

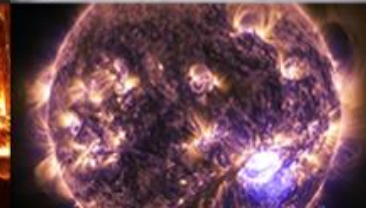
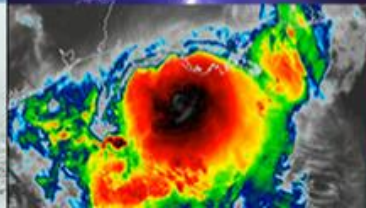


NOAA

Innovations in Weather Forecasting for a Changing Climate

*Environmental and Energy Study Institute
February 15, 2024*

Michelle Mainelli, Deputy Director, National Weather Service



NWS: 154 Years Young

NWS runs **168** operational units, most of them **24/7**

NWS has **~4450** employees, of whom **86%** are in the field

NWS issues **~1.5 million** forecasts and **~50,000** warnings each year

NWS costs each person in the US about **\$4.00/year***

Supporting national security and public safety in every community, every day.



Why the National Weather Service Matters



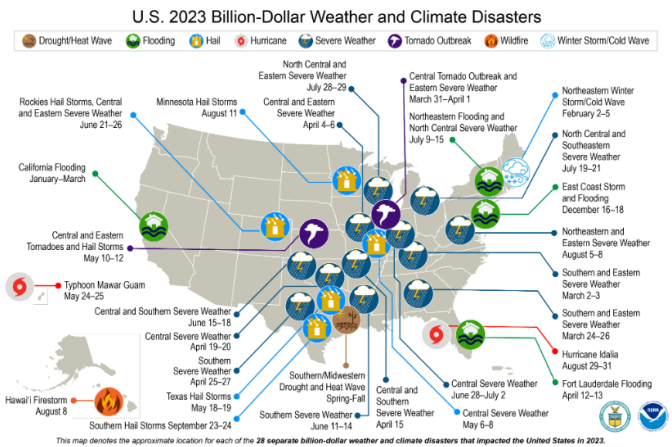
2023
28 Billion Dollar
Weather/Climate Disasters

Annual Average for
weather/climate disaster
events increasing

2000-2009 6.7 / year

2010-2019 12.8 / year

2020-2023 22 / year



Eye to Eye with Emergency Managers



Impact-Based Decision Support Services



Our forecasts & warnings: confidence, context, social science

Tabletops, feedback, engagement: Trusted connections with decision-making partners

Impact-based Decision Support Services Actionable Environmental Intelligence



February 4-7, 2024 Historic Southern California Rains

Two weeks Prior	4-7 Days Prior	1-3 Days Prior	EVENT
<p>NOAA</p> <p>NOAA's National Weather Service... CPC Advisory & Outlooks issued January 22, 2024. Event: An atmospheric river to impact the West Coast... Forecast Confidence: High</p> <p>WKAQ</p> <p>Key Messages for Feb. 6-7 Atmospheric River</p>	<p>WPC Day 1-3 PFF</p> <p>Day 1: 1-3 Days Prior (Jan 25-27, 2024) Day 2: 4-7 Days Prior (Jan 28-30, 2024) Day 3: 8-14 Days Prior (Jan 31-Feb 1, 2024)</p> <p>WKAQ</p> <p>Key Messages for Feb. 6-7 Atmospheric River</p>	<p>WKAQ</p> <p>Day 4: 1-3 Days Prior (Feb 02-04, 2024) Day 5: 4-7 Days Prior (Feb 03-05, 2024) Day 6: 8-14 Days Prior (Feb 04-06, 2024)</p> <p>WKAQ</p> <p>Key Messages for Feb. 6-7 Atmospheric River</p>	<p>Flash Flood Warning</p> <p>WKAQ</p> <p>WWS Los Angeles MFC speaking at press conference from the LA City EOC with the Mayor of LA</p>
Two weeks Prior	4-7 Days Prior	1-3 Days Prior	EVENT

NATIONAL WEATHER SERVICE Building a Weather-Ready Nation

NWS Transformation Commitment

Becoming a more nimble, flexible, & mobile agency providing indispensable mission services eye to eye with decision makers



Observations/Data => Models/Guidance => Forecasts / Services => IDSS
Enable Prepared, Weather Ready, and Responsive Communities



National Weather Service Transformation Roadmap

OPERABLE INFRASTRUCTURE FUTURE

2033

NOAA's
NATIONAL WEATHER SERVICE



Begin Implementation of
New Ops Model FY25

Operational AWIPS in the Cloud FY28

Probabilistic IDSS FY29

Full Implementation of
Ops Model FY30

Finalize Next Radar Design FY32

Nimble, Mobile, Flexible
National Weather Service FY33

DO NOT ENTER

No offices closing
No changes to using
local expertise

*There will be a place
for everyone!*

✓ NWSChat 2.0
✓ CMU Transition
✓ Radar Lite





Thank you!

michelle.m.mainelli@noaa.gov

