



EESI

Environmental and
Energy Study Institute

Materials will be available at:
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Environmental and Economic Impacts of Super El Niño

Friday, September 25, 2026

About EESI



Nonpartisan Educational Resources for Policymakers

A bipartisan Congressional caucus founded EESI in 1984 to provide nonpartisan information on environmental, energy, and climate policies



Direct Assistance for Equitable and Inclusive Financing Program

In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs



Commitment to Diversity, Equity, Inclusion, and Justice

We recognize that systemic barriers impede fair environmental, energy, and climate policies and limit the full participation of Black, Indigenous, people of color, and legacy and frontline communities in decision-making



Sustainable Solutions

Our mission is to advance science-based solutions for climate change, energy, and environmental challenges in order to achieve our vision of a sustainable, resilient, and equitable world

Policymaker Education



Briefings and Webcasts

Live, in-person and online public briefings, archived recordings, and written summaries

Climate Change Solutions



Bi-weekly newsletter with everything policymakers and concerned citizens need to know, including a legislation and hearings tracker



Fact Sheets and Issue Briefs

Timely, objective coverage of environmental, clean energy, and climate change topics



Social Media (@EESlonline)

Active engagement on Bluesky, Facebook, LinkedIn, X, and YouTube

3



Upcoming Briefings



4

Bridging the Transmission Gap
Wednesday, October 7, 1-2:30 PM

Built to Last: A Blueprint for Affordable, Healthy, and Resilient Homes
Tuesday, October 20, 2026 (tentative)

What's on the Table for Negotiations at COP31
Stay Tuned For More Information

From Ambition to Action: State Capacity and the Next Era of Environmental Policy
Rayburn 2075
Wednesday, December 2, 3-4:30 PM
Reception to Follow

Sign up for our *Climate Change Solutions* newsletter here: eesi.org/signup



EESI
Environmental and
Energy Study Institute

What did you think of the briefing?

Please take 2 minutes to let us know at:
www.eesi.org/survey

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Friday, September 25, 2026



CAPITAL WEATHER
DC'S TRUSTED WEATHER TEAM



EESI
Environmental and
Energy Study Institute



Super El Niño 2026-27

1997-98 Super El Niño



(Here We Go Again)

Matt Rogers

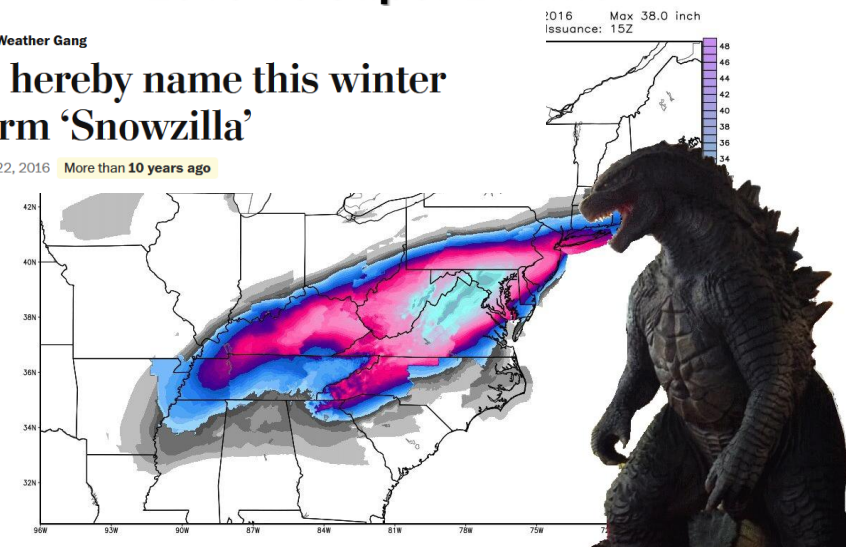
9/25/26

2015-16 Super El Niño

Capital Weather Gang

We hereby name this winter
storm 'Snowzilla'

