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## Abstract

The NCEP Central Operations (NCO) IT platform plays a critical role in supporting NOAA's Weather-Ready Nation. NCO is responsible for managing the network infrastructure and the two private cloud data centers that run applications used by NWS forecasters, Government partners, Emergency Managers, and private users. The topics this poster will include are: the architecture, application responsibilities, and challenges supporting applications that transmit watches, warnings, and advisories.

### What We Do

• Disseminate Watches/Warnings/Advisories (WWA) to the public • Interface with the Wireless Emergency Alerting (WEA) system Aggregate Observational Data for Public Consumption Post Process Satellite and NCEP Model Data Interface with FAA Systems to Exchange Weather Data Provide Radar & Radar-Derived Products

## Challenges

- Extremely Low Latency Data Requirements
- Message Paths Traverse Private, Public & Satellite
- Manage Multiple Layers of Redundancy Communicating Changes Effectively
- Application Upgrades Completed Without Customer Impact

## How We Operate

- Operate 2 Uniform On-Prem Data Centers
- Applications Resdie in a "Hot Backup" Posture
- Dedicated Infrastructure Resources to WWAs
- Use Content Delivery Networks for Security & Offloading
- Enforce Platform & Software Standards
- Monitor Applications for Uptime & Timeliness
- Run in 24/7/365 posture



## NATIONAL WEATHER SERVICE

National Weather Service's Role Supporting the Operational Applications & IT Platforms

• Make Data Available in Multiple Formats & Delivery Mechanisms

# **Applications & Infrastructure**



Seneral use questions can be asked on the API github si



Joshua Huber & Carissa Klemmer Non-Competitive Division

### Functionality in place at IDP College Park and Boulder\* (as of November 2023)

- NOMADS FTPPRD
- TGFTP
- MADIS MRMS

- NLETS
- Radar Level
- SOCKET/CMH
- EDIS/FTPMa
- iystem (SPADES)

- GMDSS
- FTPPush
  Global
- Information Center System
- (GISC)
- Model Pos Processing

- Fechnology V

Integrated Dissemination Program (IDP) College Park Data Center

## What are the NWS Information Technology **Platforms that** Deliver Emergency Managers Data?

	Warning Type Tsunami Warning		CMAS Message		
			Tsunami Warning in this area. Avoid coastal areas. Check local media. –NWS		
	Tornado Warning		Tornado Warning in this area til hh:mm tzT. Take shelter now. – NWS		
	Extreme Wind Warning	_	Extreme Wind Warning this area til hh:mm tzT ddd. Take shelter. – NWS		
	Flash Flood Warning				h:mm tzT. Avoid flooded areas.
Documentation National Headquarters	Hurricane Warning		2	Wireless	:mm tzT ddd. Check local media
	Typhoon Warning		•	Emergency	nm tzT ddd. Check local media
Specification sts, alerts, and observations, along with s content based upon the information	Blizzard Warning			Alerts	ım tzT ddd. Prepare. Avoid
	Ice Storm Warning		114701.0		mm tzT ddd. Prepare. Avoid
	Lake Effect Snow Warning		Lake Effect Snow Warning this area til hh:mm tzT ddd. Avoid travel. Check media. –NWS		
	Dust Storm Warning		Dust Storm Warning in this area til hh:mm tzT ddd. Avoid travel.		

Checklocal media. -NWS

## **Building a Weather-Ready Nation // 1**