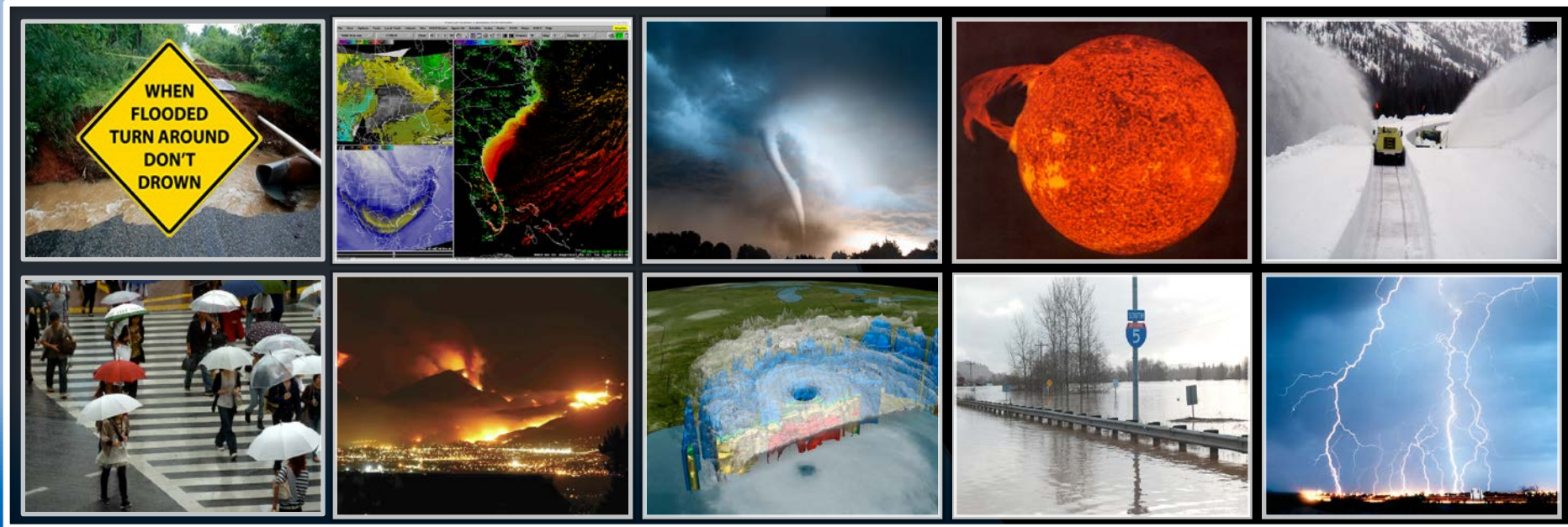


# NWS Central Processing Update

David L. Michaud, NWS Central Processing  
January 11, 2018 • Austin, TX



# NOAA's High Performance Computing Locations and Systems



**Boulder, CO**  
Development HPC  
• Jet (1,103 Tflops)



**Fairmont, WV**  
Development HPC  
• Theia (3,076 Tflops)



**Oak Ridge, TN**  
Research HPC  
• Gaea (4,020 Tflops)



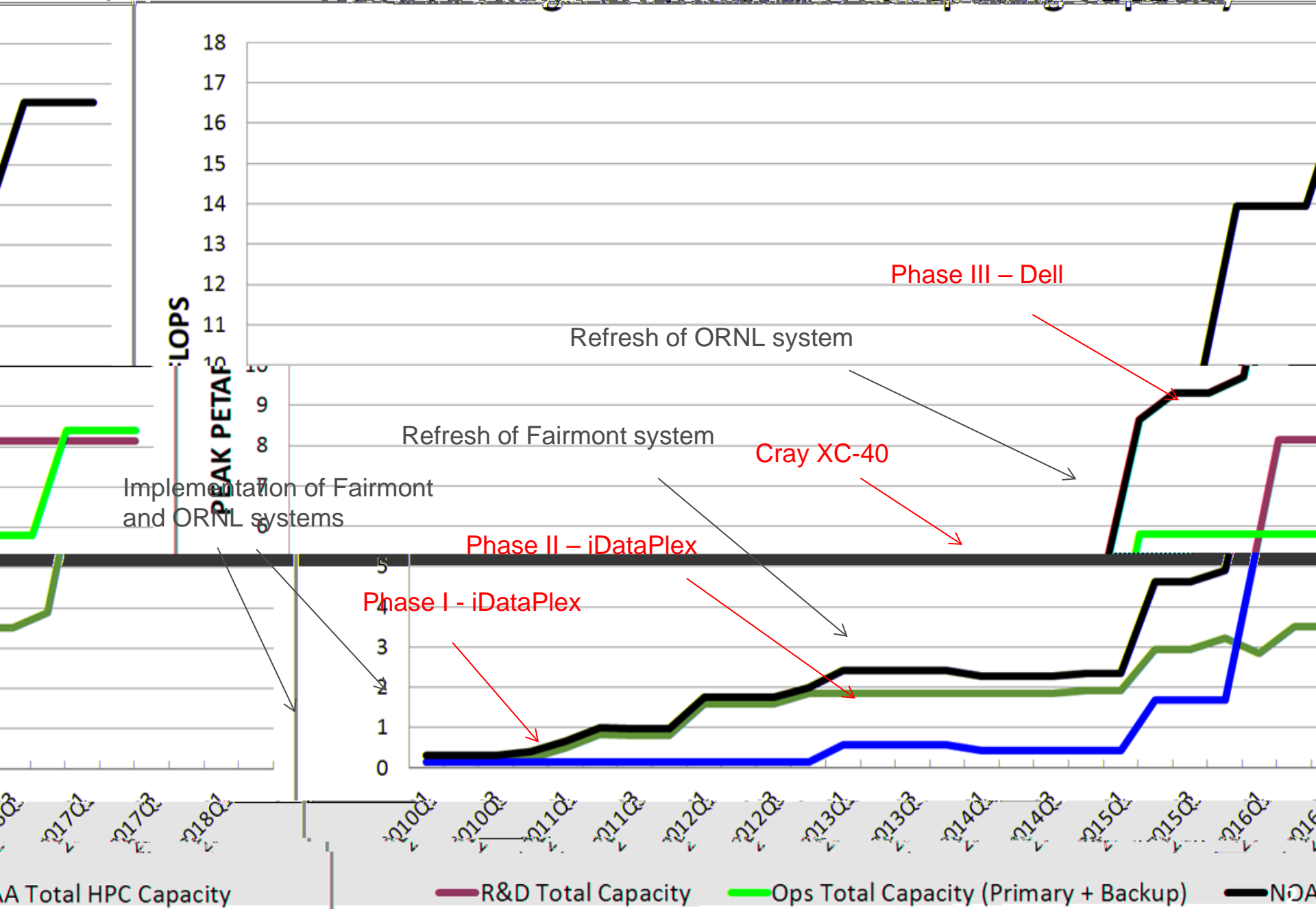
**Orlando, FL**  
• Backup/Development (4,200 Tflops)

**Princeton, NJ**  
Climate Post-Processing & Analysis

**Reston, VA**  
• Primary (4,200 Tflops)

- ★ Operational HPC Systems
- Research and Development (R&D) HPC Systems

# NOAA's High Performance Computing Capacity



PFLOPS

PEAK PFLOPS

Implementation of Fairmont and ORNL systems

Refresh of Fairmont system

Refresh of ORNL system

Phase III - Dell

Cray XC-40

Phase II - iDataPlex

Phase I - iDataPlex

NOAA Total HPC Capacity

R&D Total Capacity

Ops Total Capacity (Primary + Backup)

NOAA

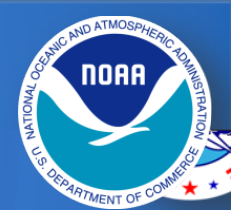
