

**NOAA**

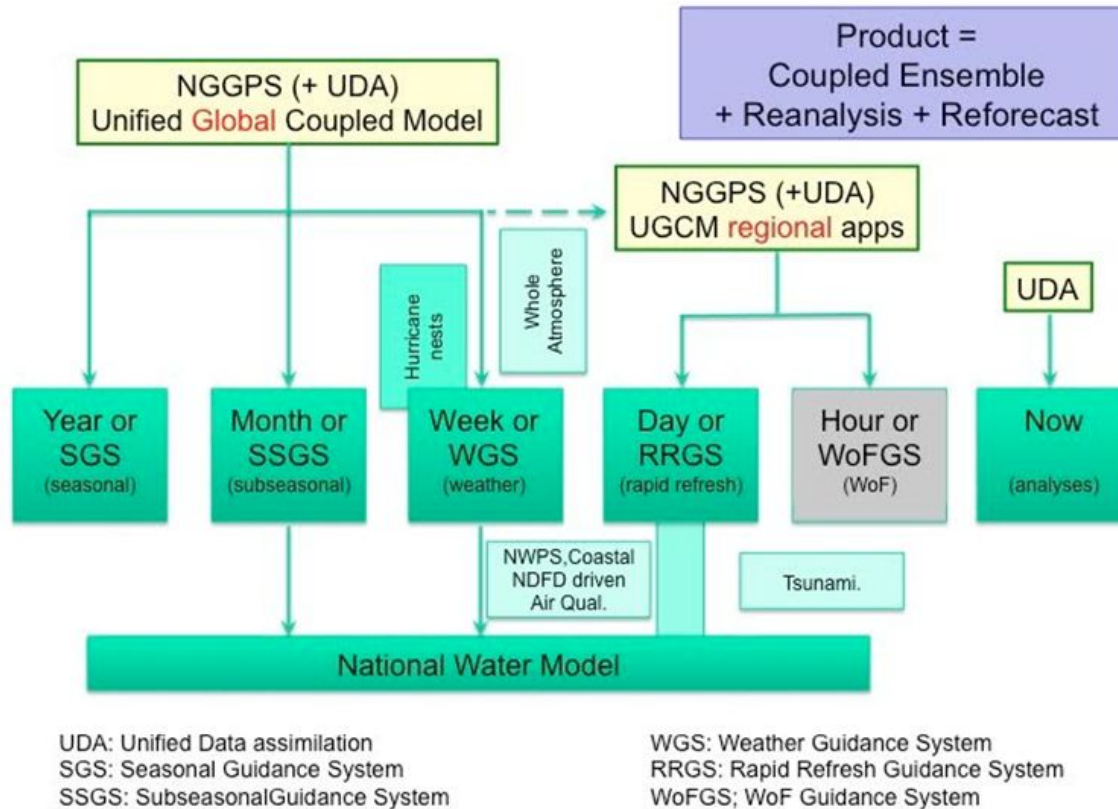
# OAR Unified Forecast System Strategic Implementation Plan Overview

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Director, Office of Weather and Air Quality  
NOAA Oceanic and Atmospheric Research  
August 1, 2018





# Leadership Commitment

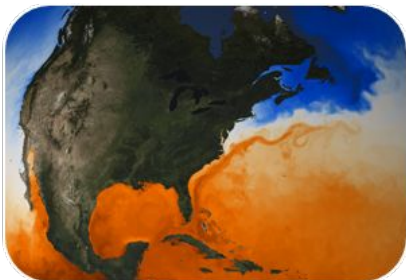


## Unified Forecast System (UFS)

Moving from Atmosphere Focus to Holistic Environmental Approach



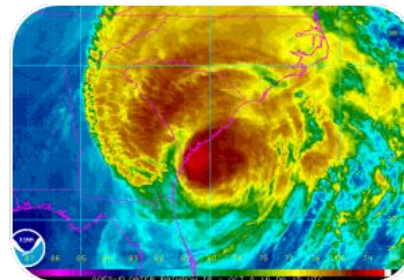
# OAR Priorities



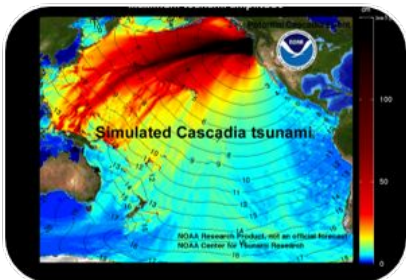
**Sec. 102. Weather Research and Forecasting Innovation**



