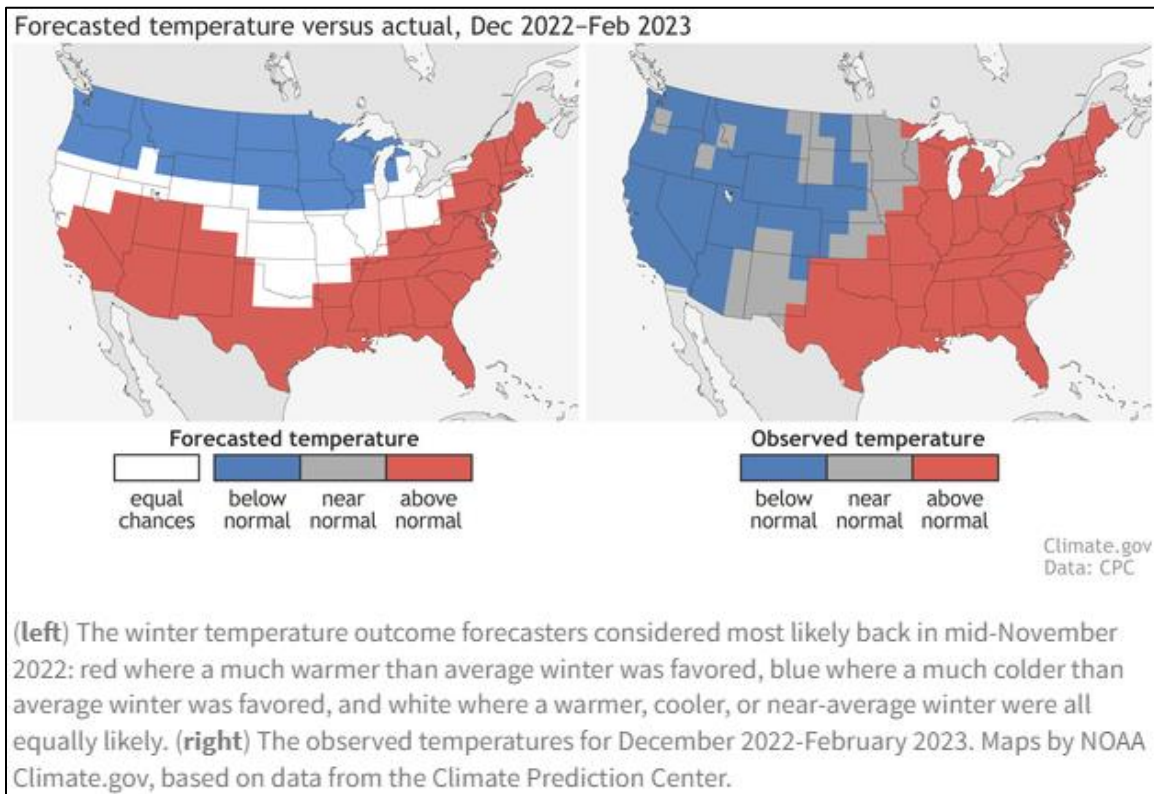


The primary driver of natural gas prices during the winter is the weather with natural gas storage levels coming in second. Forecasters are predicting an El Niño weather pattern for winter 2023/2024. El Niño patterns typically occur at irregular intervals every 2–7 years. In general, El Niño causes the Pacific jet stream to move south and spread further east. During winter, this leads to wetter than usual conditions in the Southern U.S. and warmer and drier conditions in the North.

Winter 2022/23 Recap

Heading into winter 22/23, forecasting services were predicting a third year of La Niña conditions, but it was expected to be weaker. The outlook for 2022/2023 favored warmer-than-average seasonal temperatures across the eastern and southern contiguous United States and cooler-than-average temperatures across the northern tier from the upper peninsula of Michigan to the West Coast.



In the end, winter temperatures across the contiguous U.S. exhibited a pretty dramatic east/west split, as the eastern half of the country observed above-average temperatures (top five warmest on record for 19 different states), while temperatures were below average across the western half of the country. **In the end, winter 2022/23 turned out to be 6.0% warmer than normal for the continental United States. Winter started warmer-than-normal November into December but cold snaps in late December through March resulted in a colder than normal overall back half of the winter.**

Continental U.S. Gas Weighted HDD vs 30yr Normal

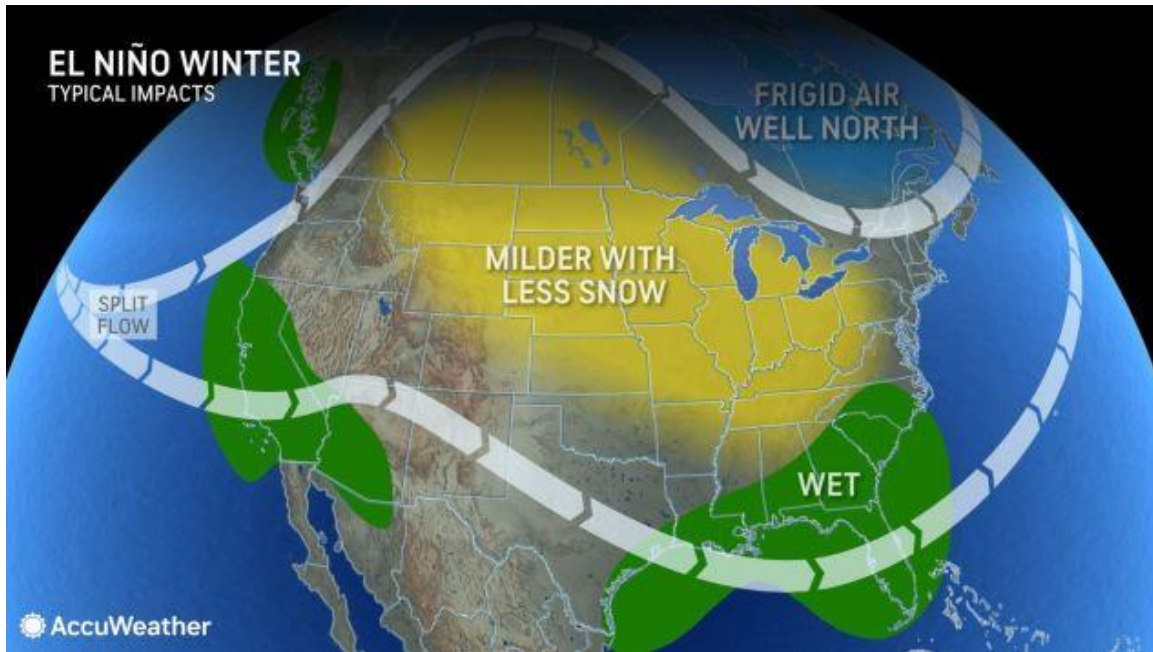
	2022-23	2021-22	2020-21	2019-20	2018-19
November	1.1%	3.0%	18.5%	-12.1%	-14.0%
December	-1.1%	19.7%	8.0%	12.3%	10.3%
January	16.9%	-6.7%	9.2%	16.7%	0.9%
February	11.6%	-1.0%	-12.5%	4.5%	-1.7%
March	7.1%	-6.8%	16.0%	19.4%	-5.9%
Total Winter	6.0%	4.3%	7.0%	9.4%	-0.8%

