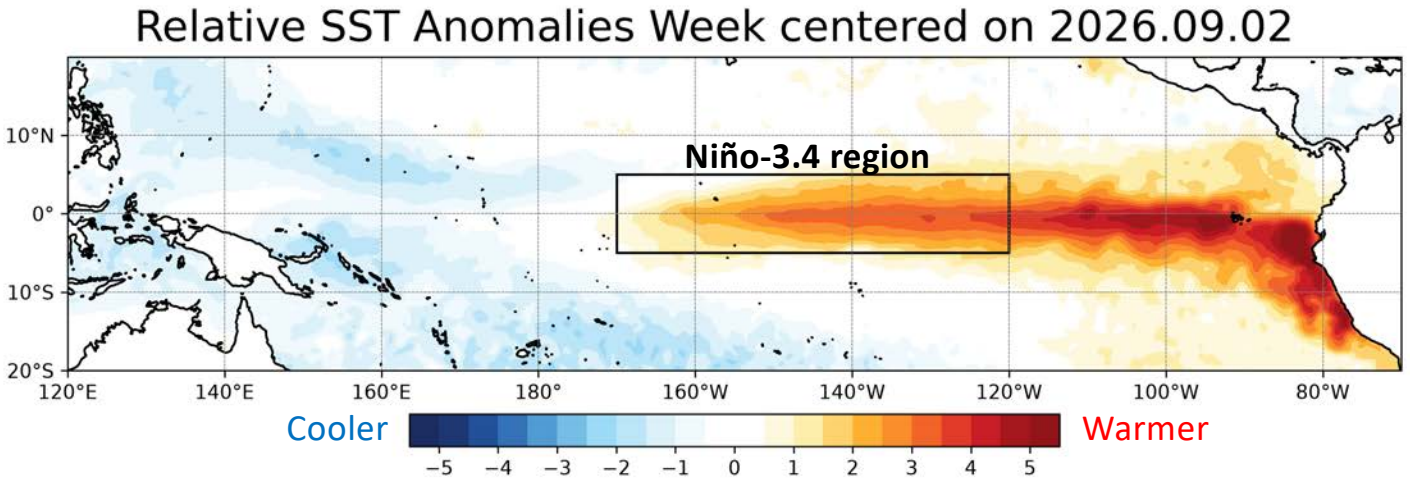
Update on the El Niño-Southern Oscillation (ENSO)



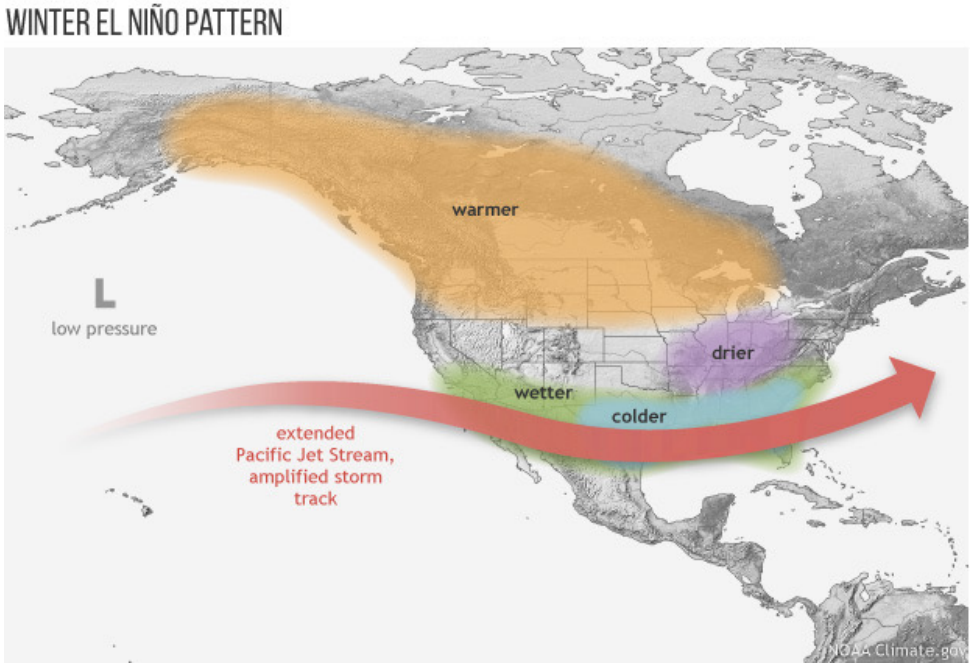
Michelle L'Heureux
NOAA/NWS/NCEP/Climate Prediction Center

ENSO Forecast Team: Daniel Harnos, Zeng-Zhen Hu, Nathaniel Johnson (GFDL), Michelle L'Heureux, Yanyun Liu, Lindsey Long, Cristina Recalde, Wanqiu Wang, Caihong Wen, Jieshun Zhu

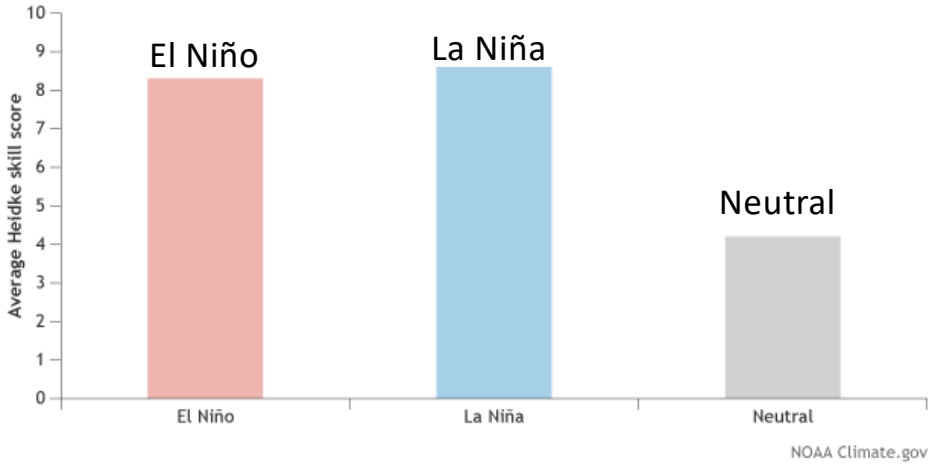
Northeast Regional Climate Center (NRCC) Climate Webinar
19 November 2026

Why Does It Seem like Everyone Is Talking Nonstop about El Niño?

- Because they can! ENSO is the largest source of seasonal and interannual predictability.
- El Niño (warmer conditions in the tropical Pacific) and La Niña (cooler conditions in the tropical Pacific) often form months in advance of their prime impacts.
- In a world without EL Niño/La Niña, we would have much less seasonal forecast skill.
- We know where El Niño has its primary impacts, so can prepare for them. It is an opportunity to reduce and mitigate risk!