**Sec. 103. Tornado Warning Improvement and Extension Program**



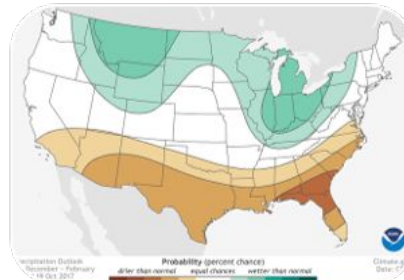
**Sec. 104. Hurricane Forecast Improvement Program**



**Sec. 105. Weather Research and Development Planning**



**Sec. 109. United States Weather Research Program**



**Sec. 201. Improving Subseasonal and Seasonal Forecasts**

## Implementation of the Weather Research and Forecasting Innovation Act



# OAR Contributions to SIP Priorities

## Next Generation Global Prediction System

- FV3-GFS: Geophysical Fluid Dynamics Laboratory (GFDL)
- FV3-GEFS: Physical Sciences Division (PSD)
- FV3-SFS: GFDL, PSD

## System Architecture

- Earth System Modeling Framework (ESMF)/National Unified Operational Prediction Capability (NUOPC) software: Global Systems Division (GSD)

## Finite-Volume Cubed-Sphere Dynamical Core (FV3)

- Stand-Alone Regional FV3: GSD, GFDL
- FV3 Regional: National Severe Storms Laboratory (NSSL), GFDL
- FV3 Moving Nest: Atlantic Oceanographic and Meteorological Laboratory (AOML), GFDL
- FV3-GFS Physics: GSD

## Modular Ocean Model (MOM6)

- GFDL

## Data Assimilation

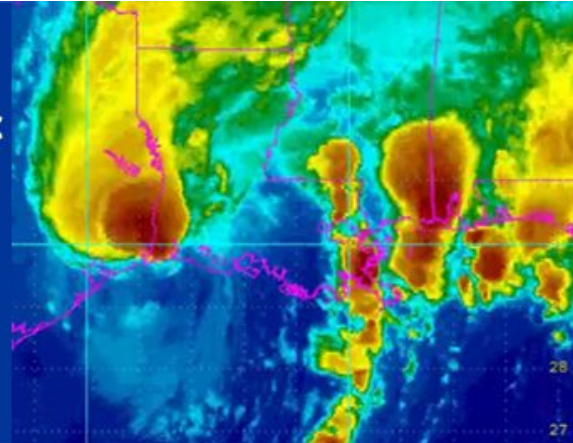
- PSD, GSD



# Building Community Support and Engagement

## Building a Weather-Ready Nation by Transitioning Academic Research to NOAA Operations Workshop

November 1-2, 2017  
College Park, MD



**AGU 100**  
ADVANCING EARTH AND SPACE SCIENCE

# FALL MEETING

Washington, D.C. | 10-14 Dec 2018

# National ESPC

**EARTH SYSTEM PREDICTION CAPABILITY**



Metrics, Post-processing, and Products for  
Subseasonal to Seasonal Workshop

February 28-March 2, 2018  
College Park, MD

**INTERDISCIPLINARY**  
TORNADO DERECHO  
HEAT WAVES THUNDERSTORMS  
HAILSTORM  
MUDSLIDES  
STORM SURGE COMMUNITIES  
SURGE WILDFIRES  
DROUGHT INCLUSIVE DUST STORM  
BLIZZARDS LIGHTNING  
INTERNATIONAL

