

To: ESDSWG SPG

Date: 2010-05-20

Subject: Response to RFC-021, CF Metadata Conventions

Are you answering for your entire organization, for a smaller group, or individually?

a) Entire organization

b) Smaller group (please specify) _____

c) Individual response

Are you a data producer, data consumer, or both?

a) Producer (Data archive) b) Consumer c) Both

Implementation Experience and Recommendation

1. *Completeness*: The specification provides the necessary detail to implement related software applications.
2. *Accuracy*: The specification is maintained and extended by an active community. If errors or inconsistencies are found, they are reported by community members and corrected in a timely manner.
3. *Clarity*: The CF Conventions are clearly explained (although complex in some areas). Reference documents are easily found at the *cfconventions.org* web site. The reference documentation includes many examples.
4. *Implementation experience and use of the CF Conventions at* _____ : Our web-based discovery and access interface provides the option to export data in netCDF format.
We are currently updating the application to include the remaining attributes required for CF compliance.

5. *Long term/operational use:* has been gaining experience with the netCDF-CF Conventions, and related tools, over the last two to three years.

6. *Suitability for representing our data holdings:* The CF Conventions are well-suited to representing gridded data throughout its life cycle. They are less well-suited to storing data that are gridded on a spherical projection, as the projection information may increase the file size greatly. Accessing the data, in particular subsetting the data, is very efficient.

7. *Strengths of the CF Conventions:*
 - The convention is widely used in the modeling community.
 - There are existing visualization tools that recognize and process CF-formatted metadata (both Open Source and commercial).
 - Software libraries and tools exist to support netCDF-CF file creation and modification
 - In conjunction with tools like ncdump, the metadata may be easily retrieved in human-readable form.
 - The self-describing nature of netCDF ensures that history and provenance remain associated with the data.
 - The conventions are well-documented, with examples.

8. *Weaknesses of the CF Conventions:*
 - Since the conventions were originally developed to handle gridded model data, they have required modifications to support other common data types (e.g. point and trajectory data).
 - One goal of the CF Conventions is to include enough metadata that no additional processing or files are necessary in order to understand the data. The resulting strategy for storing geolocation (projection) information leads to very large file sizes, since the latitude and longitude values for all points are included in auxiliary coordinate variables.

9. *Support of metadata discovery and/or interchange needs:* The CF Conventions are critical to ensure interoperability of data stored in the netCDF file format.

10. *How much data have you represented using the CF Conventions:* The Advanced Data Search Beta interface provides access to 13 of the data sets distributed by . netCDF is available as a download format for all of these data sets. We hope to eventually expand the data served by this interface so that it can serve nearly all of the data sets in our catalog in netCDF-CF format.

11. *Recommendation for endorsement:* recommend ESDS-RFC-021 for endorsement.