



# **NWS Fall Partners Meeting Director's Remarks**

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**NOAA Assistant Administrator for Weather Services**

**November 1- NWS Fall Partners Meeting**

**Silver Spring, MD**

# Overview

- Continuing our efforts to Evolve the NWS – Build a Weather-Ready Nation
- Making progress in building/repairing our infrastructure
- Making progress in predicting extreme events – providing necessary IDSS to core partners

# NWS Strategic Outcome: *A Weather- and Water-Ready Nation*



**“Ready, Responsive, Resilient”**

Becoming a Weather-Ready Nation is about **building community resiliency in the face of increasing vulnerability** to extreme weather, water and climate events

*Better forecasts and warnings*

*Consistent products and services*

*Actionable environmental intelligence*

*Connecting forecasts to decisions*

*Involves the entire US Weather, Water and Climate Enterprise **WORKING TOGETHER***

**We have 3650 WRN Ambassadors**

# Improving Service Through IDSS

## FROM TODAY...

Inconsistent service which, at times, does not go “beyond the forecast” to explain impacts



## TO THE FUTURE...

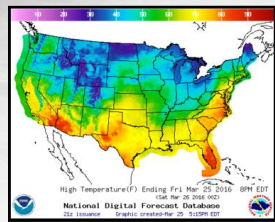
NWS provides DSS before, during and after events through a fully integrated field structure