January 22, 2016 More than 10 years ago

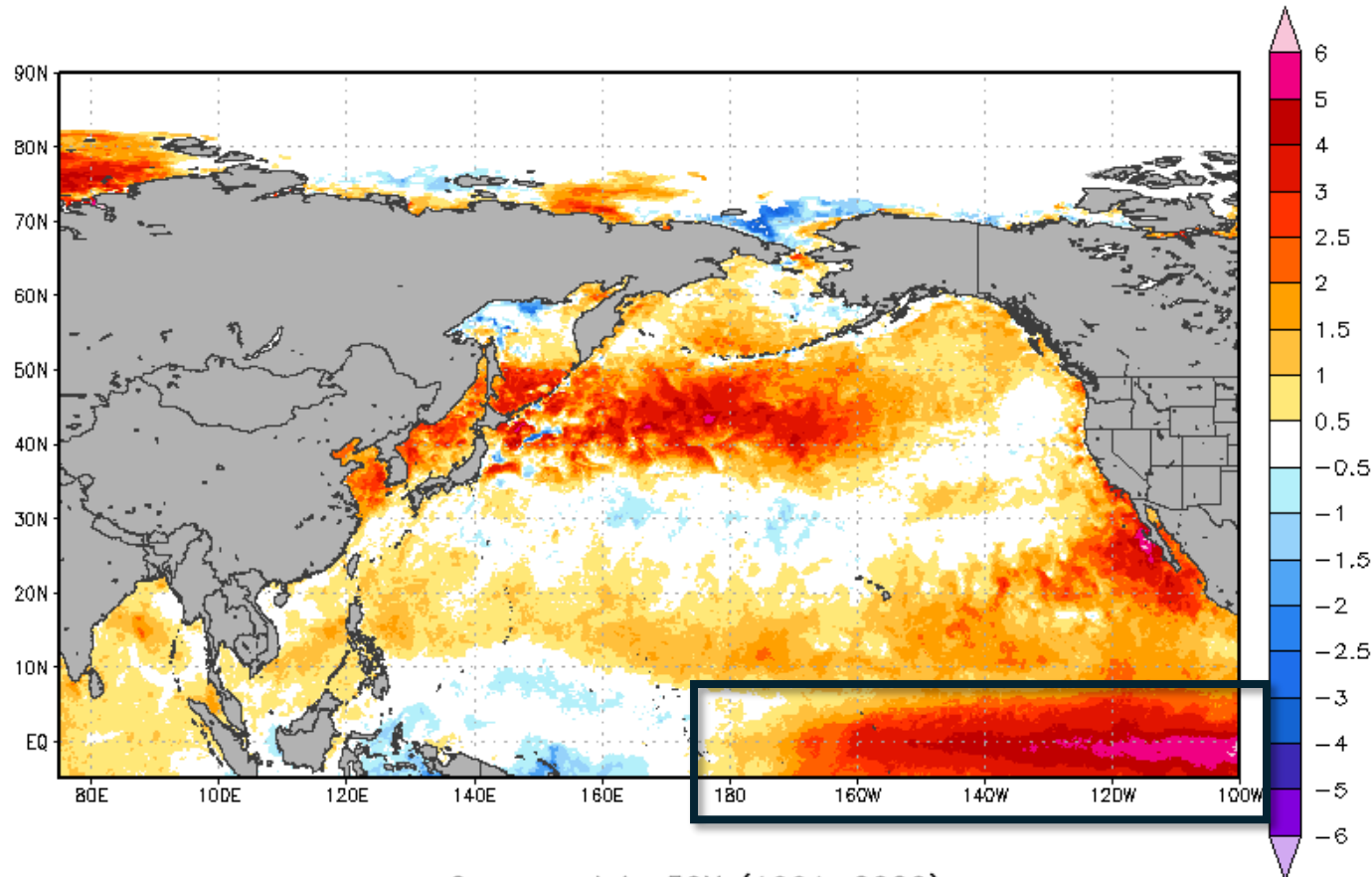


El Niño Defined

- **Abnormally warm surface waters in the central/eastern Tropical Pacific**

SST Anomaly (C)
Valid: 00z Tue 22 Sep 2026

UKMO-OSTIA
Hour: 0



**“Super” when
SSTs reach +2C
or warmer**

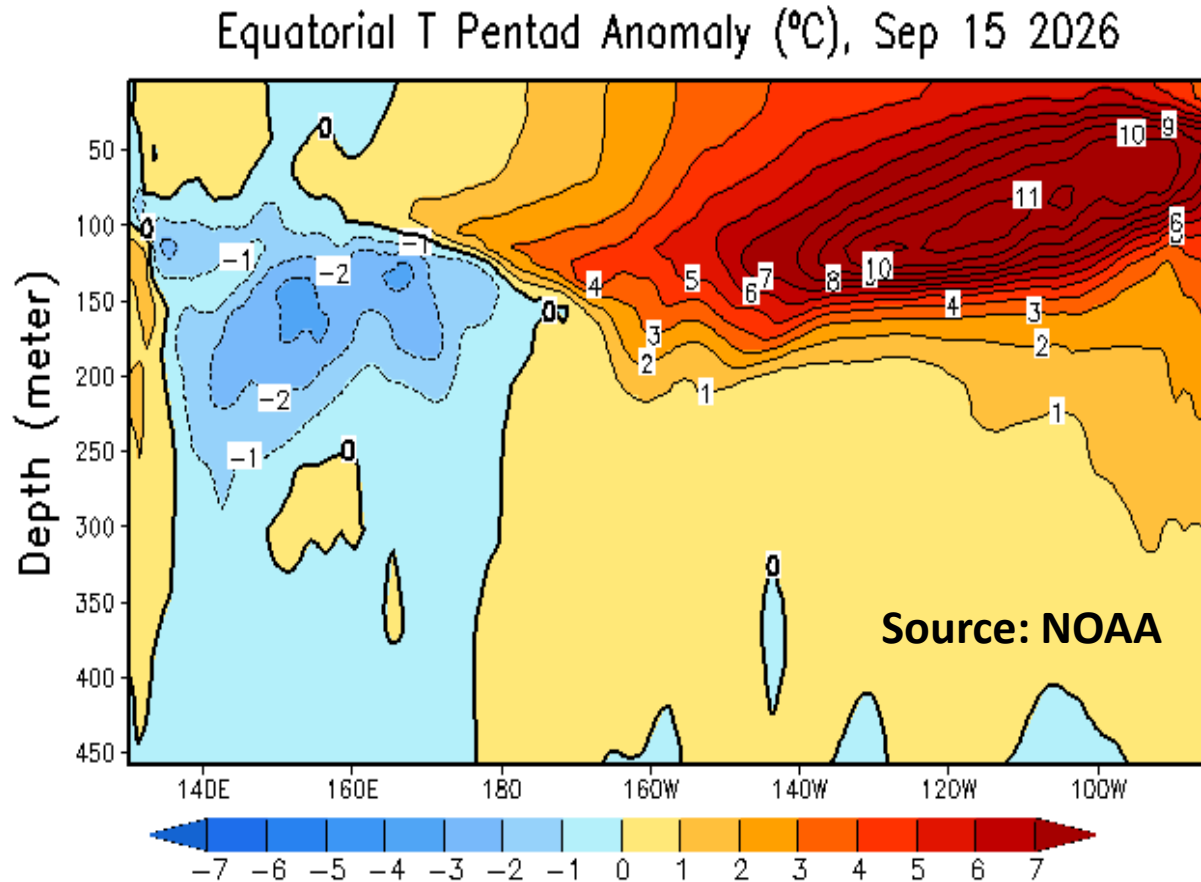
**1982-83
1997-98
2015-16
