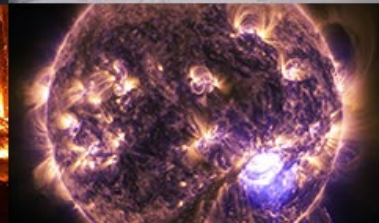
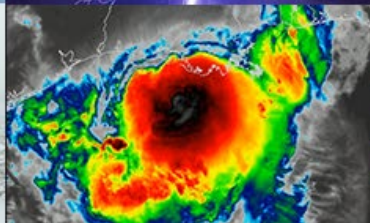
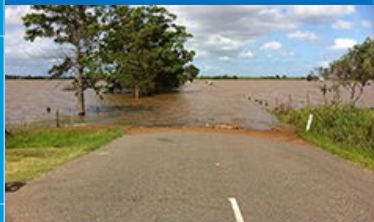




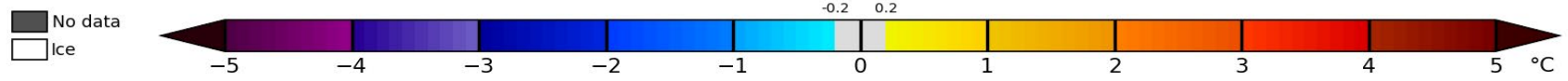
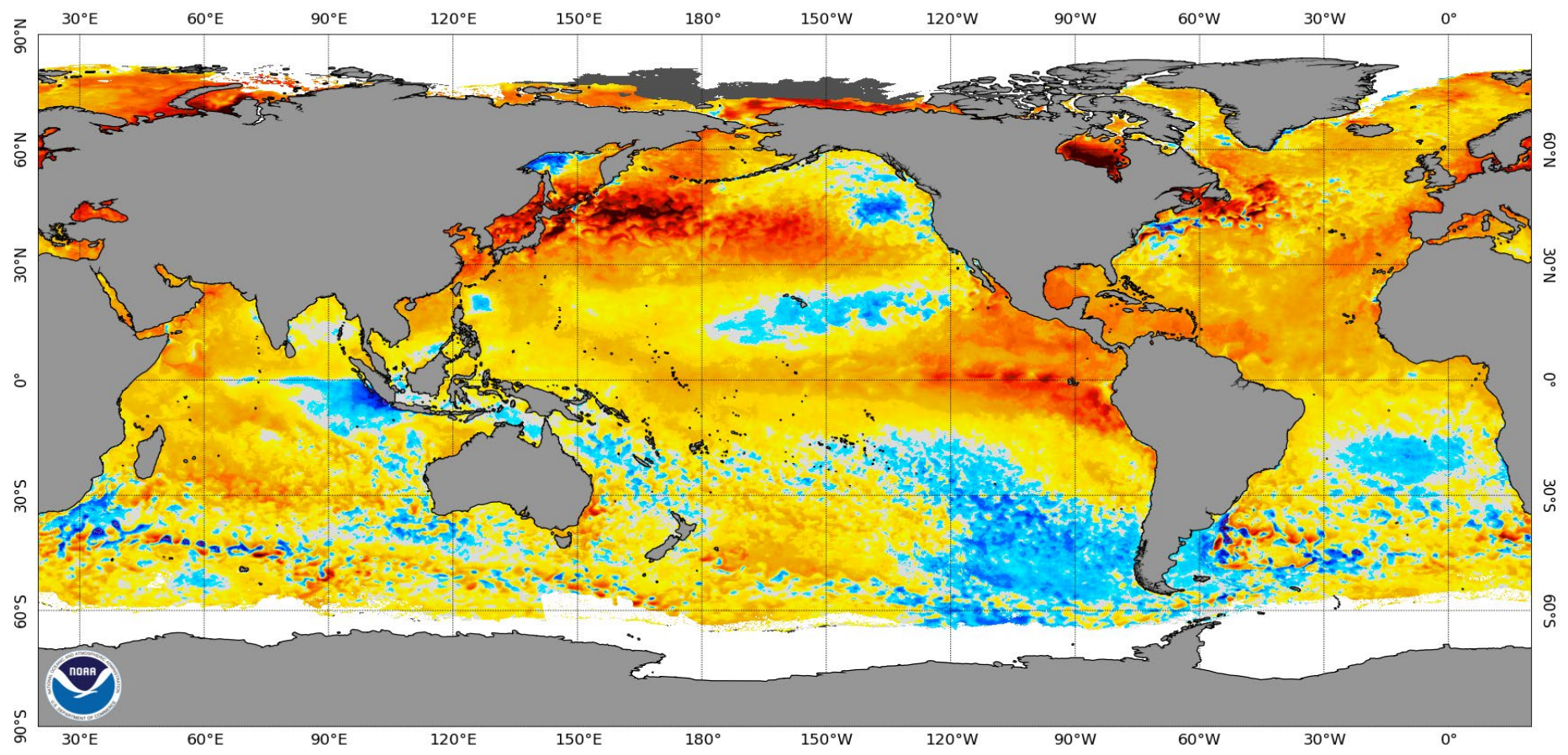
**NATIONAL
WEATHER
SERVICE**

National Weather Service North Carolina Winter Outlook for 2023-2024

October 9, 2023 - North Carolina Emergency Management Association
2023 Fall conference

