

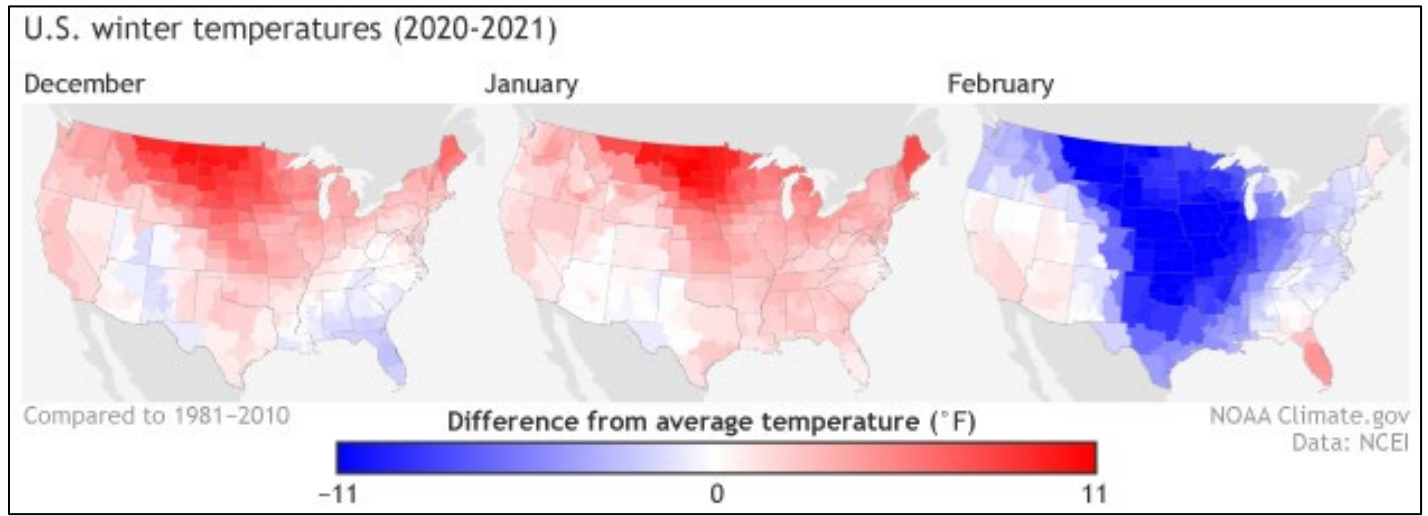
# Winter 2021/22 Weather Outlook

09/30/21

The primary driver of gas prices during the winter is the weather. Other factors come into play, but in the end, it's all about the weather. Due to the current gas market conditions analysts are predicting the only thing that will relieve upward pressure on prices is a warmer than normal winter.

## Winter 2020/21 Recap

Heading into winter 20/21, forecasting services were predicting various degrees of La Niña conditions. La Niña typically brings wetter and cooler than average conditions across the Pacific Northwest and northern Plains, while drier and warmer than average conditions typically prevail in the South. Long-range forecasts were calling for warmer-than-normal winter overall.



Winter 2020/21 was unusual because although technically a La Niña winter, the coolest water in the Pacific was south of the equator, not evenly split on either side of it. With warmer conditions north of the equator, the subtropical jet stream more closely resembled what we usually see during an El Niño (warmer than normal temperatures, moisture-rich storms moving in from the Gulf of Mexico). In February 2021 a record-breaking Arctic blast came down through the central United States causing temperatures to plummet much colder than normal. **In the end, winter 2020/21 turned out to be 6.6% warmer than normal for the continental United States with the only month colder than normal being February 2021.**

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

	2020-21	2019-20	2018-19
November	18.5%	-12.1%	-14.0%
December	8.0%	12.3%	10.3%
January	9.2%	16.7%	0.9%
February	-12.5%	4.5%	-1.7%
March	16.0%	19.4%	-5.9%
<b>Total Winter</b>	<b>6.6%</b>	<b>8.9%</b>	<b>-0.9%</b>

Colder than Normal  
Warmer than Normal

## **Winter 2021/22 Outlook**

The weather forecasts for the upcoming winter are once again pointing towards La Niña conditions shaping the weather patterns this winter. NOAA forecasts a 70-80% chance of La Niña occurring this winter. This upcoming La Niña is expected to be weaker than the one experienced last winter which opens the door for other elements to factor into the winter forecast, especially during the second half of the season. There are indications that the polar vortex may also be weaker than last year which could allow colder air from the Arctic to slide down into the U.S. before the start of winter on Dec 1<sup>st</sup>.

### Northeast – Appalachians to Ohio Valley and Great Lakes

Winter expected to be colder at least for interior sections approximately 1-3 degrees Fahrenheit below normal. First chill anticipated in November. The severity and frequency of the snow and cold air are likely to let up a bit by mid-December before returning with a vengeance in January. The occurrence of a “January thaw” could be pushed back making it more of a “February Thaw”. At the end of winter to early spring there could be another polar vortex displacement/split which would send frigid arctic air blowing across the eastern U.S. extending wintry weather well past March 1<sup>st</sup>.