Colder than Normal
Warmer than Normal

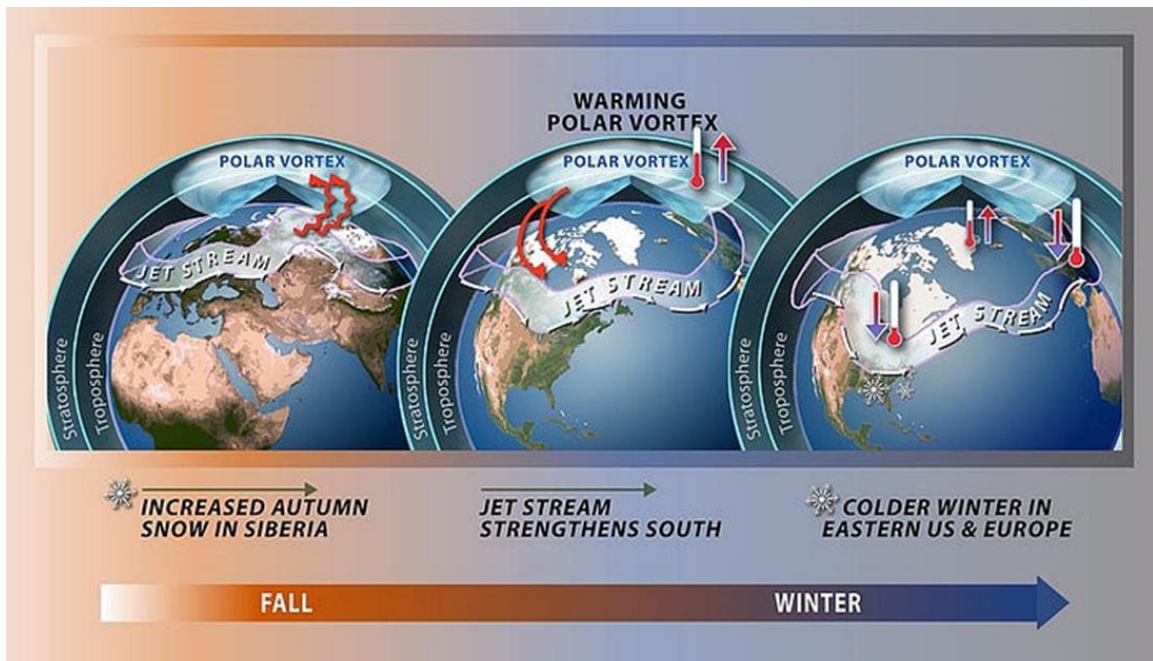
Winter 2023/24 Outlook

“El Niño is upon us”, Accuweather Lead Long-Range Meteorologist Paul Pastelok said. “It came on strong here in late summer and will continue to be strong and a dominating factor going into our winter forecast”. “February can be an active and intense month”, according to Pastelok.

