Status of the IDS Combination Center activities

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Latest Series Available
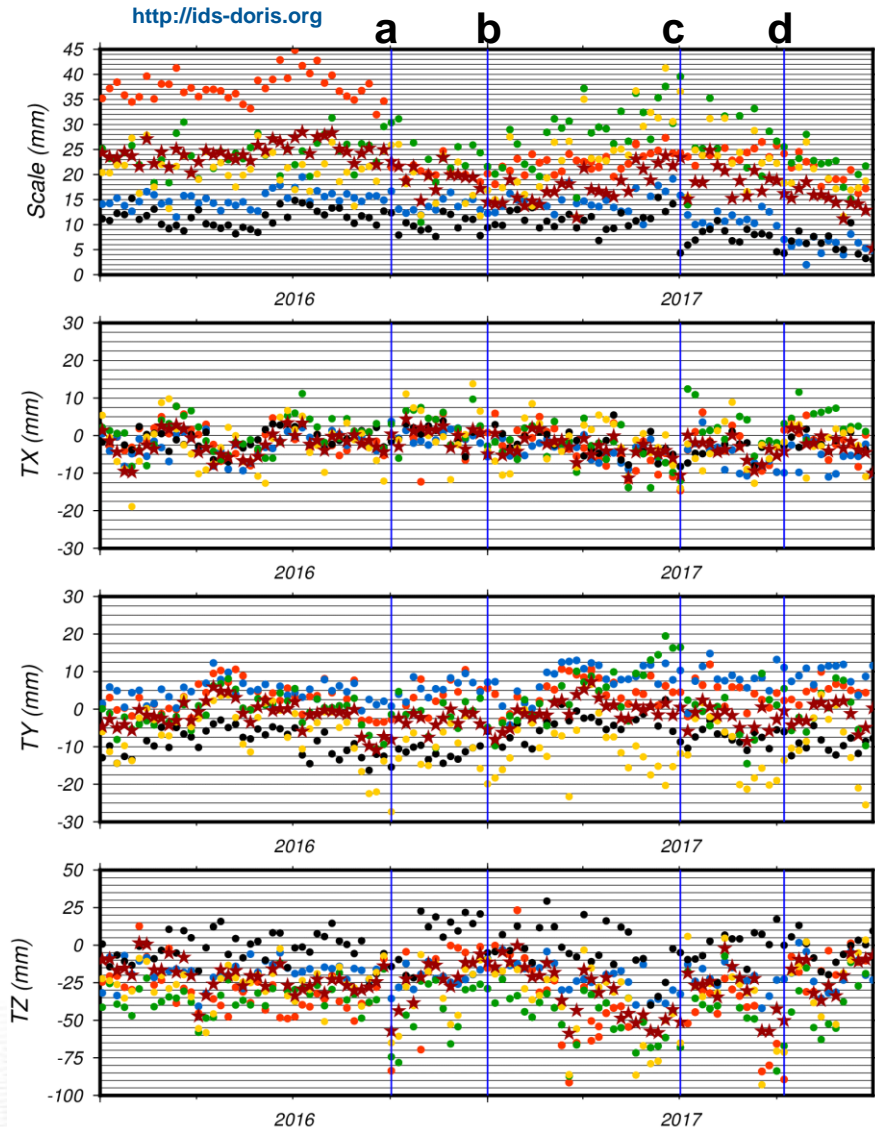
| AC	Series Nb	Time period	Comments
ESA	10	1993:003 – 2015:179	2014:166 – 2014:362 missing Not available at IDS Data Centers
GOP	43 50	1993:003 – 2017:176 2015:270 – 2017:358	wd50: No more use of CNES preprocessing indicators and downweighting of the observations
GRG	40 41	1993:003 – 2017:274 2008:209 – 2017:365	wd41: new DORIS data processing, Jason-2 SAA strategy, new HY-2A CoM-CoP value, **Jason-3** (SAA strategy, since 2016:045) + **Sentinel-3A** (since 2016:066)
GSC	28 29 30 31	2008:195 – 2016:360 2008:020 – 2017:176 2016:010 – 2017:176 2016:003 – 2017:365	Modeling improvements on Jason-2 solar array (quaternions) wd29 = wd28 with DPOD2014 as apriori wd30 = wd29 + **Jason-3** (no special handling for SAA stations) wd31 = wd29 + **Jason-3** (special handling for SAA stations)
IGN	15	1993:003 – 2017:358	Since 2008:188 : without CADB, SANB and KRUB for Jason-2
INA	10	1992:292 – 2017:358	
IDS	12	1993:003 – 2017:365	ESA10 + GOP43 /50 + GRG40/41 + GSC26/28/31 + IGN15 + INA10 All the ACs contribute to the combined scale Include all the stations treated by at least 2 ACs

