# Climate Monitoring Activities at NCEI


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NOAA's National Centers for Environmental Information


**National Oceanic and Atmospheric Administration**

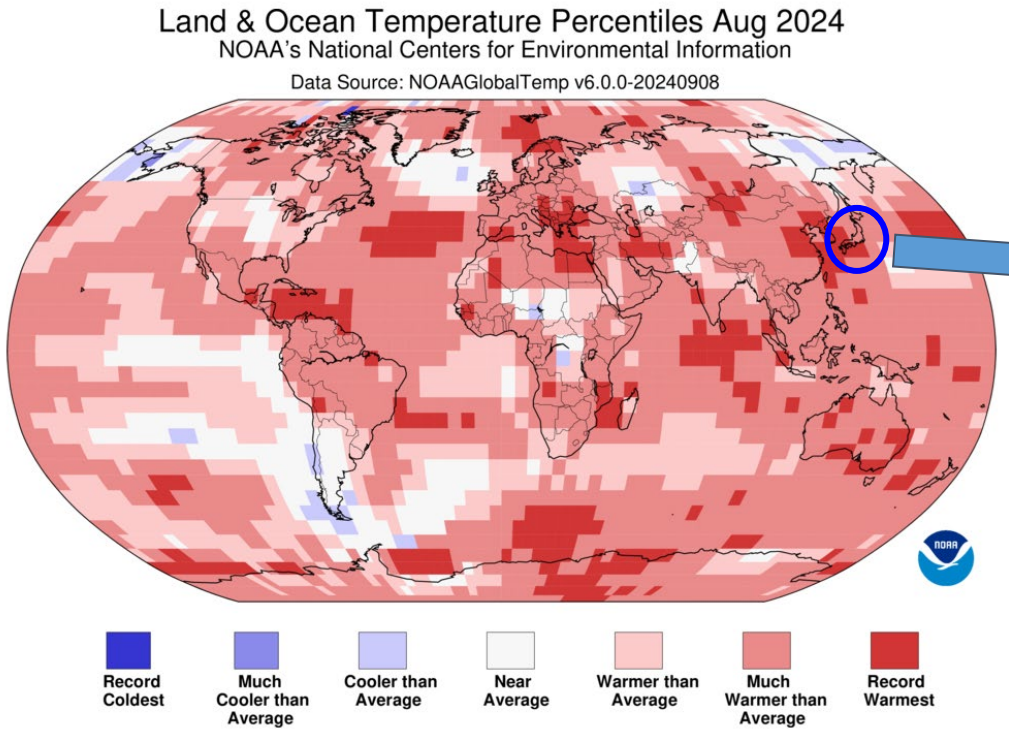
GCOS Atmospheric Observations Panel for Climate (AOPC) - 19 September 2024

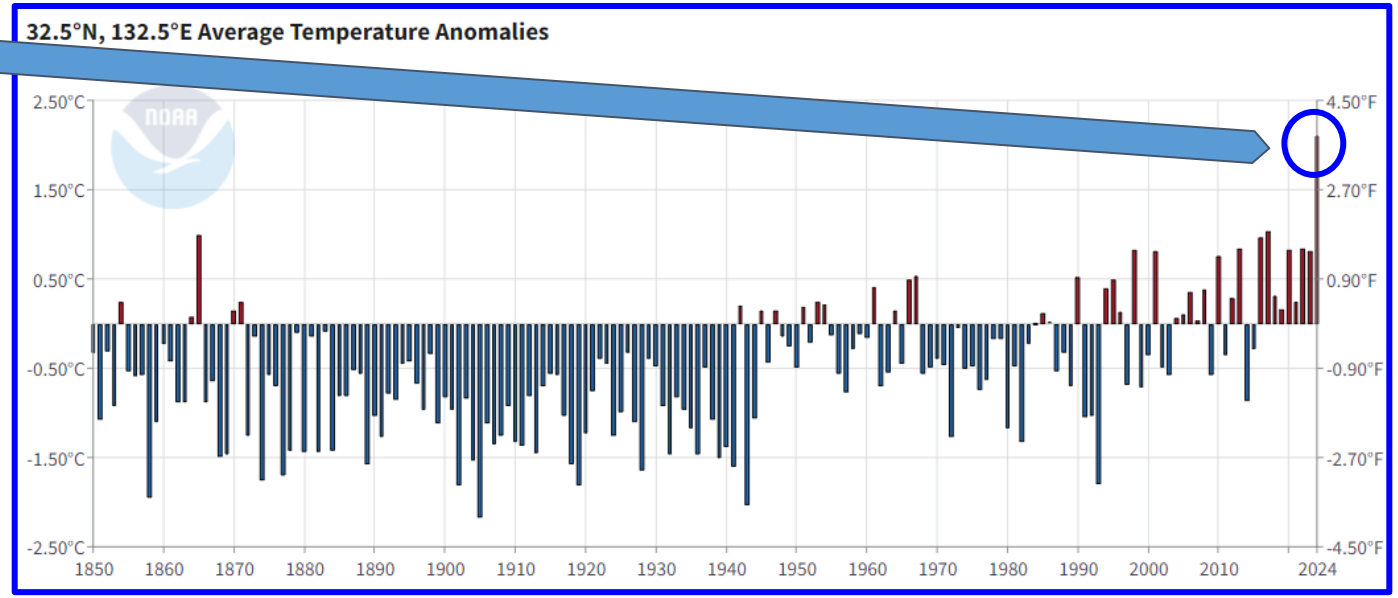
# Overview

- What is Monitoring?
- How Monitoring Works
- Mission of Monitoring
- Highlights from Select Products/Tools

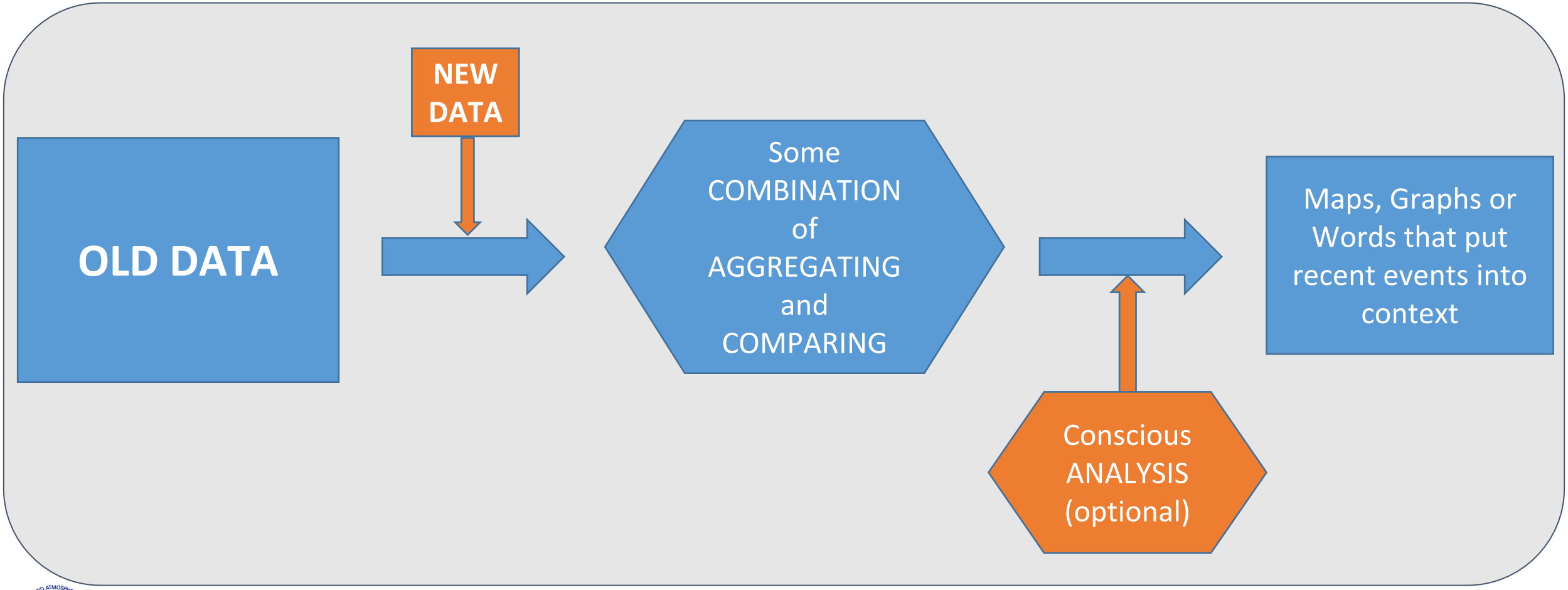
# What is / Why Monitoring?