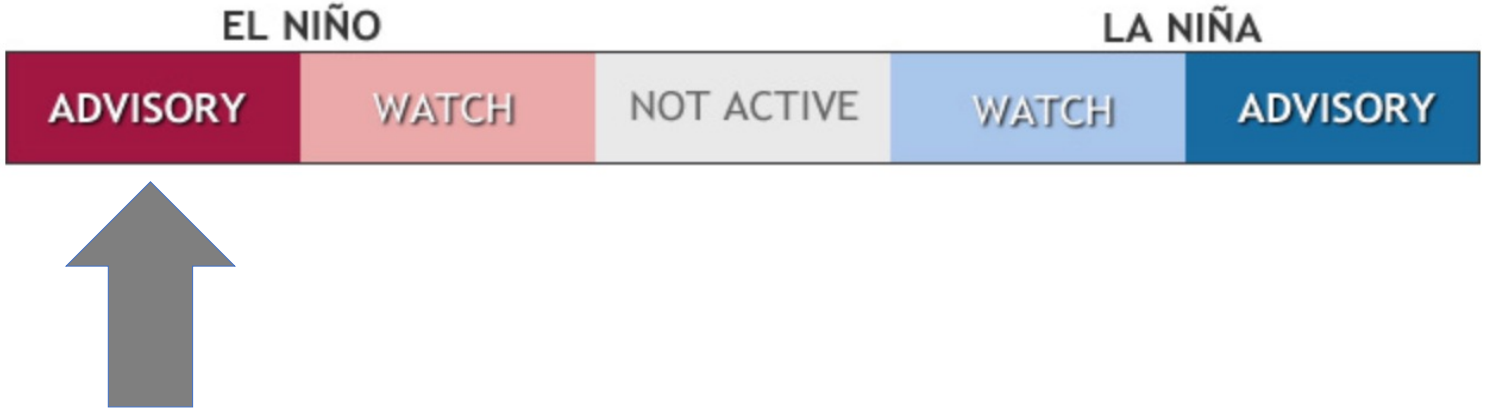


https://www.climate.gov/news-features/featured-images/how-el-niño-and-la-niña-affect-winter-jet-stream-and-us-climate



Higher skill (accuracy) in seasonal outlooks for precipitation and temperature.

Current ENSO Alert System (as of 12 November 2026)



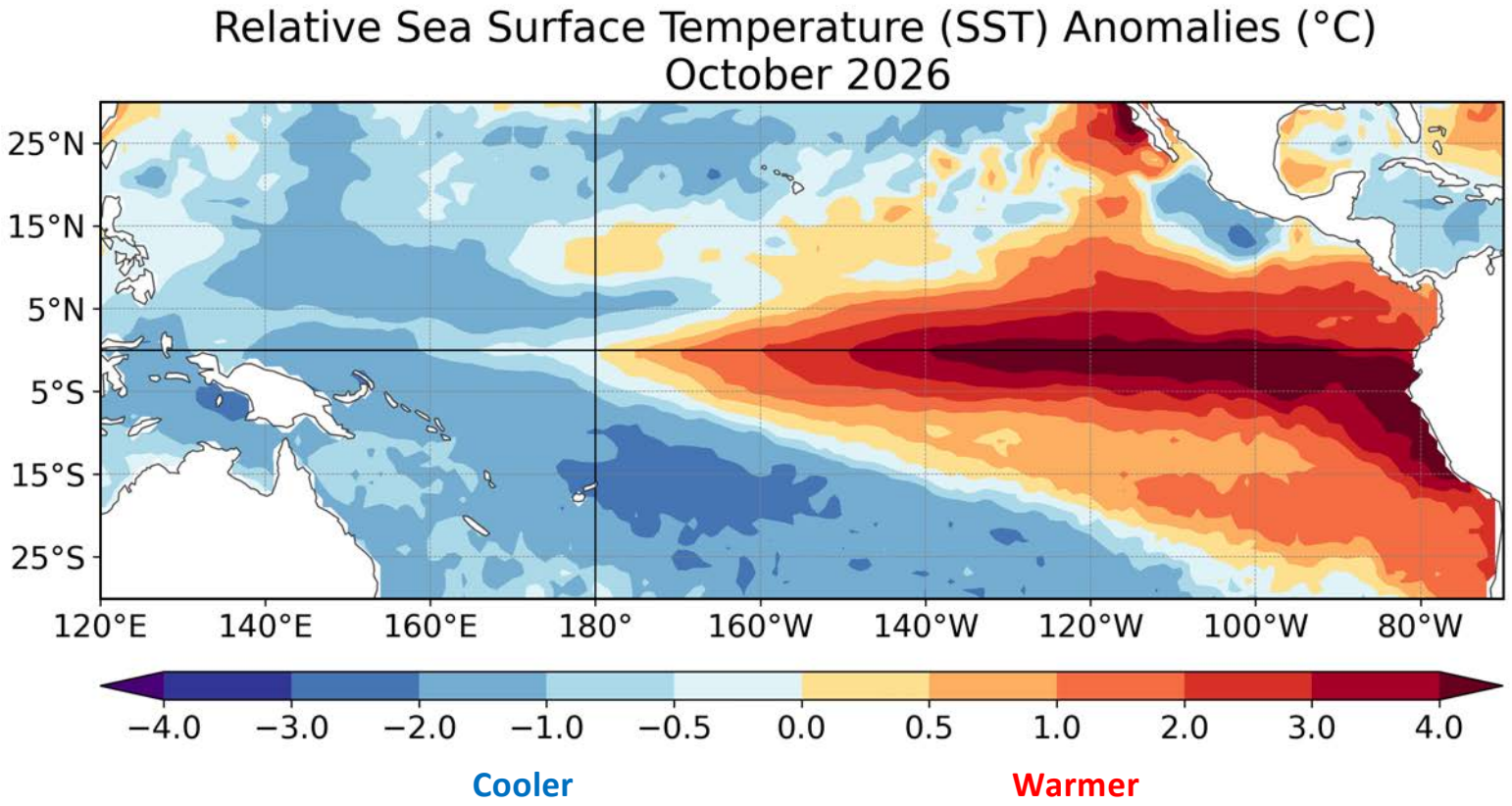
El Niño Advisory

12 November 2026 Update:

El Niño continues to strengthen, with a strong-to-very strong El Niño likely through January-March 2027 (remaining greater than a 79% chance).