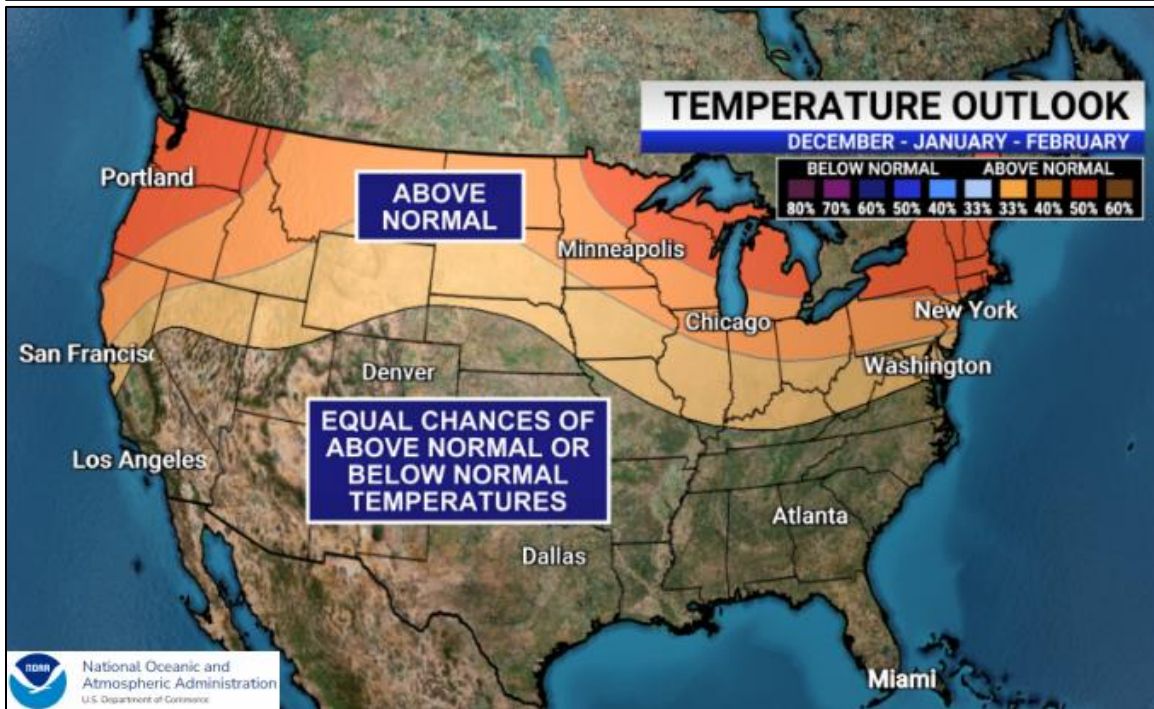
Typical El Niño weather pattern



Although the Polar Vortex is currently stable, climate models suggest that the polar vortex is likely to strengthen during the winter of 2023/2024. This means that colder-than-average temperatures and an increased likelihood of snowstorms may be expected in affected regions. Analysts are estimating several cold Polar Vortex events this coming winter.



Early indications are that we will see a return of traditional weather for the winter 2023-2024. The strengthening El Niño pushing the Pacific jet stream south and east will have amplified influence on the weather throughout the entire winter season. El Niño's result in above average temps in the West/North and below average temps in the Central to Eastern U.S. with the potential for substantial cold/ Polar Vortex from Montana to Michigan dipping down into Nebraska. Precipitation will be dryer in the North and wetter in the South. During winter, this leads to wetter conditions than usual in the Southern U.S. and warmer and drier conditions in the North. Stormy weather will be prevalent in the South and East.



Northeast

Much higher snowfall amounts are predicted this year, with AccuWeather long-range meteorologists forecasting 38-44 inches in Boston, 18-26 inches in New York City and 16-24 inches in Philadelphia -- all around the historical average. The window for snow-producing nor'easters will open in late January - February which could dish out hefty snowfall amounts to Boston, New York City, Philadelphia and beyond.

Location	Average Snowfall	Snowfall 2022-2023	Prediction 2023-2024
▶ Boston, MA	49.2	12.4	38-44
▶ New York City, NY	29.8	2.3	18-26
▶ Philadelphia, PA	23.1	0.3	16-24
▶ Pittsburgh, PA	44.1	17.6	28-36
▶ Buffalo, NY	95.4	133.6	70-85

© AccuWeather

Midwest

This winter is not expected to be a repeat of last year with the seasonal snowfall totals forecast to be less than half of the totals from last year. The less frequent snowfall will be accompanied by fewer cold waves, especially during the first part of the winter. December should be mild overall across the Midwest and Great Lakes with just a couple of brief, chilly periods. This pattern will carry over into the start of 2024, but the season could take a blustery turn during the second half of winter. A shift in the polar vortex could open up the gates of the Arctic to unleash frigid air across the central and midwestern U.S. late in the winter, resulting in some of the coldest conditions of the season.

Location	Average Snowfall	Snowfall 2022-2023	Prediction 2023-2024
▶ Chicago, IL	38.4	20.2	20-30
▶ Minneapolis, MN	51.2	90.3	33-40
▶ Kansas City, MO	18.2	8.8	12-20
▶ Denver, CO	49.4	48.9	50-60
▶ Salt Lake City, UT	51.9	87.6	45-60

© AccuWeather

Southeast

A tumultuous weather pattern may unfold over the Southeast this winter forecasters warn. El Niño tends to favor severe weather in Florida and the Gulf Coast states. In between the spells of severe weather will be the opportunity for chilly air to make its way as far south as the Gulf of Mexico. January and February are projected to be much colder across the Southeast when compared to last winter. The result will be a higher heating demand, including in Atlanta, New Orleans, Dallas and Houston. The lower temperatures may also be accompanied by the chance of snow and ice across part of the Southeast with the highest risk for wintry precipitation being across the Tennessee Valley and the northern extent of the Gulf Coast states. The chance of damaging winter storms will be lower in Texas, but the state could still get one or two storms throughout the season that feature wintry precipitation.

West/Southwest

A repeat of last year's monumental snowfall is possible this winter across California, Nevada and the Four Corners region, which includes Utah, Arizona, New Mexico and Colorado, due to the anticipated weather patterns shaped by El Niño. Most El Niños typically result in a stormy pattern over California with frequent rain and mountain snow, while storms largely miss the Pacific Northwest. The upcoming season does look like it will follow the traditional El Niño pattern with the jet stream directing storms into California, Nevada and the Four Corners. Cooler waters southeast of Hawaii could cause the storm track this winter to focus on areas south of Southern California occasionally. The projected storm track will also send storms over the Four Corners and central and southern Rockies. The storm track will help to fill water reservoirs that remain below historical averages due to years of drought, including Lake Mead and Lake Powell.

