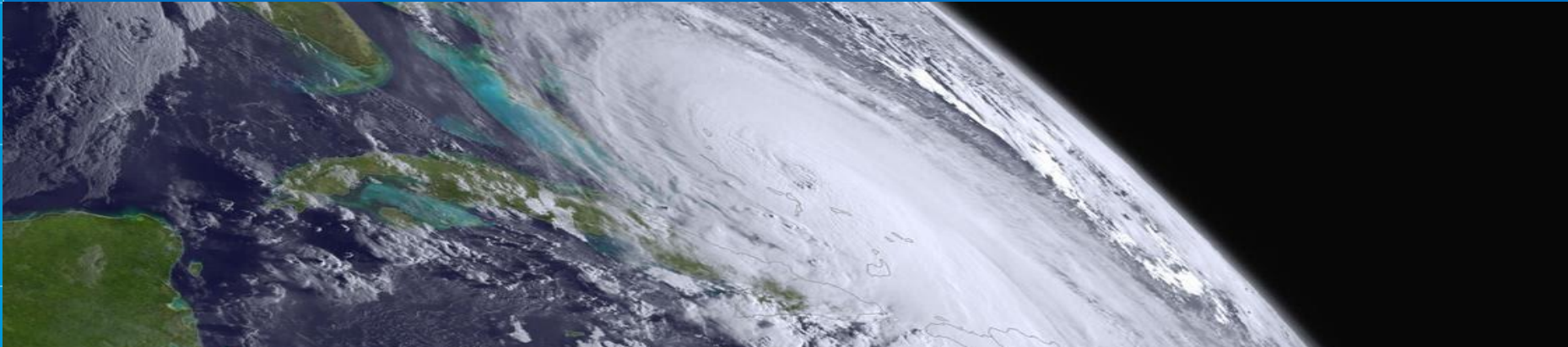


**National
Weather
Service**

NWS Partners Webinar

Spring 2021

Office of Organizational Excellence (OOE)
April 23, 2021



Today's Webinar Agenda

- Welcome and Logistics
- NWS Strategic Updates
- Q/A and Open discussion
- NWS Programmatic Updates
- Q/A and Open discussion
- Wrap-up



Peyton Robertson

Director
Office of Organizational
Excellence
National Weather Service



Andrea Bleistein

Partner Engagement Lead
Office of Organizational
Excellence
National Weather Service

Webinar Logistics

How to join the discussion!

- If using the phone for audio, please be sure to enter your audio pin. If you did not do it when you called in, type #PIN# into your phone now.
- All lines will remain muted until the open discussion.
- We are **recording** the webinar for posting later.

Welcome to Our Presenters



Dr. Louis Uccellini

Assistant Administrator
for Weather Services,
NOAA and Director,
National Weather
Service



