IDS analysis campaigns: present status
2002 campaign & Grace campaign (11/2003)

JJ. Valette [1], M. Feissel-Vernier [2]

[1] *CLS, Collecte Localisation Satellites, France*
[2] *Paris Observatory and Institut Géographique National, France*

2002 IDS Analysis campaign

Objective: to initiate analysis of station positions
Participation

Analysis Center (AC)	AC abbrev.	Team-Contact	Description	Data span	Constraints
Campaign solutions					
IGN-JPL (France-USA)	ign	P. Willis Y Bar-Sever	Spot2/3/4 & Topex Monthly & weekly solutions	1993-2002	Loose (100m) proj. rotations
LEGOS/CLS (France)	lca	J.F. Crétaux L. Soudarin	Spot2/3/4 & Topex Monthly solutions	1993-2002	Loose (1m)
INASAN (Russia)	ina	S. Tatevian S. Kuzin	Spot2/3/4 & Topex Monthly & weekly solutions	1999-2002	Loose
Operationnal solutions					
SOD/CNES (France)	sod	A. Guitart J.P. Berthias	Spot2/4/5 & Topex 3 days solutions	2002	Loose
SSALTO CNES-CLS (France)	ssa	J.J. Valette G. Tavernier	Spot2/4 & Topex Spot5 (05/02>) weekly solutions	2001-2003	Unremovable (Fixed orbit)

Sinex with full variance

Analysis strategy

- Internal consistency of each AC time series (week-month)

  CATREF global combination software (Altamimi)
  Minimum constraint equation to express all individual solutions in the same datum
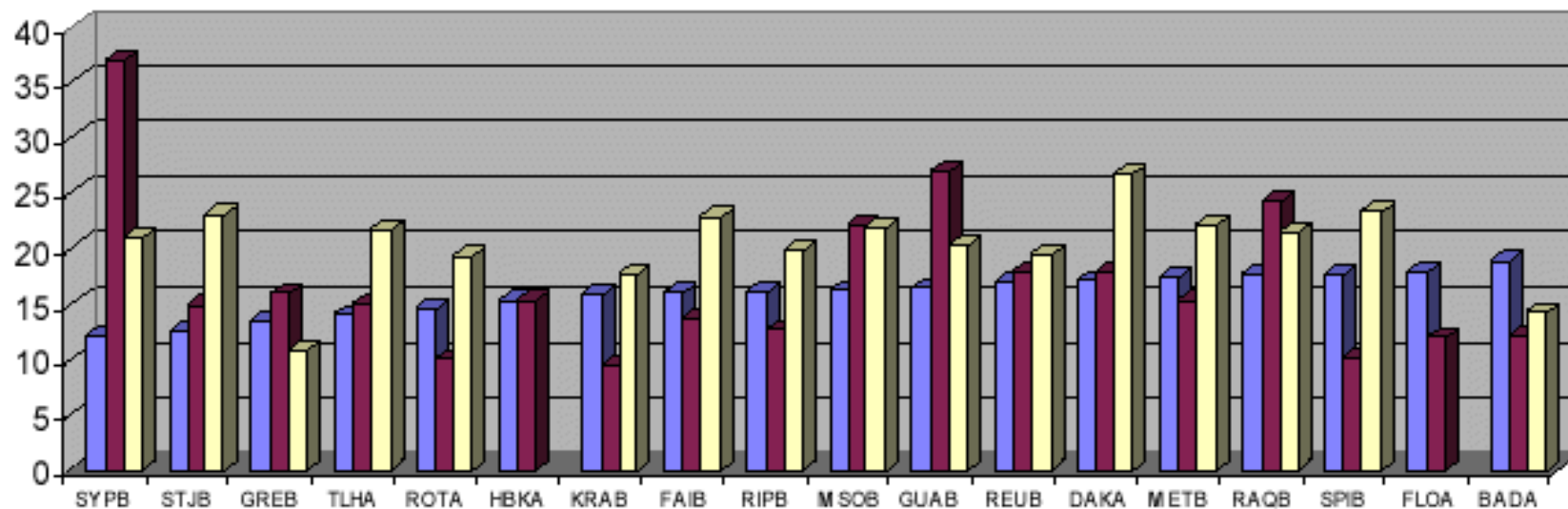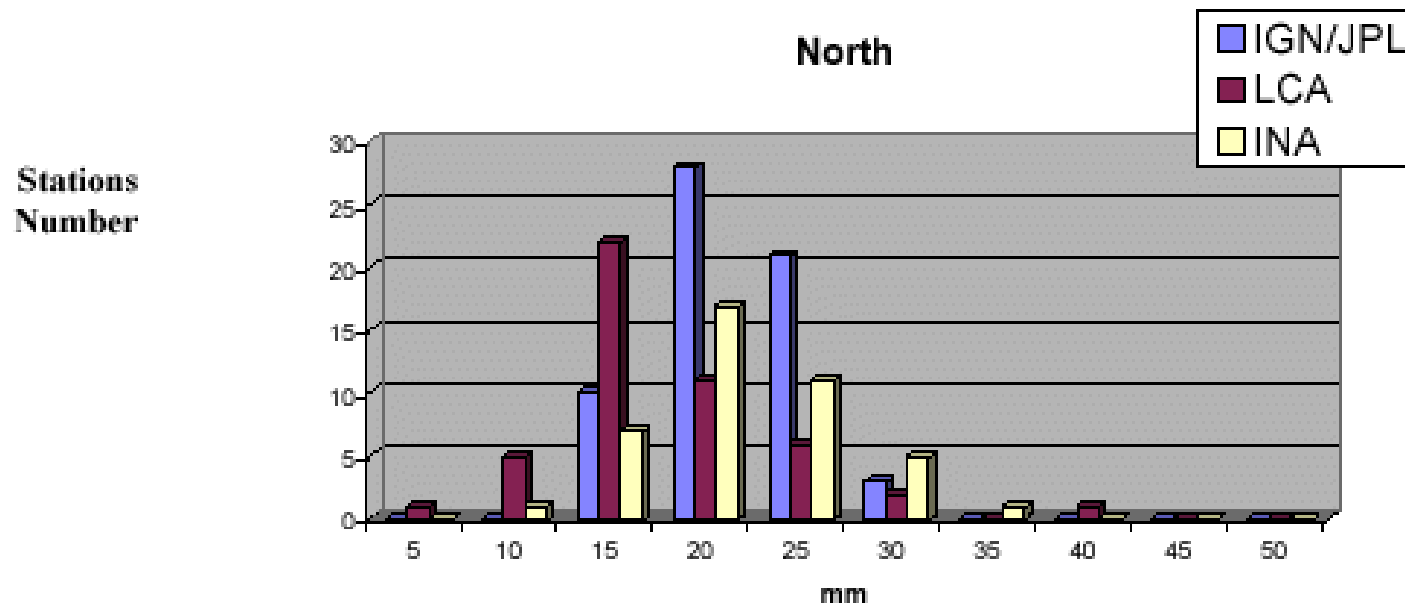 Helmert Transformation
  iteration (outliers editing)