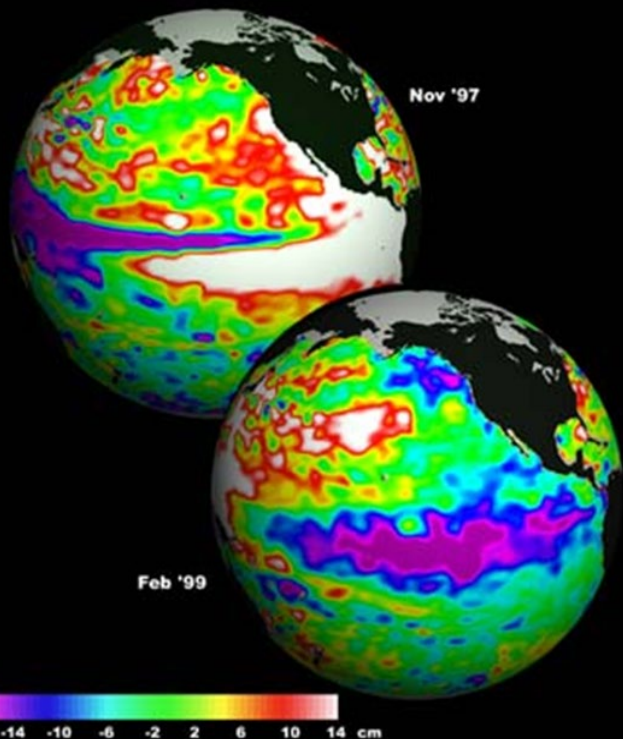


NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 3 Oct 2023



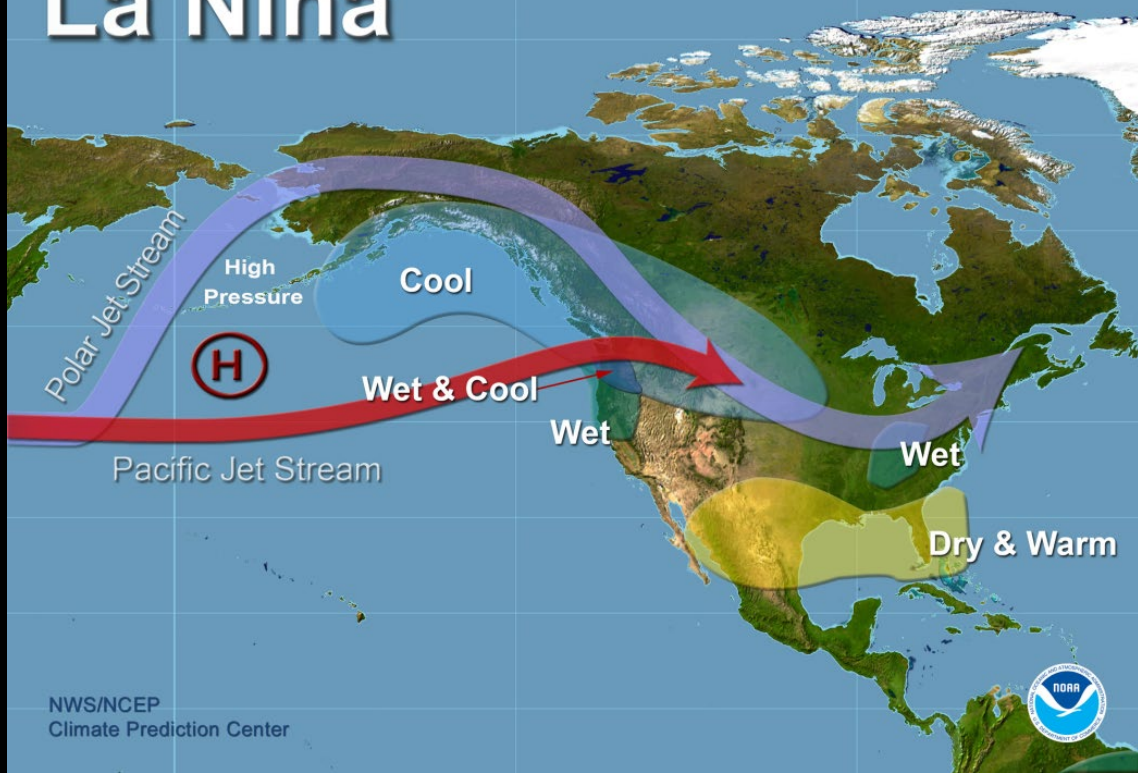


El Niño / La Niña



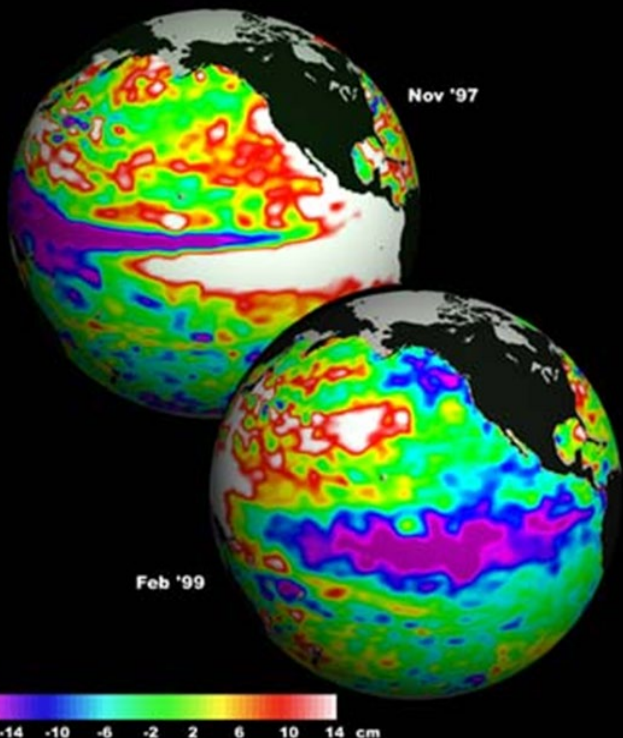
Typical Wintertime Pattern

La Niña



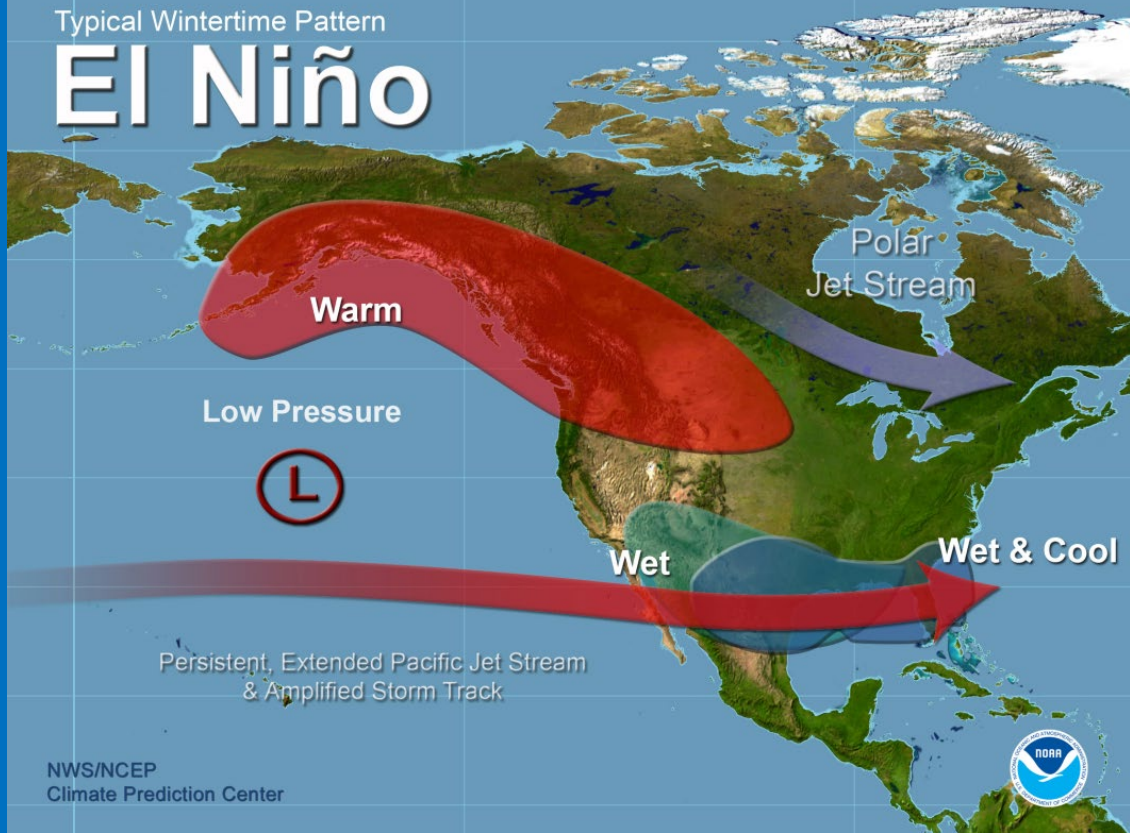


El Niño / La Niña



Typical Wintertime Pattern

El Niño



El Nino is ongoing and is expected to continue through this upcoming winter.

