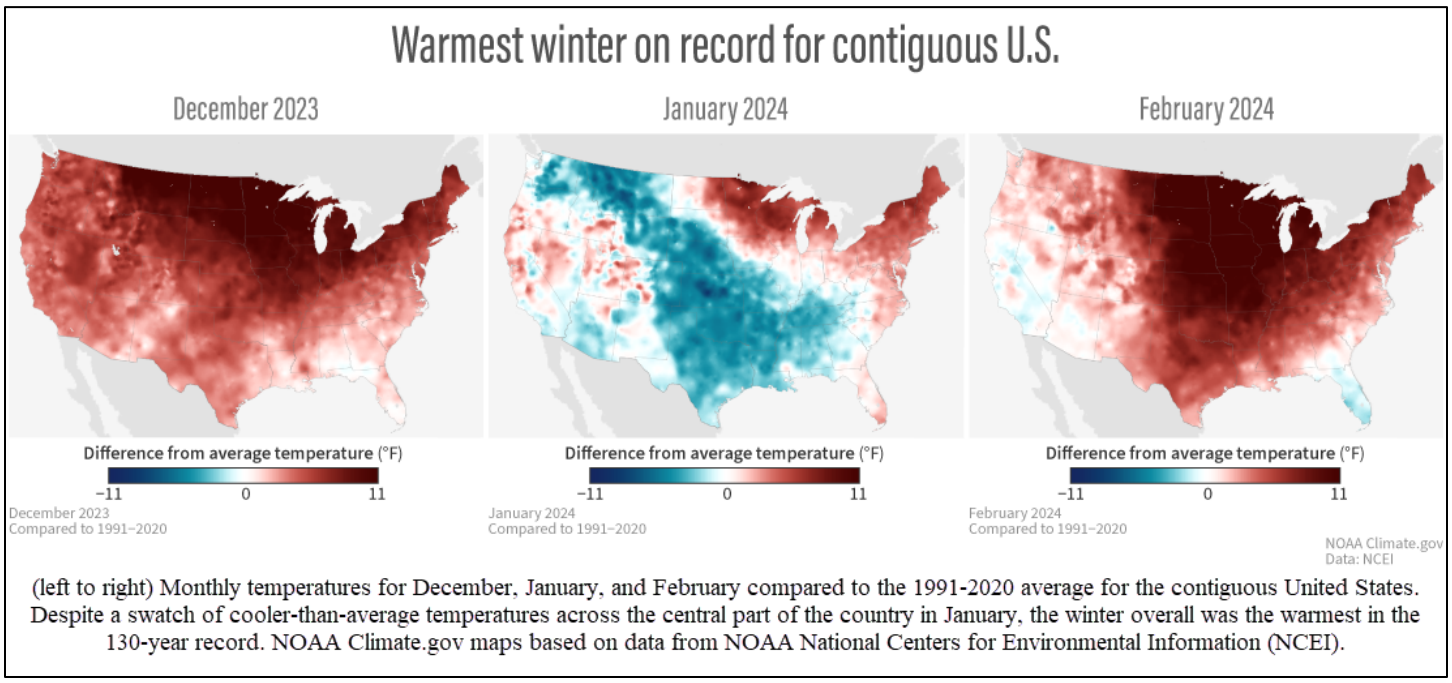
Encore Energy Winter 2024/25 Weather Outlook 10/21/24

The primary driver of natural gas prices during the winter is the weather with natural gas storage levels coming in second. Forecasters are predicting a weak La Niña weather pattern for winter 2024/2025. La Niña patterns cause the Pacific jet stream to move North which leads to drought in the southern U.S. and Heavy Rains and Flooding in the Pacific Northwest and Canada. During a La Niña year, winter temperatures are warmer than normal in the south and cooler than normal in the North. La Niña can also lead to a more severe hurricane season.

Winter 2023/24 Recap

Heading into winter 23/24, forecasting services were predicting El Niño conditions for the first time in four years, but it was expected to be weaker. The outlook for 2023/2024 favored 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 was expected to be dryer in the North and wetter in the South.



(left to right) Monthly temperatures for December, January, and February compared to the 1991-2020 average for the contiguous United States. Despite a swatch of cooler-than-average temperatures across the central part of the country in January, the winter overall was the warmest in the 130-year record. NOAA Climate.gov maps based on data from NOAA National Centers for Environmental Information (NCEI).

The winter 2023-24 goes down in history as the warmest on record for the contiguous U.S. in 130 years of record keeping, and Dec23-Feb24 temperature ranks as the world's warmest such period on record. **In the end, winter 2023/24 turned out to be 12.5% warmer than normal for the continental United States. Winter started warmer-than-normal November into December but a cold snap in mid January 2024 resulted the only month that threatened to be colder than normal.**

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

	2023-24	2022-23	2021-22	2020-21	2019-20	2018-19
November	5.0%	1.2%	3.2%	18.5%	-12.1%	-14.0%
December	20.4%	-1.2%	19.6%	8.0%	12.3%	10.3%
January	3.7%	16.9%	-6.7%	9.2%	16.7%	0.9%
February	17.6%	11.6%	-1.0%	-12.5%	4.5%	-1.7%
March	14.3%	8.1%	-5.6%	16.0%	19.4%	-5.9%
Total Winter	**12.5%**	**6.0%**	**4.3%**	**7.0%**	**9.4%**	**-0.8%**