- No AC combination possible yet to derive a DORIS technique product (at least 3 AC needed)

  Analysis campaign report available on the IDS analysis coordination web page
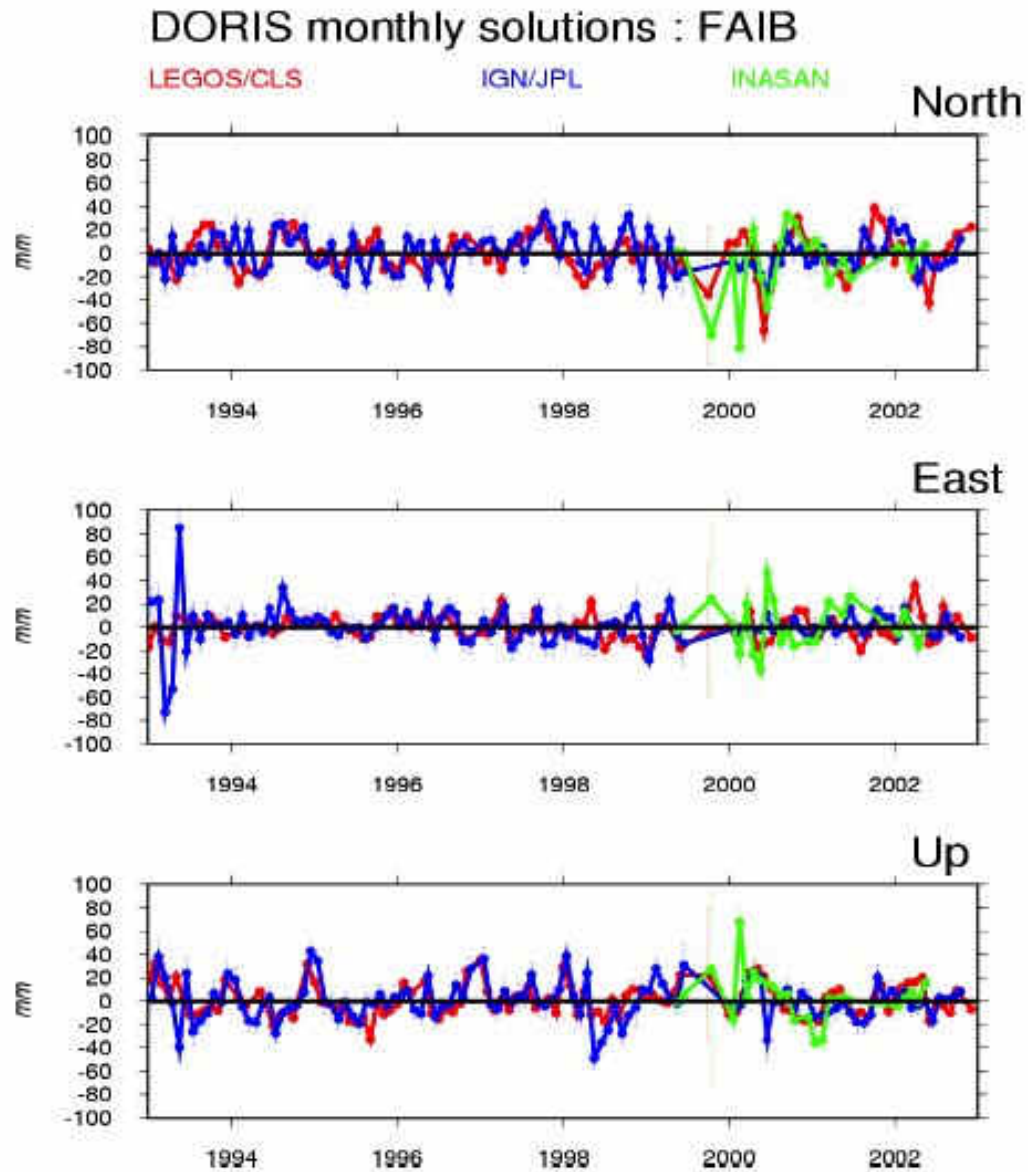 *(JJ. Valette, M. Feissel-Vernier, Z. Altamimi, 02/2004)*