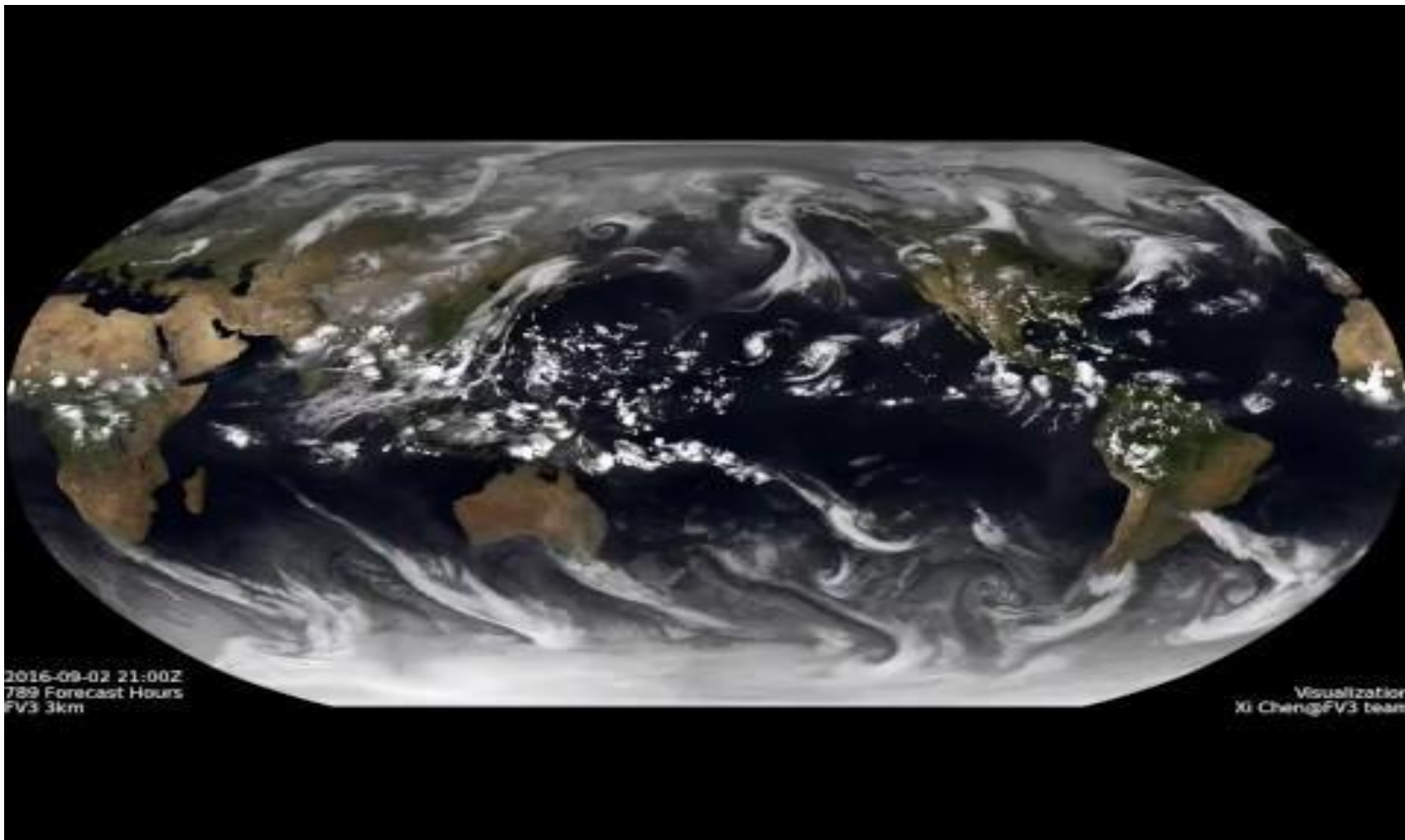
# AMS

American Meteorological Society  
99th ANNUAL MEETING  
PHOENIX | 6-10 January 2019





# OAR SIP Accomplishments





# OAR FY18 Investments



## FACETS

Forecasting a Continuum of Environmental Threats



GRID-BASED  
THREAT  
PROBABILITIES



OBSERVATIONS  
& GUIDANCE



THE  
FORECASTER



THREAT GRID  
TOOLS



USABLE  
OUTPUT



EFFECTIVE  
RESPONSE



VERIFICATION



[www.nssl.noaa.gov/projects/facets](http://www.nssl.noaa.gov/projects/facets)