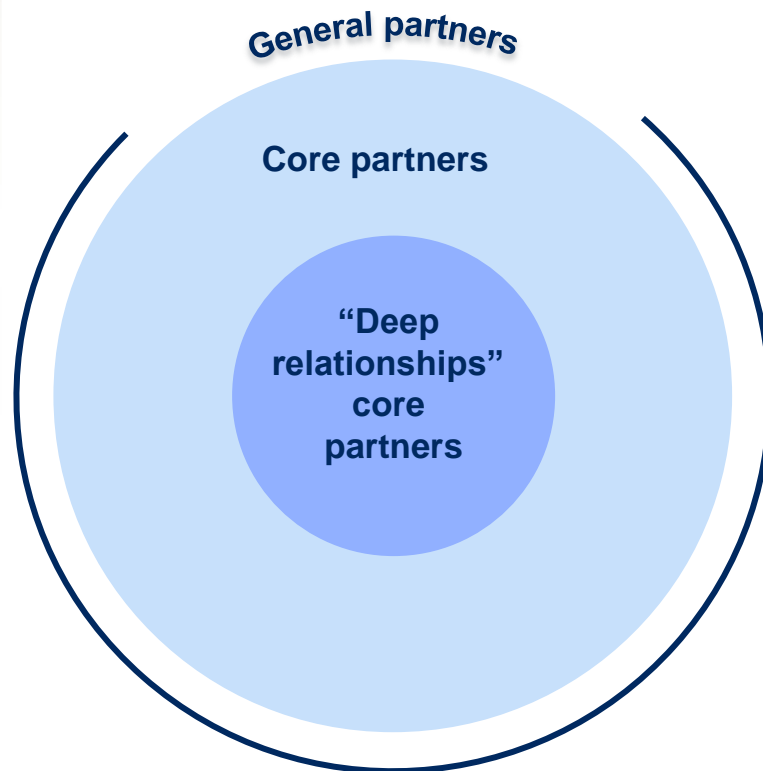
Mismatch in workload & skills



Variation in partners served



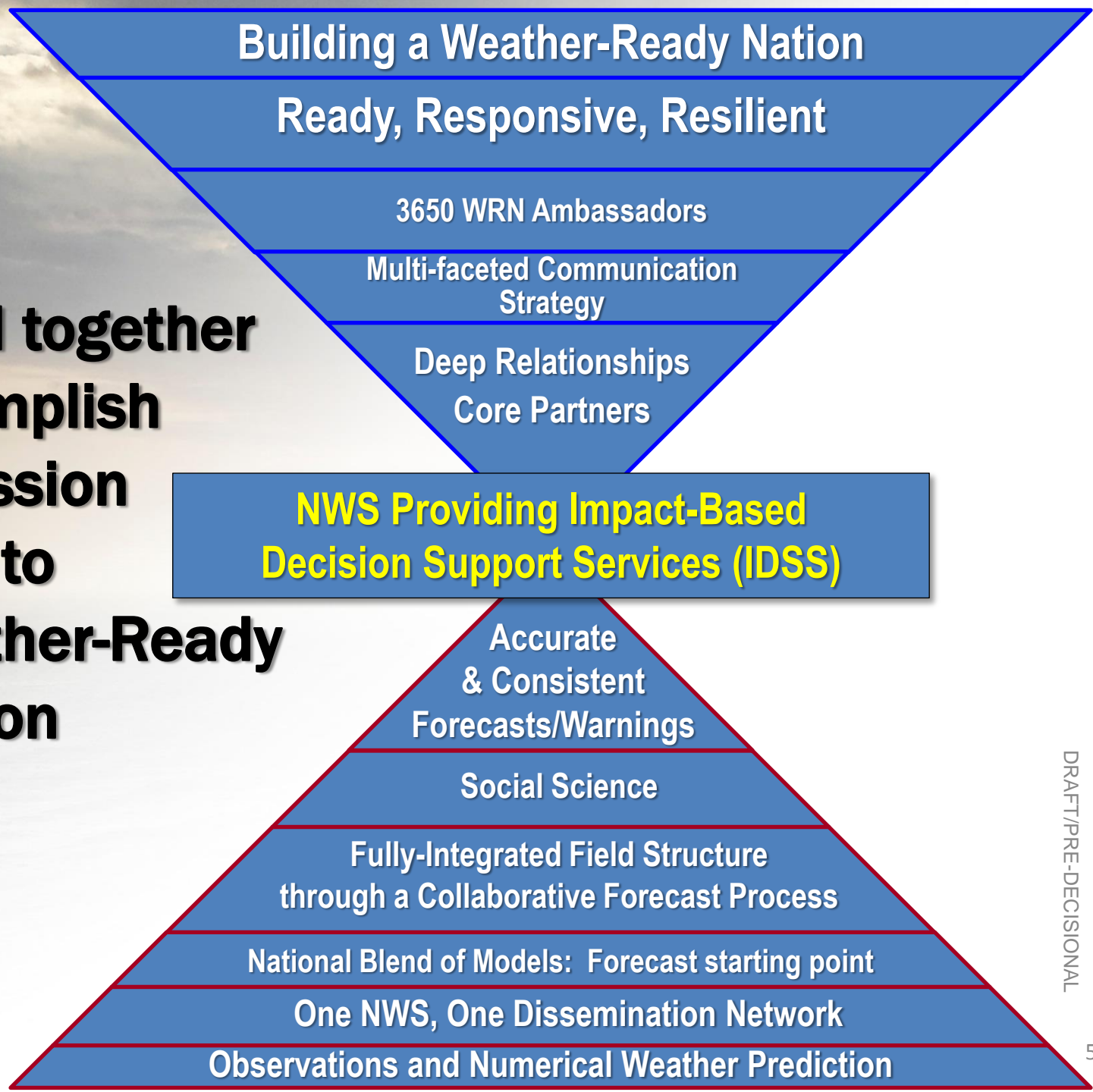
Variation in products and services;  
Redundancy in internal processes



**Involve, Engage and Communicate with Internal and External Stakeholders Throughout!**

**No Office Closures!**

**Pulling it all together  
to accomplish  
our mission  
and to  
build a Weather-Ready  
Nation**



# FY 2017 Portfolio Highlights

## Observations

- NEXRAD Service Life Extension
- ASOS SLEP
- Radiosonde frequency migration
- Achieve IOC for GOES-R
- Achieve IOC for JPSS-1

