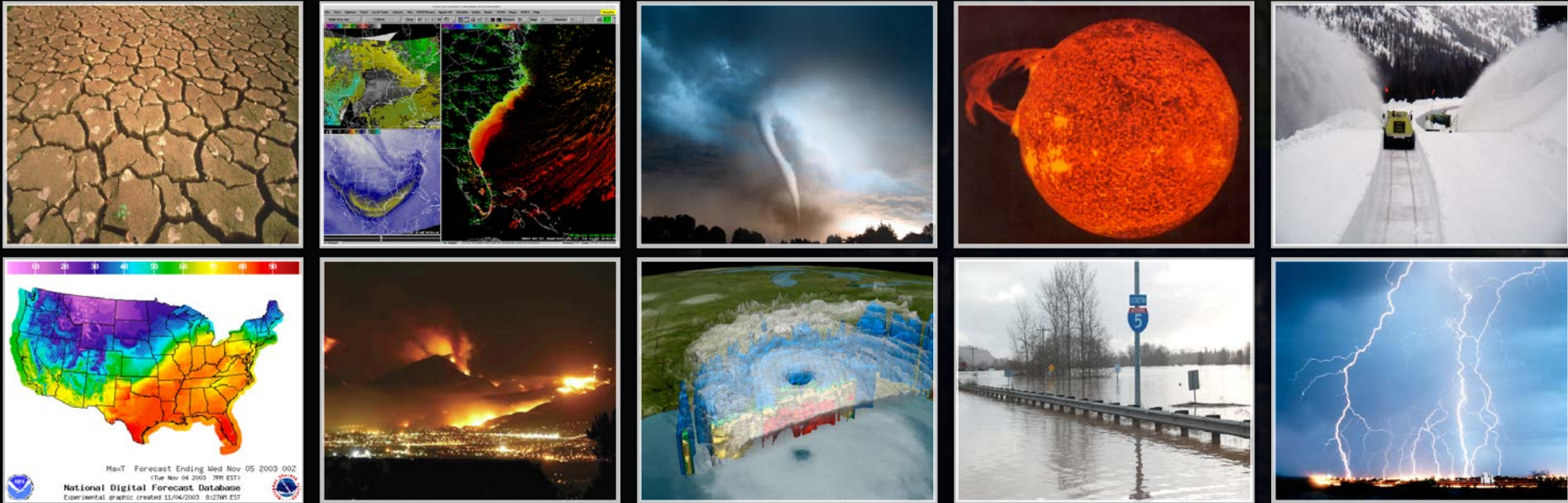


The Next Generation Global Prediction System: COPC Update



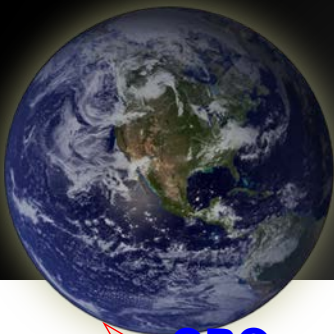
Dr. William M. Lapenta

Director, National Centers for Environmental Prediction

NOAA/National Weather Service

2016 Fall COPC Meeting

25 October 2016



New NCEP Products

- **CPC week 3 and 4 temperature and precipitation outlooks**
- **NHC potential inundation surge flooding maps and prototype storm surge watch/warning graphic**
- **National Water Model; Geospace model; Next Generation Global Prediction System**
- **NOAA's First Deep-Space Observation Platform (DSCOVR) becomes Operational (OBS)**
- **Successfully integrated JASON-3 radar altimeter data into OPC wave height products (OBS)**
- **Record GPRA score in a year with six separate billion dollar flood disasters that took 124 lives (AFS)**

