0.04782 ± 0.00167 mm/semana (-0.00249 ± 9e-05 m/ano )
Altura - Coef = -0.03521 ± 0.00481 mm/semana (-0.00184 ± 0.00025 m/ano )
mm
Semana GPS

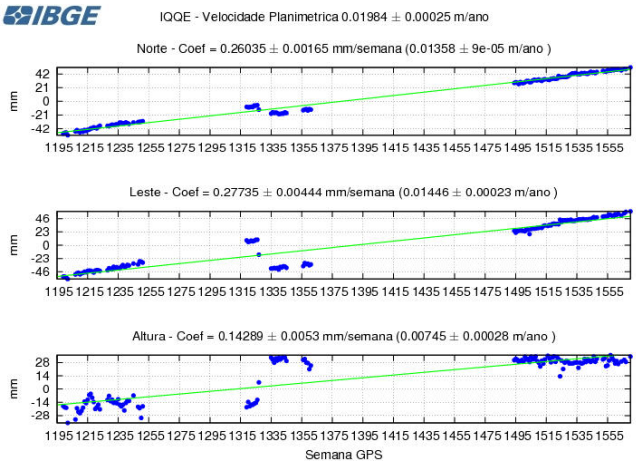

GYEC - Velocidade Planimetrica 0.01572 ± 0.00132 m/ano
Norte - Coef = 0.23496 ± 0.01357 mm/semana (0.01225 ± 0.00071 m/ano )
Leste - Coef = 0.18889 ± 0.02148 mm/semana (0.00985 ± 0.00112 m/ano )
Altura - Coef = 0.00163 ± 0.02961 mm/semana (8e-05 ± 0.00154 m/ano )
mm
Semana GPS

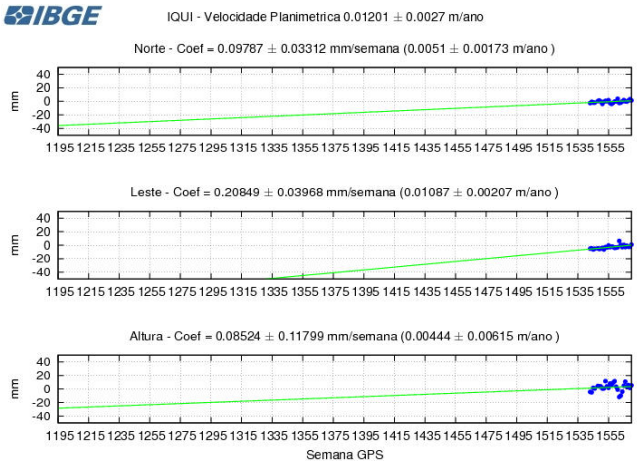

IGM1 - Velocidade Planimetrica 0.01044 ± 0.00013 m/ano
Norte - Coef = 0.20022 ± 0.00181 mm/semana (0.01044 ± 9e-05 m/ano )
Leste - Coef = -9e-05 ± 0.00185 mm/semana (0 ± 1e-04 m/ano )
Altura - Coef = 0.04563 ± 0.00534 mm/semana (0.00238 ± 0.00028 m/ano )
mm
Semana GPS

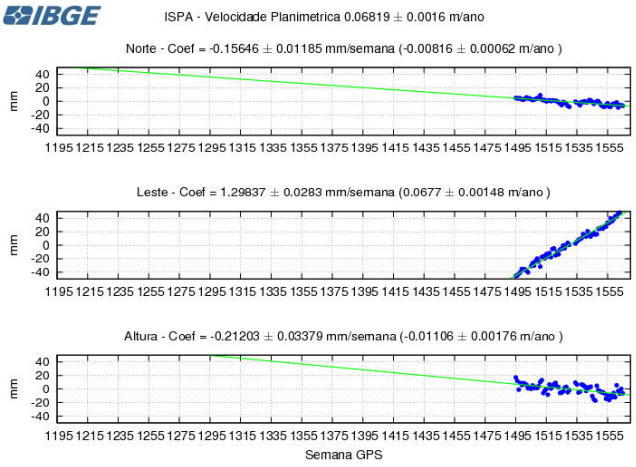

ILHA - Velocidade Planimetrica 0.0207 ± 0.00822 m/ano
Norte - Coef = 0.3965 ± 0.14 mm/semana (0.02067 ± 0.0073 m/ano )
Leste - Coef = 0.01958 ± 0.07246 mm/semana (0.00102 ± 0.00378 m/ano )
Altura - Coef = -0.93462 ± 0.50872 mm/semana (-0.04873 ± 0.02653 m/ano )
mm
Semana GPS

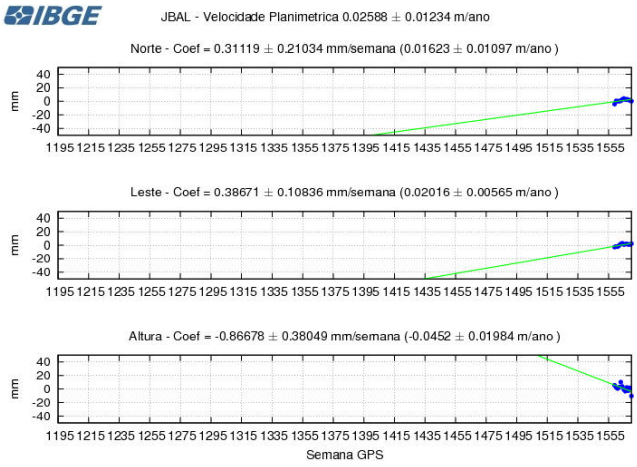

IMBT - Velocidade Planimetrica 0.01302 ± 3e-04 m/ano
Norte - Coef = 0.24708 ± 0.00457 mm/semana (0.01288 ± 0.00024 m/ano )
Leste - Coef = -0.03636 ± 0.00359 mm/semana (-0.0019 ± 0.00019 m/ano )
Altura - Coef = 0.02166 ± 0.01255 mm/semana (0.00113 ± 0.00065 m/ano )
mm
Semana GPS

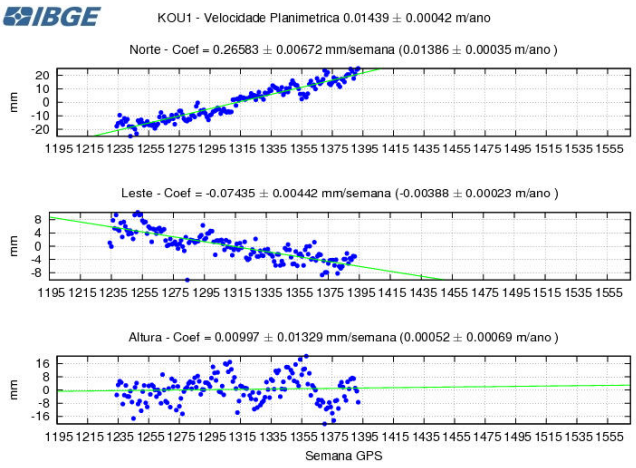

IMPZ - Velocidade Planimetrica 0.01417 ± 0.00012 m/ano
Norte - Coef = 0.26383 ± 0.00202 mm/semana (0.01376 ± 0.00011 m/ano )
Leste - Coef = -0.06506 ± 0.00119 mm/semana (-0.00339 ± 6e-05 m/ano )
Altura - Coef = -0.07554 ± 0.00487 mm/semana (-0.00394 ± 0.00025 m/ano )
mm
Semana GPS

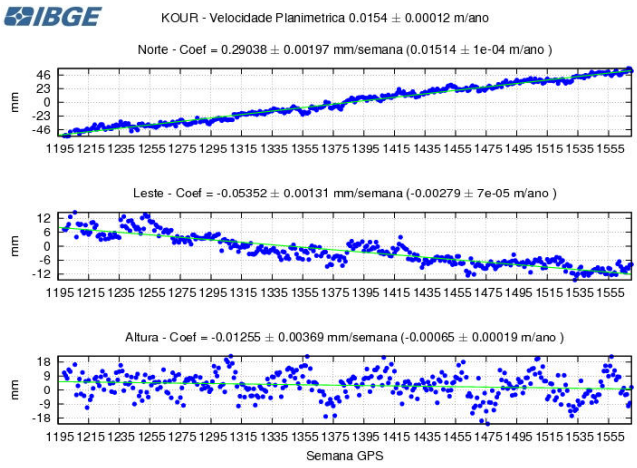

IBGE
IQQE - Velocidade Planimetrica 0.01984 ± 0.00025 m/ano
Norte - Coef = 0.26035 ± 0.00165 mm/semana (0.01358 ± 9e-05 m/ano )
Leste - Coef = 0.27735 ± 0.00444 mm/semana (0.01446 ± 0.00023 m/ano )
Altura - Coef = 0.14289 ± 0.0053 mm/semana (0.00745 ± 0.00028 m/ano )
mm
Semana GPS

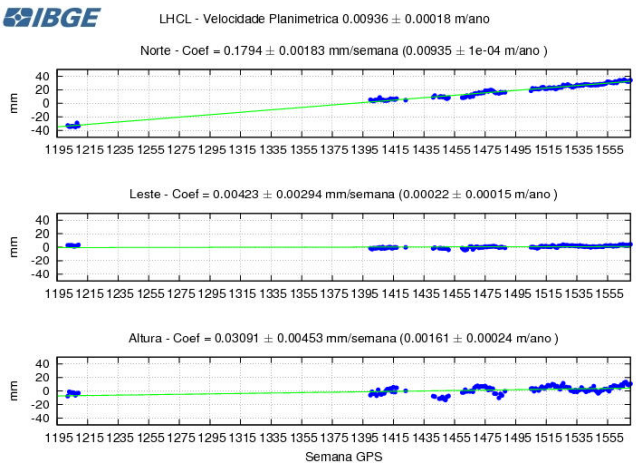

IBGE
IQUI - Velocidade Planimetrica 0.01201 ± 0.0027 m/ano
Norte - Coef = 0.09787 ± 0.03312 mm/semana (0.0051 ± 0.00173 m/ano )
Leste - Coef = 0.20849 ± 0.03968 mm/semana (0.01087 ± 0.00207 m/ano )
Altura - Coef = 0.08524 ± 0.11799 mm/semana (0.00444 ± 0.00615 m/ano )
mm
Semana GPS

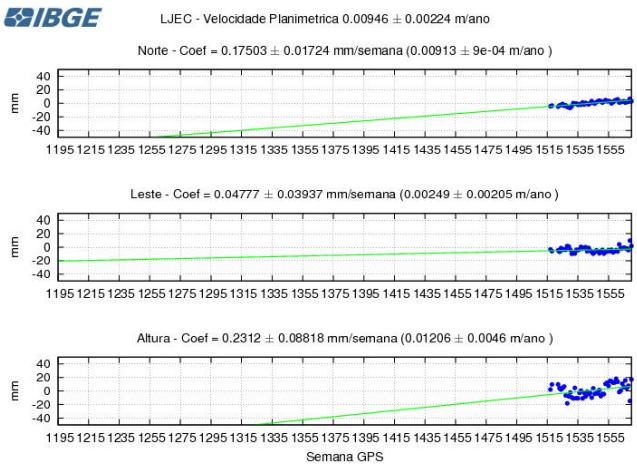

IBGE
ISPA - Velocidade Planimetrica 0.06819 ± 0.0016 m/ano
Norte - Coef = -0.15646 ± 0.01185 mm/semana (-0.00816 ± 0.00062 m/ano )
Leste - Coef = 1.29837 ± 0.0283 mm/semana (0.0677 ± 0.00148 m/ano )
Altura - Coef = -0.21203 ± 0.03379 mm/semana (-0.01106 ± 0.00176 m/ano )
mm
Semana GPS

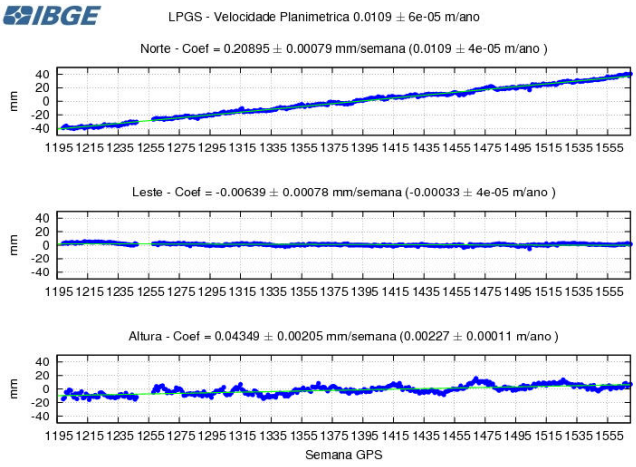

IBGE
JBAL - Velocidade Planimetrica 0.02588 ± 0.01234 m/ano
Norte - Coef = 0.31119 ± 0.21034 mm/semana (0.01623 ± 0.01097 m/ano )
Leste - Coef = 0.38671 ± 0.10836 mm/semana (0.02016 ± 0.00565 m/ano )
Altura - Coef = -0.86678 ± 0.38049 mm/semana (-0.0452 ± 0.01984 m/ano )
mm
Semana GPS

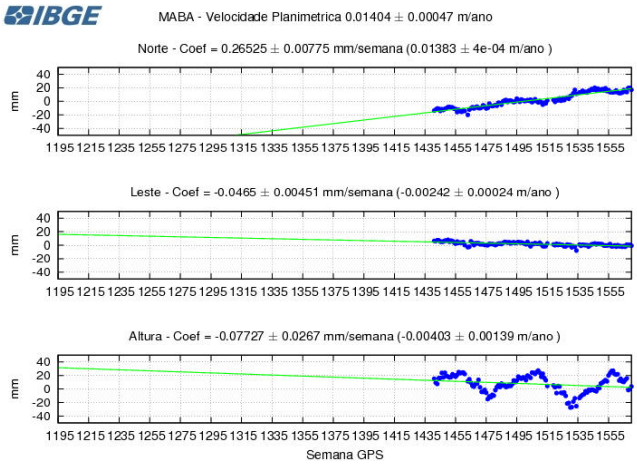

IBGE
KOU1 - Velocidade Planimetrica 0.01439 ± 0.00042 m/ano
Norte - Coef = 0.26583 ± 0.00672 mm/semana (0.01386 ± 0.00035 m/ano )
Leste - Coef = -0.07435 ± 0.00442 mm/semana (-0.00388 ± 0.00023 m/ano )
Altura - Coef = 0.00997 ± 0.01329 mm/semana (0.00052 ± 0.00069 m/ano )
mm
Semana GPS

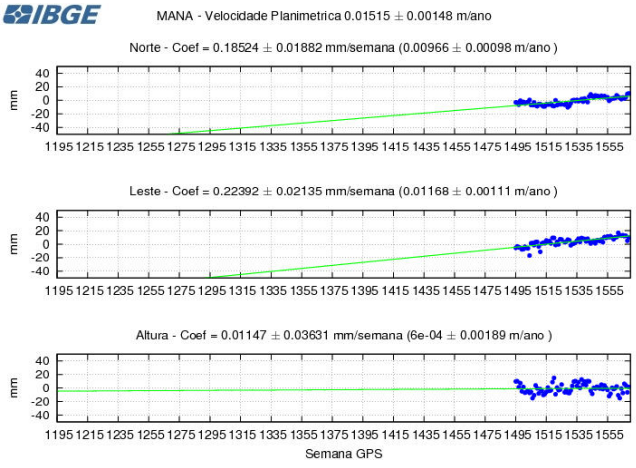

IBGE
KOUR - Velocidade Planimetrica 0.0154 ± 0.00012 m/ano
Norte - Coef = 0.29038 ± 0.00197 mm/semana (0.01514 ± 1e-04 m/ano )
Leste - Coef = -0.05352 ± 0.00131 mm/semana (-0.00279 ± 7e-05 m/ano )
Altura - Coef = -0.01255 ± 0.00369 mm/semana (-0.00065 ± 0.00019 m/ano )
mm
Semana GPS

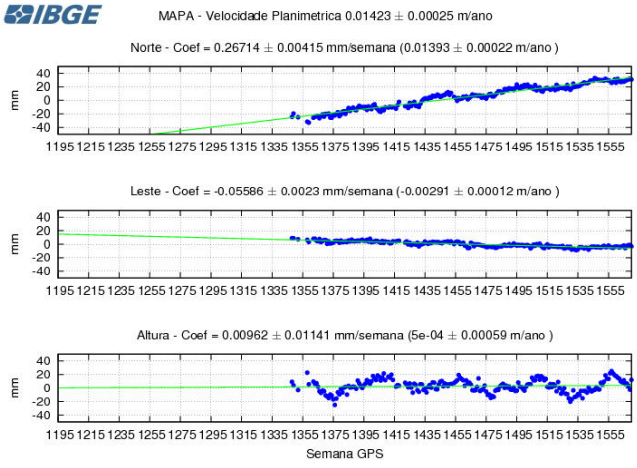

LHCL - Velocidade Planimetrica 0.00936 ± 0.00018 m/ano
Norte - Coef = 0.1794 ± 0.00183 mm/semana (0.00935 ± 1e-04 m/ano )
Leste - Coef = 0.00423 ± 0.00294 mm/semana (0.00022 ± 0.00015 m/ano )
Altura - Coef = 0.03091 ± 0.00453 mm/semana (0.00161 ± 0.00024 m/ano )
mm
Semana GPS