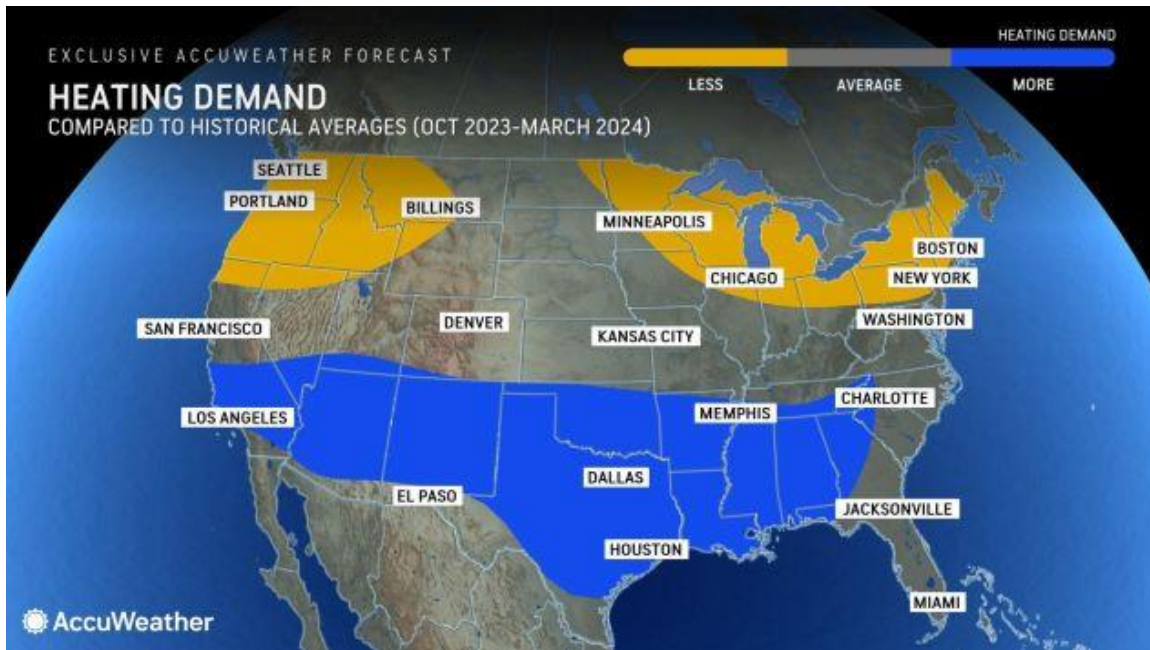
Northwest

Meanwhile, the predominant storm track is expected to stay south of the Northwest during the heart of the winter season. Some storms may side-swipe areas along and west of Interstate 5 in Washington and Oregon, but the bulk of the rain and mountain snow will miss the Cascades and northern Rockies. Drought conditions have progressively worsened across Washington and Oregon since the start of the summer, according to the U.S. Drought Monitor. With the most significant winter storms likely missing the region, the drought may expand and worsen through the first part of 2024.

Heating Demand

We expect to see an increase in U.S. demand for heating overall compared to last year, even though many places in the North will still average below historical demand. For instance, in New York, heating degree days are predicted to be 4% below the historical average, compared to 15% below last year, which is an 11-12% increase over last year. A similar story will unfold in Boston and the rest of New England.

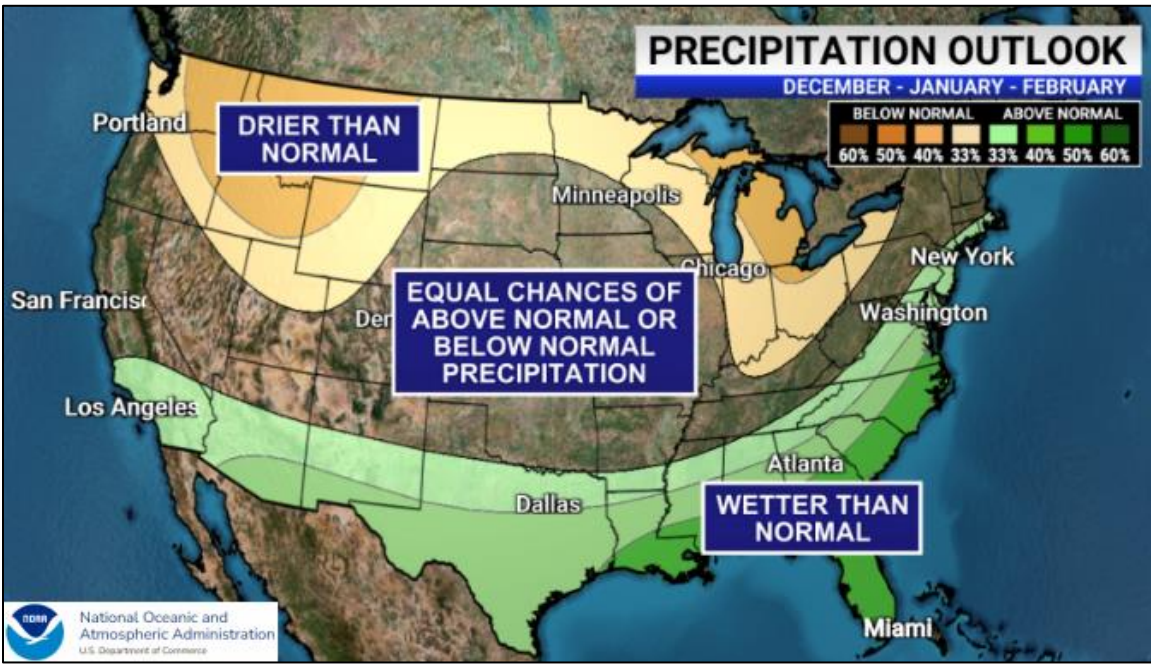
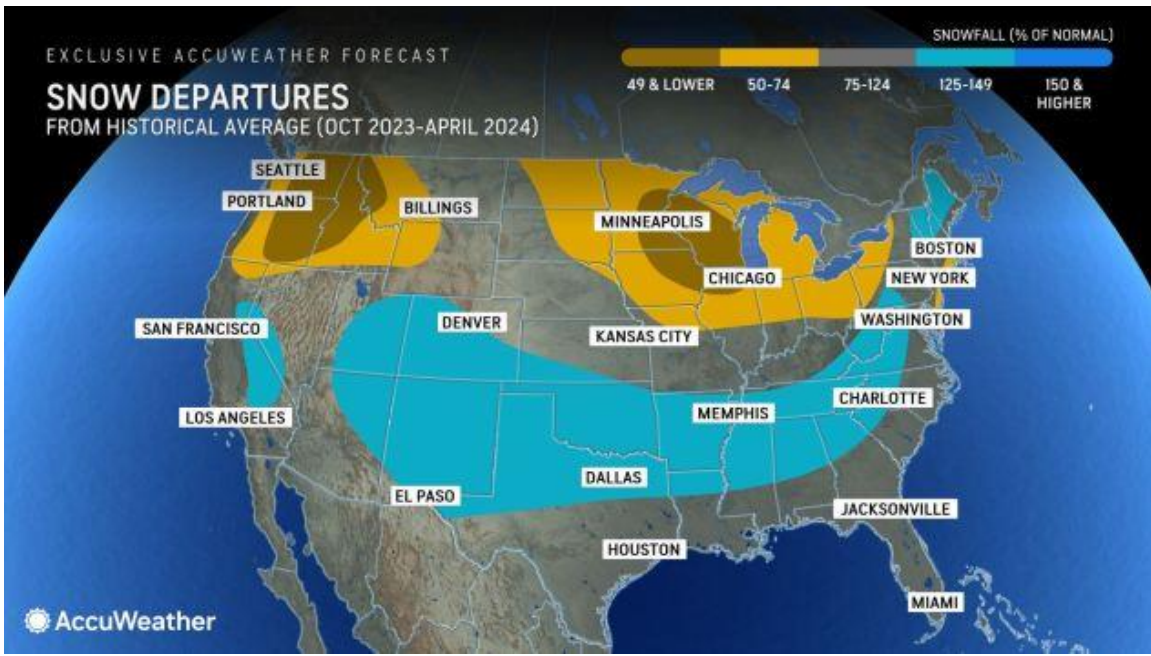
The Southern states, including Texas, will also see an increase in percentages of heating degree days (HDD) and perhaps may even exceed historically normal energy demands this year.



