A Future for HDF-EOS?
Ted Habermann, The HDF Group

Background
- HDF-EOS is the archive format for over 67% of the datasets in ECHO and one of the most common formats preferred by EOS users.
- The HDF-EOS conventions have been extremely successful at facilitating interoperability across hundreds of products. We see the benefits of these conventions every day at The HDF Group as we work with users and create data access examples.

But,
- The HDF-EOS conventions are showing their age. The code has been patched often by different groups during different eras. “You break it – you own it.”
- The conventions lack committed advocates addressing the future of interoperability for NASA data and products.
- Without that support, important technical aspects and lessons learned from the HDF-EOS conventions are not in the discussions.
- The HDF-EOS successes are swept under the rug rather than making critical contributions to the foundation for further growth.

Mission Statement
The mission of this group is to recommend a path forward for the HDF-EOS Conventions that builds on lessons learned from related scientific communities that are successfully using conventions to share data in HDF and avoids pitfalls identified by those communities. The end point will be a framework of conventions that support the entire data life cycle (data discovery, access, use, understanding, analysis, sharing, and re-use) across NASA and connect to a broad swath of related scientific communities that share our interoperability needs and aspirations.

What is HDF-EOS?

Metadata Models?
Any set of conventions needs to be clearly specified. We took a step towards that by creating UML diagrams of the metadata models for grids and swaths.

Why HDF-EOS?

Basic ESDIS data types (swaths, grids). Separation of Earth Science / Computer Science data types.
Tools (netCDF, OPeNDAP, HDFView, IDL, MATLAB)
Hierarchical organization of data and metadata (groups)

Why Not HDF-EOS?

Data formats decided before conventions were stable. Never updated
ODL and the HDF-EOS Library
New, more complex observation geometries
CF Compliance

Why HDF-EOS?


definitions
• Compact dimension variables (projections for grids, sparse dimension variables for swaths)

Outcomes / Deliverables
1. A collection of science/instrument team and user problems with the current HDF-EOS conventions and use cases that are not addressed by these conventions.
2. A repository of other conventions for scientific data stored in HDF across Earth Science and other disciplines.
3. Identification and description of common science data types across those conventions.
4. Detailed descriptions and understanding of how earth science data types are mapped to computer science data types in HDF-EOS, CF, and other conventions.
5. Adoption lessons learned by other communities.

Skeptics Needed!