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IDS 12 Combined Solution

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Legend:
- gopwdal (red)
- grgwdal (blue)
- gscwdal (black)
- ignwd15 (green)
- inawd10 (yellow)
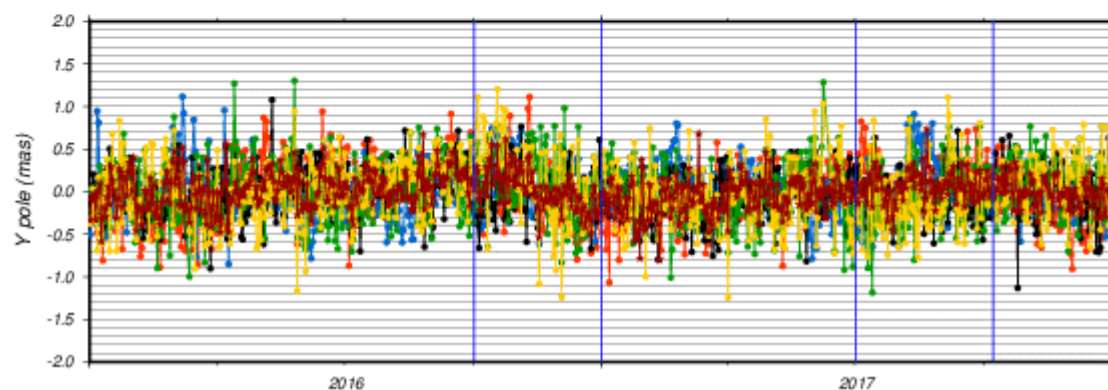- idswd12 (dark red star)

Time span: 2016.0-2018.0

IDS 12:
a) 2016:276 – From GOP 43 to GOP 50
b) 2017:001 – From GSC 28 to GSC 29
c) 2017:190 – From GSC 29 to GSC 31
d) 2017:281 – From GRG 40 to GRG 41

IDS Workshop – Toulouse – June 11th 2018

IDS 12 Combined Solution

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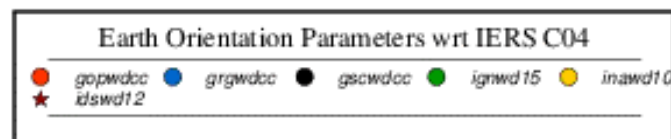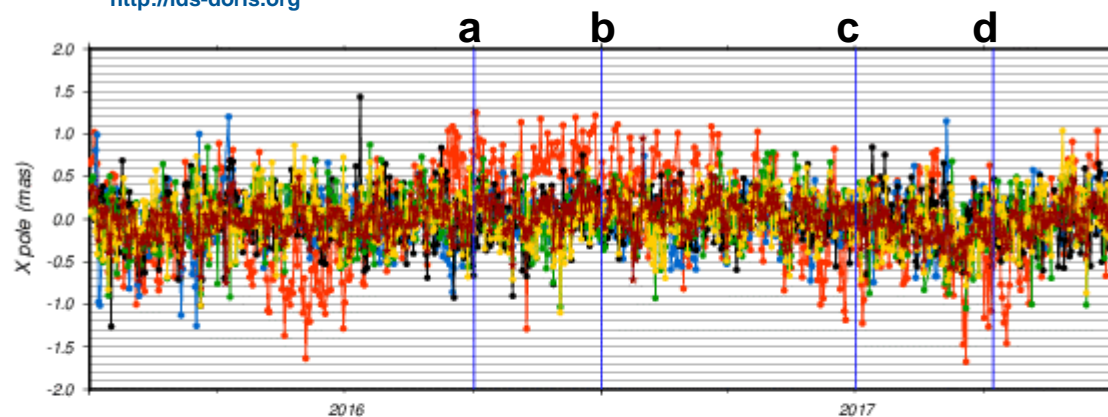
Time span: 2016.0-2018.0