2026-27**

Area Average: 1.04 C

Compared to 30Y (1991-2020)
StormVistaWxModels.com

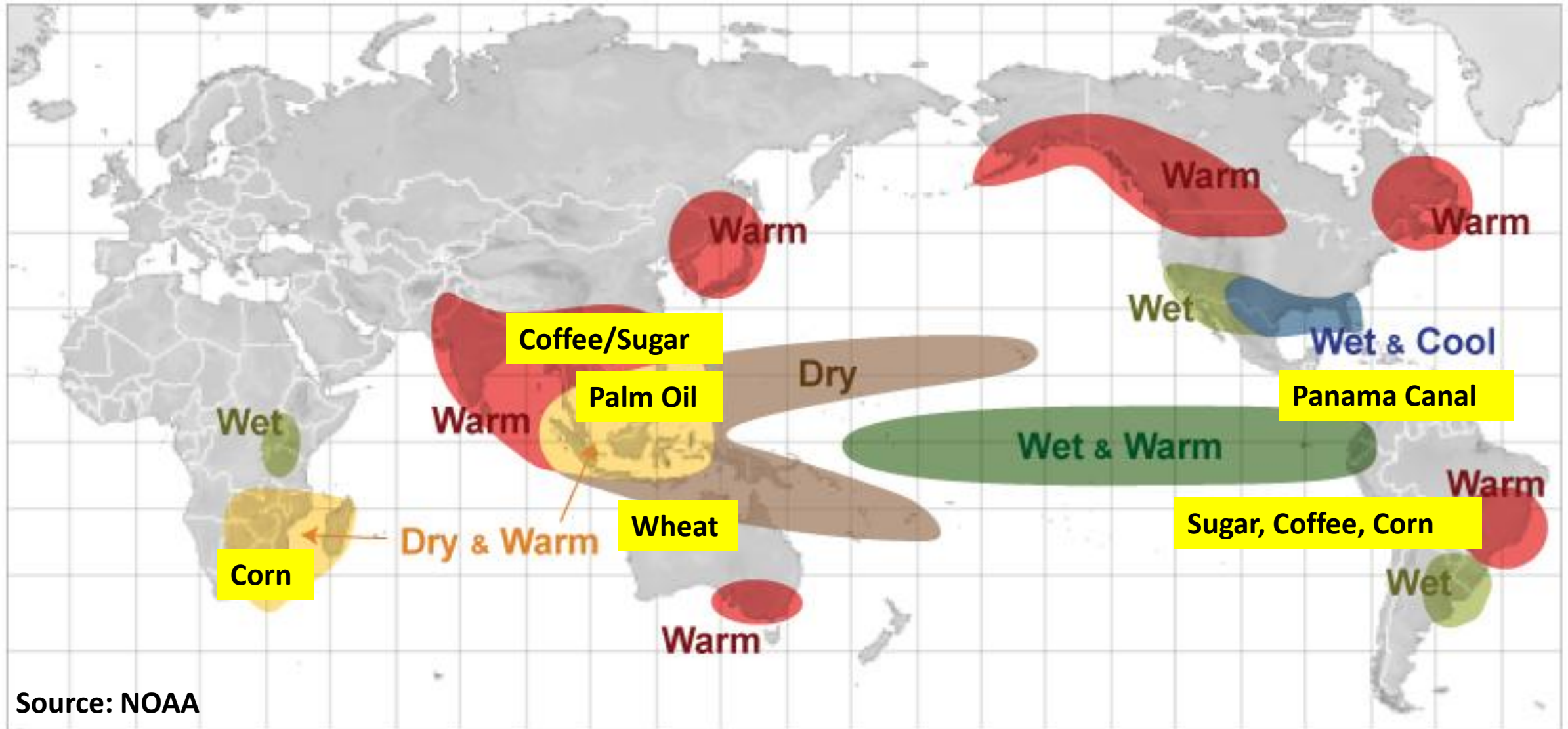
Init: 00z Tue 22 Sep 2026
2026-09-23-03:30 ET

How to Forecast it



- Global climate models
 - Starting showing this in early spring 2026
- Measuring surface and subsurface waters
- Measuring trade winds
- Analogous behavior