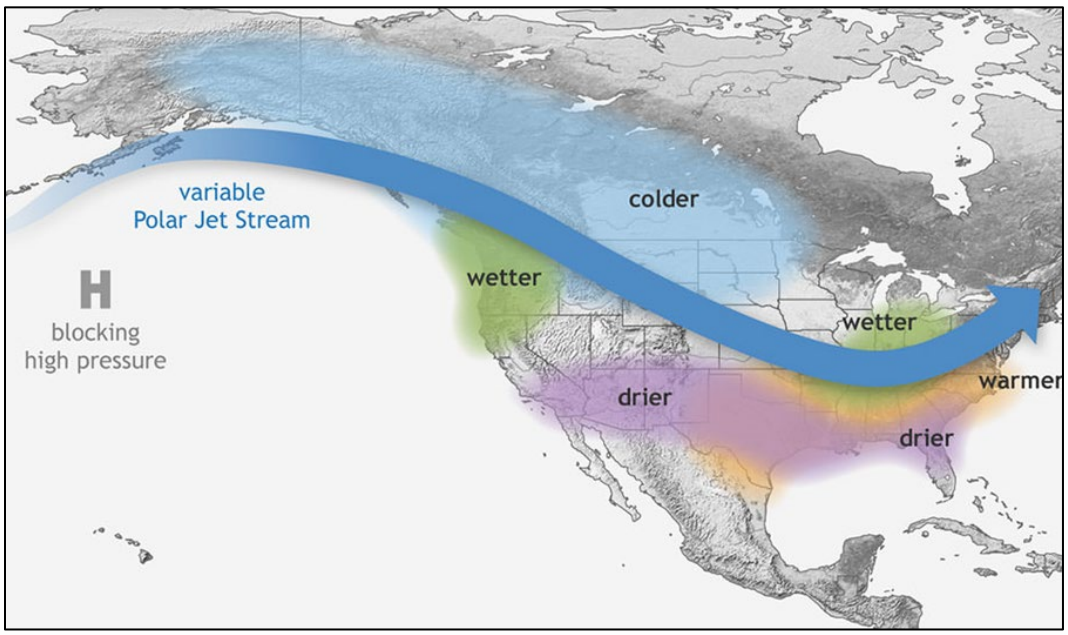
Colder than Normal
Warmer than Normal

Encore Energy Winter 2024/25 Weather Outlook 10/21/24

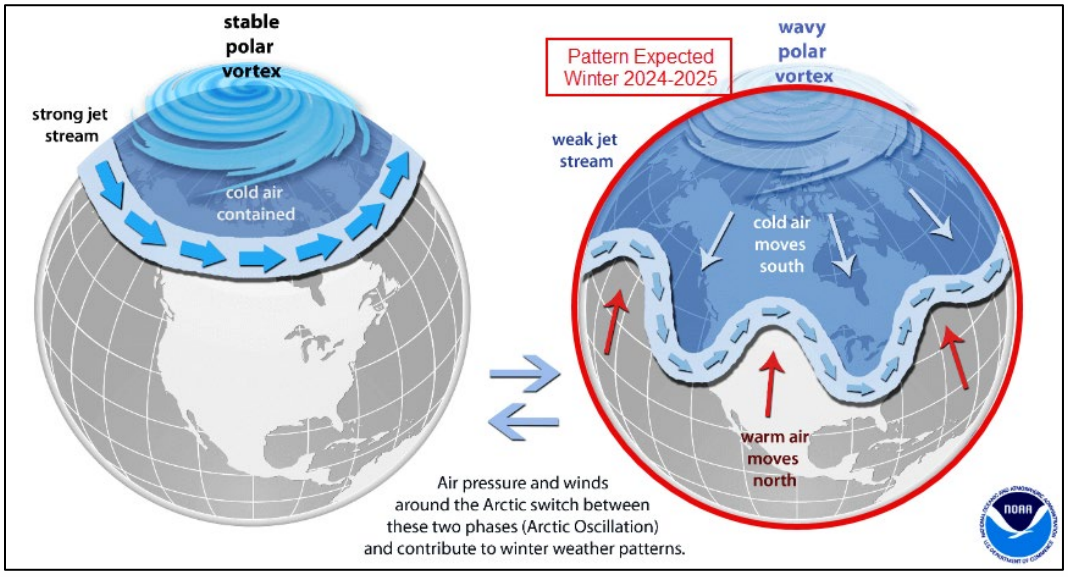
Winter 2024/25 Outlook

A La Niña watch is in effect and expected to emerge during September-November and persist through the winter 2024-25. La Niña causes the jet stream to move northward and to weaken over the eastern Pacific. That promotes the development of a low-pressure region over Alaska and western Canada and shifts the jet stream downwards in between the two pressure systems. The image below shows the average La Niña jet stream position. As illustrated below, during La Niña winters, the South sees warmer and drier conditions than usual and the North and Canada tend to be wetter and colder.

Typical La Niña weather pattern

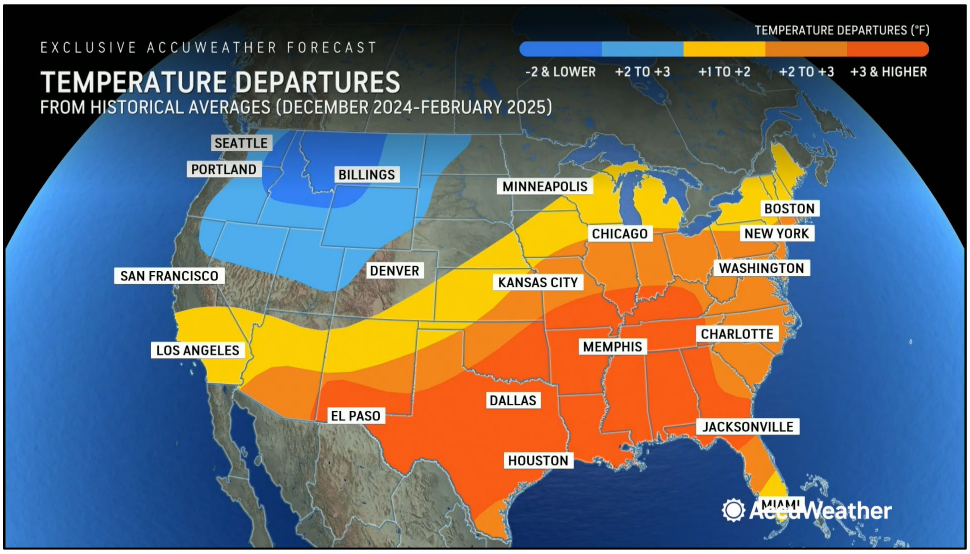


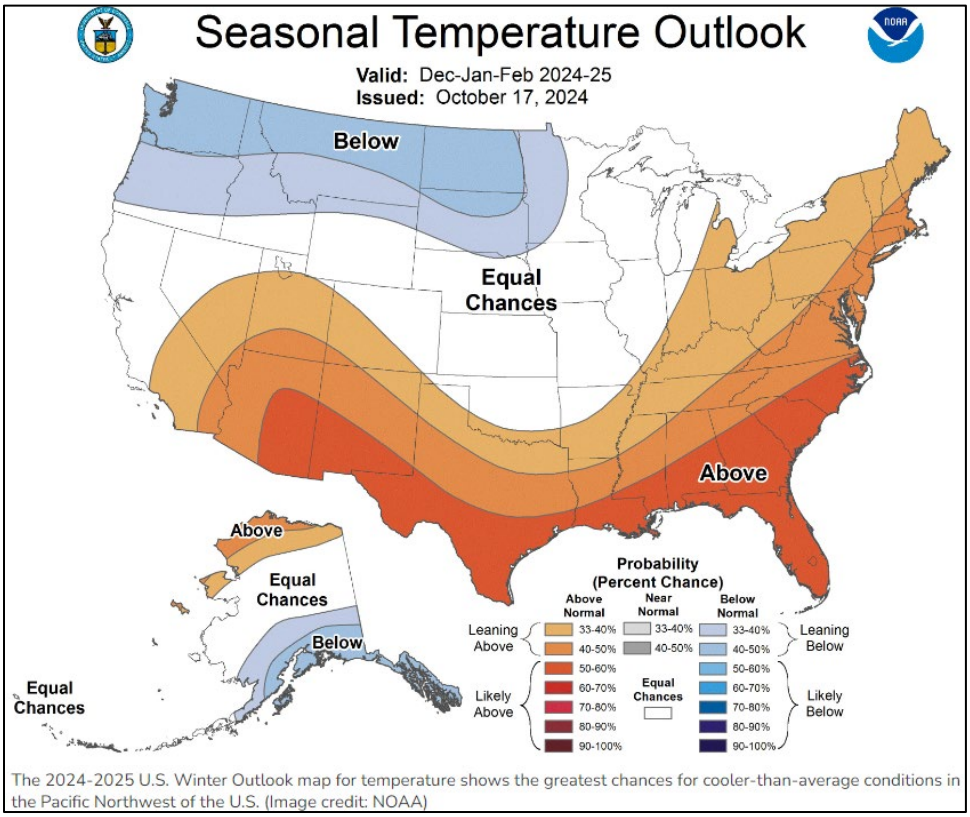
The Polar Vortex is currently weak or wavy as a series of warming events took place starting in July 2024. These sudden stratospheric warming events have disrupted the symmetric circumpolar flow and caused winds to weaken and the flow to change shape. The U.S. has a 74% chance of La Niña conditions, while there is a 40% chance of this being a moderate event.