- It's a play-by-play of the current state of the climate, but with historical context
- A way for NCEI to turn data into information that can help a variety of users make more informed decisions
- Leverage and exercise full datasets
- Can showcase information/products
- Better inform the public about if/how our climate is changing



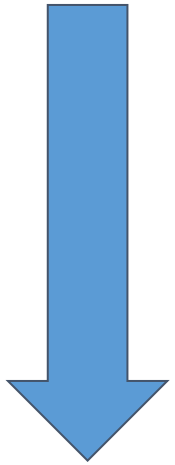



# The Monitoring Process



# Tiers of Handling in Monitoring

Generally costlier as you move down this list



1. Observation
2. Departure
3. Unusualness
4. Trend
5. Impact

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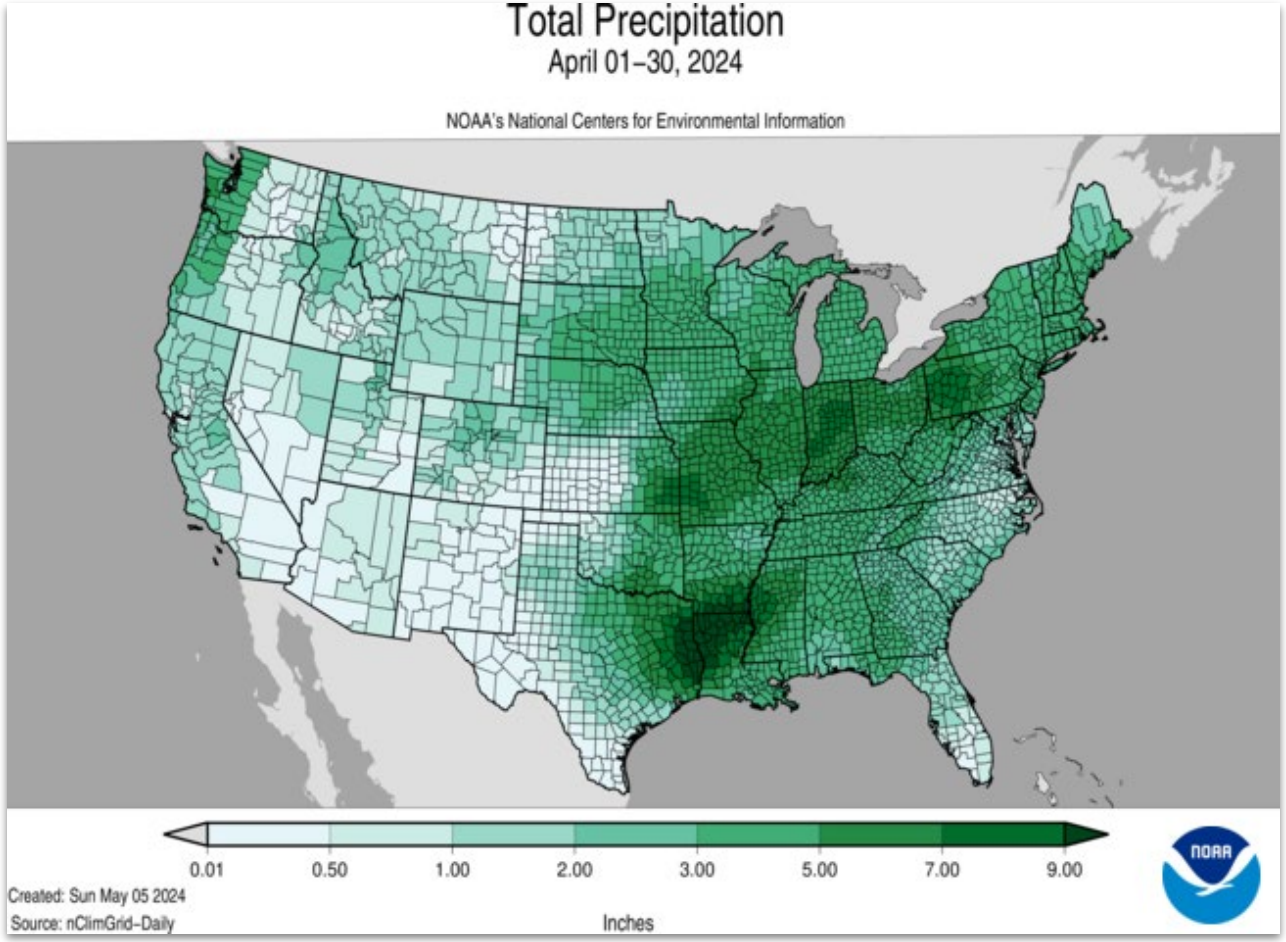

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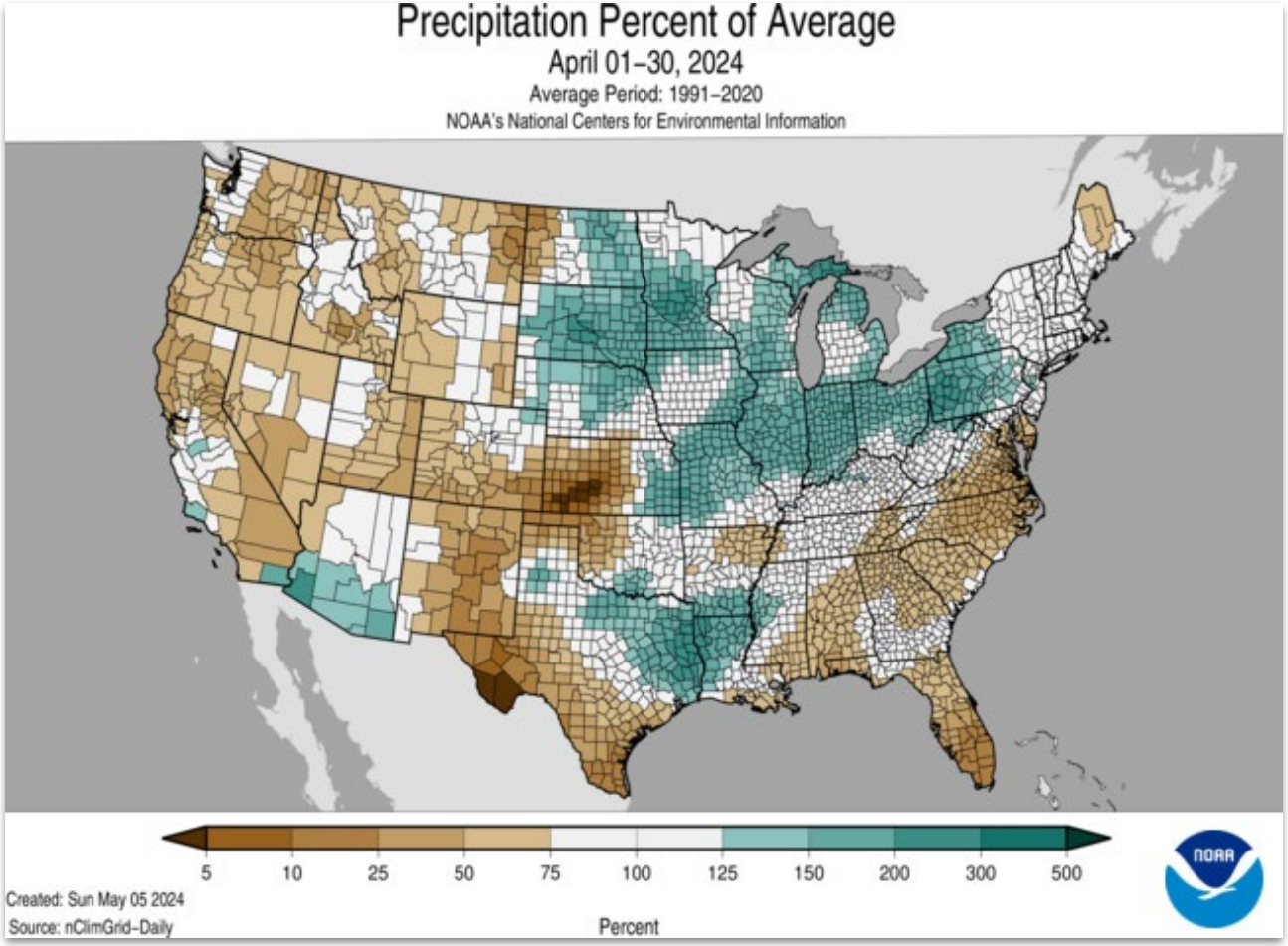