Global Impacts*

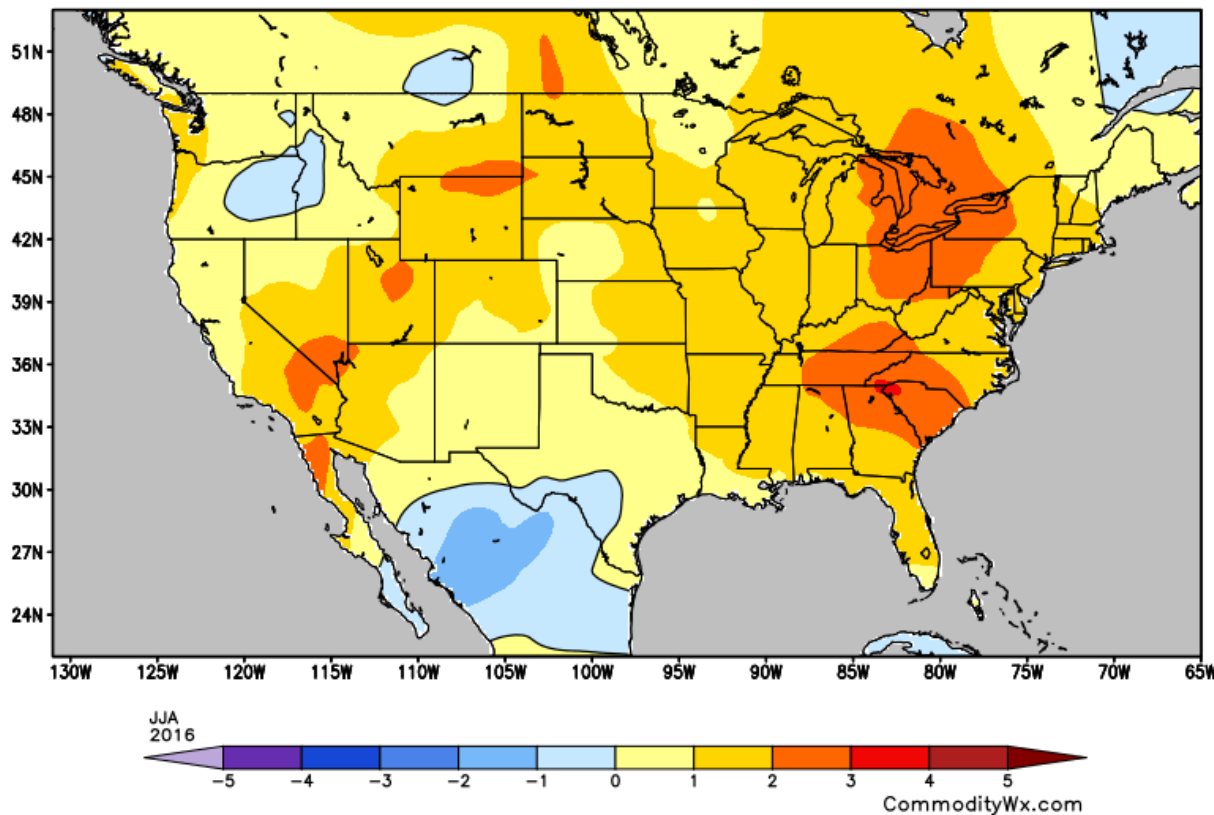


Source: NOAA

*Not Always the Same

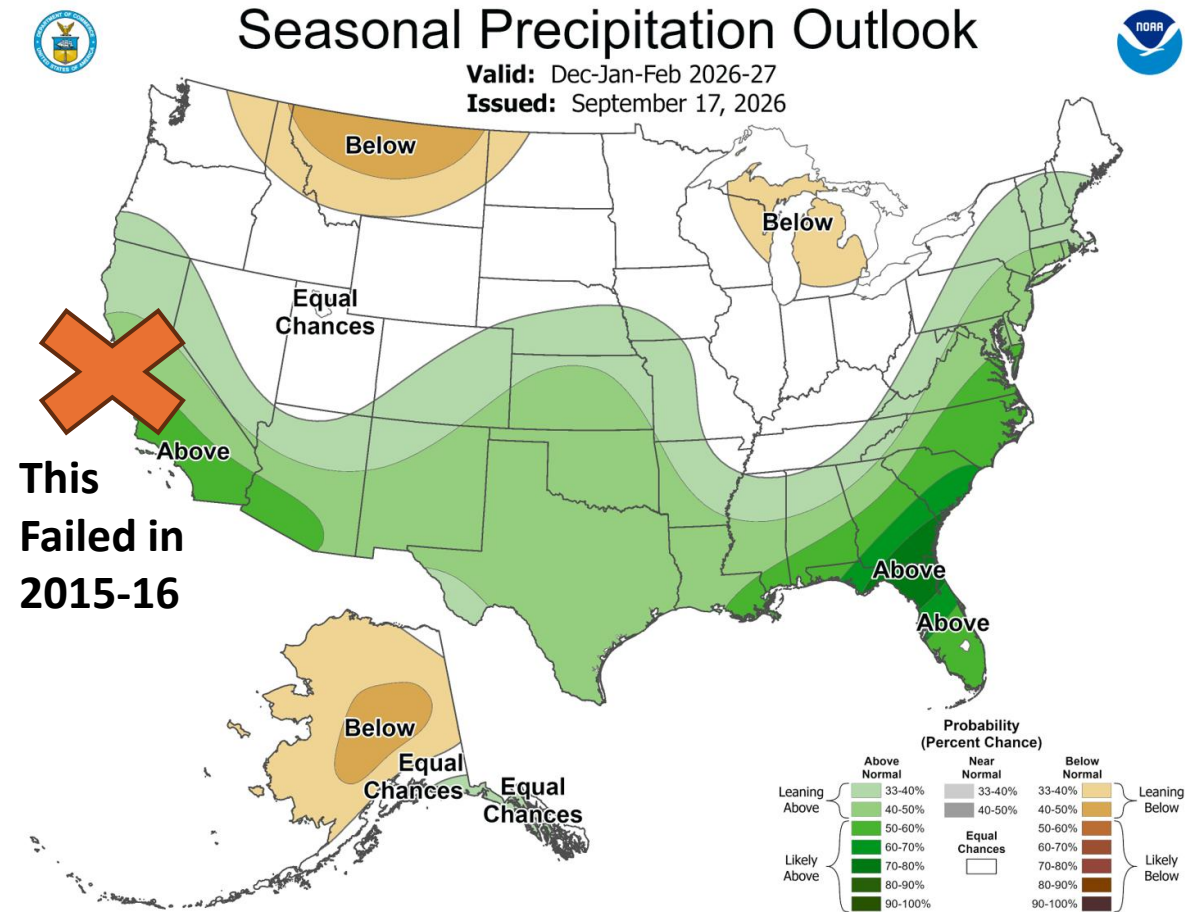
North American Impacts

U.S. Station Surface Temperature (°F) anomaly
(1991–2020 Climatology) Gas HDD: 21 Pop CDD: 1046 Elec CDD: 1124