Mary Erickson

Deputy Director,
National Weather
Service



Dr. Mike Farrar

Director,
NWS NCEP and
2021 AMS President



Kevin Cooley

Director,
NWS OPPSD



Michelle Mainelli

Director,
NWS Office of
Dissemination

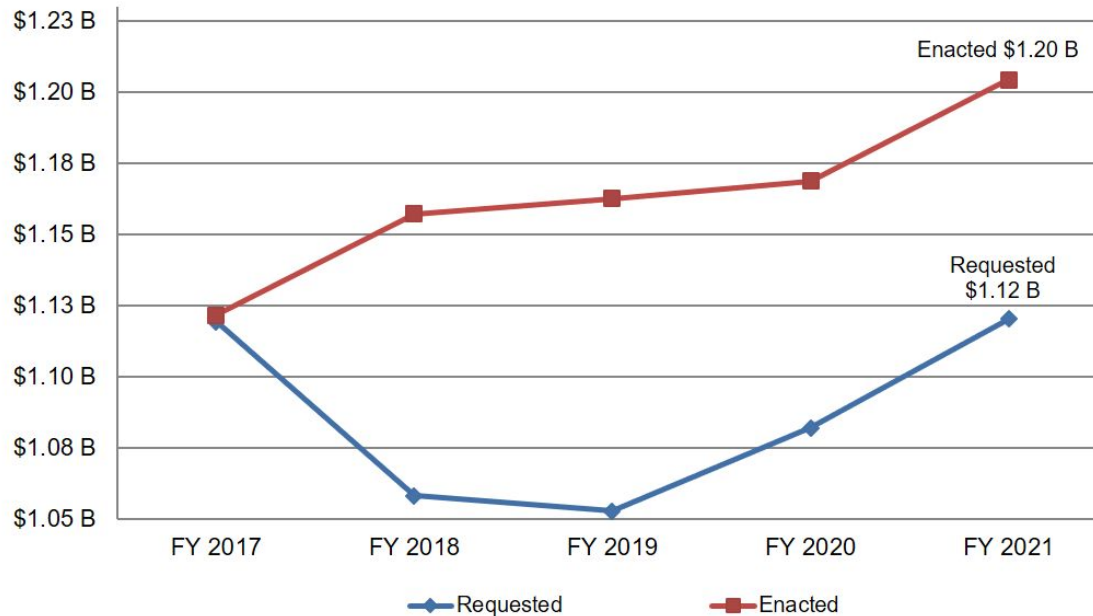
NOAA and New Administration

Climate Change

**Social Equity
and Serving
Underserved**

**Rate of Activity
with New Political
Leadership**

President's Budget Requested vs. Enacted Amounts



Presidential Budget

The Summary of the President's Discretionary Funding Request identifies additional funds for NOAA to focus work on improving forecasts

Expands Observations, Research, and Climate Services

- Provides an increase of more than **\$1.4 billion over the 2021 enacted level**, for the National Oceanic and Atmospheric Administration (NOAA)
- Increase includes **\$800 million to expand investments in climate research**, support regional and local decision-making with climate data and tools, and improve community resilience to climate change.

Celebrating 10 Years: *A Weather-Ready Nation*

“Ready, Responsive, Resilient”



11,430+ Ambassadors

Becoming a Weather-Ready Nation is about **building community resilience in the face of increasing vulnerability** to extreme weather, water and climate events, *by touching every county every day AND supporting national security and public safety.*

This Requires

- Better forecasts and warnings
- Actionable environmental intelligence
- Consistent products and services
- Connecting to decision makers through IDSS

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

NWS Partnership Strategy

Goals for the NWS Partnership Strategy

- 1 Improve the overall NWS partnership experience
- 2 Further enhance and develop new ways of leveraging and using partnership capabilities to help realize the NWS vision
- 3 Understand the landscape of NWS partnerships and develop a clear strategic vision of which key partnerships to enhance and develop



Priorities

1. **Communicate** the net value of partnerships
2. **Identify** and develop specific NWS partnership objectives
3. **Pursue** key partnerships to pursue or enhance
4. **Implement** partnership mechanisms or approaches
5. **Maintain** situational awareness of how the Enterprise is changing and evolving
6. Gather and spread **best practices**
7. **Guide** partnership-relevant programs or projects
8. **Measure** and monitor partnership outcomes

NWS Priorities 1-3 Years

	People! Policies, Processes, Procedures		
Priorities	Transform Services	Fortify Robust Infrastructure	Advance Science
Focuses	<ul style="list-style-type: none">• Impact Based Service Delivery• Building Resilience<ul style="list-style-type: none">○ Equitable Services○ Hazard Simplification	<ul style="list-style-type: none">• Dissemination• Cloud, Engineering• Advanced High Performance Computing	<ul style="list-style-type: none">• Improved Models, Assimilation• Community Modeling UFS/EPIC• Precip Grand Challenge
FY21 AOP Milestones	<ul style="list-style-type: none">□ QPF Collaborative Forecast Process Demo□ IDSS Instructions, Training, Tools□ Real-time Flood Common Operating Picture (FIM)	<ul style="list-style-type: none">□ NAWIPS/AWIPS Integration□ New Weather/Climate Supercomputing System□ NWSChat	<ul style="list-style-type: none">☑ GFS v16 — Done!☑ Water Model v2.1 — Done!□ New Weather/Climate Supercomputing System

NWS D&I Action Plan

COVID-19 Reintegration

Defining New Normals, Best of Both Worlds



Timing of Reintegration

Timing will be steady, data driven and locally informed to maintain the integrity of NWS mission capability.