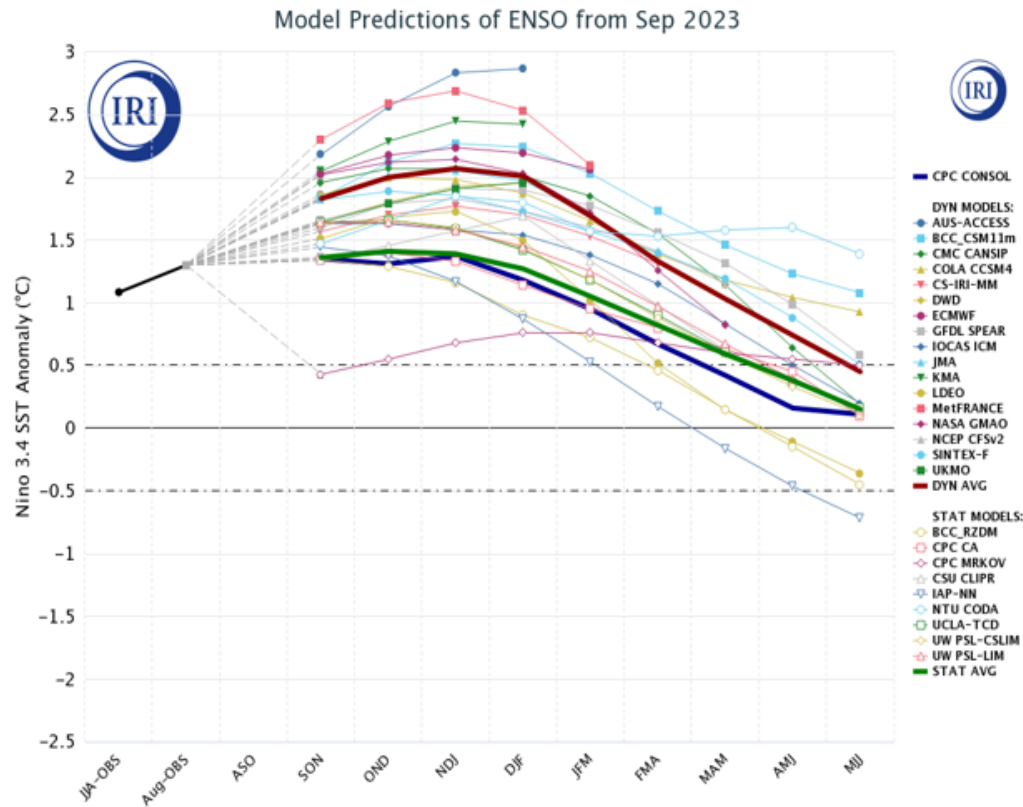


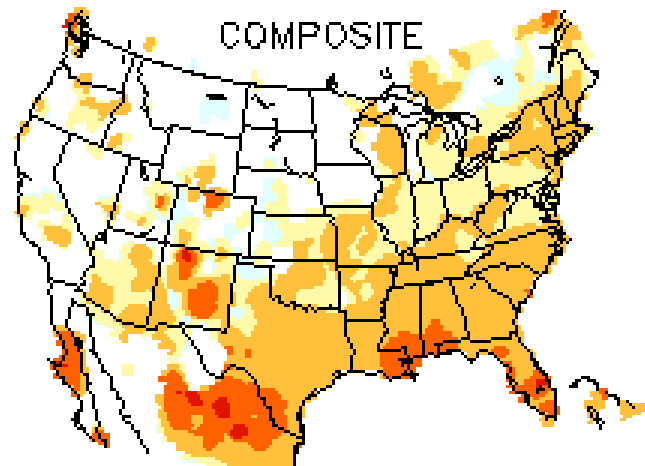
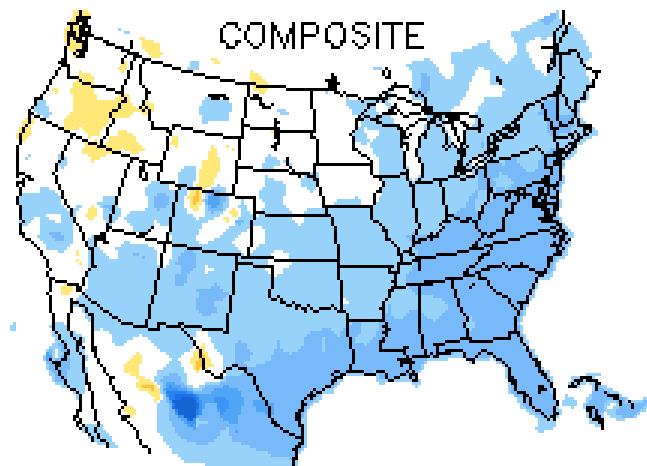
Figure provided by the International Research Institute (IRI) for Climate and Society (updated 20 September 2023).



DJF EL NINO TEMPERATURE ANOMALIES (C) AND FREQUENCY OF OCCURRENCE (%)

ANOMALIES

FREQUENCY



(25 CASES: 1952 1954 1958 1959 1964 1966 1969 1970 1973 1977 1978 1980 1983 1987 1988
1992 1995 1998 2003 2005 2007 2010 2015 2018 2019)

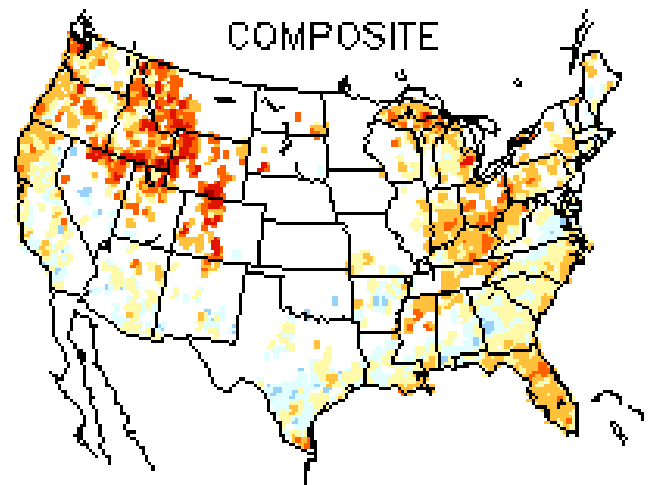
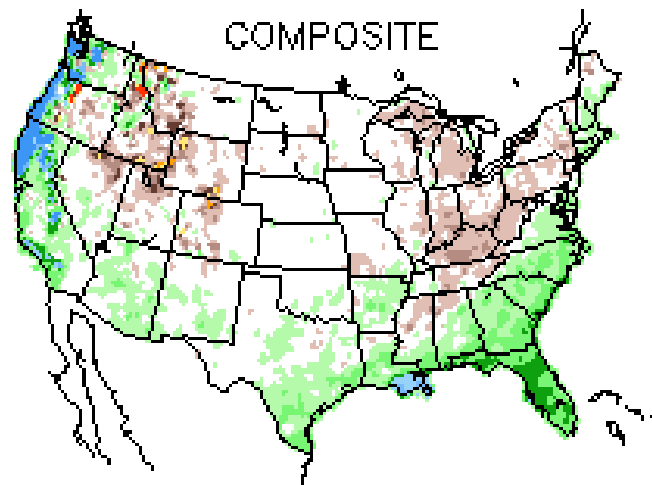
DJF EL NINO PRECIPITATION ANOMALIES (MM) AND FREQUENCY OF OCCURRENCE (%)