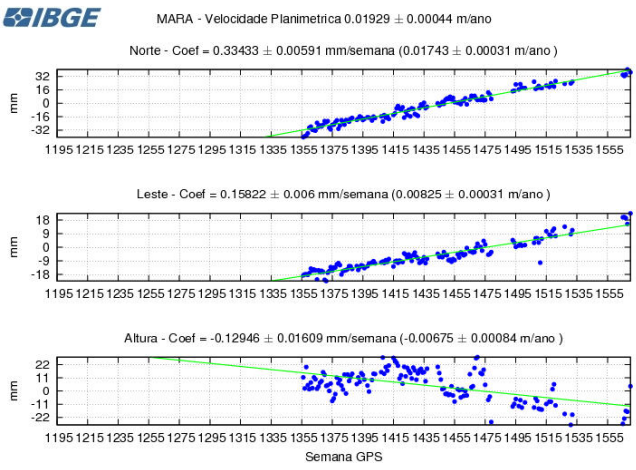

LJEC - Velocidade Planimetrica 0.00946 ± 0.00224 m/ano
Norte - Coef = 0.17503 ± 0.01724 mm/semana (0.00913 ± 9e-04 m/ano )
Leste - Coef = 0.04777 ± 0.03937 mm/semana (0.00249 ± 0.00205 m/ano )
Altura - Coef = 0.2312 ± 0.08818 mm/semana (0.01206 ± 0.0046 m/ano )
mm
Semana GPS

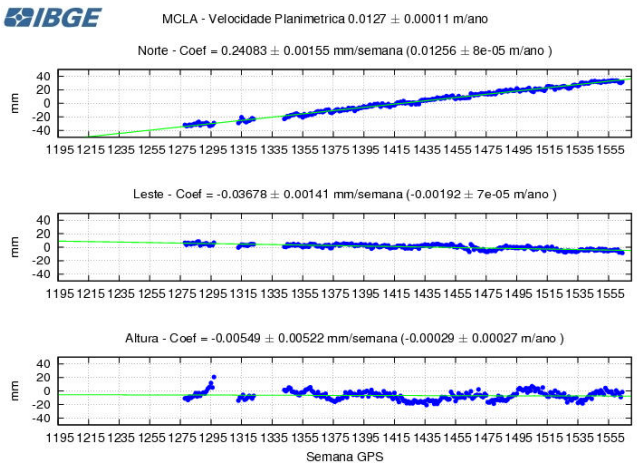

LPGS - Velocidade Planimetrica 0.0109 ± 6e-05 m/ano
Norte - Coef = 0.20895 ± 0.00079 mm/semana (0.0109 ± 4e-05 m/ano )
Leste - Coef = -0.00639 ± 0.00078 mm/semana (-0.00033 ± 4e-05 m/ano )
Altura - Coef = 0.04349 ± 0.00205 mm/semana (0.00227 ± 0.00011 m/ano )
mm
Semana GPS

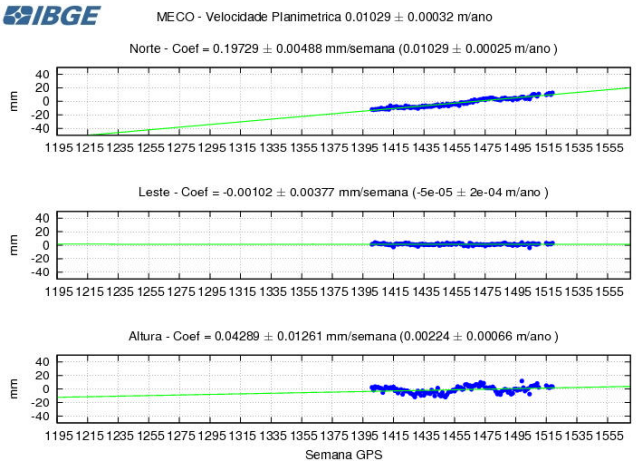

MABA - Velocidade Planimetrica 0.01404 ± 0.00047 m/ano
Norte - Coef = 0.26525 ± 0.00775 mm/semana (0.01383 ± 4e-04 m/ano )
Leste - Coef = -0.0465 ± 0.00451 mm/semana (-0.00242 ± 0.00024 m/ano )
Altura - Coef = -0.07727 ± 0.0267 mm/semana (-0.00403 ± 0.00139 m/ano )
mm
Semana GPS

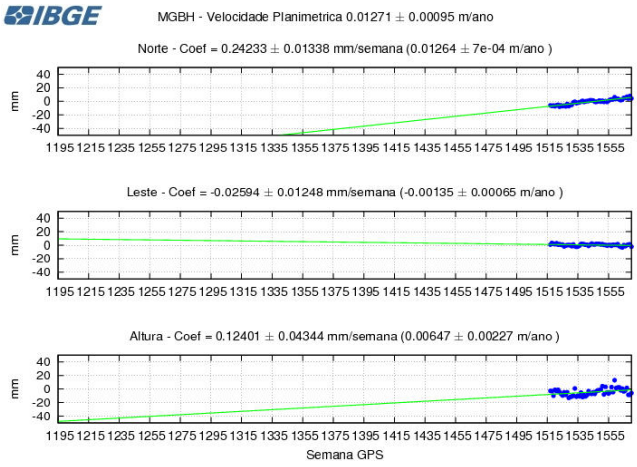

MANA - Velocidade Planimetrica 0.01515 ± 0.00148 m/ano
Norte - Coef = 0.18524 ± 0.01882 mm/semana (0.00966 ± 0.00098 m/ano )
Leste - Coef = 0.22392 ± 0.02135 mm/semana (0.01168 ± 0.00111 m/ano )
Altura - Coef = 0.01147 ± 0.03631 mm/semana (6e-04 ± 0.00189 m/ano )
mm
Semana GPS

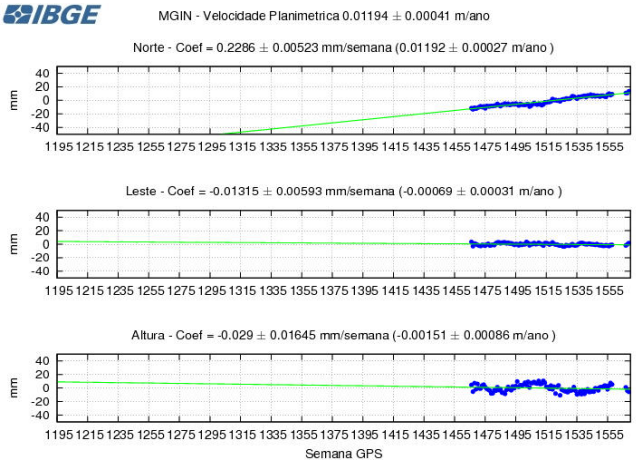

MAPA - Velocidade Planimetrica 0.01423 ± 0.00025 m/ano
Norte - Coef = 0.26714 ± 0.00415 mm/semana (0.01393 ± 0.00022 m/ano )
Leste - Coef = -0.05586 ± 0.0023 mm/semana (-0.00291 ± 0.00012 m/ano )
Altura - Coef = 0.00962 ± 0.01141 mm/semana (5e-04 ± 0.00059 m/ano )
mm
Semana GPS

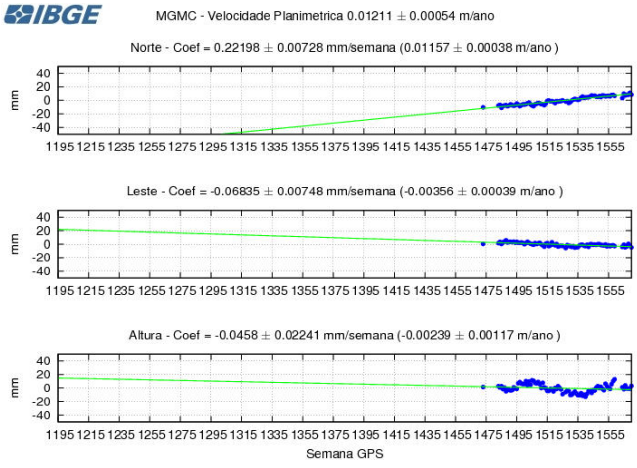

MARA - Velocidade Planimetrica 0.01929 ± 0.00044 m/ano
Norte - Coef = 0.33433 ± 0.00591 mm/semana (0.01743 ± 0.00031 m/ano )
Leste - Coef = 0.15822 ± 0.006 mm/semana (0.00825 ± 0.00031 m/ano )
Altura - Coef = -0.12946 ± 0.01609 mm/semana (-0.00675 ± 0.00084 m/ano )
mm
Semana GPS

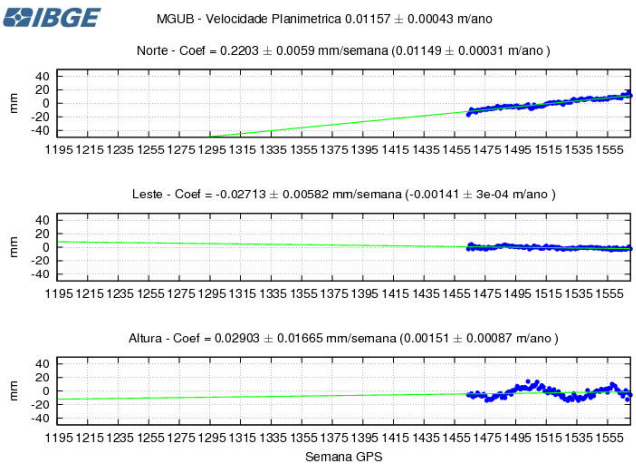

MCLA - Velocidade Planimetrica 0.0127 ± 0.00011 m/ano
Norte - Coef = 0.24083 ± 0.00155 mm/semana (0.01256 ± 8e-05 m/ano )
Leste - Coef = -0.03678 ± 0.00141 mm/semana (-0.00192 ± 7e-05 m/ano )
Altura - Coef = -0.00549 ± 0.00522 mm/semana (-0.00029 ± 0.00027 m/ano )
mm
Semana GPS

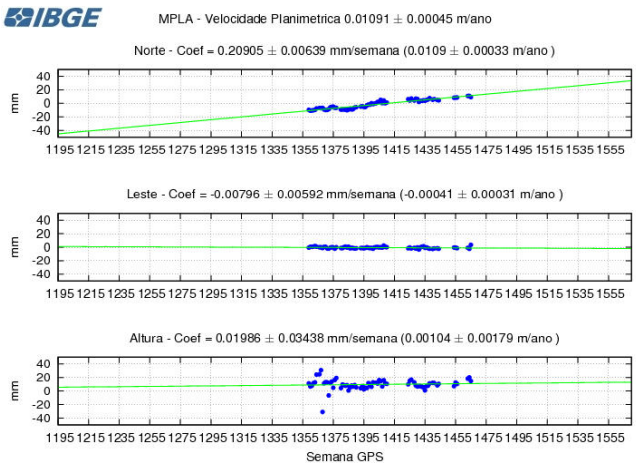

MECO - Velocidade Planimetrica 0.01029 ± 0.00032 m/ano
Norte - Coef = 0.19729 ± 0.00488 mm/semana (0.01029 ± 0.00025 m/ano )
Leste - Coef = -0.00102 ± 0.00377 mm/semana (-5e-05 ± 2e-04 m/ano )
Altura - Coef = 0.04289 ± 0.01261 mm/semana (0.00224 ± 0.00066 m/ano )
mm
Semana GPS

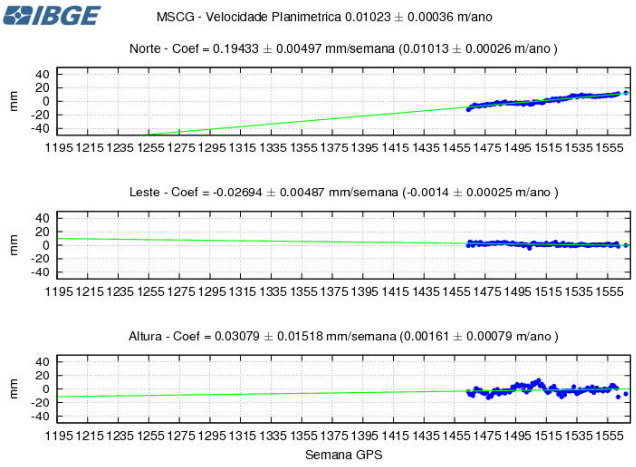

MGBH - Velocidade Planimetrica 0.01271 ± 0.00095 m/ano
Norte - Coef = 0.24233 ± 0.01338 mm/semana (0.01264 ± 7e-04 m/ano )
Leste - Coef = -0.02594 ± 0.01248 mm/semana (-0.00135 ± 0.00065 m/ano )
Altura - Coef = 0.12401 ± 0.04344 mm/semana (0.00647 ± 0.00227 m/ano )
mm
Semana GPS

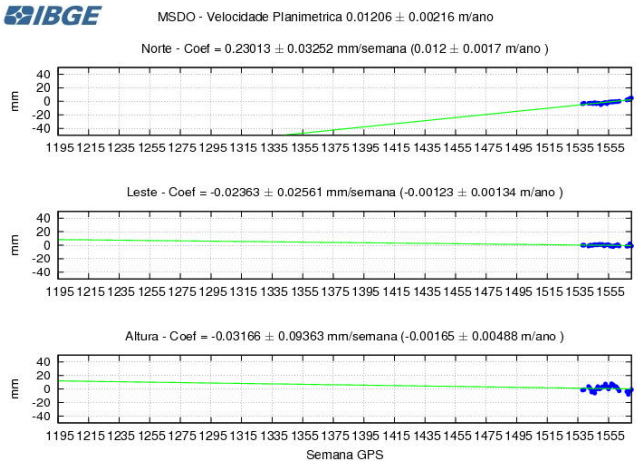

MGIN - Velocidade Planimetrica 0.01194 ± 0.00041 m/ano
Norte - Coef = 0.2286 ± 0.00523 mm/semana (0.01192 ± 0.00027 m/ano )
Leste - Coef = -0.01315 ± 0.00593 mm/semana (-0.00069 ± 0.00031 m/ano )
Altura - Coef = -0.029 ± 0.01645 mm/semana (-0.00151 ± 0.00086 m/ano )
mm
Semana GPS

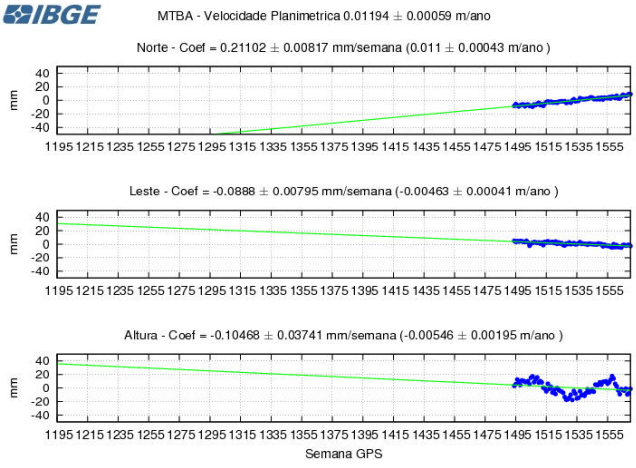

MGMC - Velocidade Planimetrica 0.01211 ± 0.00054 m/ano
Norte - Coef = 0.22198 ± 0.00728 mm/semana (0.01157 ± 0.00038 m/ano )
Leste - Coef = -0.06835 ± 0.00748 mm/semana (-0.00356 ± 0.00039 m/ano )
Altura - Coef = -0.0458 ± 0.02241 mm/semana (-0.00239 ± 0.00117 m/ano )
mm
Semana GPS

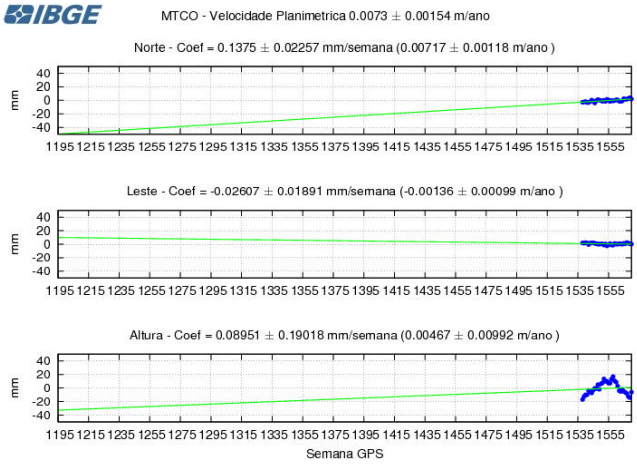

MGUB - Velocidade Planimetrica 0.01157 ± 0.00043 m/ano
Norte - Coef = 0.2203 ± 0.0059 mm/semana (0.01149 ± 0.00031 m/ano )
Leste - Coef = -0.02713 ± 0.00582 mm/semana (-0.00141 ± 3e-04 m/ano )
Altura - Coef = 0.02903 ± 0.01665 mm/semana (0.00151 ± 0.00087 m/ano )
mm
Semana GPS

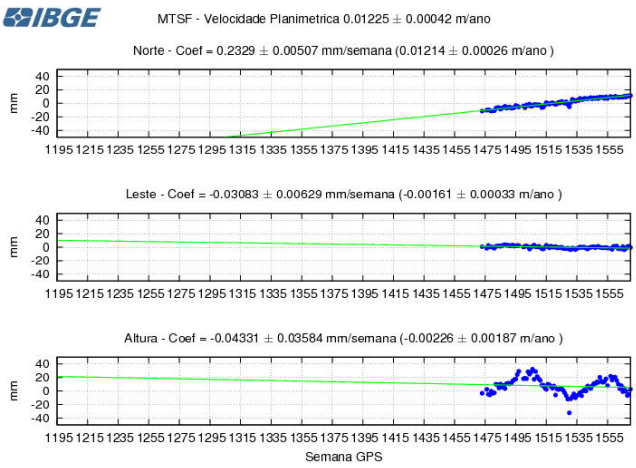

MPLA - Velocidade Planimetrica 0.01091 ± 0.00045 m/ano
Norte - Coef = 0.20905 ± 0.00639 mm/semana (0.0109 ± 0.00033 m/ano )
Leste - Coef = -0.00796 ± 0.00592 mm/semana (-0.00041 ± 0.00031 m/ano )
Altura - Coef = 0.01986 ± 0.03438 mm/semana (0.00104 ± 0.00179 m/ano )
mm
Semana GPS

