



UFS-R20 Year 3 Review

Introduction from NOAA Programs

Dr. Jamese Sims, NWS/OSTI Modeling

Dr. Farida Adimi, NWS/OSTI Modeling

Dr. Maoyi Huang, OAR/WPO/EPIC

Dr. Chandra Kondragunta, OAR/WPO/JTTI

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EMC, PSL, GSL,
CSL, NSSL, ARL,
GFDL, AOML,
NESDIS





NOAA Investments in UFS

Unified Forecast System (UFS)

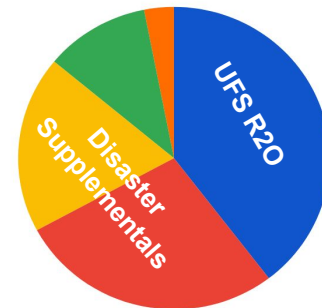
- NOAA programs that support the UFS: NGGPS, Weeks 3&4, Air Quality, JTTI, EPIC, and hurricane & disaster supplementals

UFS Research to Operations (UFS R2O) Project

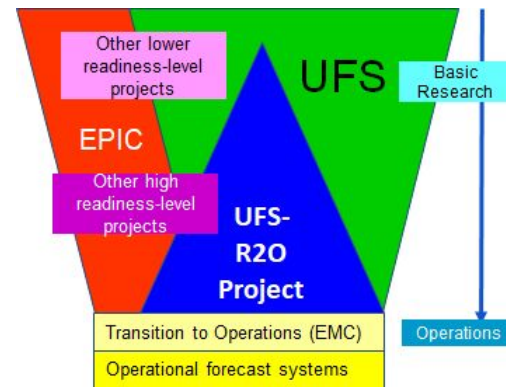
- Two year project (FY20-22) with 5-year vision; being extended to three years
- Developing the next-generation global and regional forecast systems for NOAA's operations in FY24
- NOAA's largest investment in the UFS: \$13M/yr, jointly supported by NOAA Operations (NWS) and Research (OAR)
- Community team (NOAA, NCAR, JCSDA, Universities)
- Website: <https://vlab.noaa.gov/web/ufs-r2o>



NOAA Investments in UFS



● UFS R2O (STI & WPO) ● HSUP1 ● HSUP2 ● pre-EPIC ● JTTI





The UFS-R20 Project



- **UFS: Unified Forecast System** is a community-based, coupled Earth modeling system, to support the Weather Enterprise and to serve as the source for NOAA's operational applications.
- **R20: UFS Research to Operations** aims to develop next-generation global and regional forecast systems for NOAA's operations
- **UFS-R20 Project** is NOAA's largest investment in the UFS, \$13M/yr for 2 years (FY20-22), supported and managed by NWS and OAR jointly, to support operational applications by FY24
- **Community** project team with over **100 scientists** from NOAA operational centers, NOAA research laboratories, NCAR, JCSDA, DTC, and Universities



Project Management & Communication

UFS R20 Team Workspace

HOME WORKSPACES CALENDAR WIKI RESOURCES ANNOUNCEMENTS REPORTING



Welcome to the UFS R20 Team Workspace

First UFS-R20 annual meeting is scheduled for July 12-15, 2021, read more...



MRW/S25 Team Workspace

Coupled Model Team
DA and R&R Team
Atmospheric Physics Team
Atmospheric Composition Team



SRW/CAM Team Workspace

SDRTMA Team
RRFS & Code Retirement Team
Hurricane Modeling Team



CCI Team Workspace

Modeling Infrastructure Team
Verification & Post Processing Team
Application Support



Leadership Team Workspace

Upcoming Deadlines
News & Events
Project Dashboard
Reporting

STRUCTURE & TOOLS RESOURCES NEWS & EVENTS CONTACT US

Welcome to the UFS R20 Project!

A broad collaboration among NOAA and non-NOAA scientists was launched in July 2020 to accelerate innovation into NOAA operational models for weather and climate prediction. [Read more...](#)



APPLICATIONS & FORECAST SYSTEMS

MRW/S25 Application
SRW/CAM Application
3D-ITM/URMA
RRFS
HAFS

SCIENCE

Atmospheric Physics
Atmospheric Composition
Global Coupling
Data Assimilation and R&R

INFRASTRUCTURE & TOOLS

Model Infrastructure
Verification
Post Processing
Code Repositories



Project Information

The current section provides basic information on the UFS-R20 Project

Project Leaders

James L. Kinter II
Jeffrey Whitaker
Vijay Tallapragada

Program Managers

James Sims
Maoyi Huang
Chandra Kondrag...