Flexibility & Expanded Connectivity

Slow, flexible, safe increase in onsite crews of essential personnel at our Ops locations, scaling up for extreme weather events. Virtual meetings have in some cases improved partner communication.



Prioritizing Health & Safety

Our top priority is the health and well-being of our workforce, workplaces and partners. NOAA Public Health Officers and CDC provide guidelines for masks, vaccines, and office protocols.

AMS Annual Meeting 2022



- **Time/Place:** January 23-27, 2022 in Houston, TX (George R. Brown Convention Center)
- **Theme:** *“Environmental Security: Weather, water and climate for a more secure world.”*
- **Motivation:** We are seeing a growing influence of **weather, water and climate** on **human** and **national security** due to a rapidly increasing global population, coupled with evolving human and national security impacts from disruption of weather and climate norms
 - Inform the broad AMS membership on the connections of our scientific field to larger societal impacts
 - Demonstrate how important our science contributions are to the security needs of the citizens of the U.S. and the world, particularly on its most vulnerable groups
 - Bring world-class experts on impacts of climate and extreme weather on water quality/scarcity, energy, food and health to share their experiences w/AMS members

AMS Annual Meeting 2022



Theme sessions organized around 5 Environmental Security pillars

- 1 Extreme Weather & Climate events
- 2 Health Security
- 3 Energy Security
- 4 Water Security
- 5 Food Security

Additional theme sessions planned that cross-cut the 5 Env. Sec. pillars

- Disproportionate impact on vulnerable populations
- Engagement with local Houston public & private sectors
- Environmental diplomacy... and more (still TBD)

For any that would like to engage, please contact me directly.

AMS Washington Forum 2022

- The annual AMS Washington Forum provides a platform to examine *public policy* issues across the weather, water, and climate enterprise.
 - Forum held under *modified Chatham House rules* to encourage openness and the sharing of information.
- This meeting is open for anyone interested in learning more about how weather, water, and climate information can help support *risk management* across the public and private sectors. This includes agencies and companies whose operations and planning are reliant on environmental factors.
- The AMS Washington Forum is organized by the AMS Board on Enterprise Economic Development (BEED), a part of the AMS Commission on the Weather, Water, and Climate Enterprise (CWWCE).

Thanks for our sponsors; your contributions to the AMS are most appreciated!

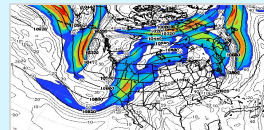
National Centers for Environmental Prediction (NCEP)



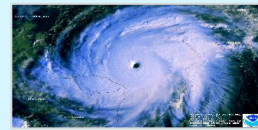
Aviation Weather Center
Kansas City, MO



Climate Prediction Center
College Park, MD



Environmental Modeling Center
College Park, MD



National Hurricane Center
Miami, FL



NCEP Central Operations
College Park, MD
(Supercomputers in Reston & Orlando)



Ocean Prediction Center
College Park, MD



Space Weather Prediction Center
Boulder, CO



Storm Prediction Center
Norman, OK



Weather Prediction Center
College Park, MD

Mission

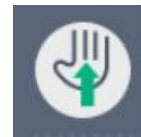
NCEP delivers national and global operational weather, water and climate products and services essential to protecting life, property and economic well-being.

Vision

The trusted source for environmental predictions from the sun to the sea, when it matters most.

Break for Questions and Discussion

Please use the **question box** or **hand-raise option**.



