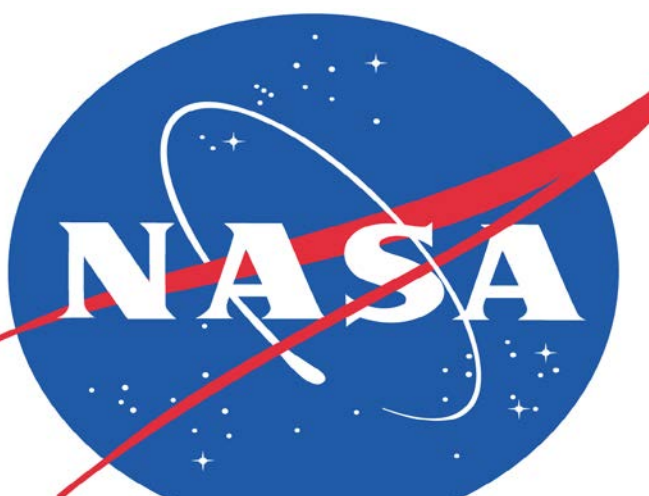




IN21D-0876 Standards and Best Practices – Two NASA Examples

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Community Process

- Less formal than “de jure” standards process
- Narrower community affected
- Faster review and adoption
- May involve adoption/adaptation of existing standards or development of recommended practices
- May lead to de jure standards

Earth Science Data System Working Groups

- Are formed, renewed, and retired on an annual cycle.
- Provide expert advice: Recommendations to ESDIS Project for decision making and prioritization.
- Address challenges, issues, and opportunities in response to ESDS Program priorities and community-identified needs.
- Develop guidelines and best practices for practical implementation of standards and technologies, enhancing data interoperability, and improving software development and software architecture practices.

Data Product Development Guide WG

| Mission Statement | Stakeholders | Intended Audience |
|--|---|---|
| <p>• Help Data Product developers make data more usable for End Users</p> | <ul style="list-style-type: none"> • Data Producers • DAACs • Data Service Developers • Tool Developers • END USERS!!! | <ul style="list-style-type: none"> • People involved in producing standard Earth observation data products for NASA: <ul style="list-style-type: none"> ➢ algorithm developers ➢ science processing software developers ➢ staff at the Distributed Active Archive Centers (DAACs) ➢ data tool developers • But, primary <i>beneficiaries</i> of data product development are the end users. • We make recommendations that serve end users, though they may occasionally levy extra (but manageable) effort on data producers or DAACs. • Producers of other Earth observation data products may find these guidelines useful as well. |
| Approach | Outcomes, Deliverables, Milestones | |
| <ul style="list-style-type: none"> • Develop overall format / template / outline • Develop draft document • Have document reviewed by DPDG WG and selected (small number of) others • Revise document • Submit to ESDIS Standards Office (ESO) • Edit document in response to ESO review comments • Publish and publicize | <p>Data Product Development Guide for Data Producers</p> | |

ESDIS = Earth Science Data and Information System; ESDS = Earth Science Data Systems