ANOMALIES

FREQUENCY

COMPOSITE

COMPOSITE

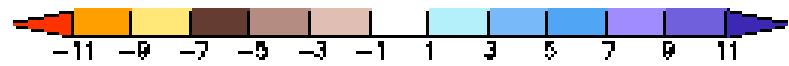
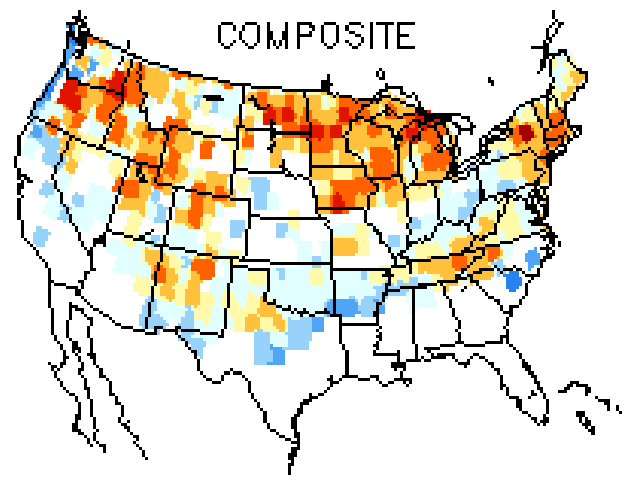
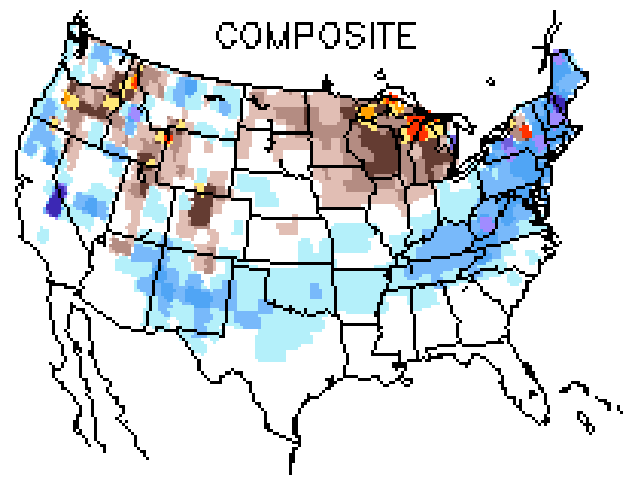


(25 CASES: 1952 1954 1958 1959 1964 1966 1969 1970 1973 1977 1978 1980 1983 1987 1988
1992 1995 1998 2003 2005 2007 2010 2015 2018 2019)

DJF EL NINO SNOW ANOMALIES (IN) AND FREQUENCY OF OCCURRENCE (%)

