



International Doris Service (IDS)

web: ids.cnes.fr

Chair of Governing Board **G. Tavernier** (France)

Introduction

DORIS (Doppler Orbit determination and Radiopositioning Integrated on Satellite) has been developed by the Centre National d'Etudes Spatiales (CNES) in conjunction with the Institut Géographique National (IGN) and the Groupe de Recherche de Géodésie Spatiale (GRGS).

The International DORIS Service (IDS) has been officially started on July 1, 2003 as an IAG Service after the decision of the IAG Executive Committee at the IUGG General Assembly in Sapporo.

The IDS mission and products

The primary objective of the IDS is to provide a service to support, through DORIS data and data products, geodetic and geophysical research activities.

The IDS collects, archives and distributes DORIS observation data sets of sufficient accuracy to satisfy the objectives of a wide range of applications and experimentations. From these data sets the following products are derived:

- Coordinates and velocities of the IDS tracking stations.
- Geocenter and scale of the Terrestrial Reference Frame.
- Ionospheric information.
- High accuracy ephemerides of DORIS satellites.
- Earth rotation parameters.

The accuracies of these products are sufficient to support current scientific objectives including:

- Realization of global accessibility to and the improvement of the International Terrestrial Reference Frame (ITRF).
- Monitoring deformations of the solid earth.
- Monitoring crustal deformation at tide gauges.
- Monitoring variations in the hydrosphere (sea level, ice-sheets, etc.).

- Orbit determination for scientific satellites.
- Ionosphere monitoring

Governing Board

Chairman: Gilles Tavernier (CNES)
Analysis Coordinator: Martine Feissel-Vernier
Network's representative: Hervé Fagard
Member at large: John Ries
Analysis Centers' representative: Pascal Willis
Data Centers' representative: Carey Noll

Appointed members

Director of the Central Bureau: Laurent Soudarin (CLS)
Representative of the IERS: TBD
IAG representative: TBD

Chair of Working Group (non-voting)

Station Selection WG: Frank Lemoine (NASA/GSFC)

IDS Representatives to the IERS:

Analysis Coordinator: Martine Feissel-Vernier
Network representative: Hervé Fagard
IDS representative to the IAG: Gilles Tavernier

The principal roles of the Governing Board (GB) are to set policy and to exercise broad oversight of all IDS functions and components. It also controls general activities of the Service, including restructuring, that would be appropriate to maintain efficiency and reliability, while taking full advantage of the advances in technology and theory.

Most GB decisions are to be made by consensus or by a simple majority vote of the members present, provided that there is a quorum consisting of at least six members of the GB. In case of lack of a quorum the voting is by e-mail. Changes in the IDS Terms of Reference and Chairperson of the GB can only be made by a 2/3 majority of the members of the GB, i.e., by six or more votes.

Central Bureau

CLS: Laurent Soudarin, Jean-Jacques Valette
CNES: Gilles Tavernier, Jean-Pierre Granier
IGN: Pascal Willis, Hervé Fagard

The Central Bureau (CB) is the executive arm of the IDS Governing Board and as such is responsible for the general management of the IDS consistent with the directives, policies and priorities set by the Governing Board.

In this role the CB, within available resources, coordinates IDS activities, facilitates communications, maintains documentation, and organizes reports, meetings and workshops.

The CB actively coordinates with the Working Groups and committees and ensures the compatibility of IDS and IERS by interfacing with the IERS. The CB acts as the outreach office and promotes use of IDS data and products, maintaining and expanding the visibility of the IDS. To accomplish these tasks the CB works closely with the independent Analysis Coordinator described above.

The CB supports the Analysis Coordinator in combining the various Analysis Centers products and providing him with all information necessary to validate the final combined products.

The CB operates the information system for the IDS and produces the IDS Annual Reports and directory. The CB coordinates the publication of other documents required for the satisfactory planning and day-to-day operation of the Service, including standards and specifications regarding the performance, functionality and configuration requirements of all elements of the Service.

Data Centers

NASA/CDDIS (Carey Noll)
IGN (Edouard Gaulué)

The Data Centers are in direct contact with the CNES, which provides the DORIS data. They archive the DORIS data as well as any ancillary information required to process these data.

Analysis Centers and Analysis Coordinator

The Analysis Centers are committed to provide at least one of the above IDS products on a regular basis. Their expertise in DORIS data analysis is a key factor of the product accuracy.

The Analysis Coordinator assists the Analysis Centers. The Analysis Coordinator monitors the Analysis Centers activities to ensure that the IDS objectives are carried out. Specific expectations include quality control, performance evaluation, and continued development of appropriate analysis standards. The Analysis Coordinator, with the assistance of the Central Bureau, is also responsible for the appropriate combination of the Analysis Centers products into a single set of products.

Analysis Coordinator: Martine Feissel-Vernier

Contributing Analysis Centers:

CNES (France), : Jean-Paul Berthias
CSR (USA), John Ries
IGN, (France + JPL, USA) Pascal Willis
INASAN, (Russia), S. Tatevian
LEGOS/CLS (France). J.-F. Crétaux
SSALTO (France), Gilles Tavernier

Analysis Centers

ESA/ESOC (Germany), John Dow
Geodetic Observatory Pecny (Czech Republic)
J. Kostelecky
Geoscience (Australia), Ramesh Govind
IAA (Russia), Eleonora Yagudina
Royal Observatory of Belgium (Belgium)
René Warnant
University of Newcastle (UK), Philip Moore

Satellites carrying a DORIS receiver

In July 2003, DORIS data are provided by CNES (SPOT-2, SPOT-3, SPOT-4, SPOT-5, TOPEX/Poseidon, Jason) and the European Space Agency (Envisat). Additional DORIS satellites, such as Cryosat, Jason-2 and Pleiades constellation are also foreseen.

Network of Tracking Stations

The IDS network is composed of DORIS permanent tracking stations located at several host institutions and maintained by the IGN (56 in total in July 2003, point of contact: Hervé Fagard).

The network can also include additional DORIS stations observing during specific campaigns of scientific interest and selected by the Station Selection Working Group.