



REPORTE

CENTRO DE PROCESAMIENTO SIRGAS - IBGE

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA – IBGE
DIRETORIA DE GEOCIÊNCIAS

Rio de Janeiro, octubre de 2010

1. CENTRO DE PROCESAMIENTO SIRGAS – IBGE

El Centro de Procesamiento SIRGAS – IBGE, a pesar de haber iniciado oficialmente sus actividades en 2008, tiene resultados del procesamiento de los datos GNSS desde enero de 2003 (semana GPS 1199). Las actividades se iniciaron con el propósito de evaluar la calidad de los datos y controle de las coordenadas de las estaciones de la Red Brasileña de Monitoreo Continuo del GNSS - RBMC, con el fin de promover el mantenimiento do sistema de referencia SIRGAS2000. En 2008, el IBGE se ha convertido en el centro de procesamiento oficial de la red SIRGAS-CON, el apoyo a las actividades del Grupo de Trabajo I – GTI (Red de Referencia) SIRGAS.

1.1 NOMBRE:

- Centro de Procesamiento SIRGAS – IBGE;
- Instituto Brasileiro de Geografia e Estatística – IBGE;
- Rio de Janeiro – RJ;
- Brasil;

1.2 FECHA:

- Inicio oficial: 31 de agosto 2008;
- Procesamiento: 2005;
- Resultados desde enero de 2003;

1.3 EQUIPO:

- Alberto Luis da Silva (Responsable) (alberto.luis@ibge.gov.br)
- Marco Aurélio de Almeida Lima (marco.almeida@ibge.gov.br)
- Newton Jose de Moura Júnior (newton.junior@ibge.gov.br)
- Sônia Maria Alves Costa (sonia.alves@ibge.gov.br)

2. RED SIRGAS-CON-C CENTRAL Y LA PARTE SUR

El número de estaciones GNSS pertenecientes a la red SIRGAS-CON y procesadas por el IBGE, han aumentado significativamente. En la actualidad cuenta con 140 estaciones. A pesar del aumento, algunas estaciones están sin datos.

2.1 ESTACIONES PARA SER PROCESADO POR EL IBGE:

El ANEXO 1 se presenta la lista de todas las estaciones procesadas por el IBGE, la descripción de donde están instalados y sus equipos respectivos.

2.2 DISPONIBILIDAD DE DATOS DE LAS ESTACIONES:

El ANEXO 2 se presenta la situación de las estaciones en las últimas 20 semanas (1583 a 1602), es decir, la cantidad de datos utilizados en el procesamiento.

2.3 DIRECCIÓN DE FTP PARA DESCARGAR LOS DATOS:

Para descargar los datos de las estaciones SIRGAS-CON, utilice las siguientes direcciones FTP:

Tabela 01 – Dirección FTP

LOCAL	FTP
CORS	cors.ngs.noaa.gov
SOPAC	Garner.ucsd.edu
EQUADOR	186.42.173.82
CDDIS	cddis.gsfc.nasa.gov
RAMSAC	ramsac.igm.gov.ar
RBMC	geoftp.ibge.gov.br
REMOS	200.44.126.166
URUGUAI	ftp.sgm.gub.uy
DFGI	129.187.165.2
LGFS VENEZUELA	ftp.lgfs.luz.eud.ve

3. PRINCIPALES CARACTERÍSTICAS DE PROCESAMIENTO

Tabela 2 - Principales características de procesamiento

Observações	Dupla Diferença de fase
Software	Bernese 5.0 (modo BPE)
Taxa de coleta	30 segundos
Ângulo de Elevação	03°
Estratégia de Linha de Base	SHORTEST (as menores linhas entre as estações são formadas)
Órbita/EOP	final IGS - IGS05 EOP das soluções semanais IGS – IGS05
Modelo de Troposfera <i>a priori</i>	Niell componente seca
Troposfera local	O atraso troposférico no zênite é estimado a cada 2 horas,. São estimadas 12 correções diárias por estação. As correções dos atrasos zenitais utilizando a função de mapeamento Niell (componente úmida).
Ambigüidades	Estratégia QIF com Modelos Globais da Ionosfera - GIM disponibilizados pelo Centro de Determinação de Órbita da Europa - CODE
Modelo de Carga Oceânica	FES2004
Variação de Centro de Fase	Absoluto (IGS_05)
Coordenadas e Velocidades	IGS05_R
Soluções Diárias	Todas estações são injuncionadas em $\sigma = \pm 1m$ Arquivos de saída: SINEX Mapas Troposféricos
Soluções Semanais	Todas estações são injuncionadas em $\sigma = \pm 1m$ Arquivos de saída: SINEX

4. INTERNET Y FTP SIRGAS-IBGE

Los resultados, informes y gráficos do Centro de Procesamiento SIRGAS – IBGE están disponibles en la Internet:

http://www.ibge.gov.br/home/geociencias/geodesia/centros_apres.shtm

o FTP:

<ftp://geofp.ibge.gov.br/SIRGAS/>

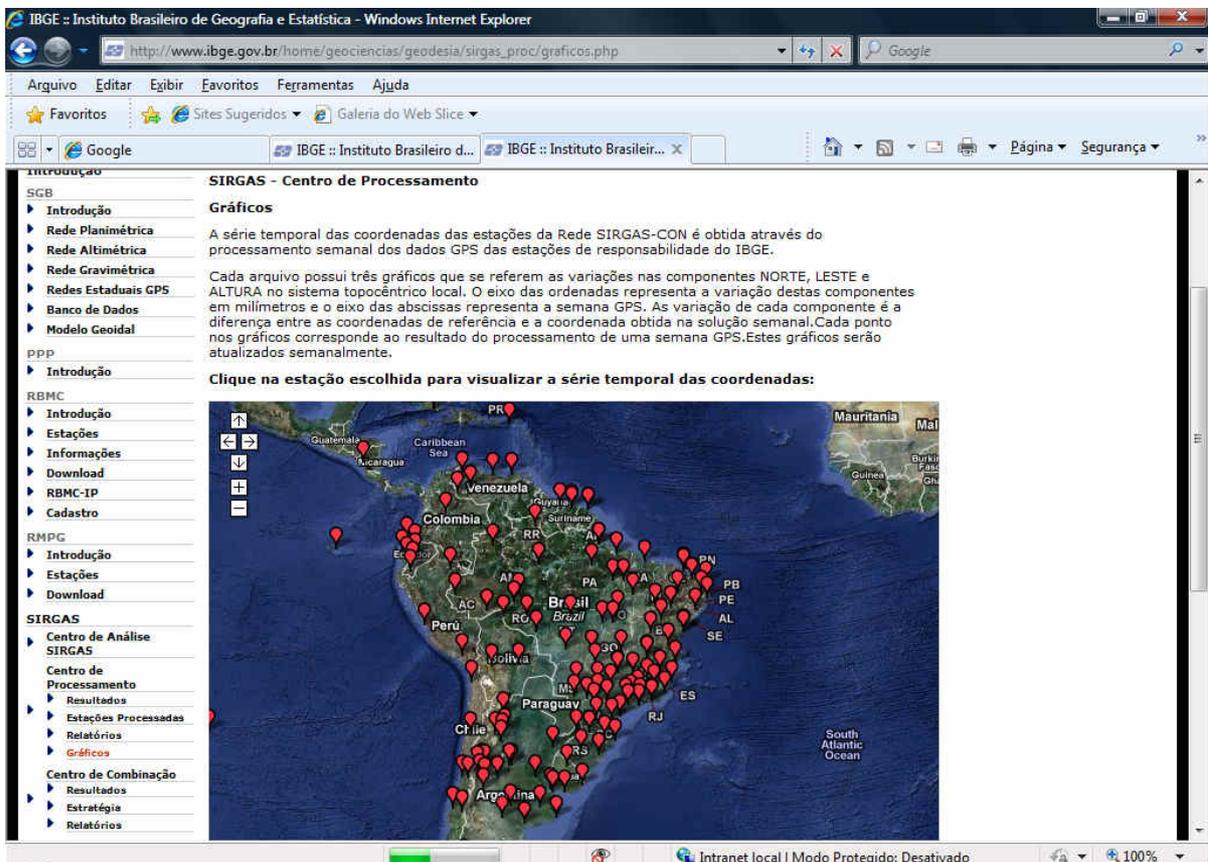


Figura 2 – La página do Centro de Procesamiento SIRGAS - IBGE

ANEXO 1 – DESCRIPCIÓN DE LAS ESTACIONES SIRGAS

Cuadro 3 – Descripción de las estaciones SIRGAS procesadas por el IBGE

EST	DOMES NUMBER	RECEPTOR	ANTENA		ALTURA (m)	CIDADE	PAÍS
ALAR	41653M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0010	Arapiraca	Brazil
ALUM	41535M001	TRIMBLE NETR5	TRM55971.00	TZGD	0.0000	Mina Alumbreira	Argentina
AMHU	41646M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Humaita	Brazil
ANTC	41713S001	TRIMBLE NETRS	ASH700936D_M	SNOW	0.0000	Los Angeles	Chile
AREQ	42202M005	ASHTECH UZ-12	AOAD/M_T	JPLA	0.0610	Arequipa	Peru
AUTF	41515S001	TRIMBLE NETRS	ASH700936D_M	SNOW	0.0000	Ushuaia	Argentina
AZUL	41529M001	TRIMBLE NETR5	TRM55971.00	TZGD	0.0000	Azul	Argentina
BABR	41684M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0090	Barreiras	Brazil
BAIR	41665M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Irece	Brazil
BANS	42403M001	TRIMBLE 5700	TRM29659.00	NONE	0.0000	Barinas	Venezuela
BATF	41666M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0100	Teixeira de Freitas	Brazil
BAVC	41669M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Vitória da Conquista	Brazil
BELE	41622M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Belem	Brazil
BOAV	41636M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Boa Vista	Brazil
BOGT	41901M001	ASHTECH UZ-12	ASH701945E_M	NONE	0.0610	Bogota	Colombia
BOMJ	41612M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Bom Jesus da Lapa	Brazil
BRAZ	41606M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Brasilia	Brazil
BRFT	41602M002	LEICA GRX1200PRO	LEIAT504	NONE	0.0083	Eusebio	Brazil
CALL	42205M001	LEICA GRX1200GGPRO	LEIAT504GG	LEIS	0.1100	El Callao	Peru
CATA	41534M001	TRIMBLE NETR5	TRM55971.00	TZGD	0.0000	San Fernando de Catamarca	Argentina
CEEU	41602M003	LEICA GRX1200+GNSS	LEIAX1203+GNSS	NONE	0.0020	Euzebio	Brazil
CEFE	41637M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0000	Vitoria	Brazil
CEFT	41682M001	TRIMBLE 4000SSI	TRM29659.00	NONE	0.0080		
CFAG	41517S001	TRIMBLE NETRS	ASH700936D_M	NONE	0.0000	Caucete	Argentina
CHPI	41609M003	ASHTECH UZ-12	ASH701945C_M	NONE	0.0792	Cachoeira	Brazil
CONZ	41719M002	LEICA GRX1200GGPRO	TPSCR3_GGD	CONE	0.0574	Concepcion	Chile
COPO	41714S001	TRIMBLE NETRS	ASH700936D_M	SNOW	0.0000	Copiapo	Chile
COYQ	41715S001	TRIMBLE NETRS	ASH700936D_M	SNOW	0.0000	Coyhaique	Chile
CRAT	41619M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Crato	Brazil
CRCS	42401M001	SOK GSR2700 RS	TRM29659.00	NONE	0.0160	Caracas	Venezuela
CRO1	43201M001	ASHTECH UZ-12	ASH701945G_M	JPLA	0.0814	Saint Croix	USA
CRUZ	41641M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Cruzeiro do Sul	Brazil
CSLO	41540M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0000	Complejo Astronomico El Leoncito	Argentina
CUEC	42009M001	LEICA GRX1200GGPRO	LEIAT504GG	NONE	0.0080	Cuenca	Ecuador
CUIB	41603M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Cuiaba	Brazil
CUM3	42404M001	SOK GSR2700 RS	NOV533+CR	NOVC	0.1440	Cumana	Venezuela
ESMR	42011M001	TRIMBLE NETRS	TRM41249.00	NONE	1.1840	Esmeraldas	Ecuador
ESQU	41533M001	ASHTECH Z-XII3	TRM41249.00	NONE	0.0000	Esquel	Argentina
GLPS	42005M002	ASHTECH UZ-12	ASH701945B_M	SCIT	0.0083	Puerto Ayora	Ecuador
GOJA	41654M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0000	Jatai	Brazil
GVAL	41623M001	ASHTECH UZ-12	ASH700700.B	NONE	0.0500	Gov. Valadares	Brazil
GYEC	42007M001	LEICA GRX1200GGPRO	LEIAT504GG	NONE	0.0080	Guayaquil	Ecuador
IGM1	41505M003	TRIMBLE NETRS	ASH700936D_M	SNOW	0.0000	Buenos Aires	Argentina
ILHA	41634M001	LEICA GRX1200GGPRO	LEIAX1202GG	NONE	0.0080	Ilha Solteira	Brazil
IMBT	41638M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Imbituba	Brazil
IMPZ	41615M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Imperatriz	Brazil
IQQE	41708S002	TRIMBLE NETRS	ASH700936D_M	SNOW	0.0000	Iquique	Chile
IQUI	42204M001	LEICA GRX1200GGPRO	LEIAT504GG	LEIS	0.0000	Iquitos	Peru
ISPA	41703M007	ASHTECH UZ-12	ASH701945E_M	SCIT	0.0083	Easter Island	Chile
JBAL	41537M001	TRIMBLE NETRS	TRM41249.00	TZGD	0.0000	Juan Bautista Alberdi	Argentina
KOUR	97301M210	JPS LEGACY	ASH701946.3	NONE	0.0450	Kourou	France
LJEC	42010M001	LEICA GRX1200GGPRO	LEIAT504GG	NONE	0.0080	Loja	Ecuador

ANEXO 1 – Descripción de las Estaciones SIRGAS

EST	DOMES NUMBER	RECEPTOR	ANTENA	ALTURA (m)	CIDADE	PAÍS
LPGS	41510M001	AOA BENCHMARK ACT	AOAD/M_T NONE	0.0460	La Plata	Argentina
MABA	41642M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Maraba	Brazil
MABS	41681M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080		
MANA	41201S001	TRIMBLE 400SSI	TRM29659.00 UNAV	0.0000	Managua	Nicaragua
MAPA	41629M001	TRIMBLE NETRS	TRM29659.00 NONE	0.0880	Macapa	Brazil
MARA	42402M001	SOK GSR2700 RS	NOV533+CR NOVC	0.0780	Maracaibo	Venezuela
MCLA	41624M001	ASHTECH UZ-12	ASH700700.B NONE	0.0600	Montes Claros	Brazil
MECO	41526M001	TRIMBLE NETRS	TRM41249.00 TZGD	0.5350	Mercedes	Argentina
MGBH	41667M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0060	Belo Horizonte	Brazil
MGIN	41647M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	Inconfidentes	Brazil
MGMC	41624M002	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	Montes Claros	Brazil
MGRP	41680M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Rio Paranaíba	Brazil
MGUB	41652M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Uberlandia	Brazil
MGVA	41626M002	ASHTECH UZ-12	ASH700700.B NONE	0.1090	Varginha	Brazil
MSCG	41649M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	Campo Grande	Brazil
MSDO	41672M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	Dourados	Brazil
MTBA	41663M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	Barra do Garças	Brazil
MTCO	41670M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Colider	Brazil
MTSF	41655M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	São Felix do Araguaia	Brazil
MZAC	41503M001	ASHTECH Z-XII3	ASH701933C_M SNOW	0.0000	Mendoza	Argentina
MZAE	41530M001	TRIMBLE NETRS	TRM29659.00 UNAV	0.0000	Santa Rosa	Argentina
MZAS	41528M001	TRIMBLE NETRS	TRM29659.00 UNAV	0.0000	San Rafael	Argentina
NAUS	41614M002	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Manaus	Brazil
NEIA	41620M002	TRIMBLE NETR8	TRM59800.00 NONE	0.1003	Cananea	Brazil
OHI2	66008M005	JPS E_GGD	TPSCR.G3 TPSH	0.0375	O'Higgins	Antartica
ONRJ	41635M001	LEICA GRX1200+GNSS	LEIAX1203+GNSS NONE	0.0080	Rio de Janeiro	Brazil
OURI	41631M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Ourinhos	Brazil
PAAT	41683M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Altamira	Brazil
PAIT	41685M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Itaituba	Brazil
PALM	66005M002	ASHTECH UZ-12	ASH700936D_M SCIS	0.0794	Palmer	Antartica
PARC	41716S001	TRIMBLE NETR8	TRM57971.00 NONE	0.0000	Punta Arenas	Chile
PBCG	41656M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Campina Grande	Brazil
PEPE	41650M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Petrolina	Brazil
PISR	41673M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	São Raimundo Nonato	Brazil
PMB1	43702S001	TRIMBLE NETRS	TRM55971.00 NONE	0.0000	Paramaribo	Surinam
POAL	41616M001	TRIMBLE NETRS	TRM29659.00 NONE	0.0075	Porto Alegre	Brazil
POLI	41630M001	LEICA GRX1200 PRO	LEIAX1202 NONE	0.0500	Sao Paulo	Brazil
POVE	41628M001	TRIMBLE NETR5	TRM29659.00 NONE	0.0075	Porto Velho	Brazil
PPTE	41611M002	TRIMBLE NETR8	TRM59800.00 NONE	0.0020	Presidente Prudente	Brazil
PRGU	41671M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Guarapuava	Brazil
PRMA	41674M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Maringá	Brazil
PTEC	42008M001	LEICA GRX1200GGPRO	LEIAT504GG NONE	0.0080	Portoviejo	Ecuador
QUI1	42003S003	ASHTECH Z-XII3	ASH700936B_M SNOW	0.0000	Quito	Ecuador
RECF	41617M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0710	Recife	Brazil
RIO2	41507M006	ASHTECH Z-XII3	ASH700936C_M SNOW	0.0350	Rio Grande	Argentina
RIOB	41645M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Rio Branco	Brazil
RIOD	41608M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Rio de Janeiro	Brazil
RIOP	42006M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0729	Riobamba	Ecuador
RJCG	41657M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0000	Campos dos Goytacazes	Brazil
RNMO	41664M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Mossoro	Brazil
RNNA	41668M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0080	Natal	Brazil
ROCD	41679M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Colorado d'Oeste	Brazil
ROGM	41651M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Guajara-Mirim	Brazil
ROJI	41658M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Ji-Paraná	Brazil
ROSA	41632M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Rosana	Brazil
RWSN	41513M001	ASHTECH UZ-12	ASH700936D_M NONE	0.0000	Rawson	Argentina
SAGA	41639M001	TRIMBLE NETRS	TRM41249.00 NONE	0.0100	S.G.da Cachoeira	Brazil
SALU	41640M001	TRIMBLE NETR5	TRM55971.00 NONE	0.0080	Sao Luis	Brazil

ANEXO 1 – Descripción de las Estaciones SIRGAS

EST	DOMES NUMBER	RECEPTOR	ANTENA		ALTURA (m)	CIDADE	PAÍS
SALV	41618M001	TRIMBLE 4000SSI	TRM29659.00	NONE	0.1570	Salvador	Brazil
SANT	41705M003	ASHTECH UZ-12	AOAD/M_T	JPLA	0.0614	Santiago de Chile	Chile
SAVO	41643M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0010	Salvador	Brazil
SCCH	41659M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0000	Chapecó	Brazil
SCLA	41660M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0000	Lages	Brazil
SCRZ	41801M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0000	Santa Cruz de la Sierra	Bolivia
SCUB	40701M001	ASHTECH Z-XII3	ASH700936C_M	SNOW	0.0460	Santiago de Cuba	Cuba
SJRP	41633M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Sao Jose do Rio Preto	Brazil
SL01	41543M001	TRIMBLE NETR5	TRM57971.00	TZGD	0.0000	La Punta - San Luis	Argentina
SMAR	41621M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Santa Maria	Brazil
SPAR	41676M001	TRIMBLE NETR8	TRM59800.00	NONE	0.0080	Araçatuba	Brazil
SPCA	41678M001	TRIMBLE NETR8	TRM59800.00	NONE	0.0000	Campinas	Brazil
SRLP	41532M001	NOV MILLEN-STD	AERAT2775_43	NONE	0.0000	Santa Rosa	Argentina
SRNW	43703M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0000	Nieuw Nickerie	Surinam
SRZN	43701S005	TRIMBLE NETRS	TRM41249.00	NONE	0.0000	Paramatibo	Surinam
SSA1	41644M001	TRIMBLE 4000SSI	TRM29659.00	NONE	0.0000	Salvador Capitania	Brazil
SVIC	41536M001	ASHTECH Z-XII3	TRM41249.00	NONE	0.0000	San Vicente	Argentina
TOGU	41661M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Gurupi	Brazil
TOPL	41648M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0080	Palmas	Brazil
TUCU	41520S001	TRIMBLE NETRS	ASH700936C_M	SNOW	0.0000	Tucuman	Argentina
UBA1	41627M002	TRIMBLE NETR8	TRM59800.00	NONE	0.0000	Ubatuba	Brazil
UBER	41625M001	ASHTECH UZ-12	ASH700700.B	NONE	0.0400	Uberlandia	Brazil
UCOR	41502M001	SOKKIA GSR2700 RSX	NOV702GG	NONE	0.0000	Cordoba	Argentina
UFPR	41610M002	TRIMBLE NETR5	TRM55971.00	NONE	0.1000	Curitiba	Brazil
UNSA	41514M001	SEPT POLARX2	TPSCR3_GGD	NONE	0.1300	Salta	Argentina
URUS	41802M001	TRIMBLE NETRS	TRM41249.00	NONE	0.0000	Oruro	Bolivia
UYMO	42301M001	LEICA GRX1200PRO	LEIAT504GG	LEIS	0.0000	Montevideo	Uruguay
VBCA	41626M001	ASHTECH UZ-12	ASH700700.B	NONE	0.0650	Bahia Blanca	Argentina
VESL	66009M001	TPS GB-1000	TRM29659.00	TCWD	-0.0112	Sanae Veslesk.	Antartica
VICO	41613M001	TRIMBLE NETR5	TRM55971.00	NONE	0.0080	Vicosa	Brazil