## Science & Technology

### Integration

- Complete GOES -R training development (SIFT)
- National Water Model v 2.0
- NGGPS Dynamic Core Integration
- HWRF upgrade
- Complete impacts catalog v2.0 design
- Operations Workforce Analysis

## Facilities

- Complete planning phase for SSMCII realignment
- Complete relocation of WFO Cleveland & WFO Davenport
- Complete Facility Assessments for 2<sup>nd</sup> 1/3
- Complete Phase 1 disposal of Valdez Alaska

## Central Processing

- AWIPS configured for GOES-R data
- Complete use case development for NAWIPS
- Extend the performance period WCOSS supercomputing systems and service.



**WRN Ambassador Initiative  
3650 Ambassadors**

## Dissemination

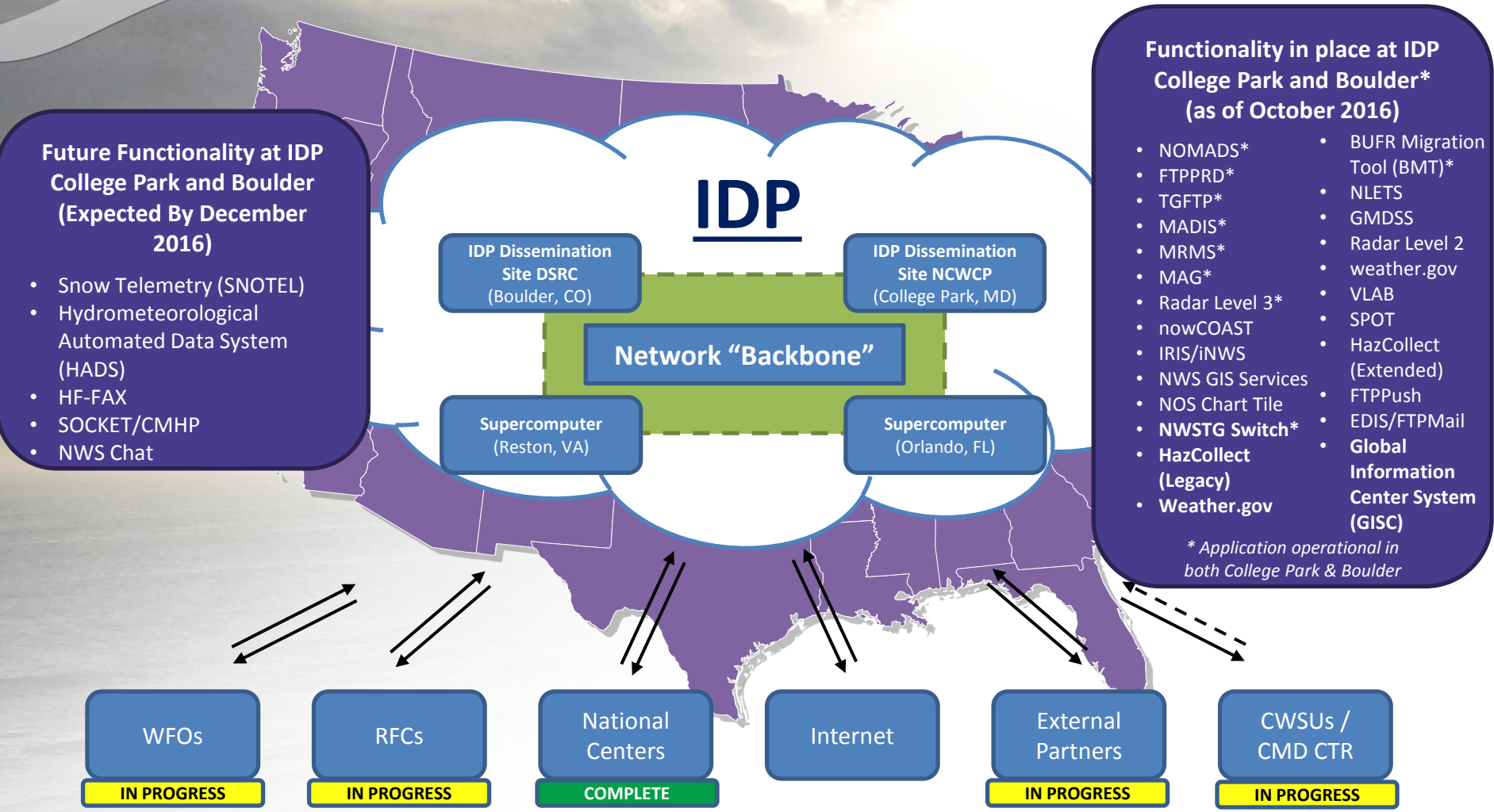
- Shutdown legacy NWSTG
- OneNWS upgrades for 50 CONUS sites
- Complete Acq Plan for Enterprise Infrastructure Solutions.