Project Engineers

Farida Adimi
Krishna Kumar

Period of Performance

07/01/20
Start Date
10/31/22
End Date

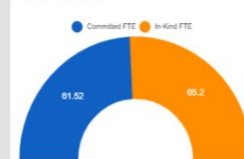
Remaining Days

247

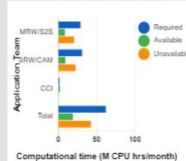
Key Resources

UFS-R20 Proposal

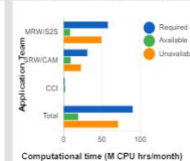
Human Resources



Computing Resources, 1st Year



Computing Resources, 2nd Year



Project Management

The tools of this section automate project management, reporting, and communication towards the UFS-R20 team

Report Problems

Issues, Risks and Conce...

Request a Change

Update or Add a Milestone

Major Accomplishments

Report Accomplishments

Publications

UFS-R20 Knowledge Bank

Deliverables

Submit a Deliverable

Roadmap

Update the Completion %

Recommendations for the PM Application

Dashboard for Each Subproject

- [1.1 MRW/S25 Coupled Model Development](#)
- [1.2 MRW/S25 Atmospheric Composition](#)
- [1.3 MRW/S25 Data Assimilation/Reanalysis and Reforecast](#)
- [1.4 MRW/S25 Atmospheric Physics](#)
- [2.1 SRW/CAM 3D-RTMA](#)
- [2.2 SRW/CAM RRFS and Retirement of Legacy Models](#)
- [2.3 SRW/CAM Hurricane Modeling](#)
- [2.4 Modeling Infrastructure](#)
- [2.5 Verification and Post-Processing](#)