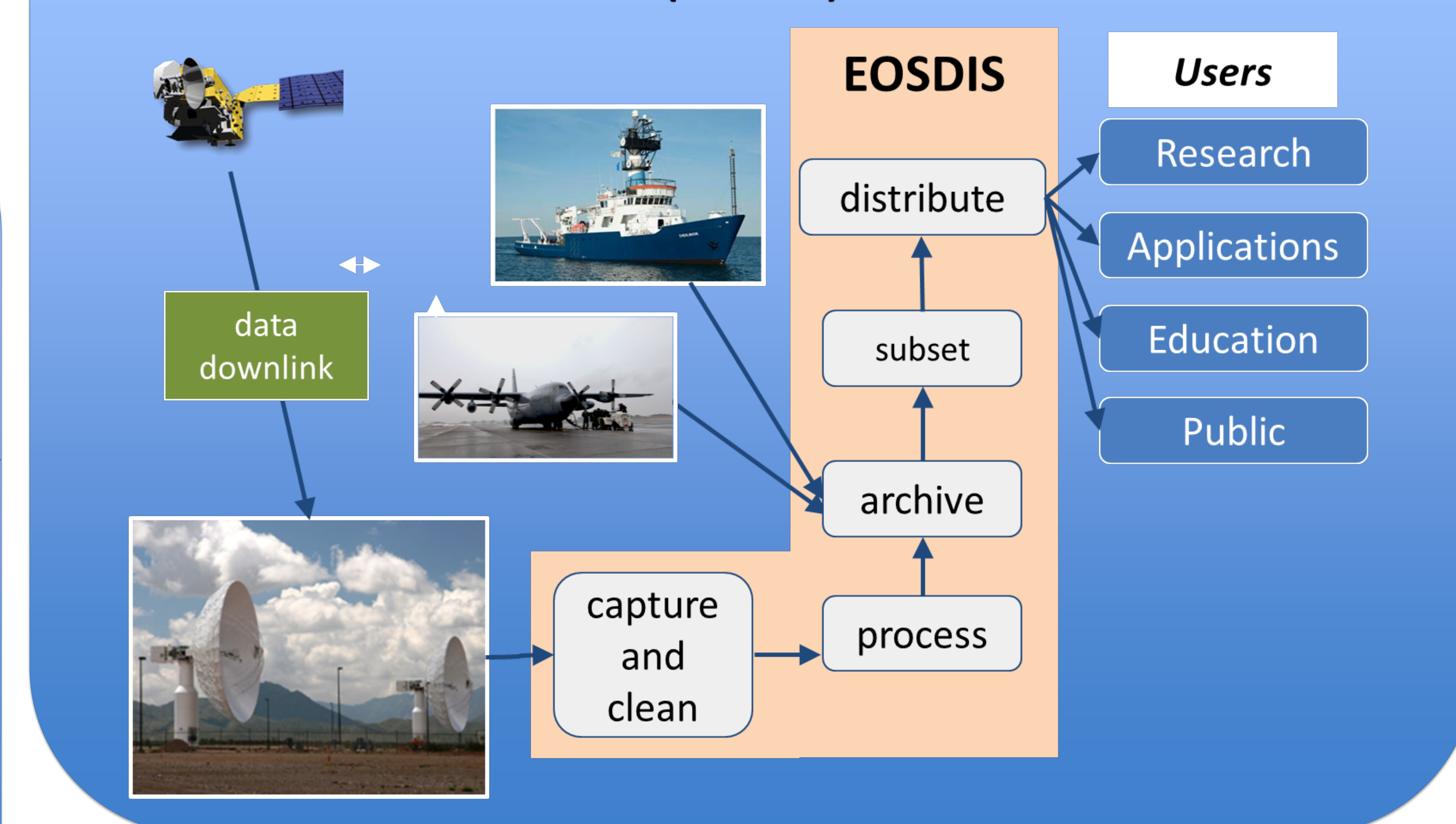
Earth Science Data and Information System (ESDIS) Standards Office (ESO) Process

(see IN21D-0875 for more details)

- Proposer (s)
 - Identifies a currently used standard, convention, or common practice that could be of benefit to NASA's ESDS
 - Submits documentation (Request for Comment – RFC) to ESO
- ESO
 - Performs initial screening through 3-4 member Technical Working Group
 - Identifies potential reviewers for broader review
 - Conducts community review of RFC
 - Coordinates with proposer (s) to disposition community comments
 - Publishes approved RFC at <https://earthdata.nasa.gov/standards>