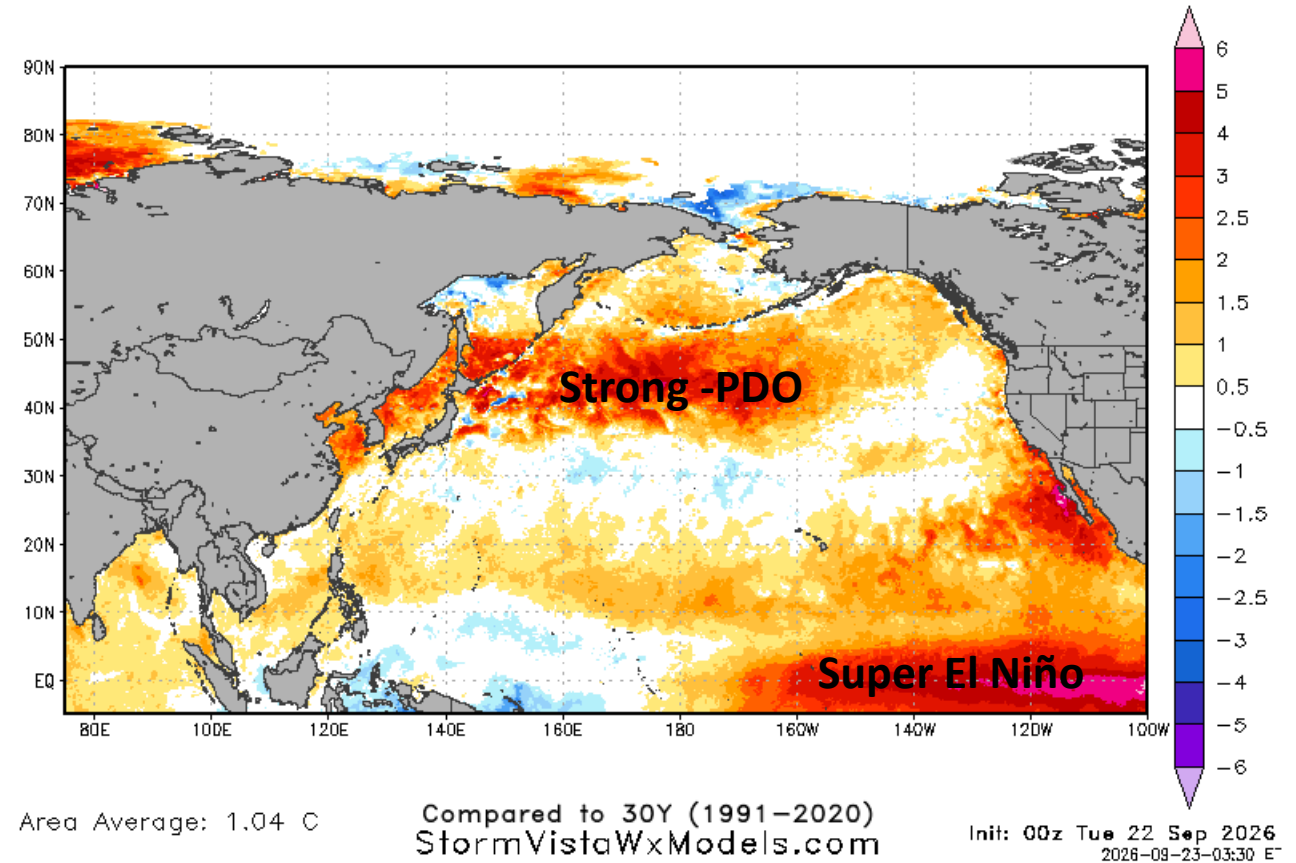
- Hyperactive Pacific hurricane season
- Very quiet Atlantic hurricane season
- East Coast storms (Nor'easters)
- Super/record warm U.S. winter
- Active West to South storm track
- Hot and dry U.S. summer with very active hurricane* season (2027)

Areas of Uncertainty



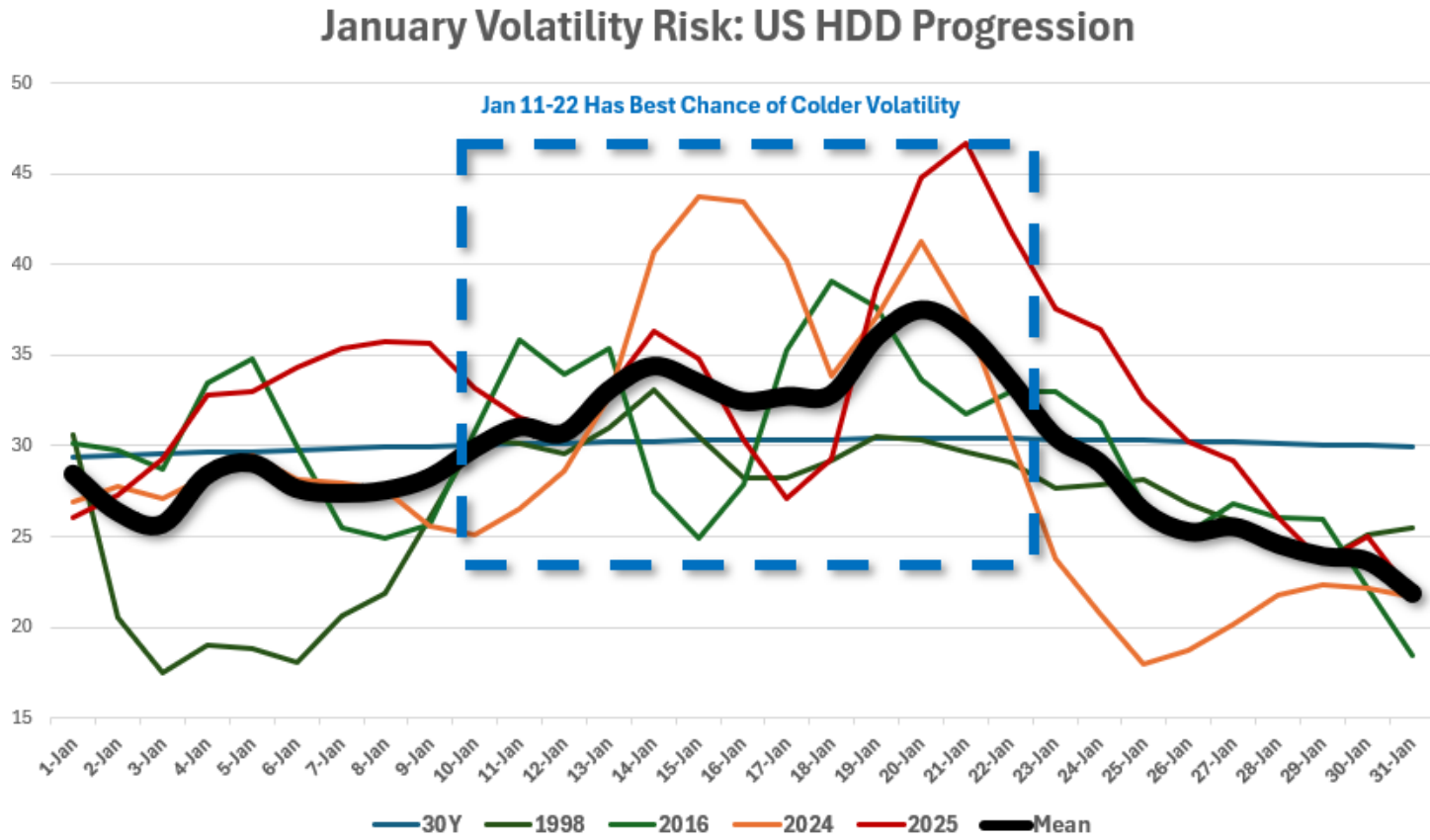
SST Anomaly (C)
 Valid: 00z Tue 22 Sep 2026