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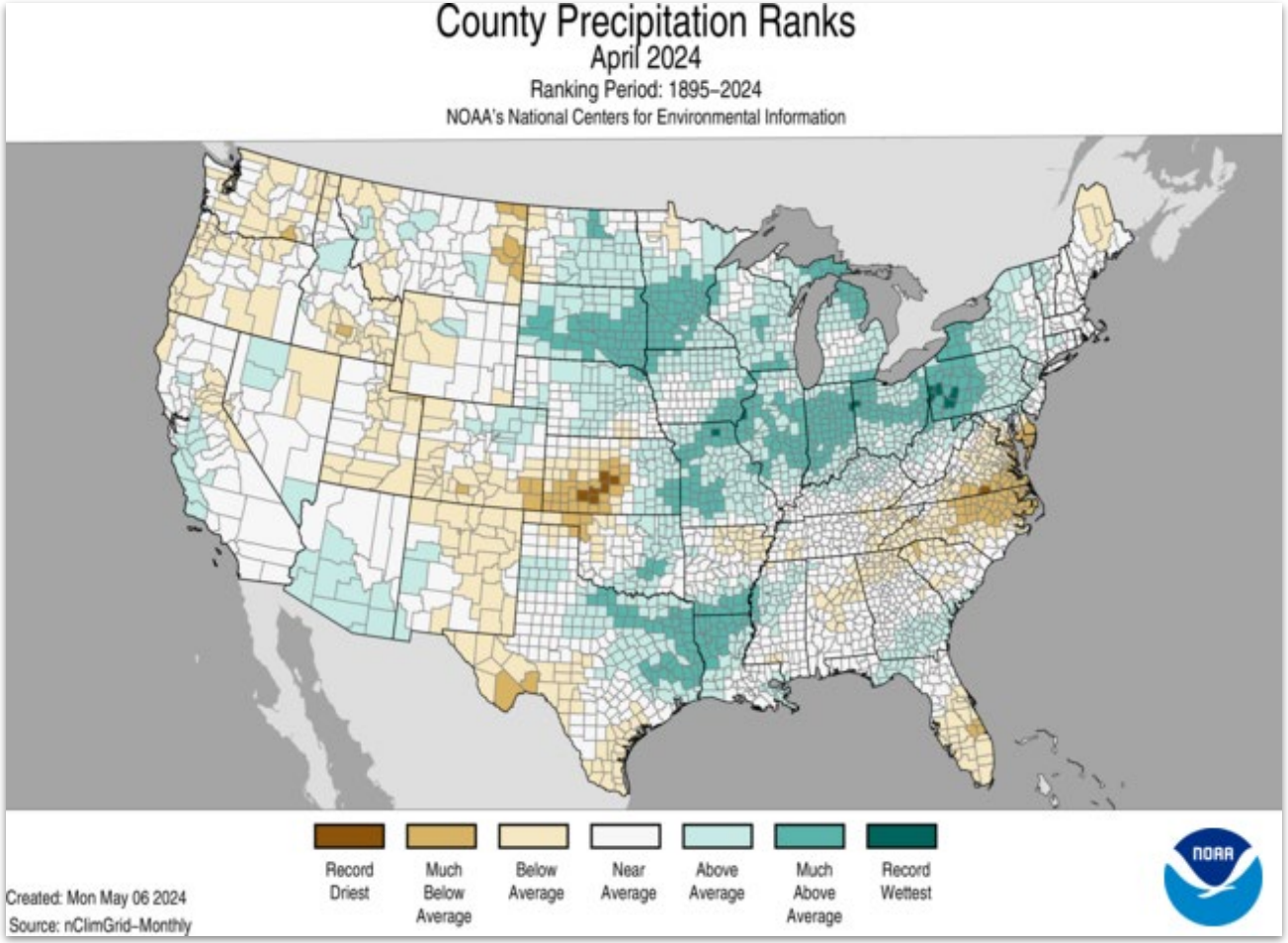

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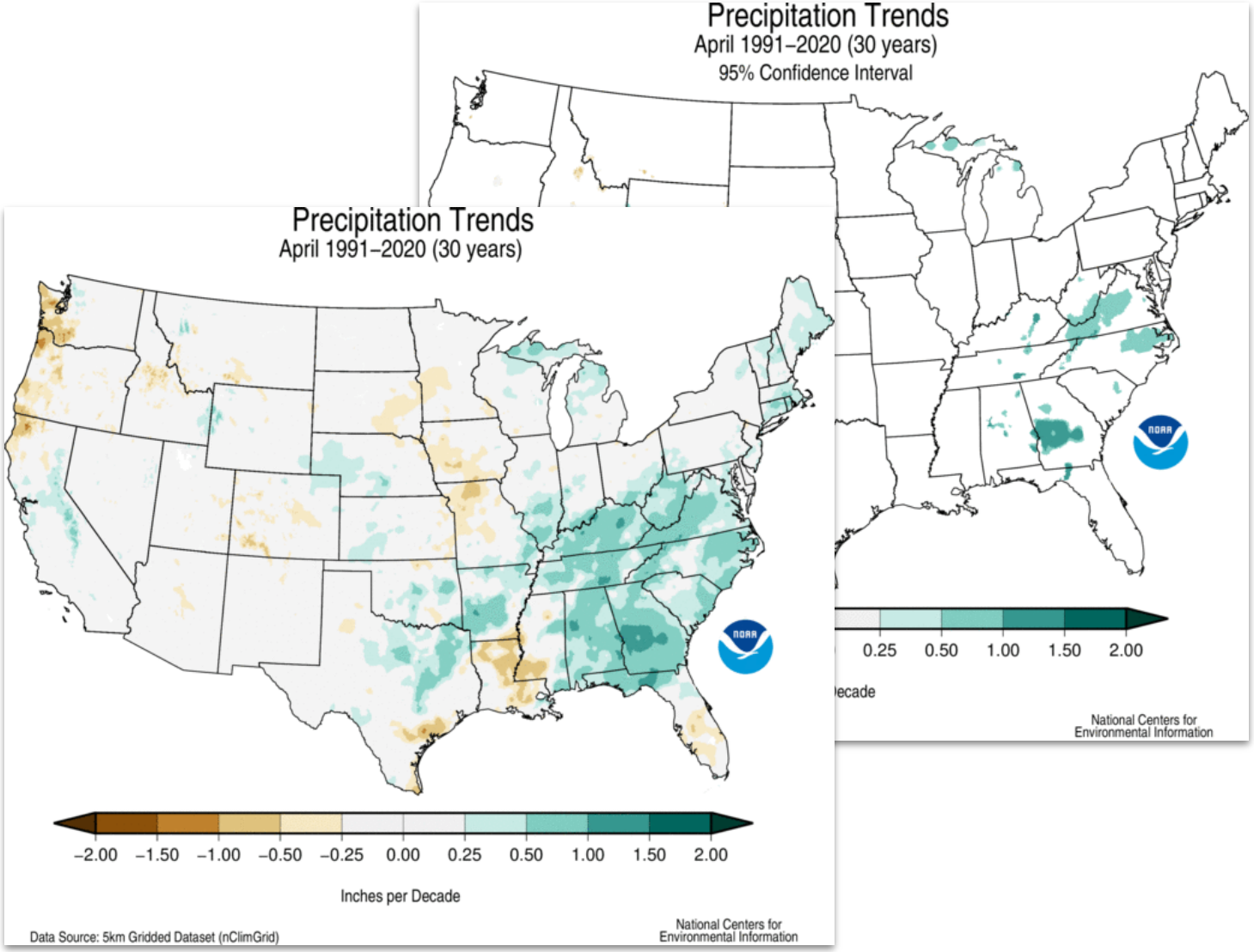

