2020-10-01

Yannick opened the meeting announcing that this week we will do a general roundtable update. He reported that a number of PRs, submitted between now and the upcoming release, require validation/review by model developers and to please help out with this effort. Yannick mentioned PRs that Dan recently notified the group about and the cost function refactoring PRs as examples (see below in the JEDI3 report).

We then moved to hearing updates from the five JEDI AOP categories.

JEDI1: Infrastructure

Mark M was presenting at a workshop so Yannick presented Mark's notes which are attached below.

JEDI1.pdf

There were no questions or comments so we moved on to JEDI2.

JEDI2: Observations

Ryan presented the following notes.

JEDI2.pdf

Steve H gave an update on the ObsSpace refactoring effort. He has all ioda tests passing, except for one file (ocean profiles of in-situ temperature) in the marine ObsSpace test. We've identified what's broken and a fix is being worked on now. Steve identified two consequences of moving to the new ioda-engines interface:

- netcdf3 files can no longer be read
- The ioda output files store string variable data as a vector of strings (instead of a 2D character array)
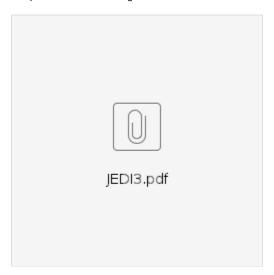
Any new ioda test files need to be in netcdf4 format. Yan Hao asked Steve for a list of marine files that are still in netcdf3, and Steve (after the meeting) sent that list to Yan. Travis, Nan and Mark O are helping assess the impact to the diagnostics scripts due to the string data being presented as a vector of strings.

Steve H mentioned that the next steps are to run ufo-bundle and fv3-bundle tests to further flush out and fix any remaining issues in the new ObsSpace code.

David S (UKMO) noted that some radiosonde data sets come without pressure which means that they need to be able to write to the ObsSpace so that a conversion of heights to pressure (with the associated adjustments to the observed T, Q, U, V) can be saved for downstream assimilation. Yannick responded that this issue is under discussion and a solution will be available after the release.

JEDI3: Models

Dan presented the following notes.

JEDI3.pdf

Dan gave some details about the PRs that were mentioned at the start of the meeting.
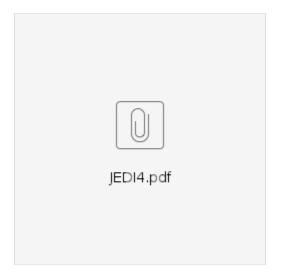
- 4D EnVar prep PRs
  - model interface changes
  - only MPAS and UKMO are affected at this point
    - MPAS is ready
    - UKMO will verify after the meeting
- Increment, State interfaces, plusChange of variables
  - OOPS PR numbers 1022, 1023, 1046
  - Should be a quick edit to get back in sync

Steve S (UKMO) asked if anything needed to be done from the model perspective for OOPS PR numbers 1000, 846 (which are in addition to Dan's list above). These are some cleanup edits and they only directly affect UFO and IODA repos. The model repos can catch up later after these are merged in.

Sergey asked how to decide whether a test belongs in tier1 vs tier2. The rule of thumb was given which is to put a test in tier2 if it takes more than 7 seconds to run. This threshold is not cast in stone and will be adjusted as seen fit as we progress. It was noted that tier2 tests are running (manually) in an Intel CI configuration. Eventually tier2 tests will be run automatically, likely on a nightly basis.

JEDI4: DA Methods

Anna was out of the office, so Yannick presented the following notes.

JEDI4.pdf

Chris S asked for more details about the ensemble training. For now, the training is over long periods of time (1 to 2 months), and not necessarily every cycle.

Sergey asked if it's possible to prescribe length scales in fv3 3DVar. The answer is yes, and Sergey will follow up with an email describing with details about what he is requiring.

JEDI5: Training and Support

Yannick reported the following:

- The team's focus is now on the upcoming release
  - Documentation code sprint next week
- Right after the release we will be hosting two Academies
  - One for people in the US
  - Another one for people at UKMO

There were no more questions or updates at this point, so Yannick closed the meeting announcing that next week's meeting will be on a special topic for discussion. A notification will go out next week with the selected topic.