Monthly series analysis

	ign (md03) 1993-2002			lca (md02) 1993-2002			ina (md01) 1999-2002		
Stations number (mean)	45			48			46		
WRMS (mm) (Mean and Std Dev)	21 ± 8			14 ± 3			17 ± 4		
Translation Parameters	Trend (mm/yr)	Bias (mm)	Std Dev* (mm)	Trend (mm/yr)	Bias (mm)	Std Dev* (mm)	Trend (mm/yr)	Bias (mm)	Std Dev* (mm)
TX	0.0	10.6	6.0	-0.3	-6.0	7.2	-9.9	5.6	6.7
TY	-0.5	-1.1	5.4	-0.6	-5.8	6.0	7.1	-3.5	6.2
TZ	1.9	-7.8	26.0	4.8	21.7	18.6	11.4	100.1	33.1
Scale factor	Trend (ppb/yr)	Bias (ppb)	Std Dev* (ppb)	Trend (ppb/yr)	Bias (ppb)	Std Dev* (ppb)	Trend (ppb/yr)	Bias (ppb)	Std Dev* (ppb)
DD	0.0	-1.8	0.5	-2	0.6	0.5	0.5	-10.4	0.6

ex. of results: station position residuals (1/2)

DORIS monthly solutions : FAIB

Transformed station positions time series soon also available on IDS web site

(ftp://ftp.cls.fr/pub/ids-cls/ camp2002/month_analysis/FAIB.png)

2003 IDS Grace Analysis campaign: Participation

(+ JM. Lemoine & J. Ries)

Analysis center	gau	ign	ina	lca
Contact person	R.Govind	P.Willis	S.Tatevian	L.Soudarin
Analyse all satellites, Oct-Nov-Dec 2002	[x]	[x]	[x]	[x]
Gravity field models				
EGM96	[x]	[x]	[x]	[x]
GRIM5-C1	[x]	[.]	[x]	[x]
GGM01C	[x]	[x]	[x]	[x]
EIGEN-GRACE01S	[x]	[.]	[x]	[x]
Products				
Weekly station coord.	[x]	[x]	[x]	[x]

Present analyzed solutions (preliminary results)

Solutions description

AC abbrev.	Description	Data span	Constraints
ign	Spot2/3/4 & Topex	Oct-dec 02	Free-network
lca	idem + Jason with 12 stations removed	idem	Loose (10 m)

lca also provides solutions with GGM01S earth gravity field
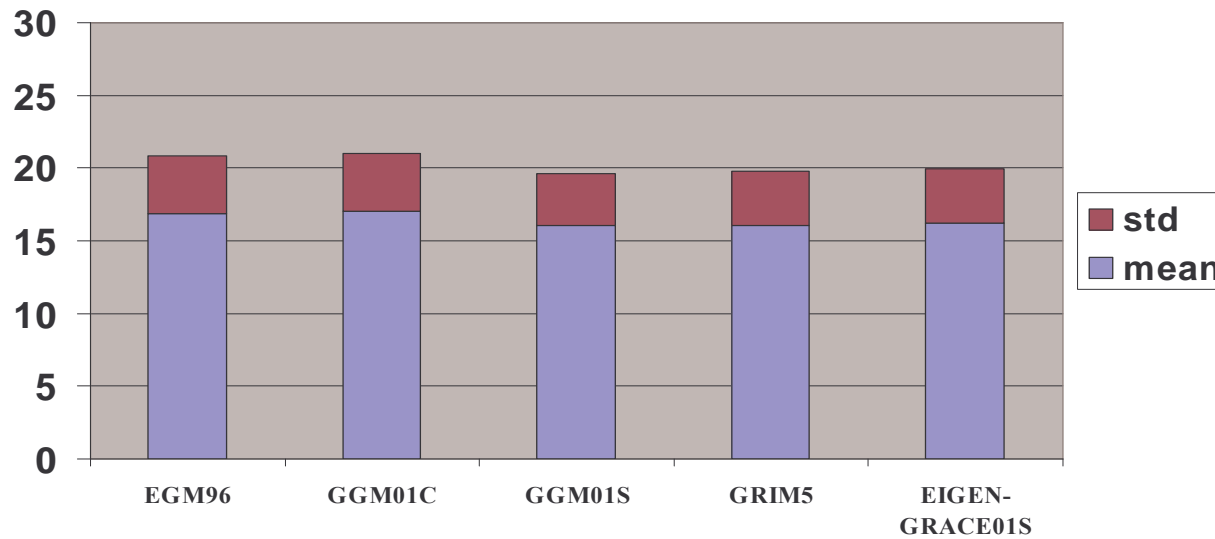
Datum with new stations

