

ESDIS Standards Office (ESO)

ESO assists ESDIS in formulating standards policy for NASA Earth Science Data Systems (ESDS), coordinates standards activities within ESDIS, and provides technical expertise and assistance with standards related tasks within the NASA Earth Science Data System Working Groups (ESDSWG).

ESDSWG Inputs to ESO

ESO seeks input from ESDSWG for potential standards and practices. Recent ESDSWG work resulted in the following additions to the list of ESD-approved standards, practices, and lessons learned:

- Dataset Interoperability Recommendations for Earth Science
- ASCII File Format Guidelines for Earth Science Data
- ICARTT File Format Standards (V2.0)

ESDIS Standards Process

Individuals and organizations are encouraged to contact the ESO with suggestions for existing or developing standards and practices. The ESO provides support to submitters in creating or validating submissions to the standards process.

Document Submission

Identify a currently used standard, convention, or common practice that could be of benefit to NASA Earth Science Data Systems (ESDS). Contact the ESO at eso-staff@lists.nasa.gov and explain the potential submission. Documents submitted for consideration under the Standards Process are called Request for Comment (RFC) documents.

Initial Screening

ESO convenes a Technical Working Group (TWG) to review the RFC for completeness and to ensure the RFC is ready to be reviewed more broadly.

Community Review

Community reviews can cover one or both of the following areas: technical content and operational readiness. Technical content reviews are required only for specifications that were developed outside of a standards organization. These reviews are meant to address whether the specification is well-documented and is technically implementable. Operational readiness reviews address whether the standard or convention is suitable for operational use and how organizations that have already implemented it have benefited from it.

The TWG conducts these reviews and compiles a recommendation to ESDIS. If the recommendation is positive, and if ESDIS concurs, then the RFC is approved and is added to the list of Standards and Practices on the Earthdata web site.

Requirements, Standards and Practices

Requirements

Airborne and Satellite Mission Data Systems Requirements

- ISO 19115 Geographic Information Metadata Standard
- NASA Earth Science Data Preservation Content Specification

Standards and Practices

Standards and Practices approved for use in NASA Earth Science Data Systems

Data Format

- HDF 5
- HDF EOS 5
- NetCDF Classic
- NetCDF-4/HDF5
- OGC KML
- ASCII File Format Guidelines for Earth Science Data
- HDF 4 (deprecated in favor of HDF 5)
- HDF EOS 2 (deprecated in favor of HDF EOS 5)

Metadata

- Unified Metadata Model (UMM)
- GCMD Directory Interchange Format (DIF)
- ECHO Metadata Standard
- NetCDF Climate and Forecast (CF) Metadata Conventions

Discovery and Access

- The Data Access Protocol - DAP 2.0
- OpenGIS ® Web Map Service Version 1.1.1
- CEOS OpenSearch
- Polling with Delivery Record (PDR) Mechanism

Recent ESO Activities

- **GCMD Science Keyword Review:**
ESO assisted the Common Metadata Repository project team and the GCMD team with a review of GCMD Science Keywords for Atmospheric Water Vapor and Atmospheric Winds. Future keyword reviews are planned and will be announced.
- **Polling with Delivery Record (PDR) Mechanism:**
ESO assisted ESDIS in publishing this component of the SIPS ICD as a recommended standard for use in NASA Earth Science Data Systems.

Interoperability

- Dataset Interoperability Recommendations for Earth Science
- Mapping HDF5 to DAP2

ASCII Data Formats

- ASCII File Format Guidelines for Earth Science Data
- ICARTT File Format Standards (V2.0)
- SeaBASS Data File Format
- NASA Aerogeophysics ASCII File Format Convention

Related Technical Information

- Guidelines for a Common File Format for Aura Instruments
- Creating File Format Guidelines: The Aura Experience

Under Development or Review

- GeoTIFF
- GRACE-FO Format

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ESO Home Page

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