Unified Forecast System - Steering Committee (UFS-SC) Meeting
4 May 2018
Telecon - 11:00 AM - 12:00 PM EDT

Attendees:

Ricky Rood (Co-Chair) U. Michigan
Hendrik Tolman NOAA NWS/OSTI
Whit Anderson NOAA GFDL
Rusty Benson NOAA GFDL
Ligia Bernardet CIRES;NOAA ESRL/GSD
Arun Chawla NOAA NWS/EMC
Jeff Craven NOAA NWS/MDL
Jim Doyle Navy NRL
Georg Grell NOAA ESRL/GSD
Tom Hamill NOAA ESRL/PSD
Tara Jensen NCAR RAL/JNT
Daryl Kleist NOAA NWS/EMC
Avichal Mehra NOAA NWS/EMC
John Michalakes UCAR/NRL
Sherrie Morris NOAA NWS/OSTI
Bill Putman NASA GSFC/GMAO
Tim Schneider NOAA NWS/OSTI
Ivanka Stajner NOAA NWS/OSTI
Vijay Tallapragada NOAA NWS/EMC
Gerhard Theurich Navy NRL/NESII
Mariana Vertenstein NCAR CGD/CESM
Steve Warren NOAA NWS/OSTI
Jeff Whitaker NOAA OAR/PSD
Ming Xue U Oklahoma

Summary:

The primary agenda topic for the meeting was a briefing by Tim Schneider on NOAA’s Subseasonal to Seasonal (S2S) Forecasting Plans. Slides from this presentation are available at:

https://docs.google.com/presentation/d/1jZhOjSwsXAWOCdWv4A02ds5cXWPz2KY04DKg5fVcvxE/edit?usp=sharing

The briefing was prepared by Tim Schneider, Arun Chawla, Vijay Tallapragada, and Avichal Mehra.
The overall timeline for the S2S related modeling deliverables from the briefing was said to be predicated on the FV3GFS operational implementation schedule (Jan 2019). Specifics of the FV3GEFS (GEFS V12.0) implementation plan were briefed and it was noted that the associated reforecast/reanalysis activity is a critical piece of the GEFS development. Details of the GEFS V12.0 configuration are expected to be finalized fairly soon.

With regard to the coupled system development plan, it was noted that the development of the data assimilation capability is being coordinated with the Joint Effort for Data assimilation Integration (JEDI). Progress is being made with regard to coupling of the FV3GFS with MOM6, CICE5, and WW3. Approximately another quarter is anticipated to be needed to resolve some associated issues. It was noted that GOCART has been delivered, and issues associated with couplers not talking well have been resolved. In response to a question, it was stated that the NEMS infrastructure / NEMS mediator was being used as the coupling infrastructure in the coupled system development effort. This is described in the Frequently Asked Question (FAQ) slides later in the briefing. It was mentioned that a parallel effort to develop a community mediator is underway.

A question was asked, regarding global-mesoscale unification, of whether current NOAA model implementation plans called for the replacement of the North American Mesoscale Forecast System (NAM) (or work in that direction). A response was given that a Weather Research and Forecasting Model (WRF) implementation was being planned for mesoscale applications in FY20. A follow-on fielded capability in FY22 is planned to be FV3 based.

There was a query on whether there would be any subseasonal modeling upgrades, such as an upgrade to the Climate Forecast System (CFS), prior to the FY20 FV3GEFS implementation. The response was that no upgrade to the CFS is planned. The last upgrade to the CFS was a maintenance upgrade to keep the system alive. It is believed that any other interim upgrade would draw too many resources away from the primary plan/tasks. Resources are being focused on the overall unification of planned models at various scales.

Regarding the parallel effort to develop a community mediator on the first FAQ slide, there was a question of whether the community mediator effort is a parallel effort or an evolved effort (not a competitor to NEMS). A response was given that the community mediator would replace NEMS (would have capability of NEMS included and would meet various organizations’ needs). Another statement was made that the effort will be evolutionary. As such, a comment was made that it is important that this effort not be framed as parallel and that capabilities are being evolved while allowing backward compatibility (overall framing for unified system development activities – as take home message).

There was discussion of the near-term science motivation of uncoupled development of both the deterministic and the GEFS ensemble models. An understanding of the need to balance programmatic and science aspects was stated but the question was posed regarding the skill be gained from an uncoupled ensemble, for example. It was stated that a two-tier approach is
being taken in the interim (dynamic ocean but uncoupled). The ocean is bias-corrected and fed back – this has been shown to improve skill over the uncoupled model with a static ocean. A question was asked regarding how land is handled as input. The response was that this is part of the physics – in-line and fully coupled. It was generally recognized that the seasonal forecast cannot be uncoupled. The next generation seasonal system is planned to be fully coupled, possibly with coupled data assimilation in ~2022. Further discussion on this topic was expected to continue between members via email.

A general concern was voiced regarding general messaging of NOAA plans to external audiences. The need to manage the messaging was emphasized (to ensure consistent, coherent, and unified messaging). A recent example was given where a statement made in congressional testimony by NOAA leadership was not considered to be consistent with all related plans/goals within NOAA. While the UFS-SC does not have a direct responsibility to manage this, the UFS-SC does have a role to assist in guiding the establishment a more organized communications and outreach capability to address the issue. A related thought was offered that a site, possibly COG space as an interim location, could be identified for posting of high level leadership statements for messaging.

Upcoming UFS-SC meeting agendas were discussed. A “synthesis” UFS-SC meeting is planned on 18 May where co-leads of the Strategic Implementation Planning (SIP) working groups, the UFS-SC proposed liaisons, University Corporation for Atmospheric Research Community Advisory Committee for NCEP (UCACN) Modeling Advisory Committee (UMAC) co-chairs, and oversight board representatives will be invited. The meeting will serve as an opportunity to discuss the synthesis of projects/activities and related messaging between these members/groups. **Action:** The UFS-SC co-chairs will compile a list of project ideas and issues, etc to be discussed during this meeting. The list may include, as examples, discussion of the definition of the end-to-end system, progress on repositories, and the integration of ideas on the Graduate Student Test.

The planned agenda topic for next week’s (11 May) UFS-SC meeting is a briefing/update on verification workshop plans and other key Verification and Validation working group activities from Tara Jensen.