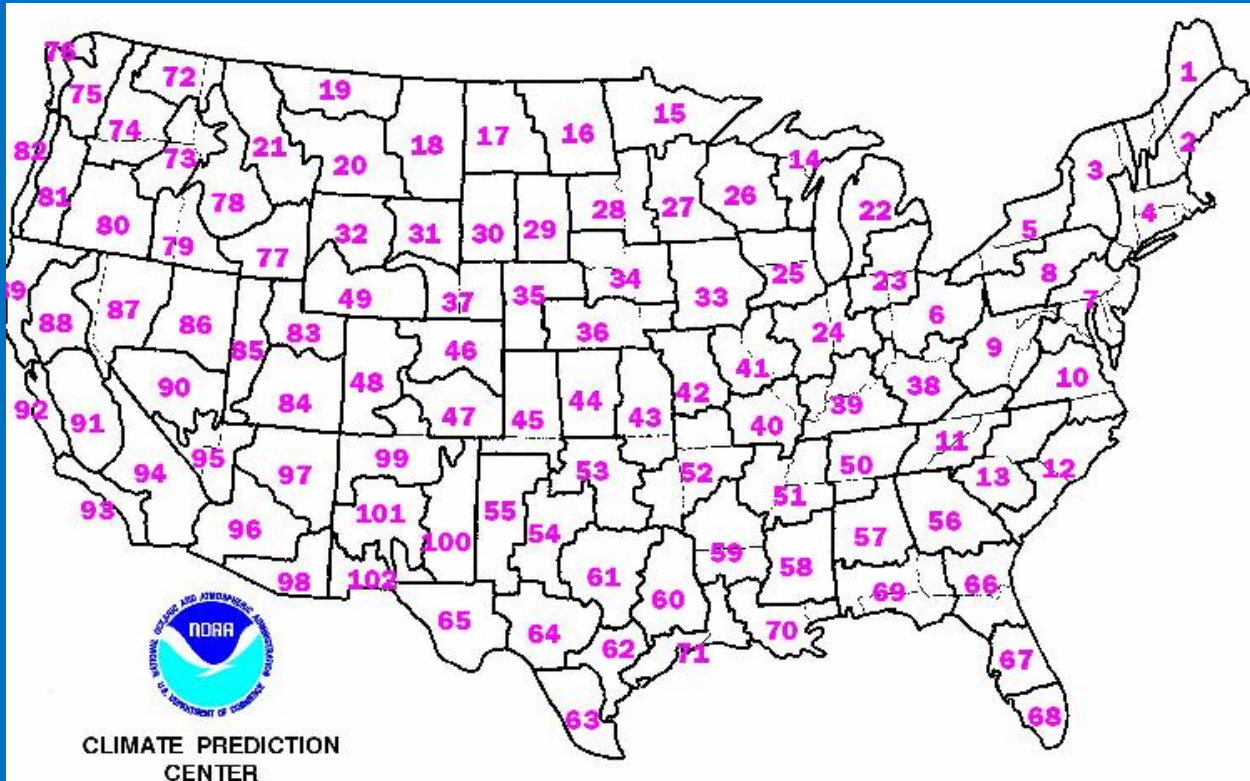
ANOMALIES

FREQUENCY



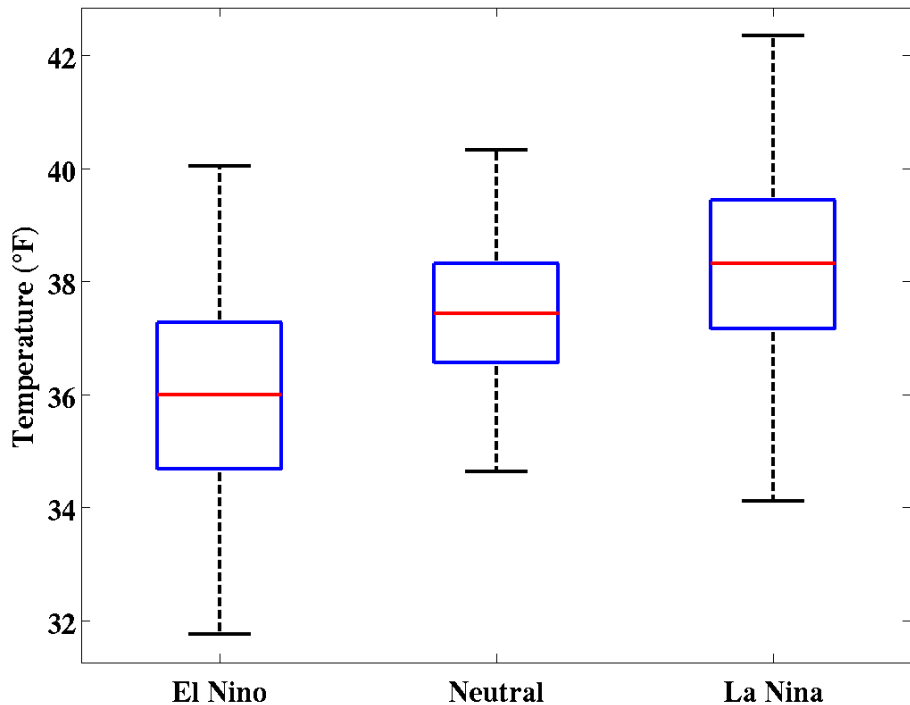
(18 CASES: 1958 1964 1966 1969 1970 1973 1977 1978 1983 1987 1988 1992 1995 1998 2003
2005 2007 2010)

Climate Divisions

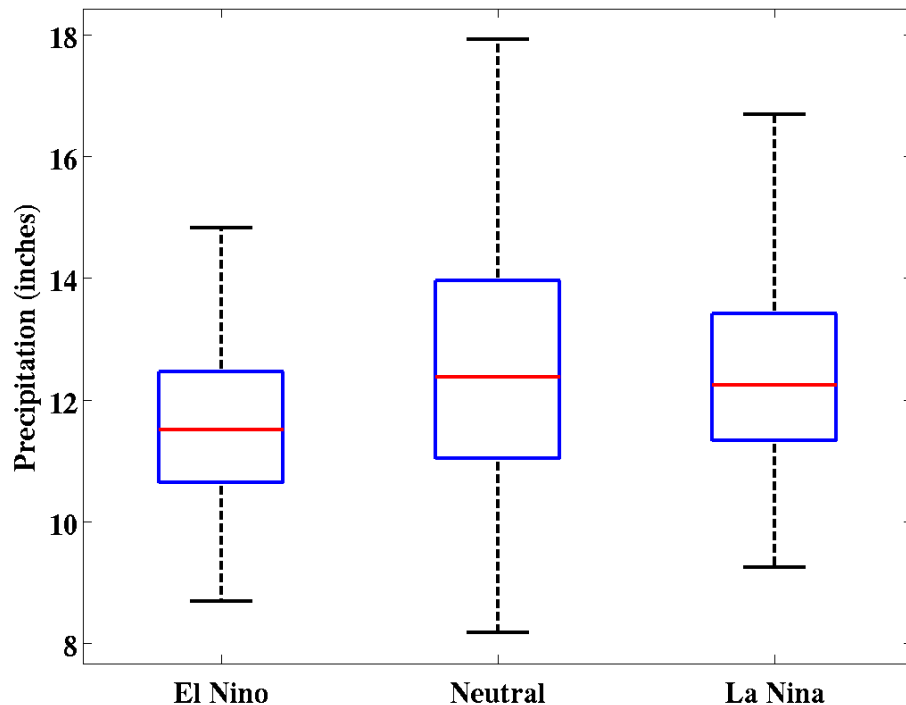


Historical Distributions Of 3-Month Temp & Precip Associated With ENSO for Climate Divisions 11 – Western NC

DJF Temperature Distribution for Climate Div. #011



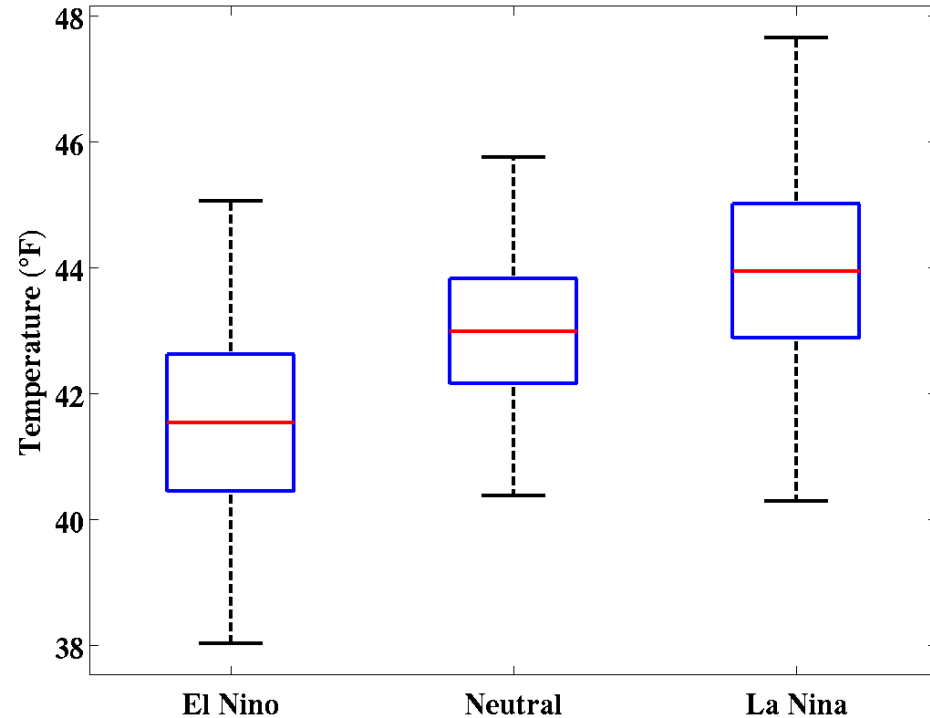
DJF Precipitation Distribution for Climate Div. #011