# AWIPS Improvements Hazard Services

The screenshot shows the AWIPS interface with a radar map on the right displaying hazard areas in red and yellow. On the left, there are several panels: a 'Forecast Products' list, a 'Forecast Details' panel, and a 'Forecast Data' table. The 'Forecast Products' list includes items like 'FLOOD WARNING', 'FLOOD ADVISORY', and 'FLOOD WATCH'. The 'Forecast Details' panel shows 'Hazard Type: FLN (FLOOD WARNING)' and 'Time Range: 08-Feb-2011 12:54'. The 'Forecast Data' table shows a list of forecast points with their respective hazard types and times.

The screenshot shows the CAVE-OAX-Hydro interface. The 'Hazard Information' panel is active, displaying details for a 'FLN (FLOOD WARNING)' hazard. The 'Hazard Type' is 'FLN (FLOOD WARNING)', the 'Hazard Category' is 'Hydrology', and the 'Time Range' is from '08-Feb-2011 12:54' to '11-Feb-2011 05:12'. The 'Forecast Point' is 'ASLN1', the 'Immediate Cause' is 'ER (Excessive Rainfall)', and the 'Flood Severity' is '0 (Areal Flood or Flash Flood Products)'. The 'Flood Record Status' is 'OO (for areal flood warnings, areal flash flood p...'. The 'Rise Above Time' is '02-Jan-1970 00:51' and the 'Crest Time' is '03-Jan-1970 09:00'. The map on the right shows a river network with a highlighted area labeled '137 FAA'.