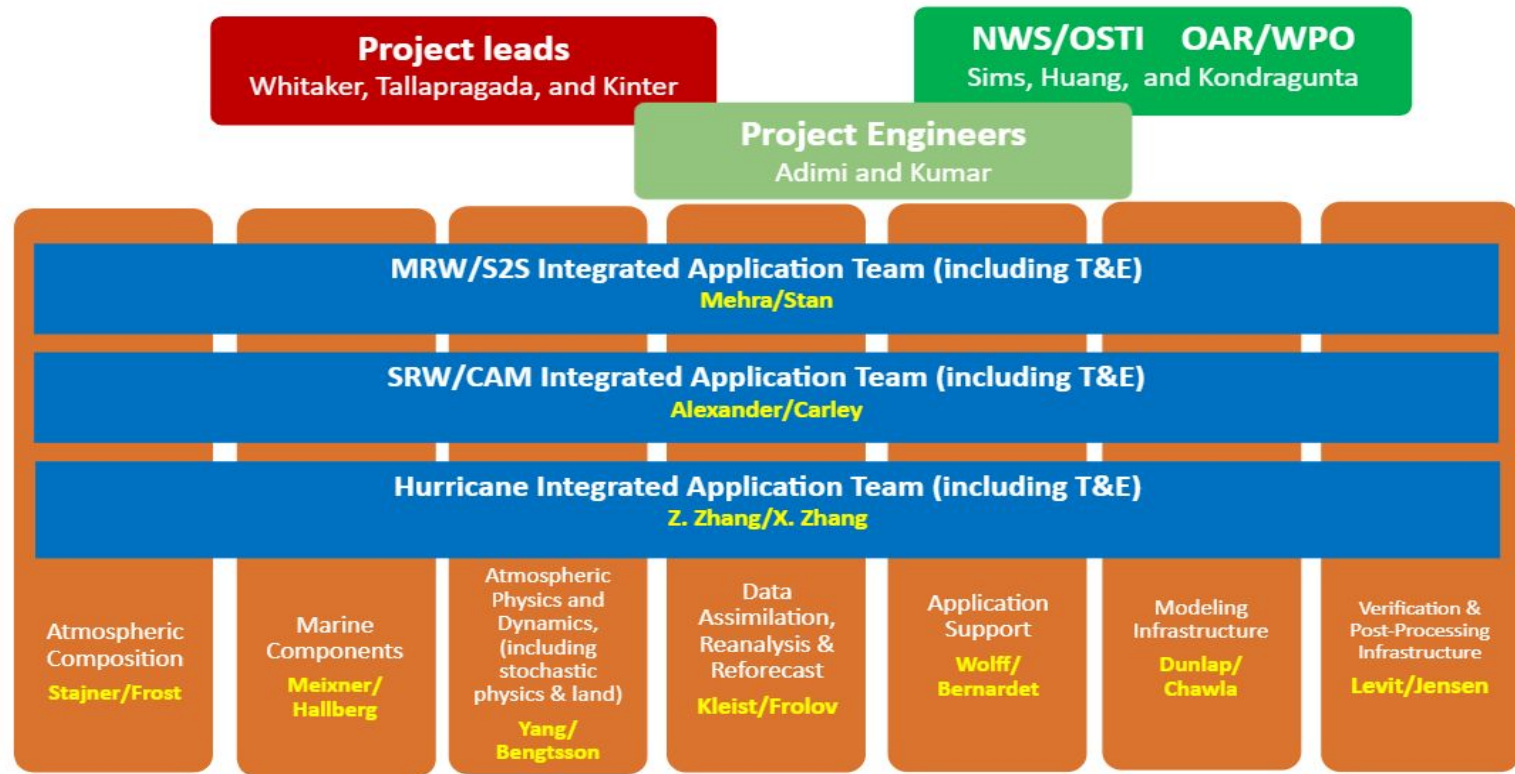
UFS-R20 Project History



- **Fall 2019:**
 - NWS and OAR program managers agree to coordinate and commit resources
 - Program office invited 3-pager ideas from UFS community (approx 60 submitted, \$50M/y)
- **Winter 2019-2020:**
 - Proposal invited (2-year project)
 - Project team and proposal assembled
- **March 12-13, 2020:** Face-to-face peer-review
- **April-May 2020:** Funding finalized
 - \$13M/yr: NWS-OSTI \$10M and OAR-EPIC & JTTI \$3M
- **July 2020:** Project launch, Kick-off meeting (July 9-10), 200+ attended
- **October 2020:** First Quarterly Program Review
- **November 2020:** Established a PM tool (Smartsheet) and communication platforms (public website & internal workspace)
- **June 2021:** started engagement with EPIC PO and contract
- **July 2021:** Year 2 kick off
- **July 2021:** First Annual Meeting
- **August 2021:** Started Year 3 planning



UFS-R20 Project Structure





Current In Kind Contributions



- **NWS/OSTI**
 - HAFS development at AOML
 - Transition to Operations (T2O) at EMC
- **WPO/EPIC**
 - UFS code management
 - Data Assimilation at JCSDA
 - UFS community support (Transitioning from UFS-R20/DTC to EPIC)
- **WPO/JTTI**
 - Coupled ensemble prototypes, Aerosol, Land, and Ocean modeling, Dynamics, DA and Observations
- **NOAA Hurricane Supplemental**
 - Physics, Coupling Infrastructure, Hurricane modeling & forecast, DA and Observations
- **NOAA Disaster Supplemental**
 - Hurricane modeling, forecast, & observations, RRFS on the cloud, Ocean DA



Guidance to the Review Panel



Evaluation Criteria

- Importance/Relevance
- Leadership & Planning
- Technical/Scientific Merit

Review feedback

- Use the evaluation worksheet to provide feedback
- You are encouraged to use the chat panel for questions, comments, and/or feedback
- You are encouraged to start a google doc for internal communication
- Closed session on Tuesday at 12 pm ET
- Detailed information can found [here](https://vlab.noaa.gov/web/ufs-r2o/)



Agenda



Monday Dec 6, 2021

- Programs Introduction
- Project Overview
- MRW/S2S application Year 3 plan

Tuesday Dec 7, 2021

- SRW/CAM application Year 3 plan
- Hurricane application Year 3 plan
- Closed session: Review Panel & Programs