ANEXO 2 – DISPONIBILIDAD DE DATOS DE LAS ESTACIONES SIRGAS-CON

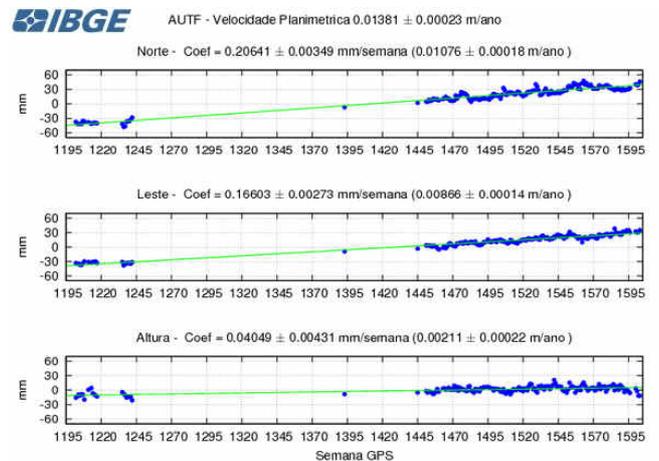
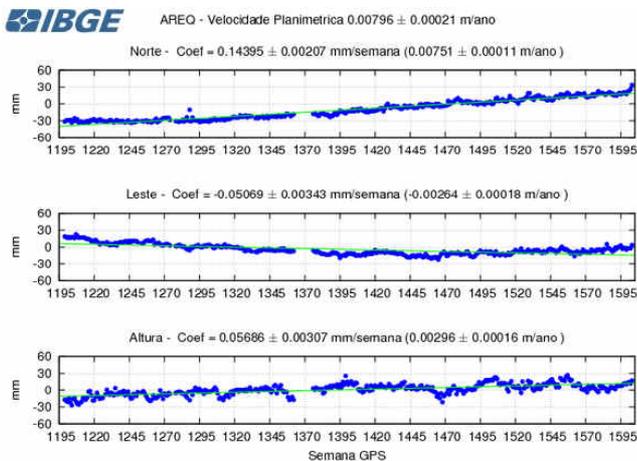
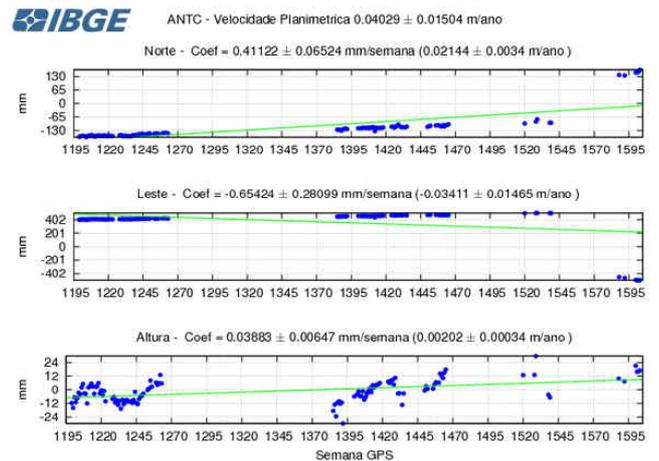
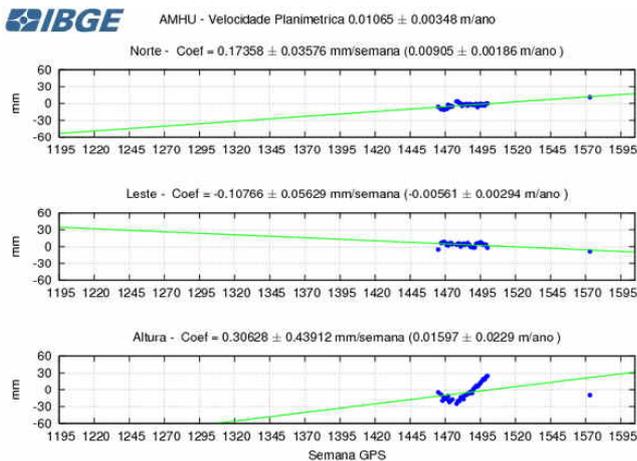
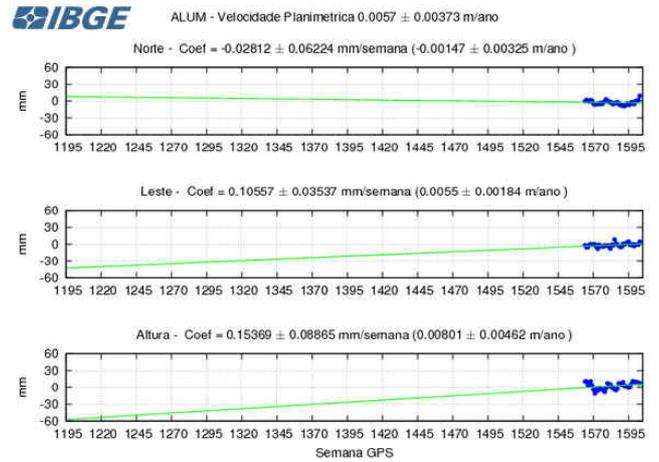
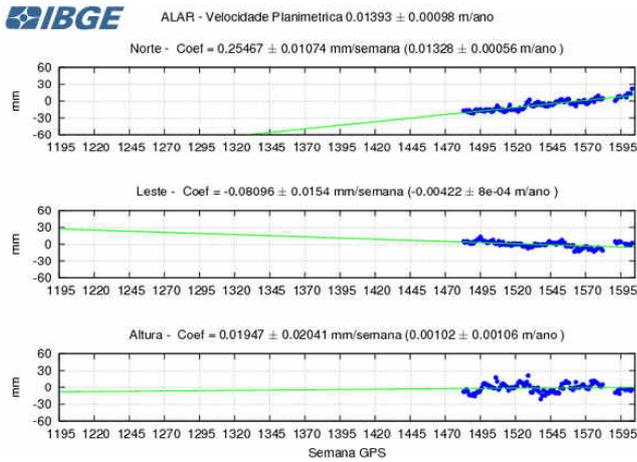
	1583	1584	1585	1586	1587	1588	1589	1590	1591	1592	1593	1594	1595	1596	1597	1598	1599	1600	1601	1602	% disp.
ALAR									1	7	7	7	4			5	6	7	7	7	41%
ALUM	7	7	7	7	7	7	7	7	7	7	6	6	7	7	7	7	7	7	7	7	99%
AMHU																					0%
ANTC						2				6								7	7	7	21%
AREQ	6	7	6	7	7	7	7	6	6	7	7	7	7	7	7	7	7	7	7	7	97%
AUTF	7	7	7	7	7	7	7	7	7	7	7	7	7	7				6	7	7	84%
AZUL	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
BABR	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	5	3	96%
BAIR		3	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	91%
BANS																					0%
BATF	7	7	7	7	7	7	7	6	5	7	7	7	7	7	7	7	7	7	7	7	98%
BAVC	7	7	2	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	96%
BELE	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	6	99%
BOAV	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
BOGT	7	7	7	6	7	7	7	7	5					4	7	4	7	7	7	7	74%
BOMJ	7	7	7	7	7	7	7	7	4	7	7	7	7	7	7	6	7	7	7	7	97%
BRAZ	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
BRFT	7	7	7	7	7	7	6					5	7	7	7	5	5	7	7	7	75%
CALL							2	7	7	7	7	6	7	7	7	7	7	7	7	7	66%
CATA	7	7	7	1		7	7	7	7	7	7	7	7	7	7	6	6	5	7	7	88%
CEEU	7	7	7	7	7	7	5		7	3		6	7	7	7	5	3	7	7	7	81%
CEFE	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
CEFT	5		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	94%
CFAG	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	99%
CHPI	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
CONZ	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
COPO	7	4	7	7	4					7	7	7	7	7	7	7	7	7	7	7	76%
COYQ			7	7	4																13%
CRAT	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
CRCS		6	7	4				7	7	7	7	6			4	7	3	5	6	7	59%
CRO1	6	6								7	3	6	3	4	5	6	7	7	7	7	53%
CRUZ																					0%
CSLO	4	6	7	5	7	5	7	7	7	7	6	7	6	6	7	7	7	7	7	7	92%
CUEC	7	7	7	7	5	7	5	7	7	7	7	7	7	7	7	7	7	7	7	7	97%
CUIB	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
CUM3	7	7	7	6		7	7	7	7	7											44%
ESMR	6	7	7	7	7	7	5	7	6	6	7	6	7	7	7	7	7	6	7	3	92%
ESQU	6	7	7	5	7	7	7	7	3	5	7	7	7	7	7	7	7	7	7	7	94%
GLPS	7	7	7	4	2	3	7	7	7	7	7	7	7	7	7	7	7	7	7	7	91%
GOJA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
GVAL	2	7	5	7	2	2	7	7	7	7	7	7	7	7	7	7	7	7	7	7	88%
GYEC	6	7	5	7	7	7	6	7	7	7	7	7	7	7	7	7	3	4	7	7	92%

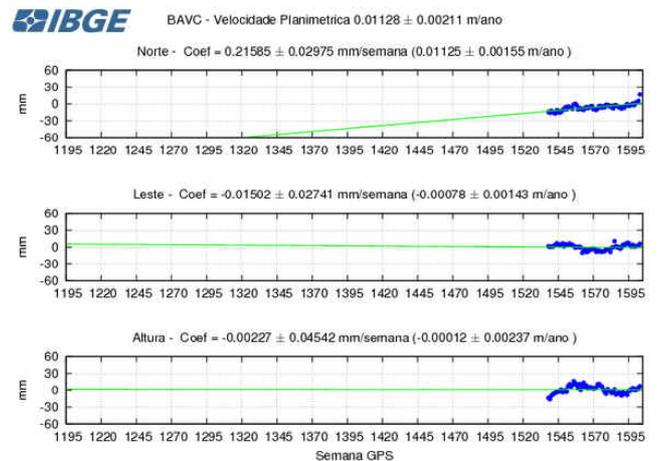
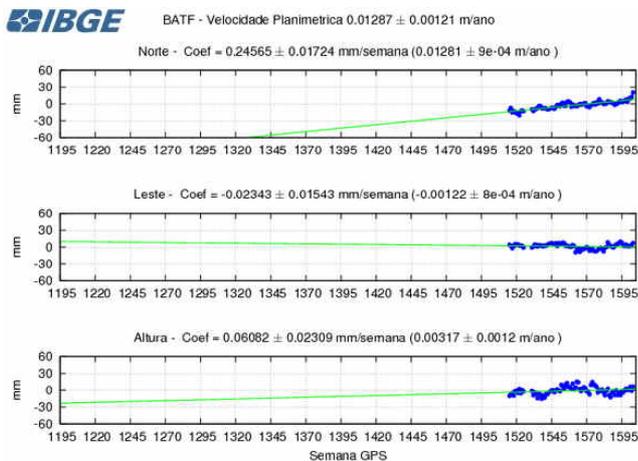
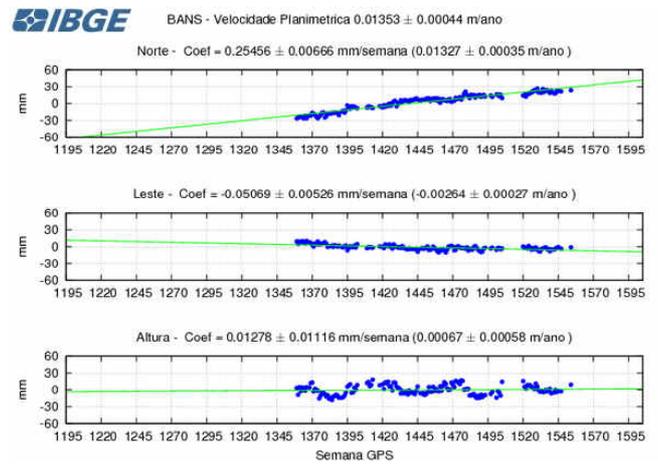
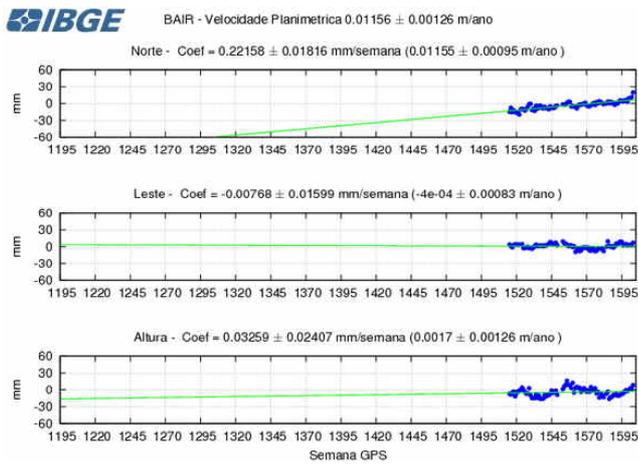
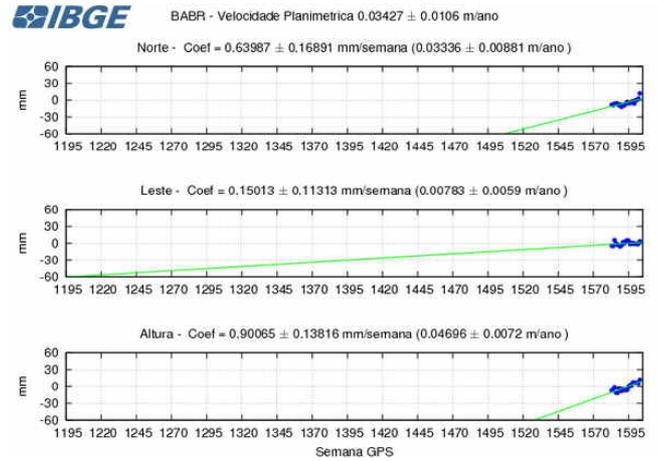
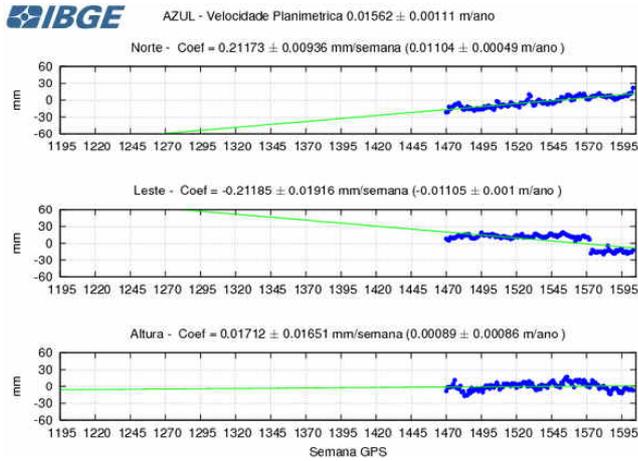
IGM1	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
ILHA	5	6	3																	10%
IMBT	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
IMPZ	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
IQQE	7	4	7	7	4					7	7	7	7	7	7	7	7	7	7	76%
IQUI	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
ISPA		4	3	4	5	3			2	6	3	5								25%
JBAL	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	99%
KOUR	7	2	4	5	7	6	7	7	6	7	7	7	7	7	7	7	7	7	7	91%
LJEC	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	99%
LPGS	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	99%
MABA	7	7	4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	98%
MABS	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	99%
MANA	6	6	4	4	5	6	7	7	4	6	3	5	3	4	3	6	7	7	7	76%
MAPA		2	7	7	6	7	7	7	7	7	6	6	7	6	7	7	7	6	7	88%
MARA	7	7	6			7	7	7	7	7			7	7		7	7	7	7	79%
MCLA	2	7	5	7	2		7	7	7	7	7	3	5	7	7	7	6	7	7	81%
MECO																				0%
MGBH	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
MGIN	6	7	7	7	6	6	7	7	7	6	7	6	7	3	7	7	7	6	7	93%
MGMC	7	7	7	7	7	5	5	5	5	7	6	4	6	7	7	7	7	6	6	89%
MGRP	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	99%
MGUB	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
MGVA	7	7	5	7	2		7	7		7	7	7	7	7	7	7	7	7	7	85%
MSCG															5	6	3	7	6	19%
MSDO															4	6	2	7	7	19%
MTBA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
MTCO	7	7	7	7	7	7	7	7	7	4	6	7	7	7	7	7	7	7	7	97%
MTSF	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
MZAC	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	5	6	7	97%
MZAE	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
MZAS	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
NAUS	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
NEIA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
OH12	7	6	6	5	7	6	7	7	6	7	7	7	7	7	7	7	7	7	7	96%
ONRJ	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	99%
OURI	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	4	97%
PAAT	3	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	5	5	7	94%
PAIT	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	99%
PALM	6	6	3	4	5	6	7	7	4	6	2	5	3	4	3	6	7	7	7	75%
PARC						7	7			7	7	7	7	7	7	7	7	7	7	60%
PBCG	7	7	7	7	7	7	7	7	5	7	4	6	7	7	7	6	7	7	4	93%