AC	serie	# days	X pole (mas)			Y pole (mas)		
			trend	mean	std	trend	mean	std
gop	cc	705	0.151	-0.002	0.553	0.120	-0.000	0.331
grg	cc	725	0.020	-0.003	0.280	-0.050	0.004	0.292
gsc	cc	729	0.005	-0.000	0.302	0.020	-0.001	0.292
ign	15	678	0.001	-0.003	0.318	0.030	0.000	0.374
ina	10	693	0.012	-0.000	0.308	0.010	0.001	0.382
ids	12	730	0.058	-0.001	0.217	0.020	0.000	0.210

+J2 +C2 +HY -ENV -SP4
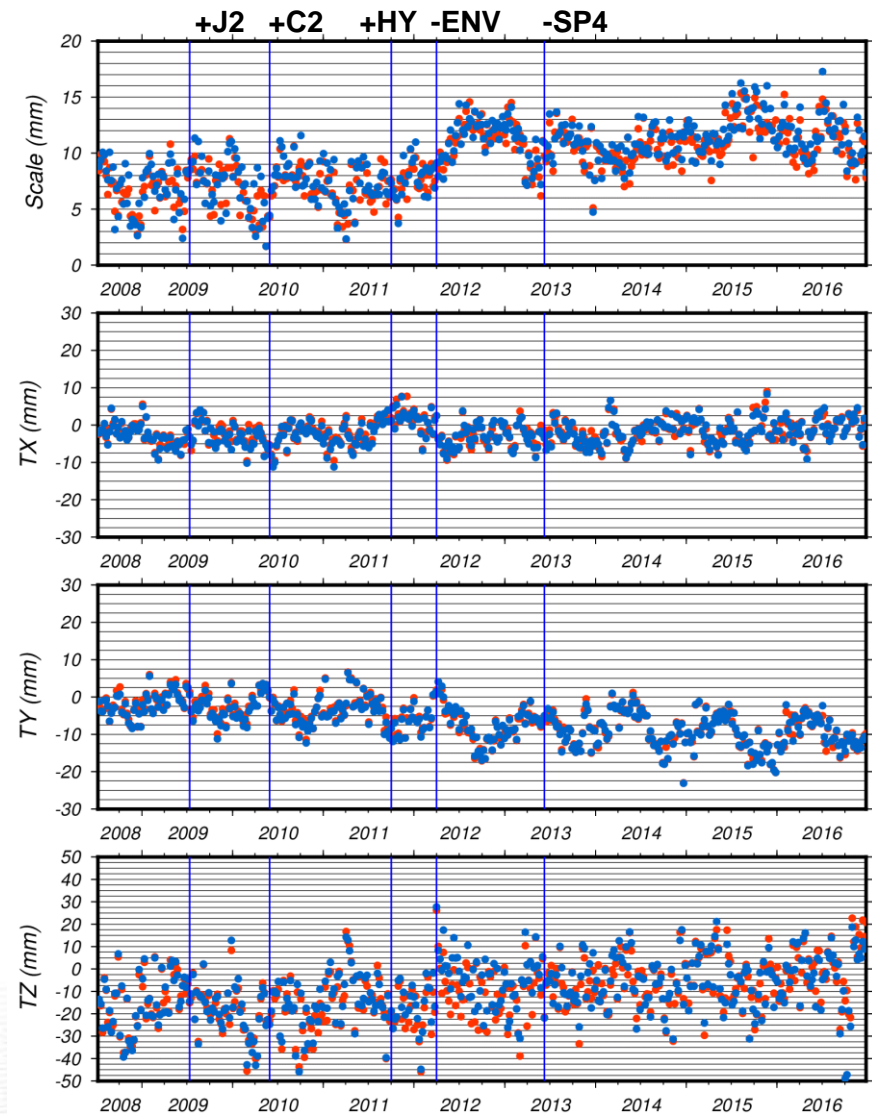
GSC 28: DPOD2008v1.14 apriori
GSC 29: DPOD2014v1.0   apriori