## Analyze, Forecast, Support

- National Blend of Models prototype demonstration
- 100 new Storm Ready Communities
- Operational Storm Surge Watch/Warning product suite
- 10 new/renewed Tsunami Ready communities
- CONOPS for NWC Operations Center
- Transition to Operations experimental week 3-4 temperature and precipitation outlook

# Integrated Dissemination Program (IDP) OneNWS Network

## Long-Term Sustainable Solution



- Future Functionality at IDP College Park and Boulder (Expected By December 2016)**
- Snow Telemetry (SNOTEL)
  - Hydrometeorological Automated Data System (HADS)
  - HF-FAX
  - SOCKET/CMHP
  - NWS Chat

- Functionality in place at IDP College Park and Boulder\* (as of October 2016)**
- NOMADS\*
  - FTPPRD\*
  - TGFTP\*
  - MADIS\*
  - MRMS\*
  - MAG\*
  - Radar Level 3\*
  - nowCOAST
  - IRIS/iNWS
  - NWS GIS Services
  - NOS Chart Tile
  - NWSTG Switch\*
  - HazCollect (Legacy)
  - Weather.gov
  - BUFR Migration Tool (BMT)\*
  - NLETS
  - GMDSS
  - Radar Level 2
  - weather.gov
  - VLAB
  - SPOT
  - HazCollect (Extended)
  - FTPPush
  - EDIS/FTPmail
  - **Global Information Center System (GISC)**
- \* Application operational in both College Park & Boulder*

WFOs	RFCs	National Centers	Internet	External Partners	CWSUs / CMD CTR
IN PROGRESS	IN PROGRESS	COMPLETE		IN PROGRESS	IN PROGRESS