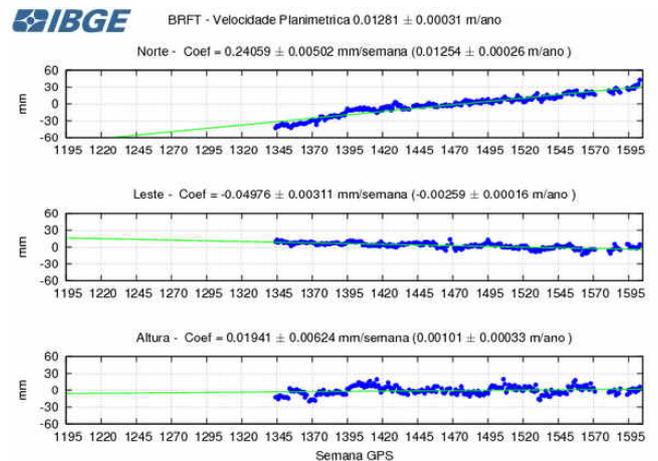
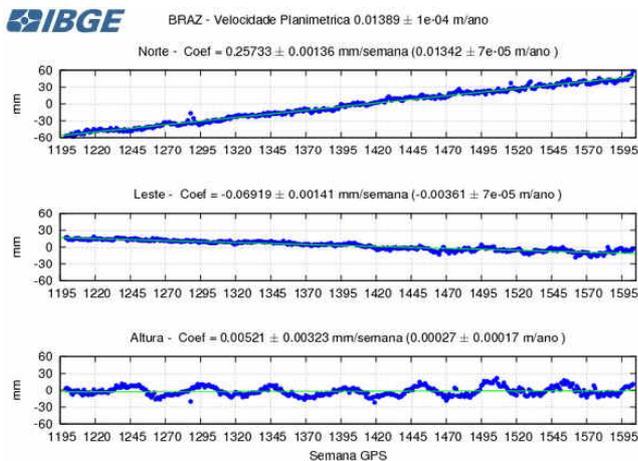
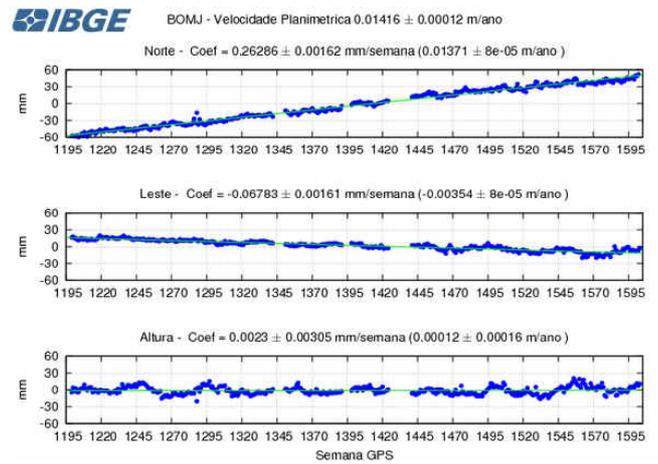
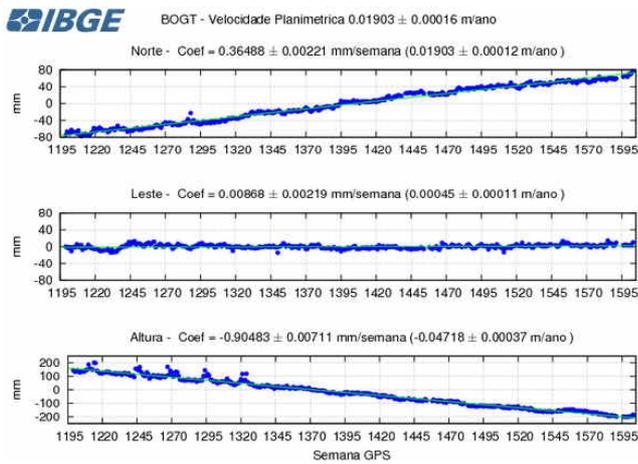
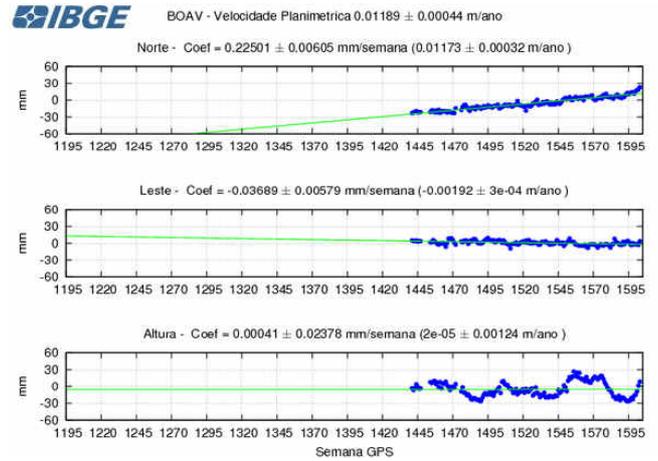
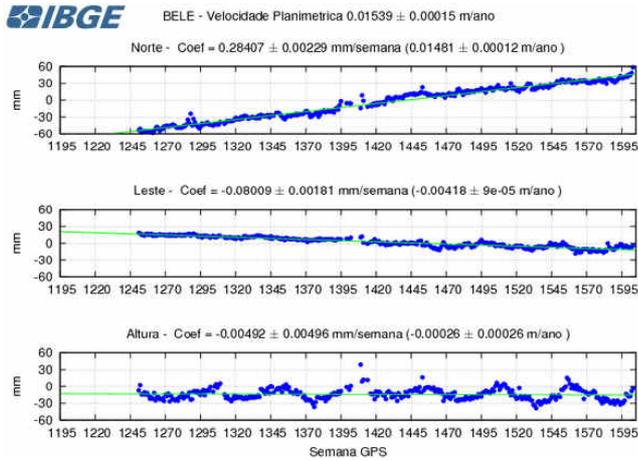
PEPE	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
PISR	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	99%
PMB1	3	7	7	5	6	5	6	6	7	6	4	6	6	6	7	6	7	7	7	86%
POAL	7	7	7	7	7	7	7	7	7	7	7	5	7	7	7	7	7	6	7	98%
POLI	7	7	7	7	7	7	7	7	7	4	7	7	7	7	7	7	7	7	7	98%
POVE	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
PPTE	5	6	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	97%
PRGU		3	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	92%
PRMA	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	99%
PTEC	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	99%
QUI1																				0%
RECF	7	7	6	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	6	98%
RIO2	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	99%
RIOB	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
RIOD	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	99%
RIOP	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
RJCG	6	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	99%
RNMO	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
RNNA		3	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	91%
ROCD	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
ROGM	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
ROJI	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
ROSA	6	7	4		7	7	7	7	7	6	7	7	6	7	7	7	7	7	7	91%
RWSN																				0%
SAGA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SALU			3	7	7	7	7	7	7	7	6	5	4	7	7	7	7	7	7	83%
SALV																				0%
SANT	6	6	6	5	7	6	6	7	6	7	6	7	7	7	7	7	7	7	7	94%
SAVO	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SCCH	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SCLA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SCRZ	7	7	7	7	7	7	4	7	7	7	7	7	7	7	6	5	6	5	7	94%
SCUB	6	6	5	4	5	5	7	7	4	6	3	6	3	4	5	6	7	7	7	79%
SJRP	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	99%
SL01	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	99%
SMAR	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SPAR	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SPCA	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	99%
SRLP	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
SRNW	3	6	7	4	6	6	3	6	7	7	5	5	6	6	6	7	7	7	6	84%
SRZN		7	7	4	5	5	6			5	6	4	7	6	5	7	7	6	7	72%
SSA1	7	7	7	7	7	7	7	6	7	7	7	7	7	7	7	6	2	7	7	95%

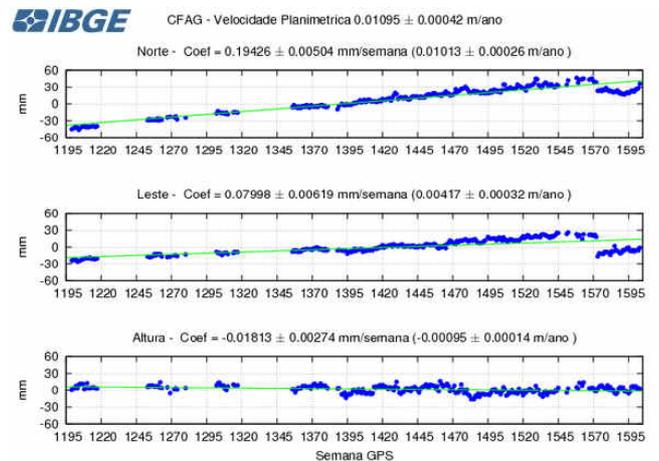
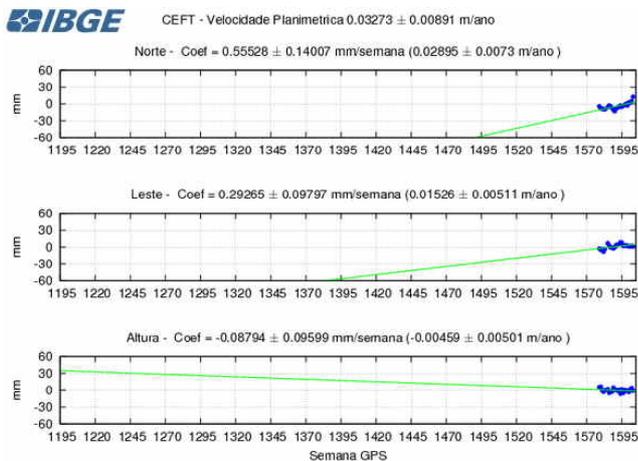
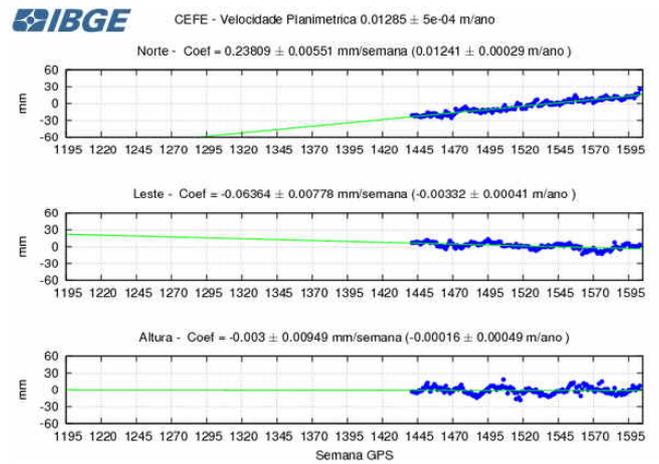
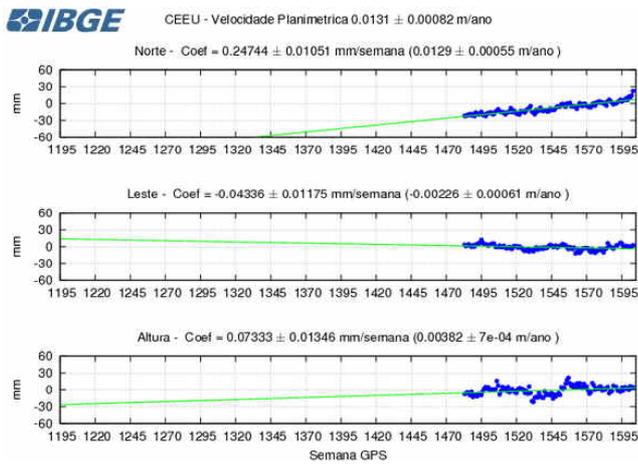
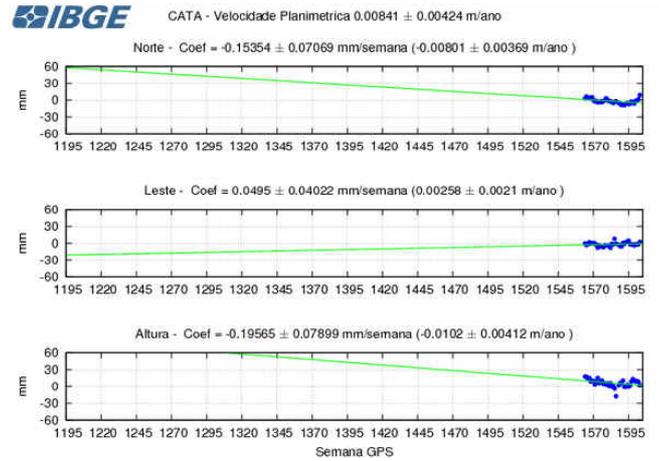
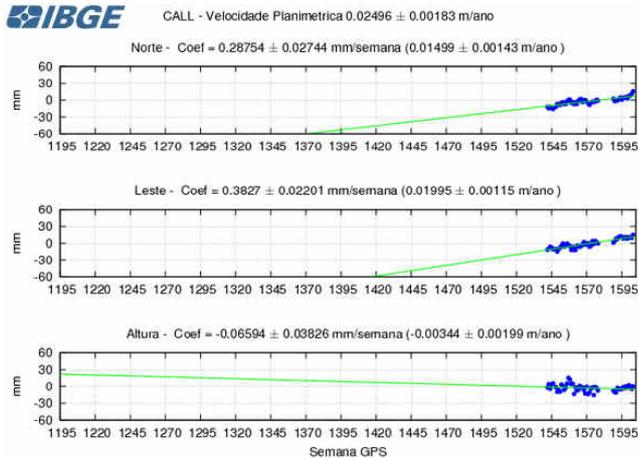
SVIC	7	3			2		1	5	7	7	6	7	6	7	7	7	7	7	7	71%
TOGU	7	7	3	4	7	7	7	7	4	7	7	7	7	7	7	5	7	7	7	91%
TOPL	7	7	7	7	7	7	7	7	7	7	7	7	6	6	7	7	7	7	7	99%
TUCU	7	7	7	7	5	4	7	7	7	7	7	7	7	7	7	7	7	7	7	96%
UBA1	7	7	7	7	7	7	7	7	7	7	6	7	7	7	7	7	4	7	7	97%
UBER		4	5	7	2	7	7	7	7	7	7	7	7	7	7	7	7	7	7	88%
UCOR	7	7	3	6	7	5	6	7	7	7	7	7	7	7	7	6	7	7	7	94%
UFPR	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%
UNSA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	7	99%
URUS	7	7	7	7	7	7	4	7	7	7	7	7	7	7	7	5	7	7	7	96%
UYMO	7	6	7	6	7	6	7	7	6	6	7	5	7	7	7	6	7	7	6	94%
VBCA	7	7	7	7	5	7	7	7	7	7	7	6	7	7	7	7	7	7	7	98%
VESL	6	6	3	4	5	6	6	7	3											33%
VICO	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%

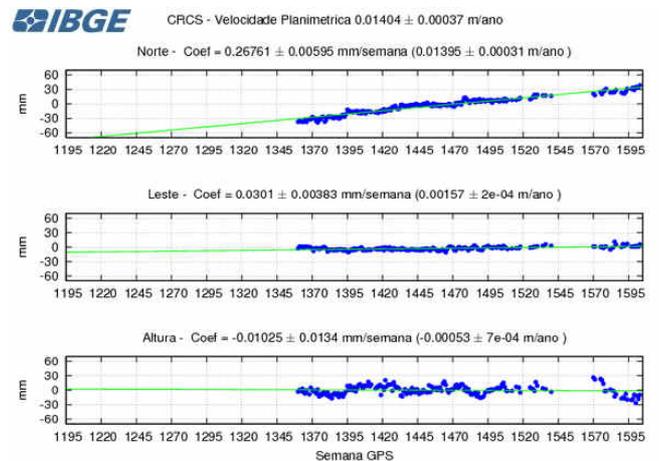
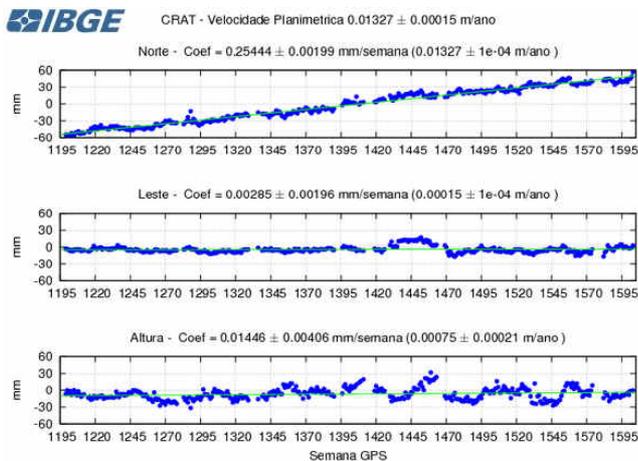
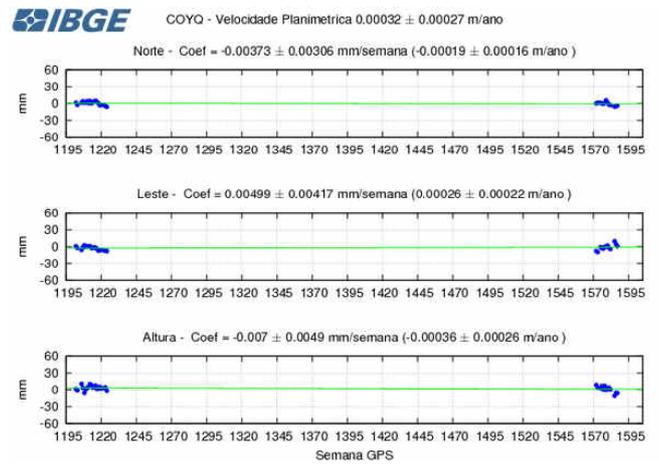
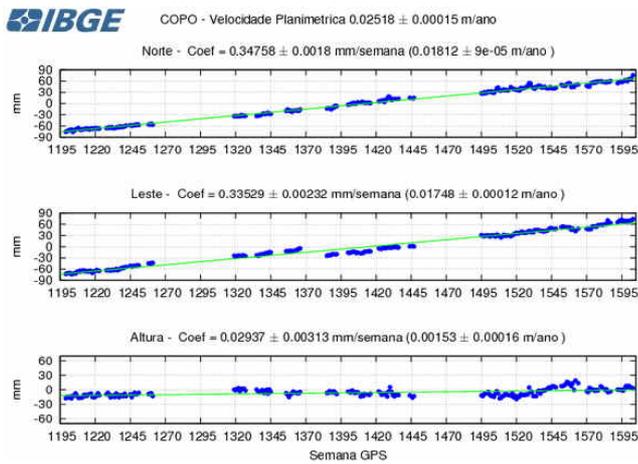
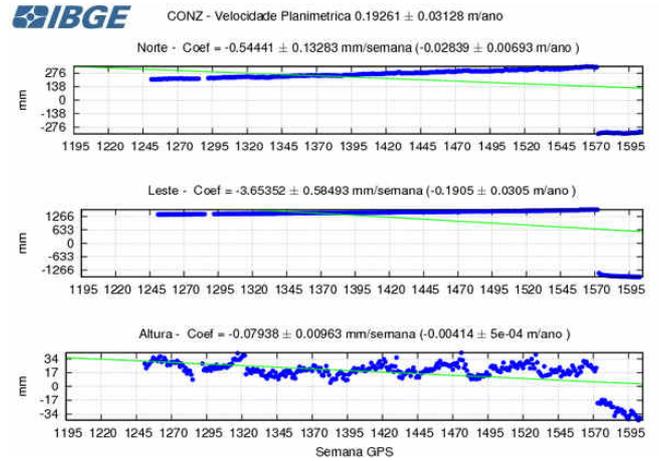
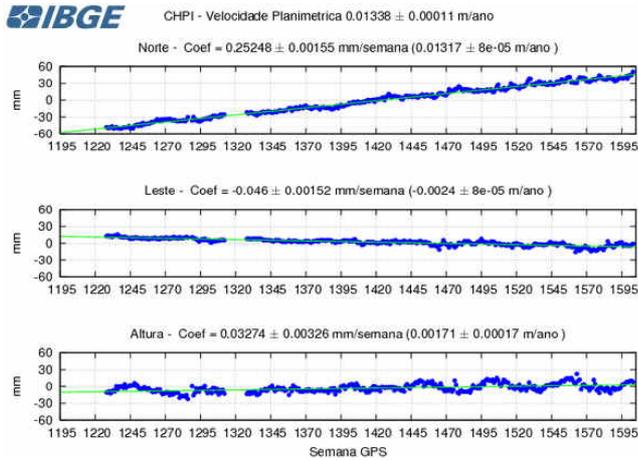
ANEXO 3 – SERIE TEMPORAL DE LAS ESTACIONES