Temperatures

A weak La Niña weather pattern is expected for the winter 2024-2025. AccuWeather predicts that although the coming winter will be colder than the last (2023-2024), it will be warmer-than-normal overall with surges of cold happening early (late Nov24-Dec24) and again in late winter (Feb25). The weak La Niña will push the jet stream northward and lead to colder temps and stronger more frequent storms in the northwest and great lakes. Warmer-than-average temperatures are favored from the southern tier of the U.S. to the eastern Great Lakes, eastern seaboard, New England and northern Alaska. These probabilities are strongest along the Gulf Coast and for most of Texas. A new pattern is expected midwinter (Jan24) that will push the cold and storm tracks down into central and southern California and push inland. The weak polar vortex is expected to send periodic cold blasts down into the U.S. via the jet stream. If a significant surge of cold air delivers subfreezing temps to the Gulf Coast and parts of Florida, it is most likely to occur in February, although the month as a whole is expected to be milder-than-normal. This backend surge will bring the potential for multiple snowstorms from the Great Lakes, Ohio Valley, and through the northeast.





The 2024-2025 U.S. Winter Outlook map for temperature shows the greatest chances for cooler-than-average conditions in the Pacific Northwest of the U.S. (Image credit: NOAA)

Encore Energy Winter 2024/25 Weather Outlook 10/21/24

Pacific Northwest

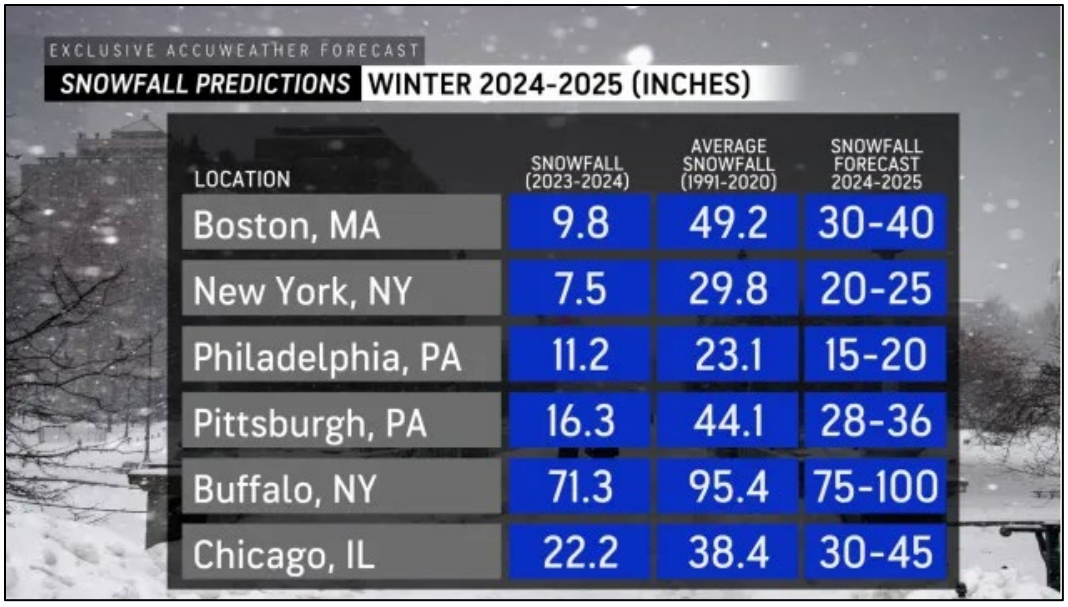
The exception to the warmer than normal trend this winter is the Pacific Northwest which is expected to experience colder temperatures starting in November as a trough develops and the jet stream pulls cold air down into the region throughout winter.

Midwest and Great Lakes

Overall, the central and Southern Midwest is expected to be warmer-than-normal. The Great Lakes, Ohio Valley and Midwest region (Illinois, Indiana, Kentucky, Michigan, Ohio, Wisconsin) can expect periods of wet snow and rain to begin in early November, with "frigidly cold" temperatures through Nov. 11.

Rain and wet snow continue into Thanksgiving, with a drier forecast toward the end of the year. January-February looks like when the Big Freeze may be on for that area.

New York City, Boston, Philadelphia and Pittsburgh are a sampling of the cities predicted to have more snow than last winter, in part due to more snow opportunities in February. Places such as Chicago and Buffalo may not only have more snow than last winter, but they also have a chance of snowfall totals for the season piling up more than the historical average this winter.



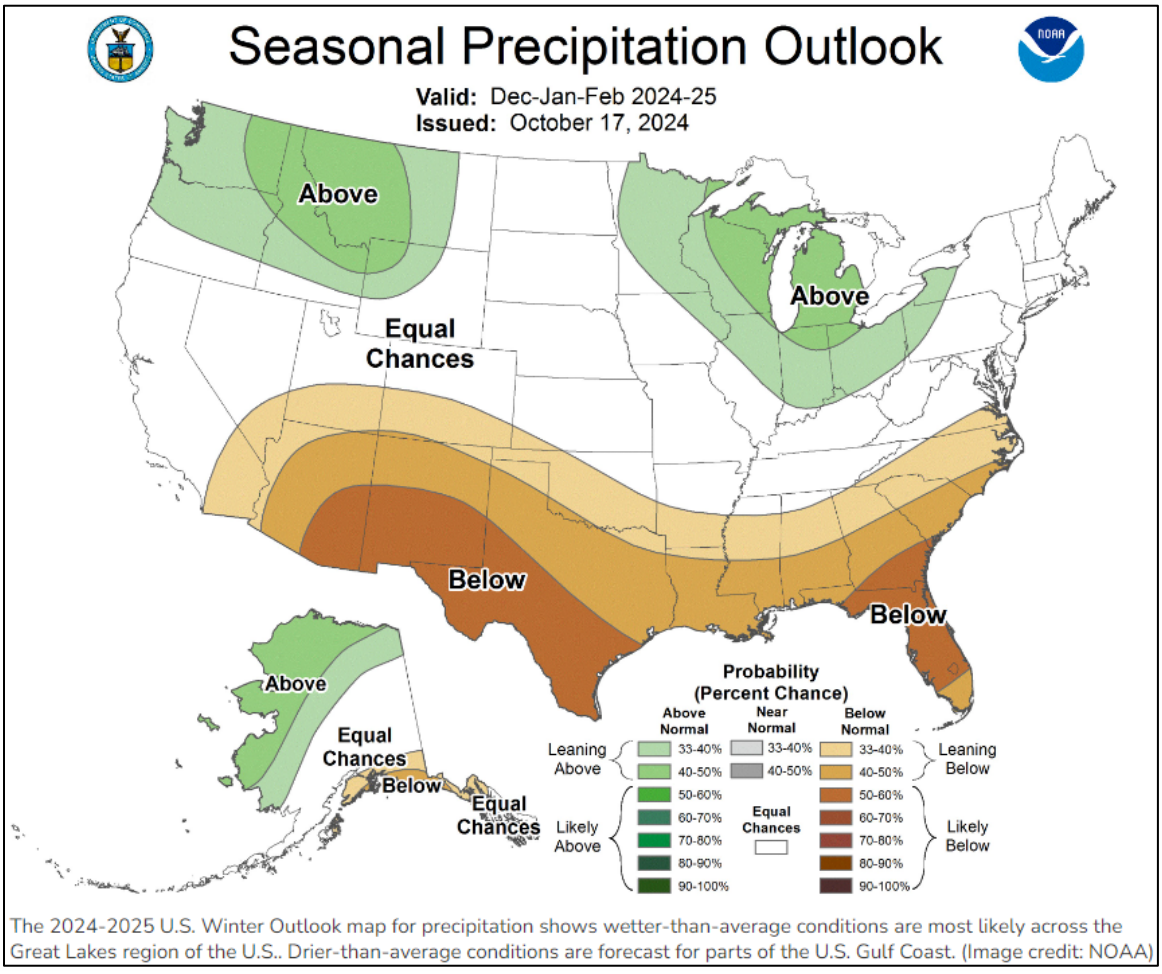
LOCATION	SNOWFALL (2023-2024)	AVERAGE SNOWFALL (1991-2020)	SNOWFALL FORECAST 2024-2025
Boston, MA	9.8	49.2	30-40
New York, NY	7.5	29.8	20-25
Philadelphia, PA	11.2	23.1	15-20
Pittsburgh, PA	16.3	44.1	28-36
Buffalo, NY	71.3	95.4	75-100
Chicago, IL	22.2	38.4	30-45