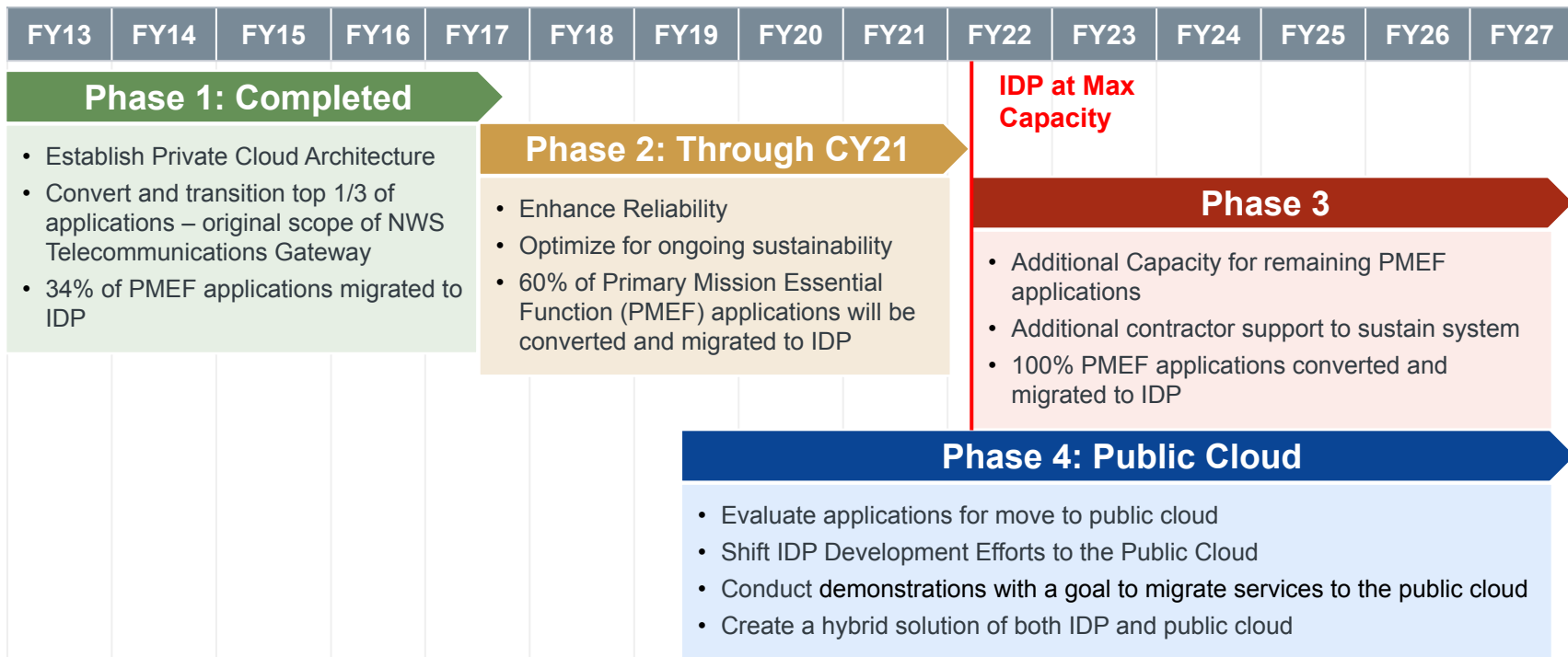
If we don't get to you, enter your comment in the "Questions" box or email andrea.bleistein@noaa.gov after the webinar

IDP: Bottom Line Up Front

- The NWS **Integrated Dissemination Program (IDP) four-phase plan** (requested by Senate Appropriations and delivered October 2020) charts the course for 21st century services for the nation - making them robust, flexible and high capacity. This is a top priority for NWS.
- Over the past 6 months - a series of unrelated building, network, and application-related issues unacceptably impacted the dissemination of NWS data, products and services.
- **\$1.5M increase in FY21 is now being executed** to start addressing the known weaknesses in the critical national dissemination IT infrastructure - specifically the IDP network bandwidth and to upgrade network routers and load balancers.
- The IDP Plan: Phase 1 completed, Phase 2 by end of CY22, and new public cloud initiatives are being demonstrated and applied now.

NWS Integrated Dissemination Program (IDP)

Four-Phase Plan: A Long Term Solution



Integrated Dissemination Program (IDP)

Dissemination Services Supports NWS Offices/ Programs throughout the U.S

122

Weather Forecast
Offices

6

Regional Ops
Centers

22

Center Weather
Service Unit
(Aviation)