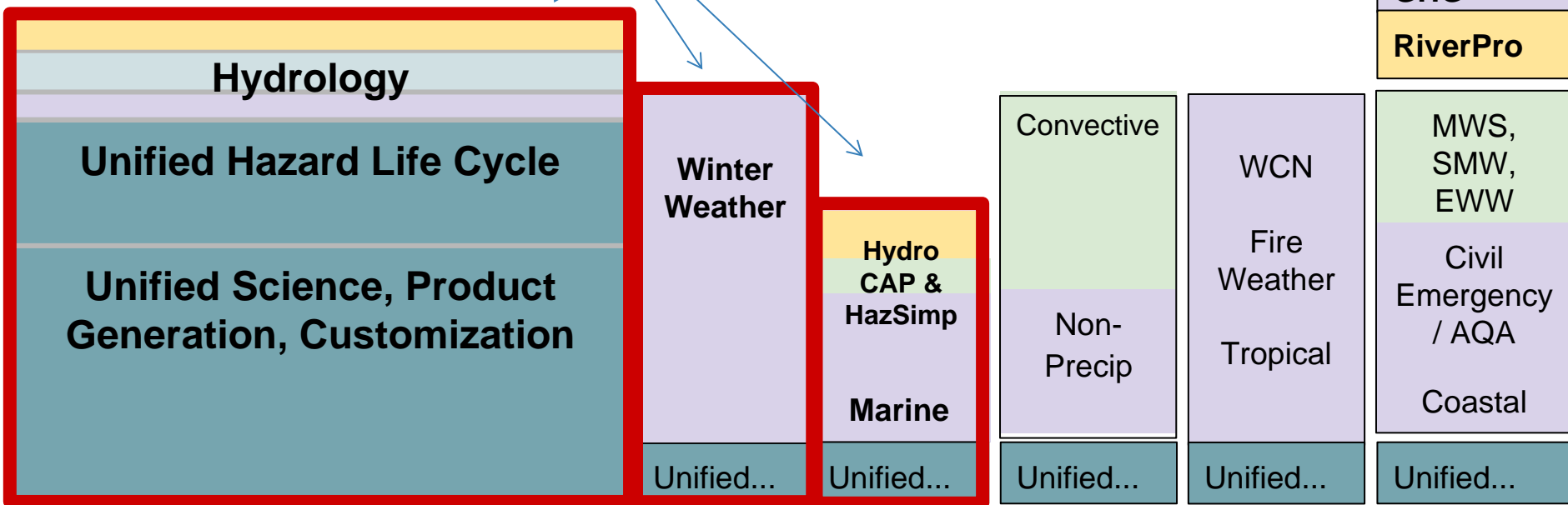


# AWIPS Improvements Hazard Services



## In Progress Now

For each hazard category, Recommenders, Meta Information, and Products need to be implemented.



Q3 FY17 -  
Q2 FY18

Q3 - Q4 FY18

Q4 FY18

Q1 FY19

Q2 FY19 - Q3  
FY19



Regional Testing

NonOp Site Testing

Operations &  
Proving Ground

Op Site Testing

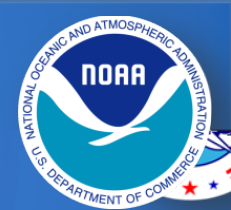
Deployment





# AWIPS Improvements

## National Centers Integration with AWIPS



- Integrate capabilities between field and national offices
- Consolidate hardware and software baselines to create common operational picture enabling a fully integrated field structure



# AWIPS Improvements

## National Centers Integration with AWIPS



**Q2 FY18**

Complete assessment - AWIPS capabilities gap to migrate National Center processing