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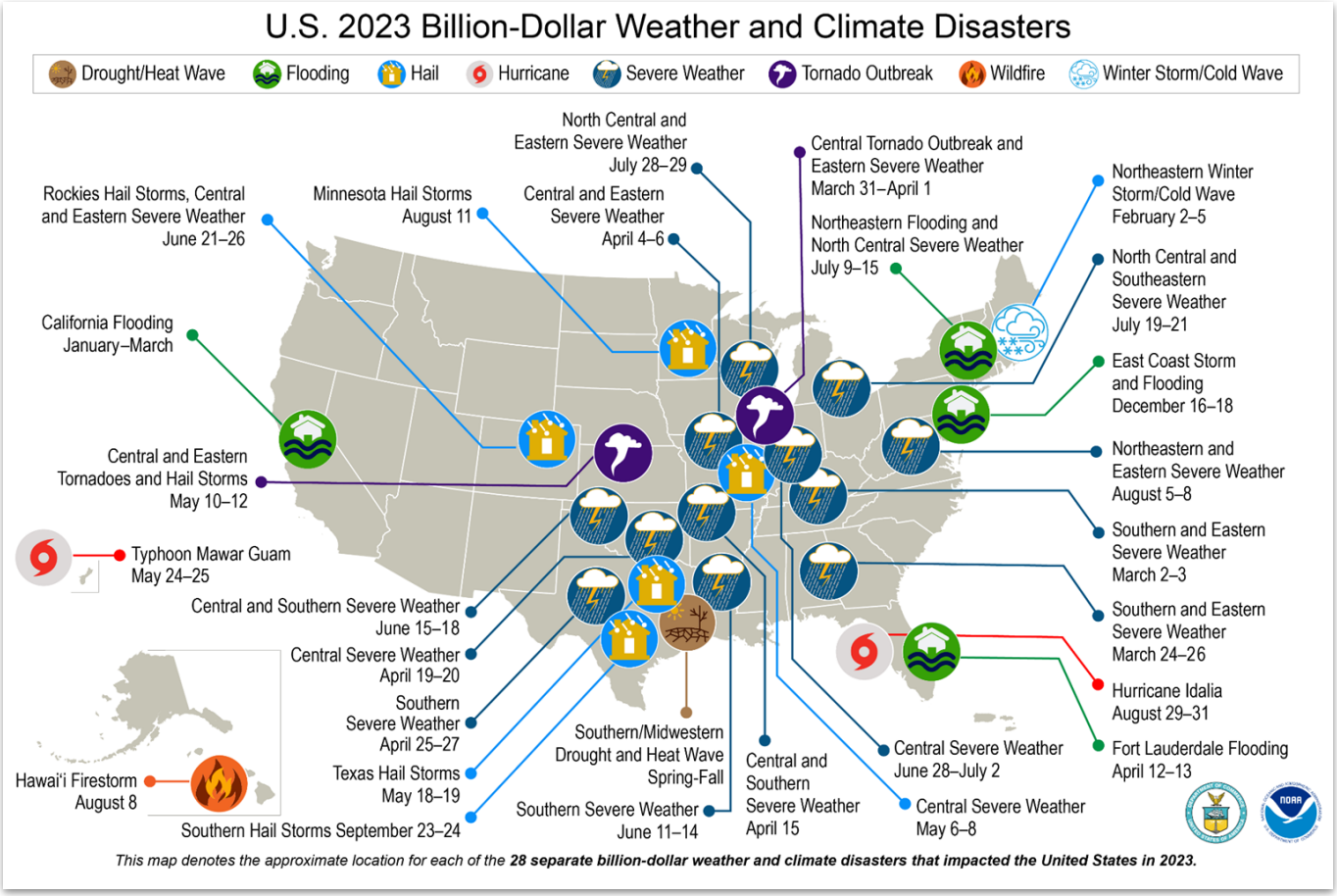


# Monitoring Mission & Vision

- Provide accurate, timely, and accessible environmental information to support science, research, and decision-making
- Strive to improve data accuracy, expand the collection of data/products available to customers, enhance data management, and increase accessibility
- Incorporate stakeholder input, including government agencies, research institutions, industries, and the public to understand their data needs and priorities

The Monitoring Section plays a crucial role in advancing environmental monitoring and the provision of valuable information to support science, research, and policy decisions

