



International DORIS Service

Pascal Willis (1,2), Frank G. Lemoine (3)

(1) Institut Géographique National

(2) Institut de Physique du Globe de Paris

(3) NASA, Goddard Space Flight Center

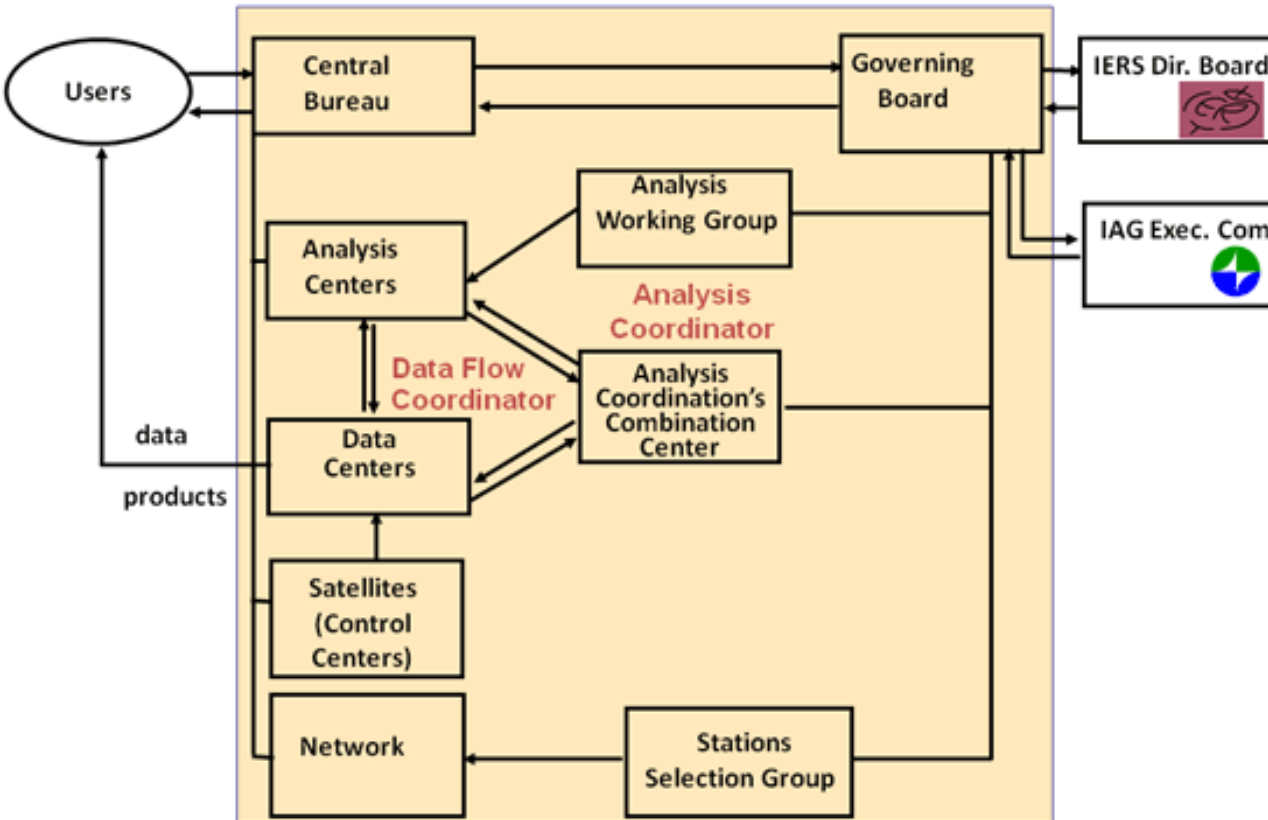
SUMMARY

- Historical considerations
 - Pilot project → IDS
- Recent achievements
 - 7 Analysis Centers
 - IDS-3 for ITRF2008
 - Orbit comparisons
- Possible ways for improvement
- Open issues

Historical considerations

- DORIS Pilot Project
 - IAG/CSTG, IAG Birmingham, 1999
- International DORIS Service
 - Official IAG Service, IUGG Sapporo, 2003

Current IDS organisation



Coordination:

Frank Lemoine (NASA)

Combination:

Jean-Jacques Valette (CLS)

7 Analysis Centers

France (2)

USA (1)

Germany (1)

Czech Rep. (1)

Russia (1)

Australia (1)

2 Data Centers

NASA

IGN

<http://ids-doris.org>

Recent Achievements

- 7 SINEX time series of station coordinates + EOPs
- 1 SINEX combined time series for ITRF2008
- Orbit tests (intercomparisons between AC's)
- Discussion on orbit modelling (AWG + IDS Forum)
(Implementation of improvements benefited ITRF2008)
- Time series of station coordinates

Orbit comparisons

SPOT2

Orbit 1	Software 1	Orbit 2	Software 2	Number of comparisons	Radial (mm)	Cross-track (mm)	Along-track (mm)
GAU-5	GEODYN	GSC-base	GEODYN	43	5.7	25.2	38.3
GAU-5	GEODYN	IGN-2	GIPSY/OASIS	311	13.5	55.5	43.8
GOP	Bernese	GSC-10deg	GEODYN	20	19.2	51.3	82.2
GOP	Bernese	IGN-2	GIPSY/OASIS	19	21.3	49.9	73.2
IGN-2	GIPSY/OASIS	GSC-base	GEODYN	347	13.4	39.3	55.2
IGN-2	GIPSY/OASIS	INA-2	GIPSY/OASIS	344	9.1	21.1	22.3
INA-2	GIPSY/OASIS	GSC-10deg	GEODYN	333	15.5	44.7	57.6
LCA	GINS/DYNAMO	GSC-base	GEODYN	95	10.2	31.6	46.4