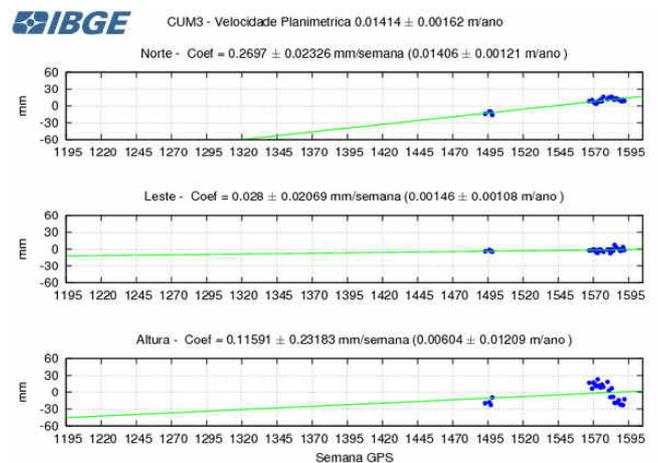
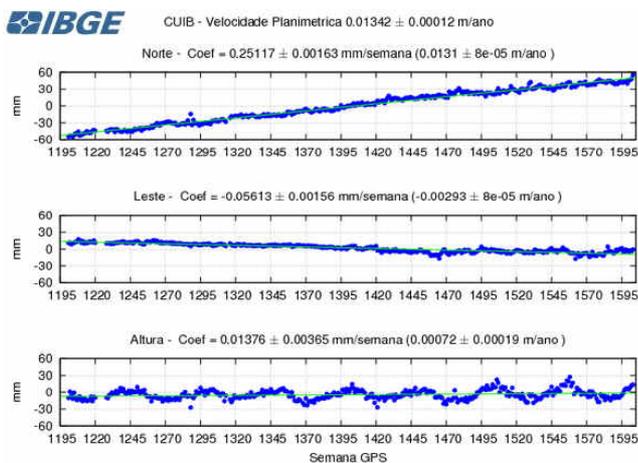
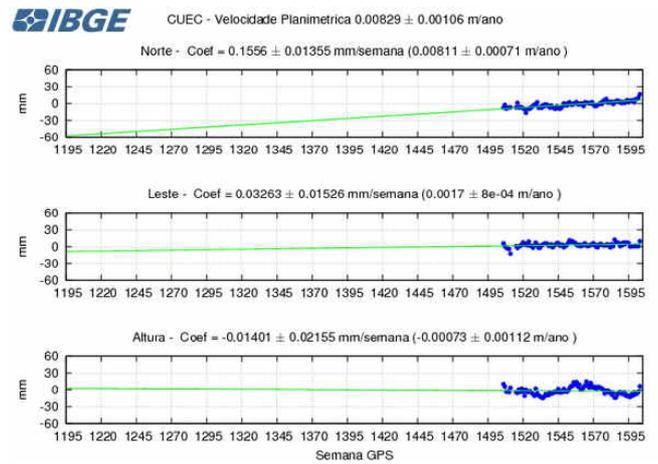
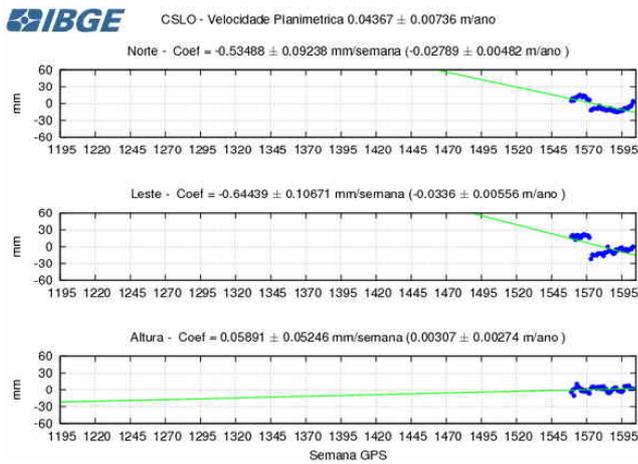
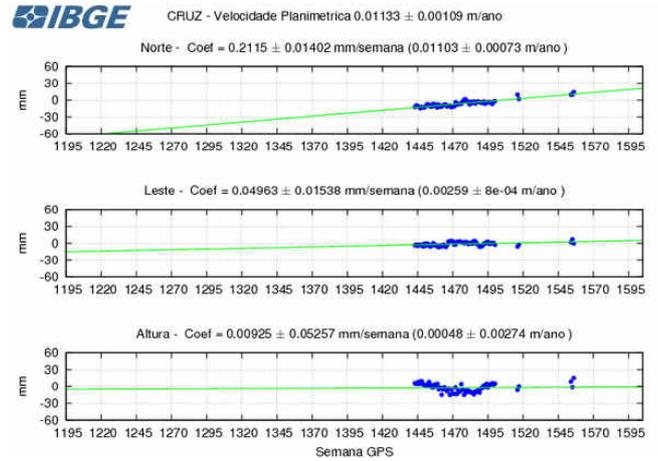
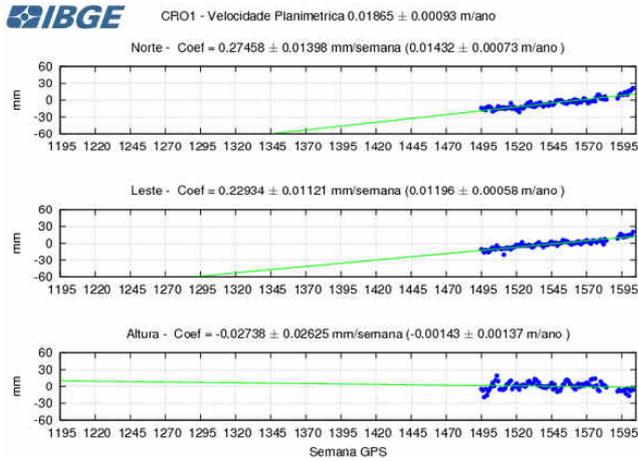


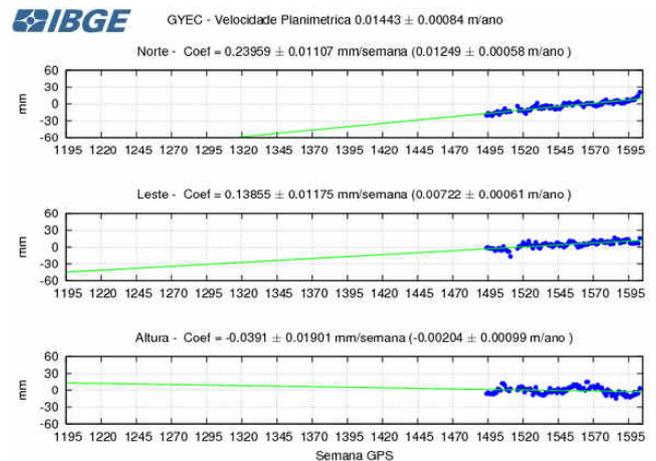
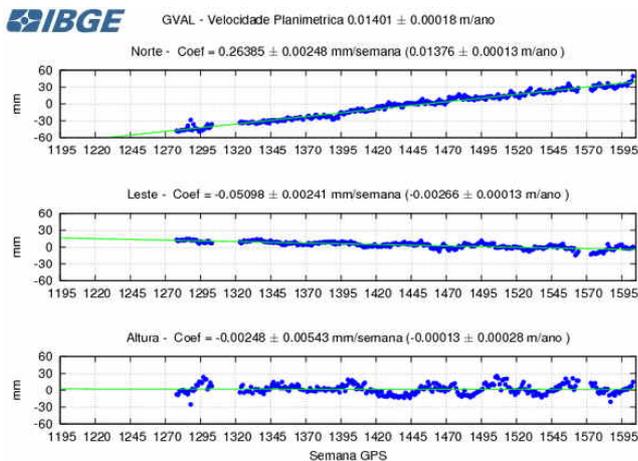
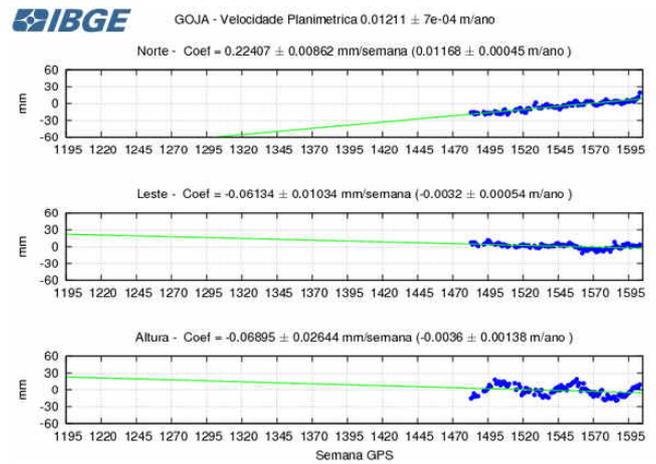
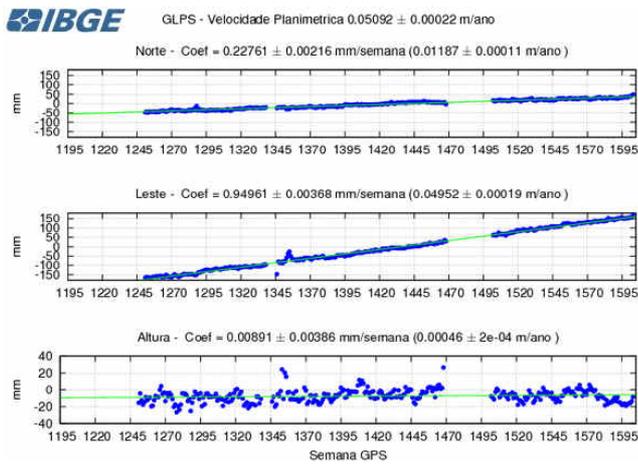
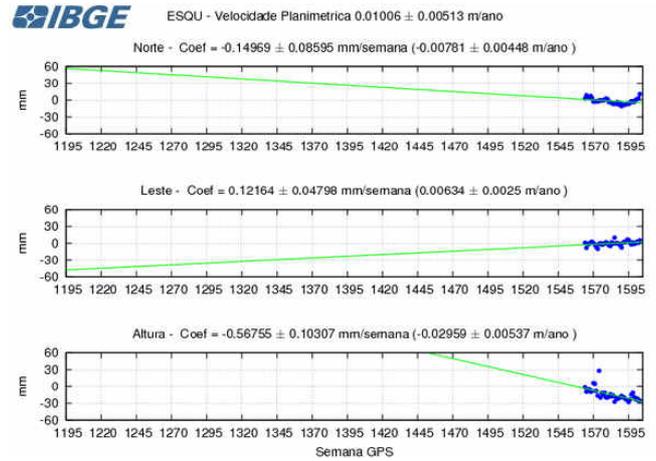
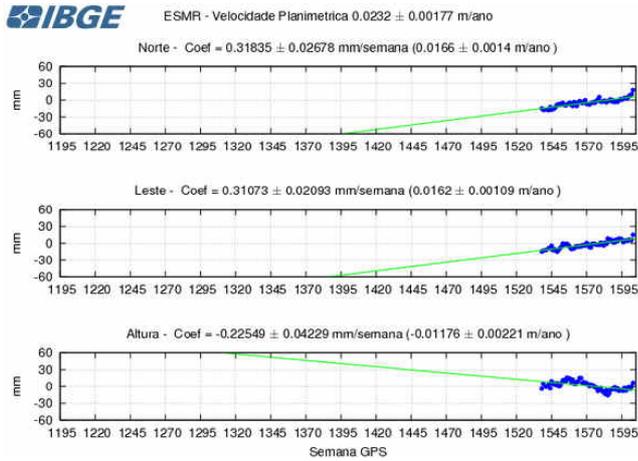


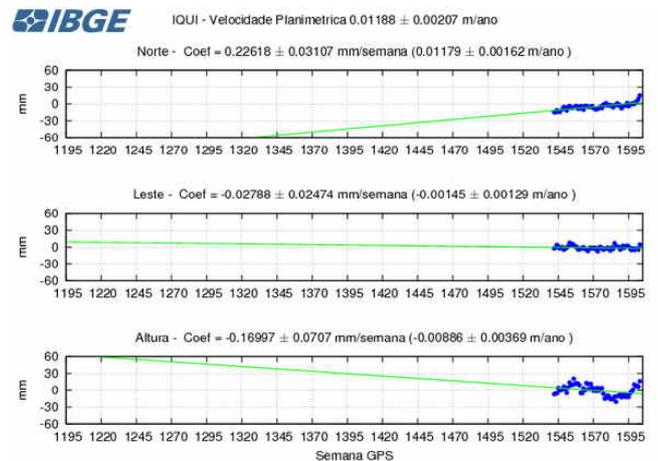
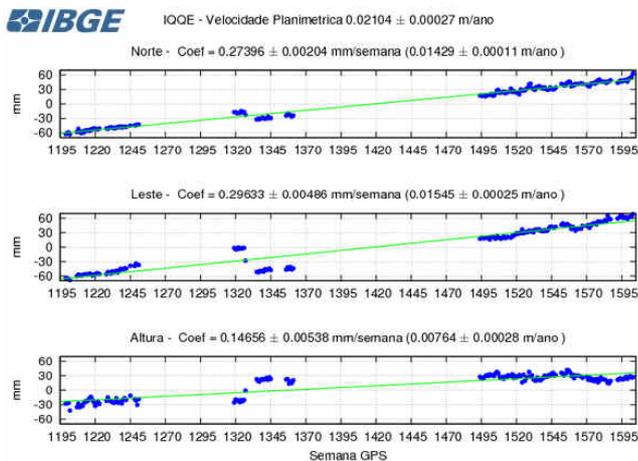
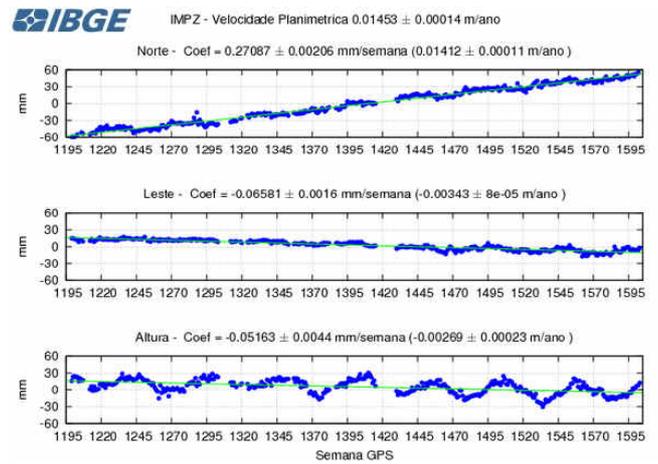
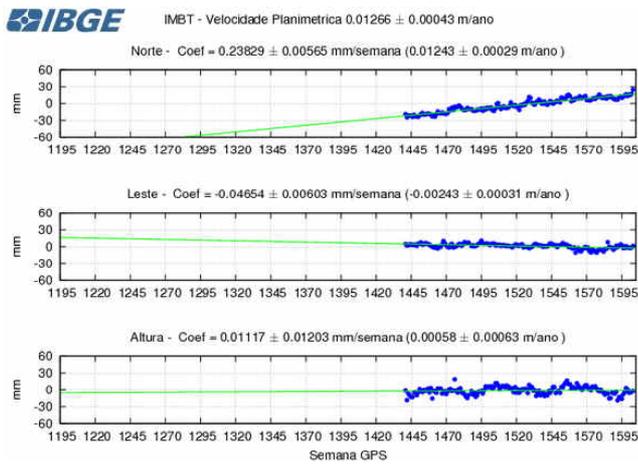
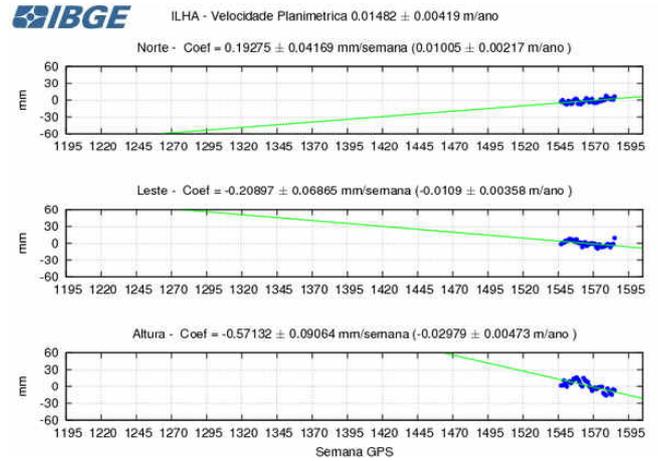
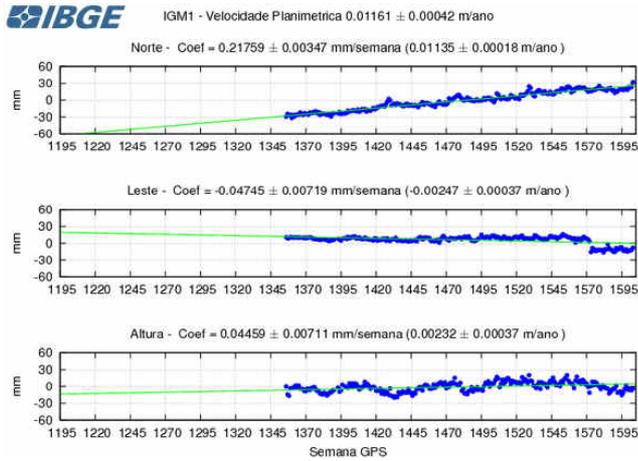


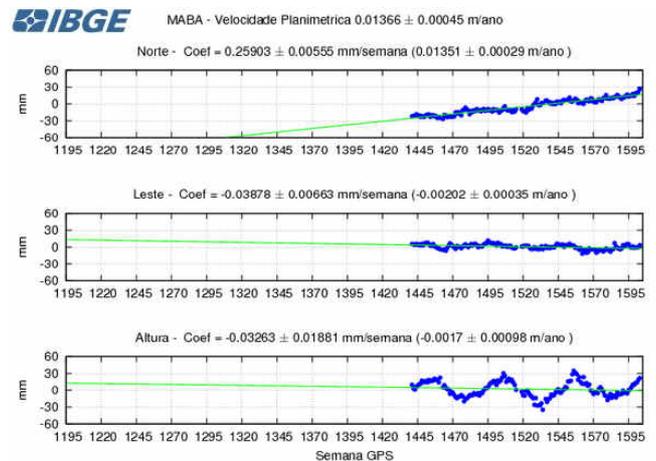
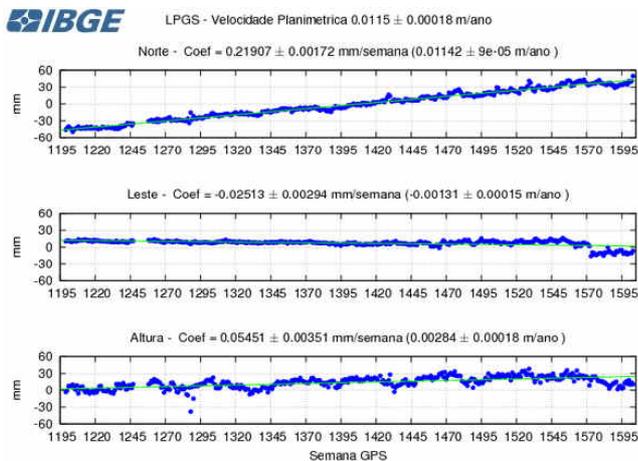
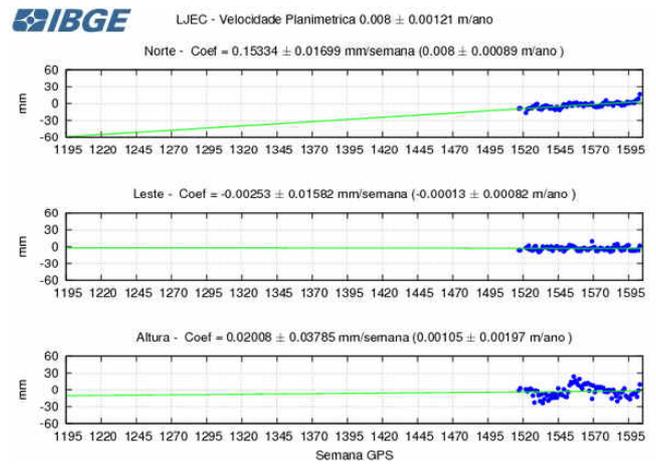
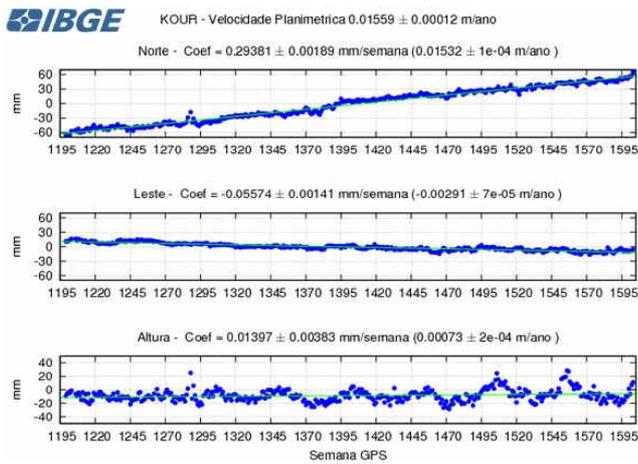
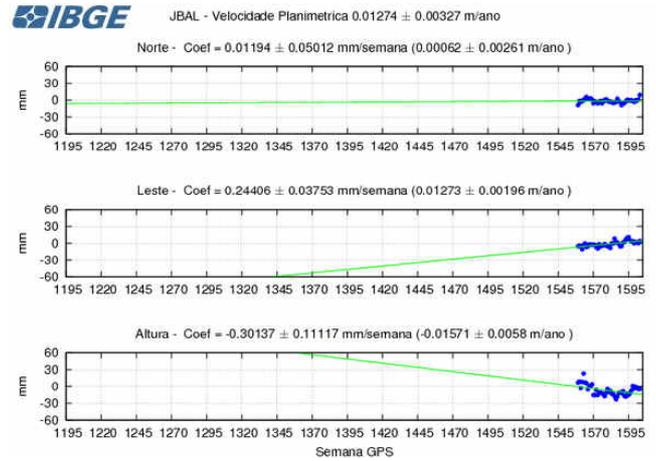
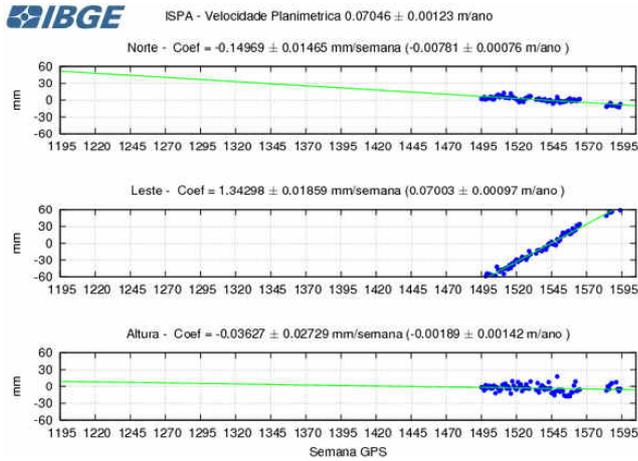


