



NOAA Transitions: FY21 Quarter 1

Gary Matlock, Chair of the NOAA Line Office Transition Managers Committee
Presentation to the NOAA Science Council
April 13, 2021



PURPOSE

The purpose of this presentation is to

Update NOAA transitions from
October 1 – December 31, 2020 (FY21 Q1)





BACKGROUND

- Transition of NOAA R&D to **operations, applications, commercialization, and other uses (R2X)** is key to delivering continually improved products and services
- This is the third iteration of quarterly transition updates from the Line Office Transition Managers Committee (LOTMC)
- Past reports can be found on the [NOAA Science Council website](#) under “Council Products”



RESULTS

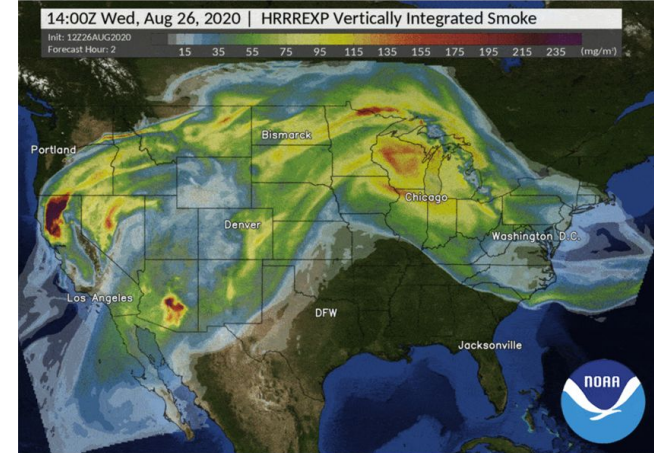
- 19 transitioned projects were identified for FY21 Q1, additional details can be found in the [summary document](#)
 - 11 enhancements to weather and climate forecast
 - 5 enhancements to environmental assessments
 - 3 improvements to science communication and decision making
- Organizations that were adopters for the transitioned projects included EPA, the International Tsunami Information Center (ITIC), and NOAA NESDIS, NWS, and OAR
- The full list of projects can be found in [this spreadsheet](#)

Transition Highlight – Unified Forecast System

High-Resolution Rapid Refresh (HRRR) V4

NOAA OAR and NWS contributed six projects to the [HRRR](#) model update.

- HRRR is a real-time 3-km resolution, hourly updated, cloud-resolving, convection-allowing atmospheric model
- This major update includes:
 - new smoke's impact forecast
 - improvements to cloud representation for boundary-top clouds
 - extending forecasts to 48 hours
 - improvements to lake temperatures
 - improvements to data assimilation for storm prediction (Hailcast, HRRRDAS)



*Note there are other projects from FY21 Q1 identified artificial intelligence as a relevant S&T Focus Area. More information on these projects can be found in the [spreadsheet](#).

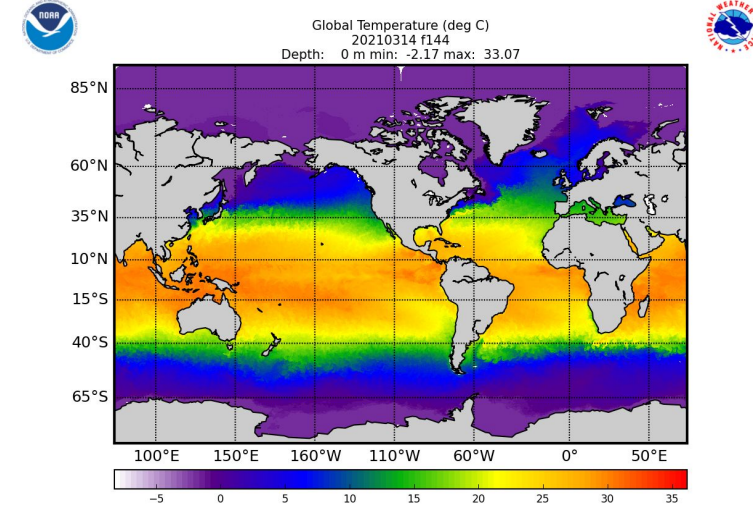


Transition Highlight – Unified Forecast System

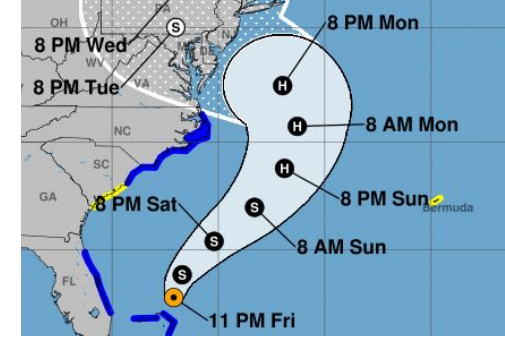
Real Time Ocean Forecast System V2 on WCOSS

NOAA NWS, in close collaboration with **NESDIS**, implemented the [Real Time Ocean Forecast System V2](#) (RTOFS) into operations.

- RTOFS V2 introduces, for the first time at NOAA, an operational high-resolution ocean data assimilation capability (RTOFS-DA) to the forecast system
- This provides predictions for up to eight days of ocean currents, salinity, temperature and sea ice conditions around the world
- RTOFS also increases efficiency by removing all dependency of regular daily feed from Navy's ocean analysis
- First operational assimilation of satellite sea-surface salinity (SSS) data from SMAP (NASA), and SMOS (ESA)
- First operational assimilation of absolute dynamic topography (ADT) from JASON-3 (NOAA), plus four other international partner missions



Transition Highlight – Knowledge Transfer*



Evaluate Cone of Uncertainty using social science for effective communication of risk for product modernization

NOAA NWS evaluated the interpretation effectiveness of the National Hurricane Center tropical cyclone forecast track graphic ([external presentation](#))

- This assessment is a qualitative, systematic literature review on interpretations of, uses of, implications of, and key decisions made using the cone of uncertainty
- The assessment is transitioned to identify users, how information is used, and how many civilians are affected by the decisions that are informed by the cone

*Note that two other knowledge transfer projects were identified from FY21 Q1. More information on these projects can be found in the [spreadsheet](#).

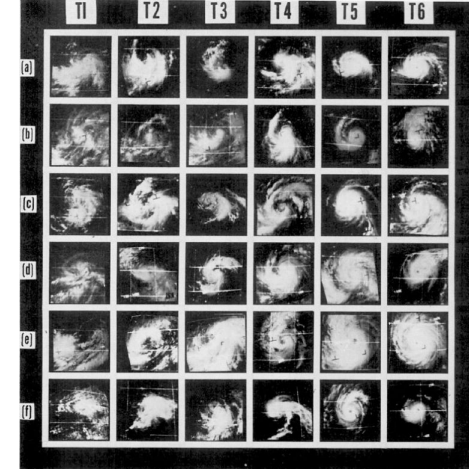


Transition Highlight – Data*

Advanced Dvorak Technique - Hurricane Satellite (ADT-HURSAT)

NOAA NESDIS updated the global homogeneous record of tropical cyclone intensity dataset ([HURSAT](#)).

- Using ADT algorithm, this project estimates tropical cyclone (TC) intensity based on IR satellite data
- This data update replaces the previous ADT-HURSAT that ended in 2009



*Note that three other projects from FY21 Q1 identified data as a relevant S&T Focus Area. More information on these projects can be found in the [spreadsheet](#).



Thank You!