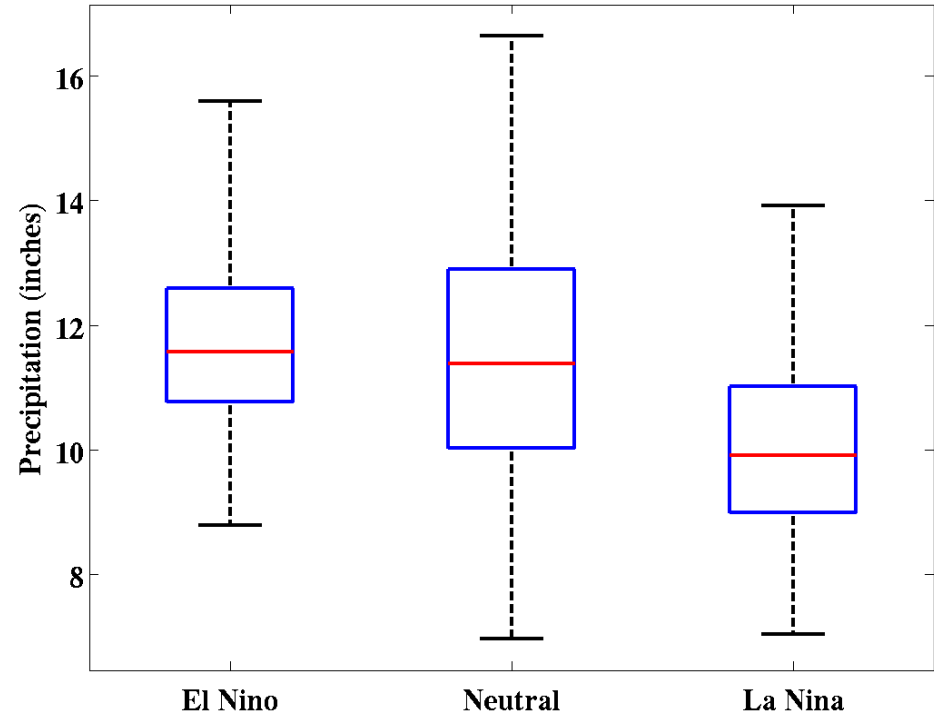


Historical Distributions Of 3-Month Temp & Precip Associated With ENSO for Climate Divisions 13 – Central NC

DJF Temperature Distribution for Climate Div. #013



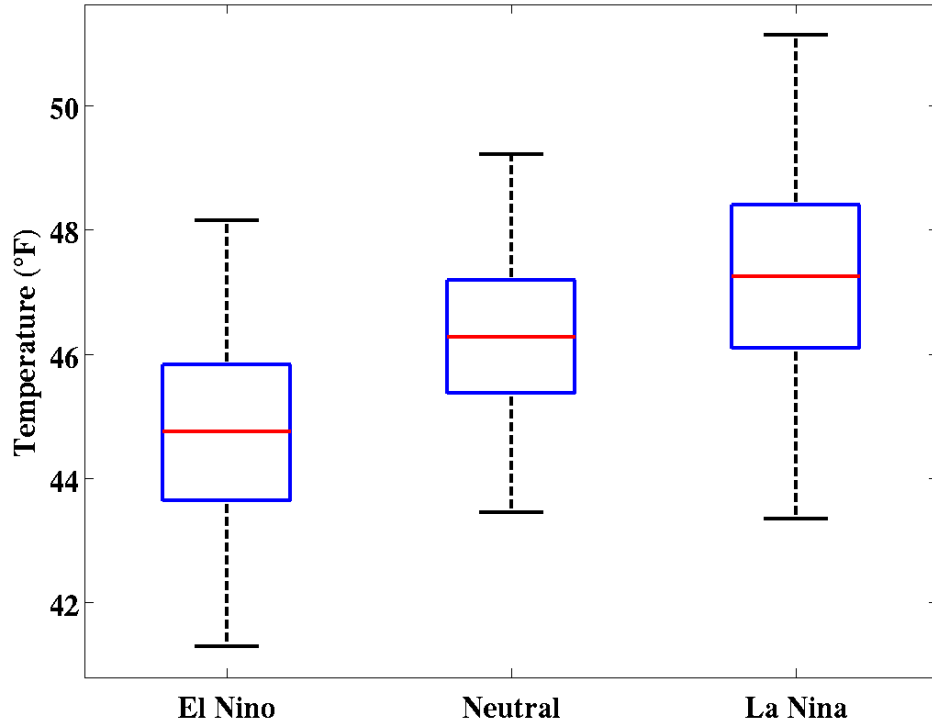
DJF Precipitation Distribution for Climate Div. #013



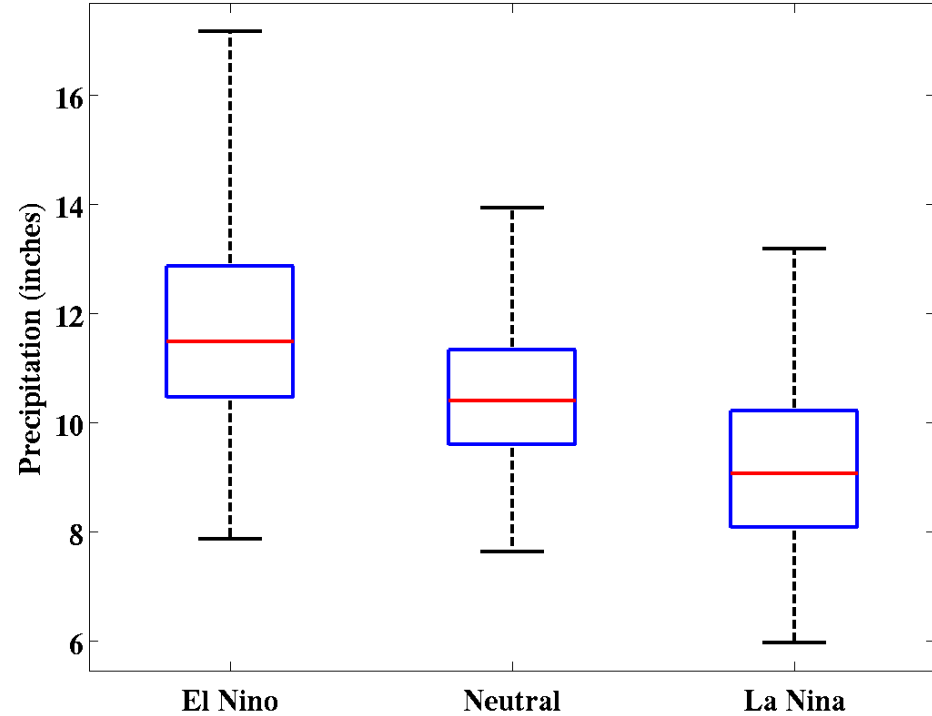


Historical Distributions Of 3-Month Temp & Precip Associated With ENSO for Climate Divisions 12 – Eastern NC

DJF Temperature Distribution for Climate Div. #012



DJF Precipitation Distribution for Climate Div. #012





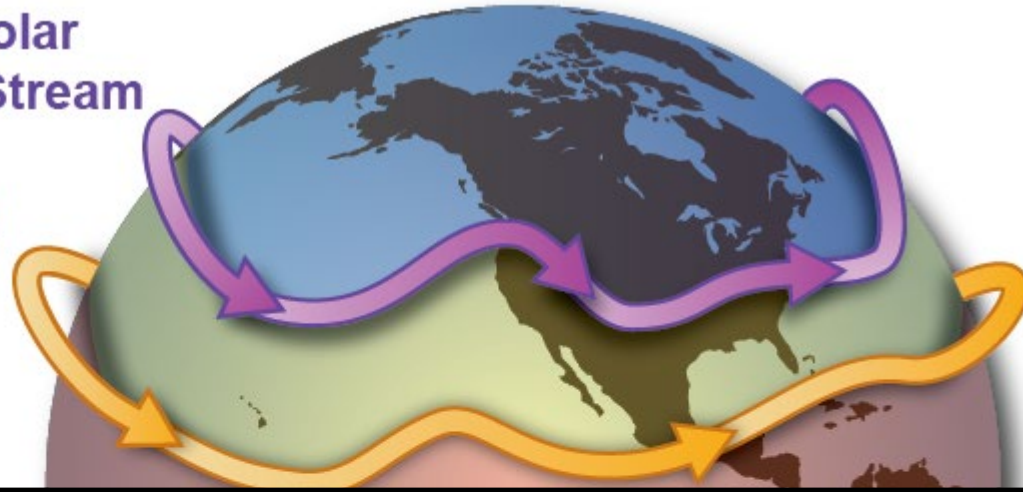
Other factors?