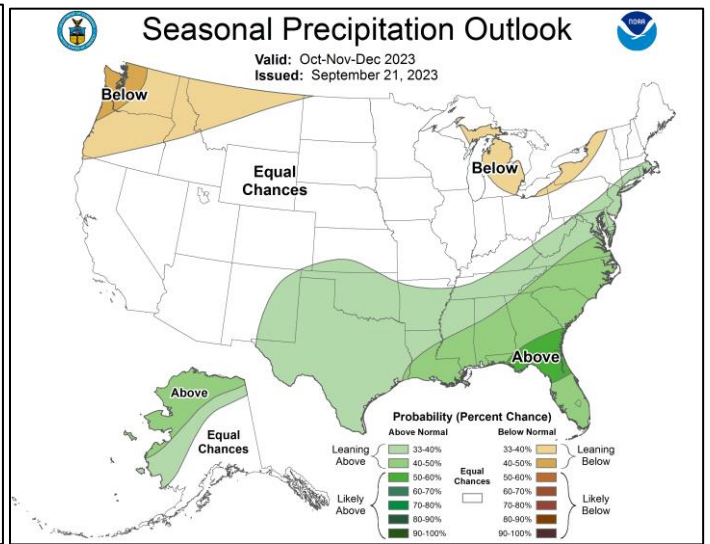
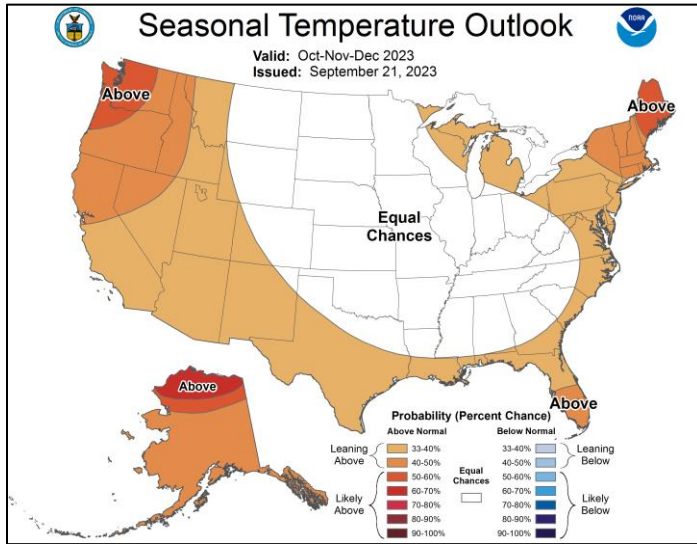
Supporting Graphical Images and Forecasts

The following pages show supporting graphical images and forecast data from NOAA, AccuWeather, Direct Weather, The Farmer’s Almanac and the Old Farmer’s Almanac.