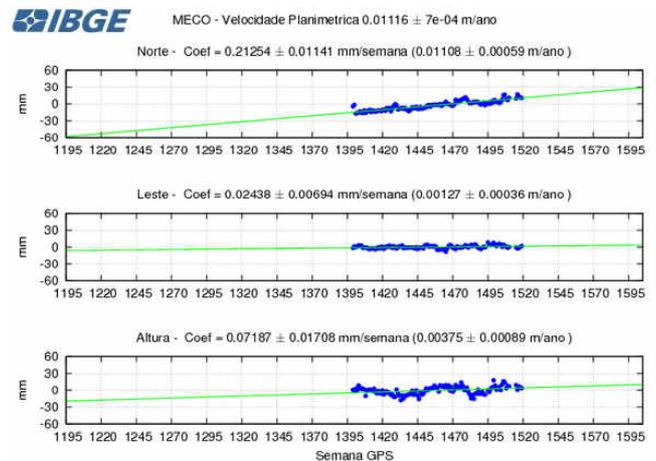
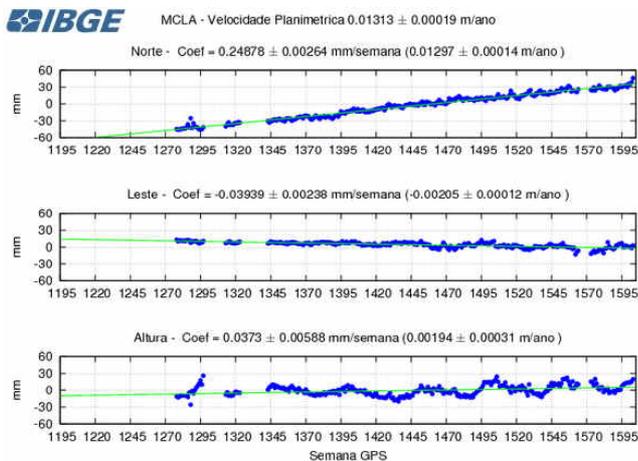
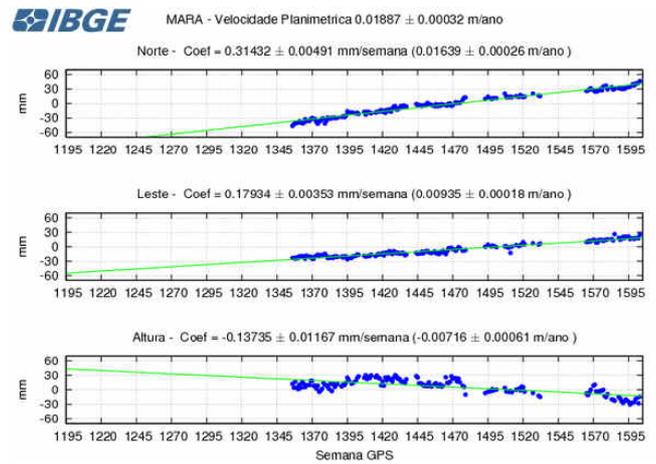
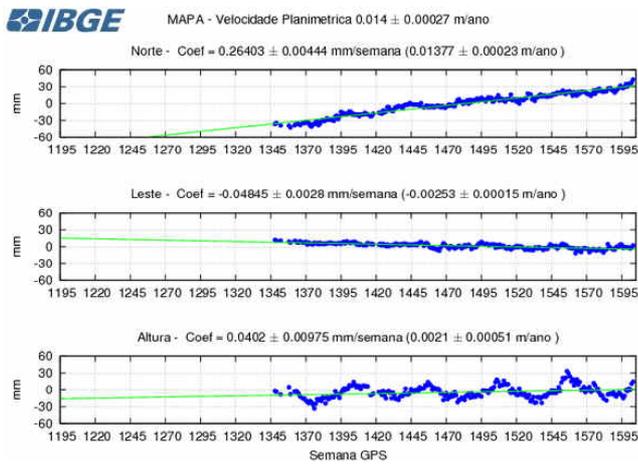
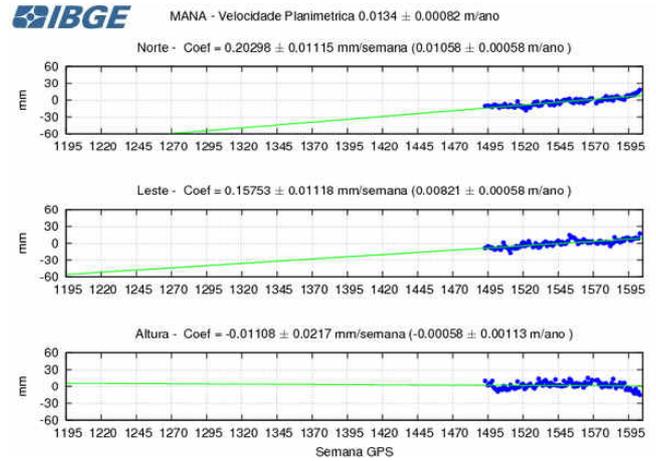
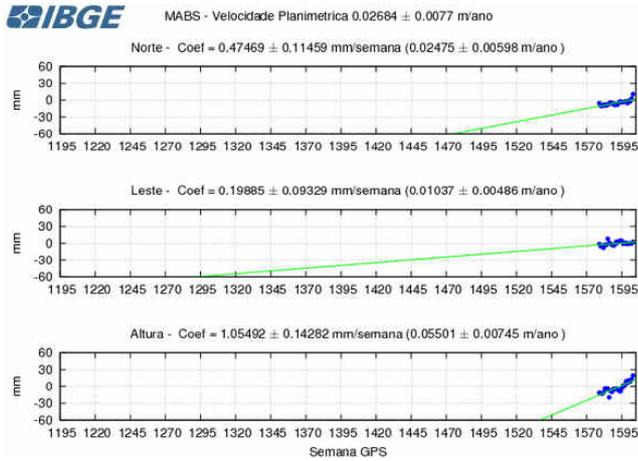


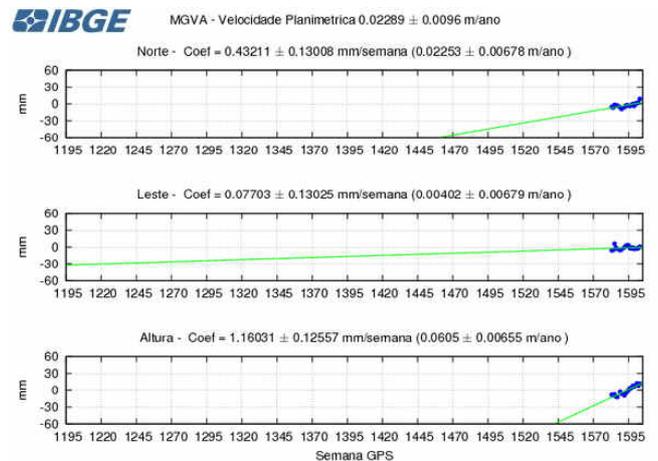
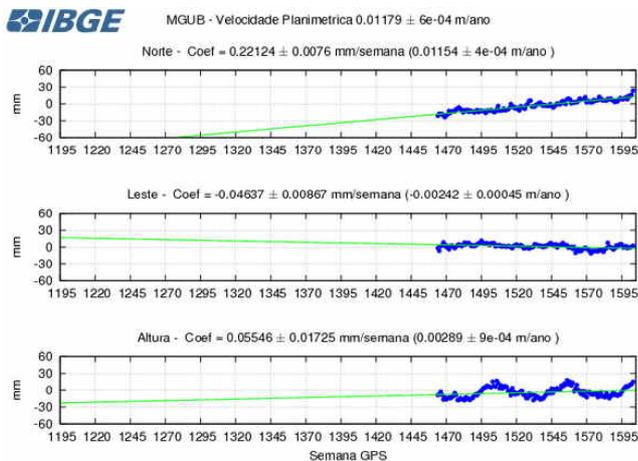
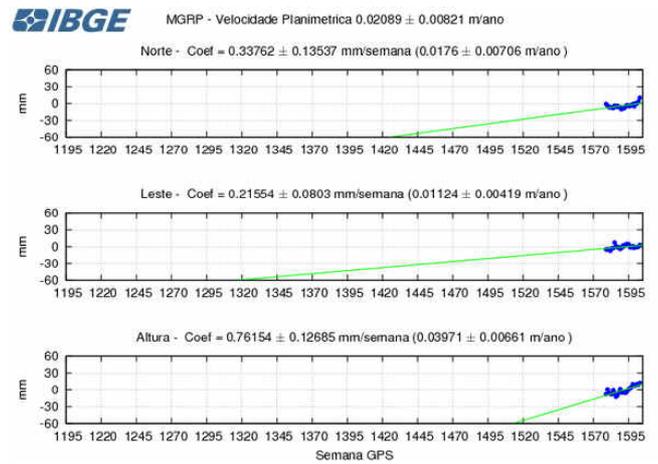
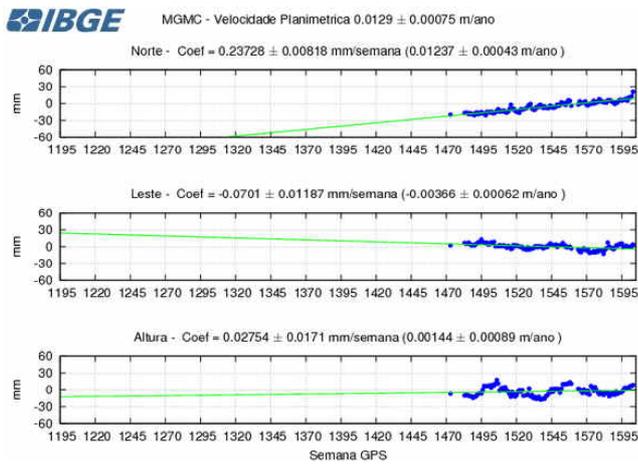
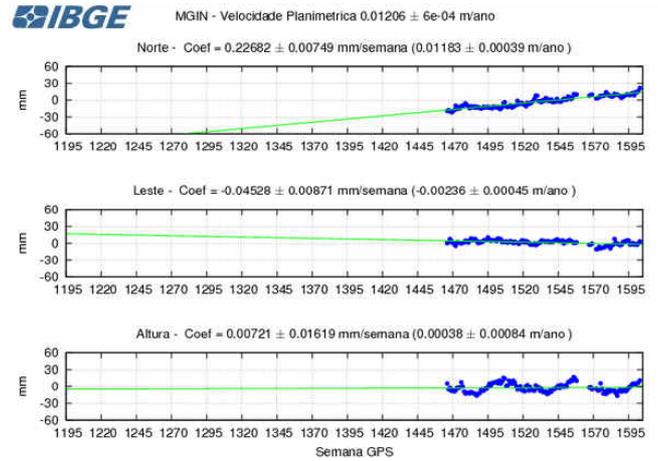
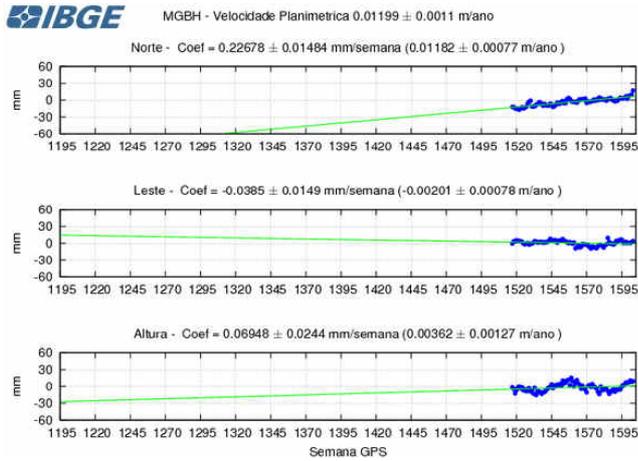


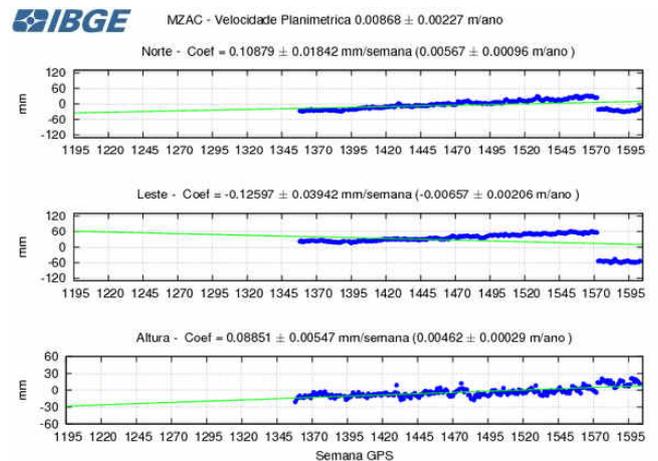
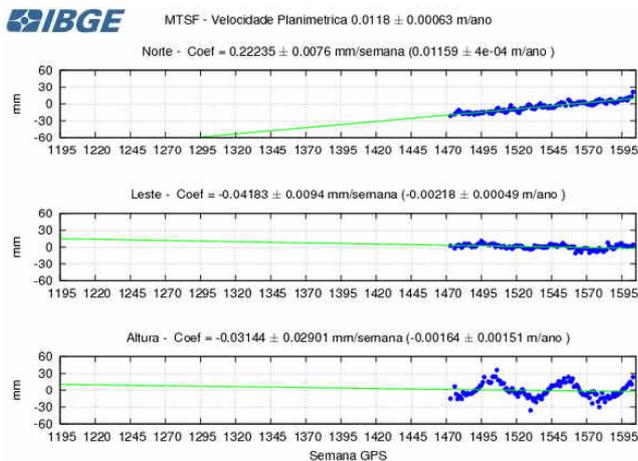
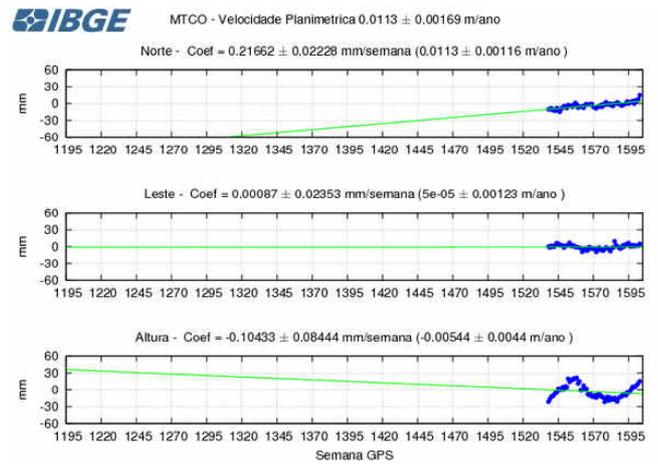
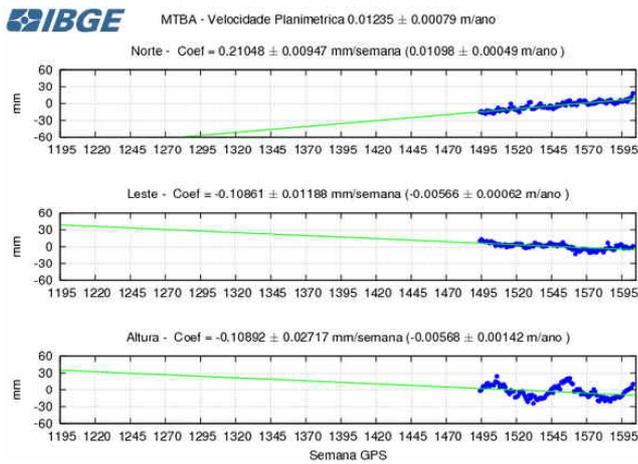
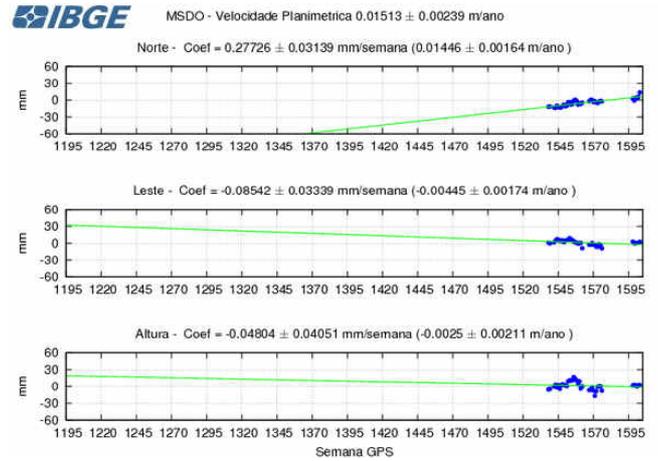
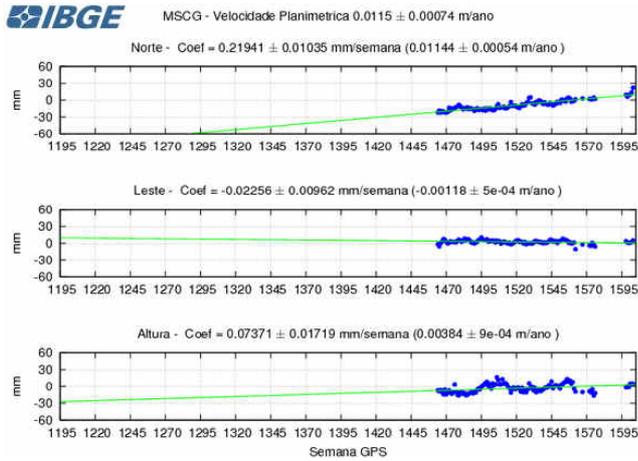


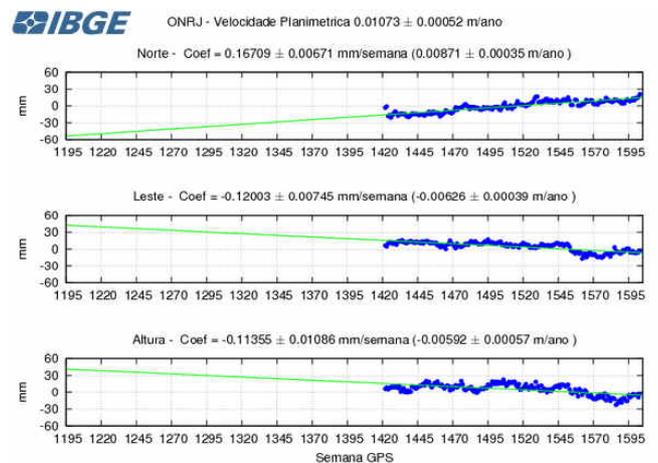
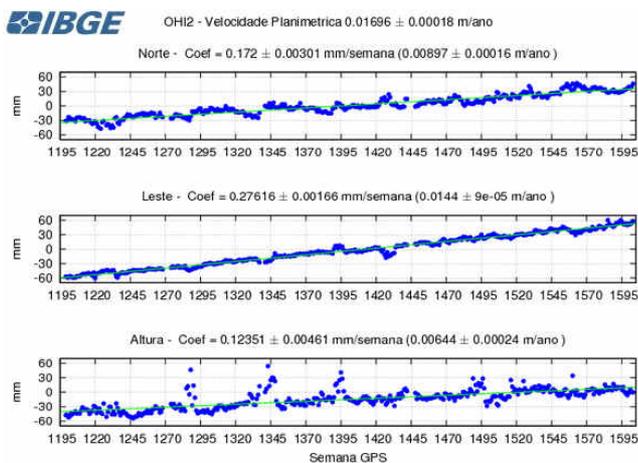
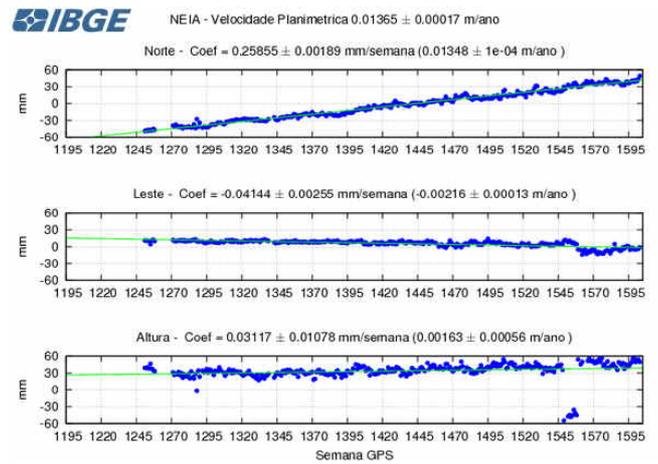
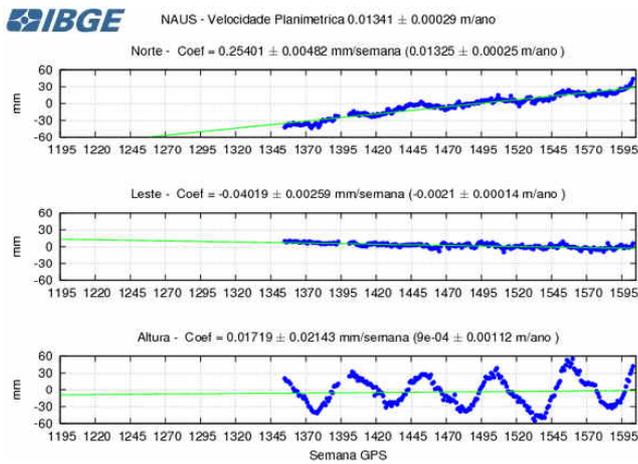
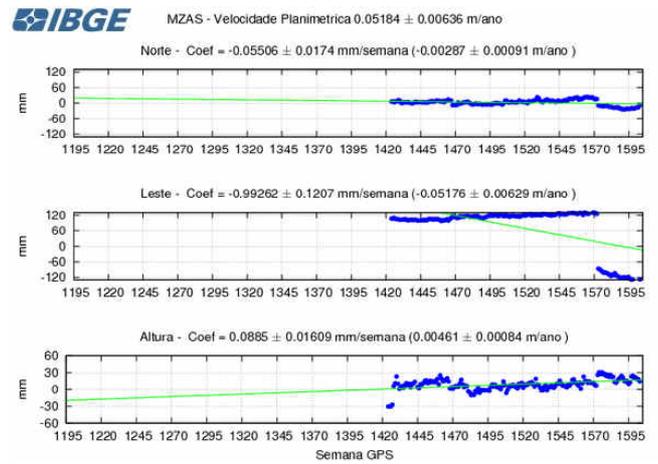
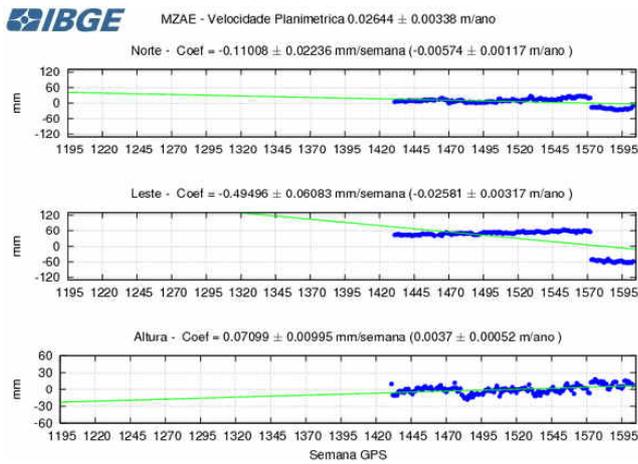