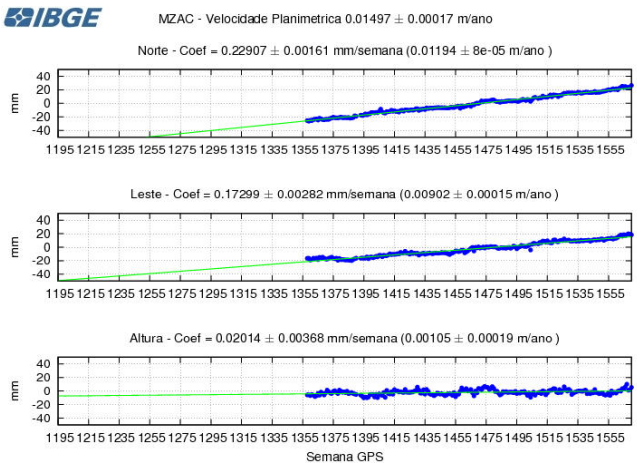

MSCG - Velocidade Planimetrica 0.01023 ± 0.00036 m/ano
Norte - Coef = 0.19433 ± 0.00497 mm/semana (0.01013 ± 0.00026 m/ano )
Leste - Coef = -0.02694 ± 0.00487 mm/semana (-0.0014 ± 0.00025 m/ano )
Altura - Coef = 0.03079 ± 0.01518 mm/semana (0.00161 ± 0.00079 m/ano )
mm
Semana GPS

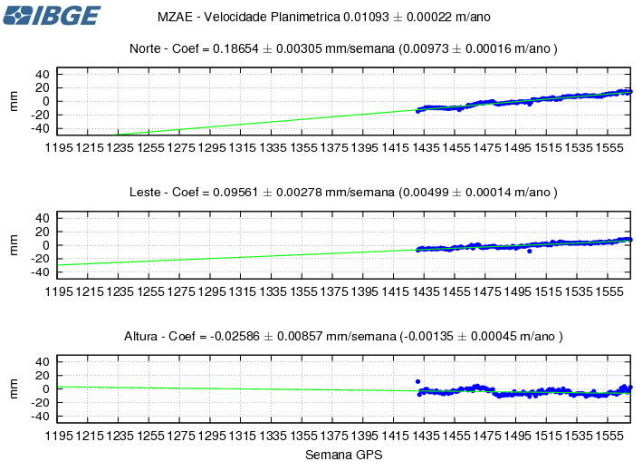

MSDO - Velocidade Planimetrica 0.01206 ± 0.00216 m/ano
Norte - Coef = 0.23013 ± 0.03252 mm/semana (0.012 ± 0.0017 m/ano )
Leste - Coef = -0.02363 ± 0.02561 mm/semana (-0.00123 ± 0.00134 m/ano )
Altura - Coef = -0.03166 ± 0.09363 mm/semana (-0.00165 ± 0.00488 m/ano )
mm
Semana GPS

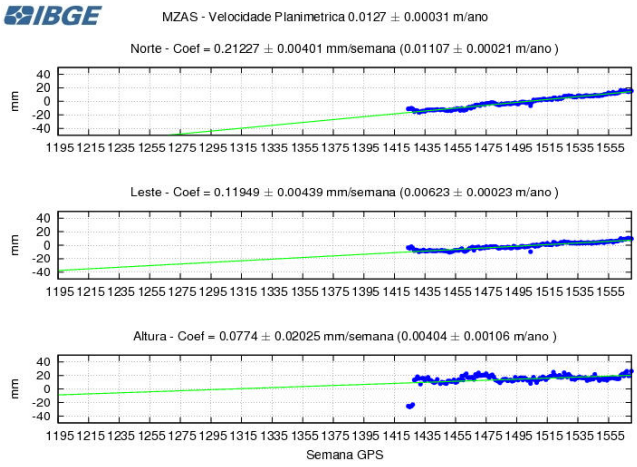

MTBA - Velocidade Planimetrica 0.01194 ± 0.00059 m/ano
Norte - Coef = 0.21102 ± 0.00817 mm/semana (0.011 ± 0.00043 m/ano )
Leste - Coef = -0.0888 ± 0.00795 mm/semana (-0.00463 ± 0.00041 m/ano )
Altura - Coef = -0.10468 ± 0.03741 mm/semana (-0.00546 ± 0.00195 m/ano )
mm
Semana GPS

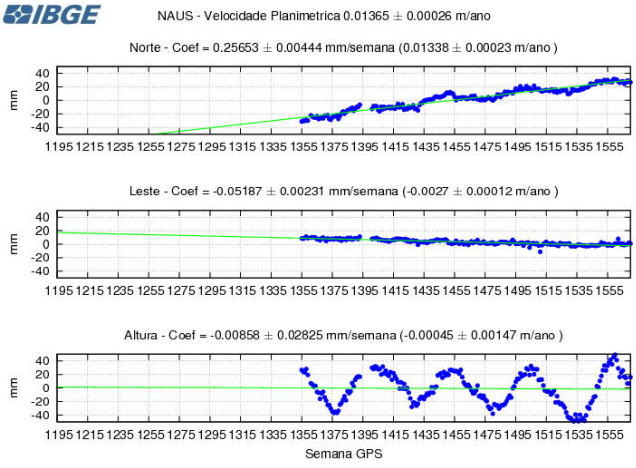

MTCO - Velocidade Planimetrica 0.0073 ± 0.00154 m/ano
Norte - Coef = 0.1375 ± 0.02257 mm/semana (0.00717 ± 0.00118 m/ano )
Leste - Coef = -0.02607 ± 0.01891 mm/semana (-0.00136 ± 0.00099 m/ano )
Altura - Coef = 0.08951 ± 0.19018 mm/semana (0.00467 ± 0.00992 m/ano )
mm
Semana GPS

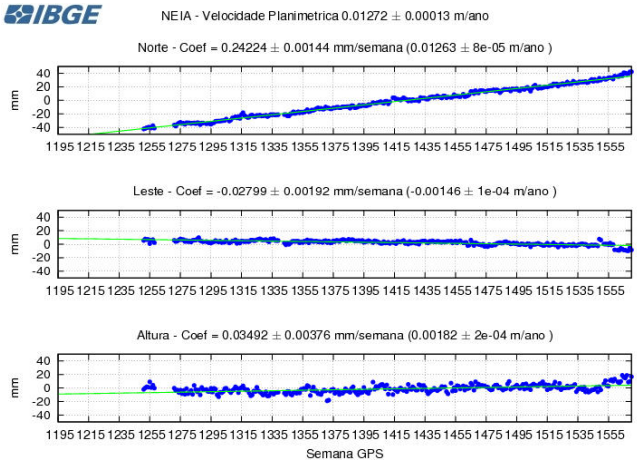

IBGE
MTSF - Velocidade Planimetrica 0.01225 ± 0.00042 m/ano
Norte - Coef = 0.2329 ± 0.00507 mm/semana (0.01214 ± 0.00026 m/ano )
Leste - Coef = -0.03083 ± 0.00629 mm/semana (-0.00161 ± 0.00033 m/ano )
Altura - Coef = -0.04331 ± 0.03584 mm/semana (-0.00226 ± 0.00187 m/ano )
mm
Semana GPS

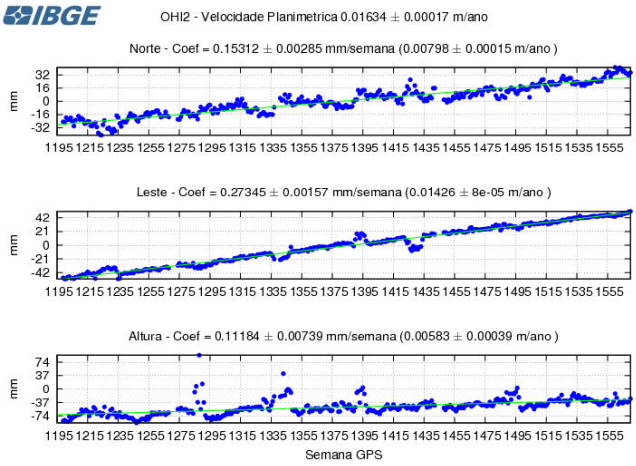

IBGE
MZAC - Velocidade Planimetrica 0.01497 ± 0.00017 m/ano
Norte - Coef = 0.22907 ± 0.00161 mm/semana (0.01194 ± 8e-05 m/ano )
Leste - Coef = 0.17299 ± 0.00282 mm/semana (0.00902 ± 0.00015 m/ano )
Altura - Coef = 0.02014 ± 0.00368 mm/semana (0.00105 ± 0.00019 m/ano )
mm
Semana GPS

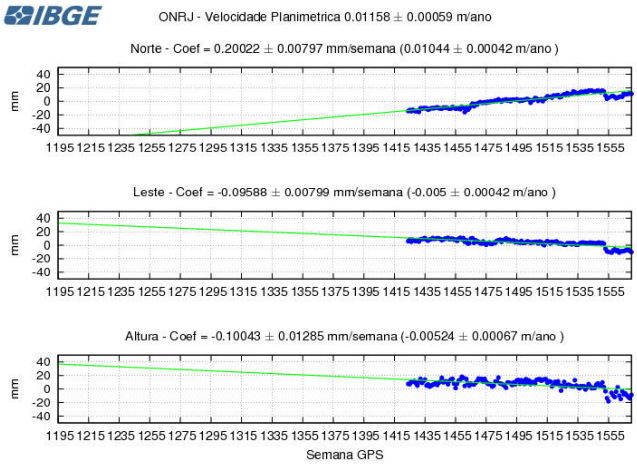

IBGE
MZAE - Velocidade Planimetrica 0.01093 ± 0.00022 m/ano
Norte - Coef = 0.18654 ± 0.00305 mm/semana (0.00973 ± 0.00016 m/ano )
Leste - Coef = 0.09561 ± 0.00278 mm/semana (0.00499 ± 0.00014 m/ano )
Altura - Coef = -0.02586 ± 0.00857 mm/semana (-0.00135 ± 0.00045 m/ano )
mm
Semana GPS

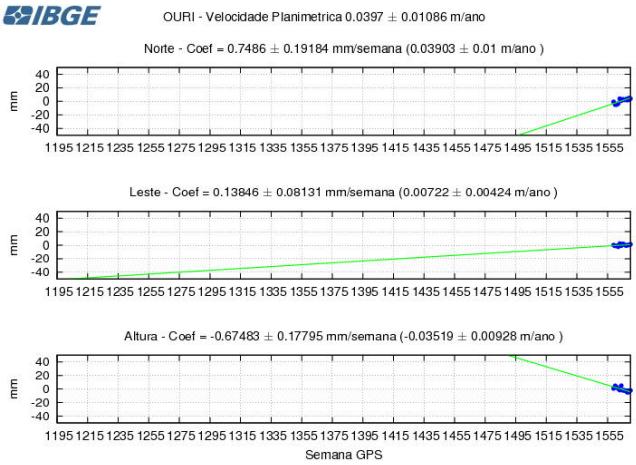

IBGE
MZAS - Velocidade Planimetrica 0.0127 ± 0.00031 m/ano
Norte - Coef = 0.21227 ± 0.00401 mm/semana (0.01107 ± 0.00021 m/ano )
Leste - Coef = 0.11949 ± 0.00439 mm/semana (0.00623 ± 0.00023 m/ano )
Altura - Coef = 0.0774 ± 0.02025 mm/semana (0.00404 ± 0.00106 m/ano )
mm
Semana GPS

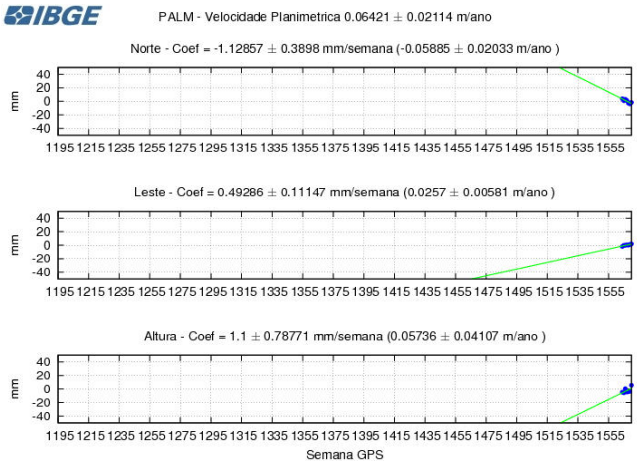

IBGE
NAUS - Velocidade Planimetrica 0.01365 ± 0.00026 m/ano
Norte - Coef = 0.25653 ± 0.00444 mm/semana (0.01338 ± 0.00023 m/ano )
Leste - Coef = -0.05187 ± 0.00231 mm/semana (-0.0027 ± 0.00012 m/ano )
Altura - Coef = -0.00858 ± 0.02825 mm/semana (-0.00045 ± 0.00147 m/ano )
mm
Semana GPS

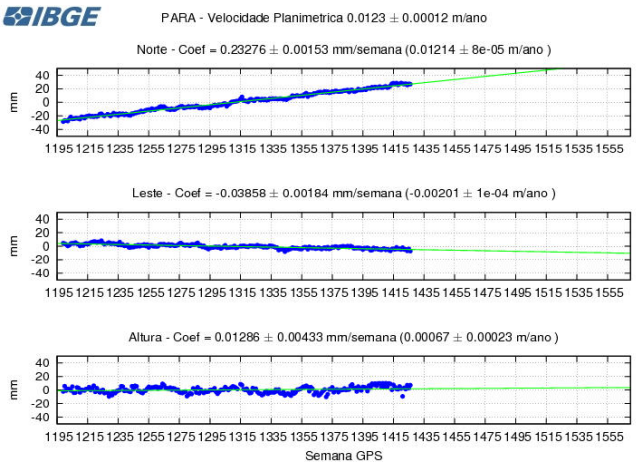

IBGE
NEIA - Velocidade Planimetrica 0.01272 ± 0.00013 m/ano
Norte - Coef = 0.24224 ± 0.00144 mm/semana (0.01263 ± 8e-05 m/ano )
Leste - Coef = -0.02799 ± 0.00192 mm/semana (-0.00146 ± 1e-04 m/ano )
Altura - Coef = 0.03492 ± 0.00376 mm/semana (0.00182 ± 2e-04 m/ano )
mm
Semana GPS

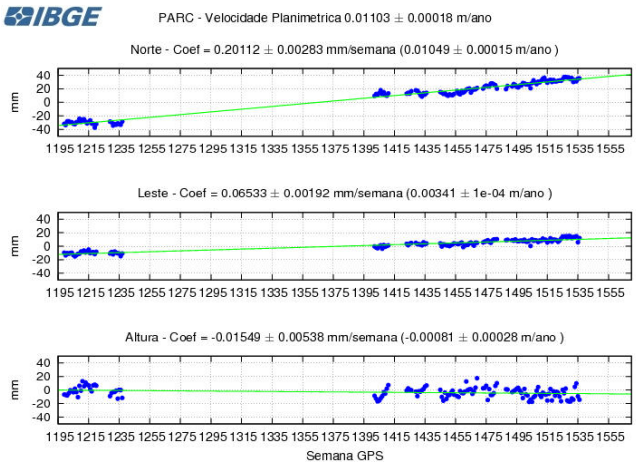

IBGE
OHI2 - Velocidade Planimetrica 0.01634 ± 0.00017 m/ano
Norte - Coef = 0.15312 ± 0.00285 mm/semana (0.00798 ± 0.00015 m/ano )
Leste - Coef = 0.27345 ± 0.00157 mm/semana (0.01426 ± 8e-05 m/ano )
Altura - Coef = 0.11184 ± 0.00739 mm/semana (0.00583 ± 0.00039 m/ano )
mm
Semana GPS

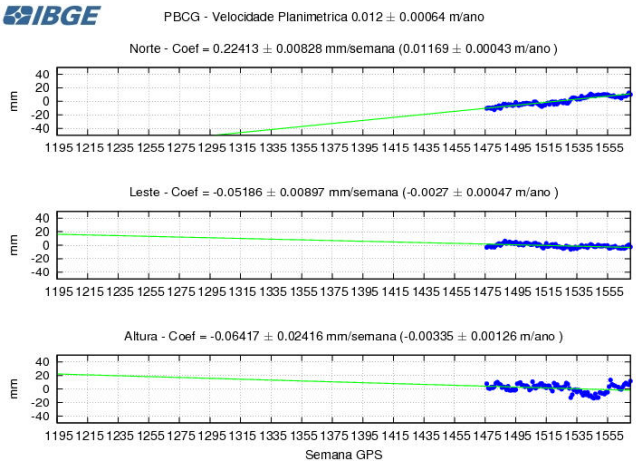

IBGE
ONRJ - Velocidade Planimetrica 0.01158 ± 0.00059 m/ano
Norte - Coef = 0.20022 ± 0.00797 mm/semana (0.01044 ± 0.00042 m/ano )
Leste - Coef = -0.09588 ± 0.00799 mm/semana (-0.005 ± 0.00042 m/ano )
Altura - Coef = -0.10043 ± 0.01285 mm/semana (-0.00524 ± 0.00067 m/ano )
mm
Semana GPS