UKMO-OSTIA
 Hour: 0



Never Recorded Super Niño with Strong -PDO in Modern History; But 2023-24 Came Close

Areas of Uncertainty



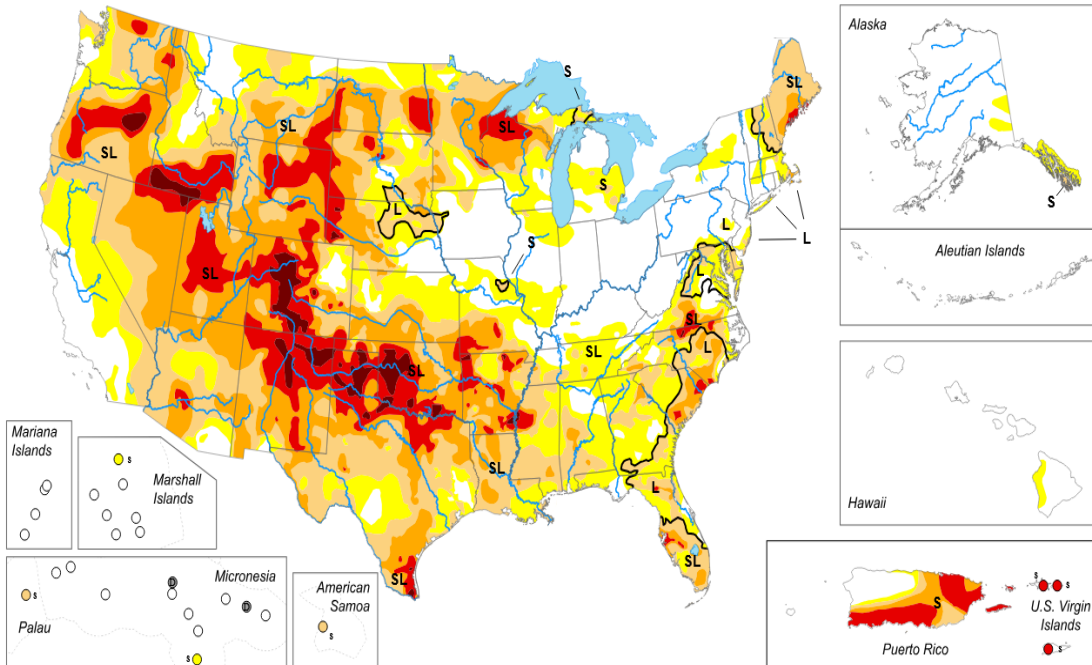
- Middle January may see colder volatility
- Similar to Jan 2016 “Snowzilla”
- Similar to Jan 2024 Winter Storm “Heather”

Benefits

Map released: September 17, 2026

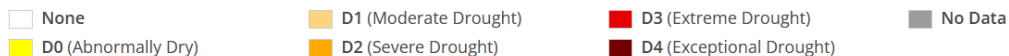
Data valid: September 15, 2026

☐ View grayscale version of the map



- Drought relief for West Coast, South
- Hydro boost for Western reservoirs
- Very low U.S. energy demand/prices
- Quiet Atlantic hurricane season