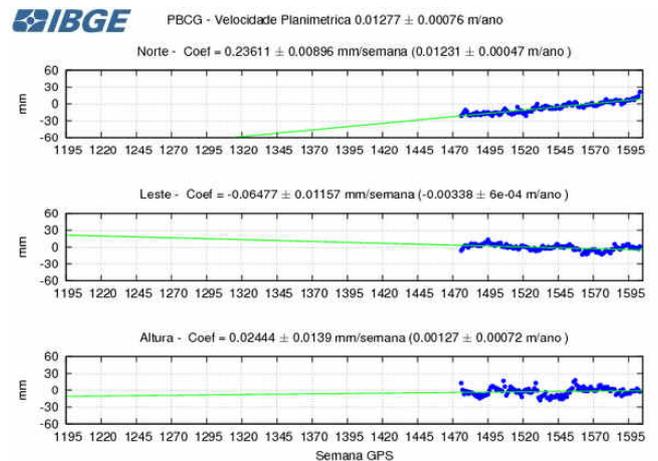
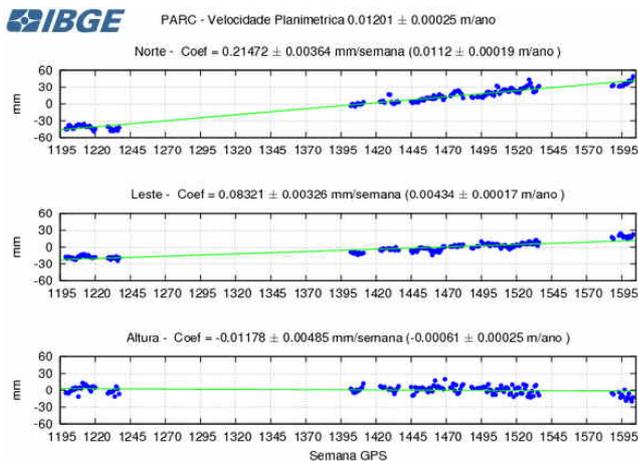
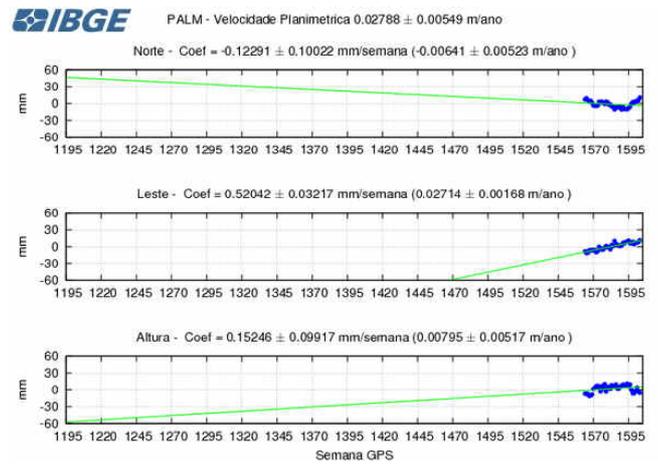
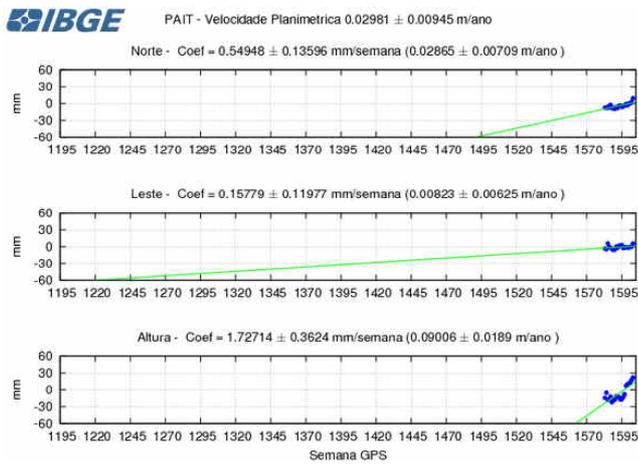
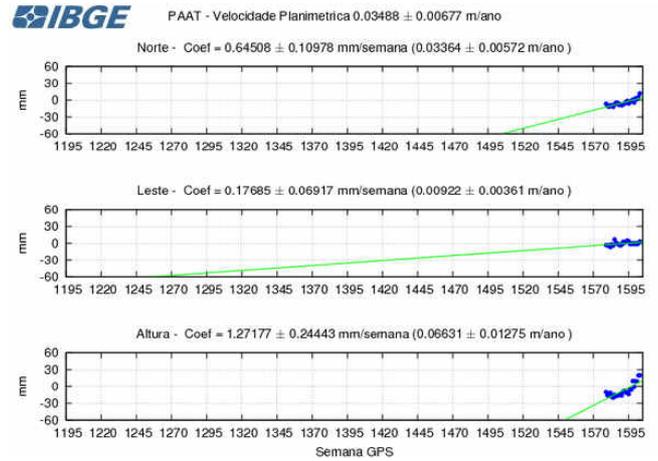
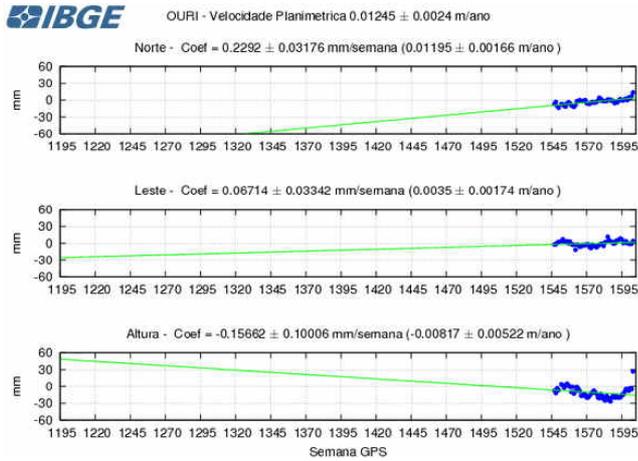






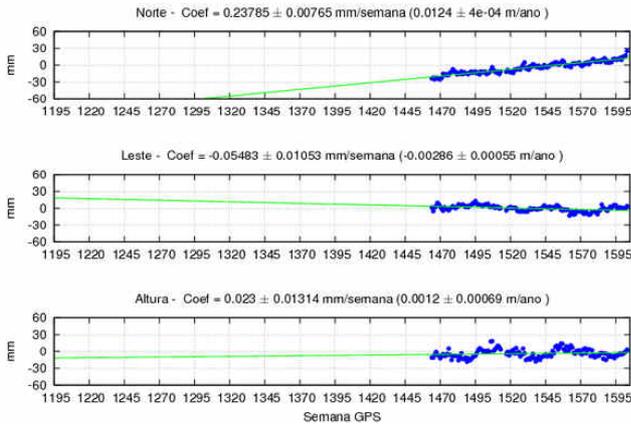




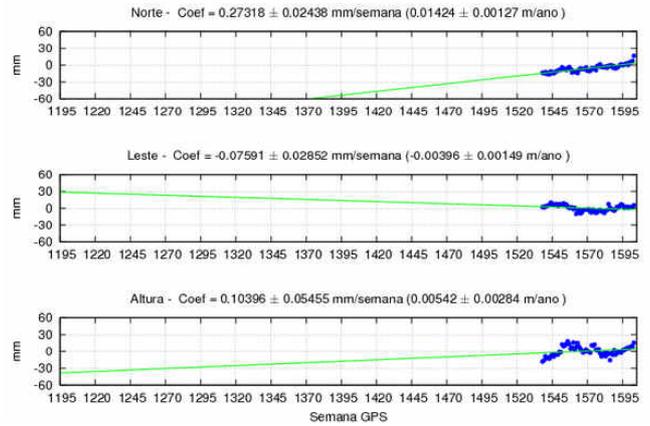




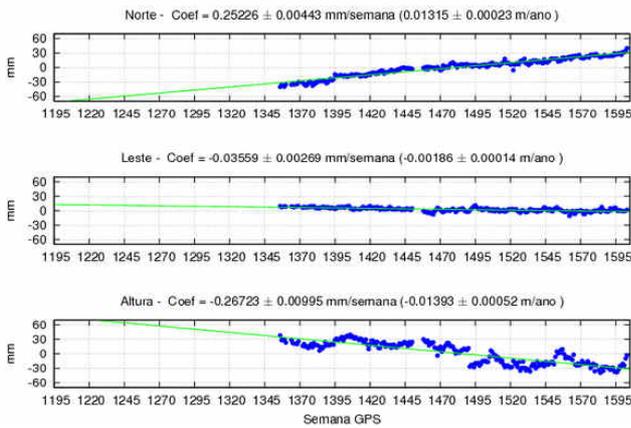
PEPE - Velocidade Planimetrica 0.01273 ± 0.00058 m/ano



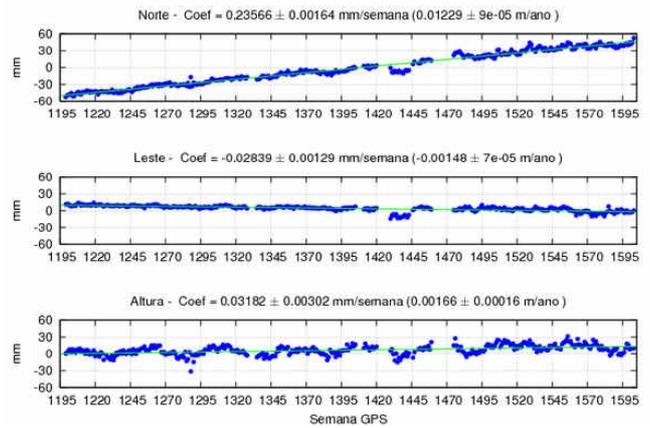
PISR - Velocidade Planimetrica 0.01478 ± 0.00196 m/ano



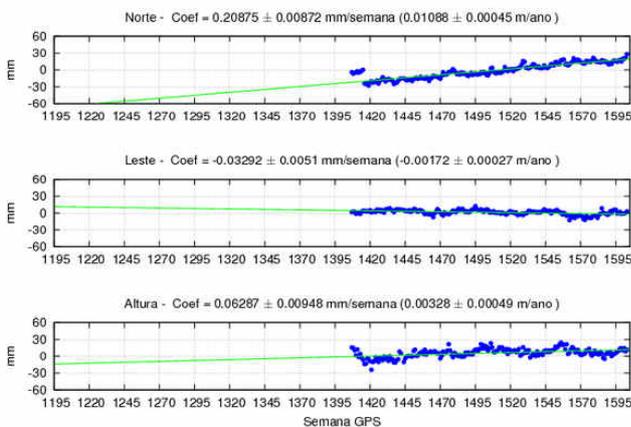
PMB1 - Velocidade Planimetrica 0.01328 ± 0.00027 m/ano



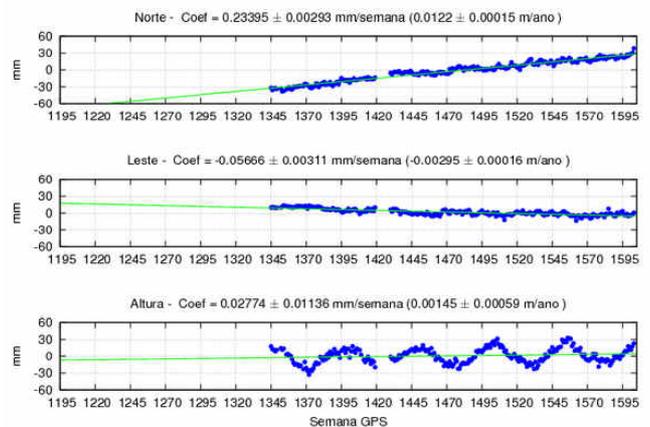
POAL - Velocidade Planimetrica 0.01238 ± 0.00011 m/ano

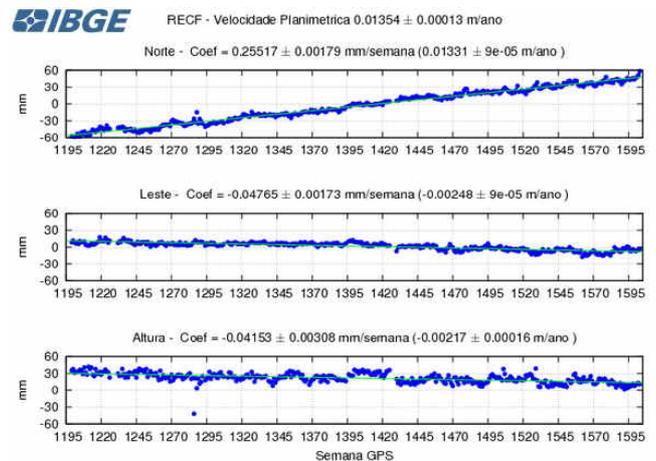
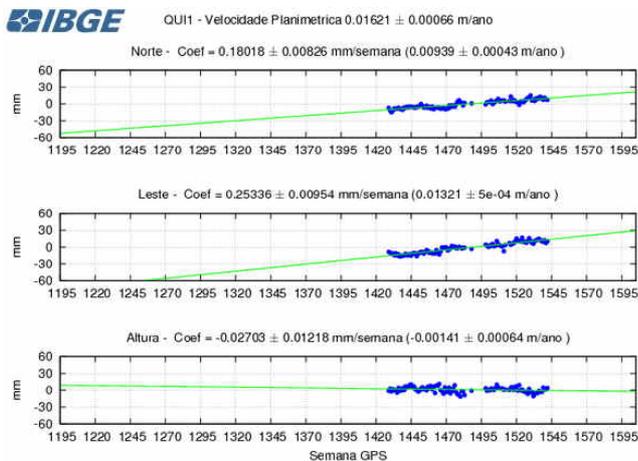
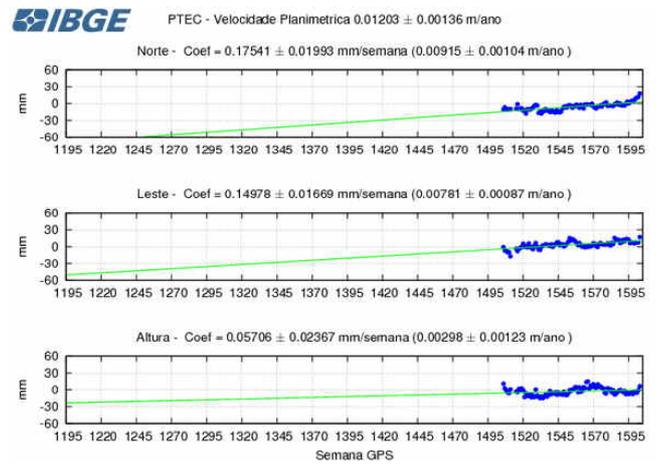
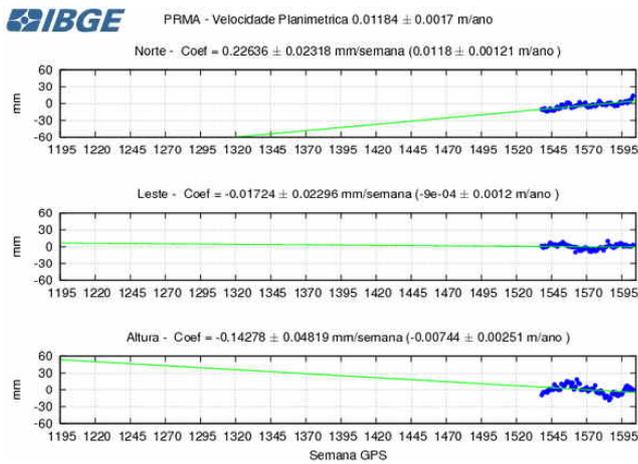
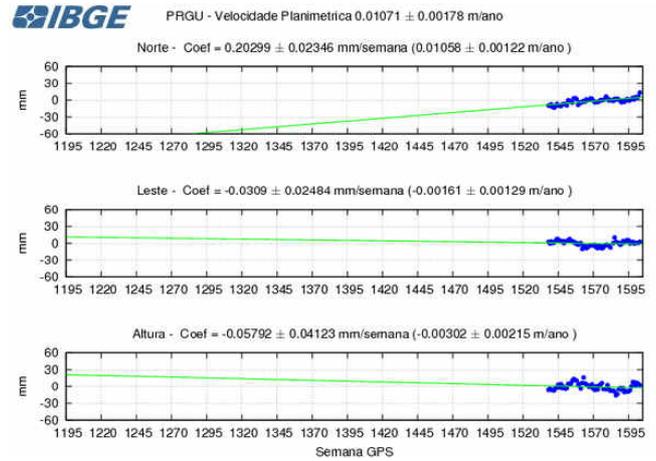
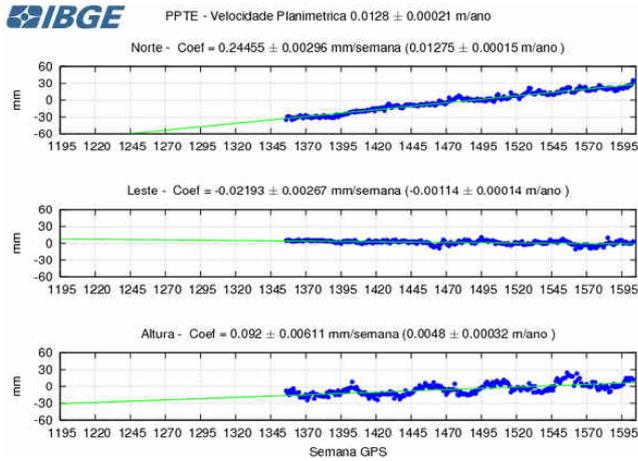