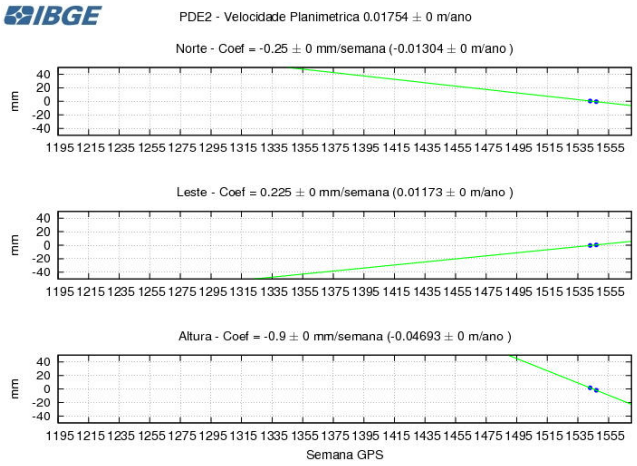

IBGE
OURI - Velocidade Planimetrica 0.0397 ± 0.01086 m/ano
Norte - Coef = 0.7486 ± 0.19184 mm/semana (0.03903 ± 0.01 m/ano )
Leste - Coef = 0.13846 ± 0.08131 mm/semana (0.00722 ± 0.00424 m/ano )
Altura - Coef = -0.67483 ± 0.17795 mm/semana (-0.03519 ± 0.00928 m/ano )
mm
Semana GPS

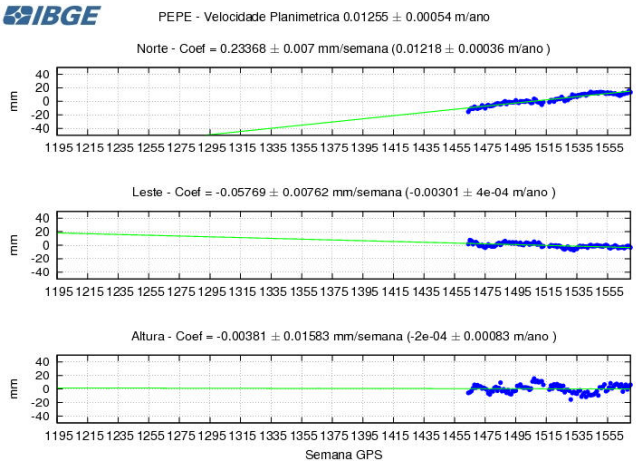

IBGE
PALM - Velocidade Planimetrica 0.06421 ± 0.02114 m/ano
Norte - Coef = -1.12857 ± 0.3898 mm/semana (-0.05885 ± 0.02033 m/ano )
Leste - Coef = 0.49286 ± 0.11147 mm/semana (0.0257 ± 0.00581 m/ano )
Altura - Coef = 1.1 ± 0.78771 mm/semana (0.05736 ± 0.04107 m/ano )
mm
Semana GPS

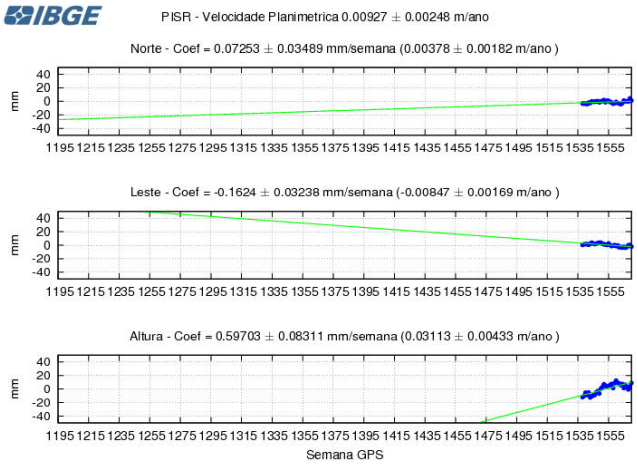

IBGE
PARA - Velocidade Planimetrica 0.0123 ± 0.00012 m/ano
Norte - Coef = 0.23276 ± 0.00153 mm/semana (0.01214 ± 8e-05 m/ano )
Leste - Coef = -0.03858 ± 0.00184 mm/semana (-0.00201 ± 1e-04 m/ano )
Altura - Coef = 0.01286 ± 0.00433 mm/semana (0.00067 ± 0.00023 m/ano )
mm
Semana GPS

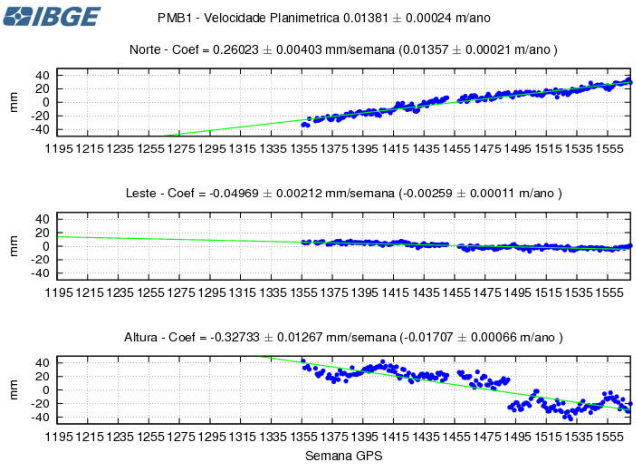

IBGE
PARC - Velocidade Planimetrica 0.01103 ± 0.00018 m/ano
Norte - Coef = 0.20112 ± 0.00283 mm/semana (0.01049 ± 0.00015 m/ano )
Leste - Coef = 0.06533 ± 0.00192 mm/semana (0.00341 ± 1e-04 m/ano )
Altura - Coef = -0.01549 ± 0.00538 mm/semana (-0.00081 ± 0.00028 m/ano )
mm
Semana GPS

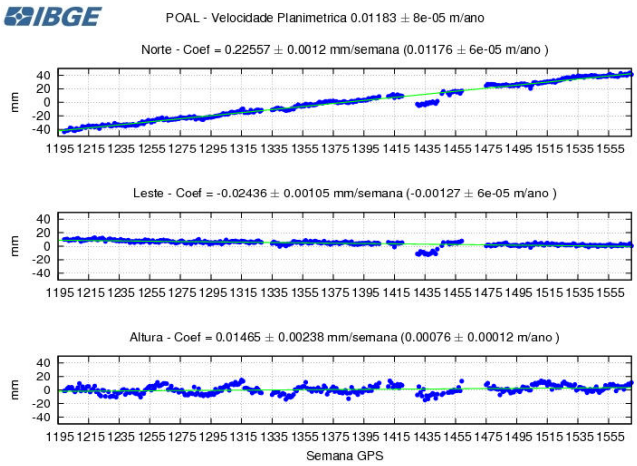

PBCG - Velocidade Planimetrica 0.012 ± 0.00064 m/ano
Norte - Coef = 0.22413 ± 0.00828 mm/semana (0.01169 ± 0.00043 m/ano )
Leste - Coef = -0.05186 ± 0.00897 mm/semana (-0.0027 ± 0.00047 m/ano )
Altura - Coef = -0.06417 ± 0.02416 mm/semana (-0.00335 ± 0.00126 m/ano )
mm
Semana GPS

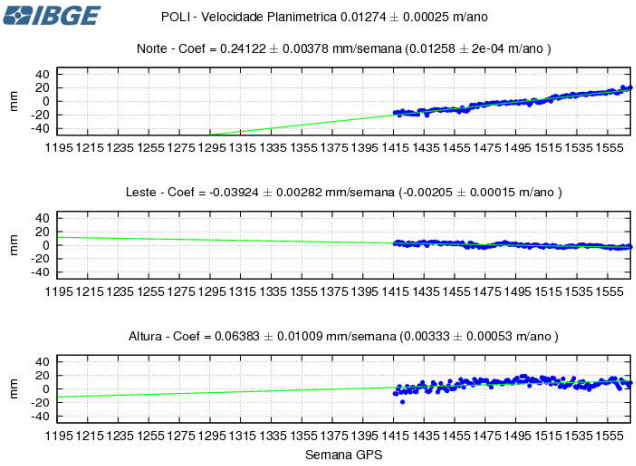

PDE2 - Velocidade Planimetrica 0.01754 ± 0 m/ano
Norte - Coef = -0.25 ± 0 mm/semana (-0.01304 ± 0 m/ano )
Leste - Coef = 0.225 ± 0 mm/semana (0.01173 ± 0 m/ano )
Altura - Coef = -0.9 ± 0 mm/semana (-0.04693 ± 0 m/ano )
mm
Semana GPS

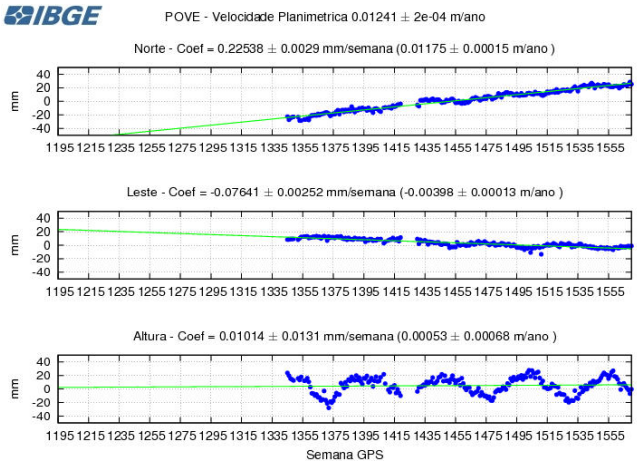

PEPE - Velocidade Planimetrica 0.01255 ± 0.00054 m/ano
Norte - Coef = 0.23368 ± 0.007 mm/semana (0.01218 ± 0.00036 m/ano )
Leste - Coef = -0.05769 ± 0.00762 mm/semana (-0.00301 ± 4e-04 m/ano )
Altura - Coef = -0.00381 ± 0.01583 mm/semana (-2e-04 ± 0.00083 m/ano )
mm
Semana GPS

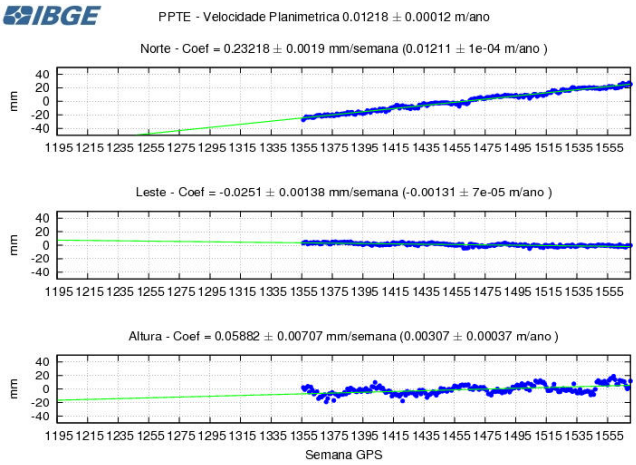

PISR - Velocidade Planimetrica 0.00927 ± 0.00248 m/ano
Norte - Coef = 0.07253 ± 0.03489 mm/semana (0.00378 ± 0.00182 m/ano )
Leste - Coef = -0.1624 ± 0.03238 mm/semana (-0.00847 ± 0.00169 m/ano )
Altura - Coef = 0.59703 ± 0.08311 mm/semana (0.03113 ± 0.00433 m/ano )
mm
Semana GPS

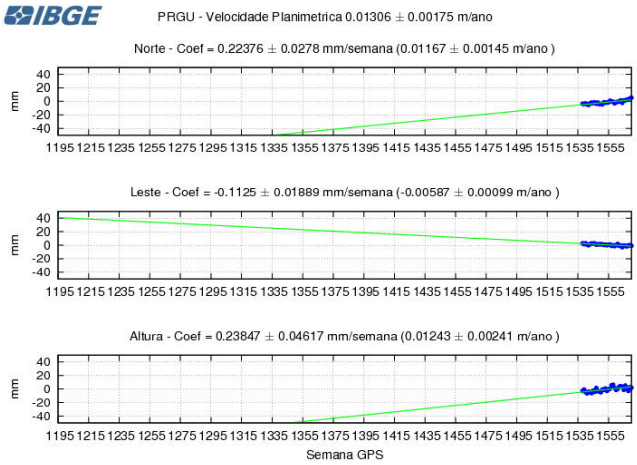

PMB1 - Velocidade Planimetrica 0.01381 ± 0.00024 m/ano
Norte - Coef = 0.26023 ± 0.00403 mm/semana (0.01357 ± 0.00021 m/ano )
Leste - Coef = -0.04969 ± 0.00212 mm/semana (-0.00259 ± 0.00011 m/ano )
Altura - Coef = -0.32733 ± 0.01267 mm/semana (-0.01707 ± 0.00066 m/ano )
mm
Semana GPS

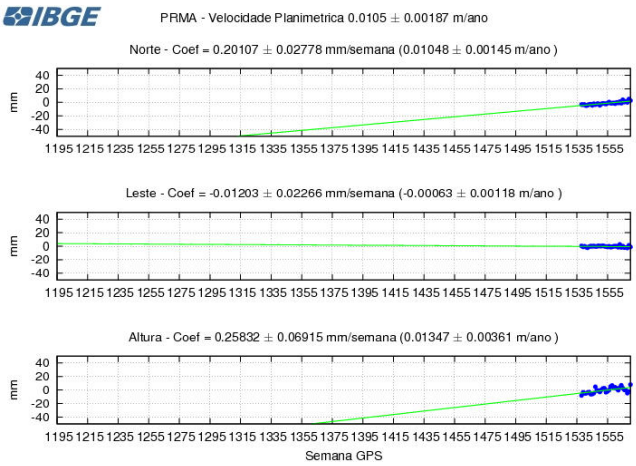

POAL - Velocidade Planimetrica 0.01183 ± 8e-05 m/ano
Norte - Coef = 0.22557 ± 0.0012 mm/semana (0.01176 ± 6e-05 m/ano )
Leste - Coef = -0.02436 ± 0.00105 mm/semana (-0.00127 ± 6e-05 m/ano )
Altura - Coef = 0.01465 ± 0.00238 mm/semana (0.00076 ± 0.00012 m/ano )
mm
Semana GPS

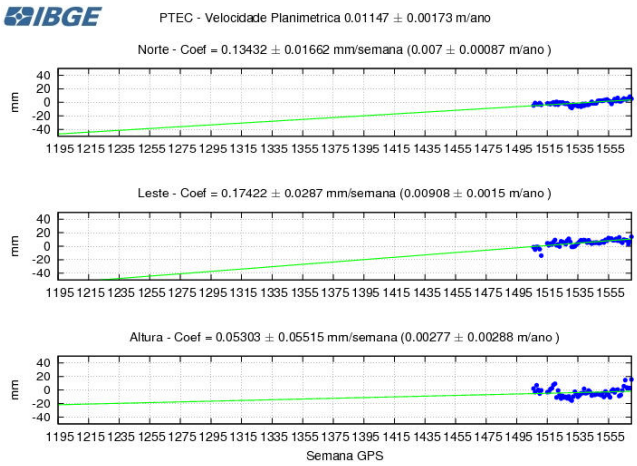

POLI - Velocidade Planimetrica 0.01274 ± 0.00025 m/ano
Norte - Coef = 0.24122 ± 0.00378 mm/semana (0.01258 ± 2e-04 m/ano )
Leste - Coef = -0.03924 ± 0.00282 mm/semana (-0.00205 ± 0.00015 m/ano )
Altura - Coef = 0.06383 ± 0.01009 mm/semana (0.00333 ± 0.00053 m/ano )
mm
Semana GPS

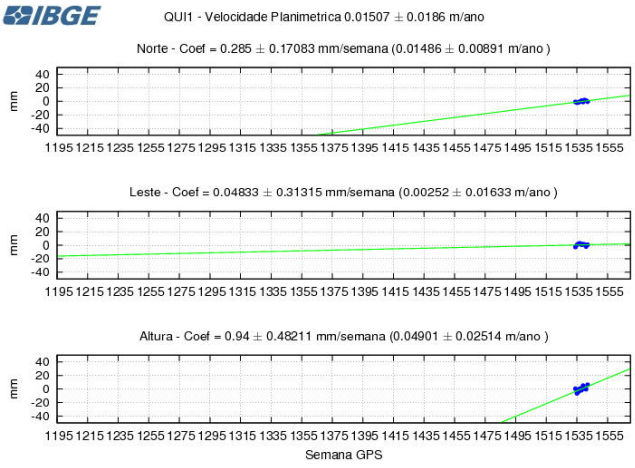

POVE - Velocidade Planimetrica 0.01241 ± 2e-04 m/ano
Norte - Coef = 0.22538 ± 0.0029 mm/semana (0.01175 ± 0.00015 m/ano )
Leste - Coef = -0.07641 ± 0.00252 mm/semana (-0.00398 ± 0.00013 m/ano )
Altura - Coef = 0.01014 ± 0.0131 mm/semana (0.00053 ± 0.00068 m/ano )
mm
Semana GPS

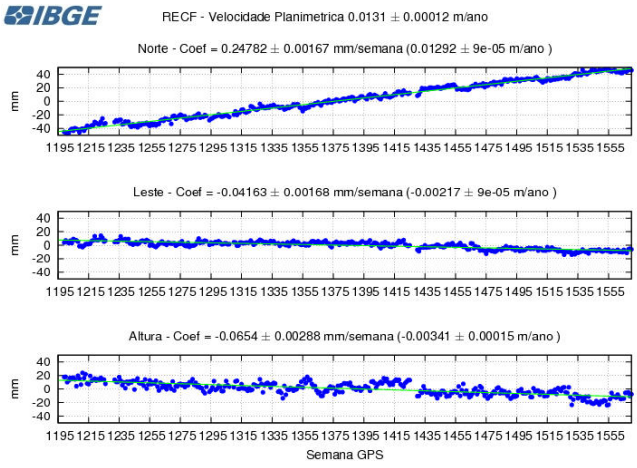

PPTE - Velocidade Planimetrica 0.01218 ± 0.00012 m/ano
Norte - Coef = 0.23218 ± 0.0019 mm/semana (0.01211 ± 1e-04 m/ano )
Leste - Coef = -0.0251 ± 0.00138 mm/semana (-0.00131 ± 7e-05 m/ano )
Altura - Coef = 0.05882 ± 0.00707 mm/semana (0.00307 ± 0.00037 m/ano )
mm
Semana GPS