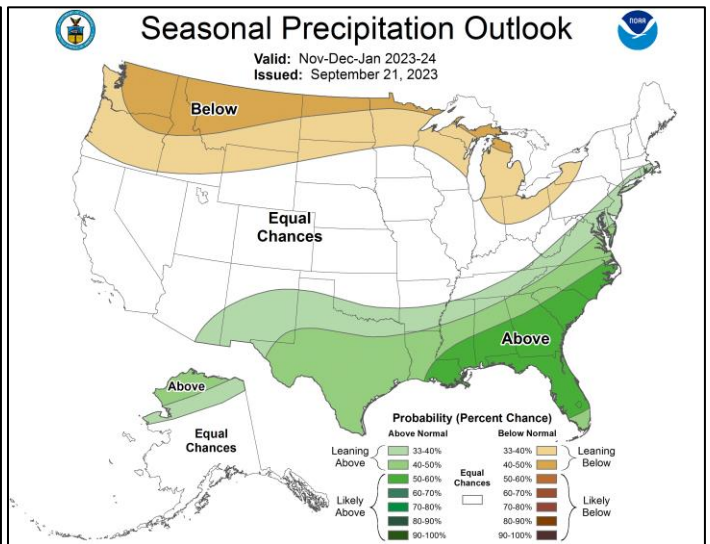
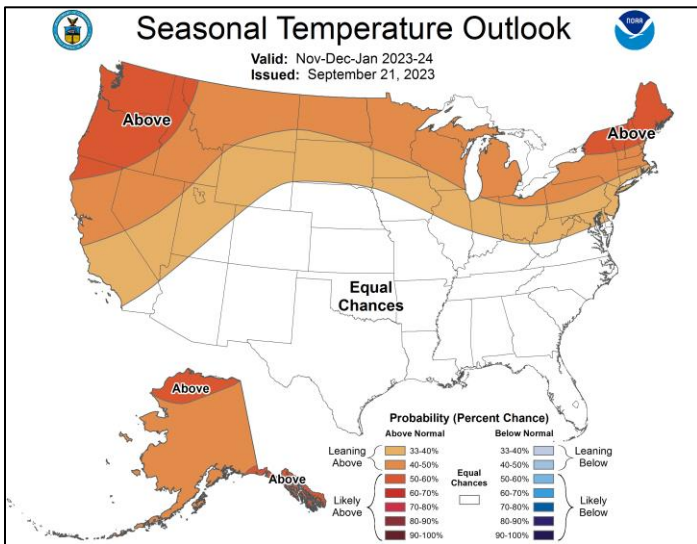
Regardless of how the winter unfolds, Encore Energy will be on guard and diligently watch over our customers’ gas needs to ensure timely and adequate gas deliveries. We appreciate your business!



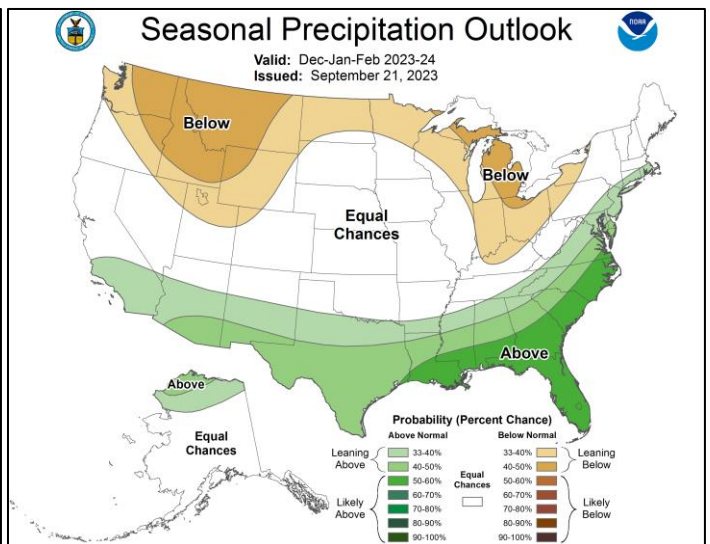
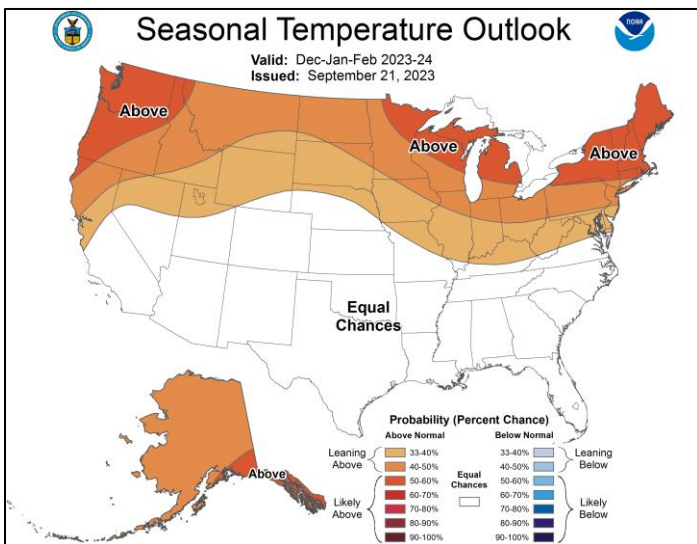
NOAA Oct23-Dec23 Forecast



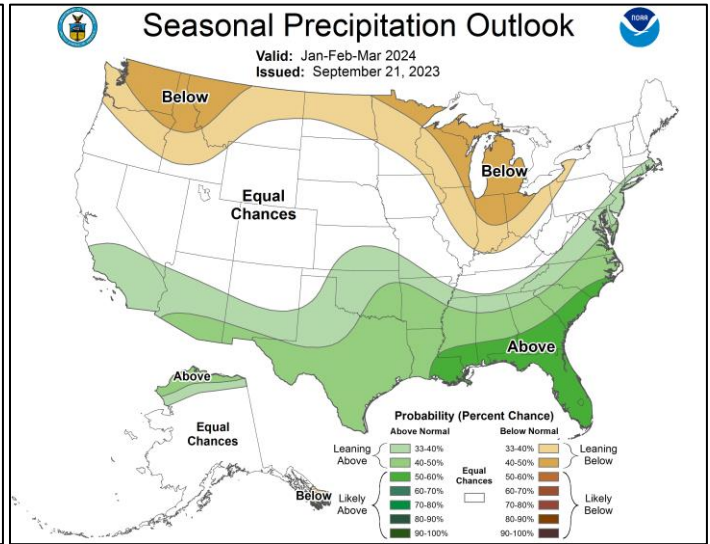
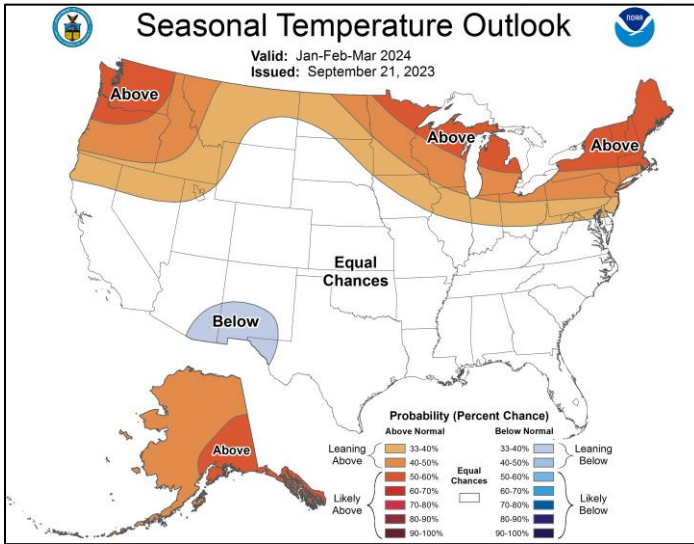
NOAA Nov23-Jan24 Forecast