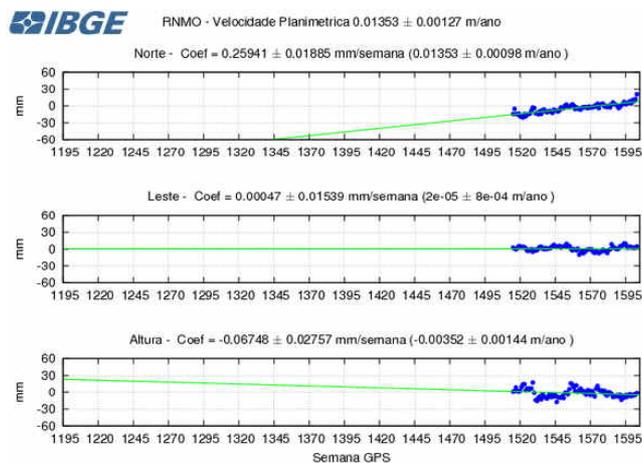
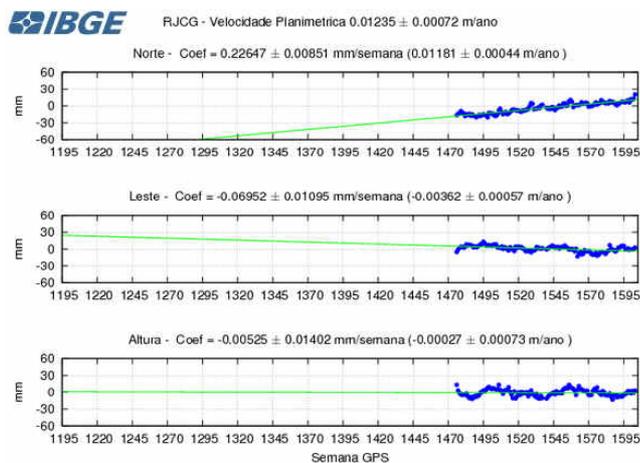
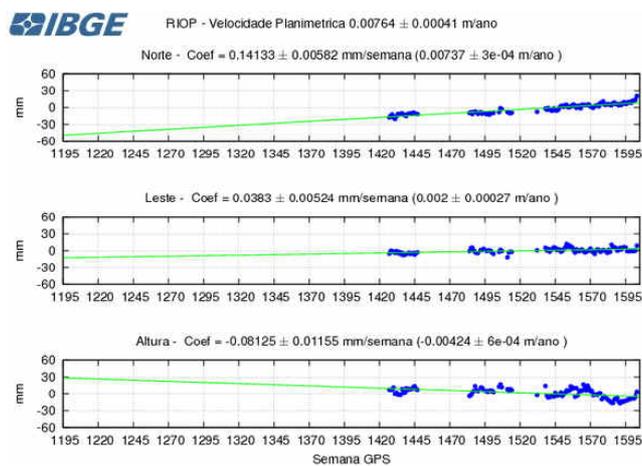
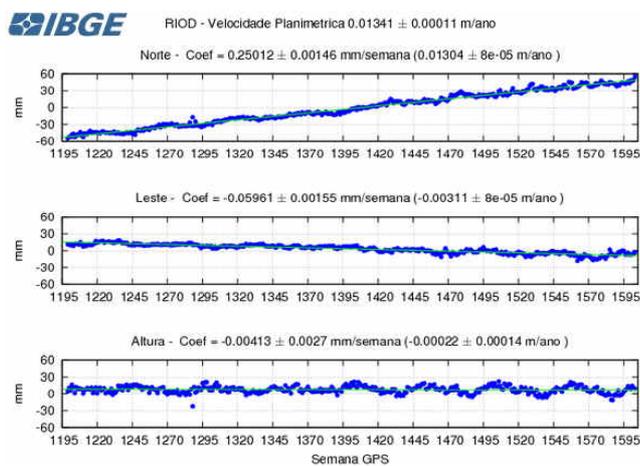
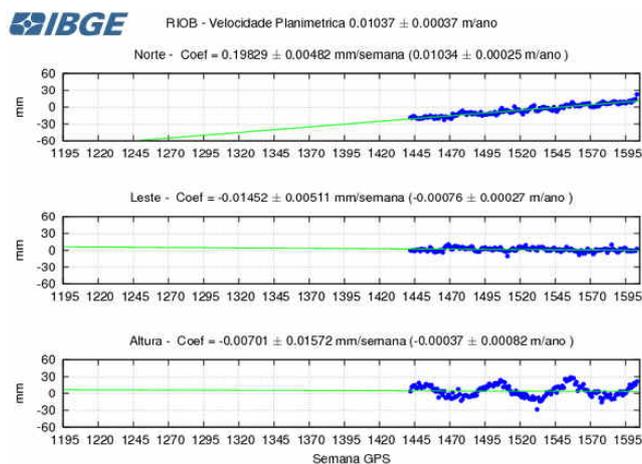
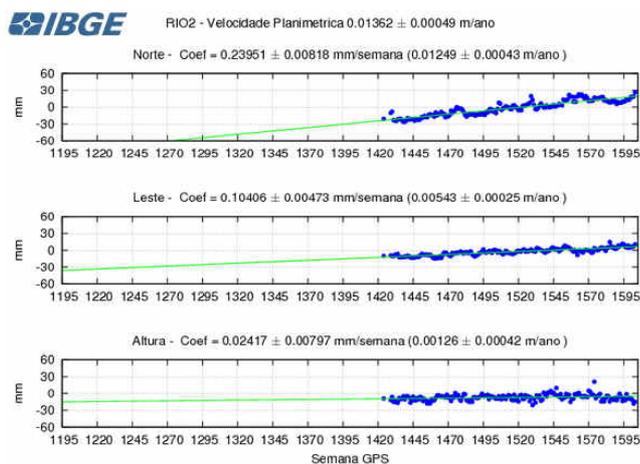
POLI - Velocidade Planimetrica 0.01102 ± 0.00053 m/ano

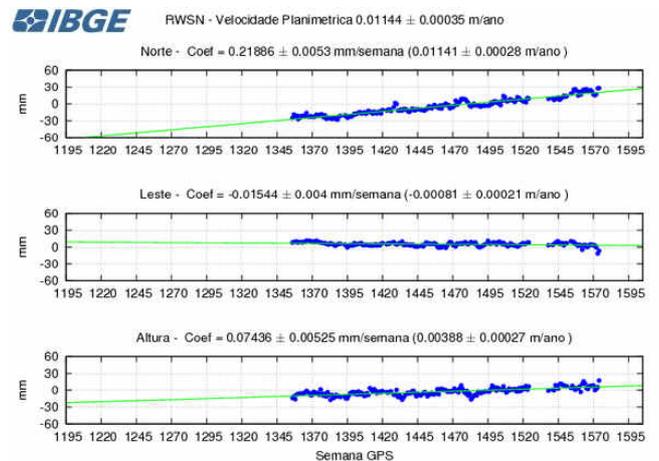
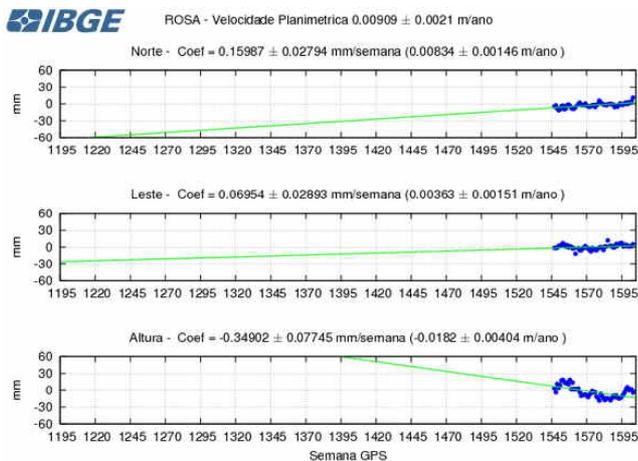
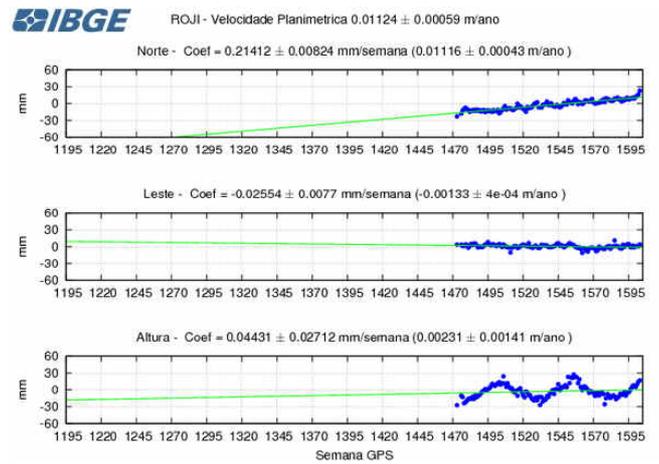
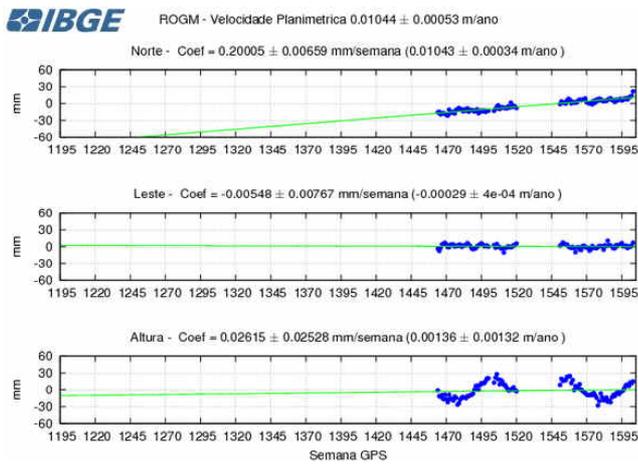
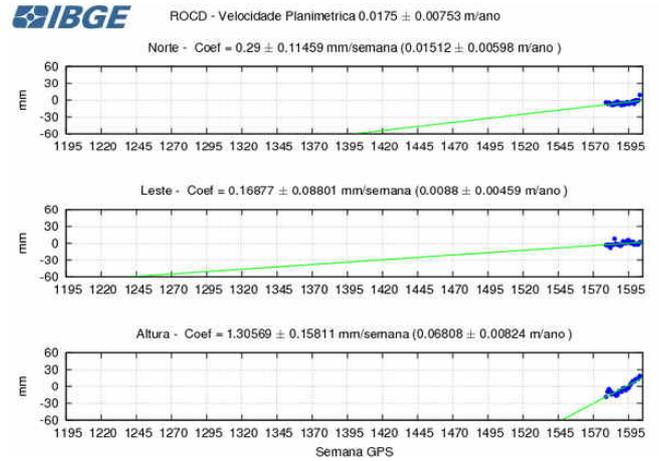
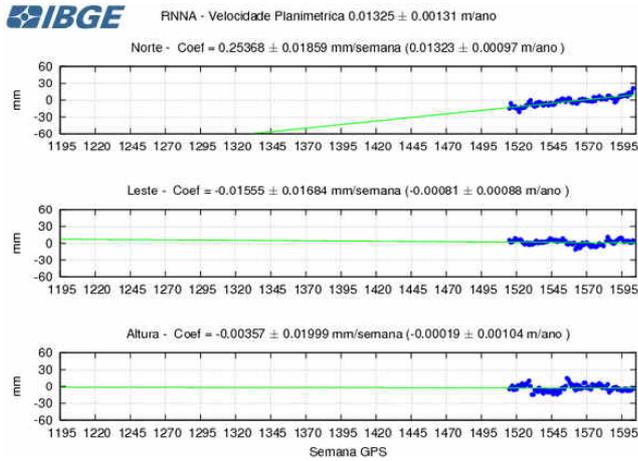


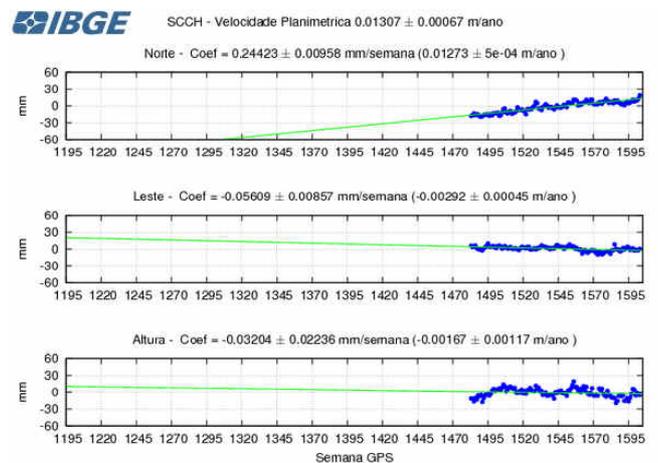
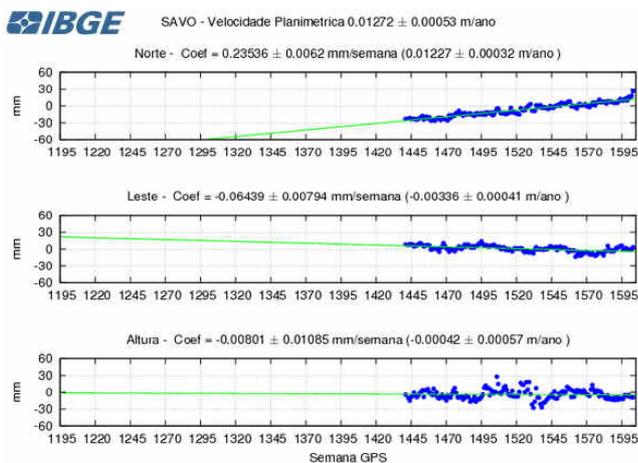
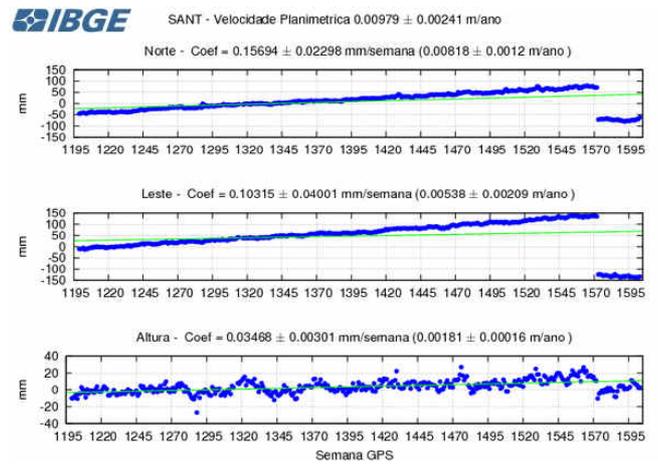
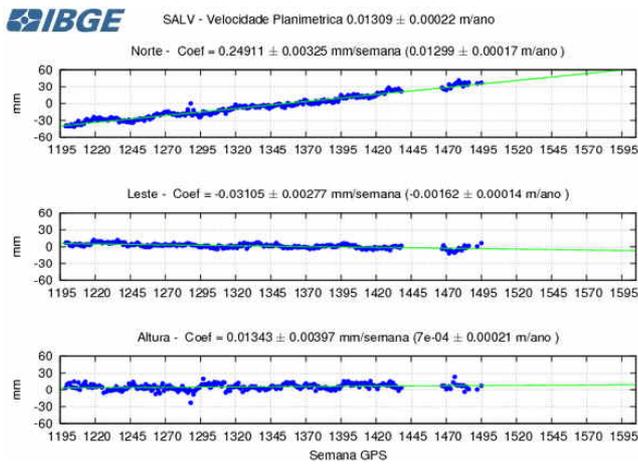
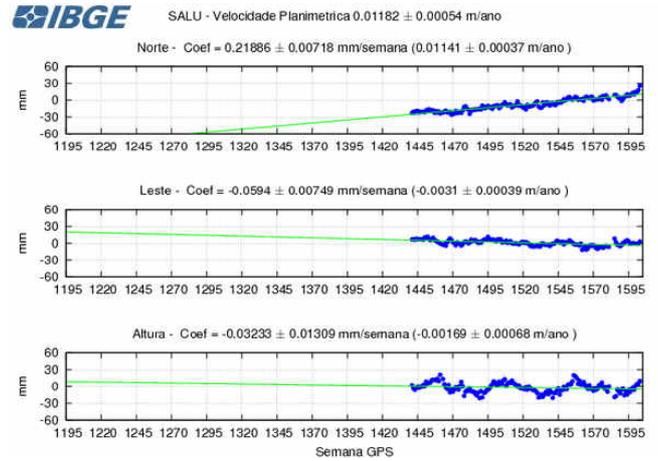
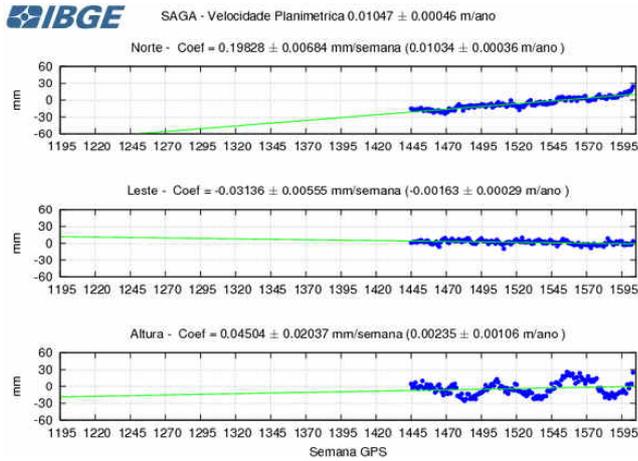
POVE - Velocidade Planimetrica 0.01255 ± 0.00022 m/ano

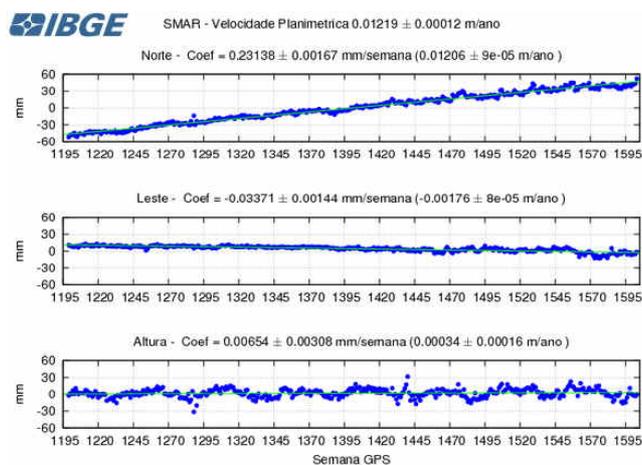
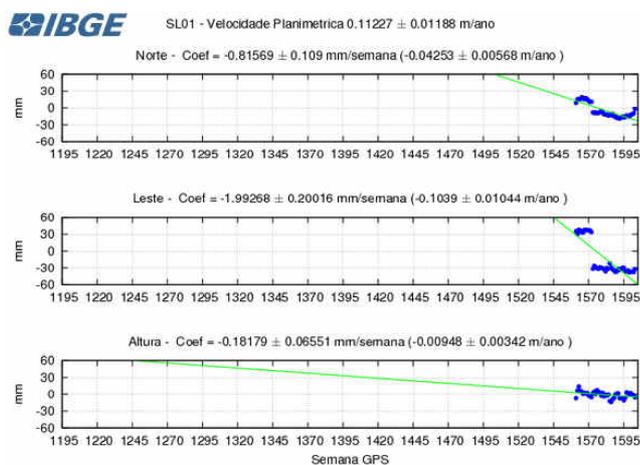
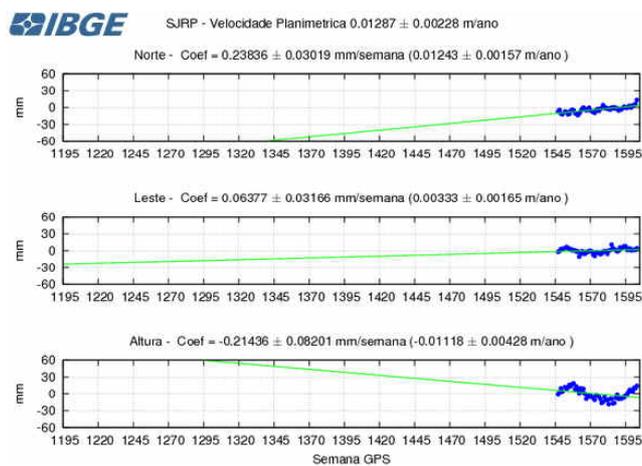
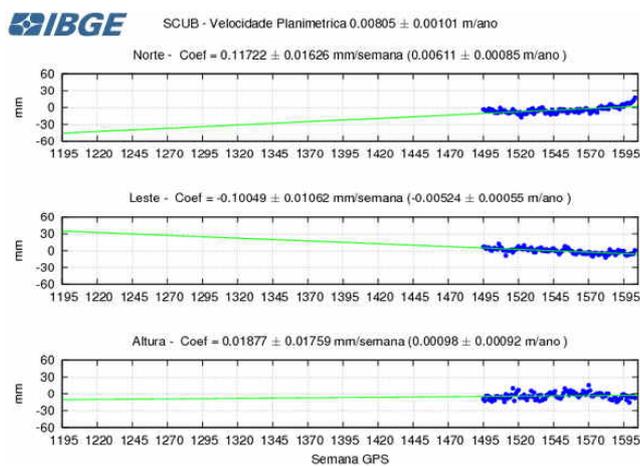
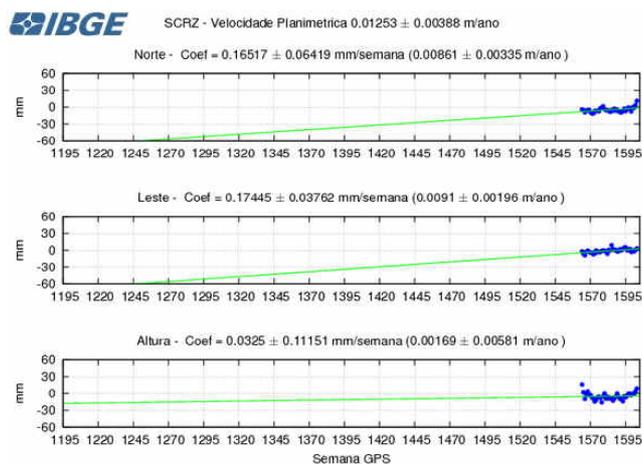
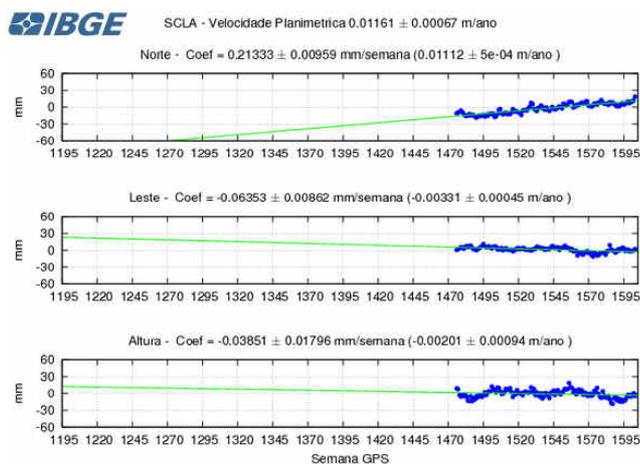