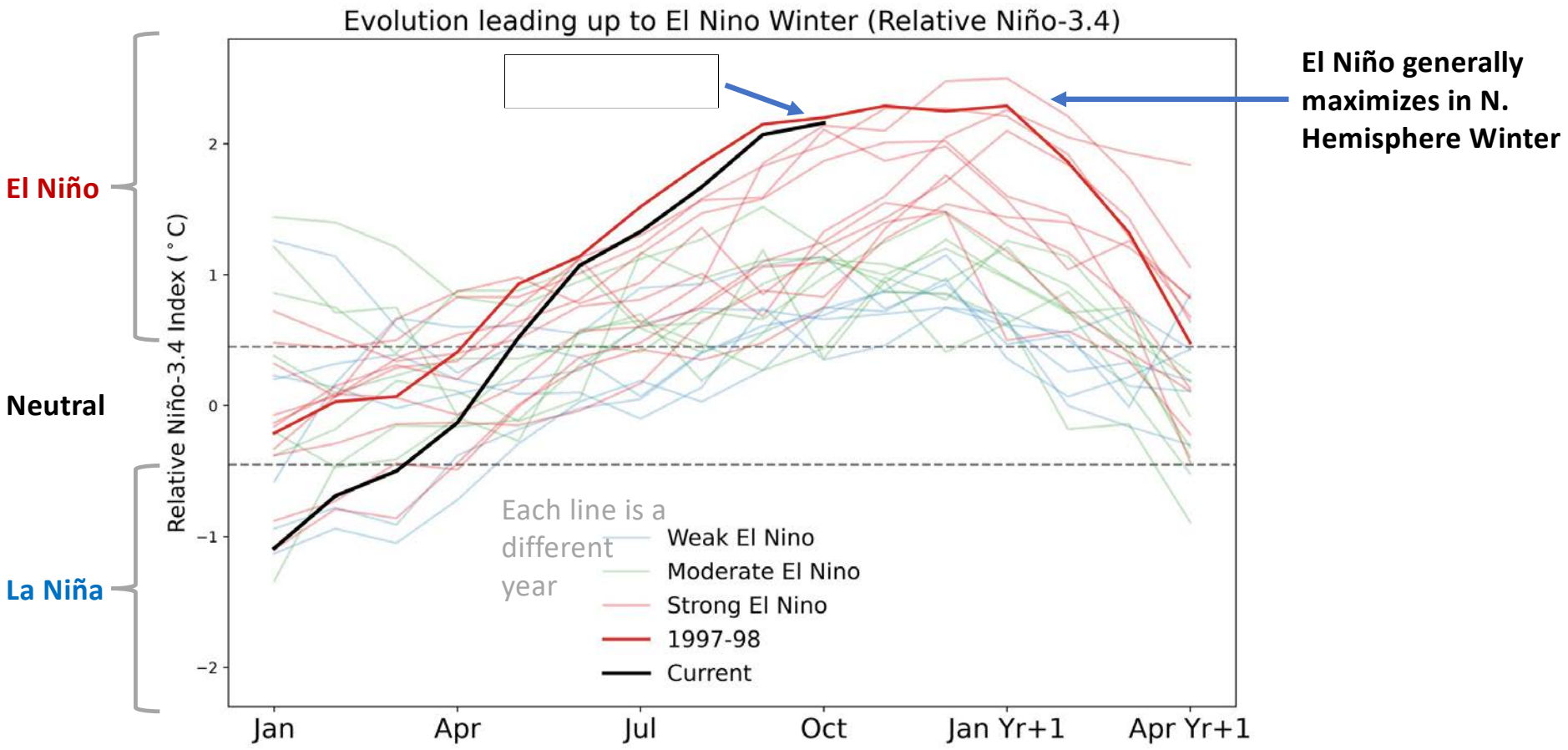
Updates on the 2nd Thursday of every month:
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

Relative Sea Surface Temperature (SST) Anomalies in the Equatorial Pacific Ocean



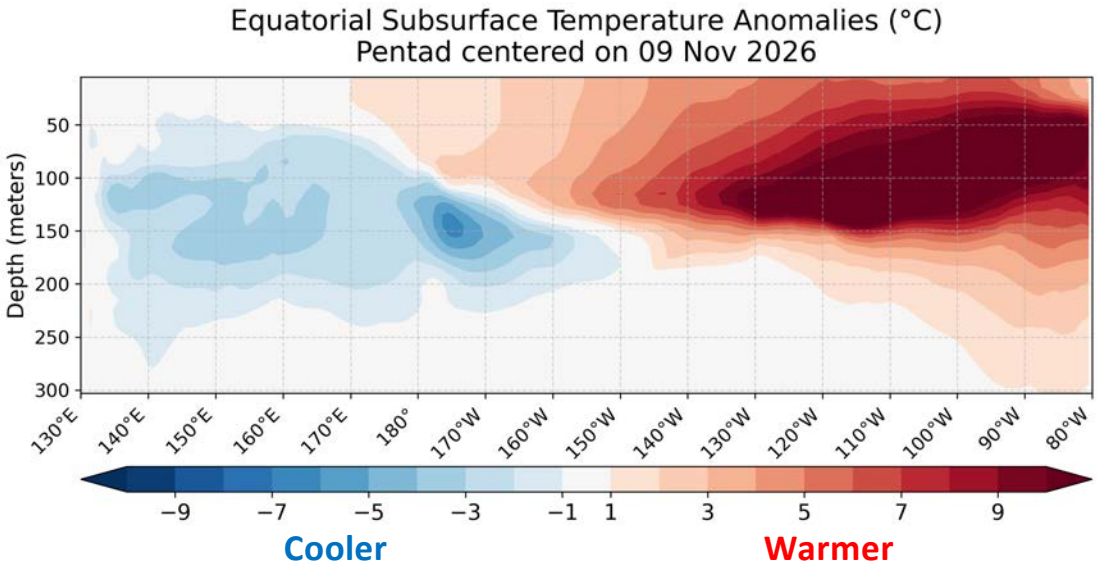
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/Monthly_RelSSTA_map-hr.png

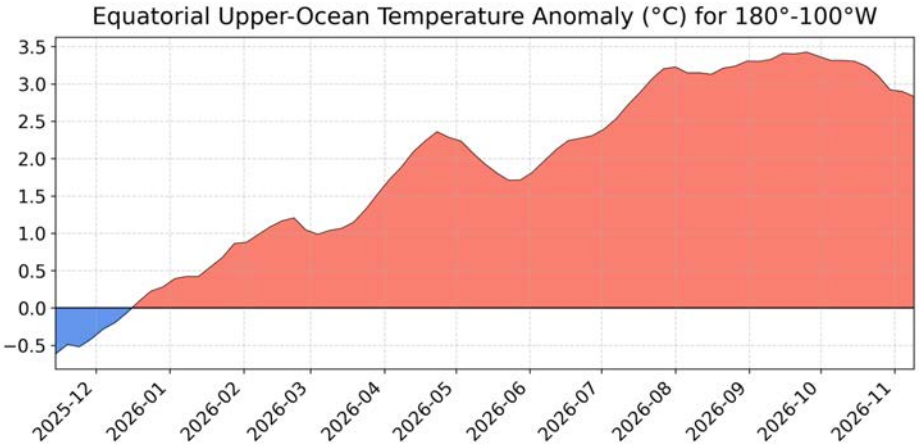
Ranking October <u>monthly</u> Relative Niño-3.4, the current El Niño is 2nd warmest since 1950.