Preliminary results: Weighted rms station residuals– statistics (mm)
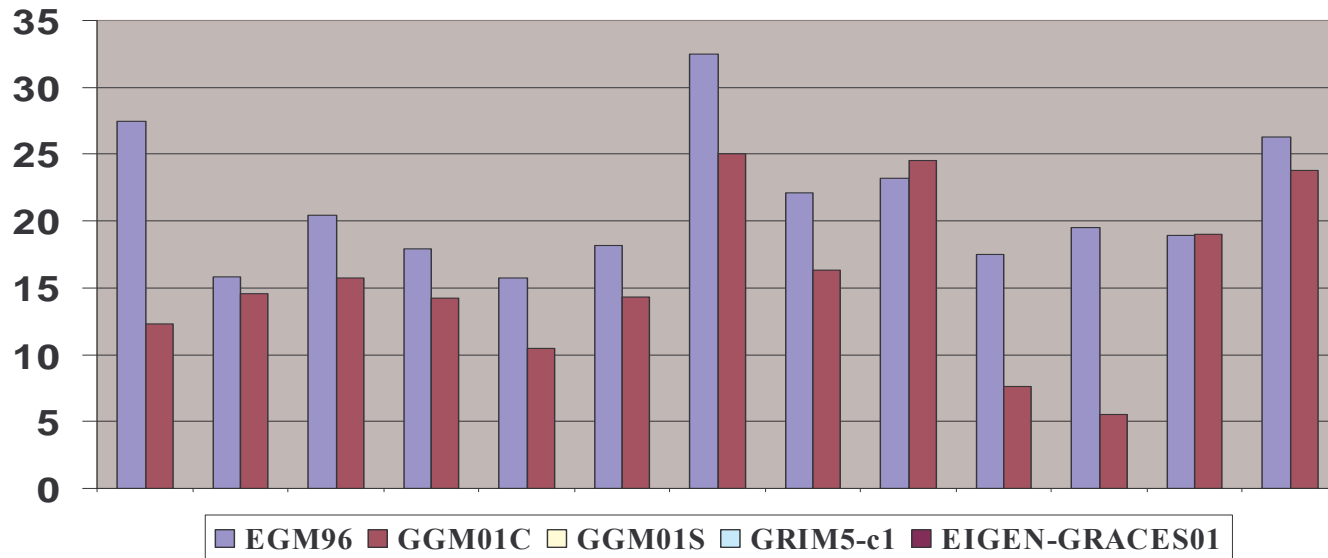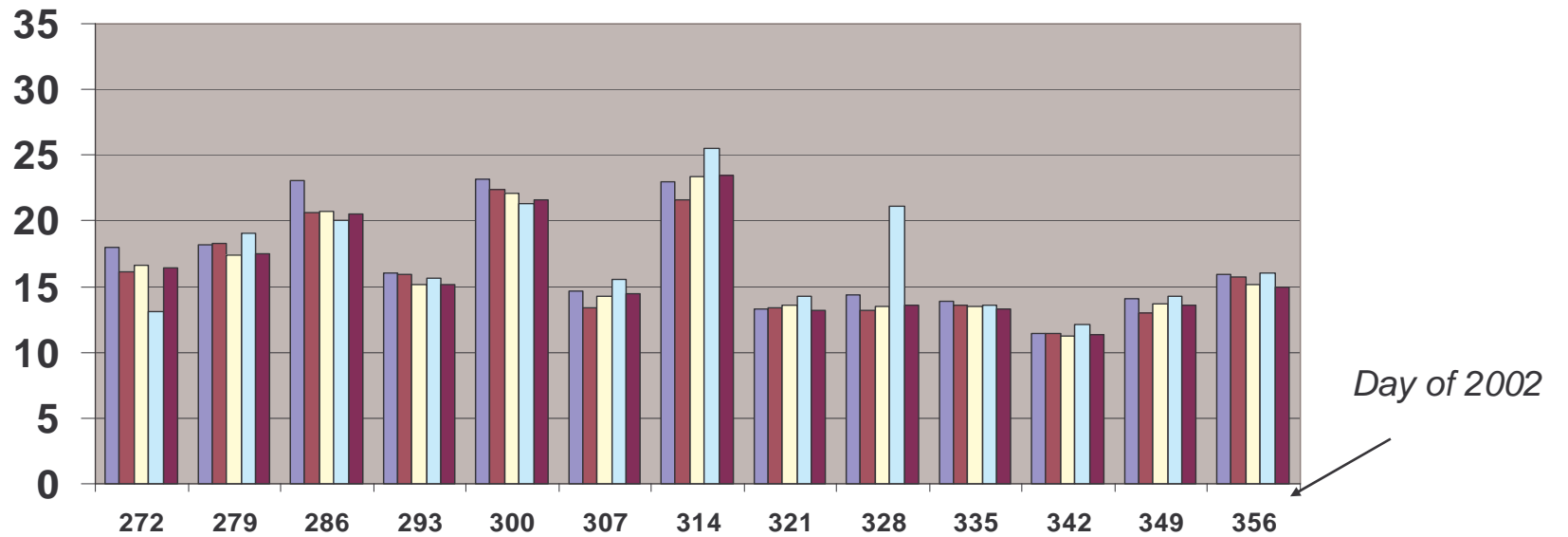
46-49 stations per solution