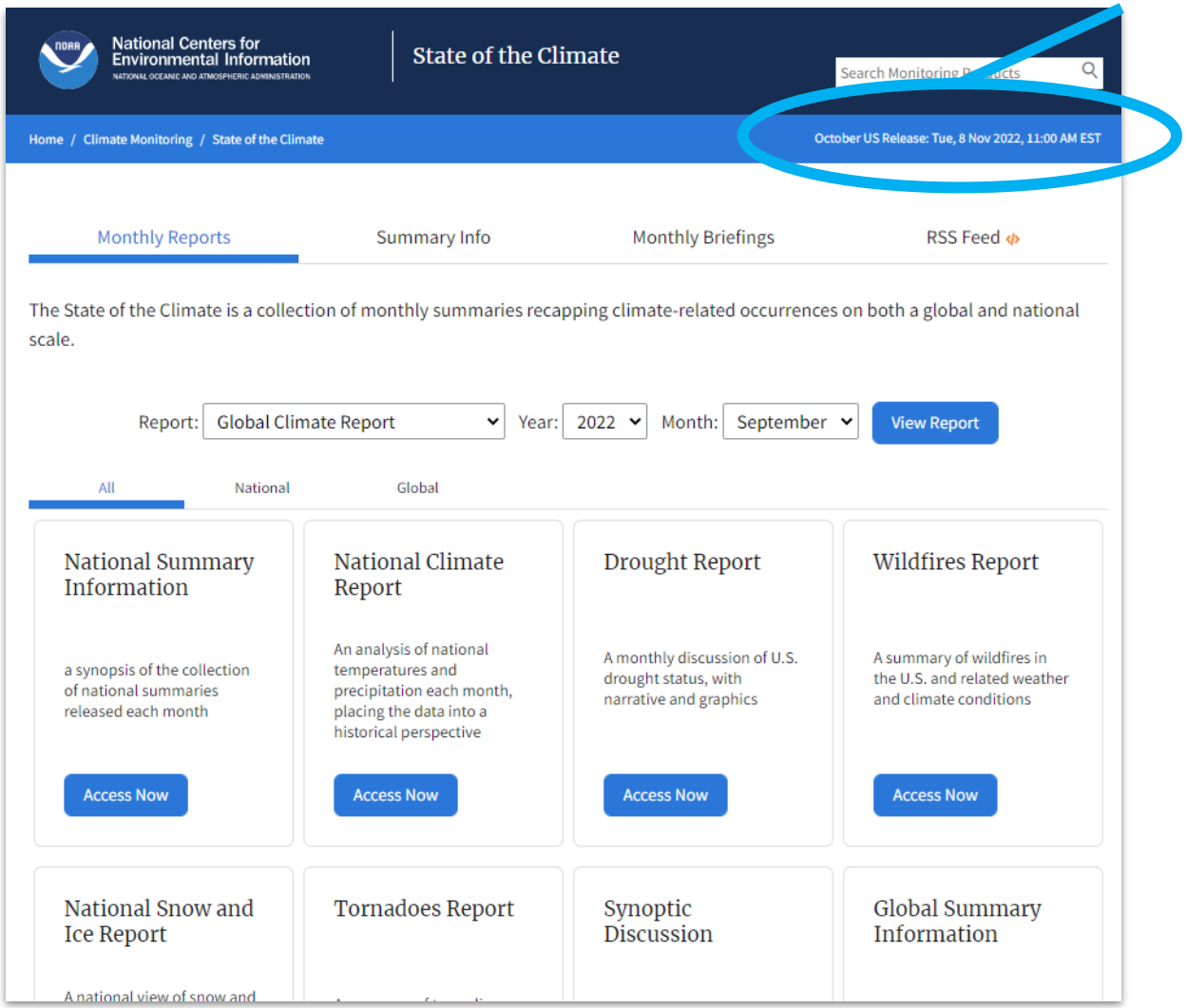
# Monitoring Reports

https://www.ncei.noaa.gov/access/monitoring/monthly-report/

Click for schedule of upcoming releases

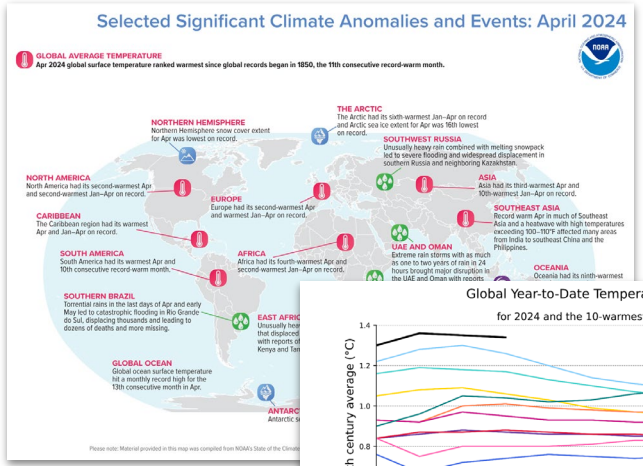
Every month, Monitoring releases a U.S and a global report.

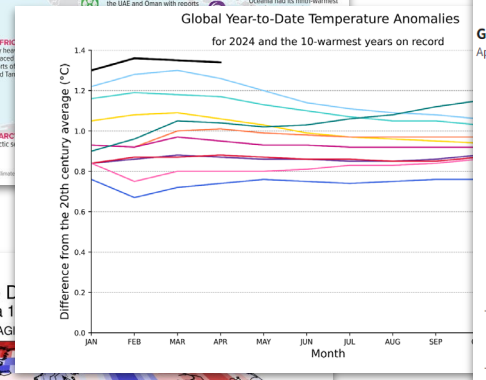
- Release of U.S. data/highlights: 6th-8th of following month, full report 3 business days later
- Release of global report: 10th-13th of following month

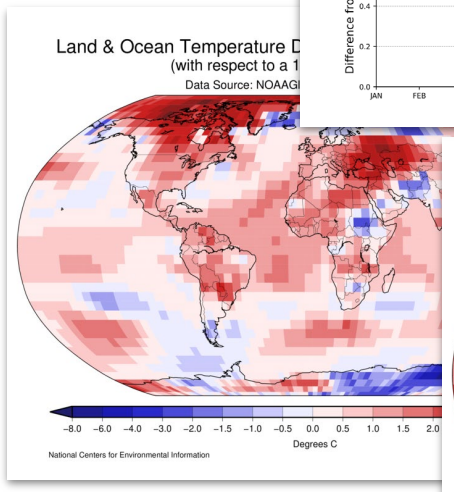


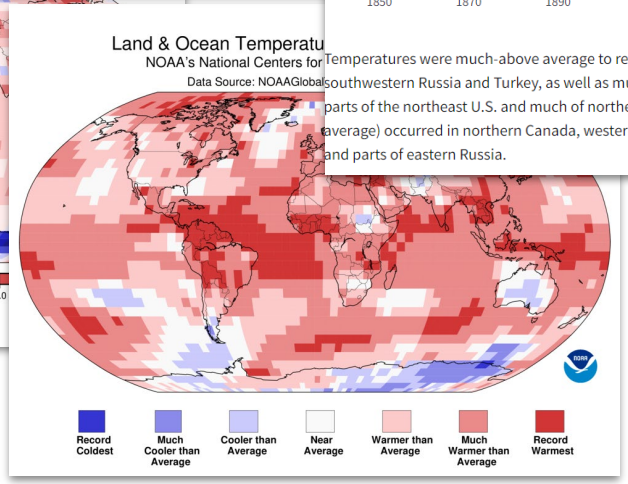
# Monitoring Reports - Global

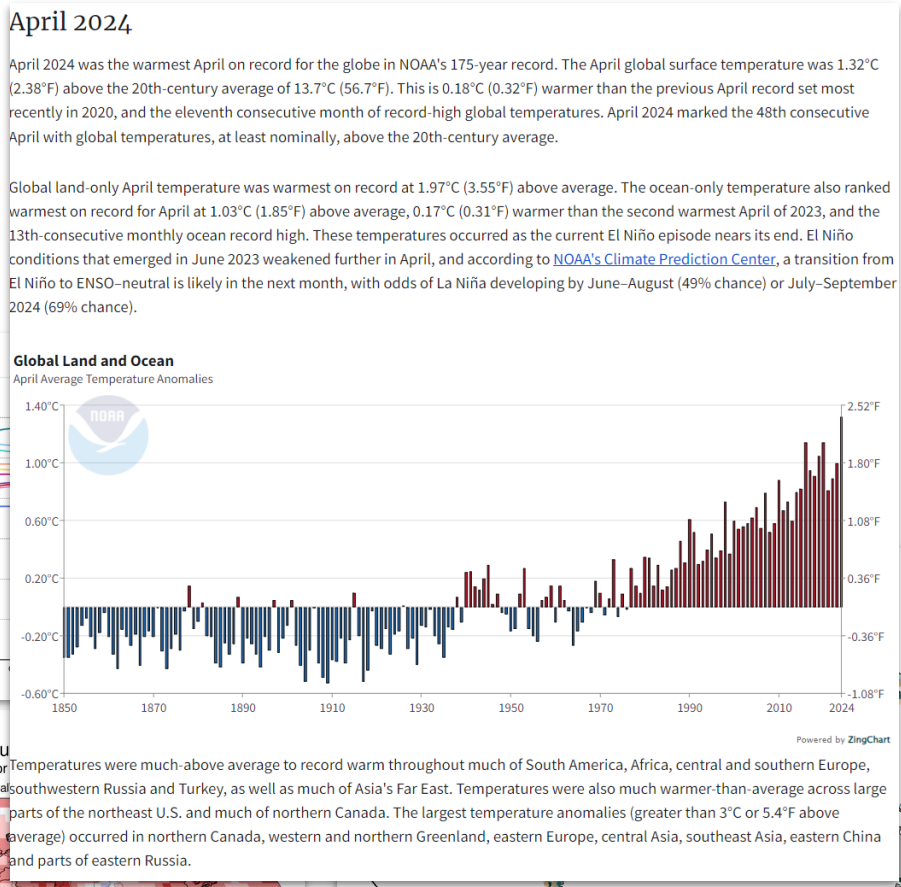
- Significant Events Map
- Temperature summary (month/season/YTD)
- Interactive temperature timeseries plot
- Hemispheric/continental stats
- Departure and Percentiles maps
- Regional highlights
- Precipitation summary
- Global drought summary

