



# Short-term future of the production suite



- The SIP needs to be more widely distributed; more preparation prior to the NPSR is essential.

**Status:** [https://www.weather.gov/sti/stimodeling\\_nggps\\_implementation](https://www.weather.gov/sti/stimodeling_nggps_implementation). Need to reduce gap between August SIP meeting and completion of follow-on SIP.

- The SIP needs to better address the concerns of downstream users and should be more effectively coupled to DSS efforts (e.g. FACETS, prob-severe).

**Status:** The SIP is to improve numerical guidance. Testing model innovations in Spring Experiment. Examine performance of model upgrades via reforecasts of significant weather events. Need to improve communication of SIP activities to downstream user community.

- Scale-dependent metrics need to be more clearly defined in order to properly evaluate the models; a group should be established to explicitly define what those are.

**Status:** A draft Test Plan for physics is under development within the SIP Physics WG in collaboration with the other WGs.



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- Resources are needed for scale-aware physics, data assimilation, and stand-alone regional FV3 development; the community should have the ability to influence what gets implemented.

**Status:** The community is encouraged to engage in the SIP WGs to have a voice in what is developed within the UFS. The NWS has processes for determining requirements with the expectation that they will be implemented operationally as resources permit.

- Atmospheric/hydrologic models need to be coupled to models from other disciplines to fully assess impacts; more emphasis is needed on short-term high impact events.

**Status:** Coupling strategies are under development. Short-term high impact events were included as part of the FV3GFS evaluation.

- Through the simplification and consolidation of the production suite, we need to ensure that all of the appropriate scenarios are still going to be effectively captured (adequate spread/skill in the ensembles).

**Status:** Mapping the NPS to requirements is part of this meeting. The UFS is designed to simplify the code base used to build NWP applications, but does not limit how those applications are built. Evaluation of specific modeling approaches to meet requirements is on a case-by-case basis.



# Long-term future of the production suite



- Launch a marketing campaign to keep community in the loop and develop opportunities for active engagement in community modeling through:
  - Better communication (external and internal)
  - Create and share brief summaries of model upgrade plans
  - Provide more frequent updates relevant to targeted groups
  - Hold at least annual community science workshops on modeling advances
  - Participate in annual tutorials and training sessions
- Develop a specific plan to engage forecasters early in the evaluation process including access to relevant datasets

**Status: Early invitations to review the retrospectives and real-time parallel runs. MEG presentations. Tutorials (MET+, Modeling Fair, etc). UFS WGs. Data published on websites:**

- **Retrospectives & Real-Time, comparing NEMS GFS with FV3GFS.**
  - <http://www.emc.ncep.noaa.gov/gmb/emc.glopara/vsdb/gfs2019b>
- **MEG evaluation page**
  - <http://www.emc.ncep.noaa.gov/users/Alicia.Bentley/fv3gfs/>
- **Real-Time Comparison with International models**
  - [http://www.emc.ncep.noaa.gov/gmb/STATS\\_vsdb/](http://www.emc.ncep.noaa.gov/gmb/STATS_vsdb/)



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- Publicize explicit plans and progress on obtaining and managing HPC resources, including prioritizing and sharing resources, and contingencies for less than optimal computing capacities

**Status: Discussed at NOAA HPC Board, SIP, and Review meetings. Plans under development for recapitalization of Theia and a new non-NOAA system at the NGI/MSU. Exploring cloud computing options for surge capacity.**

- Develop and publicize decision metrics for the sun-setting and replacement of legacy models

**Status: UFS principle of evidence-based decision making. Community development of metrics underway (e.g., 2018 DTC Community Unified Forecast System Test Plan and Metrics Workshop July 30 - August 1, 2018).**