**"OneNWS" Network**

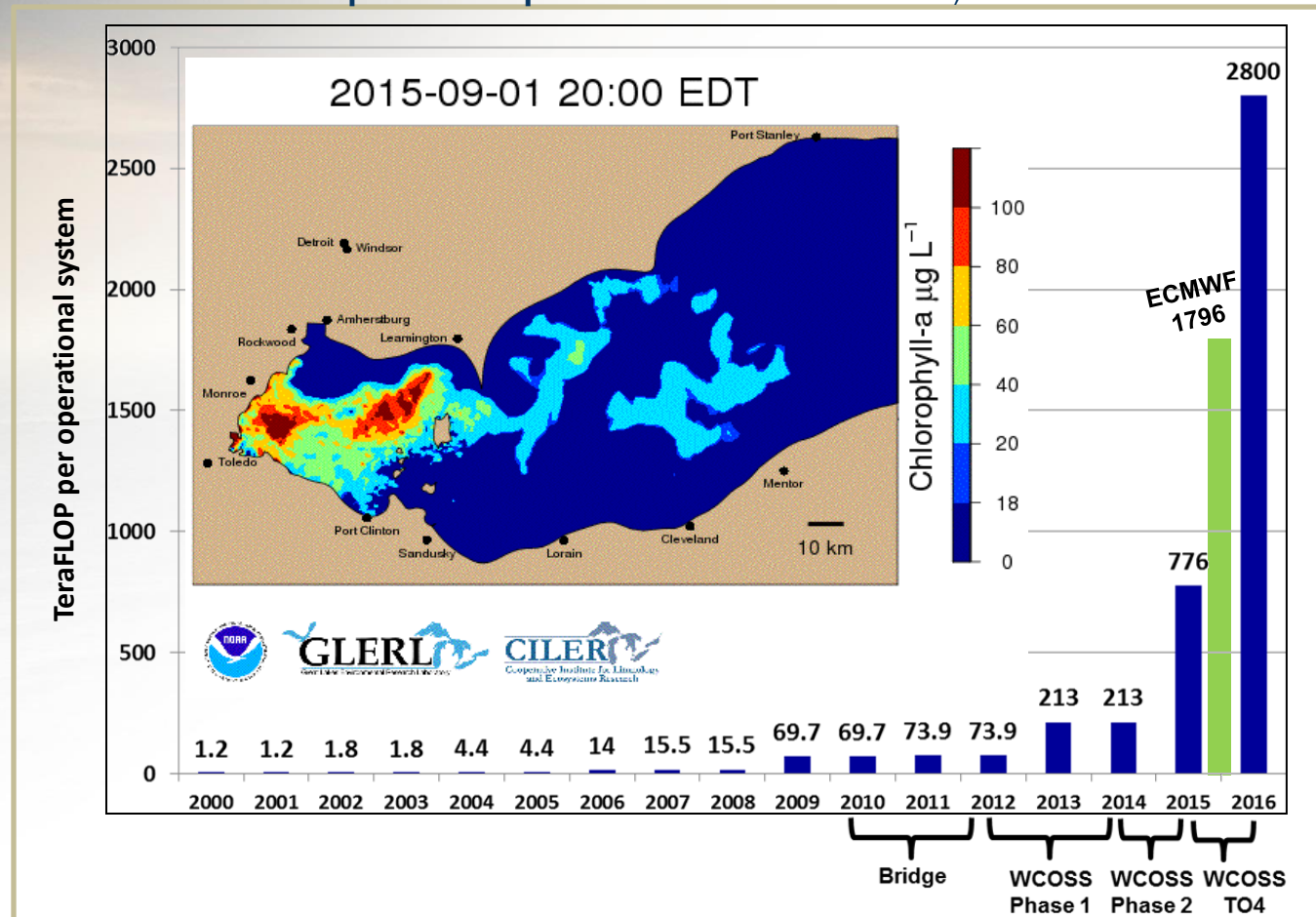
The future OneNWS network will consolidate all operational networks (OPSnet, Regional, etc.) as single managed network under NCEP Central Operations (NCO).

# Computer Status/Model Implementation Supported through HFIP and Sandy Supplemental

Increased HPC capacity to 2.8 petaFLOPs  
*(for primary and backup, respectively—for a total of 5.6 PF)*  
 Accepted for Operations: November 30, 2015

## Key Atmospheric Model Upgrades Complete:

- Jan 2015: Global Forecast System (GFS) upgraded – 13km out to 10d
- Jun 9, 2015: 2km HWRF
- Sep 2015: SREF, GEFS
- Mar 8, 2016: HIRSW implemented on Cray
- May 11, 2016: GFS/4D ENKF
- July 12, 2016: HWRF – Wave Watch 3
- HPC-Based Water Modeling:
  - Deploy National Water Model on WCOSS
- HRRR v2.0 (HRRRe)
- Geospace Solar Wind Forecast





# Recent Success Stories

Predicting extreme events 7-8 days in advance

- October 2015 South Carolina 20" Rain
- Central U.S. Post Christmas 2015 Storm
- January 2016 East Coast Blizzard
- March 2016 Flooding
- June 2016 Southwest Heat Wave3
- Hurricane Matthew



