Charter for the Instrument Database Oversight Panel

Purpose

The purpose of the Instrument Database Oversight Panel (IDOP) is to provide overall guidance within NOAA on all aspects of shared environmental satellite instrumentation data and the satellite data processing infrastructure that affect NOAA satellite product processing. The **scope** of the instrumentation data under the purview of the IDOP is defined as Level 0 (also known as Raw Data Records; RDRs)(also known as Sensor Data Records; SDRs) and Level 1 data (also known as Sensor Data Records; SDRs; see Appendix A for a description of data processing levels). The **goal** of the IDOP is to achieve the best possible user-friendly instrument data formats, file naming conventions, data documentation and provenance, and processing systems using the most efficient means with an **objective** of balancing long-term stability needs with the need for ease of use and processing of instrument changes. The IDOP shall serve as the mechanism for NOAA to address user issues and concerns regarding the instruments’ data records and instrumental processing of NOAA satellite products. It shall also facilitate and enhance communication of information on instrument data and metadata record formats to data users, both inside and outside of NOAA.

Membership

The membership of the IDOP will be limited to Federal Government personnel. The panel can, and will, solicit requirements, opinions and reviews from the broader scientific and user communities. The IDOP will be co-chaired by representatives of the Office of Satellite and Product Operations (OSPO) and the National Climatic Data Center (NCDC). Members will include scientists from the NOAA National Data Centers working on various aspects of environmental satellite instrumentation archival and documentation, personnel from OSPO and satellite acquisition offices responsible for operational instrument products that rely on instrument database software systems. The IDOP may also include scientists and representatives of other Federal agencies, as required. Panel meetings will be restricted to members only, except when certain agenda items make it appropriate and useful for members of the user community or other Oversight Panels to be invited.

Members and their areas of responsibility are as follows:

Co‑Chair ‑ OSPO

Co‑Chair - NCDC

NOAA satellite acquisition representatives

Environmental Satellite Instrument Scientist (e.g. STAR and Individual Program Offices)

Environmental Satellite Product Representatives

Environmental Satellite Product Archive Representatives

NOAA Data Centers Representatives

NOAA Centers of Data Representatives

National Weather Service (NWS) Representative

National Ocean Service (NOS)

National Marine Fisheries Service (NMFS)

Users of the satellite data products

OSPO Computer Operations Branch personnel responsible for the data ingest and distribution

Future data processing and reprocessing requirements person

Function

The IDOP reports to the Satellite Products and Services Review Board (SPSRB). The IDOP coordinates with the Environmental Data Management Committee (EDMC) and other Oversight Panels as appropriate. The OSPO and NCDC Co-Chairs will direct the panel and actions taken by the various panel members to ensure continued overall instrument data format consistency and usability. The IDOP Co-Chairs will be recognized as the NOAA points of contact for authoritative information on formats of instrumentation data records and documentation of the data and processing. Correspondence and other miscellaneous actions may be forwarded to the Co-Chairs for review and response. The IDOP will solicit input from the user community and, where applicable, invite the user community to participate in panel meetings. Input from the user community will be presented by the Co‑Chairs at the IDOP meetings and assigned as action items when necessary. The IDOP shall recommend methods to keep the user community informed of various instrument issues.

The advisory and coordination role of the IDOP will result in recommendations being presented to the SPSRB that certain actions are taken to either resolve problems or make substantive modifications, additions or deletions to instrument systems or formats. In many cases, IDOP members will perform tasks to facilitate the plans or actions recommended by the IDOP.

The full IDOP shall meet on an “as needed” basis, but no less often than quarterly. Ad hoc meetings of members concerned with specific topics will be the normal mode of operation between the regularly scheduled quarterly meetings. The IDOP shall maintain a definitive record of the creation and disposition of all action items and recommendations for the SPSRB. It shall also maintain a comprehensive file on all important instrument-related documents (including correspondence with outside users such as approved or proposed instrument or spacecraft waivers).Appendix A. Definition of Processing Levels

The environmental science community (mainly the weather and climate research communities) set five distinct levels in a system for processing raw instrumental data into derived products, analyses and model output. Different organizations and projects have used variants of the five generic levels defined below, but the basic concepts, levels of processing, and their meanings are similar. Differences in definition begin to appear with level subsets, e.g., level 1b may mean something quite different to different agencies, projects or disciplines. These processing levels are defined as follows (King and Greenstone, 1999):

**Level 0** (also known as Raw Data Records; RDRs)

Reconstructed, unprocessed instrument/payload data at full resolution; all communications artifacts (e.g. synchronization frames, communication headers, duplicate data) removed.

**Level 1** (also known as Sensor Data Records; SDRs)

Reconstructed, unprocessed instrument data at full resolution, time-referenced, and annotated with ancillary information including radiometric and geometric calibration coefficients and geo-referencing parameters (1A) and level 1A data processed to sensor units (which may be in SI units) such as NOAA’s level 1B data.

**Level 2**

Derived geophysical variables at the same resolution and location as the Level 1 data.

**Level 3**

Derived geophysical variables mapped on uniform space-time scales, usually with some completeness and consistence.

**Level 4**

Model output or results from analyses of lower level data (e.g. variables derived from multiple measurements).

References

King, M.A. and R. Greenstone (editors), 1999 EOS Reference Handbook, NASA/Goddard Space Flight Center, pp. 361,1999