### Northern Plains & Great Lakes –North Central U.S. to the Great Lakes

Expected to be colder than normal temperatures with above normal snow fall from foothills of Rockies through the Great Lakes. Lake-effect snow expected to start in late November into December due to above normal Great Lake temperatures heading into winter. Unrelenting Arctic air blasts are expected throughout winter with January looking to be 5-10 degrees Fahrenheit lower than last year and will remain into February.

### Southern Plains & Southeast – Texas through Florida

Winter weather expected to be milder than normal with first frost arriving in mid-November in the central Gulf Coast and not until December in Texas and central Florida. Weather pattern expected to be similar to last year after the start of 2022 with another cold snap unfolding around late January into February, although not nearly as severe as last year. The worst of the cold and winter storms to hit eastern Texas, eastern Oklahoma, and Arkansas. Further east from Louisiana to Tennessee will likely experience severe thunderstorms and rain. The Southeast Atlantic coast from Miami to North Carolina is predicted to be milder and drier than normal.

### Pacific Northwest & Northern Rockies

A wet winter is anticipated with plenty of snow, but not as much as last winter and not as frequent. Drought conditions are expected to improve, but it won't be a drought buster.

### Southwest

There isn't any significant precipitation expected until January when the La Nina weakens opening the door for meaningful precipitation across the region in the second half of the winter. These storms are also not expected to be drought busters unless something out of the ordinary happens.

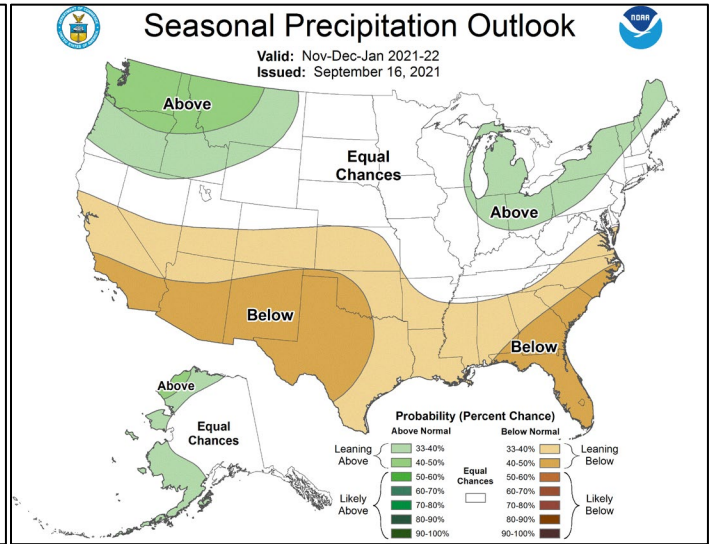
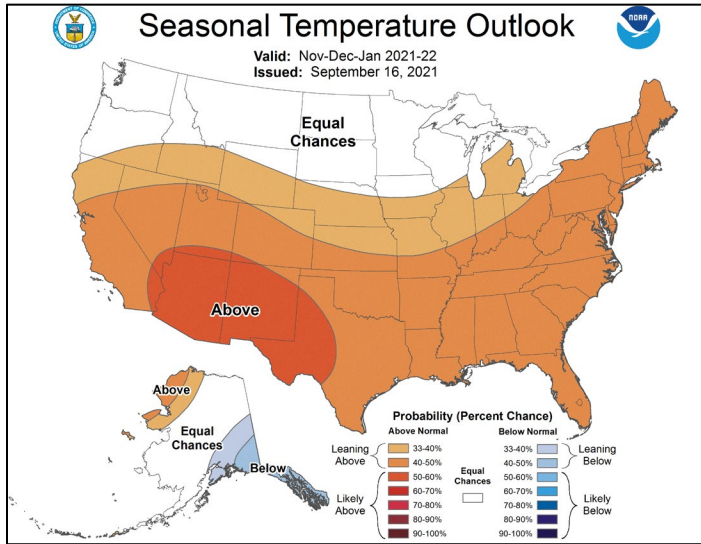
The following pages show graphical forecast data from NOAA and AccuWeather.

