NOUS41 KWBC 061830
PNSWSH

Public Information Statement 23-06
National Weather Service Headquarters Silver Spring MD
130 PM EST Mon Feb 6 2023

To: Subscribers:
-NOAA Weather Wire Service
-Emergency Managers Weather Information Network
-NOAAPort
Other NWS Partners, Users and Employees

From: Dr. Thomas Graziano, Director
NWS Office of Water Prediction

Subject: Soliciting Comments on the Upgrade of the National Water Model to Version 3.0 through March 28, 2023

The National Weather Service (NWS) Office of Water Prediction (OWP) is proposing to upgrade the National Water Model (NWM) to Version 3.0 in Q4 of FY 2023. The NWS is seeking comments on this proposed upgrade through March 28th, 2023. If approved, a Service Change Notice (SCN) will be issued at least 30 days before implementation of NWM V3.0 with more detailed information.

NWM V3.0 represents a major upgrade over V2.1 implemented in 2021, and contains several significant enhancements furthering model performance and coverage. Highlights include:

- First time provision of NWM total water level (TWL) guidance for coastal areas of the Continental United States (CONUS), Hawaii and Puerto Rico / U.S. Virgin Island domains. This is accomplished via use of the Semi-implicit Cross-scale Hydroscience Integrated System Model (SCHISM) integrated within the NWM, to couple NWM freshwater discharge estimates with oceanic forcing from the Surge and Tide Operational Forecast System (STOFS) and Probabilistic Tropical Storm Surge (P-SURGE) model.

- NWM Domain expansion to south-central Alaska (Cook Inlet, Copper River Basin, and Prince William Sound), enabling provision of NWM operational hydrologic model forecast coverage to this region.

- Addition of the National Blend of Models (NBM) as a forcing source for NWM CONUS medium-range forecasts and Alaska short-range and medium-range forecasts.

- Use of Multi-Radar Multi-Sensor (MRMS) precipitation as NWM forcing over the Puerto Rico / U.S. Virgin Island domain.

- Ingest of additional RFC-supplied reservoir outflow forecasts to improve NWM streamflow guidance for locations downstream.

- Enhancements to the treatment of reservoirs, land surface parameters and calibration/regionalization approach leading to improvements in model skill.

- Implementation of a new surface runoff scheme (Xinanjiang) within the NWM, improving streamflow simulation performance.

Publicly accessible NWM NetCDF for all output fields, and SHEF files for TWL guidance, can be downloaded starting February 13th, 2023 at:

https://para.nomads.ncep.noaa.gov/pub/data/nccf/com/nwm/para/

Adding to the details above, major alterations in the NWM output posted to PARA NOMADS include:

New Alaska Configurations:
- Forcing
  * Analysis and Assimilation
  * Extended Analysis and Assimilation
  * Short-Range
  * Medium-Range

- Model
  * Analysis and Assimilation
  * Open Loop (No-DA) Analysis and Assimilation
  * Extended Analysis and Assimilation
  * Open Loop Extended Analysis and Assimilation
  * Short-Range
  * Medium-Range (GFS-forced)
  * Medium-Range (GFS/NBM-precipitation-forced)
  * Open Loop Medium-Range

Alterations to Continental United States (CONUS) Configurations:
- Addition of medium-range forecast configuration utilizing National Blend of Models precipitation forcing.

- Removal of ensemble member seven from the existing GFS-forced medium-range model output.

The NWS will evaluate all comments on NWM v3.0 to determine whether to proceed with this upgrade. Any questions, comments or requests regarding this implementation should be directed to the contact below.

Brian Cosgrove
NWS/OWP
Email: brian.cosgrove@noaa.gov
Phone: 301-427-9513

A webpage describing the NWM can be found at:

https://water.noaa.gov/about/nwm

National Public Information Statements are online at:

https://www.weather.gov/notification/

NNNN