Data: NOAA/NCEI ERSSTv6

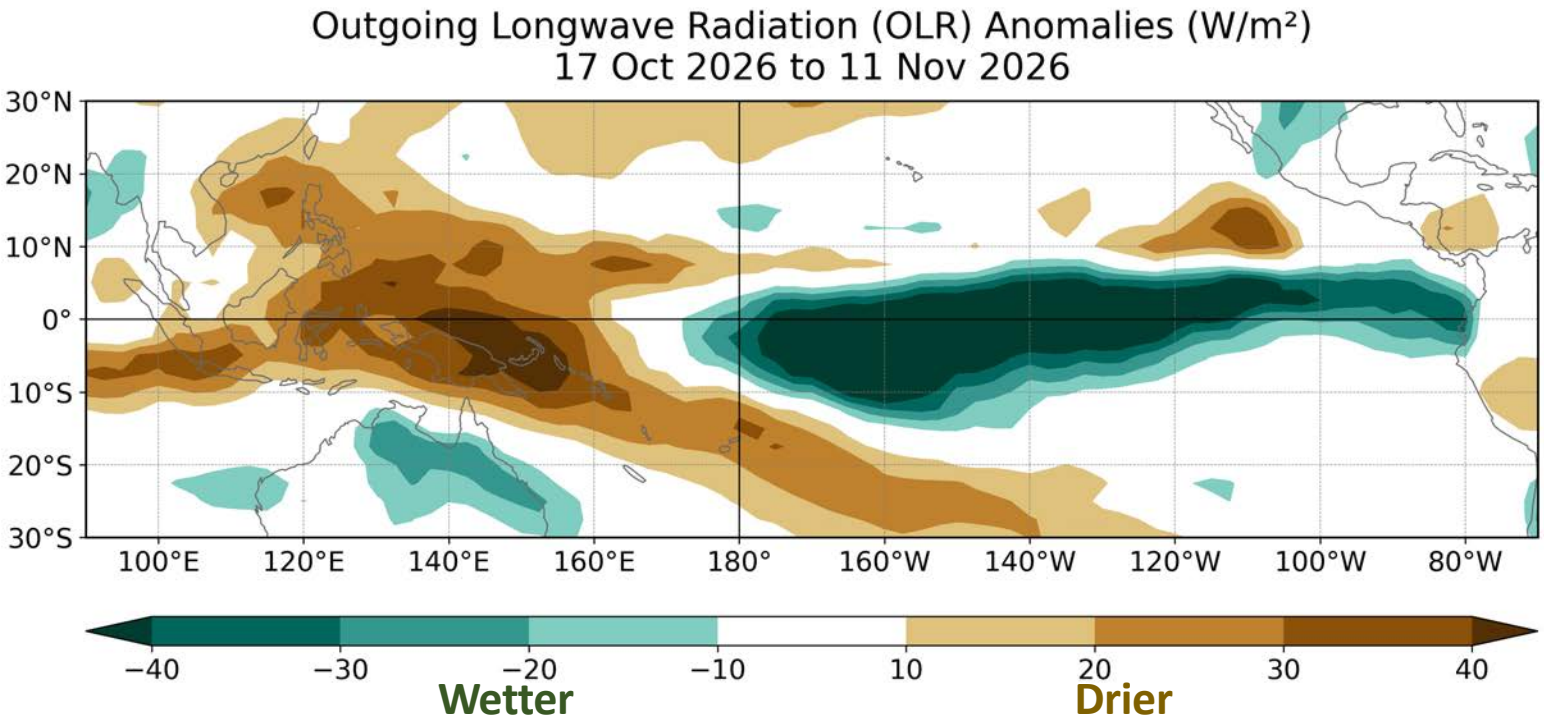
Subsurface Temperature Anomalies Along the Equatorial Pacific Ocean





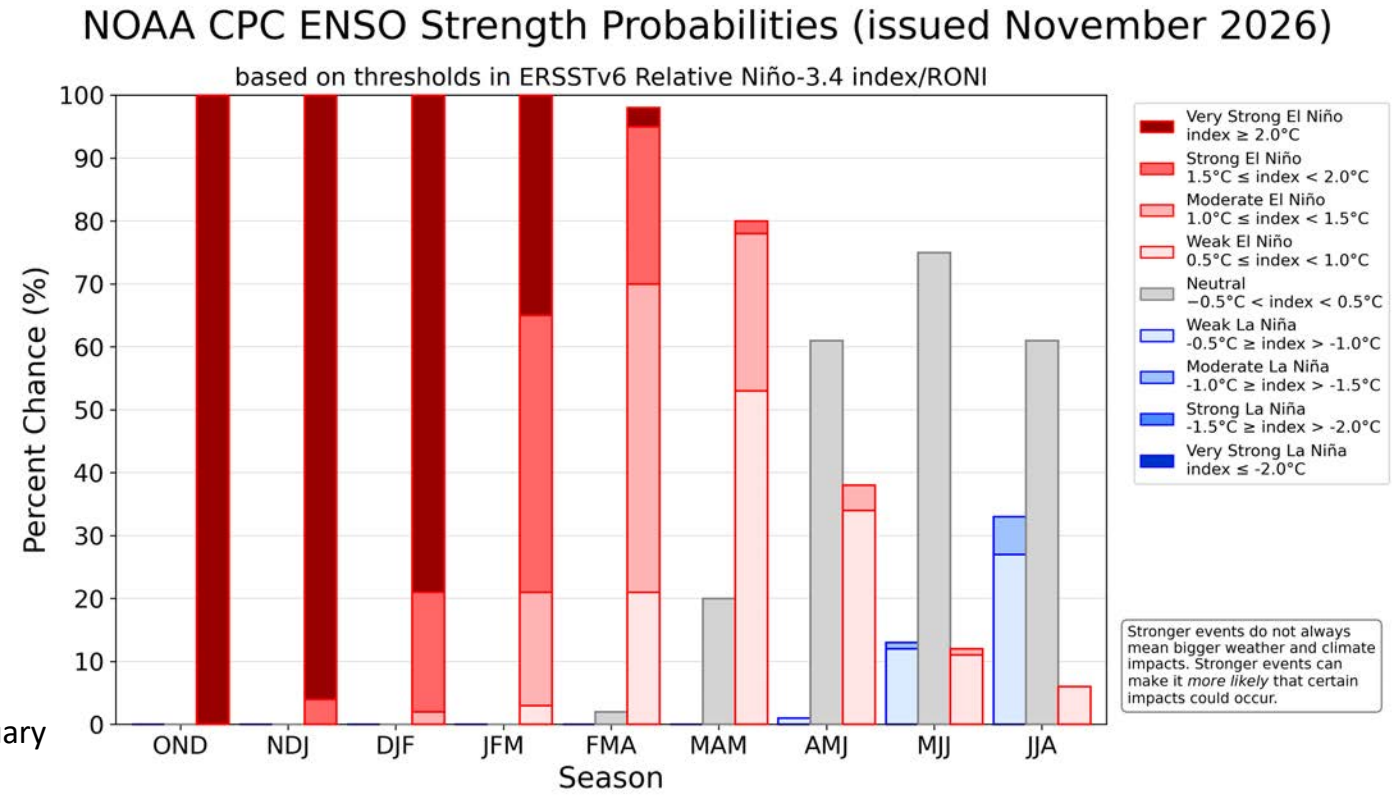
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/zlon_last-hr.png
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/heat-last-year-hr.png

Outgoing Longwave Radiation (OLR) Anomalies (proxy for tropical rainfall)



https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_update/olra_last30days-hr.png

