Summary of the CF Software tools session.

In this session, we had three presentations that focused on CF compliance checkers and the implementation of the CF data model. Our three presenters were Robert Fratantonio (RPS group), Rosalyn Hatcher (NCAS-CMS) and David Hassell (NCAS-CMS).

Bob was first up and provided an overview of the various compliance checkers and tools that the RPS group has built in support of the US Integrated Ocean Observing System (IOOS). This collection of fine tools includes web-based compliance checkers that test compliance with CF (up to v1.6), the Attributes Conventions for Dataset Documentation (ACDD), and various other IOOS-specific NetCDF data formats. More information for these highly recommended tools are available at:

https://compliance.ioos.us/index.html
https://github.com/ioos/compliance-checker

Next, Rosalyn led us through the recent development she has been working on in regards to the CF compliance checker which is available through CEDA and a mirror in Reading. This checker can test compliance with CF up to version 1.7. Many noted these were the original CF checkers that they were used to using.

CEDA compliance checker
Reading compliance checker

It was noted that both of these checkers are extremely valuable to the community. Suggestions from the session included:

- As more compliance checkers are developed, perhaps there is a need to "certify" a checker as being verified
    - Results of various checkers could be listed to ensure certification status is transparent
- Perhaps the CF community could develop and maintain a set of test files with known errors to ensure all compliance checkers arrive at the same results
    - This could include a curated set of special cases that may be especially tricky
- There is a CF Software page that lists such software. Please update if things are missing.

The last presentation of this session was by David Hassle, who walked us through the CF data model python library, cfdm. This is a python package which has implemented the CF data model. David was able to demonstrate the extremely nice usability of this module interactively through an example Juypyter notebook.

CFDM documentation
CFDM tutorial
CFDM souce code
Jupyter Notebook example (need link)