

Advancing NetCdf-CF for the Geoscience Community

CfRadial breakout - Wed 2016/05/25 13:30 - 15:00

Participants:

- Mike Dixon (NCAR/EOL)
- Joe Hardin (PNNL via Hangouts)
- Julien Chastang (UNIDATA)
- Ken Kehoe (OU/DOE/ARM)
- Scott Collis (DOE/ARM)
- Ryan May (UNIDATA)
- Nick Guy (U Wyoming)
- Larry Oolman (U Wyoming)
- Denis Nadeu (LLNL)

Status:

- Current CfRadial version is 1.3 - released July 2013.
- CfRadial doc large - similar size of CF 1.6:
<https://opensky.ucar.edu/islandora/object/manuscripts%3A838>
- Goal: faithfully store pulsed instrument data (RADAR and LIDAR) without loss of information.
- Uses native polar coordinates of instrument scanning sequence.
- Analogous to NEXRAD level 2.
- Already used extensively by NCAR, DOE/ARM, NCAS (UK).
- We were proposing upgrade to version was 2.0.
- Decided to revise that to 1.4, since it will not use any CF 2.0 features.
- Version 1.4 will stay with classic model.
- Once CF 2.0 is adopted, will update to CfRadial 2.0.
- Goal - release Version 1.4 by end of July 2016
- Groups will help to simplify the format. Delay use of groups until CF 2.0.

Upgrades from version 1.3 to 1.4:

- Add support for spectra, stored as sparse arrays.
- Add support for variable gate geometry from sweep to sweep, using an optional 2-D range array as the coordinate variable for range.
- For data quality, add use of following attributes: valid_min (e.g. 0), flag_values (e.g. [-1, -2, -3]), flag_meanings (e.g. ["obstruction", "beam_blockage", "interference"]).
- Could also use mask_values as bit-wise QC fields.
- Add use of ancillary_fields attribute.
- Add use of a new attribute to indicate that a field is a QC field (is_quality perhaps?).
- For field variables, require long_name as well as standard_name.

- Agreed to make `_FillValue` and `missing_value` equally supported, but not both in a single file.
- Already uses ISO 8601 strings for times : `yyyy-mm-ddThh:mm:ssZ`. Decided to make T optional - any character will be OK, e.g. space as in CF standard., to help CF compliance. Times are required to be UTC.
- It would make sense for CF 2.0 to be ISO 8601-compliant for time.
- Need to add `standard_names` for spectra. Need to obtain approval of all `standard_names` in `CfRadial` doc.