[mm]	Scale	Tx	Ty	Tz	WRMS
GSC 28	9.2 ± 2.0	-1.8 ± 3.2	-6.2 ± 4.2	-10.6 ± 11.5	11.8 ± 1.4
GSC 29	9.5 ± 2.1	-2.0 ± 3.3	-6.4 ± 4.2	-9.7 ± 12.0	11.9 ± 1.4

Submillimetric differences in terms of mean value and std

EOPs

AC	serie	# days	X pole (mas)			Y pole (mas)		
			trend	mean	std	trend	mean	std
gsc	28	3067	-0.032	0.001	0.334	0.010	-0.000	0.343
gsc	29	3070	-0.036	0.000	0.330	0.000	0.000	0.331

GSC 29
GSC 30: GSC 29 + Jason-3 (no SAA strategy)
GSC 31: GSC 29 + Jason-3 (SAA strategy)

Time span: 2016.0-2017.5

[mm]	Scale	Tx	Ty	Tz	WRMS
GSC 29	11.3 ± 1.8	-1.1 ± 3.1	-7.6 ± 4.0	-2.5 ± 14.8	14.1 ± 1.7
GSC 30	8.8 ± 2.3	0.9 ± 2.9	_10.5 ± 3.9	1.0 ± 11.8	14.9 ± 1.6
GSC 31	5.9 ± 2.9	-1.5 ± 2.6	-8.0 ± 3.6	0.1 ± 11.6	14.0 ± 1.3