ign

lca

Legend: std, mean

X-axis categories: EGM96, GGM01C, GGM01S, GRIM5, EIGEN-GRACE01S
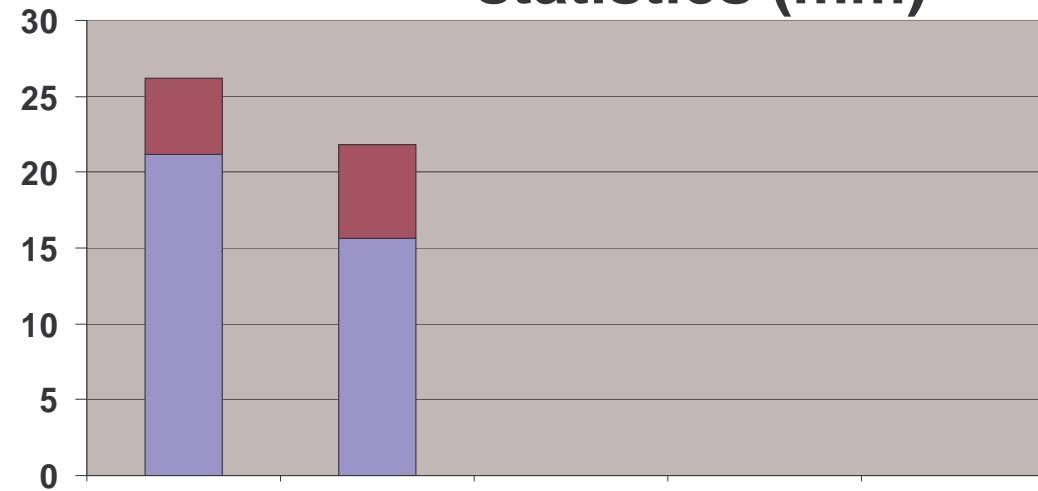
Weighted rms per week (mm)

ign

Legend: EGM96, GGM01C, GGM01S, GRIM5-c1, EIGEN-GRACES01

lca

Day of 2002

272 279 286 293 300 307 314 321 328 335 342 349 356

IDS Plenary Meeting, 3-4 May 2004, Paris, France

Translations (mm)