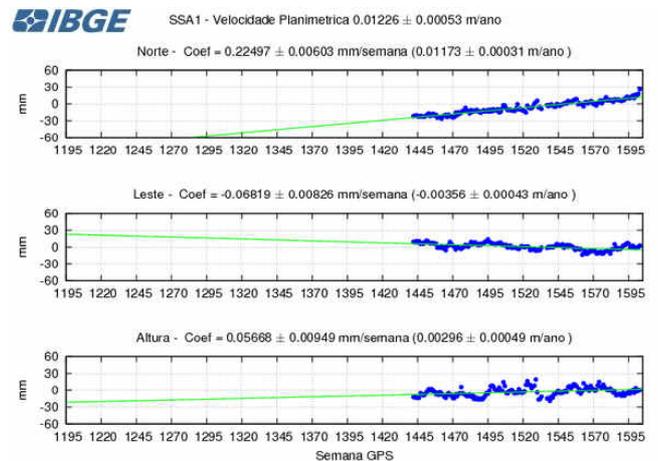
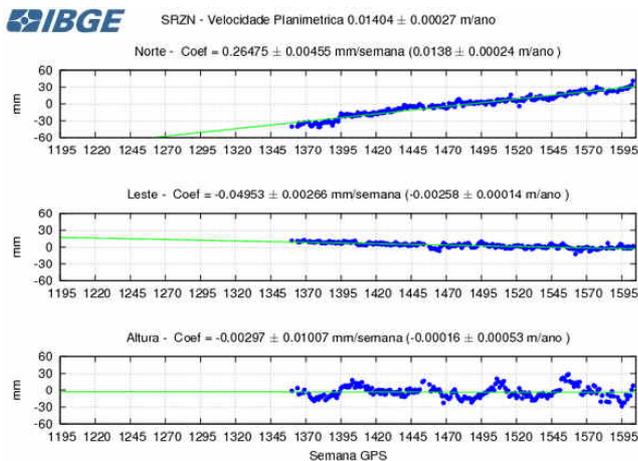
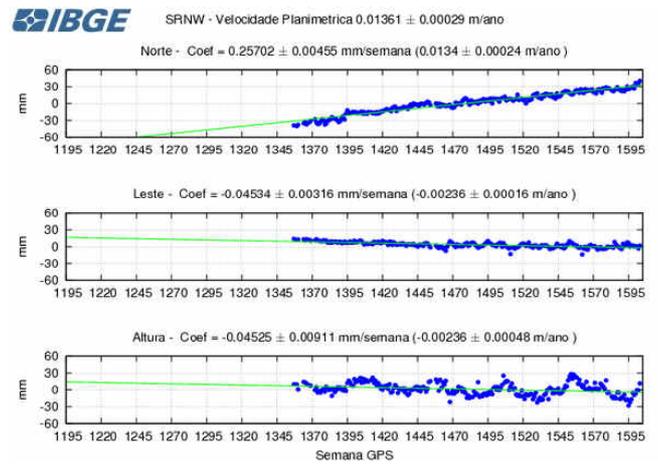
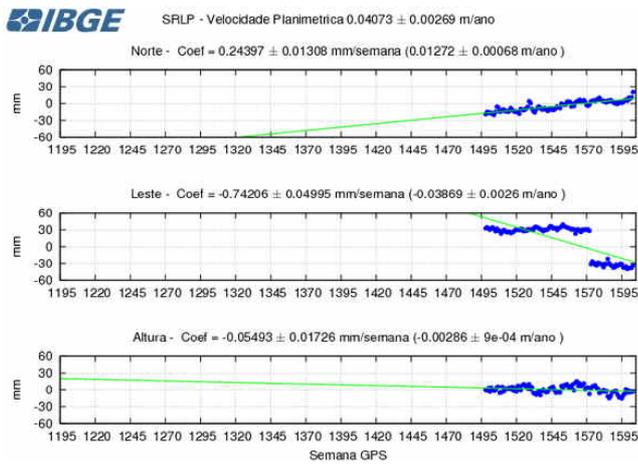
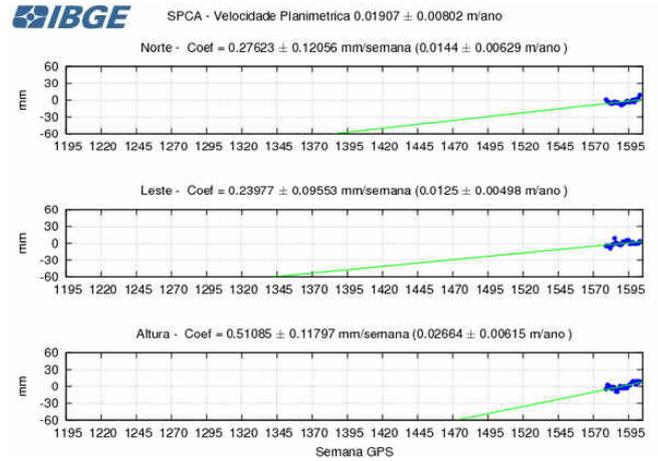
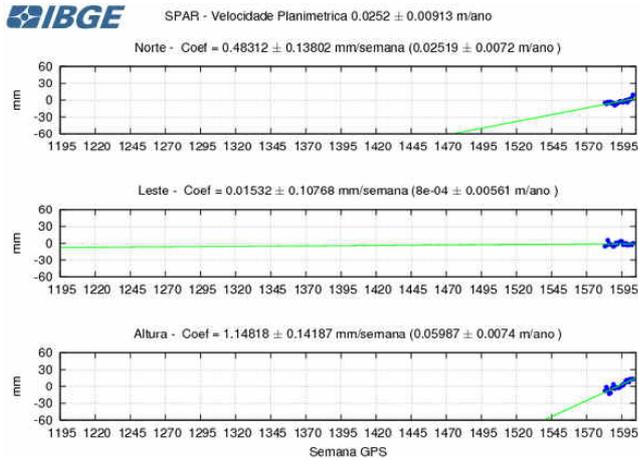


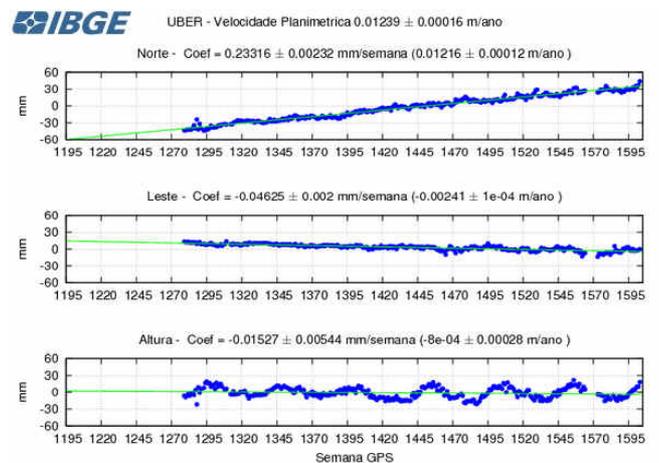
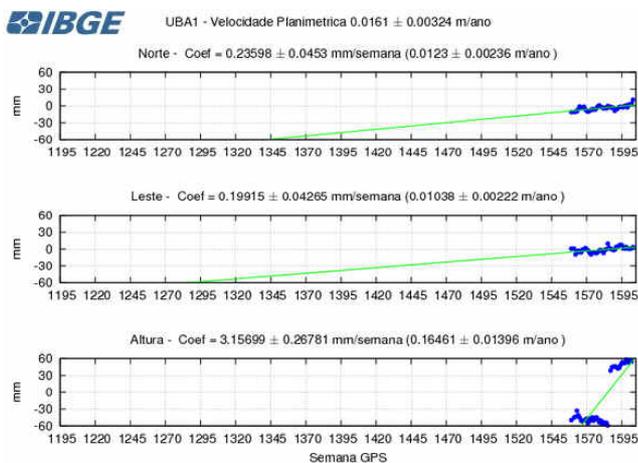
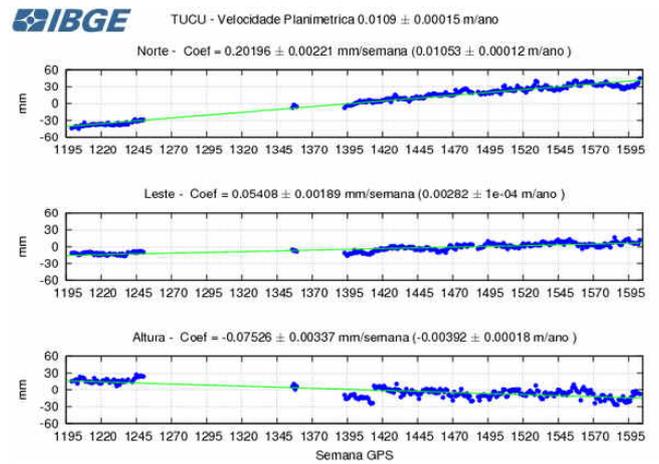
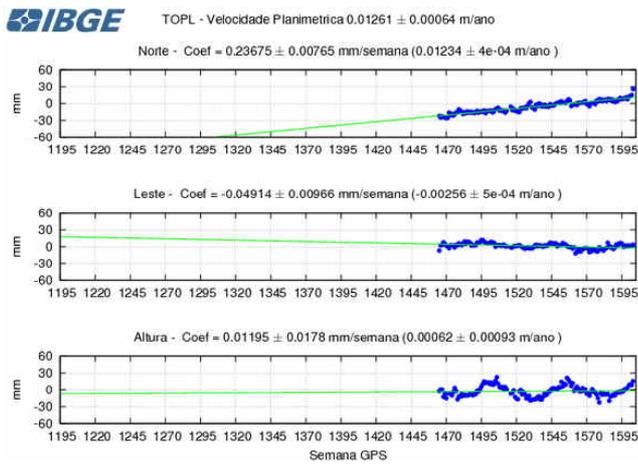
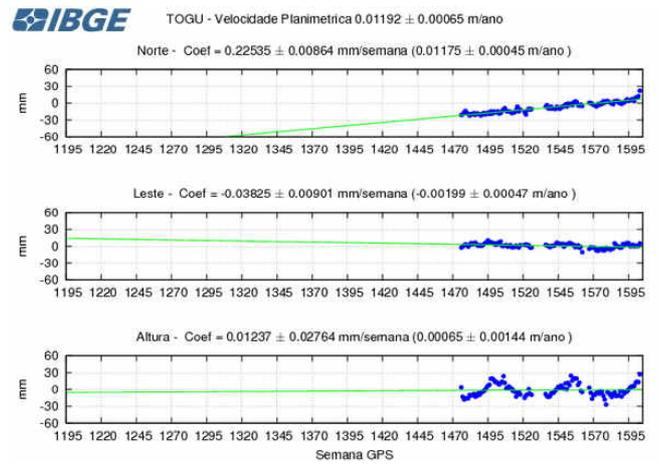
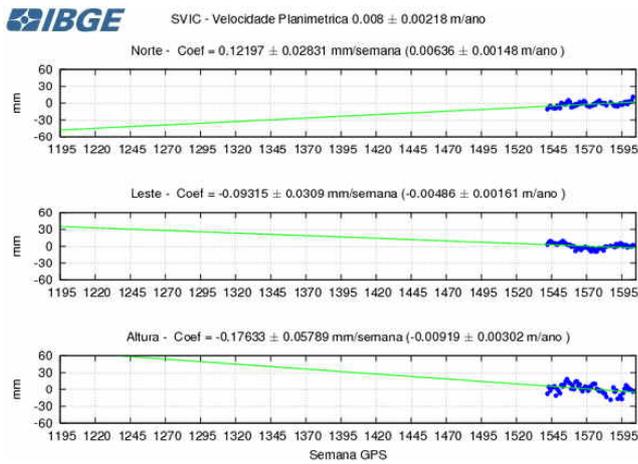


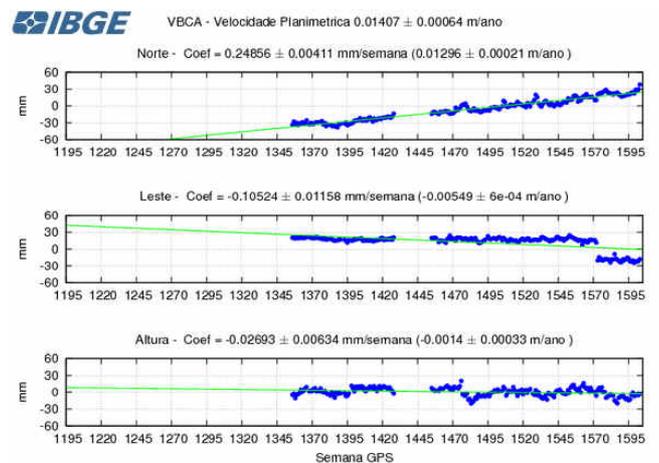
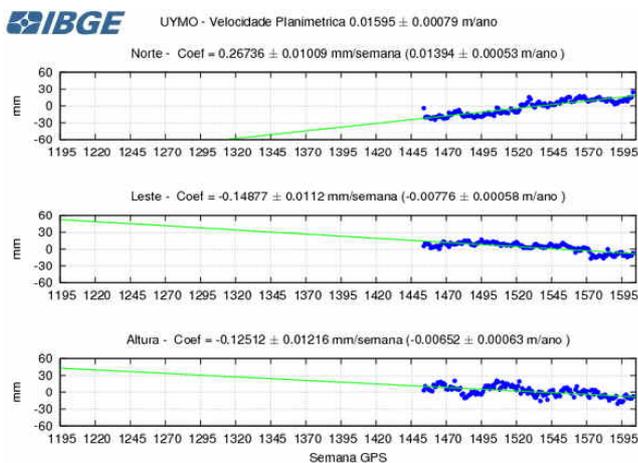
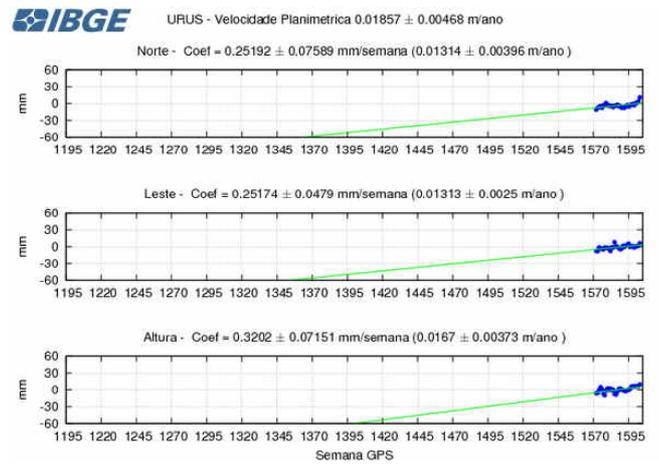
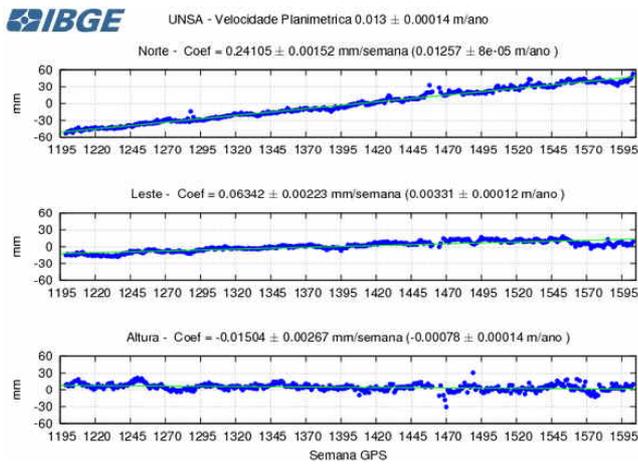
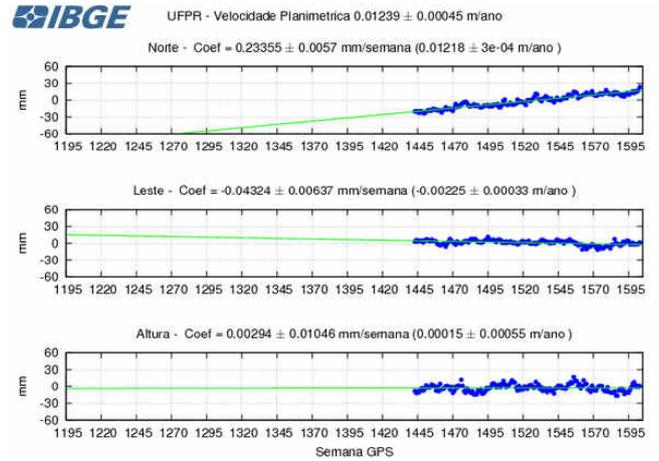
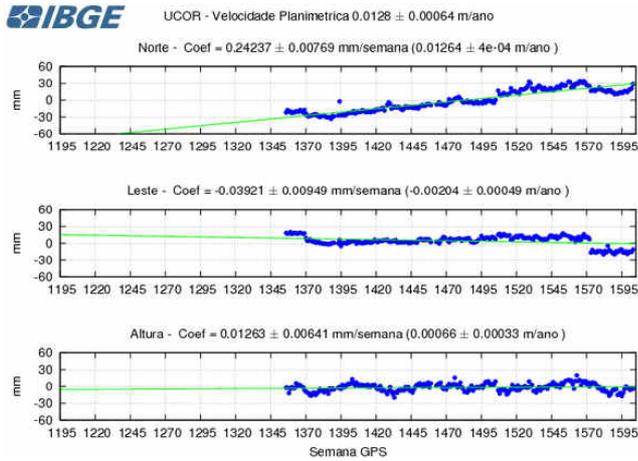






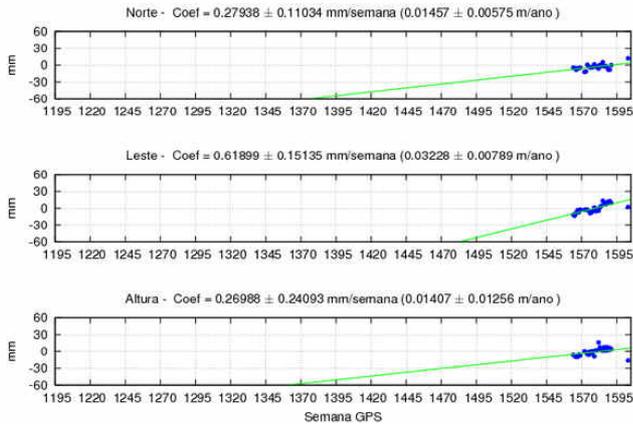








VESL - Velocidade Planimetrica 0.03541 ± 0.00977 m/ano



VICO - Velocidade Planimetrica 0.0135 ± 0.00012 m/ano