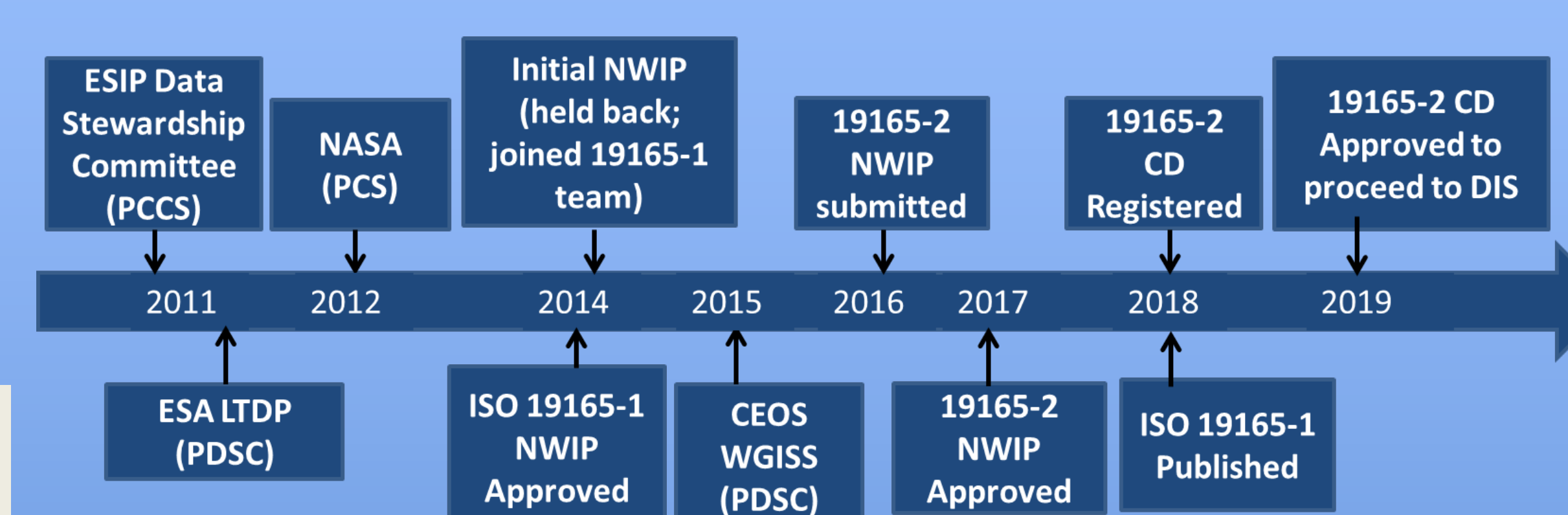
Earth Observing System Data and Information System (EOSDIS)



Formal International Process

- “De jure” standards process
- Slow development
- Adoption not guaranteed
- Greater interoperability if widely adopted
- May need adaptation to circumstances applicable to narrower groups (e.g., by defining profiles)

Example: ISO 19165-2 Geographic information -- Preservation of digital data and metadata -- Part 2: Content specifications for Earth observation data and derived digital products



| | | | |
|------|---|-------|---|
| CD | Committee Draft | NASA | National Aeronautics and Space Administration |
| CEOS | Committee on Earth Observation Satellites | NWIP | New Work Item Proposal |
| DIS | Draft International Standard | PCCS | Provenance and Context Content Specification |
| ESA | European Space Agency | PCS | Preservation Content Specification |
| ESIP | Earth Science Information Partners | PDSC | Preserved Data Set Content |
| LTDP | Long-Term Data Preservation Program | WGISS | Working Group on Information Systems and Services |

International Standards Organization (ISO) - Standard Development Steps

- ❖ 00 – Preliminary
- ❖ 10 – Proposal – Approval through international balloting; Project Team members (experts from participating member countries) named to form Project Team (PT)
- ❖ 20 – Preparatory – New project is registered with Technical Committee (TC 211)
- ❖ 30 – Committee - CD registered; ballot initiated and closed; comments handled; CD approved for registration as Draft International Standard (DIS)
- ❖ 40 – Enquiry - DIS registered; ballot initiated and closed; comments handled; DIS approved for registration as Final Draft International Standard (FDIS)
- ❖ 50 – Approval – FDIS registered for formal approval; ballot initiated and closed; FDIS approved for publication
- ❖ 60 – Publication – International standard published

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