Precipitation

Wetter-than-average conditions are most likely in the Great Lakes states, and above-average precipitation is also favored in northern and western Alaska, the Pacific Northwest and across the northern tier of the U.S. These probabilities are strongest in portions of Ohio, Indiana and Kentucky.

The greatest likelihood for drier-than-average conditions are in states bordering the Gulf of Mexico, as well as in Texas and southern New Mexico.

Much of California, the central Plains states and the I-95 corridor from Boston to Washington, D.C., have equal chances of below-average, near-average or above-average seasonal total precipitation.



The 2024-2025 U.S. Winter Outlook map for precipitation shows wetter-than-average conditions are most likely across the Great Lakes region of the U.S.. Drier-than-average conditions are forecast for parts of the U.S. Gulf Coast. (Image credit: NOAA)

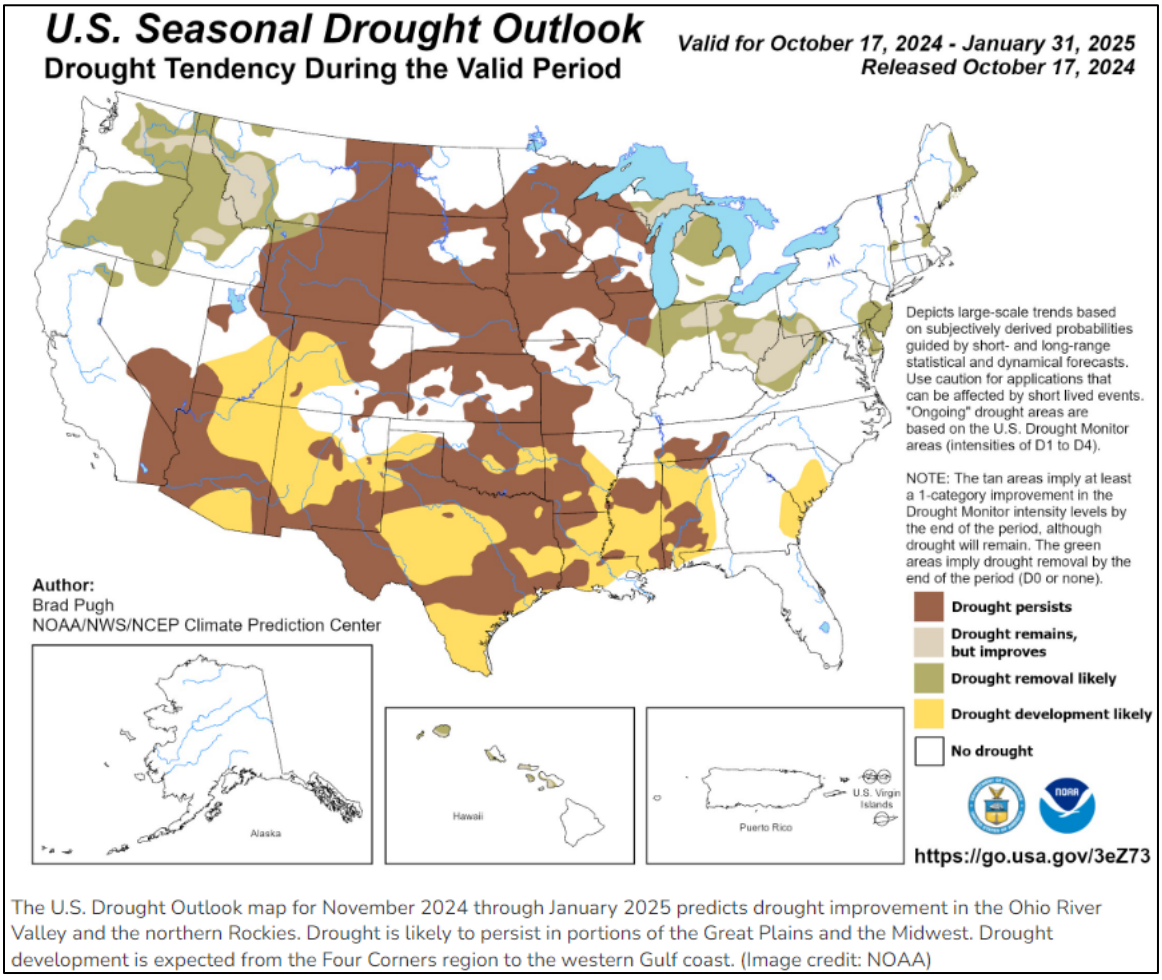
Drought

"Unfortunately, after a brief period in the spring of 2024 with minimal drought conditions across the country, more than a quarter of the land mass in the continental U.S. is currently in at least a moderate drought," said Brad Pugh, operational drought lead with NOAA's Climate Prediction Center. "And the winter precipitation outlook does not bode well for widespread relief."

The widespread warmth paired with drier conditions are expected to cause the moderate to extreme drought to persist across much of the Great Plains and in portions of the Rocky Mountains, and to worsen across portions of the Southwest and along the Gulf coast states.

Drought conditions are expected to improve or end in the Ohio River Valley, the Great Lakes region and portions of the northwestern U.S., including eastern Washington and Oregon and northern and central Idaho.

When storms do roll through, they could bring a heightened risk of severe weather due to the overall mild conditions and the warm, humid air from the Gulf of Mexico.