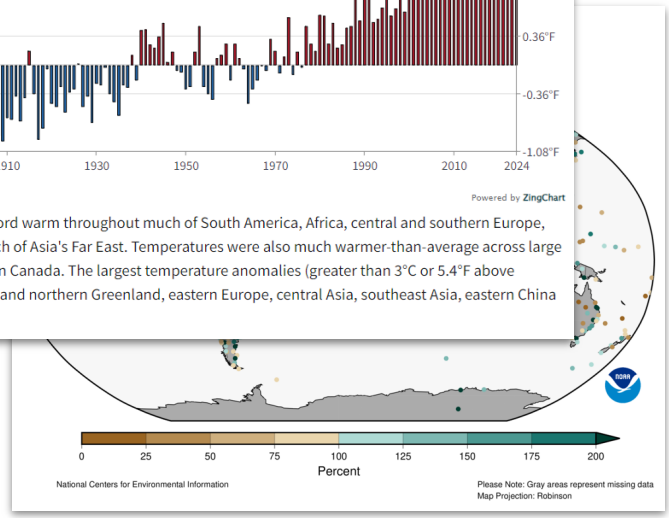


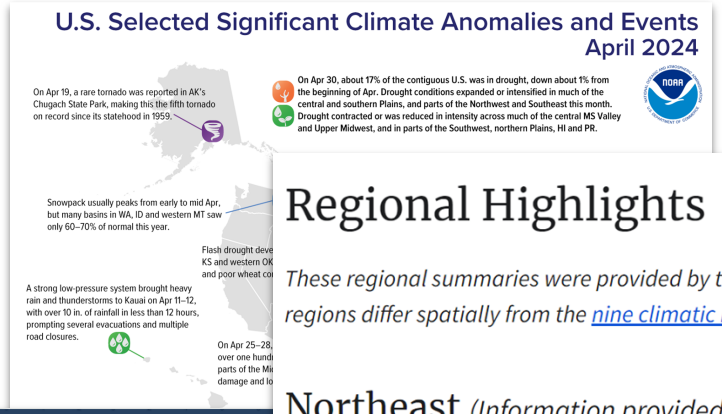



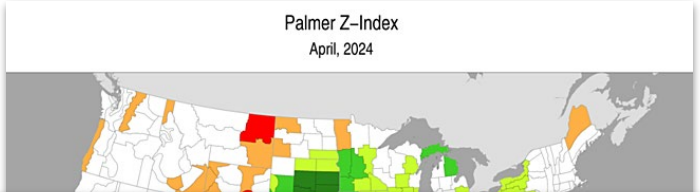



# Monitoring Reports - U.S.

- Significant Events Map
- Temperature & precipitation summary & maps (month/season/YTD)
- Regional highlights
- Billion Dollar Wx/Cx Disasters
- Drought summary
- Snow/ice summary
- Tornado summary
- Synoptic summary




## Regional Highlights

*These regional summaries were provided by the six Regional Climate Centers and reflect conditions in their respective regions. These six regions differ spatially from the nine climatic regions of the National Centers for Environmental Information.*

### Northeast *(Information provided by the Northeast Regional Climate Center)*

While conditions were variable, April leaned to the warm and wet side of normal for the Northeast as a whole.

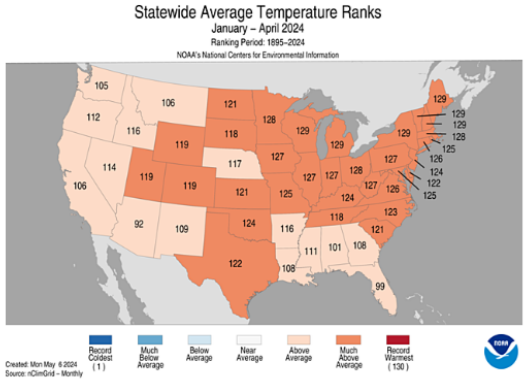
National Overview | April High

## January–April Temperature

For the January-April period, the average contiguous U.S. temperature was 43.0°F, 3.8°F above average, ranking fifth warmest on record for this period.

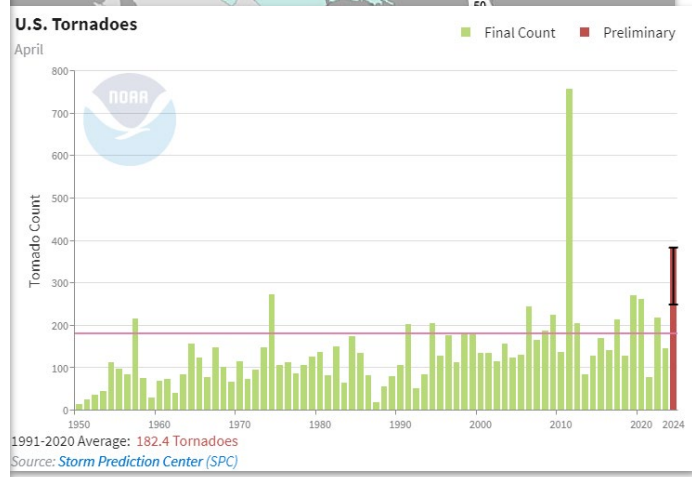
Temperatures were above average across nearly all of the contiguous U.S., while record-warm temperatures were observed in parts of the Northeast and Great Lakes.

Wisconsin, Michigan, New York, Vermont, New Hampshire and Maine each ranked second warmest on record, while an additional 22 states ranked in their top-10 warmest year-to-date period. No state experienced a top-10 coldest event for this four-month period.




January-April 2024 Statewide Temperature Ranks

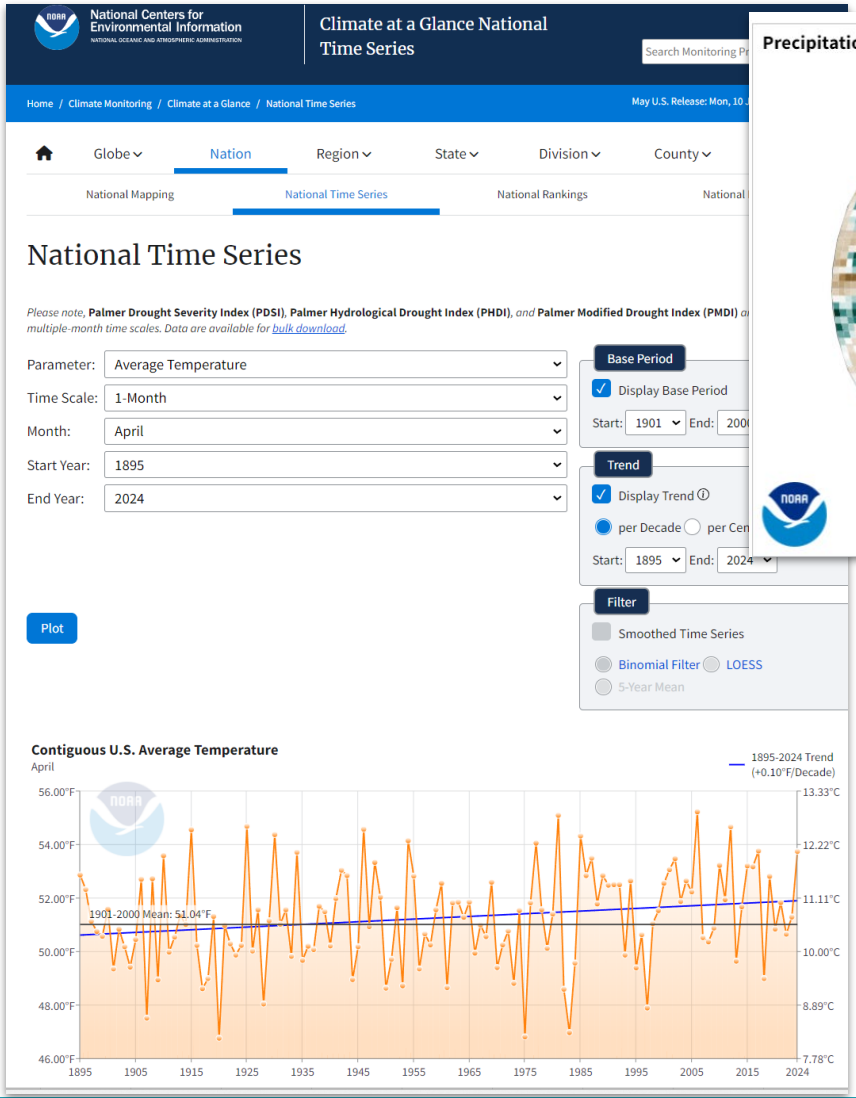
The contiguous U.S. average maximum (daytime) temperature during January-April was 54.0°F, 3.6°F above the 20th century average, ranking eighth warmest in the historical record. Above-average temperatures were observed across much of the conterminous U.S., while near- to below-average temperatures were observed in parts of the West, western Plains and Southeast. Michigan had its second-warmest January-April period on record for daytime temperatures. An additional 21 states ranked among their top-10 warmest for daytime temperatures during this period.