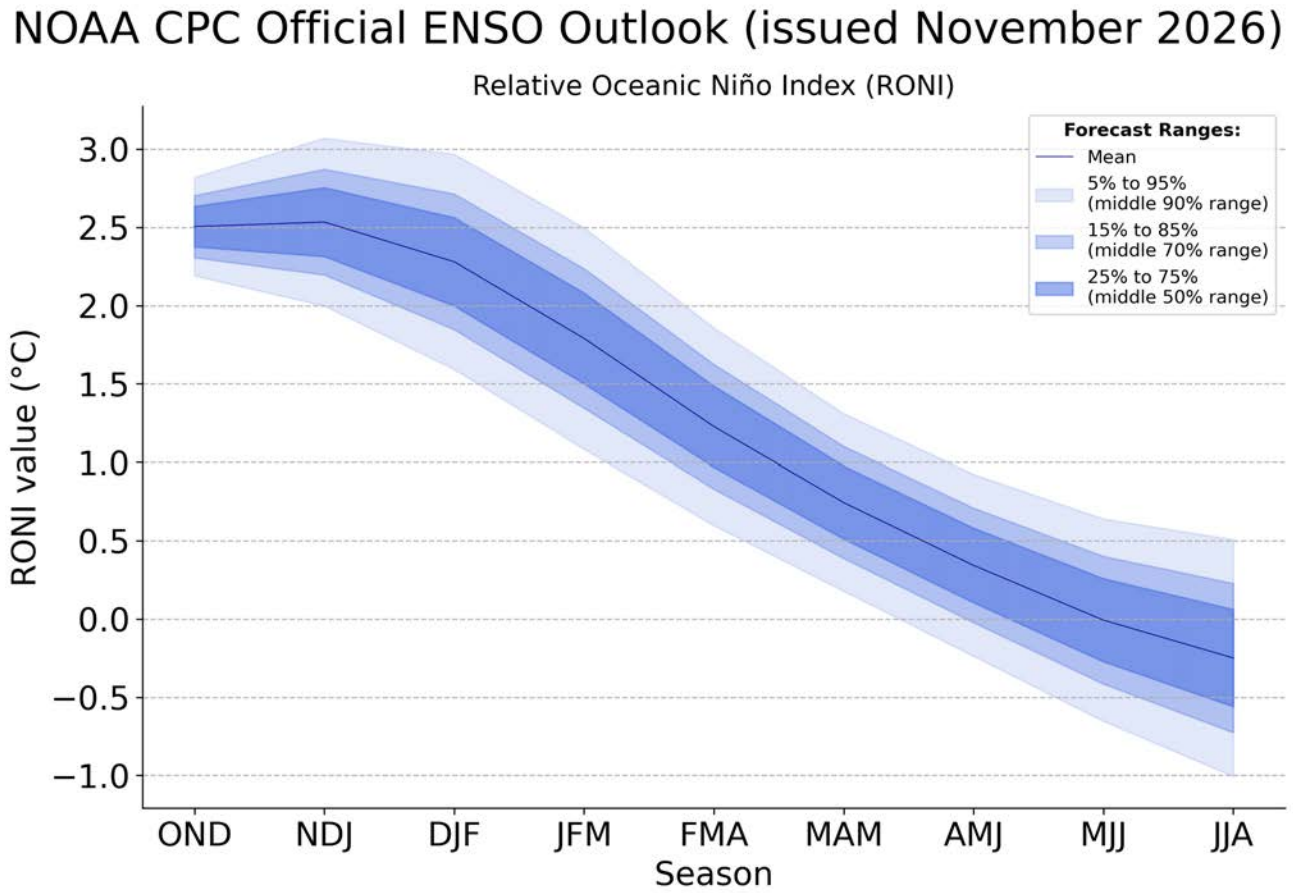
Current ENSO Strength Probabilities (9 categories)



x-axis indicates
3-month seasons:
NDJ = November-January

95-100% chance of a very strong El Niño during October-December (OND) and November-January (NDJ). Chances remain elevated for a strong-to-very strong El Niño through January-March (JFM) 2027.

Current ENSO Outlook

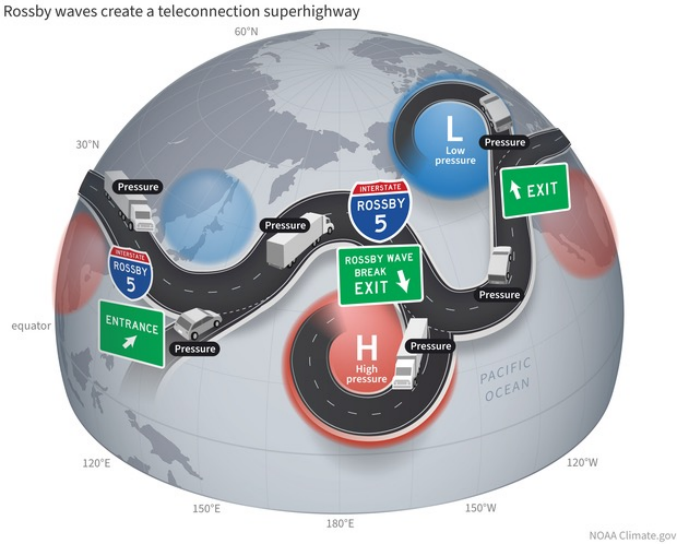


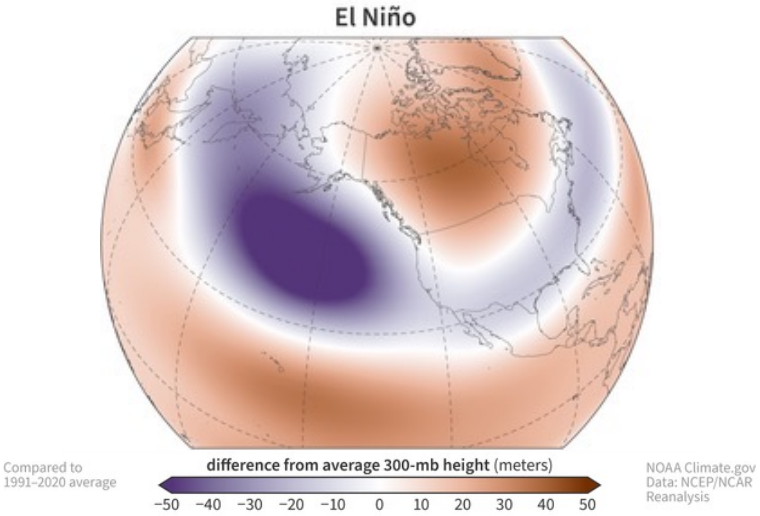
x-axis indicates
3-month seasons:
SON = September-Nove

Chances for a "historic" event (RONI ≥ 2.5˚C) are 61% for October-December and 60% for November-January. (record dating back to 1950 in ERSSTv6).

El Niño Is Not A Storm.

But El Niño does change the circulation across the world, which can cause weather events to recur and become *more likely* over the course of months/seasons.