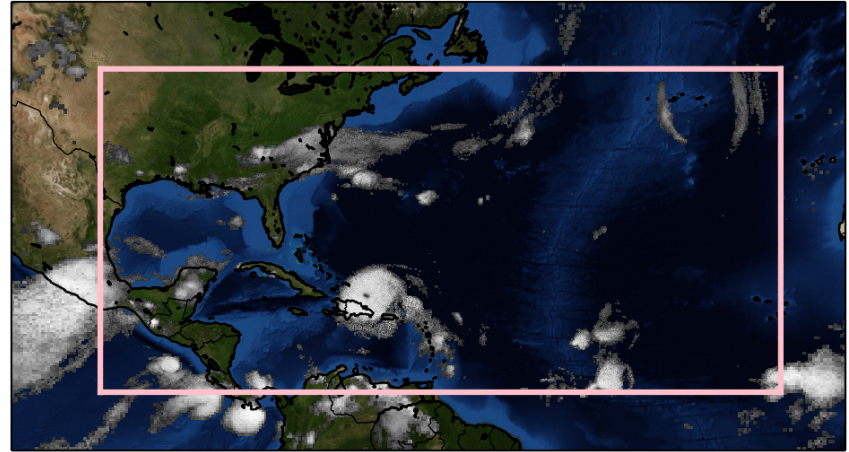


Next Generation Global Prediction System (NGGPS)

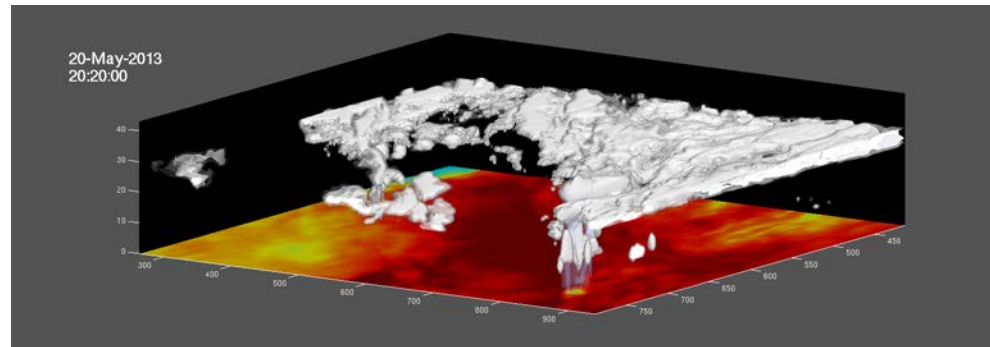


- Identify and adopt an advanced non-hydrostatic dynamic core and evolve it to meet operational needs for the foreseeable future
- Evidence based decision making process to ensure scientific integrity and excellence
- Enhanced O2R2O process and a unified and efficient infrastructure for community engagement and rapid transition of advanced research into operations
- Seamless solutions for tropical weather and climate in a unified global-to-local-scale modeling framework

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High-resolution nested grid simulations using HiRAM and Finite Volume 3 (FV3)



Immediate Priorities for NGGPS and the FV3 Dynamic Core



1. Implement the FV3 within the GDAS/GFS application
 - Test plan developed
 - Replaces the spectral core
 - GFDL, EMC and PSD working together
 - Implementation date in FY19
2. Make FV3 available to “superusers”
 - Inside NOAA to start (GSD, AOML, NSSL)
 - Must consider code management governance and process
 - Can not distract developers working GFS implementation
3. Assess best approach to making system “community” based
 - Review proven approaches (i.e., WRF, CESM, etc.)
 - Required to leverage expertise outside NOAA
 - High priority for NOAA to facilitate R2O and O2R
4. Systematically test FV3 at convective permitting scales-- UNIFIED System Possible
 - Similar to global dynamic core testing
 - NSSL, GSD, EMC, GFDL, NCAR, academia



THE STRENGTH OF A COMMON GOAL.....



ECMWF
STRATEGY 2016–2025
THE STRENGTH OF A COMMON GOAL



- Attractive working terms and environment to attract and retain the required talent
- ECMWF inspiring and attracting international scientific and computing collaboration across the Member States and beyond
- A powerful, energy-efficient and resilient infrastructure, including a high-performance computing facility, systematically seeking to minimise its environmental impact
- Scalable and efficient modelling and processing codes that encompass a comprehensive Earth system approach

Can the U.S. identify and achieve a common goal?