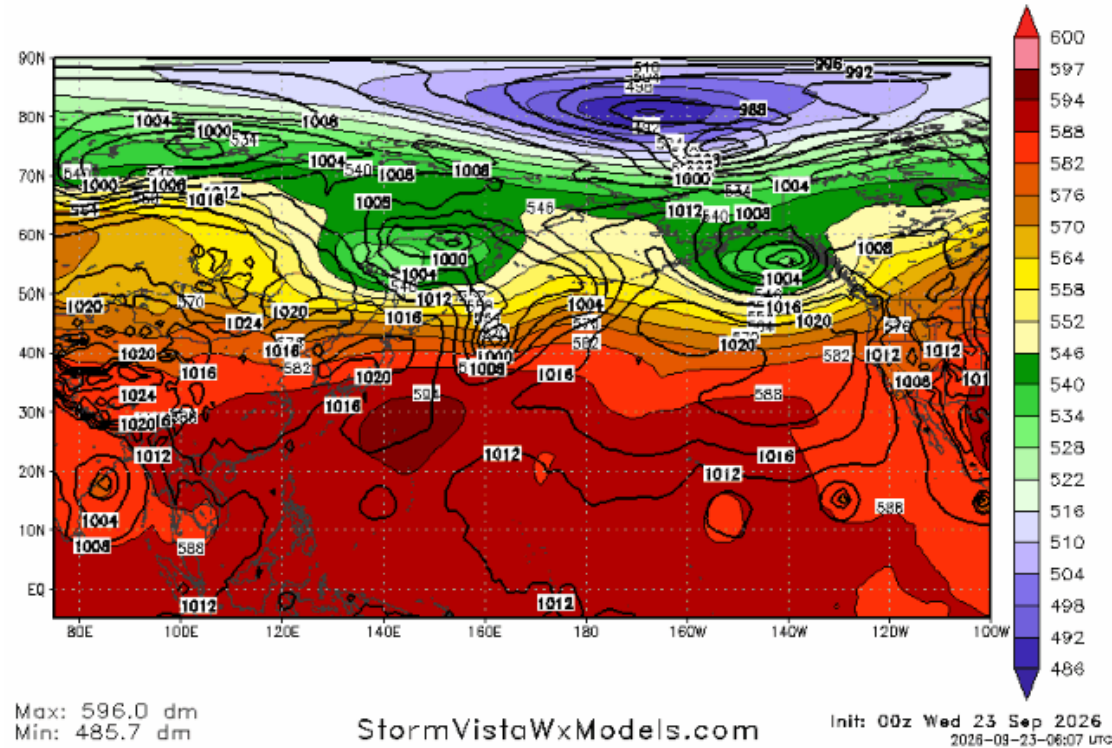
Intensity and Impacts



Downsides

500 mb Height & MSLP
Valid: 00z Wed 23 Sep 2026

ECMWF-EPS
Hour: 0



- Stormy winter pattern
 - Hyperactive Pacific jet stream
- Flooding risks
- Coastal erosion/flooding
- Usually sharp shift to very hot summer
 - But spring may not change as quickly

● AMERICAN WEATHER ENTERPRISE ASSOCIATION

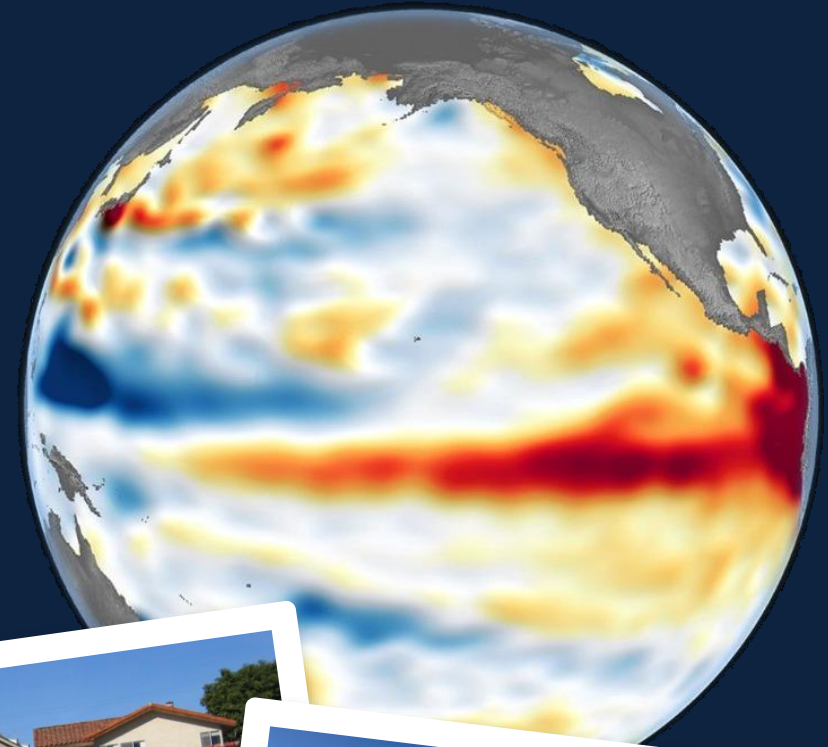
Environmental & Economic Impacts of Super El Niño

Douglas Hilderbrand

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www.weatherenterprise.org



One Weather Enterprise, Three Sectors

\$100B+

annual value of weather & climate information to the U.S. economy (AMS)

~1/3

of the U.S. economy is directly weather- or climate-sensitive (AMS)

10x

the return on the taxpayer investment behind that value (AMS)



Government

Weather, water, climate, and space weather missions, including issuing lifesaving warnings.

Agencies include: NOAA & National Weather Service, NASA, NSF, USGS, and DOE, DOW.



Industry

Commercial data providers, media, government contractors, weather services and decision support.

Turns foundational public data into value-added tailored forecasts for numerous sectors.



Academia

Universities and research labs that push the state-of-the-science forward, train the next generation of forecasters and researchers, and support government missions and industry innovation.

The U.S. Weather Enterprise has a remarkable story to tell of the public, private, and academic sectors working together to deliver increasingly accurate forecasts.

AWEA Member Organizations

17 founding organizations of the American Weather Enterprise Association (AWEA)



**Accenture
Federal
Services**

Accenture Federal Services



AccuWeather

AccuWeather



**BARON
WEATHER**

Baron Weather

**Booz
Allen**

Booz Allen Hamilton



InterMet



Lockheed Martin

Lynker

Lynker



Mantari



Midland



National Weather Association



Nexus Weather & Climate



Science & Technology Corp.