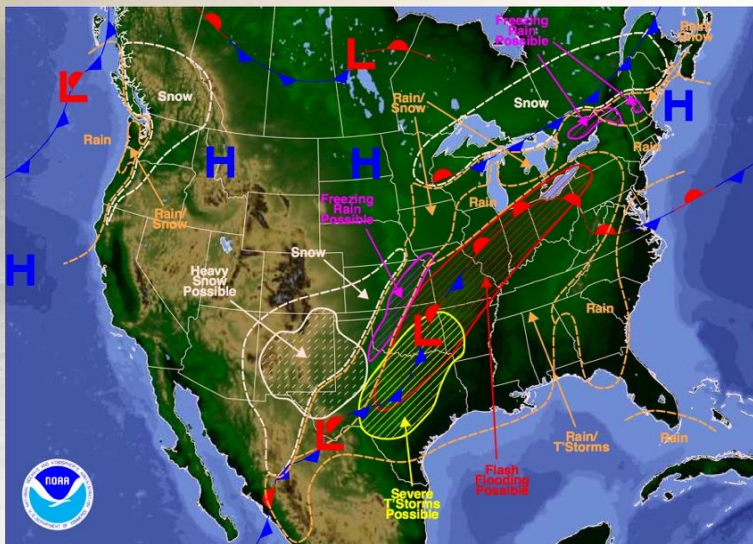
**Successful Weather, Water and Climate IDSS  
Provided to Local, State and National Partners  
Before, During and After Events**

# Post Christmas Storm (Dec. 25-28, 2015): The Spectrum of IDSS

## Preparedness

### Federal and State Actions

- Maintained situational awareness through NWS and liaison briefings (as early as Dec 22)
- Alerted response teams and assets for possible activation or deployment (over holiday weekend)
- Increased level of coordination across federal, state and local jurisdictions



Weather Forecast for Sat, Dec 26, 2015, issued 4:29 PM EST  
DOC/NOAA/NWS/NCEP/Weather Prediction Center  
Prepared by Santorelli based on WPC, SPC and NHC forecasts

## Immediate Response

### Tornadoes

WFO Fort Worth created preliminary tornado tracks in collaboration with SR-ROC and liaisons; FEMA analyzed impacts to support activation and deployment decisions



### Blizzard

State and local municipalities mobilized to address road conditions and open shelters



Photo: News Channel 10 – Amarillo, TX

### Flooding

- Emergency Response Specialist (ERS) deployed to FEMA VII Regional Response Coordination Center
- NOAA Liaison to FEMA and ERS highlighted greatest flood risk to support staging operations