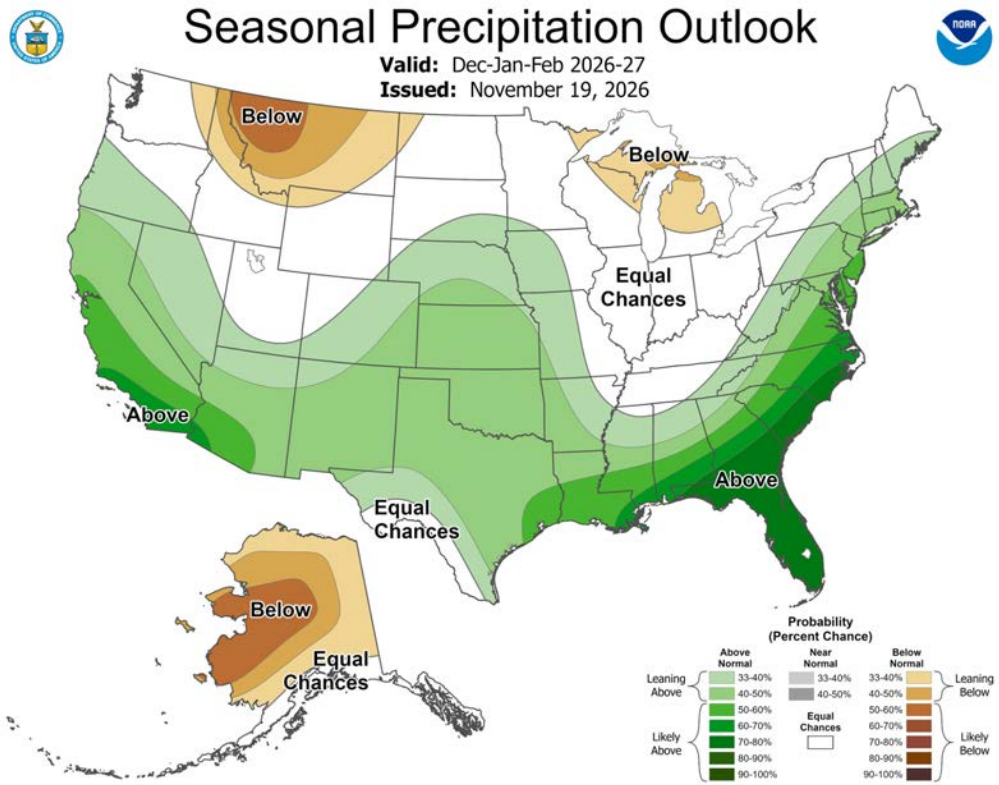


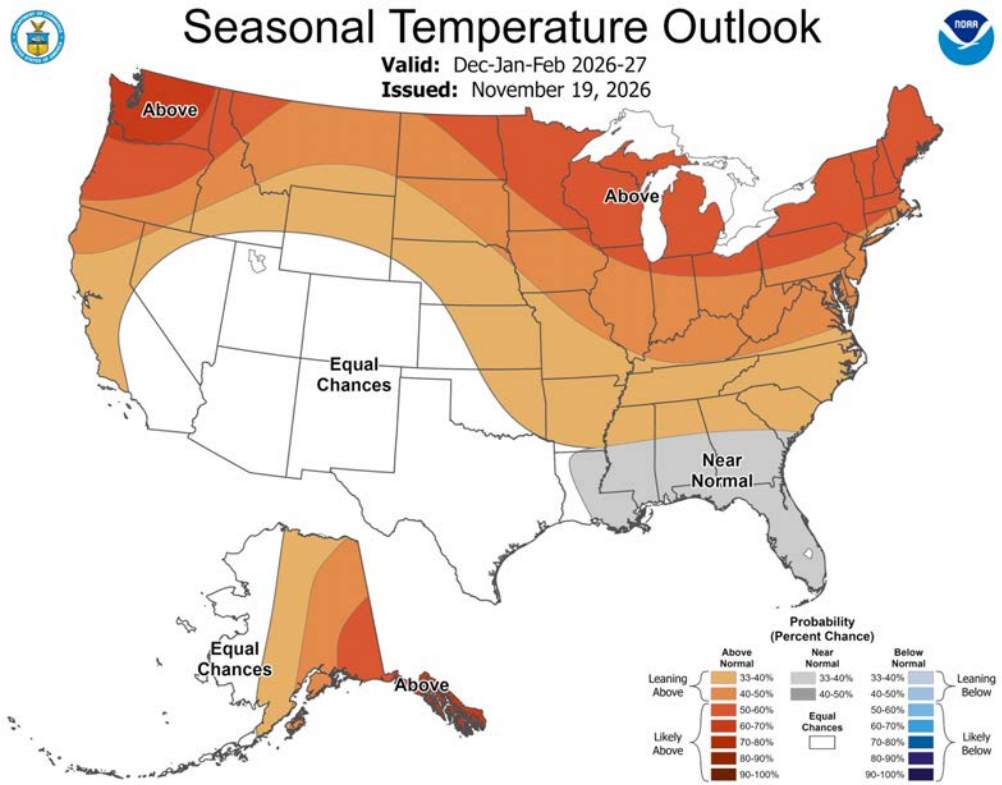
- If an event occurs that is consistent with El Niño, we can say this event might have been made *more likely* by El Niño, but El Niño cannot be solely and entirely blamed for individual events.
- Synoptic features + other climatic patterns/trends can also play significant roles in modulating the likelihood of weather or extremes.
- Stronger El Niños can make these circulation “highways” more dominant (signal > noise) and can often more strongly push the distribution of possible outcomes.

https://www.climate.gov/news-features/blogs/enso/what-are-teleconnections-connecting-earths-climate-patterns-global

CPC Seasonal Outlook for December-February 2026-27 (updated 19 Nov)

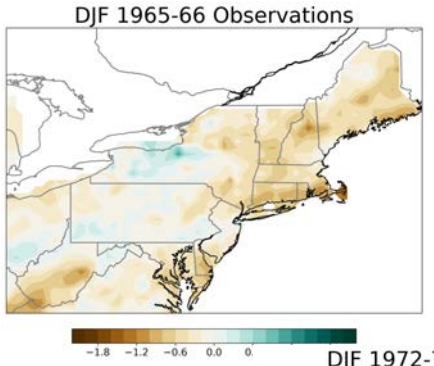
Uncertainty Is Expressed as Probabilities (% Chance of an Outcome)

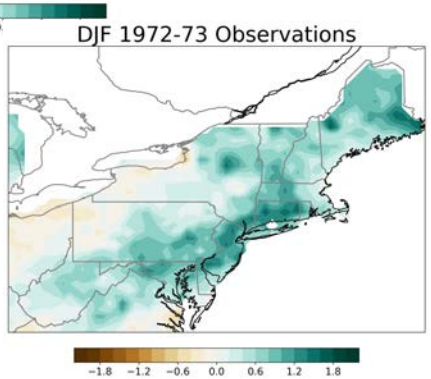


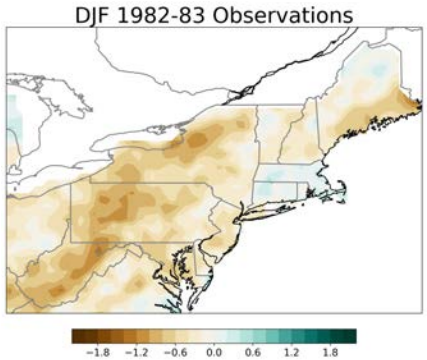


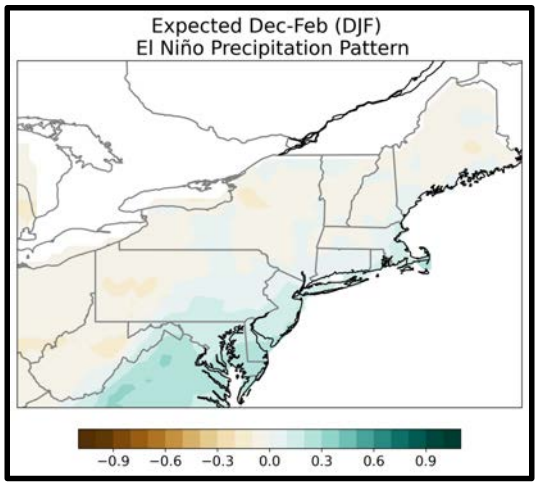
Outlooks for all upcoming 3-month seasons: https://www.cpc.ncep.noaa.gov/products/predictions/long_range/
(updates every month on the 3rd Thursday)

