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Service Change Notice 22-71
National Weather Service Headquarters Silver Spring MD
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From: Vijay Tallapragada
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 NCEP/Environmental Modeling Center

Subject: Changes to Global RTOFS v2.3 to Account for Bug Fixes, Bias Corrections and Changes in Data Inputs for Operations: Effective August 2, 2022

Effective on or about August 2, 2022 with the 00 Coordinated Universal Time (UTC) cycle, the National Centers for Environmental Prediction (NCEP) will make an update to the Real Time Ocean Forecast System (RTOFS) via all transmission methods.

A) Applying bias corrections to the equatorial regions

Since the beginning of 2021, it has been found that the operational initialization scheme for RTOFS creates spurious waves and slowly accumulates systematic errors in the prediction of the ocean state in the equatorial ocean. Away from the equator, RTOFS-DA applies a geostrophic velocity balance to the density corrections that prevents this shock, but this velocity balance is scaled to zero at the equator since the Coriolis term vanishes. To suppress generation of spurious equatorial waves to the model through the assimilation, a bias correction was developed for this version. The bias correction adjusts the analysis increments in the vicinity of the equator to reduce or eliminate initialization shock.

B) Adjustments for new and deprecated satellite data inputs

Since going operational in December 2020, there have been a number of significant changes to satellite data inputs which further require changes to RTOFS-DA data processing and quality control. These include:

- Removal of METOP-A SST
- Addition of METOP-C SST
- New versions for VIIRS and METOP-B SST datasets
- Addition of new Sentinel-6A ADT

C) Increment of version number

RTOFS will now be version 2.3, which will be reflected in the NOAA Operational Model Archive and Distribution System (NOMADS) and ftpprd version number directory structures. The overarching directory with "prod" will change to point to version 2.3 instead of 2.2, and there should be no change for users who access via the "prod" link.

The following links will change to point to v2.3:

<https://nomads.ncep.noaa.gov/pub/data/nccf/com/rtofs/prod/rtofs.YYYYMMDD/prod>
<https://ftpprd.ncep.noaa.gov/data/nccf/com/rtofs/prod/rtofs.YYYYMMDD/prod>

NEW:

<https://nomads.ncep.noaa.gov/pub/data/nccf/com/rtofs/prod/rtofs.YYYYMMDD/v2.3>
<https://ftpprd.ncep.noaa.gov/data/nccf/com/rtofs/prod/rtofs.YYYYMMDD/v2.3>

If you have any questions regarding this change, please contact:

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National Service Change Notices are online at:

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

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