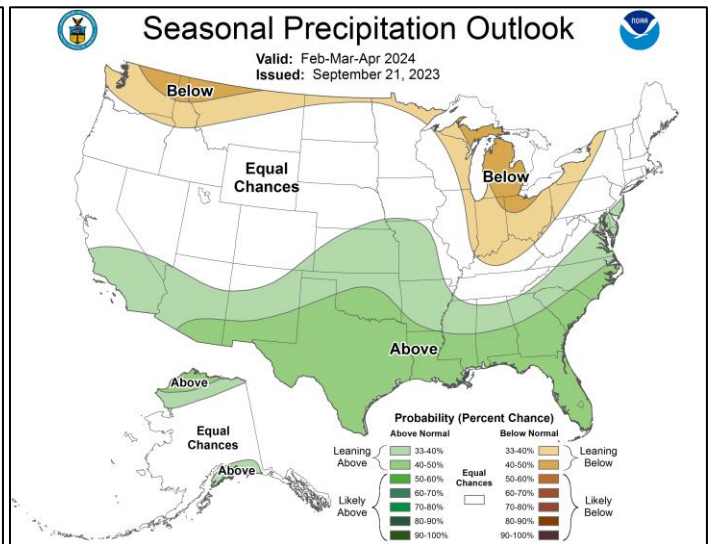
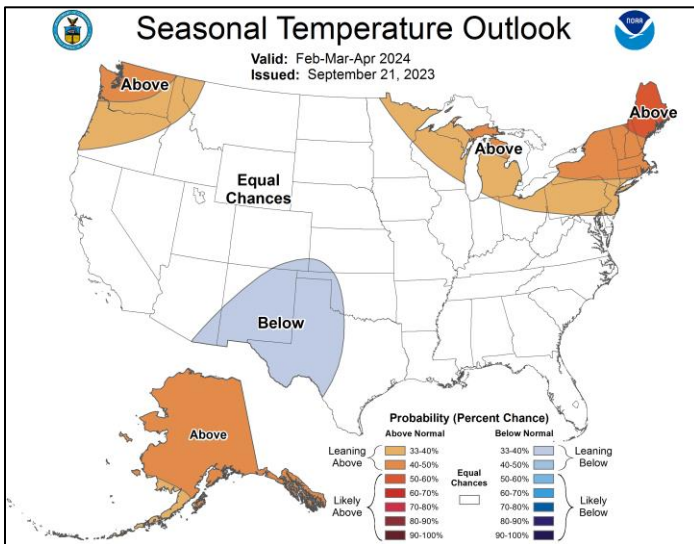
NOAA Dec23-Feb24 Forecast



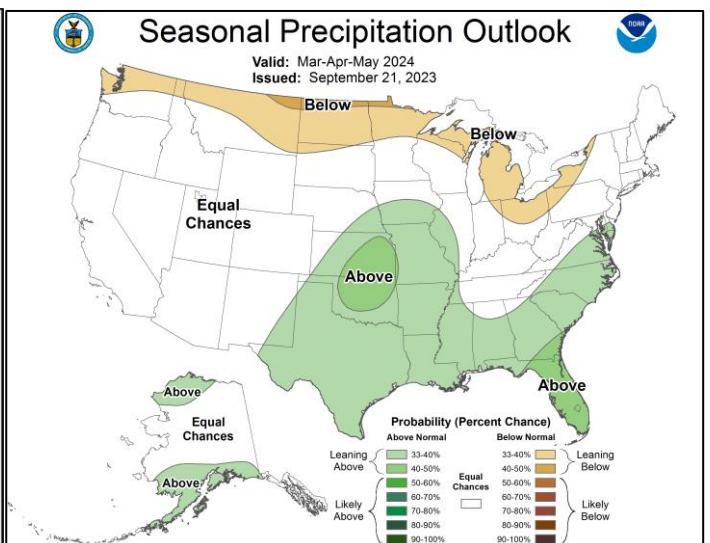
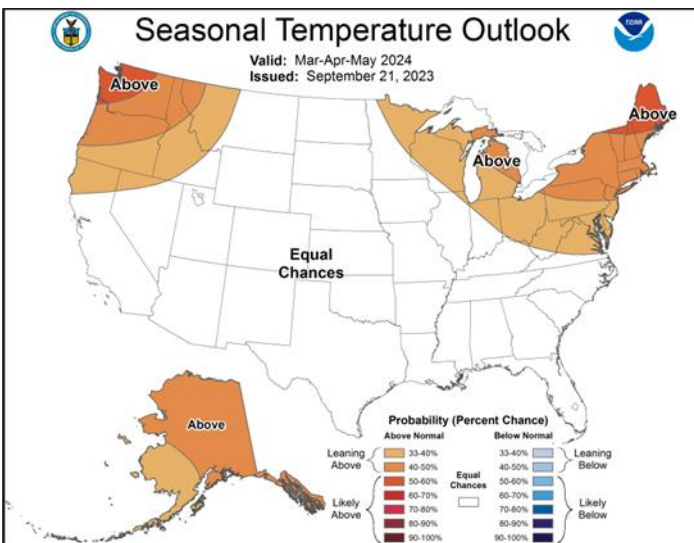
NOAA Jan24-Mar24 Forecast