lca

ign

TZ

TY

TX

Legend: EGM96 — GGM01C — GGM01S — GRIM5-C1 — EIGEN-GRACE01S
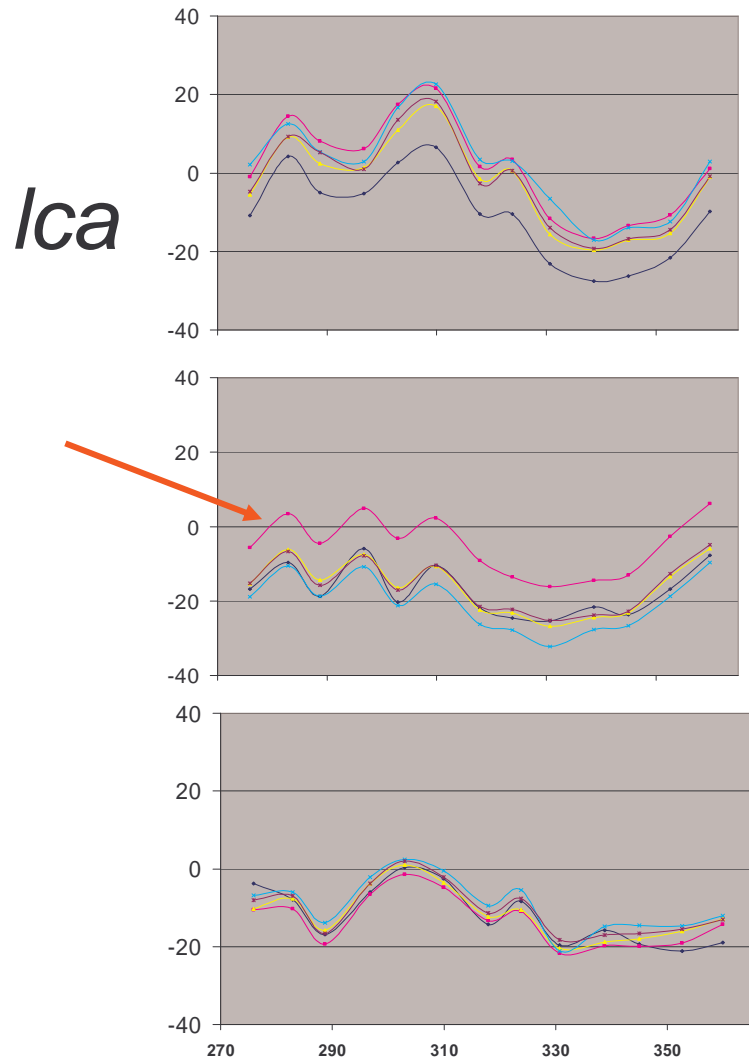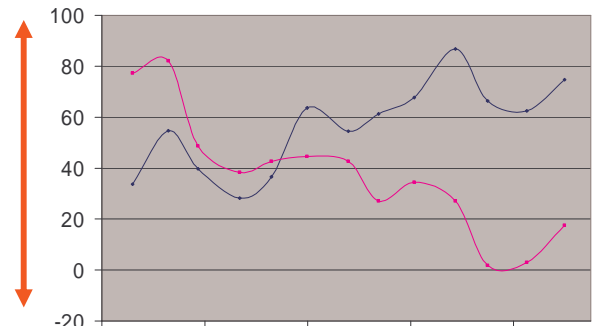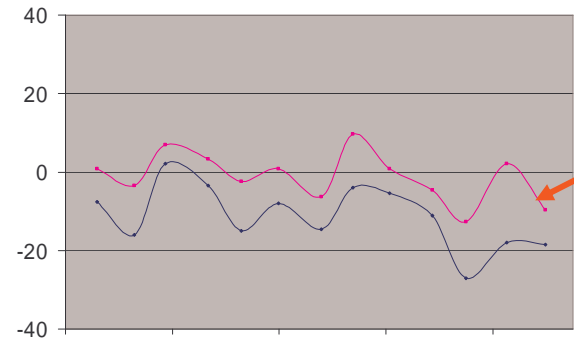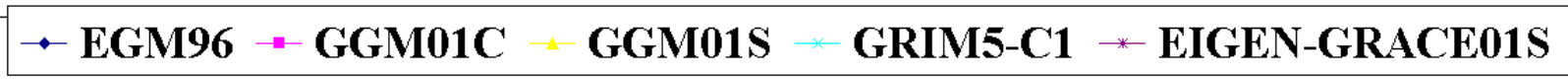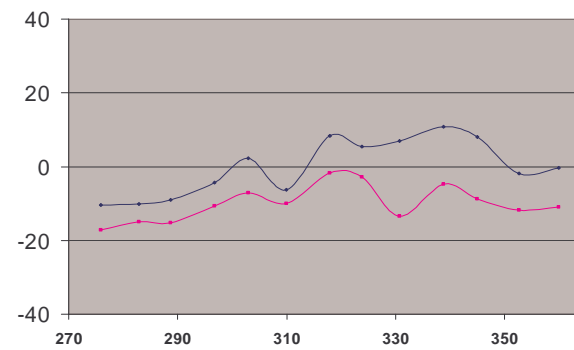
Scale (mm)