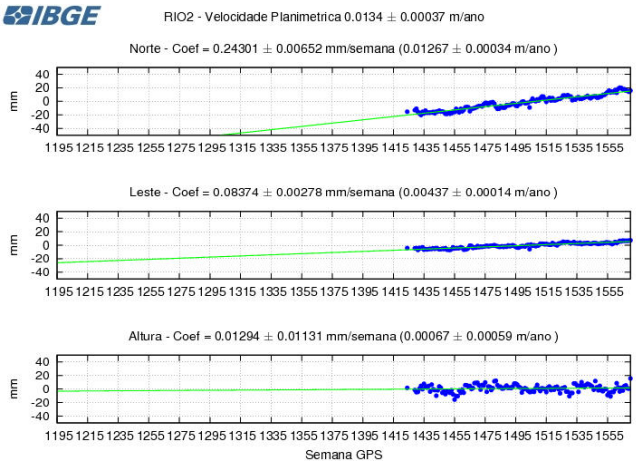

PRGU - Velocidade Planimetrica 0.01306 ± 0.00175 m/ano
Norte - Coef = 0.22376 ± 0.0278 mm/semana (0.01167 ± 0.00145 m/ano )
Leste - Coef = -0.1125 ± 0.01889 mm/semana (-0.00587 ± 0.00099 m/ano )
Altura - Coef = 0.23847 ± 0.04617 mm/semana (0.01243 ± 0.00241 m/ano )
mm
Semana GPS

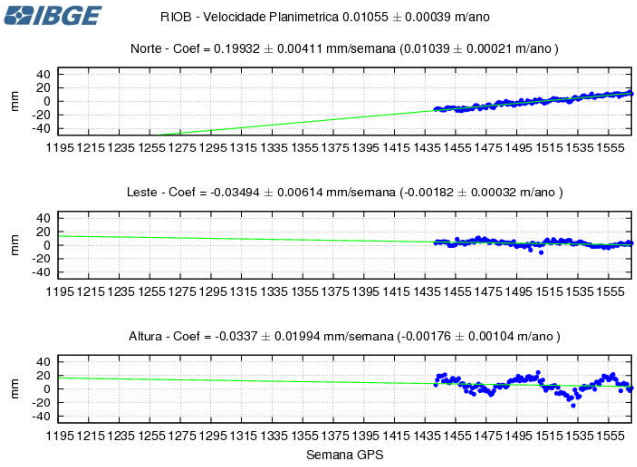

PRMA - Velocidade Planimetrica 0.0105 ± 0.00187 m/ano
Norte - Coef = 0.20107 ± 0.02778 mm/semana (0.01048 ± 0.00145 m/ano )
Leste - Coef = -0.01203 ± 0.02266 mm/semana (-0.00063 ± 0.00118 m/ano )
Altura - Coef = 0.25832 ± 0.06915 mm/semana (0.01347 ± 0.00361 m/ano )
mm
Semana GPS

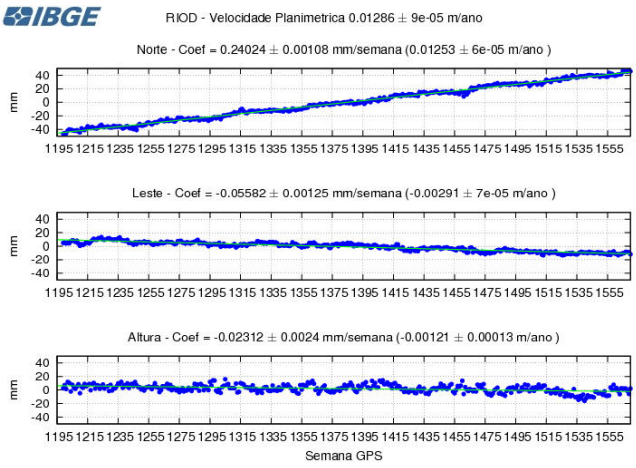

PTEC - Velocidade Planimetrica 0.01147 ± 0.00173 m/ano
Norte - Coef = 0.13432 ± 0.01662 mm/semana (0.007 ± 0.00087 m/ano )
Leste - Coef = 0.17422 ± 0.0287 mm/semana (0.00908 ± 0.0015 m/ano )
Altura - Coef = 0.05303 ± 0.05515 mm/semana (0.00277 ± 0.00288 m/ano )
mm
Semana GPS

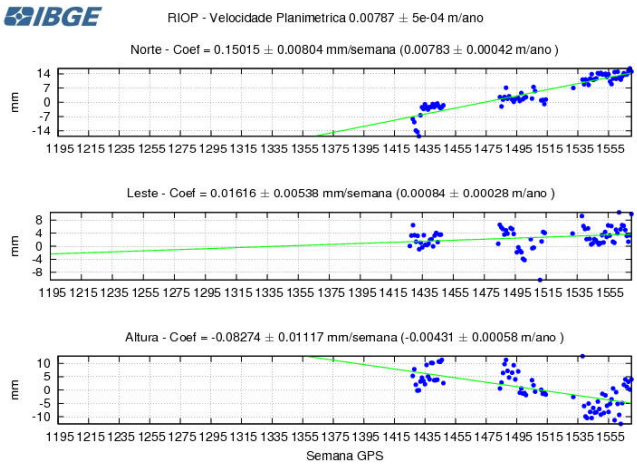

QUI1 - Velocidade Planimetrica 0.01507 ± 0.0186 m/ano
Norte - Coef = 0.285 ± 0.17083 mm/semana (0.01486 ± 0.00891 m/ano )
Leste - Coef = 0.04833 ± 0.31315 mm/semana (0.00252 ± 0.01633 m/ano )
Altura - Coef = 0.94 ± 0.48211 mm/semana (0.04901 ± 0.02514 m/ano )
mm
Semana GPS

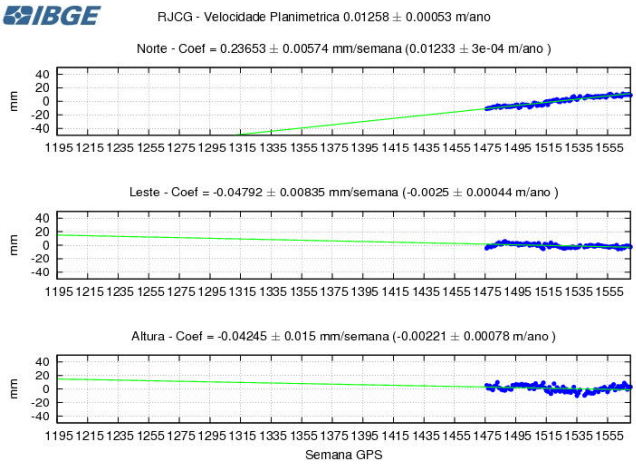

RECF - Velocidade Planimetrica 0.0131 ± 0.00012 m/ano
Norte - Coef = 0.24782 ± 0.00167 mm/semana (0.01292 ± 9e-05 m/ano )
Leste - Coef = -0.04163 ± 0.00168 mm/semana (-0.00217 ± 9e-05 m/ano )
Altura - Coef = -0.0654 ± 0.00288 mm/semana (-0.00341 ± 0.00015 m/ano )
mm
Semana GPS

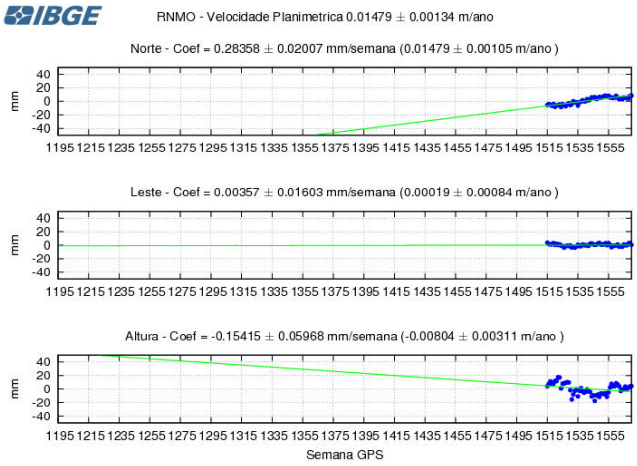

RIO2 - Velocidade Planimetrica 0.0134 ± 0.00037 m/ano
Norte - Coef = 0.24301 ± 0.00652 mm/semana (0.01267 ± 0.00034 m/ano )
Leste - Coef = 0.08374 ± 0.00278 mm/semana (0.00437 ± 0.00014 m/ano )
Altura - Coef = 0.01294 ± 0.01131 mm/semana (0.00067 ± 0.00059 m/ano )
mm
Semana GPS

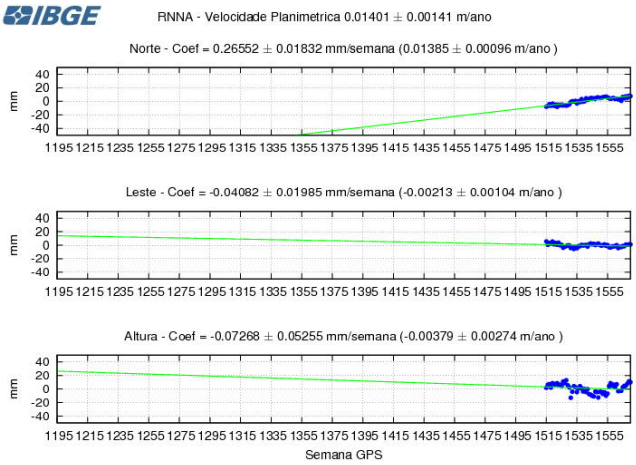

RIOB - Velocidade Planimetrica 0.01055 ± 0.00039 m/ano
Norte - Coef = 0.19932 ± 0.00411 mm/semana (0.01039 ± 0.00021 m/ano )
Leste - Coef = -0.03494 ± 0.00614 mm/semana (-0.00182 ± 0.00032 m/ano )
Altura - Coef = -0.0337 ± 0.01994 mm/semana (-0.00176 ± 0.00104 m/ano )
mm
Semana GPS

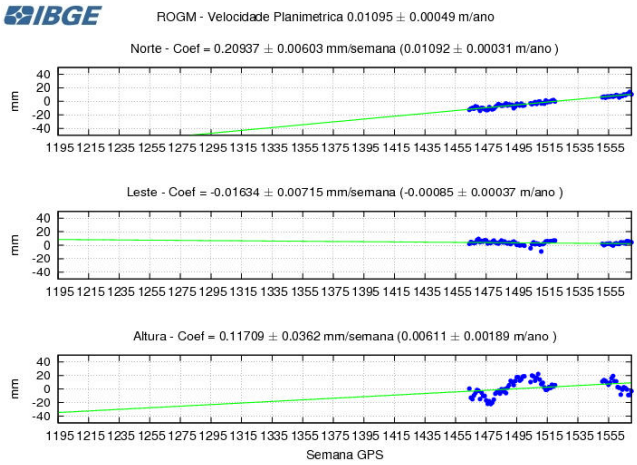

RIOD - Velocidade Planimetrica 0.01286 ± 9e-05 m/ano
Norte - Coef = 0.24024 ± 0.00108 mm/semana (0.01253 ± 6e-05 m/ano )
Leste - Coef = -0.05582 ± 0.00125 mm/semana (-0.00291 ± 7e-05 m/ano )
Altura - Coef = -0.02312 ± 0.0024 mm/semana (-0.00121 ± 0.00013 m/ano )
mm
Semana GPS

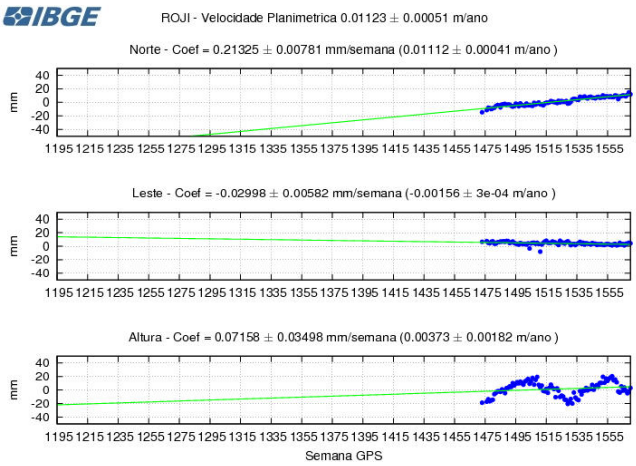

RIOP - Velocidade Planimetrica 0.00787 ± 5e-04 m/ano
Norte - Coef = 0.15015 ± 0.00804 mm/semana (0.00783 ± 0.00042 m/ano )
Leste - Coef = 0.01616 ± 0.00538 mm/semana (0.00084 ± 0.00028 m/ano )
Altura - Coef = -0.08274 ± 0.01117 mm/semana (-0.00431 ± 0.00058 m/ano )
mm
Semana GPS

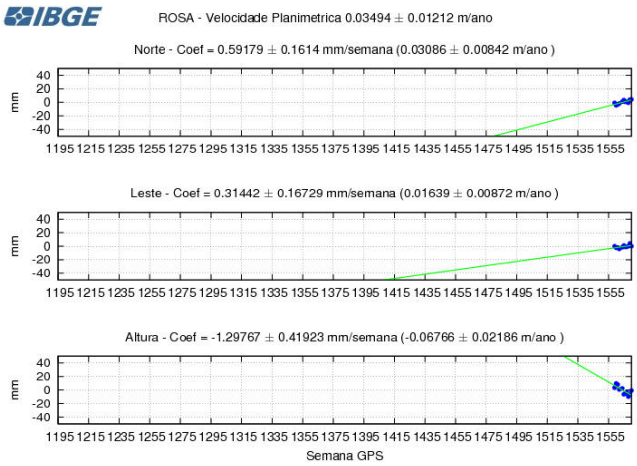

RJCG - Velocidade Planimetrica 0.01258 ± 0.00053 m/ano
Norte - Coef = 0.23653 ± 0.00574 mm/semana (0.01233 ± 3e-04 m/ano )
Leste - Coef = -0.04792 ± 0.00835 mm/semana (-0.0025 ± 0.00044 m/ano )
Altura - Coef = -0.04245 ± 0.015 mm/semana (-0.00221 ± 0.00078 m/ano )
mm
Semana GPS

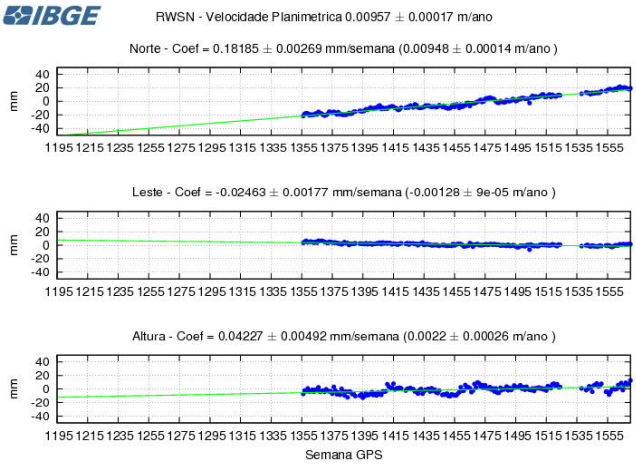

RNMO - Velocidade Planimetrica 0.01479 ± 0.00134 m/ano
Norte - Coef = 0.28358 ± 0.02007 mm/semana (0.01479 ± 0.00105 m/ano )
Leste - Coef = 0.00357 ± 0.01603 mm/semana (0.00019 ± 0.00084 m/ano )
Altura - Coef = -0.15415 ± 0.05968 mm/semana (-0.00804 ± 0.00311 m/ano )
mm
Semana GPS

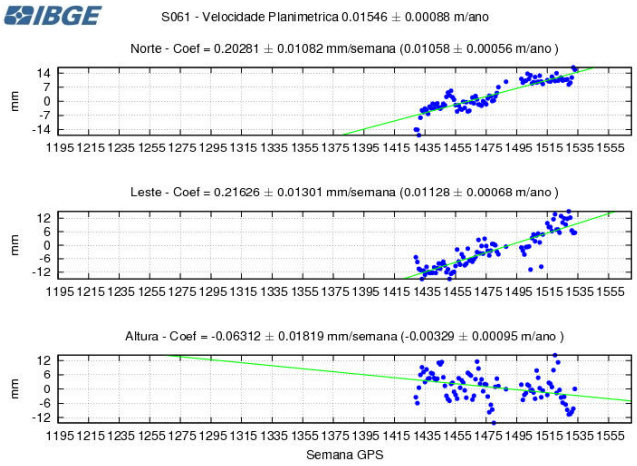

RNNA - Velocidade Planimetrica 0.01401 ± 0.00141 m/ano
Norte - Coef = 0.26552 ± 0.01832 mm/semana (0.01385 ± 0.00096 m/ano )
Leste - Coef = -0.04082 ± 0.01985 mm/semana (-0.00213 ± 0.00104 m/ano )
Altura - Coef = -0.07268 ± 0.05255 mm/semana (-0.00379 ± 0.00274 m/ano )
mm
Semana GPS