NOAA Feb24-Apr24 Forecast



NOAA Mar24-May24 Forecast



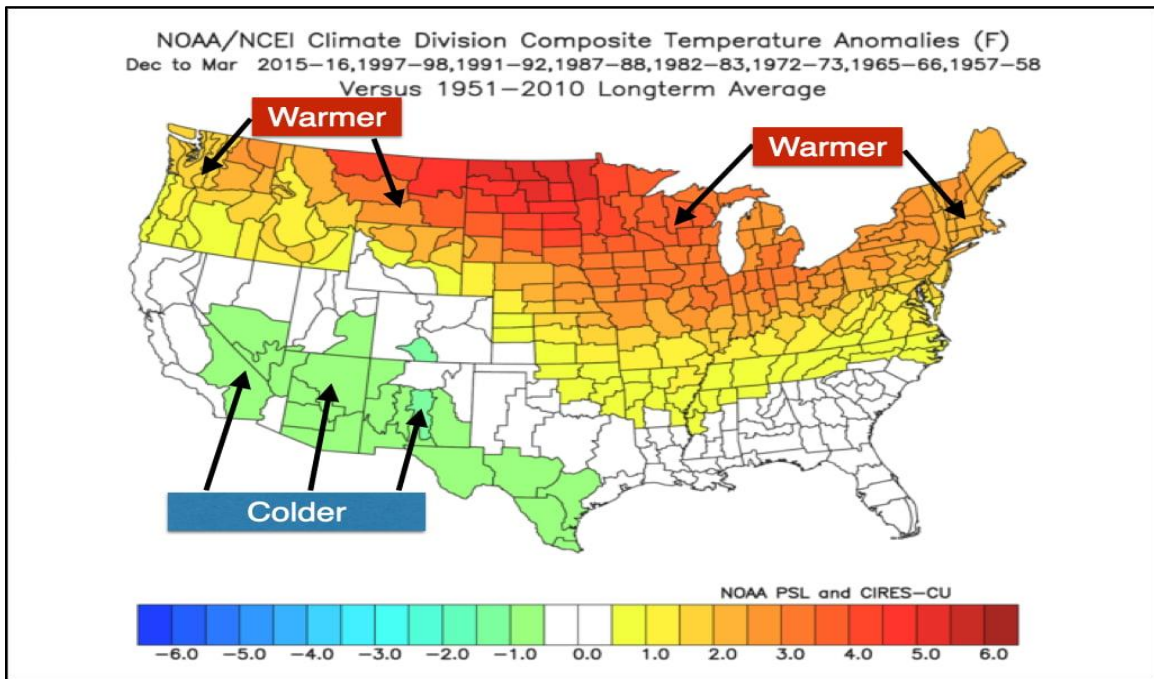


Image: Departure from average temperatures from December through March during the strong El Nino analog winters of '15-16, '97-98, '91-92, '87-88, '82-83, '72-73, '65-66, and '57-58. Green areas show colder than average temperatures and yellow/red areas show warmer than average temperatures.

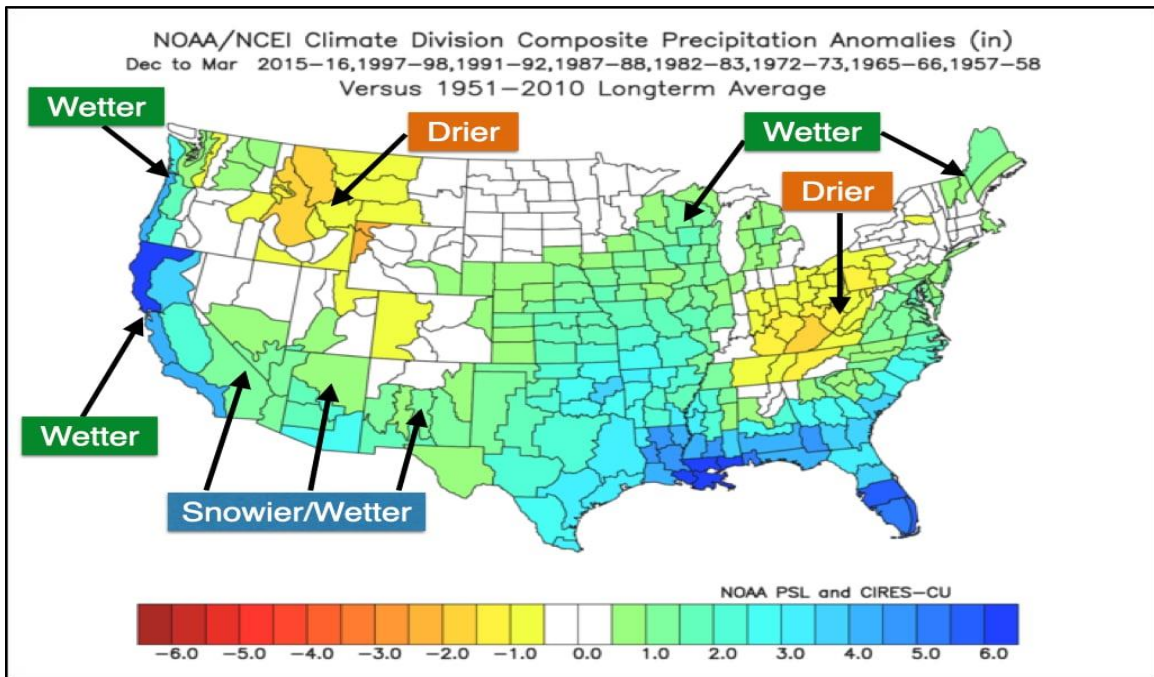


Image: Departure from average precipitation from December through March during the strong El Nino analog winters of '15-16, '97-98, '91-92, '87-88, '82-83, '72-73, '65-66, and '57-58. Green areas show wetter (which usually means snowier) weather.