Scale Bias reduction
❑ **Due to the including of Jason-3 (with lower scale)**
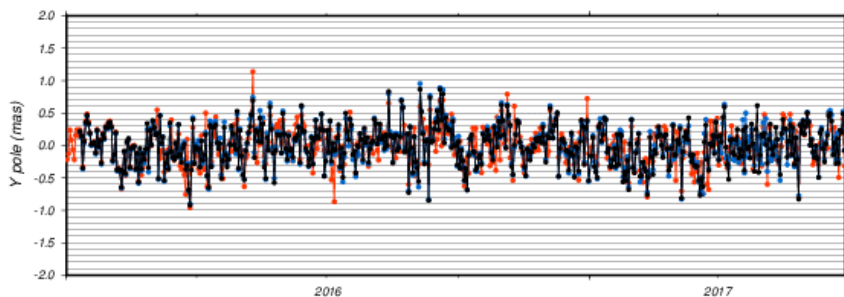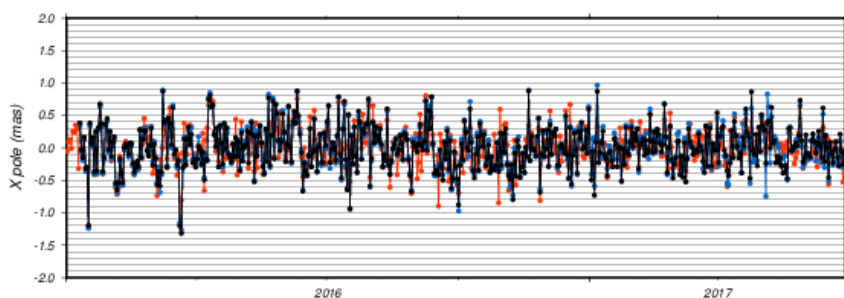❑ **Due to the Jason-3 SAA special handling**
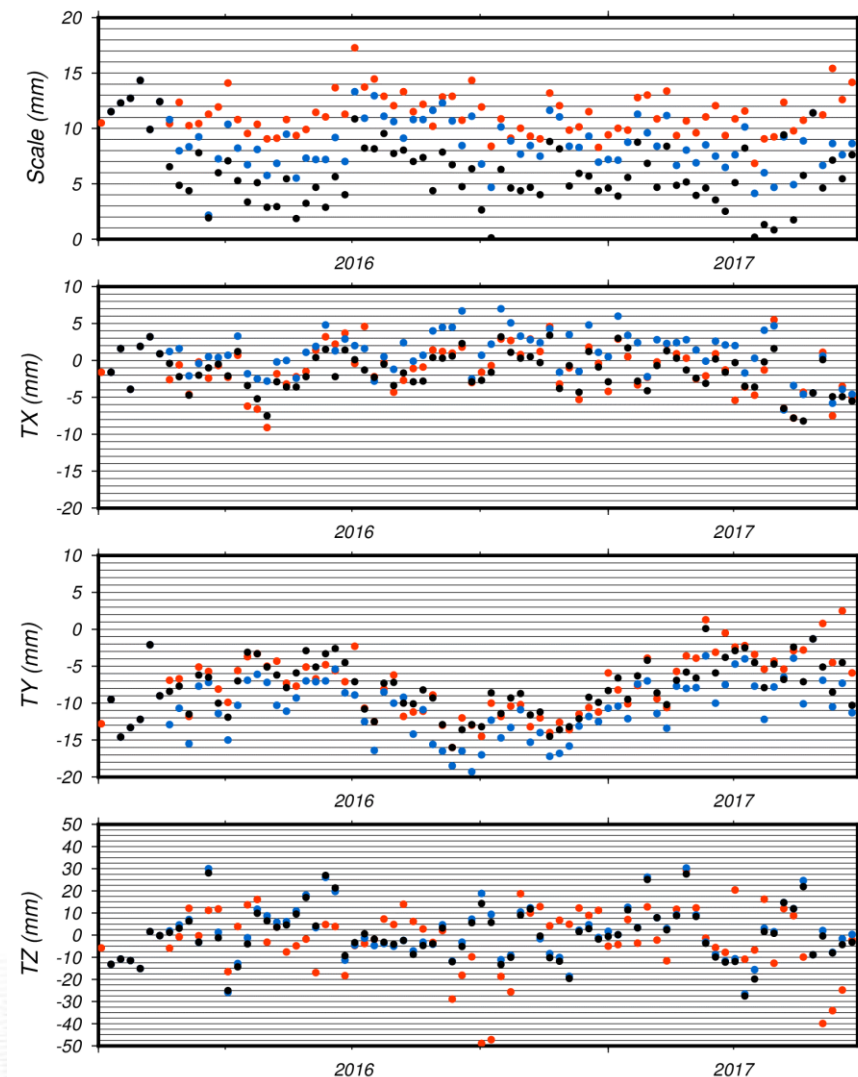
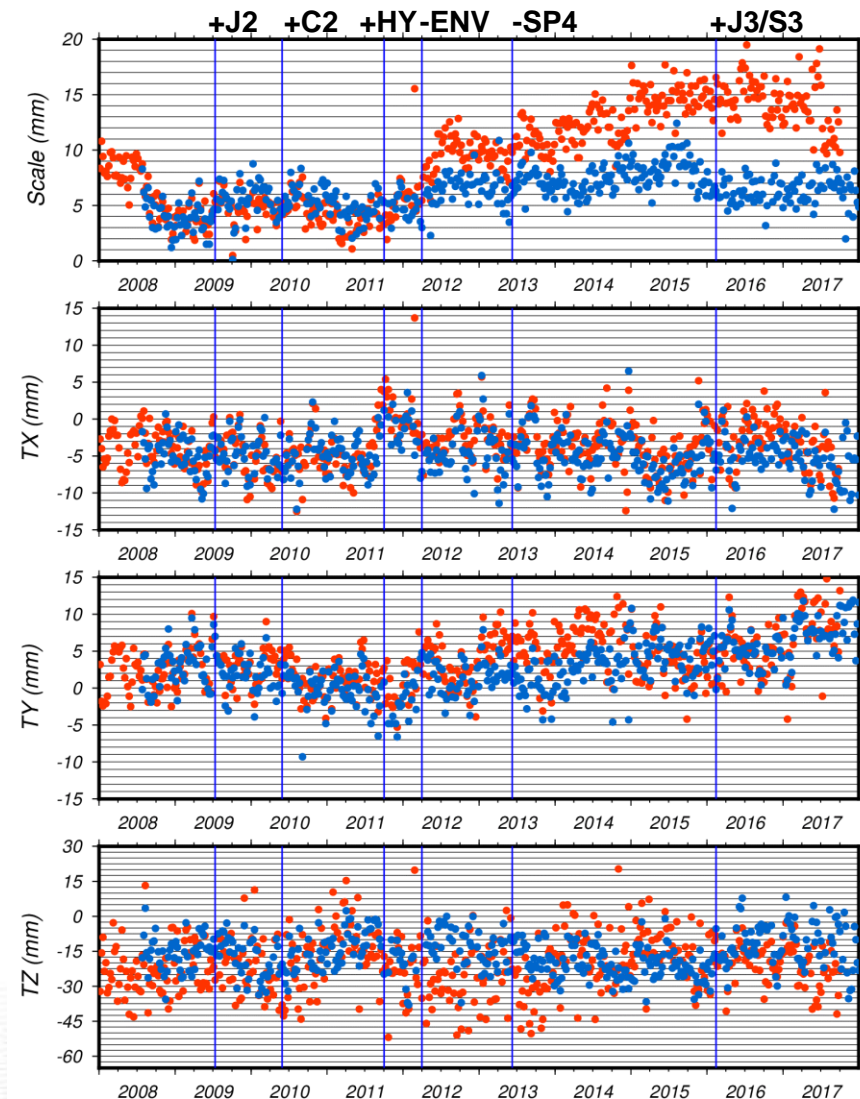IDS Workshop – Toulouse – June 11th 2018