13

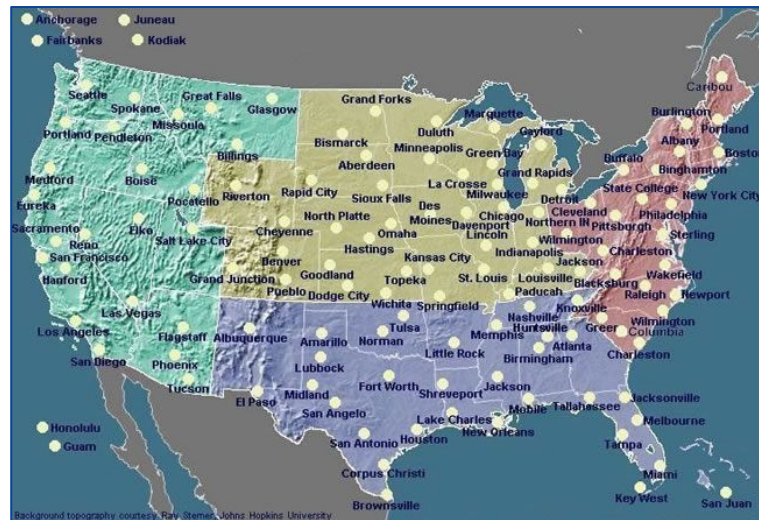
River Forecast
Centers

9

National Centers

1

Water Prediction
Center



Using

- Two private IDP on-site cloud infrastructure systems
- Two legacy webfarms
- Public cloud infrastructure to demonstrate the “art of the possible”
- **57 different dissemination-related applications** that all need to be upgraded, updated, tested, and meet strict security requirements

IDP: operationally supported on 24x7 basis with a goal to deliver at 99% reliability!

IDP Operational Applications

IDP Backbone includes the **IDP Dissemination Sites** in Boulder, CO, and College Park, MD, and the **Legacy Webfarms** in **Kansas City, MO** and **College Park, MD (new)**

38 Applications on IDP (April 2021)

- FTFS In / FTFS Out
- WMO GISC
- IRIS/iNWS
- GMDSS
- SNOTEL
- HADS
- HF-FAX
- SOCKET
- NWS GIS Services
- nowCOAST
- AOMC/EM7 Monitoring
- Water.weather.gov
- Aviationweather.gov
- SPADES
- Api.weather.gov
- EMWIN
- NOS Chart Tile
- VLAB
- Tsunami.gov
- NOMADS
- FTPPRD
- TGFTP
- MADIS
- MRMS
- MAG
- Radar Level 2
- Radar Level 3
- NWSTG Switch
- BUFR Migration Tool
- NLETS
- EDIS/FTPMail
- HazCollect Extended
- ISatSS
- FTP / SFTP
- NGITWS
- FTPPUSH
- RIDGE2 (Dec 20)
- CAPHandler (Feb 21)

Complete Phase 2

Future Functionality at IDP College Park and Boulder :

- NWSChat – FY22Q1
- AHPS – FY22Q1

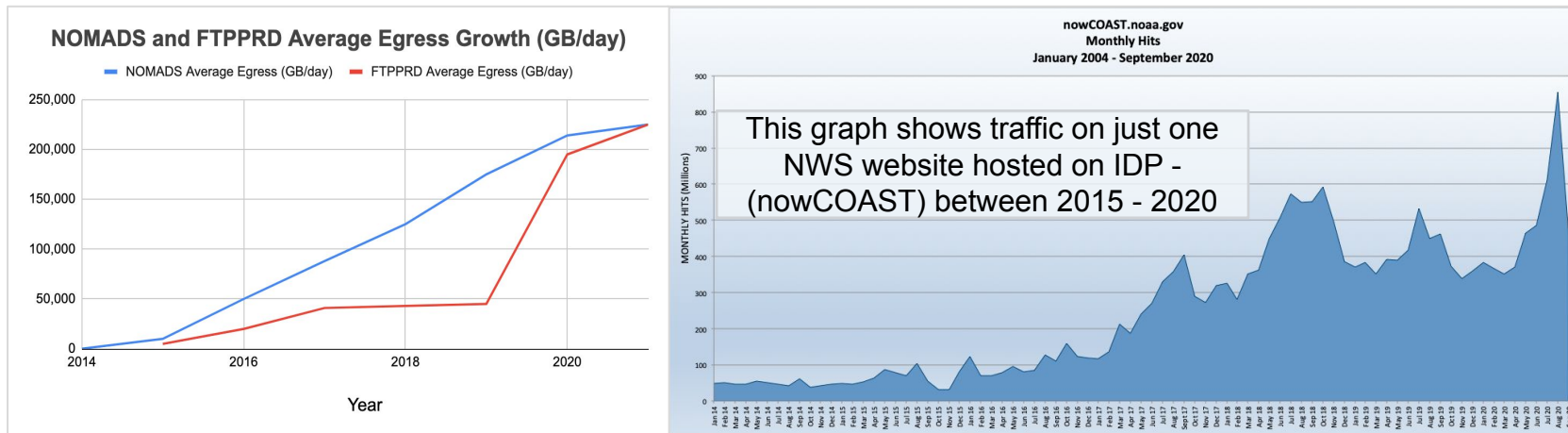
Upcoming Phase 3 Steps (Private IDP Cloud)

