

2023-03-16

SOCA

- making good progress on hybrid-LETKF/EnVAR scientific testing, plan to wrap up at end of sprint period
- still working on getting OASIM to produce correct answers in UFO

COMPO

- Testing Skylab
- JEDI-UFS dev

OBS

- ufo ctests broken (IODA change obsframe removal). UFO was tested during this IODA PR, however some optional/high tier tests were not performed causing the UFO broken. It is being fixed now.
- Additional PRs in the queue once the ctests are fixed
- Issue: when IODA/IODA-converter get updated, then ctests in ufo don't run automatically
 - this is going to be fixed by AWS Proserve
 - Developers need to run ufo ctests, just in case
 - What's a good way to update the ctest output when updating IODA/IODA-converter
 - Need go instructions for how to test everything (default doesn't test ROPP, OASIM) - optional ctests!
 - All tests pass, but when using real data there is a problem - need to look at ctests. For IODA, need a test that writes out a file and reads it back in.
 - ctests are not consistent with CI - build differently than users
 - CI and laptop envs should be the same
 - AWS Proserve engagement will help with lots of this. But need to remove some of the home-grown scripts that were created for "convenience" and that are causing problems
- CRTMv3 tests were also mentioned. There are floating point errors for a few instruments, pending the fixes from the CRTM team (crtm issue; my ctest issue; spreadsheet for crtmv3 UFO tests)

CRTM

- No new instruments right now, but MTG-IRS coming up soon.
- Work on SIMOBS-24 is two-thirds finished.
- Ben, Cheng, and myself have been working on getting CRTMv3 ready for the release. Tests mainly fail because of a segmentation fault and the cause still needs to be identified.
- Isaac Moradi is porting the crtm develop branch to ufo, so that in the future both the ufo release and the newest develop code can be used.
- Continue assembling new aerosol look-up table for non-spherical dust particles
- CRTM v2.4.1/v3 merge on surface emissivity updates (this will stay as a feature branch for now and is not planned as part of the code release in this sprint)

INFRA

- Merged R2D2 MYSQL implementation, so far very few problems with it
- Merged IODA obsframe removal - UFO tests being investigated
- Release preparation: Data freeze date was 3/15/2022 - we really need test data finalized by 3/17/2023 unless we postpone the release. Code freeze data is 3/22/2022.
- spack-stack release is close - release branches will be created 3/17
- Started working with AWS Proserve on standing up a real CI/CD pipeline. As part of it, there will be changes to how we check out code, and how we run CI tests for PRs. This should address many of the concerns raised by OBS beforehand (see UFO section). This will be implemented gradually over the next six months.

ALGO

- Advanced SABER-BUMP user training (half-day) on March 28th; contact Anna to be added to the list.
- B matrix training code sprint next week (hybrid: in-person in Boulder + remote participants)
- Generic coupled H(x) capability for using states from two different JEDI model interfaces (e.g. fv3-jedi and soca) merged in develop
- Fv3-jedi: we'll be switching to using FMS/2022.04 and a branch in GFDL_atmos_cubed_sphere (Dom and Dan)
- VADER: capability to pass model constants to be used in variable changes
- Work on adding atlas interfaces to toy models
- Diagnostic prints for Dirac and diagnostic saving of B matrix perturbations
- Bugfixes for HTLM (bugs revealed by testing with fv3-jedi) in progress
- JEDI-UFS
 - step towards is to move away from FMS and FV3 fork
 - use fms@2022.04 and a GFDL_atmos_cubed_sphere branch