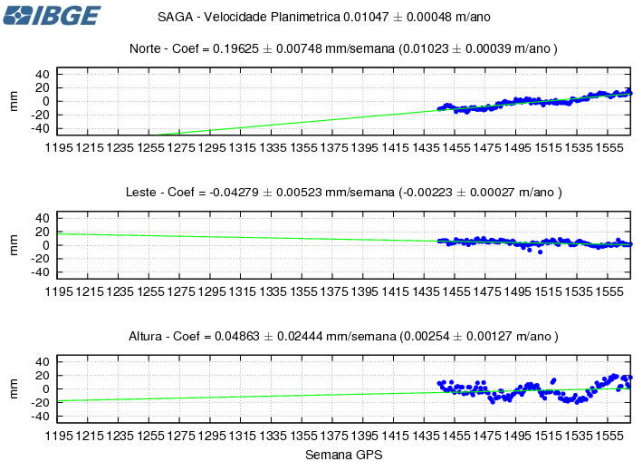

ROGM - Velocidade Planimetrica 0.01095 ± 0.00049 m/ano
Norte - Coef = 0.20937 ± 0.00603 mm/semana (0.01092 ± 0.00031 m/ano )
Leste - Coef = -0.01634 ± 0.00715 mm/semana (-0.00085 ± 0.00037 m/ano )
Altura - Coef = 0.11709 ± 0.0362 mm/semana (0.00611 ± 0.00189 m/ano )
mm
Semana GPS

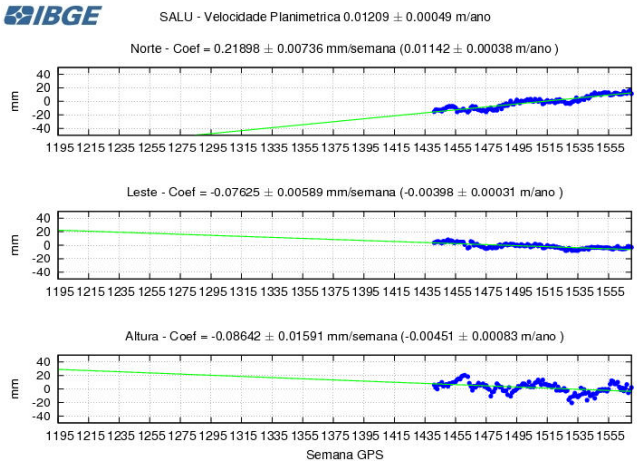

ROJI - Velocidade Planimetrica 0.01123 ± 0.00051 m/ano
Norte - Coef = 0.21325 ± 0.00781 mm/semana (0.01112 ± 0.00041 m/ano )
Leste - Coef = -0.02998 ± 0.00582 mm/semana (-0.00156 ± 3e-04 m/ano )
Altura - Coef = 0.07158 ± 0.03498 mm/semana (0.00373 ± 0.00182 m/ano )
mm
Semana GPS

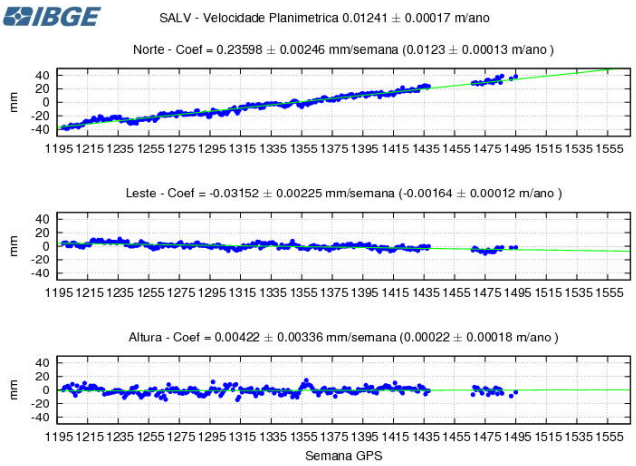

ROSA - Velocidade Planimetrica 0.03494 ± 0.01212 m/ano
Norte - Coef = 0.59179 ± 0.1614 mm/semana (0.03086 ± 0.00842 m/ano )
Leste - Coef = 0.31442 ± 0.16729 mm/semana (0.01639 ± 0.00872 m/ano )
Altura - Coef = -1.29767 ± 0.41923 mm/semana (-0.06766 ± 0.02186 m/ano )
mm
Semana GPS

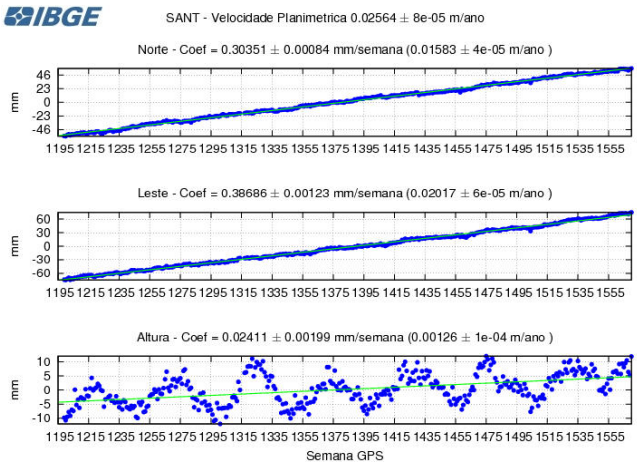

IBGE
RWSN - Velocidade Planimetrica 0.00957 ± 0.00017 m/ano
Norte - Coef = 0.18185 ± 0.00269 mm/semana (0.00948 ± 0.00014 m/ano )
Leste - Coef = -0.02463 ± 0.00177 mm/semana (-0.00128 ± 9e-05 m/ano )
Altura - Coef = 0.04227 ± 0.00492 mm/semana (0.0022 ± 0.00026 m/ano )
mm
Semana GPS

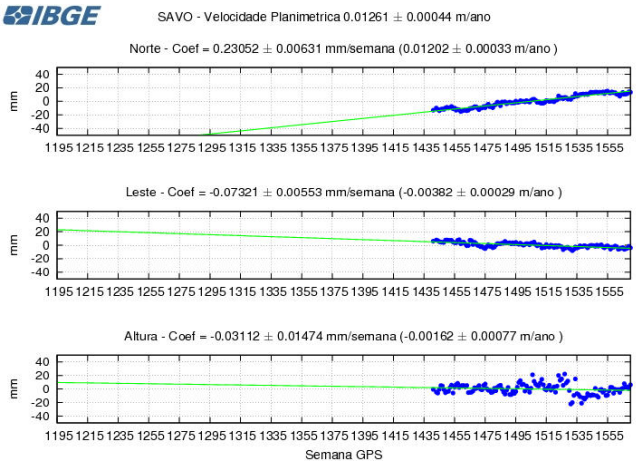

IBGE
S061 - Velocidade Planimetrica 0.01546 ± 0.00088 m/ano
Norte - Coef = 0.20281 ± 0.01082 mm/semana (0.01058 ± 0.00056 m/ano )
Leste - Coef = 0.21626 ± 0.01301 mm/semana (0.01128 ± 0.00068 m/ano )
Altura - Coef = -0.06312 ± 0.01819 mm/semana (-0.00329 ± 0.00095 m/ano )
mm
Semana GPS

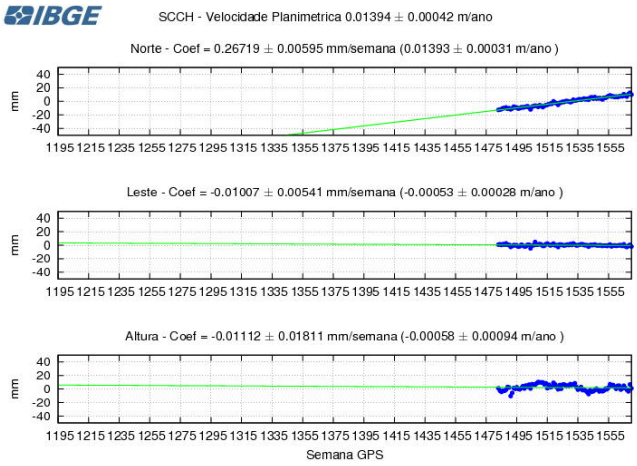

IBGE
SAGA - Velocidade Planimetrica 0.01047 ± 0.00048 m/ano
Norte - Coef = 0.19625 ± 0.00748 mm/semana (0.01023 ± 0.00039 m/ano )
Leste - Coef = -0.04279 ± 0.00523 mm/semana (-0.00223 ± 0.00027 m/ano )
Altura - Coef = 0.04863 ± 0.02444 mm/semana (0.00254 ± 0.00127 m/ano )
mm
Semana GPS

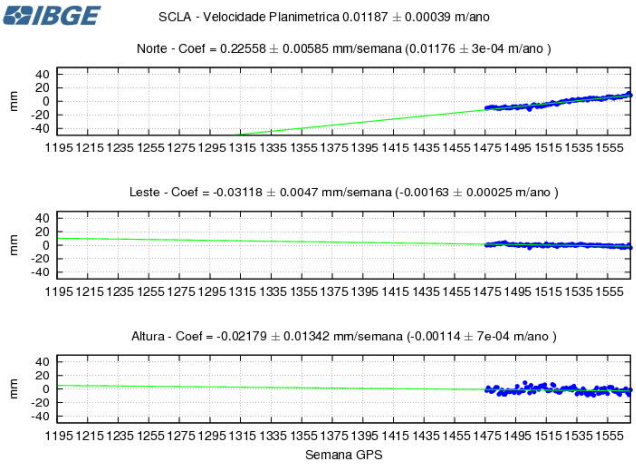

IBGE
SALU - Velocidade Planimetrica 0.01209 ± 0.00049 m/ano
Norte - Coef = 0.21898 ± 0.00736 mm/semana (0.01142 ± 0.00038 m/ano )
Leste - Coef = -0.07625 ± 0.00589 mm/semana (-0.00398 ± 0.00031 m/ano )
Altura - Coef = -0.08642 ± 0.01591 mm/semana (-0.00451 ± 0.00083 m/ano )
mm
Semana GPS

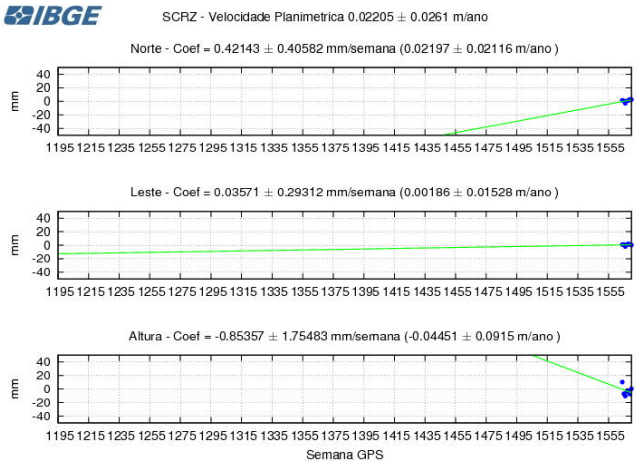

IBGE
SALV - Velocidade Planimetrica 0.01241 ± 0.00017 m/ano
Norte - Coef = 0.23598 ± 0.00246 mm/semana (0.0123 ± 0.00013 m/ano )
Leste - Coef = -0.03152 ± 0.00225 mm/semana (-0.00164 ± 0.00012 m/ano )
Altura - Coef = 0.00422 ± 0.00336 mm/semana (0.00022 ± 0.00018 m/ano )
mm
Semana GPS

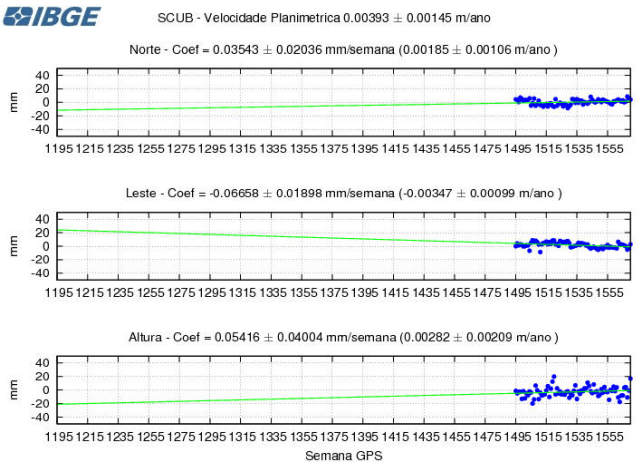

IBGE
SANT - Velocidade Planimetrica 0.02564 ± 8e-05 m/ano
Norte - Coef = 0.30351 ± 0.00084 mm/semana (0.01583 ± 4e-05 m/ano )
Leste - Coef = 0.38686 ± 0.00123 mm/semana (0.02017 ± 6e-05 m/ano )
Altura - Coef = 0.02411 ± 0.00199 mm/semana (0.00126 ± 1e-04 m/ano )
mm
Semana GPS

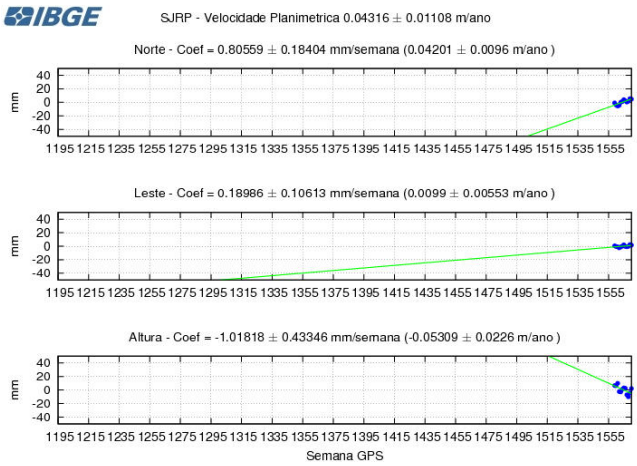

SAVO - Velocidade Planimetrica 0.01261 ± 0.00044 m/ano
Norte - Coef = 0.23052 ± 0.00631 mm/semana (0.01202 ± 0.00033 m/ano )
Leste - Coef = -0.07321 ± 0.00553 mm/semana (-0.00382 ± 0.00029 m/ano )
Altura - Coef = -0.03112 ± 0.01474 mm/semana (-0.00162 ± 0.00077 m/ano )
mm
Semana GPS

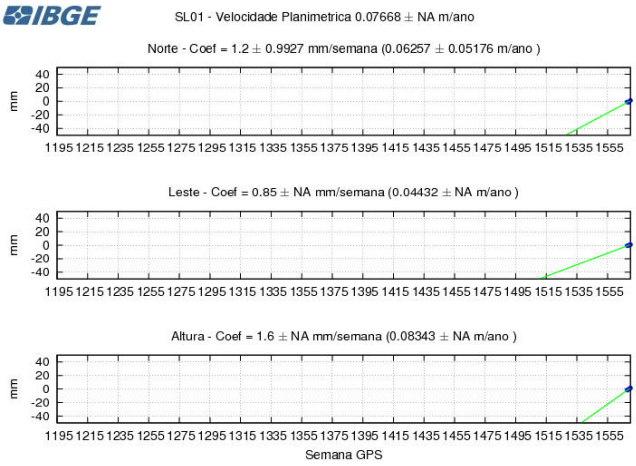

SCCH - Velocidade Planimetrica 0.01394 ± 0.00042 m/ano
Norte - Coef = 0.26719 ± 0.00595 mm/semana (0.01393 ± 0.00031 m/ano )
Leste - Coef = -0.01007 ± 0.00541 mm/semana (-0.00053 ± 0.00028 m/ano )
Altura - Coef = -0.01112 ± 0.01811 mm/semana (-0.00058 ± 0.00094 m/ano )
mm
Semana GPS

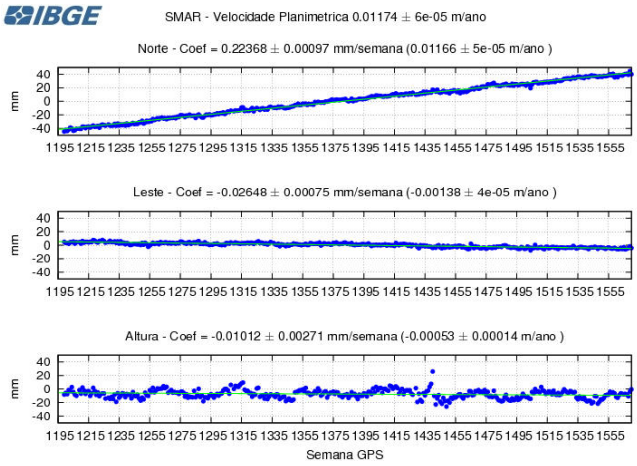

SCLA - Velocidade Planimetrica 0.01187 ± 0.00039 m/ano
Norte - Coef = 0.22558 ± 0.00585 mm/semana (0.01176 ± 3e-04 m/ano )
Leste - Coef = -0.03118 ± 0.0047 mm/semana (-0.00163 ± 0.00025 m/ano )
Altura - Coef = -0.02179 ± 0.01342 mm/semana (-0.00114 ± 7e-04 m/ano )
mm
Semana GPS

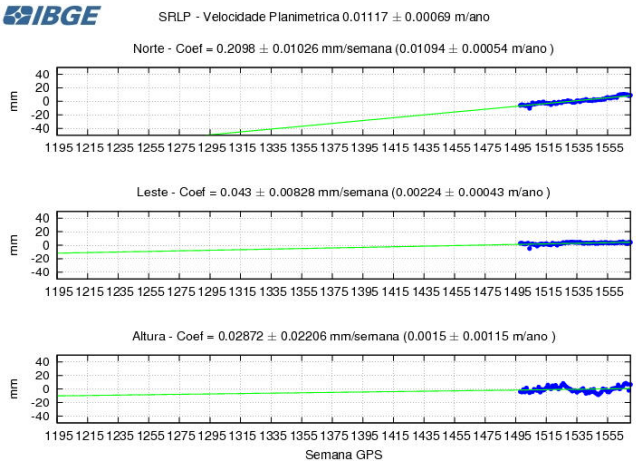

SCRZ - Velocidade Planimetrica 0.02205 ± 0.0261 m/ano
Norte - Coef = 0.42143 ± 0.40582 mm/semana (0.02197 ± 0.02116 m/ano )
Leste - Coef = 0.03571 ± 0.29312 mm/semana (0.00186 ± 0.01528 m/ano )
Altura - Coef = -0.85357 ± 1.75483 mm/semana (-0.04451 ± 0.0915 m/ano )
mm
Semana GPS

