UFS-R2O Year 3 Review
December 6&7, 2021
Charge and guidance to the reviewers

Introduction:

The NOAA National Weather Service Office of Science and Technology Integration (OSTI) Modeling Program in collaboration with the NOAA Office of Oceanic and Atmospheric Research Weather Program Office (WPO) is hosting the virtual FY22 UFS-R2O Project Review, December 6-7, 2021. To continue the effort of developing innovations and integrating them into the Unified Forecast System (UFS), this review is useful both for internal NOAA planning and budgeting, and for future planning of the UFS. The goal of the review is to receive feedback on planned work for year 3 (Period of Performance: July 2022 – June 2023) of the UFS-R2O project. The oral briefings and discussion will focus on the consolidated Year 3 priorities established by the UFS-R2O project leadership team (project leads, OSTI, and WPO). This review should also ensure that UFS-R2O research is linked to the completion of the UFS-R2O Year 1 and 2 projects, relevant to the NCEP Production Suite Implementation Plan (Rainbow Diagram), UFS Strategic Plan, relevant to NOAA/NWS Forecasters' Priorities, is of high quality as judged by preeminence criteria, and carried out with a high level of performance. Each reviewer will independently prepare his or her written evaluations of at least one research area shown in the chart below.

Scope:

This review will provide an overview of the UFS-R2O Project accomplishments based on Year 1 and 2 activities to date and provide technical information on research priorities for Year 3 of the UFS-R2O Project. The research areas for the Year 3 review are: 1) Medium Range Weather/Subseasonal to Season (S2S) Application 2) Short Range Weather/Convection Allowing Model (CAM) Application, and 3) Hurricane Application.

Evaluation Criteria:

For each research area reviewed, each reviewer will provide written comments for the areas below:

1. Importance/Relevance and Applicability of Proposed Project to Program Goals: This criterion determines if there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. This criterion is not intended to evaluate technical or scientific merit.
    a. Is the proposed project appropriately aligned with other modeling efforts, including the broader UFS community, other programs/projects at NOAA, and with the broader national/international NWP and modeling community?
    b. Does the proposed project adequately foster code unification, contributing towards the reduction of the number of code versions in use by the UFS and NCEP?
2. Research Leadership and Planning: Assess whether the project has clearly defined objectives, scope, and methodologies.

    a. Does the proposed project include an effective strategy to bring research-to- operations and operations-to-research (R2O2R)?
    b. Does it include engagement with the research community to achieve forecast improvements and engagement with the forecast community to achieve forecast goals?
    c. Does the Project have a clear management and organization plan?
3. Technical/Scientific Merit: This criterion assesses if the proposed approach is technically sound and/or innovative, if the methods are appropriate, and clarity of project schedule and outputs.
    a. How technically sound are the proposed methods and solutions to the scientific problem?
    b. How achievable are the proposed methods and solutions to the scientific problem?
    c. How does the proposed project improve technology, concepts, or methods and advance the field of study?
    d. If applicable, how clearly does the proposed project advance technology, concepts, or methods to eventually improve NOAA operations?
    e. How clear and feasible is the schedule for milestones, outputs, and advancing Readiness Levels (RLs)?
    f. How clearly defined are metrics to evaluate project success and/or failure?