The U.S. Drought Outlook map for November 2024 through January 2025 predicts drought improvement in the Ohio River Valley and the northern Rockies. Drought is likely to persist in portions of the Great Plains and the Midwest. Drought development is expected from the Four Corners region to the western Gulf coast. (Image credit: NOAA)

Encore Energy Winter 2024/25 Weather Outlook 10/21/24

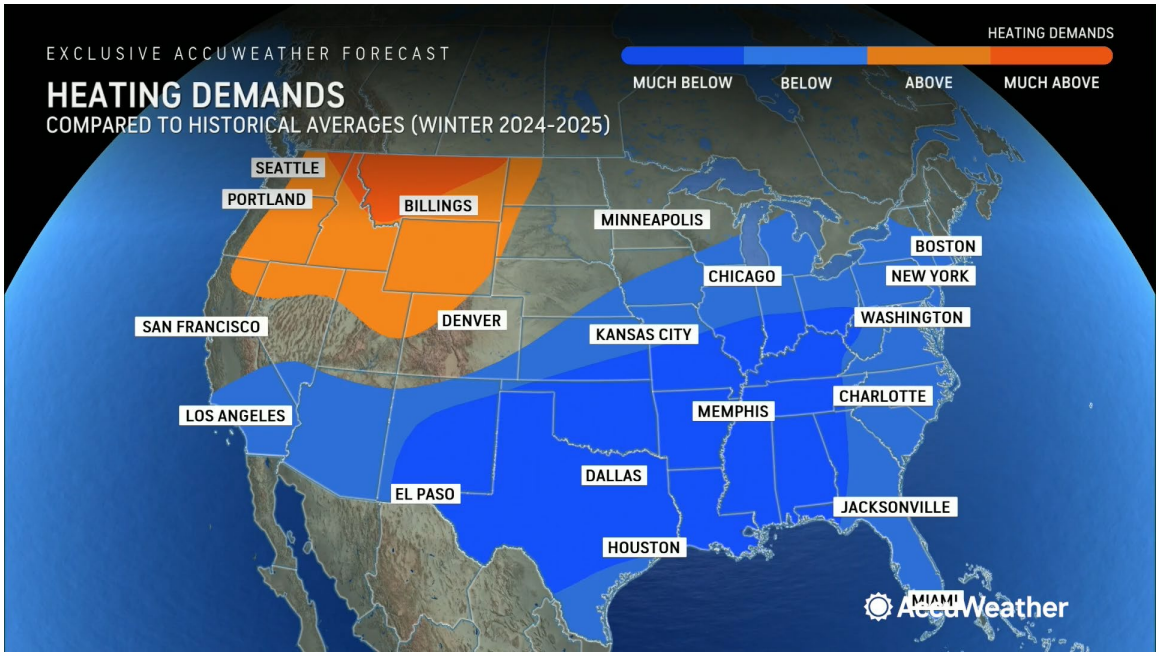
Warm winter to curb heating demand in southern, central US

Winter will get off to a warm start for millions across the Gulf Coast states and Plains, with it feeling more like an extension of autumn rather than the start of the coldest time of the year. And this will be the trend for most of the upcoming winter season.

"December through February, the warmest areas of the country, compared to the average, are going to be from the South, central southern Plains states through the Mississippi Valley, up through the Ohio and Tennessee valleys.

A combination of La Niña keeping the storm track over the northern part of the country most of the winter, above-average water temperatures in the Gulf of Mexico, and mild Pacific air occasionally flowing into the Plains and East will limit the potential for cold air to have a sustained presence across the southern U.S.

Temperatures throughout the season could run more than 3 degrees above the historical average for most of the region, including Dallas, New Orleans, Atlanta and Nashville. This will result in a noticeable reduction in heating demand.



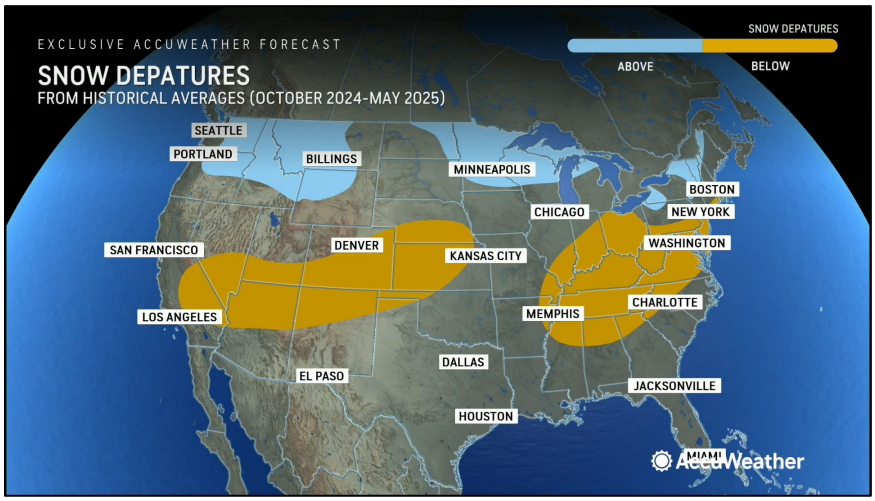
If a significant surge of cold air delivers subfreezing weather to the Gulf Coast and parts of Florida, it is most likely to occur in February, although the month as a whole is still projected to be milder than normal.

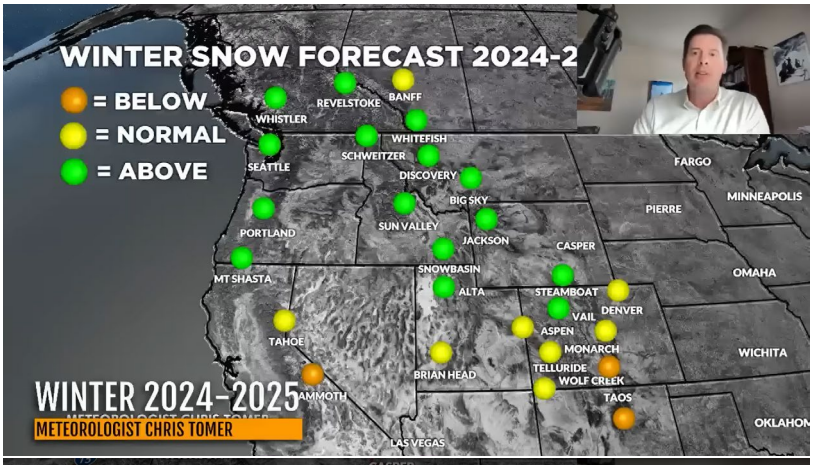
“You need to be aware of severe weather in the winter. We’ve seen in the past damaging thunderstorms in December, January, and February,” said Paul Pastelok. “With mild air masses coming out of the west during the month of January, we could see the potential for severe weather farther north into places like Missouri, Arkansas, and Tennessee. As the jet stream dips farther south in February, we could start to see more severe weather in the Gulf coast states with warmer air and warmer waters from the Gulf of Mexico.”.

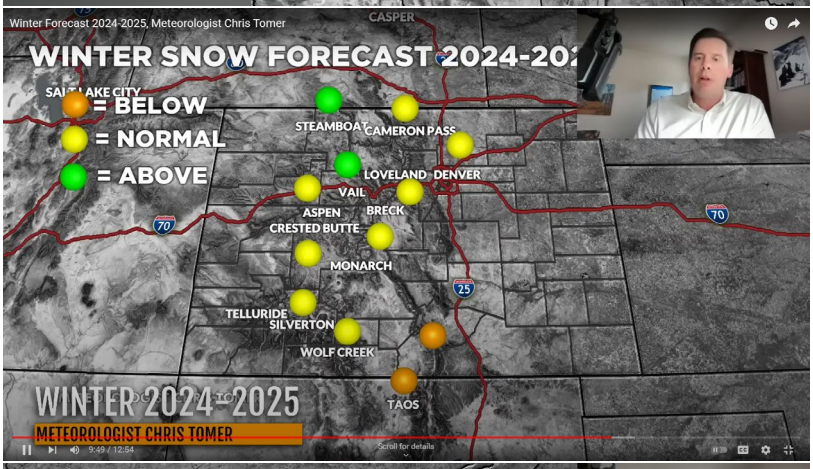
Supporting Graphical Images and Forecasts

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

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!