GSC 29
GSC 30: GSC 29 + Jason-3 (no SAA strategy)
GSC 31: GSC 29 + Jason-3 (SAA strategy)

Time span: 2016.0-2017.5

AC	serie	# days	X pole (mas)			Y pole (mas)		
			trend	mean	std	trend	mean	std
gsc	29	544	0.035	-0.002	0.296	-0.000	-0.001	0.288
gsc	30	536	0.063	0.000	0.332	-0.010	-0.000	0.307
gsc	31	536	0.038	0.000	0.329	0.000	-0.000	0.302

GRG 41 vs GRG 40

GRG 41: **GRG 40**
+ new DORIS data processing
+ new HY-2A CoM-CoP value
+ Jason-2 SAA strategy
+ Jason-3 (SAA strategy, since 2016:045)
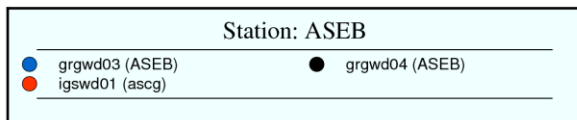**+ Sentinel-3A (since 2016:066)**

Statistics over 2013.0-2017.5

| [mm]	Scale	Tx	Ty	Tz	WRMS
GRG 40	**13.1 ± 1.7**	**-3.2 ± 3.2**	**5.6 ± 3.5**	**-19.7 ± 12.3**	**11.7 ± 1.4**
GRG 41	**7.0 ± 1.4**	**-4.7 ± 2.9**	**3.8 ± 2.5**	**-17.2 ± 8.1**	**11.3 ± 1.1**