Polar
Jet Stream

Subtropical
Jet Stream



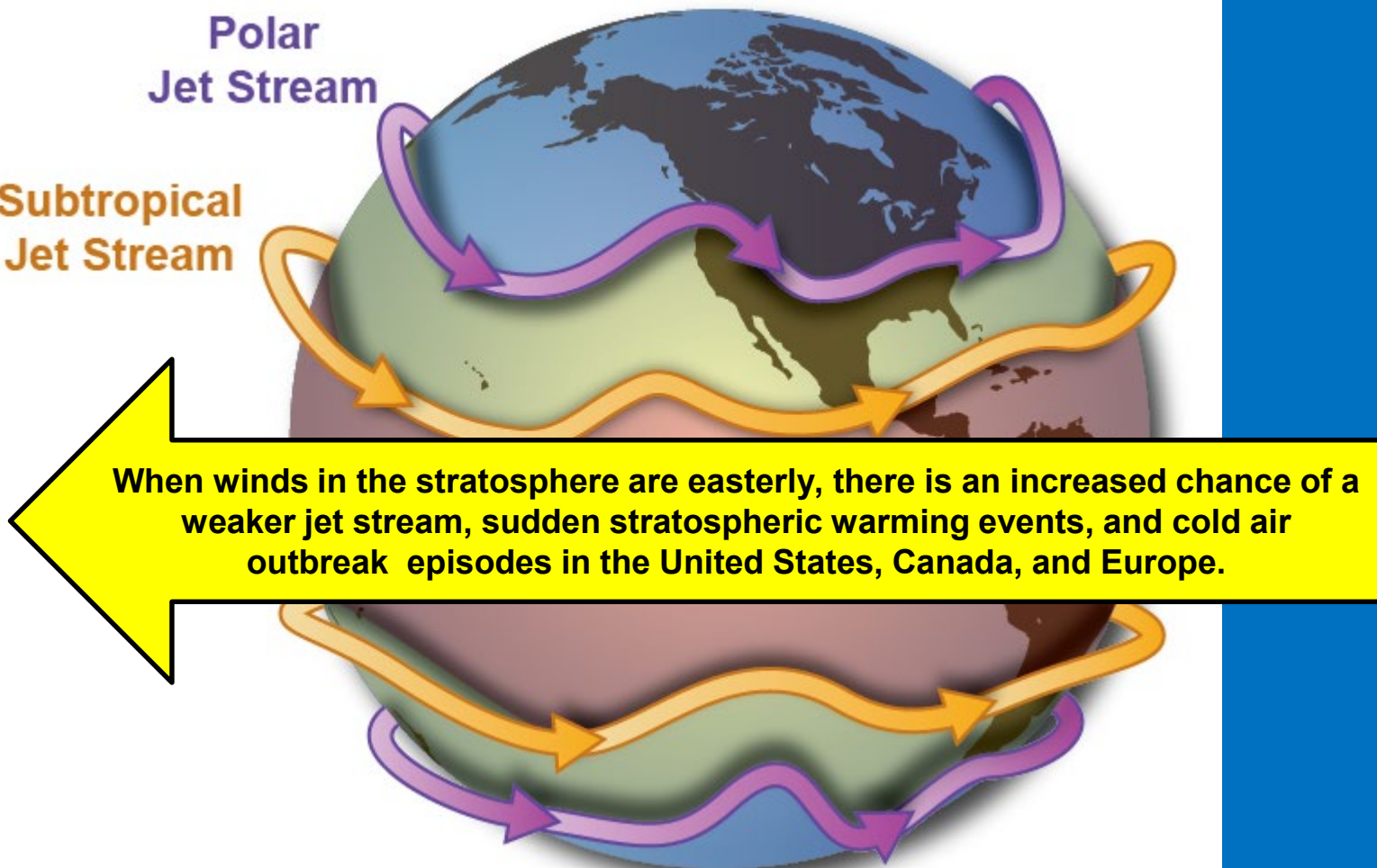
When winds in the stratosphere are westerly, the chance increases for a stronger jet stream and a stronger Polar Vortex. That means a milder winter, as the colder air is locked in the polar regions, having a harder time punching out of the strong circulation.





Polar
Jet Stream

Subtropical
Jet Stream

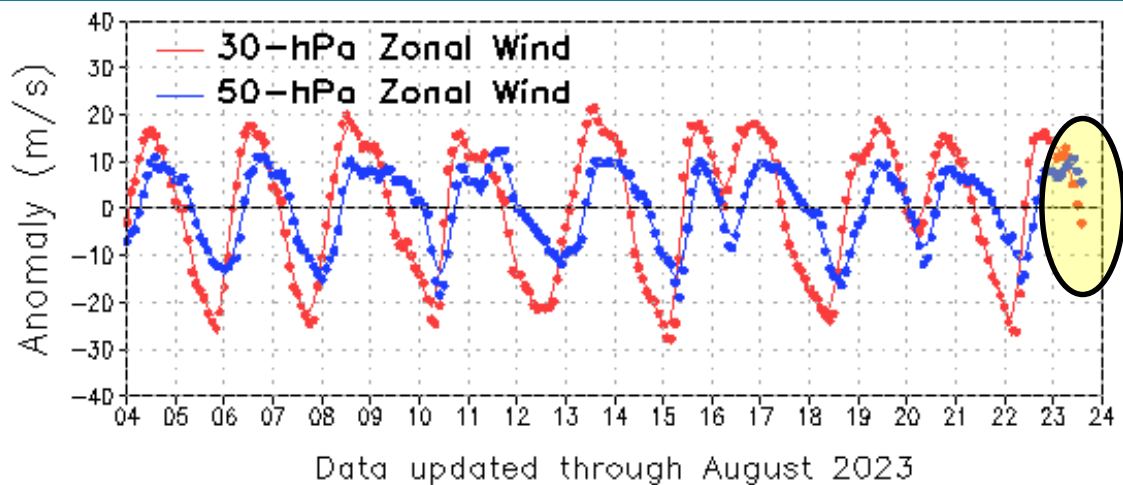


When winds in the stratosphere are easterly, there is an increased chance of a weaker jet stream, sudden stratospheric warming events, and cold air outbreak episodes in the United States, Canada, and Europe.



Stratosphere wind direction flips every 2 years and is expected to be *easterly* this winter

Chart of yearly stratosphere wind direction.
Above the zero line = westerly and below the zero line = easterly



...thus, there is an increased chance of a weaker jet stream, sudden stratospheric warming events, and cold air outbreak episodes in the United States, Canada, and Europe.