EXCLUSIVE ACCUWEATHER FORECAST
SNOW DEPATURES
FROM HISTORICAL AVERAGES (OCTOBER 2024-MAY 2025)
SNOW DEPATURES
ABOVE
BELOW
SEATTLE
PORTLAND
BILLINGS
MINNEAPOLIS
BOSTON
NEW YORK
CHICAGO
WASHINGTON
SAN FRANCISCO
DENVER
KANSAS CITY
CHARLOTTE
LOS ANGELES
MEMPHIS
DALLAS
EL PASO
JACKSONVILLE
HOUSTON
AccuWeather

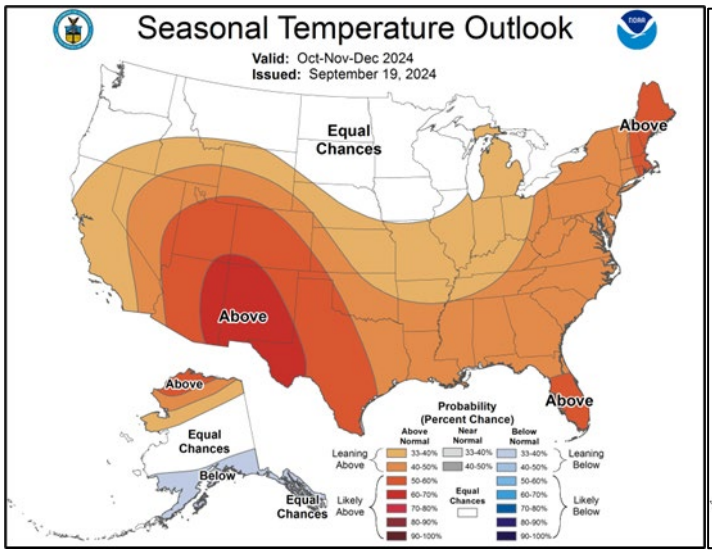

WINTER SNOW FORECAST 2024-2
= BELOW
= NORMAL
= ABOVE
REVELSTOKE
BANFF
WHISTLER
WHITEFISH
SCHWEITZER
SEATTLE
DISCOVERY
FARGO
BIG SKY
MINNEAPOLIS
PIERRE
SUN VALLEY
PORTLAND
JACKSON
CASPER
SNOWBASIN
MT SHASTA
OMAHA
ALTA
STEAMBOAT
DENVER
VAIL
ASPEN
TAHOE
MONARCH
WICHITA
TELLURIDE
BRIAN HEAD
WOLF CREEK
TAOS
WINTER 2024-2025
METEOROLOGIST CHRIS TOMER
LAS VEGAS

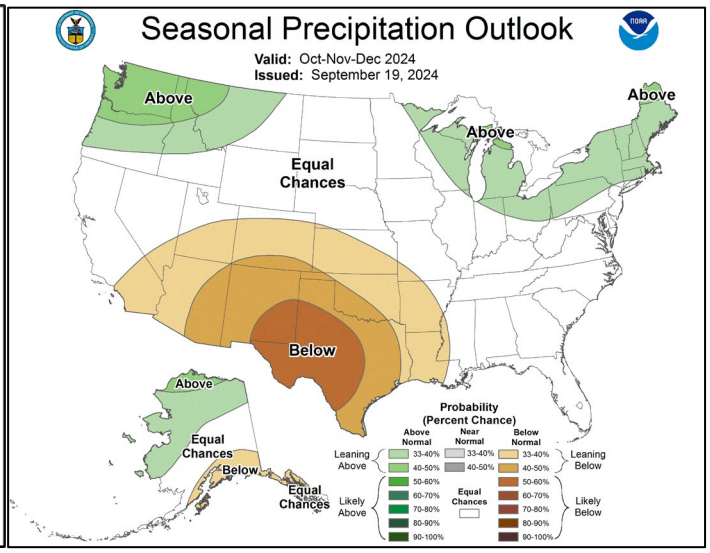

Winter Forecast 2024-2025, Meteorologist Chris Tomer
CASPER
WINTER SNOW FORECAST 2024-20
= BELOW
= NORMAL
= ABOVE
STEAMBOAT
CAMERON PASS
LOVELAND
DENVER
VAIL
ASPEN
BRECK
CRESTED BUTTE
MONARCH
TELLURIDE
SILVERTON
WOLF CREEK
TAOS
WINTER 2024-2025
METEOROLOGIST CHRIS TOMER


WINTER SNOW FORECAST 2024-2025
= BELOW
= NORMAL
= ABOVE
JAY PEAK
SUGARLOAF
MT WASHINGTON
WHITEFACE
STOWE
SUNDAY RIVER
MAD RIVER
SUGARBUSH
CRANMORE
KILLINGTON
OKEMO
RAGGED MOUNTAIN
MOUNT SNOW
WACHUSETT
CATAMOUNT
WINTER 2024-2025
METEOROLOGIST CHRIS TOMER

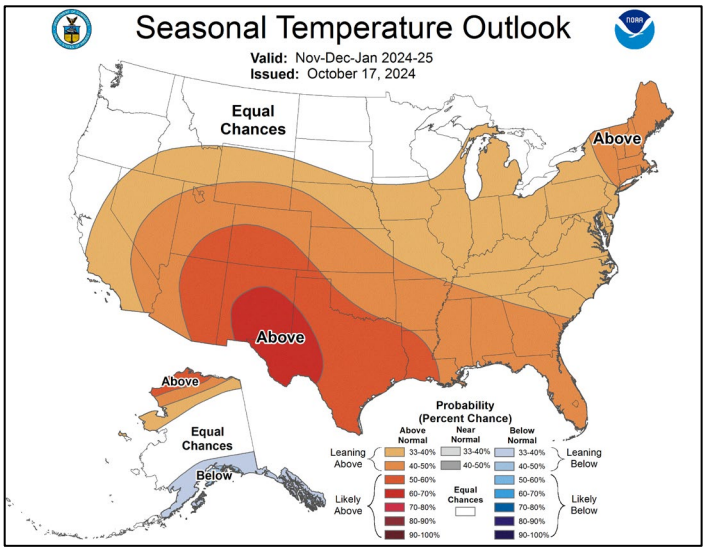
Encore Energy Winter 2024/25 Weather Outlook 10/21/24