Scale Bias reduction
❑ **Du to the new HY-2A CoM-CoF vector**
❑ **Due to the including of Jason-3 & Sentinel-3A**
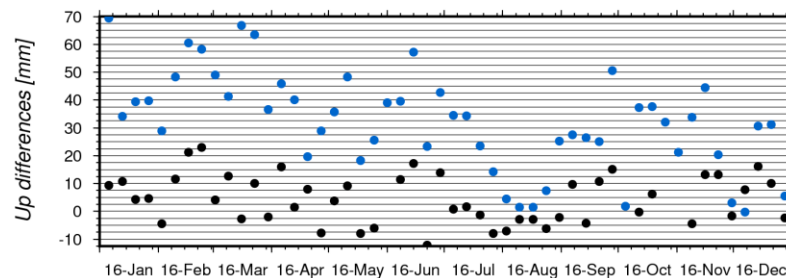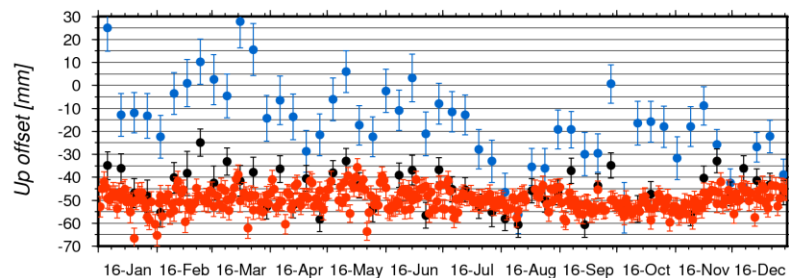
GRG 41 vs GRG 40

Ascension station

Series	#pts	Emin	Emax	Erms	Nmin	Nmax	Nrms	Umin	Umax	Urms
grgwd03-igswd01	52	-54.000	29.300	25.329	-8.100	33.400	13.718	-0.200	69.400	36.605
grgwd04-igswd01	48	-27.200	32.400	12.196	-20.300	15.400	8.215	12.200	23.000	9.654