- **Weather.gov** Requirements Scoping
- **Legacy Web Farm (NIDS) app** analysis for future home
- Increasing the **network bandwidth capacity** to allow improved customer access to data and services

Upcoming Phase 4 Steps (NOAA Public Cloud)

- Initial Launch of Enterprise NWS National Viewer Q3 – Q4
- Model data public cloud demonstration Q3 – Q4
- NWSChat COTS Demonstration


Battle of the Band(width)



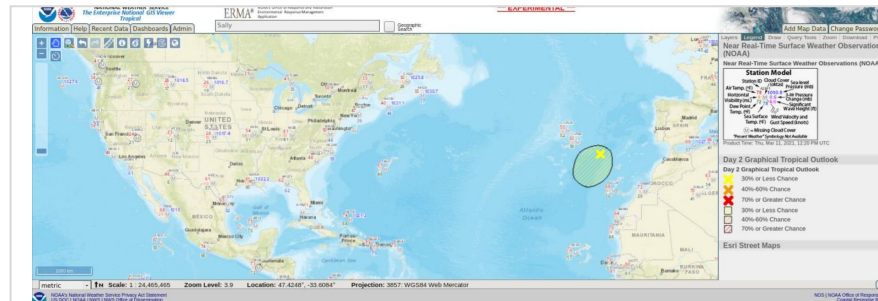
- Bandwidth issues result from our success. Better model resolution = more data used by more people more frequently. Improvements outpaced our plans and funds.
- To minimize sporadic overload and ensuing crashes, NWS proposed limiting access to 60 hits per minute on its major data-generating web pages.
- Based on customer feedback and further assessment of infrastructure, NWS enacted model-related rate limit access to 120 hits per minute, ONLY for NOMADS and FTPPRD, not impacting other IDP applications on April 20.

Planning for Success: Cloud Opportunities

Continue with cautious and deliberate demonstrations and implementations in the **public cloud** following the IDP Phased Approach

Demonstration... Validation ... Implementation in 3 Distinct Phases			
Timing	May 2021 - Sep 2021: Phase 1	Oct 2021 - Jan 2022: Phase 2	+ 12 - 24 Months
Target Users	Long-term NWSChat Project Team	Project Team + small subset of offices for demonstration and testing	
Outcomes	<ul style="list-style-type: none">* Launch Project* Enable targeted audience* Integrated and development roadmap for long-term Chat* Initial design, policies, and configurations for COTS solution	<ul style="list-style-type: none">* Launch COTS* Enable new users* Complete development and implementation* Document and create external videos, and train	

Long-Term NWSChat: Demonstrate new COTS solution for NWSChat



GIS VIEWER: IOC planned in Q3FY21 with new layers added throughout FY22 based on resources and prioritization by the NWS governance process

Phase 4: Public Cloud

- Evaluate applications for move to public cloud
- Shift IDP Development Efforts to the Public Cloud
- Conduct demonstrations with a goal to migrate services to the public cloud
- Create a hybrid solution of both IDP and public cloud

Open Discussion

Please use the **question box** or **hand-raise option**.



If we don't get to you, enter your comment in the "Questions" box or email andrea.bleistein@noaa.gov after the webinar

Wrap Up - What's coming

- WRN Ambassadors Roundtable: April 27, 2021
- NWS-Academia Partners Roundtable: May 24-25, 2021
- Hazard Simplification Webinars: May 5, 6, 12, and 19, 2021
- Partner calls with NWS Deputy Director

THANK YOU!!

weather.gov/wrn/calendar