

2018-07-19

Mark M (core team) announced that the JCSDA Summer Colloquium on DA will be taking place in Bozeman, MT for the next two weeks. Mark and Steve H (core team) will be attending for the full two weeks, and Yannick and Dan will be attending during the first week.

Mark then opened the meeting to updates, questions and concerns from each group.

UK Met Office

David announced that a pull request has been issued for the initial IODA interface using ODB.

- Steve H (core team) has started reviewing the pull request.
 - Steve will test out the code in the Singularity container.
- Features
 - By default, the ODB interface is disabled and the behavior should remain the same as before the pull request
 - There are ecbuild control variables that enable either of ODB1 or ODB2
 - When ODB is enabled, only the radiosonde obs type is using ODB files (instead of netcdf)
- Steve H (core team) would like to get the pull request merged as soon as possible so that everyone can have access to experiment with ODB
 - Before merging, will need to verify that the default mode (ODB disabled) behaves as before
 - Everyone please wait until the merge has occurred before experimenting with ODB
 - The target is to do the merge within the next 3-4 work days
- This pull request represents the very first ODB capability, so we anticipate that we will need to evolve the interface as more obs types come online

Steve S announced no updates for LFRic work

Marek asked if there are any code sprints, other than the B-Matrix code sprint in Boulder, coming up in the near future and the RO code sprint (details?). No one is aware of any other impending code sprints.

Marek asked if there is an upcoming JEDI Academy. Yes and it's scheduled for November 12-16 in College Park (Maryland).

NCAR

Chris announced that for MPAS they have decided to switch from analysis variables of potential temperature and density to the variables temperature and pressure. This was done to make the coding effort easier.

Chris announced that MPAS is running on Cheyenne, but there are still some issues to be resolved. Compile and model execution are working. However, downstream DA actions such as H(x) are not working yet.

Chris announced that analytic initial conditions & the interpolation test have been implemented for MPAS (by JJ). A small modification of oops now allows for separate specification of the State variables used for the analytic init and the observation variables used by GeoVaLs as an output of getValues().

College Park

Guillaume announced that they will issue a pull request today for the interpolation scheme in SOCA.

Guillaume asked what JEDI module should be handling obs thinning and masking, such as filtering out obs with unacceptable QC marks.

- Steve H (core team) responded that this could be handled in IODA
 - The long term idea is to provide an SQL-like query language to do filtering operations such as this
- Guillaume added that model geometry will be required to do things like distribution of obs
 - For example, place the obs on the MPI process that has the model subdomain containing the obs location
 - Seems like this should be located in the UFO module since model geometry is required
- Anna added that obs data handling could belong in both UFO and IODA
 - IODA pre-filter could handle pre-DA types of filtering such as time windows, QC, etc. that do not require model information
 - UFO post-filter could handle during-DA types of handling such as obs distribution that may use model information (e.g. geometry)
- Steve H (core team) noted that we are early in the discussion of this topic and more clarity will come as the discussion evolves

Steve S (UKMO) asked if there is anything they need to be doing now with LFRic for obs thinning. Not immediately, but as the discussion/design on obs handling evolves, certain tasks will likely come up.

Ben announced no updates for CRTM in regard to JEDI

Ben announced that a code sprint for CRTM(?) scheduled in August has been postponed due to too many people being unavailable.

Dan announced he is adding physics into the TL/AD model (FV3)

Dan announced he is doing preparatory work for the upcoming B-Matrix code sprint.

Marek asked Dan which date will be used for the B-Matrix code sprint. Dan responded that the 31st will work .

Marek asked Dan what is being done before the code sprint in regard to multivariate analysis. Dan responded that:

- He has crude versions of the stream function and velocity potential working
 - This initial implementation uses a Gauss-Seidel iterative method - Spectral transform will not be ready for the code sprint
 - This should produce good results near the center of the cube faces, but results near the cube edges will be less accurate

GNSS-RO

Hui announced that the pull request for the first GNSS-RO obs operator is under review.

- Hailing is working on this
- There is code in this pull request that needs to be modularized so that the next obs operator can leverage it
- Others please hold off reviewing the pull request until the above code modularization is completed (ie, wait until the commit is added to the pull request before reviewing)

Hui asked if there is a coding guideline or methodology for doing inline QC'ing

- She described a flow where quantities (for an obs operator) are calculated, then put through a qc filtering step, followed by the remainder of the obs operator
- No one is aware of a guideline for doing the QC step
- It was decided to address this question during the upcoming B-Matrix code sprint in Boulder

Other

Mark M (core team) announced that the JEDI wiki got updated with two new how-to pages

- How to build ufo-bundle on a Linux PC outside the container (contributed by Jim Rosinski, based on previous work by Chris H)
- How to build ufo-bundle in the Amazon cloud service (contributed by Mark M)

Chris S (NCAR) asked Andrew (College Park) if he had an update on discussions about obs data requirements for the radiance obs types. Andrew said no update yet, and the discussion(s) should be taking place soon.