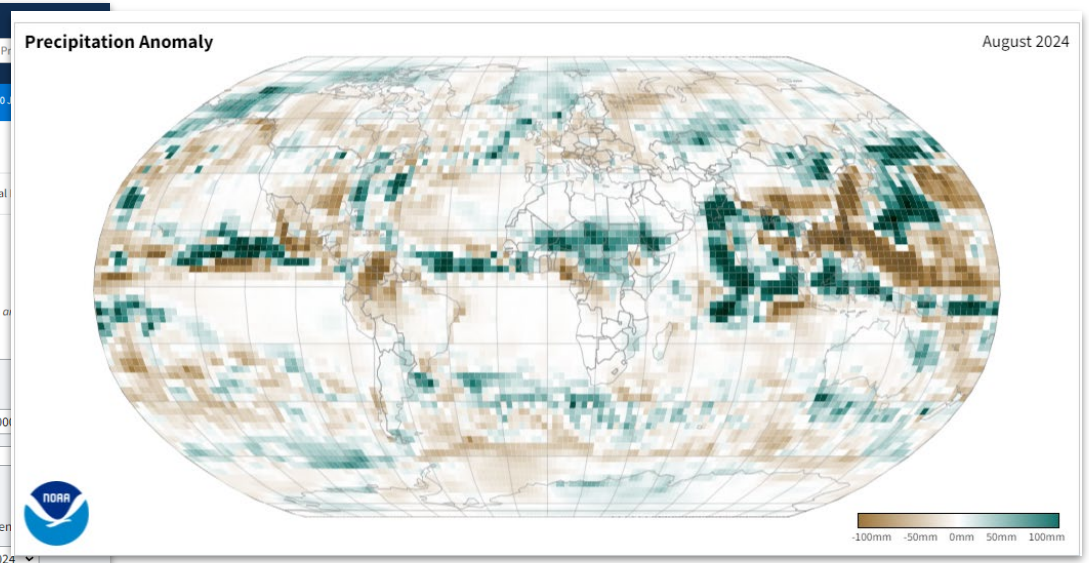


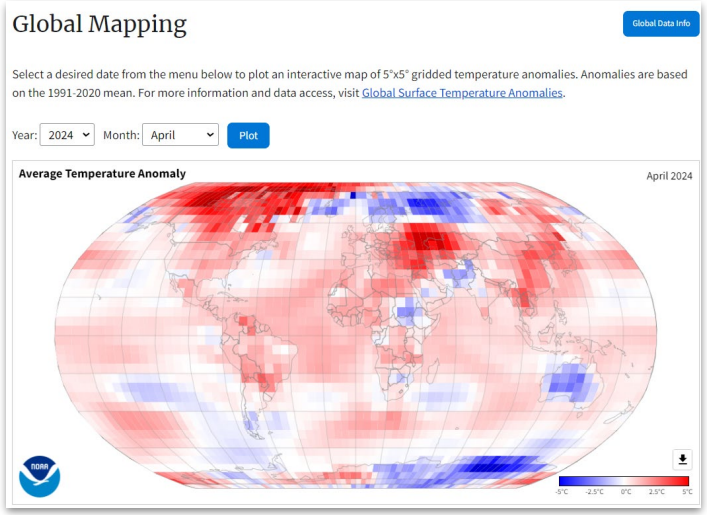
# Climate at a Glance (CAG)

https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/

- Menu-driven system to analyze global, national,regional, state, local trends
- Best climate data we have at this scale: homogenous, rural-dominated, corrected for artifacts
- Web services underneath the interface can be leveraged by outside apps