Photo: St. Louis Post Dispatch

### States of Emergency Declared

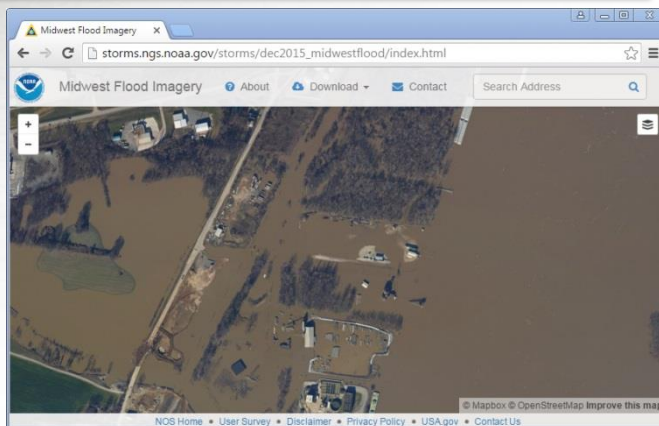
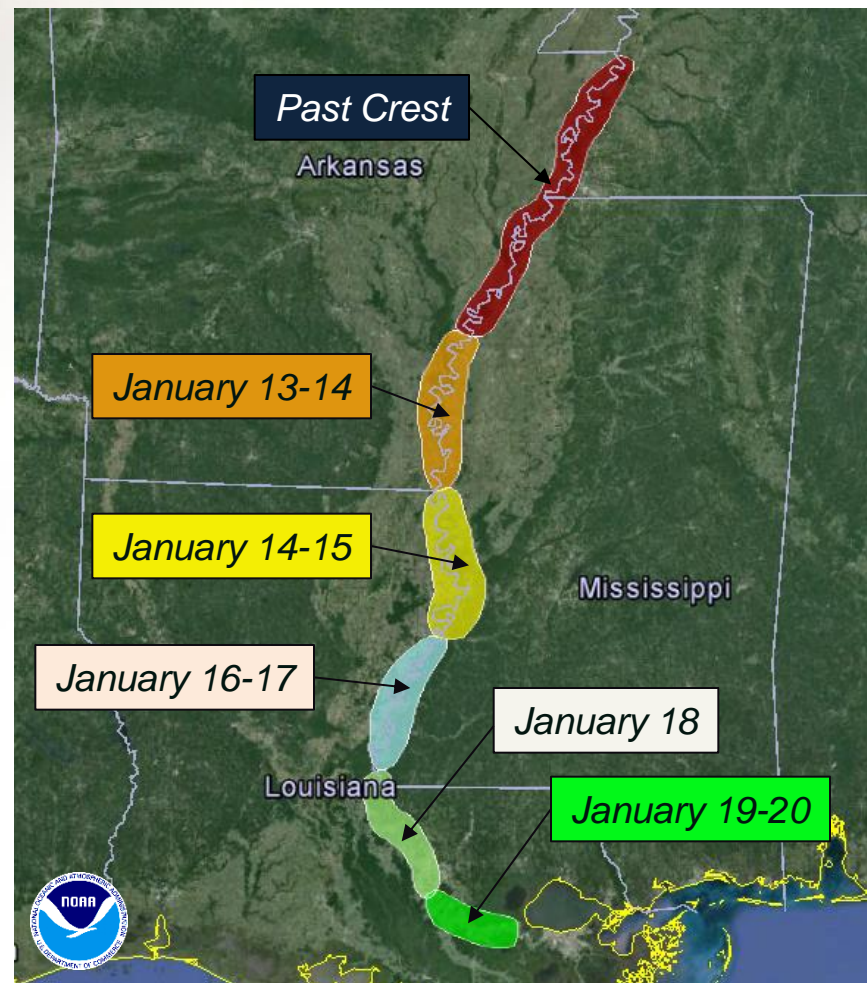
Dec 27: TX/NM/MO; Dec 28: OK; Dec 29: IL; Dec 30: MS/LA

# Post Christmas Storm (Dec. 25-28, 2015): The Spectrum of IDSS

## Response and Recovery

### Long-Duration River Flooding

- NOAA Liaison provided location and timing of peak crests along affected rivers:
  - to help FEMA define when NOAA and interagency remote sensing capabilities should be executed
  - imagery captured real-time visual impacts during worst conditions to support NWS RFC operations as well as inform disaster declaration (recovery) decisions
- NWS Central and Southern Regions worked closely with FEMA Regions and States to define the events for declaration requests
- Central Region ROC continues to provide IDSS for debris removal operations in southern Missouri