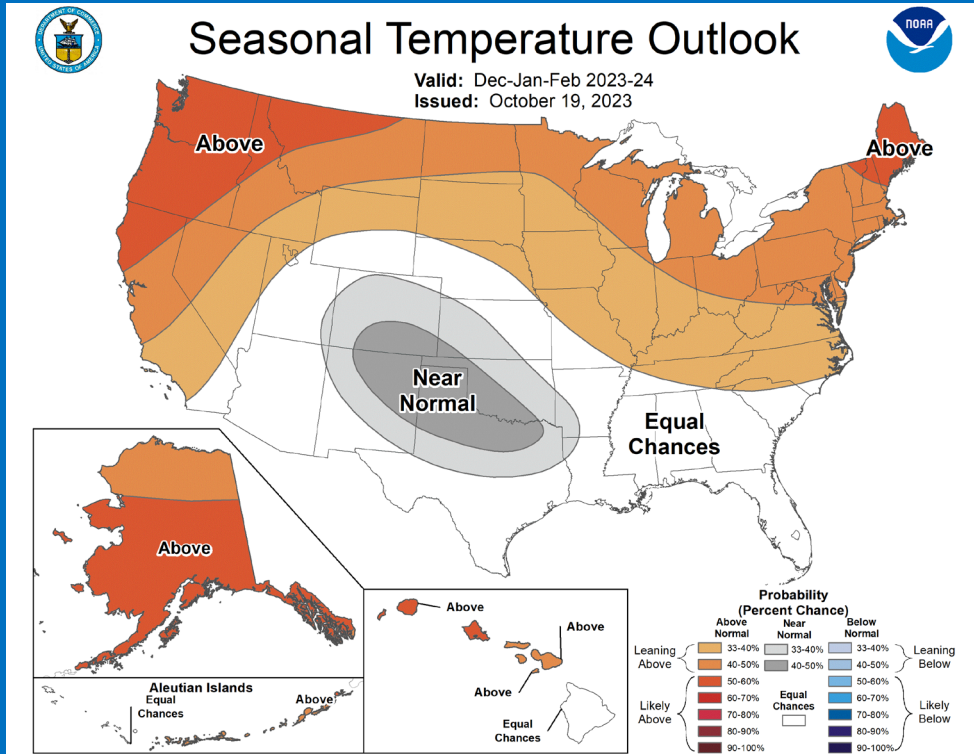


NOAA/CPC Official Forecast



NOAA/CPC Winter Outlook 2023-24

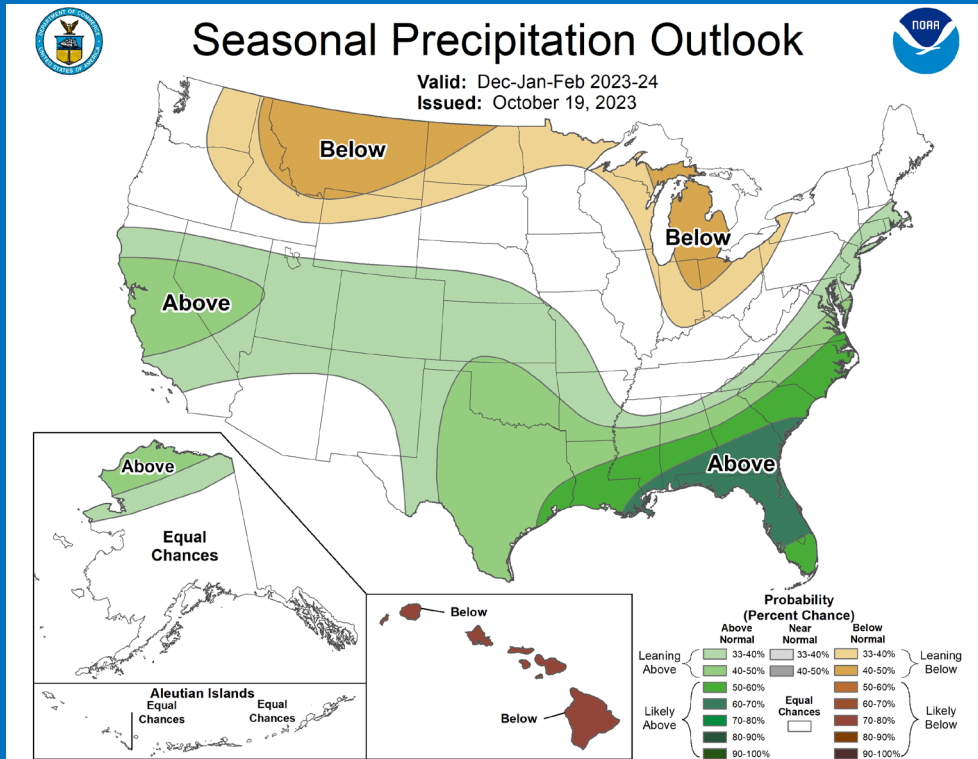
December/January/February



There's a slight tilt toward higher chances for above normal temps this winter across North Carolina.

NOAA/CPC Winter Outlook 2023-24

December/January/February



Odds favor above-normal precip for the state this winter. This signal is strongest closer to the coast.



Take aways for this winter

- Overall, temps will be near average to perhaps a few degrees cooler than average this winter for the entire state, *but not necessarily cold*. How many *cold* episodes we may experience this winter is unknown at this time. Cold outbreak episodes can only be predicted on shorter time scales.
- Odds favor that the northwest mountain part of the state may see above average snowfall.
- Odds favor that the southeast/coastal part of the state will see above average precip, *most of which will fall as rain*. How much, if any, will fall as snow is unknown at this time.
- Outside of the mountain part of the state, odds do not lean in any direction regarding how much snowfall will be seen this winter.

NWS One-stop Shop for Winter Forecast Info

NW NC: <https://www.weather.gov/rnk/winter>

SW NC: <https://www.weather.gov/gsp/winter>

Central NC: <https://www.weather.gov/rah/winter>

NE NC: <https://www.weather.gov/akq/winter>

E NC: <https://www.weather.gov/mhx/winter>

SE NC: <https://www.weather.gov/ilm/winter>

Snowfall Totals by Location

Experimental - Leave feedback
04/16/2023 0800PM to 04/19/2023 0800PM
What's this?

County: Selected

Location	Snow Amount Potential			Chance of Seeing More Snow Than							
	Low End Snowfall	Expected Snowfall	High End Snowfall	>=0.1"	>=1"	>=2"	>=4"	>=6"	>=8"	>=12"	>=18"
Burlington, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Wadesboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Pittsboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Fayetteville, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Lexington, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Durham, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Tarboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Winston-Salem, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Louisburg, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Oxford, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Greensboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Roanoke Rapids, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Lillington, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Raeford, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Smithfield, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Sanford, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Troy, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Southern Pines, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Nashville, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Hillsborough, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Roxboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Asheboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Rockingham, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Clinton, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Laurinburg, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Albemarle, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Henderson, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Raleigh, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Warrenton, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Goldsboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Wilson, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Winston-Salem, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Burlington, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Raleigh, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Durham, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Fayetteville, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Wadesboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Roanoke Rapids, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Wilson, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Clinton, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Roxboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Henderson, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Asheboro, NC	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%

Back to top