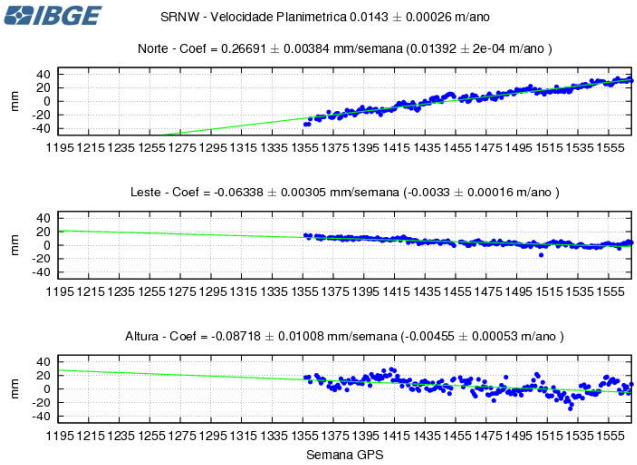

SCUB - Velocidade Planimetrica 0.00393 ± 0.00145 m/ano
Norte - Coef = 0.03543 ± 0.02036 mm/semana (0.00185 ± 0.00106 m/ano )
Leste - Coef = -0.06658 ± 0.01898 mm/semana (-0.00347 ± 0.00099 m/ano )
Altura - Coef = 0.05416 ± 0.04004 mm/semana (0.00282 ± 0.00209 m/ano )
mm
Semana GPS

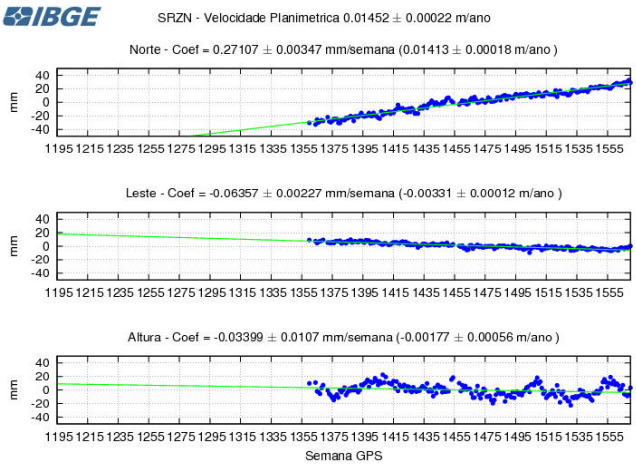

SJRP - Velocidade Planimetrica 0.04316 ± 0.01108 m/ano
Norte - Coef = 0.80559 ± 0.18404 mm/semana (0.04201 ± 0.0096 m/ano )
Leste - Coef = 0.18986 ± 0.10613 mm/semana (0.0099 ± 0.00553 m/ano )
Altura - Coef = -1.01818 ± 0.43346 mm/semana (-0.05309 ± 0.0226 m/ano )
mm
Semana GPS

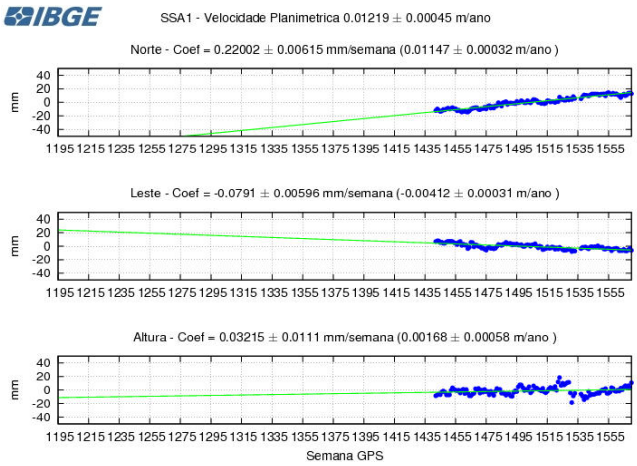

IBGE
SL01 - Velocidade Planimetrica 0.07668 ± NA m/ano
Norte - Coef = 1.2 ± 0.9927 mm/semana (0.06257 ± 0.05176 m/ano )
Leste - Coef = 0.85 ± NA mm/semana (0.04432 ± NA m/ano )
Altura - Coef = 1.6 ± NA mm/semana (0.08343 ± NA m/ano )
mm
Semana GPS

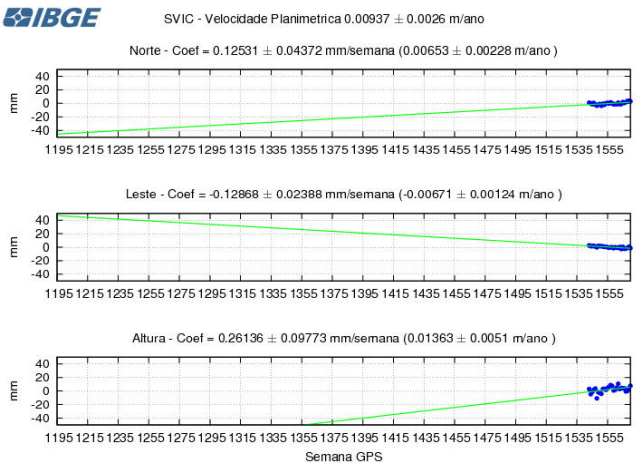

IBGE
SMAR - Velocidade Planimetrica 0.01174 ± 6e-05 m/ano
Norte - Coef = 0.22368 ± 0.00097 mm/semana (0.01166 ± 5e-05 m/ano )
Leste - Coef = -0.02648 ± 0.00075 mm/semana (-0.00138 ± 4e-05 m/ano )
Altura - Coef = -0.01012 ± 0.00271 mm/semana (-0.00053 ± 0.00014 m/ano )
mm
Semana GPS

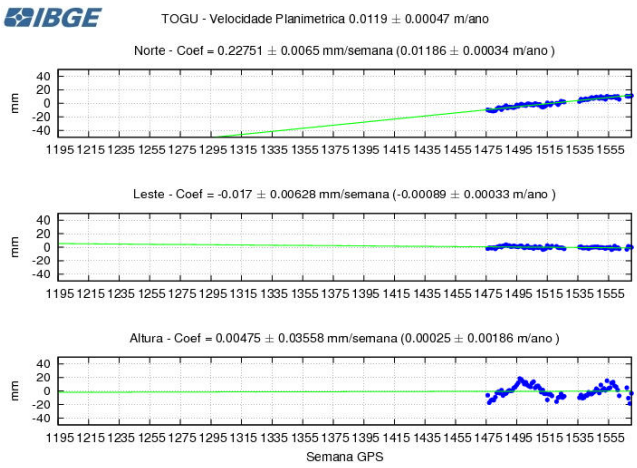

IBGE
SRLP - Velocidade Planimetrica 0.01117 ± 0.00069 m/ano
Norte - Coef = 0.2098 ± 0.01026 mm/semana (0.01094 ± 0.00054 m/ano )
Leste - Coef = 0.043 ± 0.00828 mm/semana (0.00224 ± 0.00043 m/ano )
Altura - Coef = 0.02872 ± 0.02206 mm/semana (0.0015 ± 0.00115 m/ano )
mm
Semana GPS

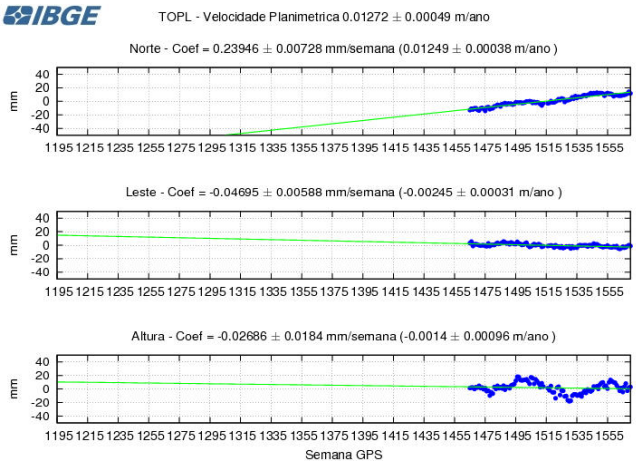

IBGE
SRNW - Velocidade Planimetrica 0.0143 ± 0.00026 m/ano
Norte - Coef = 0.26691 ± 0.00384 mm/semana (0.01392 ± 2e-04 m/ano )
Leste - Coef = -0.06338 ± 0.00305 mm/semana (-0.0033 ± 0.00016 m/ano )
Altura - Coef = -0.08718 ± 0.01008 mm/semana (-0.00455 ± 0.00053 m/ano )
mm
Semana GPS

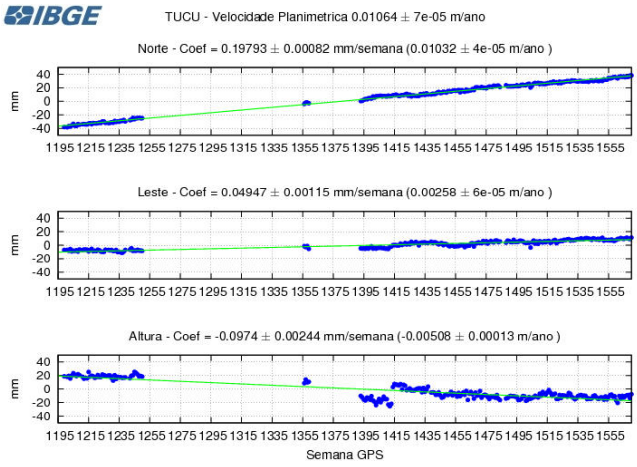

IBGE
SRZN - Velocidade Planimetrica 0.01452 ± 0.00022 m/ano
Norte - Coef = 0.27107 ± 0.00347 mm/semana (0.01413 ± 0.00018 m/ano )
Leste - Coef = -0.06357 ± 0.00227 mm/semana (-0.00331 ± 0.00012 m/ano )
Altura - Coef = -0.03399 ± 0.0107 mm/semana (-0.00177 ± 0.00056 m/ano )
mm
Semana GPS

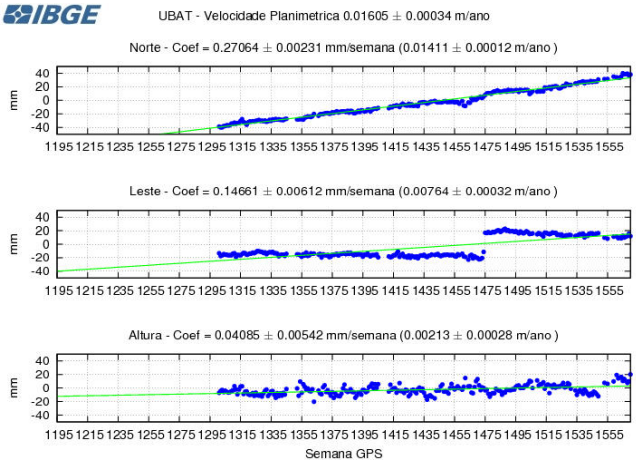

IBGE
SSA1 - Velocidade Planimetrica 0.01219 ± 0.00045 m/ano
Norte - Coef = 0.22002 ± 0.00615 mm/semana (0.01147 ± 0.00032 m/ano )
Leste - Coef = -0.0791 ± 0.00596 mm/semana (-0.00412 ± 0.00031 m/ano )
Altura - Coef = 0.03215 ± 0.0111 mm/semana (0.00168 ± 0.00058 m/ano )
mm
Semana GPS

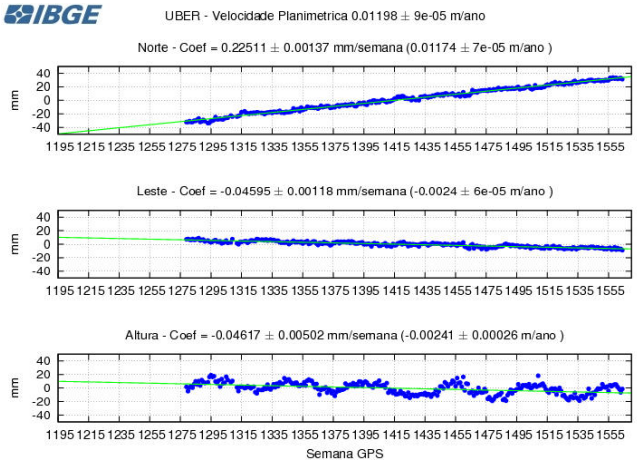

SVIC - Velocidade Planimetrica 0.00937 ± 0.0026 m/ano
Norte - Coef = 0.12531 ± 0.04372 mm/semana (0.00653 ± 0.00228 m/ano )
Leste - Coef = -0.12868 ± 0.02388 mm/semana (-0.00671 ± 0.00124 m/ano )
Altura - Coef = 0.26136 ± 0.09773 mm/semana (0.01363 ± 0.0051 m/ano )
mm
Semana GPS

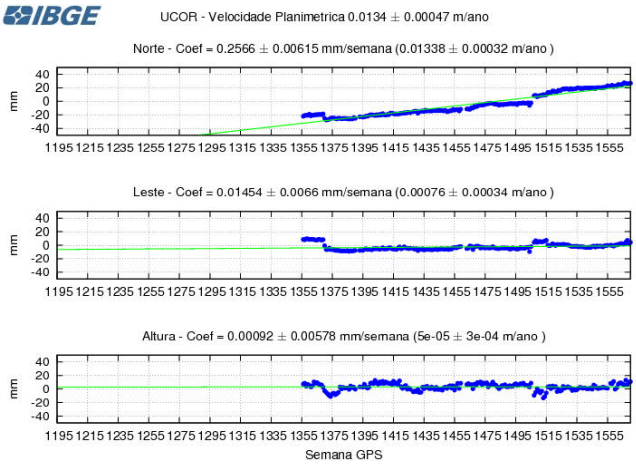

TOGU - Velocidade Planimetrica 0.0119 ± 0.00047 m/ano
Norte - Coef = 0.22751 ± 0.0065 mm/semana (0.01186 ± 0.00034 m/ano )
Leste - Coef = -0.017 ± 0.00628 mm/semana (-0.00089 ± 0.00033 m/ano )
Altura - Coef = 0.00475 ± 0.03558 mm/semana (0.00025 ± 0.00186 m/ano )
mm
Semana GPS

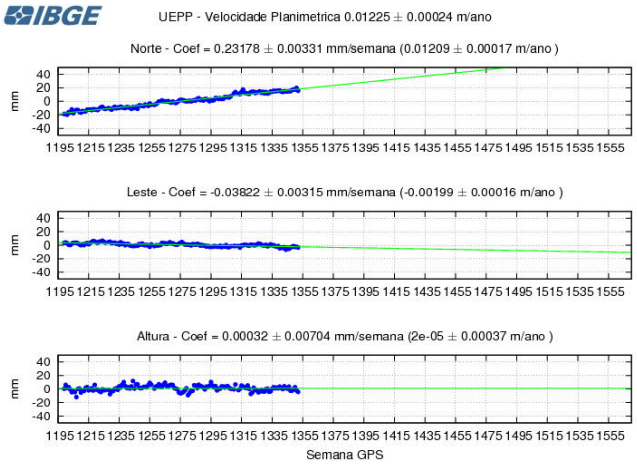

TOPL - Velocidade Planimetrica 0.01272 ± 0.00049 m/ano
Norte - Coef = 0.23946 ± 0.00728 mm/semana (0.01249 ± 0.00038 m/ano )
Leste - Coef = -0.04695 ± 0.00588 mm/semana (-0.00245 ± 0.00031 m/ano )
Altura - Coef = -0.02686 ± 0.0184 mm/semana (-0.0014 ± 0.00096 m/ano )
mm
Semana GPS

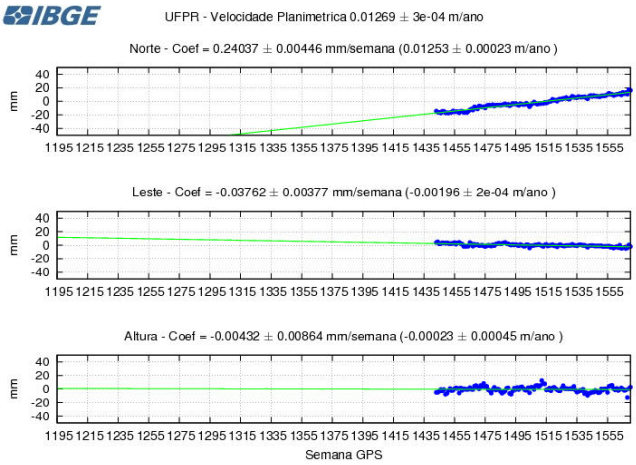

TUCU - Velocidade Planimetrica 0.01064 ± 7e-05 m/ano
Norte - Coef = 0.19793 ± 0.00082 mm/semana (0.01032 ± 4e-05 m/ano )
Leste - Coef = 0.04947 ± 0.00115 mm/semana (0.00258 ± 6e-05 m/ano )
Altura - Coef = -0.0974 ± 0.00244 mm/semana (-0.00508 ± 0.00013 m/ano )
mm
Semana GPS