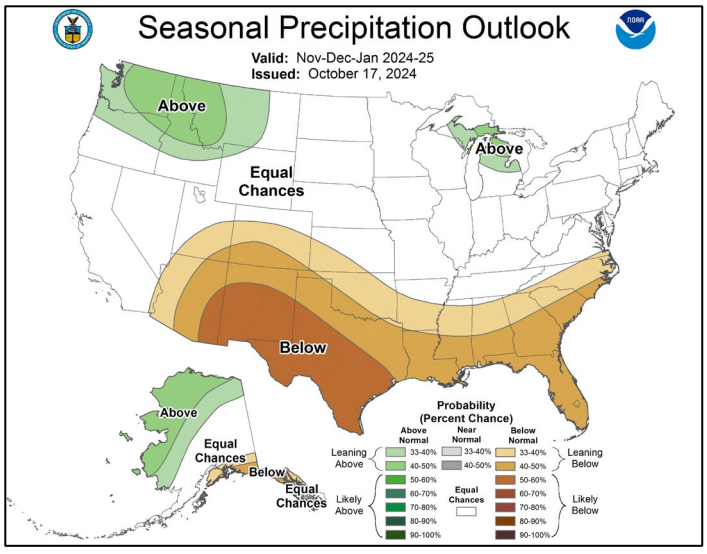
NOAA Oct24-Dec24 Forecast



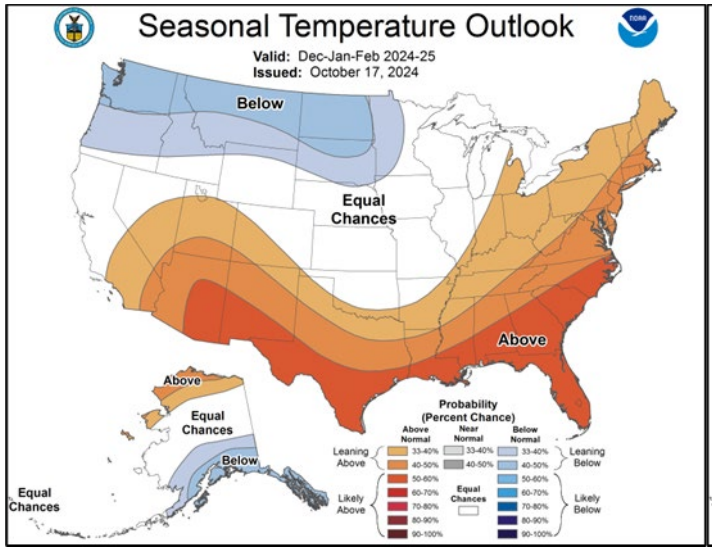


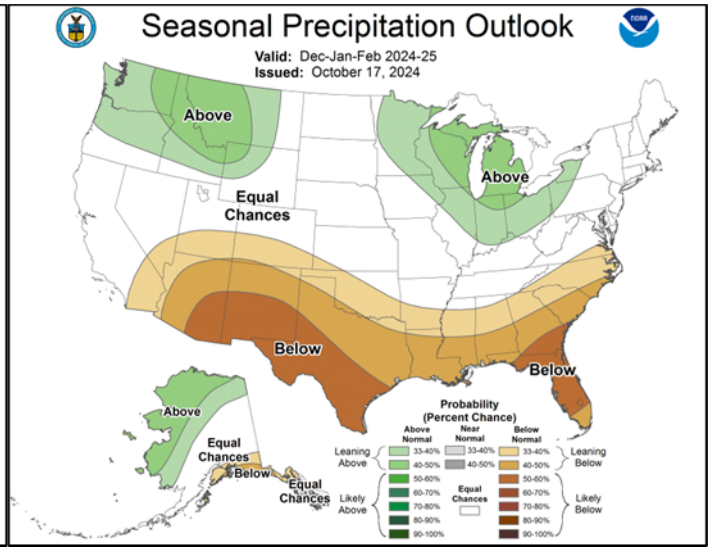
NOAA Nov24-Jan25 Forecast





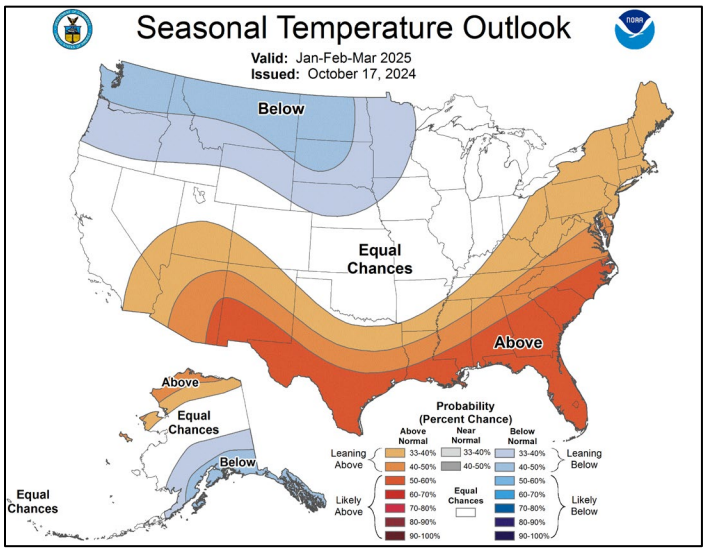
NOAA Dec24-Feb25 Forecast

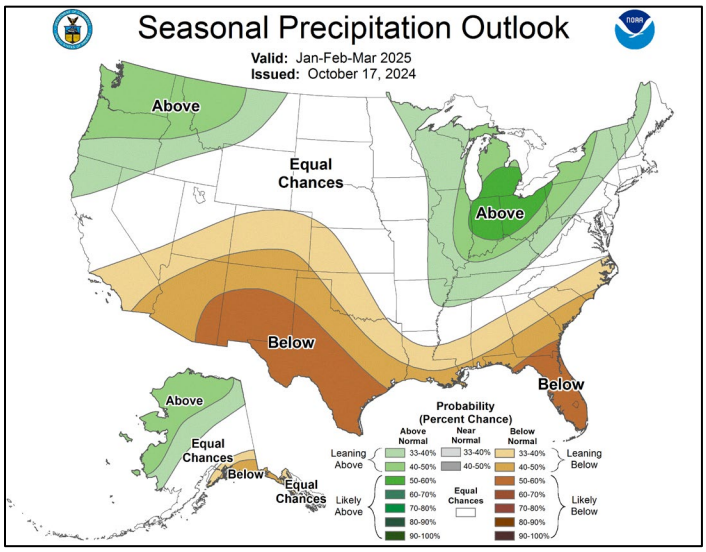




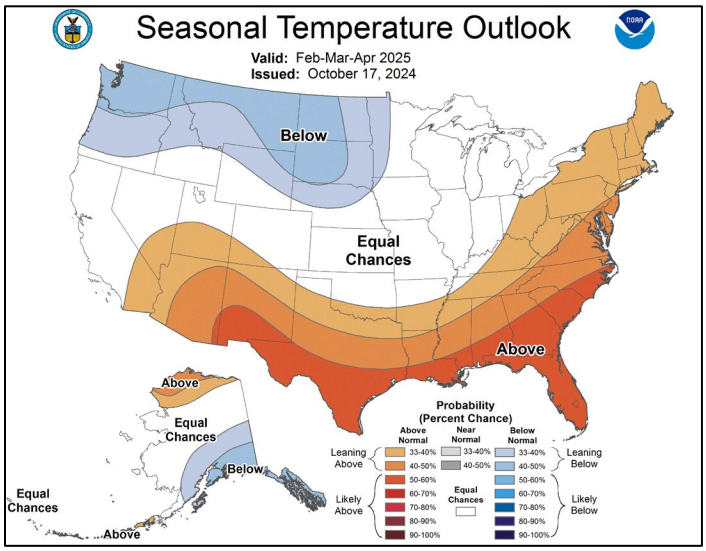
Encore Energy Winter 2024/25 Weather Outlook 10/21/24