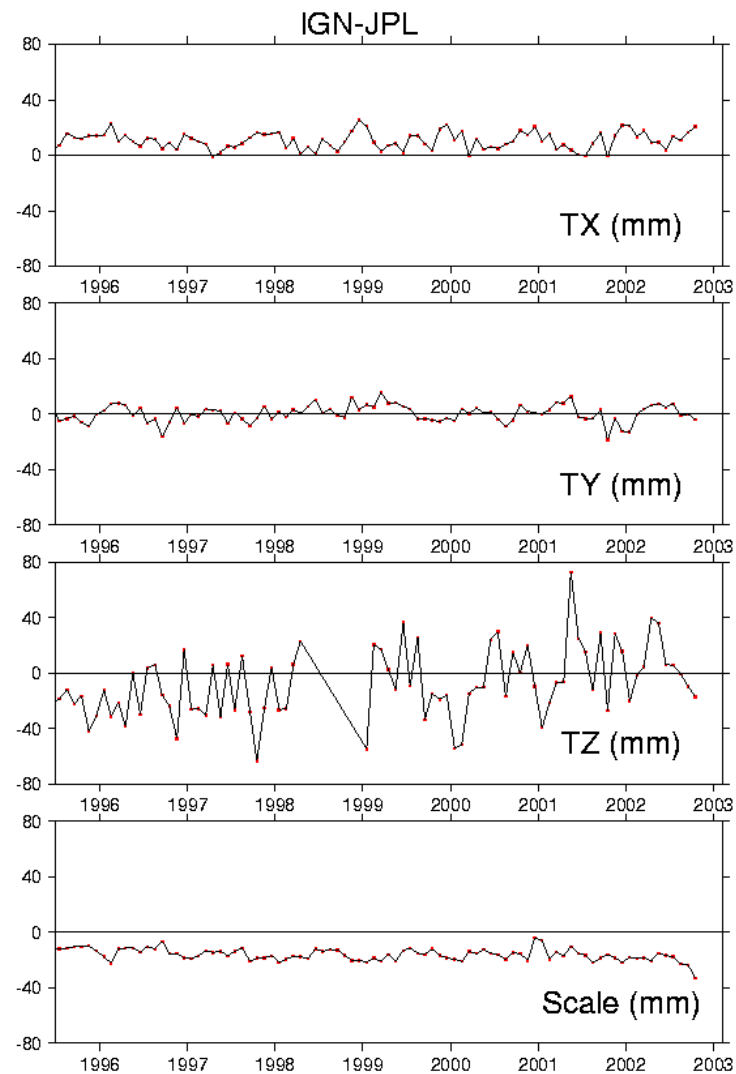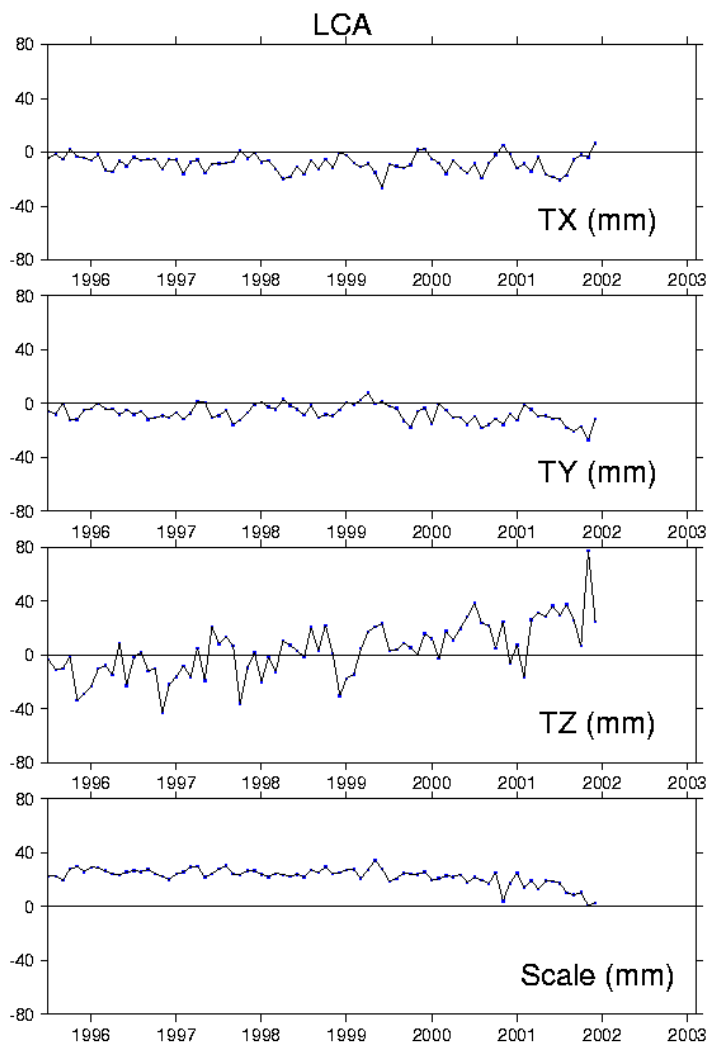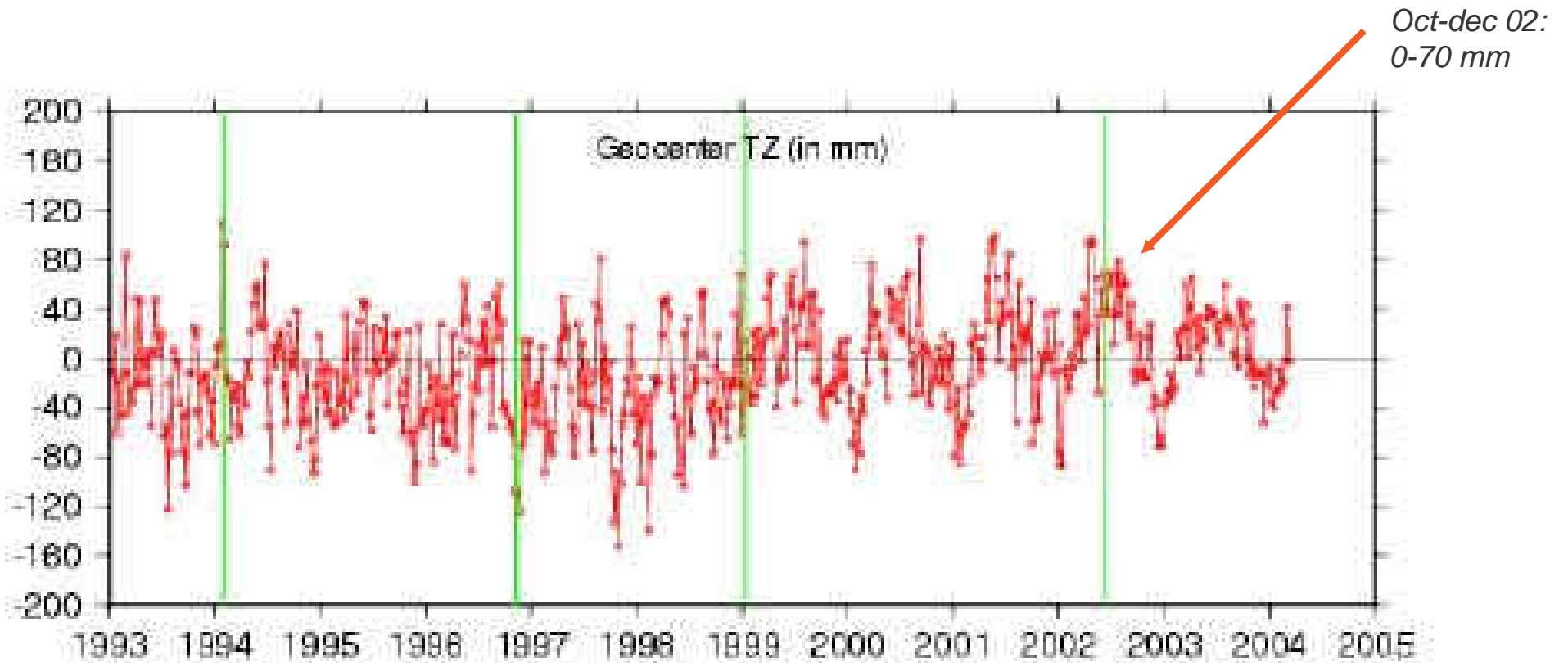*lca*   *ign*
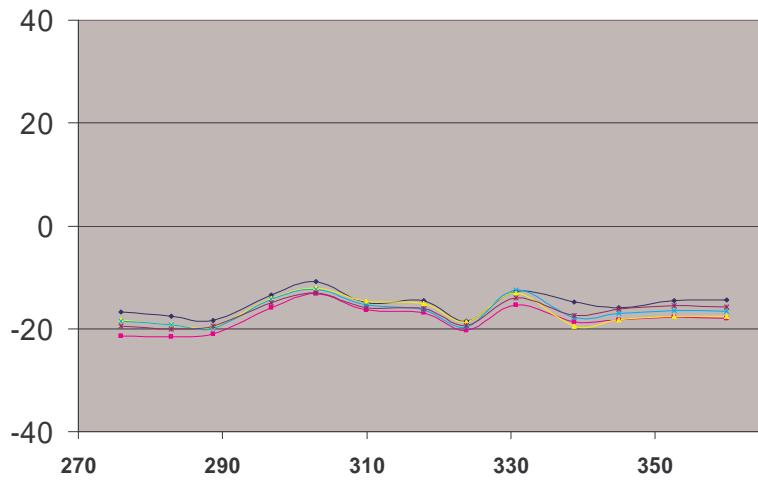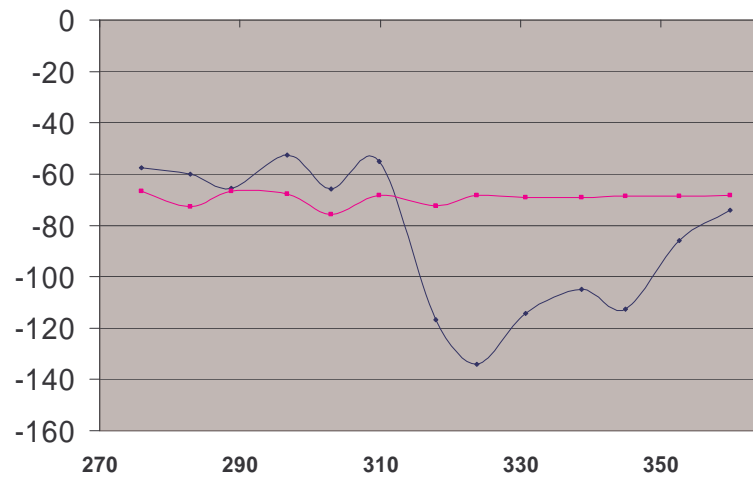
Legend: EGM96 GGM01C GGM01S GRIM5-C1 EIGEN-GRACE01S

Global combination of individual monthly series - *Transformations*

Oct-dec 02:
0-70 mm

Geocenter TZ (in mm)

From P. Willis, IDS meeting 2004