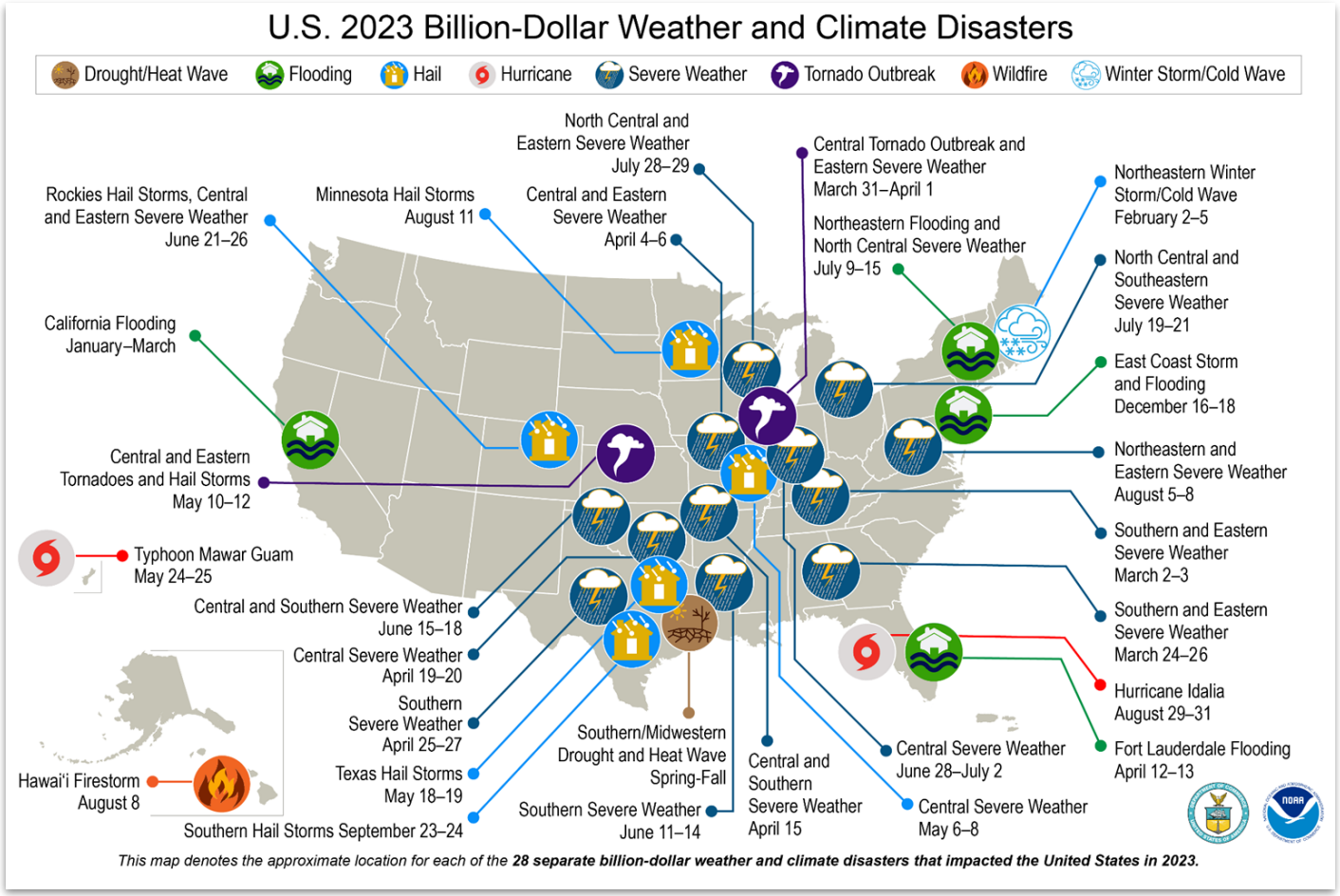


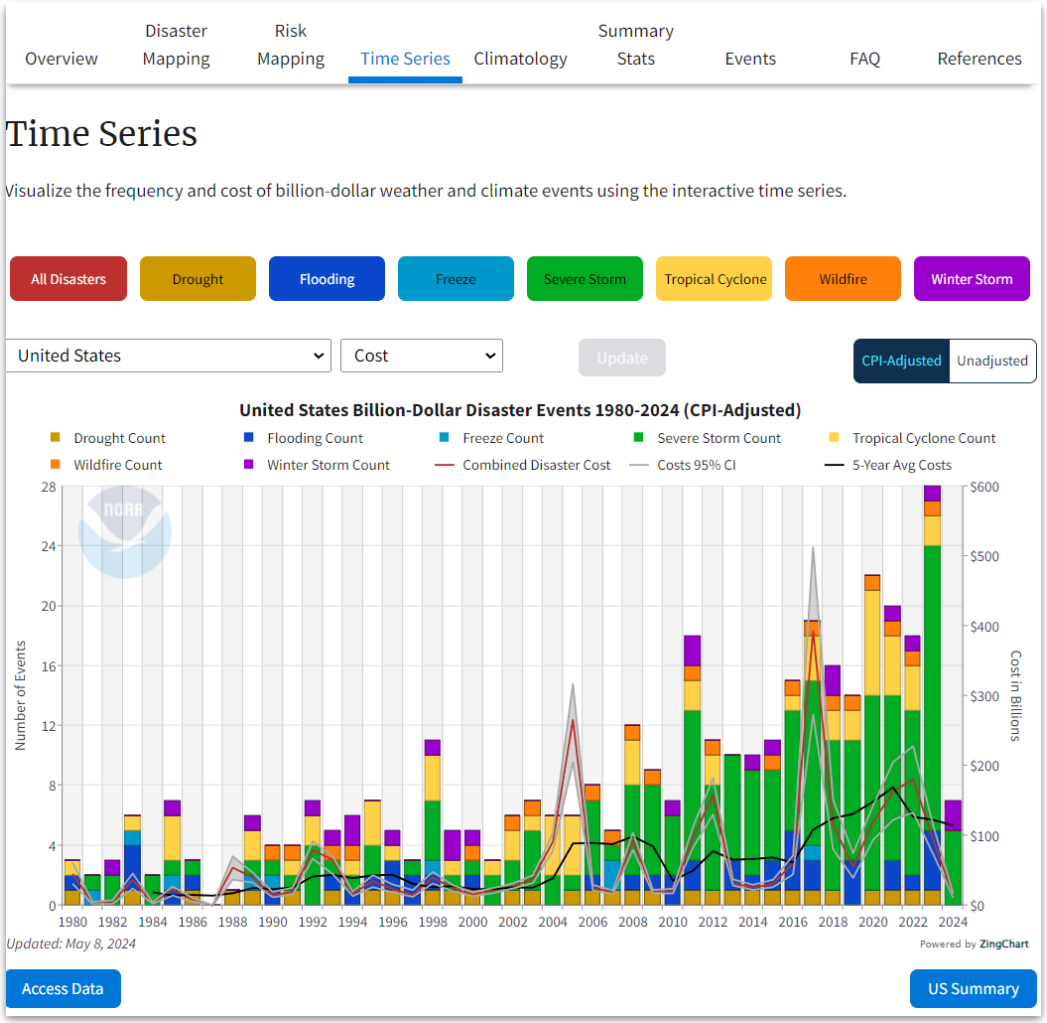



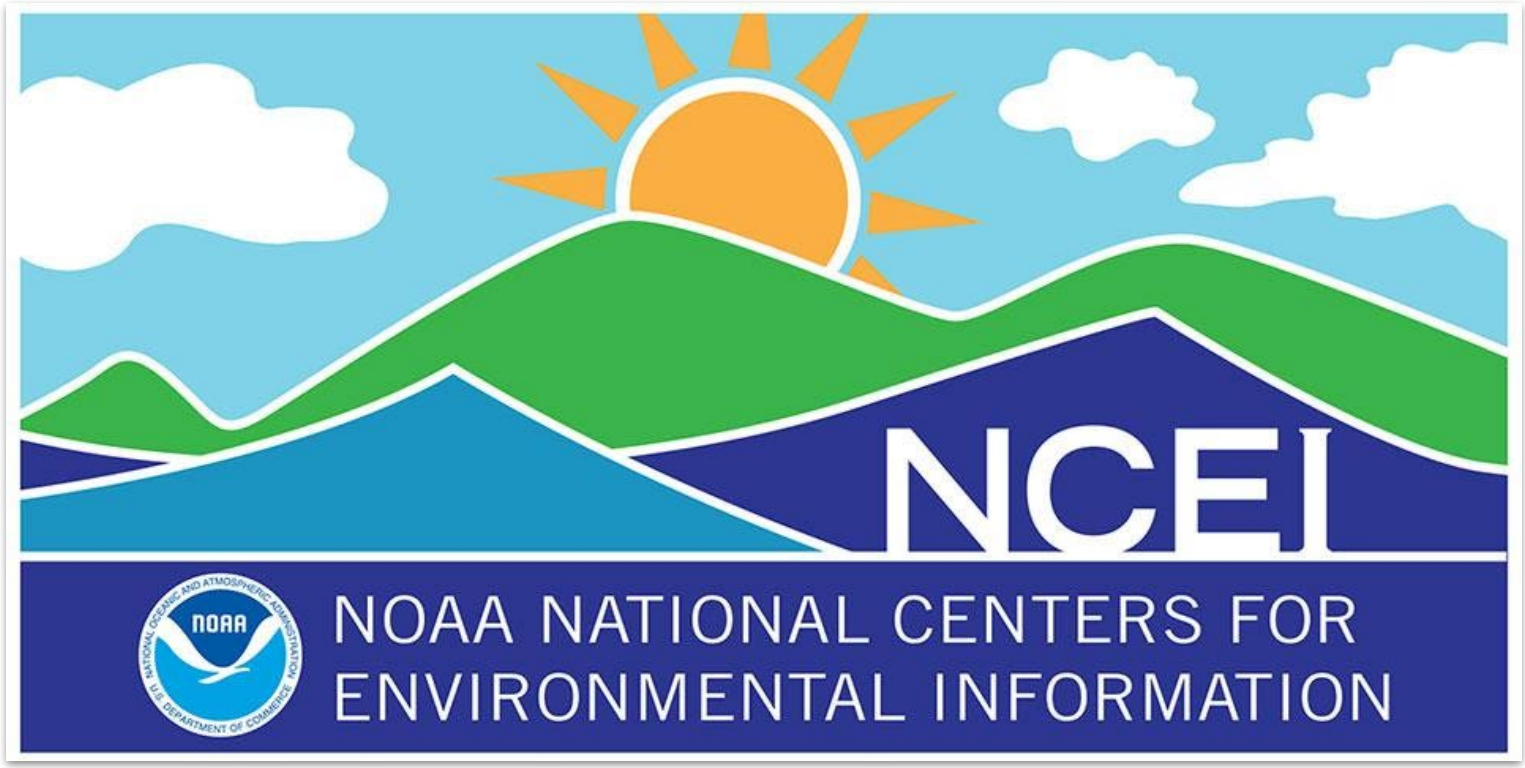
# Billion Dollar Weather & Climate Disasters

https://www.ncei.noaa.gov/access/billions/



# Thank You

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