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 documentation 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.