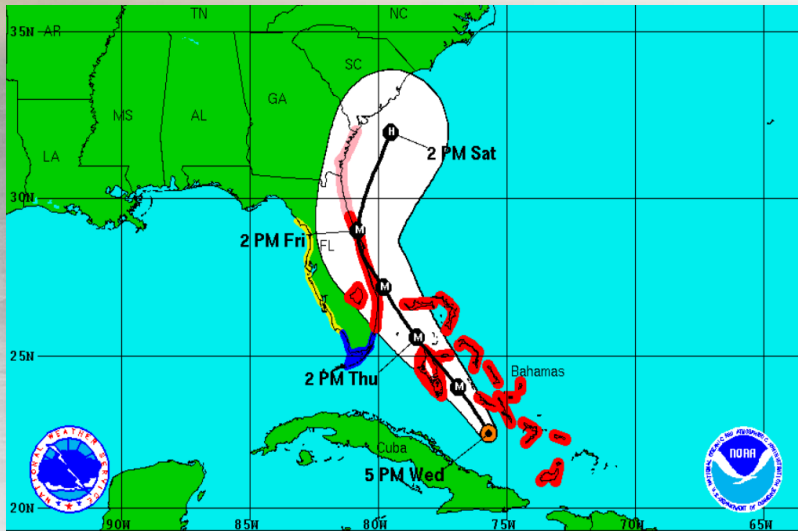
NOAA King Air Aircraft

# Hurricane Matthew (Oct. 6-9, 2016): The Spectrum of IDSS

## Preparedness

### Federal and State Actions

- WCM deployed to SC EOC Oct 3; EOC ER-MET deployed to GA and FL through week
- Briefings provided to partners as early as Oct 3
- FEMA Region IV provided a pre-declaration write-up for the Carolinas in anticipation of the state's request



**Hurricane Matthew**  
 Wednesday October 5, 2016  
 5 PM EDT Advisory 31  
 NWS National Hurricane Center

**Current Information:**  
 Center Location 22.5 N 75.7 W  
 Max Sustained Wind 120 mph  
 Movement NW at 12 mph

**Forecast Positions:**  
 ● Tropical Cyclone ○ Post-Tropical  
 Sustained Winds: D < 39 mph  
 S 39-73 mph H 74-110 mph M > 110mph

## Immediate Response

### Surge

Mean higher high water/inundation was highest ever recorded at seven locations. WFOs conducted Storm Surveys as conditions allowed.



### Wind

WFOs provided 3-hourly wind forecasts and 1-hour spot forecasts to multiple nuclear power plants



### Flooding

Record river flood levels at multiple locations in North Carolina. WFO Wilmington, NC deployed storm survey team to survey record flooding on the Lumber River at Lumberton, NC.



### States of Emergency Declared

Oct 3: FL, NC; Oct 4: GA

# Hurricane Matthew: Connecting All of the Pieces

Oct 3

Oct 4

Oct 5

Oct 6

Oct 7

U.S. Personnel airlifted from military installations in Cuba

NWS offices continue briefing partners and begin deploying to EOCs

Partner coordination/ briefings help evacuation decisions  
NWS staff deployed to WFOs and EOCs

Hurricane and Tropical Storm Warnings Issued for FL

Florida Keys prepare for shelter in place vs evacuation

Hurricane Watch Issued for GA

Members of Congress/Staff Briefed  
President Briefed

Matthew Begins to Impact FL

Hurricane Warning Issued for GA/SC

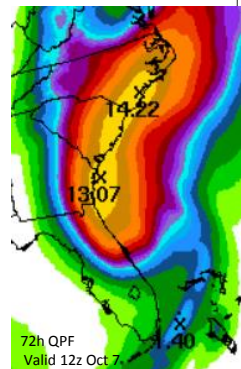
Louis appears on CNN

Matthew Impacts FL/GA

Hurricane and Tropical Storm Warnings for NC

Confidence increases in flooding across Carolinas

State of Emergency Declared:  
• Georgia



72h QPF  
Valid 12z Oct 7

# Working Together: Vision Becoming a Reality

- Partnerships contribute to all aspects of building a Weather-Ready Nation
- We have come a long way together and we will continue working with you across all portfolios
- We are transitioning from OWA to Evolving the NWS
  - “This is not a destination – it is a journey”
  - This is not just about “weather” – it is about the weather-water-climate enterprise – poised for growth