Time series of station coordinates

<http://ids-doris.org/network/ids-station-series.html>

IDS time series of station coordinates - International DORIS Service

<http://ids-doris.org/network/ids-station-series.html>

International DORIS Service

Mails Bibliography Sitemaps Time series System events Stations events MOE statistics POE statistics

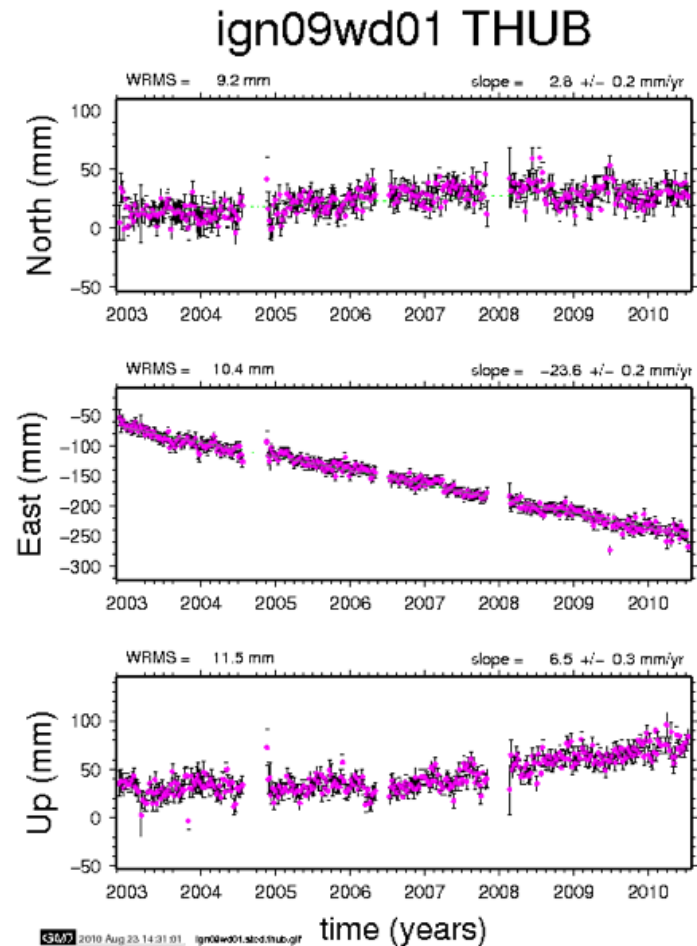
Home > Tracking Network > Station coordinate time series

IDS time series of station coordinates

The International DORIS Service is planning to derive combinations of individual DORIS solutions in the future. However, we present only here individual solutions from the following Analysis Centers IGU/JPL, LEGOS/CLS and INASAN for weekly and monthly determinations. Should you need any information about those time series, don't hesitate to contact the Analysis Centers (see contacts, below).

The sets of time series available in the table below are:

Station	Time Series	Analysis Center	Update Frequency
ign09wd01	weekly positions	IGU/JPL	weekly
lca05md01	monthly time series	LEGOS/CLS	monthly
lca07wd01	weekly time series	LEGOS/CLS	weekly
ina07wd01	weekly positions	INASAN	weekly



Possible path for improvements (operational aspects)

- Analysis Centers
 - Better documentation
 - Improvements wrt. ITRF2008 submissions & models.
 - Up-to-date solutions (continuous data processing)
 - Inclusion of Jason-2 in operational products.
 - Submit all products :
 - Time series of station coordinates, geocenter, EOPs
- Combination Centers
 - Continuous data processing (regular basis not ITRF-driven)
 - Provide derived products:
 - Time series of station coordinates, geocenter, EOPs

Recent Improvements in Data Processing

- Solar pressure handling
 - Z-geocenter + altitude of high-latitude station + polar motion

(tuning of Cr; Adjustment of macromodel parameters; Special models like ANGARA (Envisat) or UCL (Jason1, Envisat))
- Atmospheric drag estimation

(more frequent parameterization)

 - Station coordinates & EOP
- Troposphere modelling
 - GMF (mapping function) & GPT (apriori met data)

Possible Path for Improvements

- Adopt ITRF2008 as a priori.
- Tuned UCL-like models for all DORIS satellites (Jason2, SPOT?).
- Provide combined DORIS+Laser (+GPS) solutions for satellites such as TOPEX, Envisat, Jason-2
(better coordinates but possible drawback towards IERS/ITRF requirements)
- New models required (gravity field, solar radiation pressure, verification of phase center corrections, PCV?)
- Improved Troposphere modelling (VMF, gradients; ECMWF a priori?)
- SAA Effect on SPOT-5 (P. Stepanek)?
- Detailed station analyses (multipath at Fairbanks? P. Yaya).
- Test/discuss new products :
 - Combined orbit for altimeter mission? For remote sensing/SPOT?
 - Troposphere for calibration purposes?

CONCLUSIONS

- IDS : recent improvements
- Need for a more operational Service
 - ITRF-driven → regular operation
 - Provide all products (starting with time series of station coordinates for all ACs + from IDS-3)
- Need to prepare/develop possible new products
 - DORIS/SLR solutions
 - Combined orbits