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

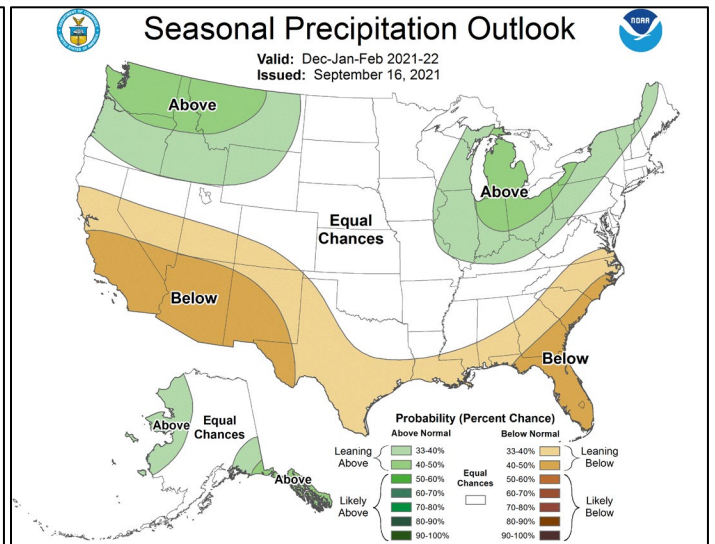
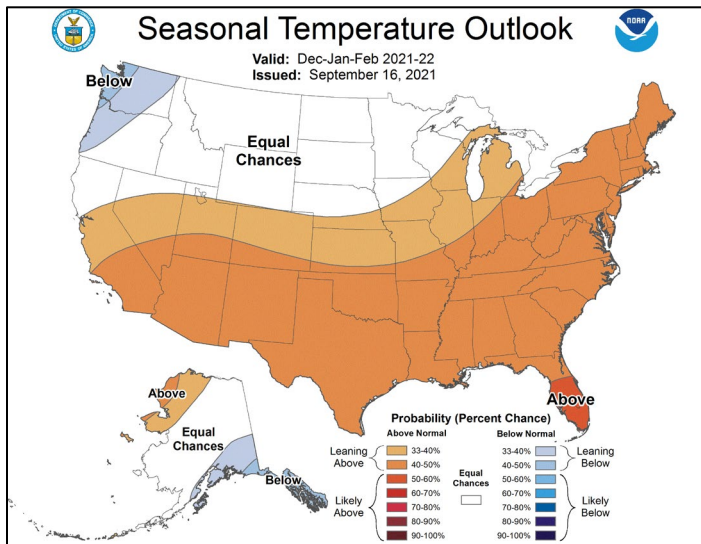
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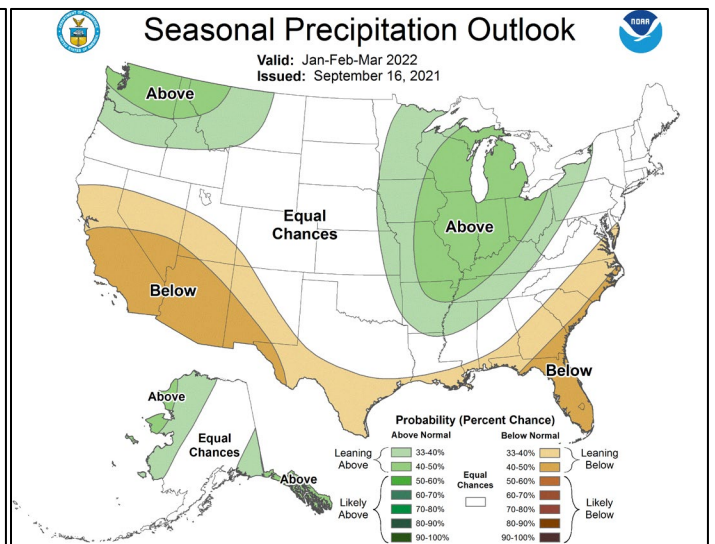
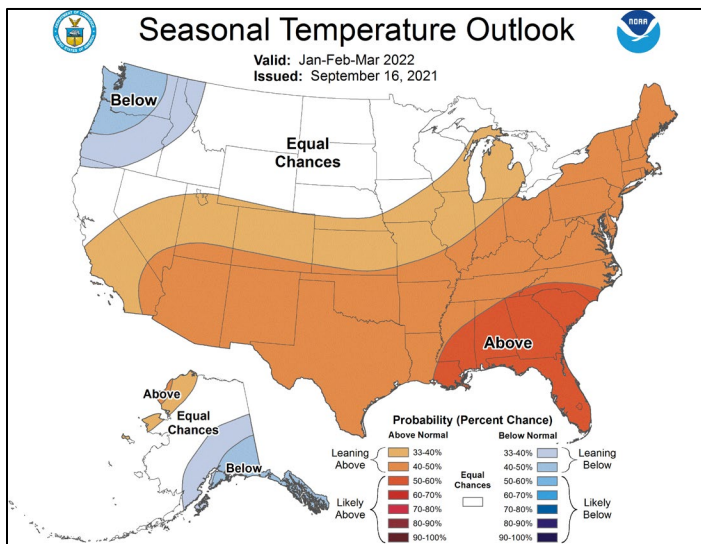
## NOAA Nov21-Jan22 Forecast



## NOAA Dec21-Feb22 Forecast



## NOAA Jan22-Mar22 Forecast



## Typical La Niña weather pattern