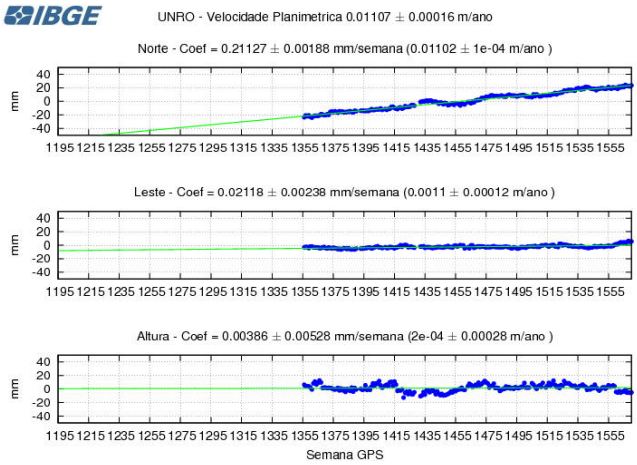

UBAT - Velocidade Planimetrica 0.01605 ± 0.00034 m/ano
Norte - Coef = 0.27064 ± 0.00231 mm/semana (0.01411 ± 0.00012 m/ano )
Leste - Coef = 0.14661 ± 0.00612 mm/semana (0.00764 ± 0.00032 m/ano )
Altura - Coef = 0.04085 ± 0.00542 mm/semana (0.00213 ± 0.00028 m/ano )
mm
Semana GPS

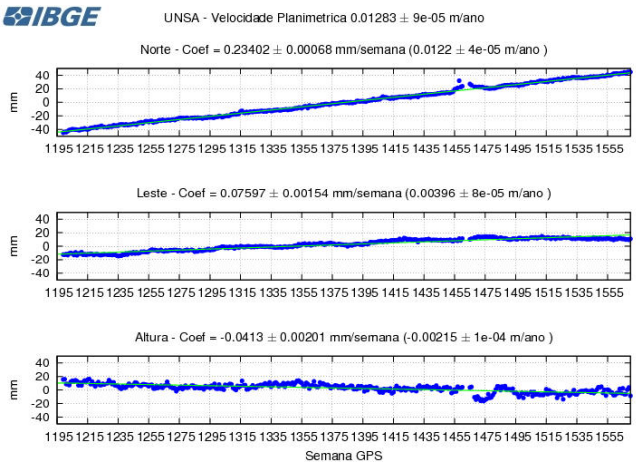

UBER - Velocidade Planimetrica 0.01198 ± 9e-05 m/ano
Norte - Coef = 0.22511 ± 0.00137 mm/semana (0.01174 ± 7e-05 m/ano )
Leste - Coef = -0.04595 ± 0.00118 mm/semana (-0.0024 ± 6e-05 m/ano )
Altura - Coef = -0.04617 ± 0.00502 mm/semana (-0.00241 ± 0.00026 m/ano )
mm
Semana GPS

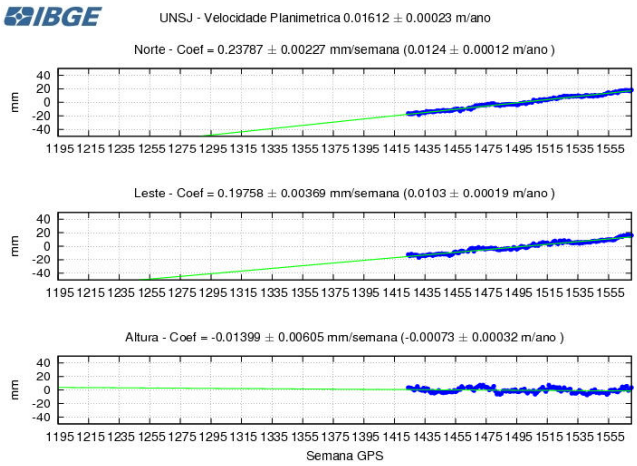

UCOR - Velocidade Planimetrica 0.0134 ± 0.00047 m/ano
Norte - Coef = 0.2566 ± 0.00615 mm/semana (0.01338 ± 0.00032 m/ano )
Leste - Coef = 0.01454 ± 0.0066 mm/semana (0.00076 ± 0.00034 m/ano )
Altura - Coef = 0.00092 ± 0.00578 mm/semana (5e-05 ± 3e-04 m/ano )
mm
Semana GPS

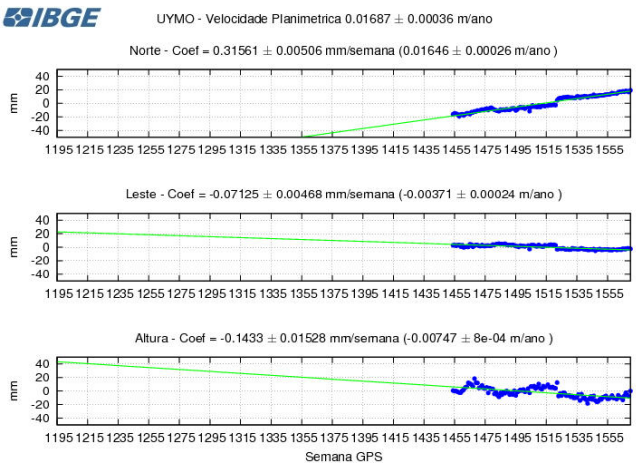

UEPP - Velocidade Planimetrica 0.01225 ± 0.00024 m/ano
Norte - Coef = 0.23178 ± 0.00331 mm/semana (0.01209 ± 0.00017 m/ano )
Leste - Coef = -0.03822 ± 0.00315 mm/semana (-0.00199 ± 0.00016 m/ano )
Altura - Coef = 0.00032 ± 0.00704 mm/semana (2e-05 ± 0.00037 m/ano )
mm
Semana GPS

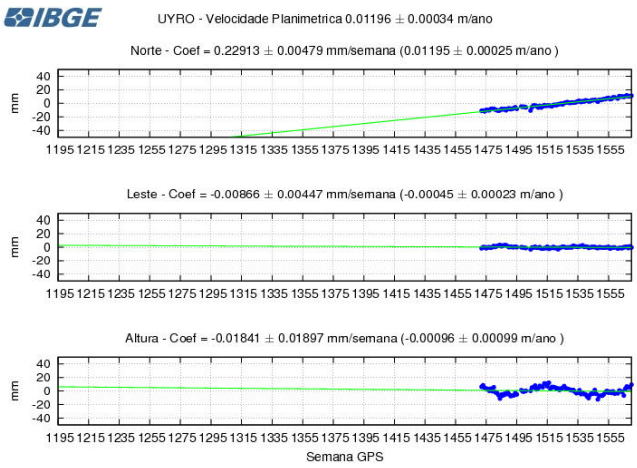

UFPR - Velocidade Planimetrica 0.01269 ± 3e-04 m/ano
Norte - Coef = 0.24037 ± 0.00446 mm/semana (0.01253 ± 0.00023 m/ano )
Leste - Coef = -0.03762 ± 0.00377 mm/semana (-0.00196 ± 2e-04 m/ano )
Altura - Coef = -0.00432 ± 0.00864 mm/semana (-0.00023 ± 0.00045 m/ano )
mm
Semana GPS

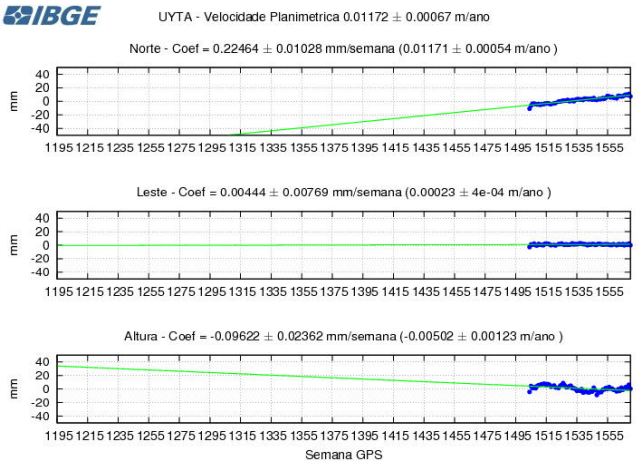

UNRO - Velocidade Planimetrica 0.01107 ± 0.00016 m/ano
Norte - Coef = 0.21127 ± 0.00188 mm/semana (0.01102 ± 1e-04 m/ano )
Leste - Coef = 0.02118 ± 0.00238 mm/semana (0.0011 ± 0.00012 m/ano )
Altura - Coef = 0.00386 ± 0.00528 mm/semana (2e-04 ± 0.00028 m/ano )
mm
Semana GPS

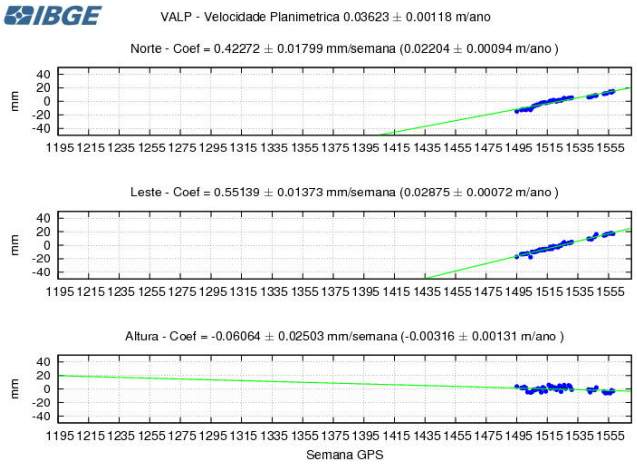

UNSA - Velocidade Planimetrica 0.01283 ± 9e-05 m/ano
Norte - Coef = 0.23402 ± 0.00068 mm/semana (0.0122 ± 4e-05 m/ano )
Leste - Coef = 0.07597 ± 0.00154 mm/semana (0.00396 ± 8e-05 m/ano )
Altura - Coef = -0.0413 ± 0.00201 mm/semana (-0.00215 ± 1e-04 m/ano )
mm
Semana GPS

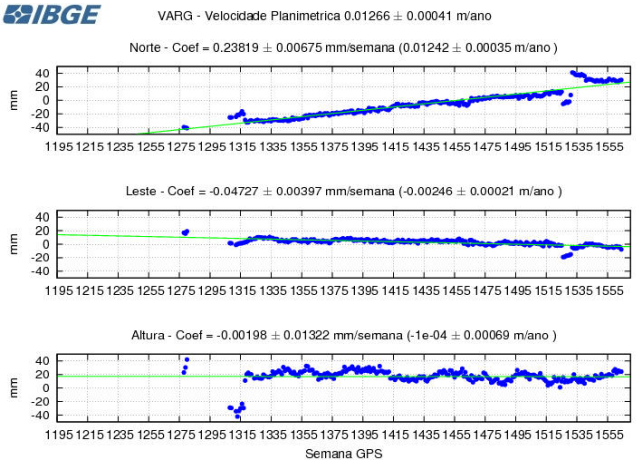

UNSJ - Velocidade Planimetrica 0.01612 ± 0.00023 m/ano
Norte - Coef = 0.23787 ± 0.00227 mm/semana (0.0124 ± 0.00012 m/ano )
Leste - Coef = 0.19758 ± 0.00369 mm/semana (0.0103 ± 0.00019 m/ano )
Altura - Coef = -0.01399 ± 0.00605 mm/semana (-0.00073 ± 0.00032 m/ano )
mm
Semana GPS

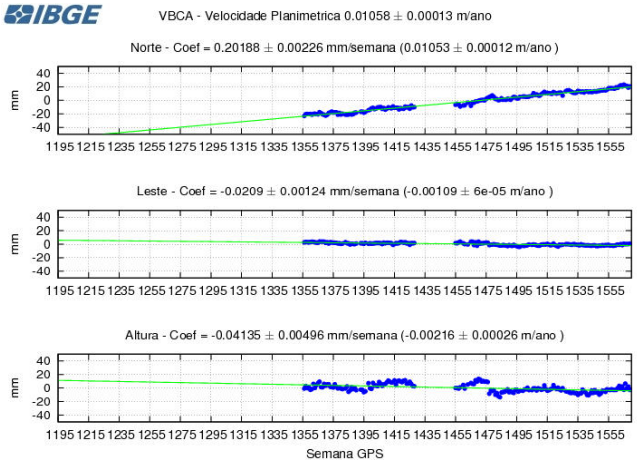

IBGE
UYMO - Velocidade Planimetrica 0.01687 ± 0.00036 m/ano
Norte - Coef = 0.31561 ± 0.00506 mm/semana (0.01646 ± 0.00026 m/ano )
Leste - Coef = -0.07125 ± 0.00468 mm/semana (-0.00371 ± 0.00024 m/ano )
Altura - Coef = -0.1433 ± 0.01528 mm/semana (-0.00747 ± 8e-04 m/ano )
mm
Semana GPS

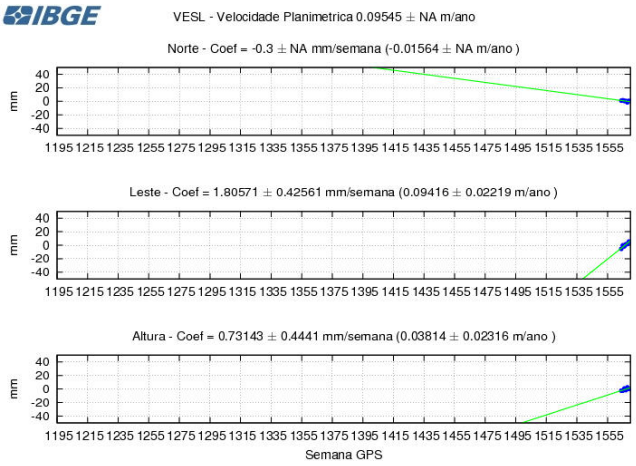

IBGE
UYRO - Velocidade Planimetrica 0.01196 ± 0.00034 m/ano
Norte - Coef = 0.22913 ± 0.00479 mm/semana (0.01195 ± 0.00025 m/ano )
Leste - Coef = -0.00866 ± 0.00447 mm/semana (-0.00045 ± 0.00023 m/ano )
Altura - Coef = -0.01841 ± 0.01897 mm/semana (-0.00096 ± 0.00099 m/ano )
mm
Semana GPS

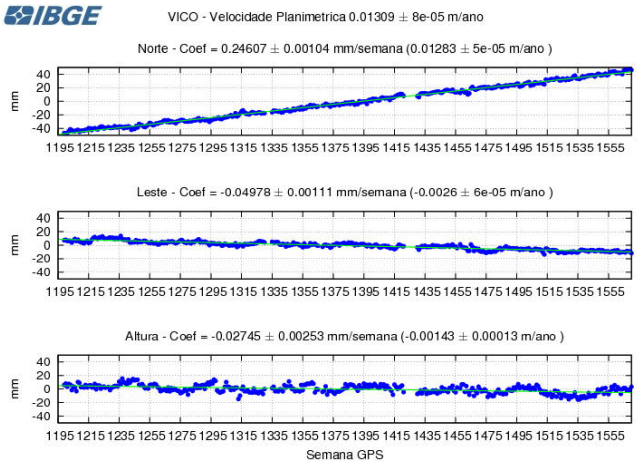

IBGE
UYTA - Velocidade Planimetrica 0.01172 ± 0.00067 m/ano
Norte - Coef = 0.22464 ± 0.01028 mm/semana (0.01171 ± 0.00054 m/ano )
Leste - Coef = 0.00444 ± 0.00769 mm/semana (0.00023 ± 4e-04 m/ano )
Altura - Coef = -0.09622 ± 0.02362 mm/semana (-0.00502 ± 0.00123 m/ano )
mm
Semana GPS


IBGE
VALP - Velocidade Planimetrica 0.03623 ± 0.00118 m/ano
Norte - Coef = 0.42272 ± 0.01799 mm/semana (0.02204 ± 0.00094 m/ano )
Leste - Coef = 0.55139 ± 0.01373 mm/semana (0.02875 ± 0.00072 m/ano )
Altura - Coef = -0.06064 ± 0.02503 mm/semana (-0.00316 ± 0.00131 m/ano )
mm
Semana GPS


IBGE
VARG - Velocidade Planimetrica 0.01266 ± 0.00041 m/ano
Norte - Coef = 0.23819 ± 0.00675 mm/semana (0.01242 ± 0.00035 m/ano )
Leste - Coef = -0.04727 ± 0.00397 mm/semana (-0.00246 ± 0.00021 m/ano )
Altura - Coef = -0.00198 ± 0.01322 mm/semana (-1e-04 ± 0.00069 m/ano )
mm
Semana GPS


IBGE
VBCA - Velocidade Planimetrica 0.01058 ± 0.00013 m/ano
Norte - Coef = 0.20188 ± 0.00226 mm/semana (0.01053 ± 0.00012 m/ano )
Leste - Coef = -0.0209 ± 0.00124 mm/semana (-0.00109 ± 6e-05 m/ano )
Altura - Coef = -0.04135 ± 0.00496 mm/semana (-0.00216 ± 0.00026 m/ano )
mm
Semana GPS


VESL - Velocidade Planimetrica 0.09545 ± NA m/ano
Norte - Coef = -0.3 ± NA mm/semana (-0.01564 ± NA m/ano )
Leste - Coef = 1.80571 ± 0.42561 mm/semana (0.09416 ± 0.02219 m/ano )
Altura - Coef = 0.73143 ± 0.4441 mm/semana (0.03814 ± 0.02316 m/ano )
mm
40
20
0
-20
-40
1195 1215 1235 1255 1275 1295 1315 1335 1355 1375 1395 1415 1435 1455 1475 1495 1515 1535 1555
Semana GPS


VICO - Velocidade Planimetrica 0.01309 ± 8e-05 m/ano
Norte - Coef = 0.24607 ± 0.00104 mm/semana (0.01283 ± 5e-05 m/ano )
Leste - Coef = -0.04978 ± 0.00111 mm/semana (-0.0026 ± 6e-05 m/ano )
Altura - Coef = -0.02745 ± 0.00253 mm/semana (-0.00143 ± 0.00013 m/ano )
mm
40
20
0
-20
-40
1195 1215 1235 1255 1275 1295 1315 1335 1355 1375 1395 1415 1435 1455 1475 1495 1515 1535 1555
Semana GPS