Very Strong El Niños (RONI ≥ 2.0°C) can have event-to-event variability



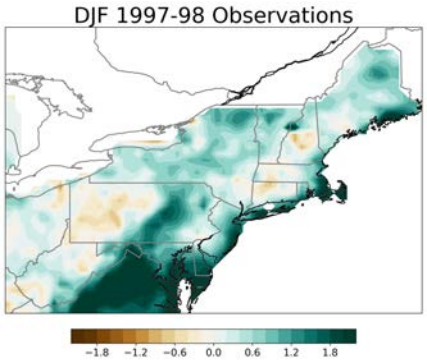


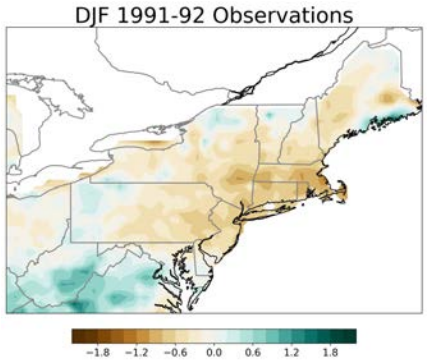


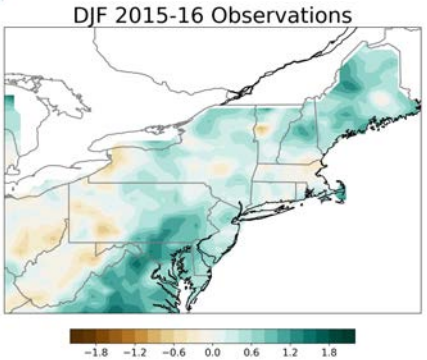


Below-average Precipitation

Above-average Precipitation

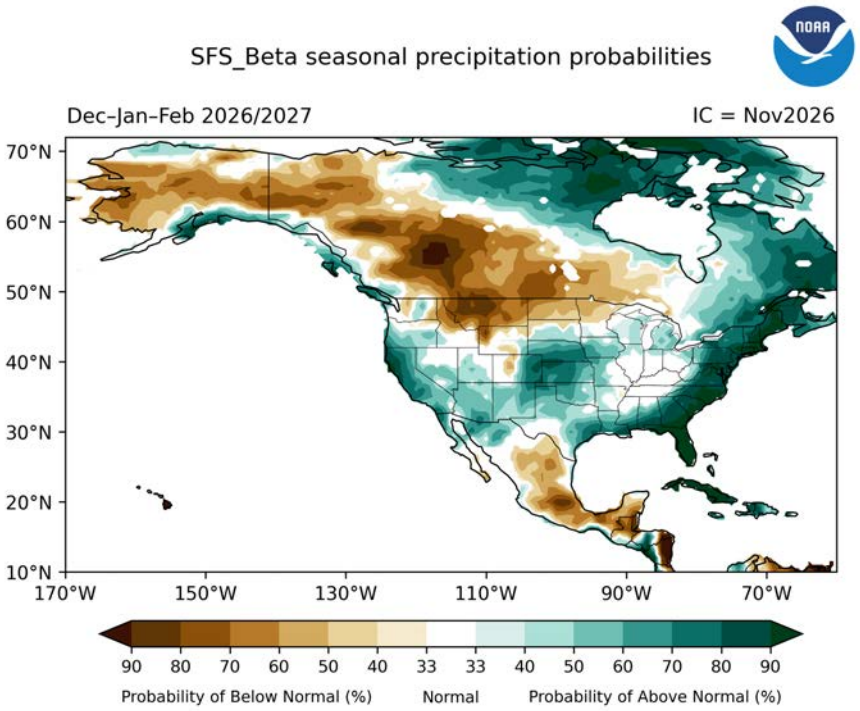


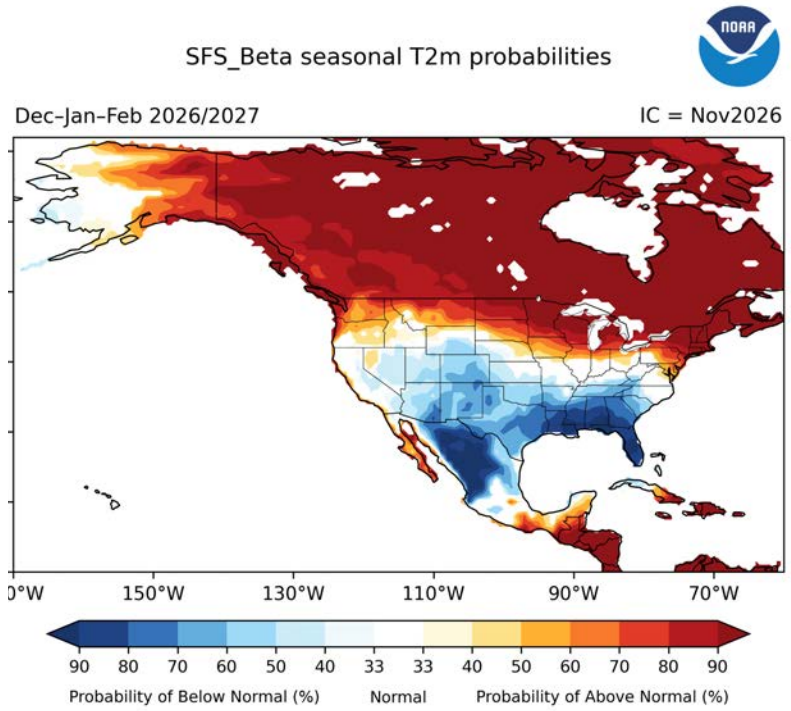




CPC Gauge-based Unified data (units: mm/day)