**Q3 FY18**

Initiate development - address capabilities gap

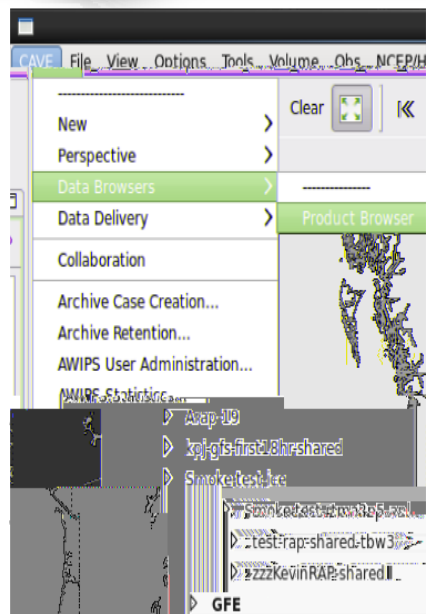
**Ongoing/Future Work -  
TBD on Outcome of Above**

Complete assessment & documentation - pre/post processing systems integrated with NAWIPS/AWIPS at National Centers

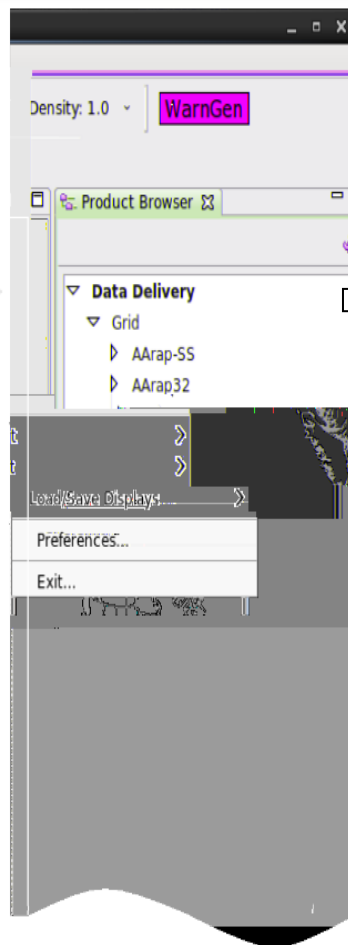
Document AWIPS requirements – National Centers Continuity of Operations systems & testbed activities

NAWIPS Merger: Analysis for functions performed by D2D, GFE, Hazard Services (Evolve Task)

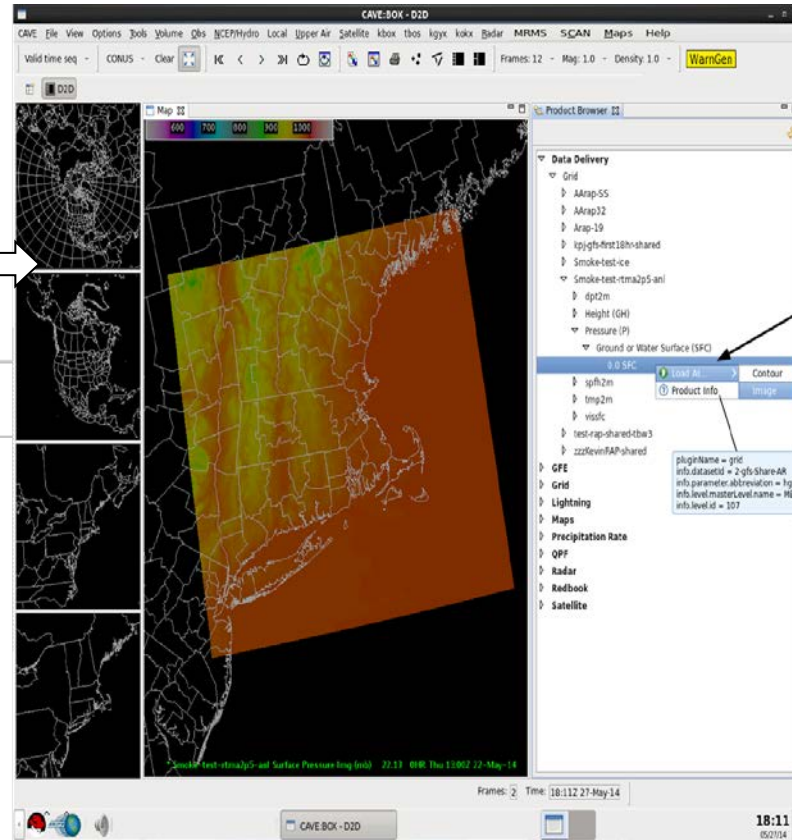
# AWIPS Improvements Data Delivery



Late Jan 18



Q2 FY18



Right click (B3) on desired product to open pop-up menu

Q3 FY18

- Local site testing with NOMADS
- OCLO developing training

MADIS data access to local sites

Satellite-derived products available





# THANK YOU!