**The
Weather
Company**

The Weather Company



Tomorrow.io



Western Weather Group



WeatherStream



WindBorne

www.WeatherEnterprise.org

A Global Watch on El Niño – International Collaboration

How the world's ocean-observing networks and forecast agencies watch the Pacific together — and agree on when El Niño begins

30

nations operate the Argo floats that profile every ocean basin (Argo · GOOS)



Shared Ocean-Observing Networks

Argo's 30-nation fleet of profiling floats and the U.S.-Japan TAO/TRITON mooring array feed one open, free data pool — the raw readings every forecast below is built on.

e.g., Argo floats · TAO/TRITON buoys · NOAA PMEL · JAMSTEC

2

nations — the U.S. and Japan — have co-run the TAO/TRITON Pacific buoy array since 1999 (NOAA · JAMSTEC)



One Coordinated Global Update

WMO and the International Research Institute for Climate and Society pool forecasts from meteorological services worldwide into a single monthly El Niño/La Niña Update.

e.g., World Meteorological Organization · IRI · Global Producing Centres

97–98%

probability of El Niño persisting, per the pooled global forecast consensus (WMO · IRI)



Independent Agencies, Same Verdict

NOAA, Japan's Tokyo Climate Center, and Australia's Bureau of Meteorology each apply their own thresholds — yet all three independently confirmed the same strong 2026 El Niño.

e.g., NOAA CPC · JMA Tokyo Climate Center · Australia BOM

No single country monitors El Niño alone —
shared buoys, shared floats, and a shared global bulletin are how the world agrees an event has begun.

What This Super El Niño Might Mean for the U.S.

50–60%

chance of above-normal winter precipitation
across coastal California (NOAA CPC)

42%

of U.S. winter wheat acreage already in
drought as El Niño develops (DTN/Progressive
Farmer)

\$550M

in flood and mudslide damage during
California's last comparably strong El Niño
winter, 1997–98 (USGS)



Fisheries & Marine Life

Warmer Pacific water pushes squid and tuna north while sardines and anchovies grow scarce, straining California's sea lions, seabirds and salmon runs.

e.g., ~95% of one Chinook run's eggs died in the last comparable event · market squid · sea lions



Agriculture & Water Supply

A more active storm track from Texas to the Ohio Valley could ease drought across U.S. wheat and soybean country — though soggy fields risk delaying spring planting.

e.g., winter wheat (42% in drought) · corn & soybeans · Southwest snowpack supply



Ski Resorts & Winter Recreation

California's Sierra Nevada and the Four Corners carry the strongest odds for above-normal snow, while Montana, Idaho and the interior Northwest hold the driest signal.

e.g., Mammoth & Tahoe (favored) · Big Sky & Sun Valley (at risk)



Atmospheric Rivers & Debris Flows

Some models point to nearly double the normal winter rainfall across Southern California — a serious risk over fresh burn scars prone to sudden, fast-moving debris flows.

e.g., 2025 Eaton, Palisades & Gifford burn scars · 2018 Montecito debris flow (23 deaths)

Strong doesn't always mean wet: the similarly strong 2015–16 El Niño produced one of Los Angeles' driest years on record — regional outcomes still hinge on individual storm tracks.

Weather Policy in Motion (1/2)

Current Weather Bills moving through the 119th Congress



Weather Research and Forecasting Innovation Reauthorization Act of 2026

S. 3923 · Sens. Cantwell (D-WA) & Cruz (R-TX) + 8 co-sponsors

Funds next-gen radar, atmospheric-river and drought forecasting, and expanded commercial weather-data partnerships.



Weather Act Reauthorization Act of 2025

H.R. 5089 · Reps. Lucas & Lofgren · House Science Committee

Reauthorizes NOAA's core weather research, forecasting, and emergency-alert programs — builds on the 2017 Weather Act.



National Weather Safety Board Act

H.R. 7848 · Reps. Sorensen (D-IL) & Lawler (R-NY)

Creates an NTSB-style board to investigate major weather disasters and recommend fixes to forecasting and response.



Hurricane Hunter Aircraft Recapitalization Act

S. 4802 · Sens. Cantwell, Cruz, Wicker + 3 co-sponsors

Authorizes up to 9 NOAA C-130J aircraft and \$2.5B to replace a fleet averaging 50+ years old.



Weather Policy in Motion (2/2)



NOAA Weather Radio Modernization Act

H.R. 7813 · Rep. Babin (R-TX) + 5 co-sponsors, incl. Flood & Sorensen

Directs NOAA to replace aging transmitters, expand coverage in rural radio-dead zones, and strengthen flash-flood alerts.



Radar Next Program Act of 2026

S. 3795 · Sens. Budd (R-NC) & Cantwell (D-WA)

Establishes NOAA's next-gen phased-array radar program (6x faster scans) by FY2040; core provisions also folded into S. 3923.



Wildfire Response and Preparedness Act of 2025

S. 902 · Sens. Sheehy (R-MT) & Kim (D-NJ)

Sets federal response-time standards for wildfire incidents — timing that hinges on fire-weather forecasts, red-flag warnings, and drought monitoring.



Cooperative Institute Act of 2026

S. 5332 · Sens. Cantwell, Wicker, Hickenlooper & Hyde-Smith

Codifies NOAA's Cooperative Institute program — the university partnerships that train the researchers and forecasters behind the Weather Enterprise.



The Weather Enterprise Caucus

Launched July 22, 2026

1st

caucus in congressional history dedicated to
the Weather Enterprise

18

Current bipartisan House members

● CAUCUS CO-CHAIRS



Rep. Eric Sorensen

D-IL-17 · Co-Chair

“When severe weather strikes, every second matters. Accurate forecasts and timely warnings save lives.”



Rep. Mike Flood

R-NE-01 · Co-Chair

“Every community benefits from a stronger, more resilient Weather Enterprise.”

● CAUCUS TOPICS

Weather-related Legislation

From reauthorizations to creating a new weather safety board.

Education/Informing of Issues

From learning more about the Weather Enterprise, to awareness of legislation and budget initiatives.

Partnerships to Strengthen Resilience

Community and business resilience, including preparedness outreach

Helping to connect the policymakers championing the Weather Enterprise to the government, industry, and academic partners who power it.