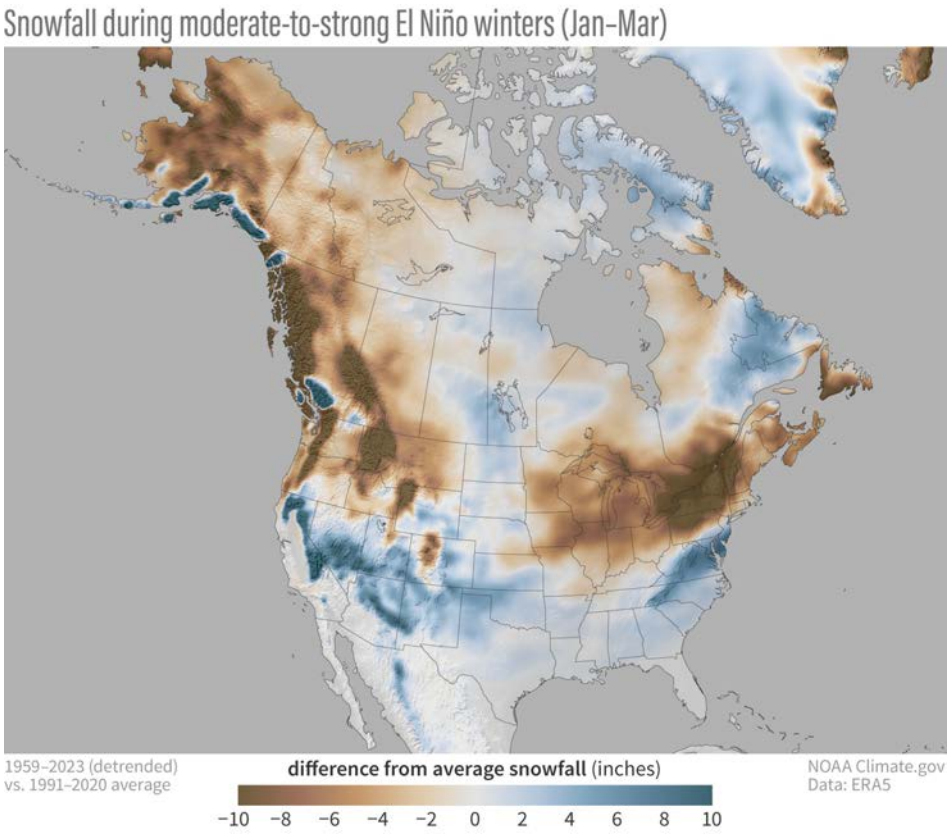
New Model Guidance from
Seasonal Forecast System (SFS) Beta

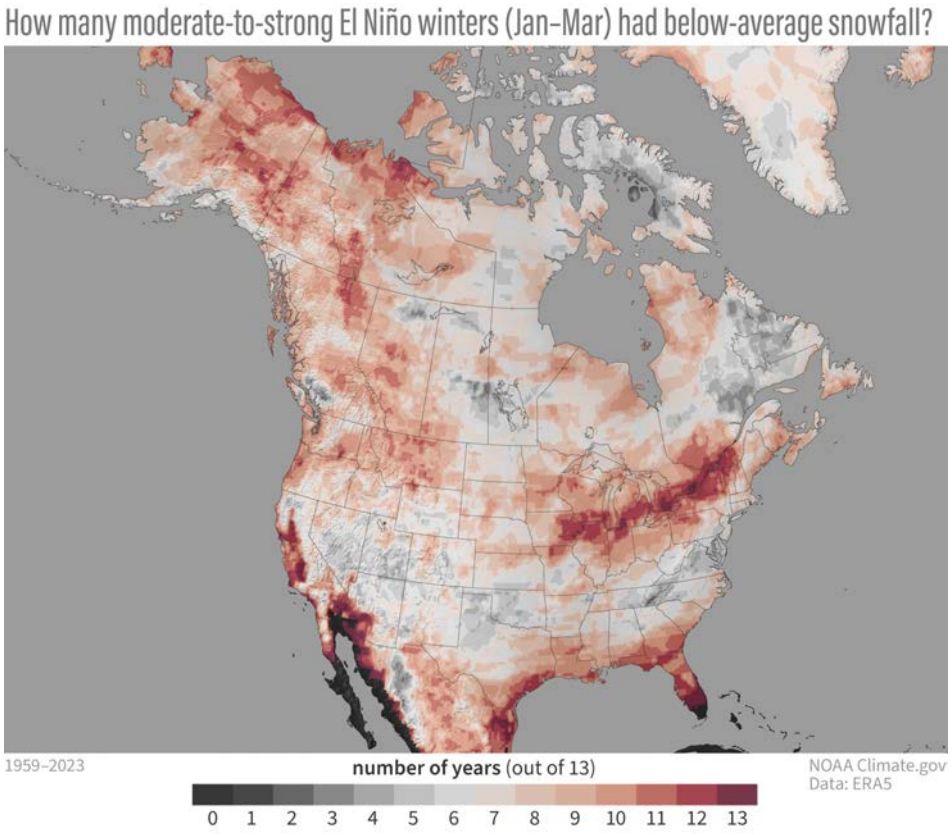




https://www.cpc.ncep.noaa.gov/products/forecasts/sfs-beta/realtime/index.html

Anomalous Snowfall?





https://www.climate.gov/news-features/blogs/snow-pain-snow-gain-how-does-el-nino-affect-snowfall-over-north-america

Don't Panic.
Prepare.

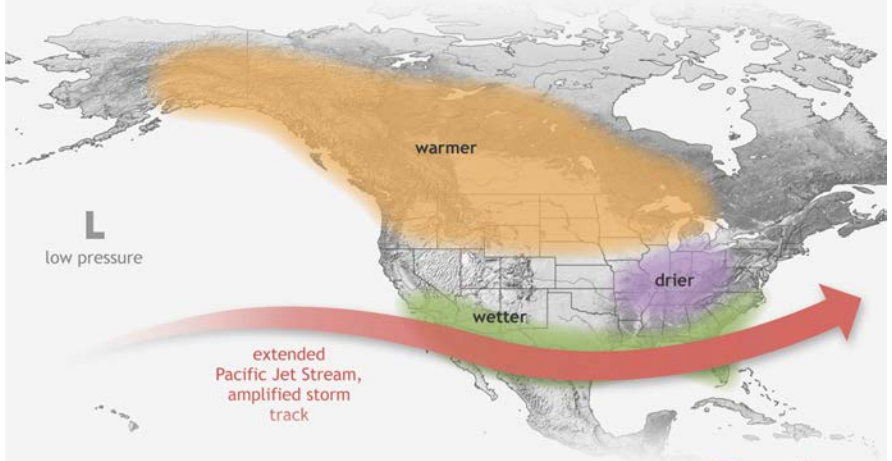
Prepare for El Niño by taking action for the potential weather hazards in your region.

Heavy Rain

Flash Floods

Drought

High Winds



weather.gov

Summary

- El Niño continues to strengthen, with a strong-to-very strong El Niño likely through January-March 2027 (remaining greater than a 79% chance).
- In addition to oceanic anomalies, tropical atmospheric anomalies are consistent with a coupled, significant El Niño that is in place.
- High confidence in a very strong El Niño by the end of this year is due to consensus from models and recent observations.
- Chances of an El Niño that is historically strong (RONI ≥ 2.5˚C): ~60% chance during the October-December and November-January seasons. The previous RONI record was 2.4˚C in 1982-83 (dating back to 1950).
- A very strong El Niño can nudge certain seasonal outcomes over the U.S. to become more likely, but it still does not come with guarantees.
- The eastern/coastal part of the region has the highest chances of above-average precipitation (rain + snow). Above-average temperatures favored over the entire region. Based on historical El Niño tendencies, western/interior portions of the region likely lean below-average for snowfall* (not an official forecast).

Resources

Monthly ENSO Discussion (update on the 2nd Thursday of every month, 9am Eastern):
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

ENSO Outlook:
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso/roni/outlook/
ENSO Probabilities:
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso/roni/probabilities/
ENSO Strengths:
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso/roni/strengths/

Weekly ENSO briefing (updates Monday mornings; Tuesday if Federal Holiday):
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf
https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt

CPC Seasonal Temp/Precip Outlooks (update on the 3rd Thursday of every month):
https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

SFS-beta Model Forecasts: https://www.cpc.ncep.noaa.gov/products/forecasts/sfs-beta/realtime/index.html