Station: ASEB
- grgwd03 (ASEB)
- igswd01 (ascg)
- grgwd04 (ASEB)
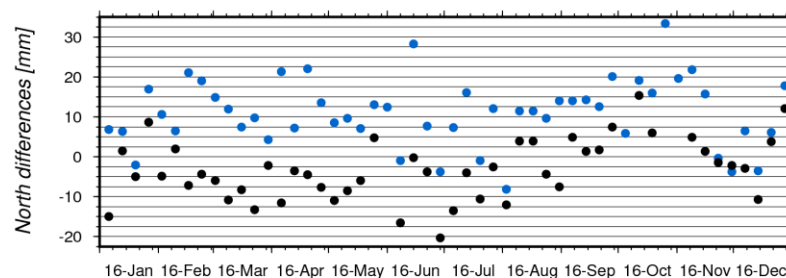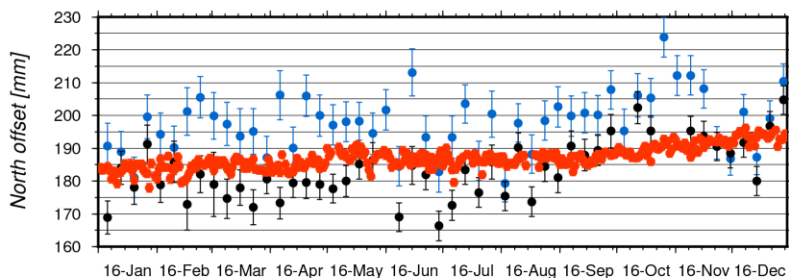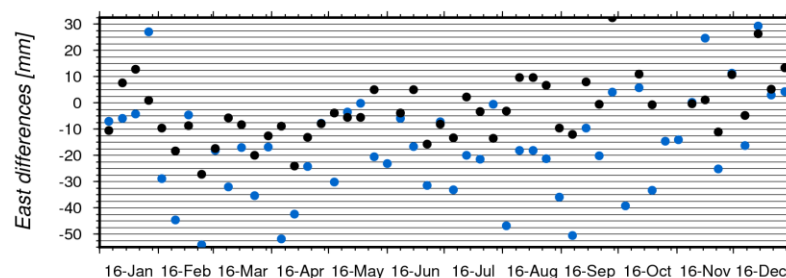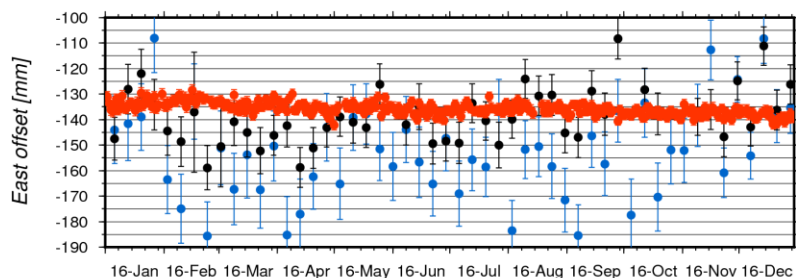
Reduction of the NEU RMS of the differences wrt IGS station
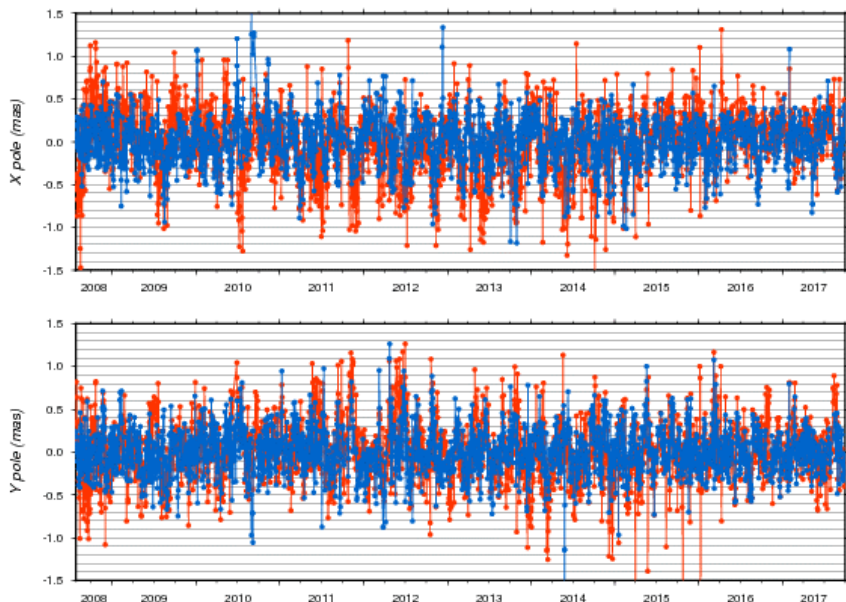
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GRG 41: **GRG 40**
+ new DORIS data processing
+ Jason-2 SAA strategy
+ Jason-3 (SAA strategy, since 2016:045)
+ Sentinel-3A (since 2016:066)

Reduction of the X- and Y-std

AC	serie	# days		X pole (mas)			Y pole (mas)	
			trend	mean	std	trend	mean	std
grg	40	2155	0.022	-0.004	0.393	-0.010	0.000	0.371
grg	41	2091	0.012	-0.000	0.299	0.000	0.000	0.295

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- **According to the new GOP, GRG and GSC series, we observe a nice reduction of the DORIS scale wrt ITRF2014 due:**
    - ❑ **Use of a new HY-2A CoM-CoF vector**
    - ❑ **Including Jason-3**
    - ❑ **Implementation of SAA special handling**

- **I kindly ask all the ACs to include and update the DORIS mission list in their weekly SINEX files.**

Proposal for 2 new IDS CC Products

- **DORIS SINEX master file**

From the SITE/ID, SITE/ATENNA and ANTENNA/ECCENTRICITY blocks of the DPOD2014 SINEX solution file.

Will be updated two times a year.

- **EOP Time series: ids18d01.eop**

XPO and YPO time series aligned to ITRF2014.

The IDS CC propose to generate such file for all the ACs.