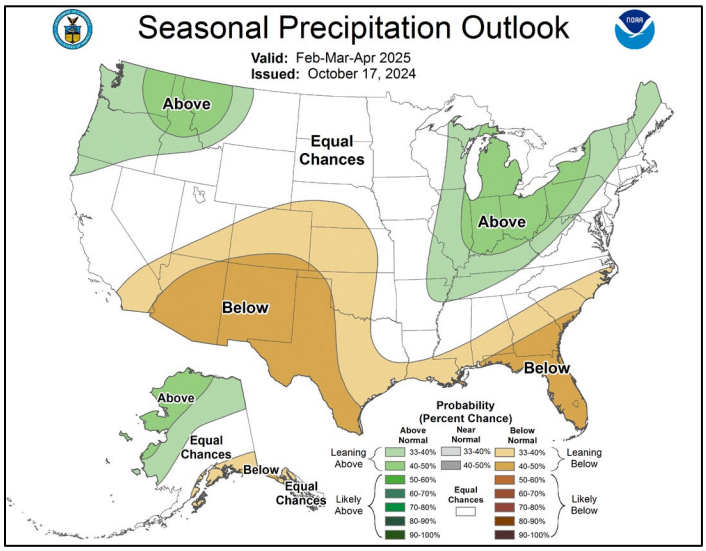
NOAA Jan25-Mar25 Forecast



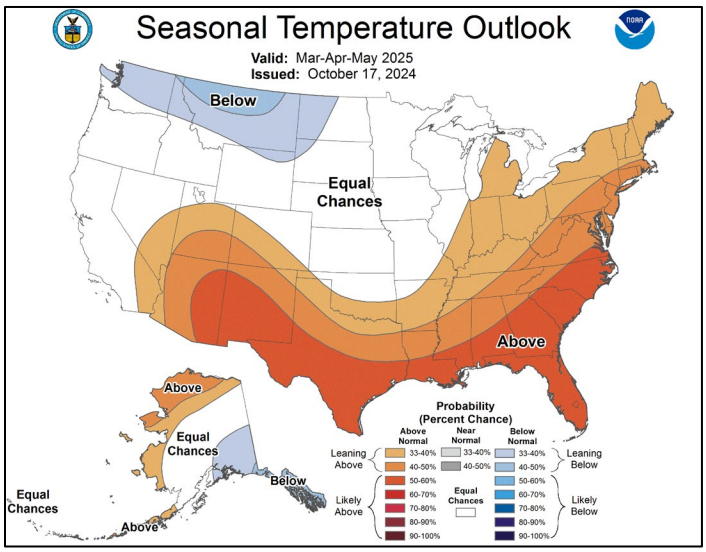


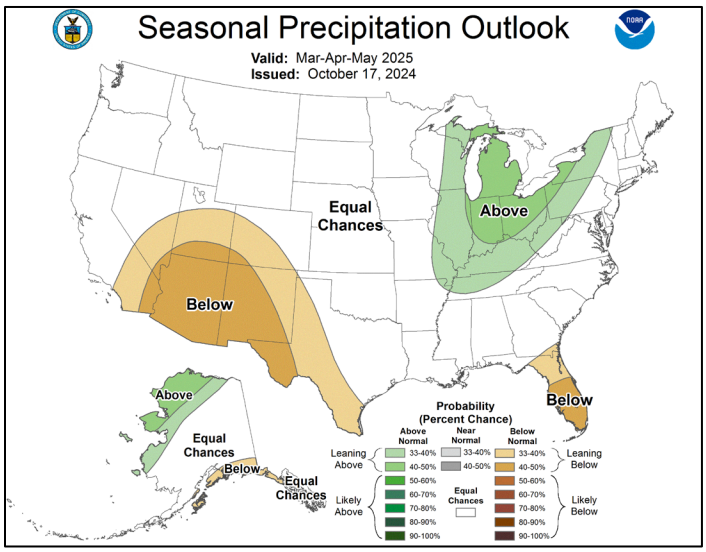
NOAA Feb25-Apr25 Forecast

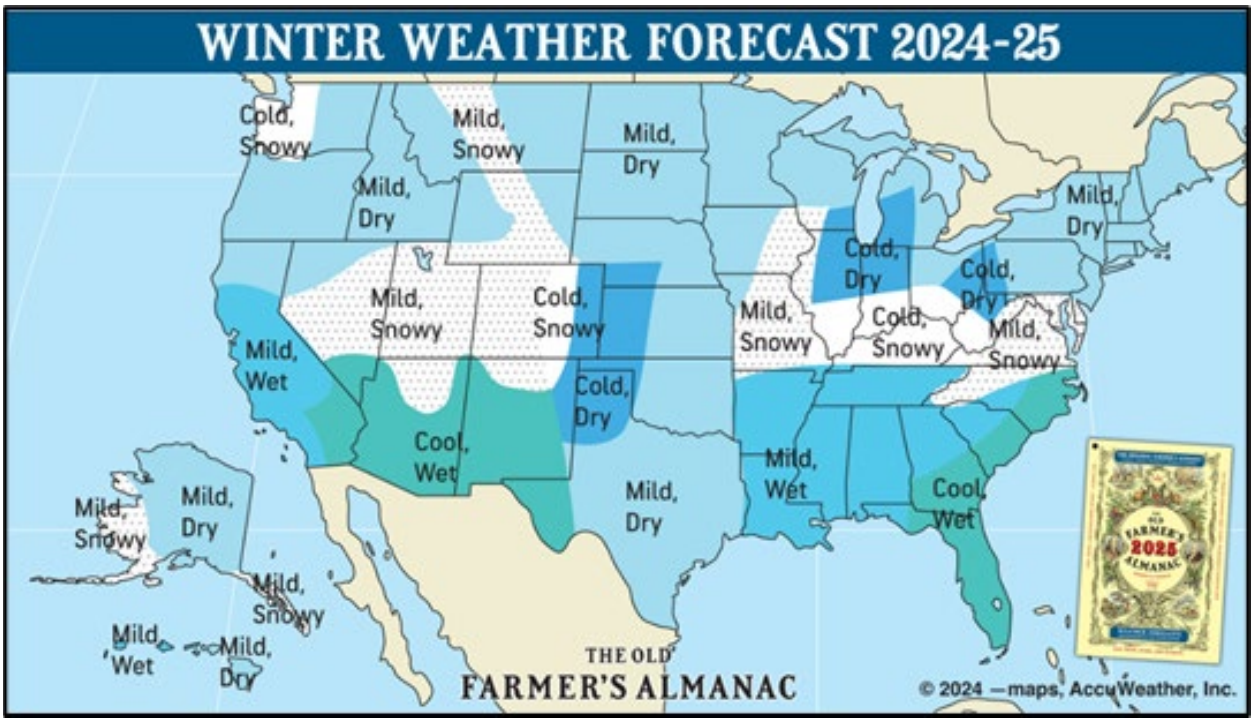




NOAA Mar25-May25 Forecast






WINTER WEATHER FORECAST 2024-25
Cold, Snowy
Mild, Snowy
Mild, Dry
Mild, Dry
Mild, Dry
Cold, Dry
Cold, Dry
Mild, Snowy
Cold, Snowy
Mild, Snowy
Cold, Snowy
Mild, Snowy
Mild, Wet
Cold, Dry
Cool, Wet
Mild, Wet
Cool, Wet
Mild, Dry
Mild, Snowy
Mild, Dry
Mild, Snowy
Mild, Wet
Mild, Dry
THE OLD FARMER'S ALMANAC
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FARMERS' ALMANAC
2024-25 WINTER OUTLOOK
Wet, Winter, Whirlwind
Chilly, Wet
Cold, Average Snowfall
Average Temperatures & Precipitation
Moderate Temps, Wet & White
Mild, Wet
Cold, Wet & White
Mild, Near-to-Below Normal Precipitation
Mild, Wet
WET WINTER WHIRLWIND
FarmersAlmanac.com

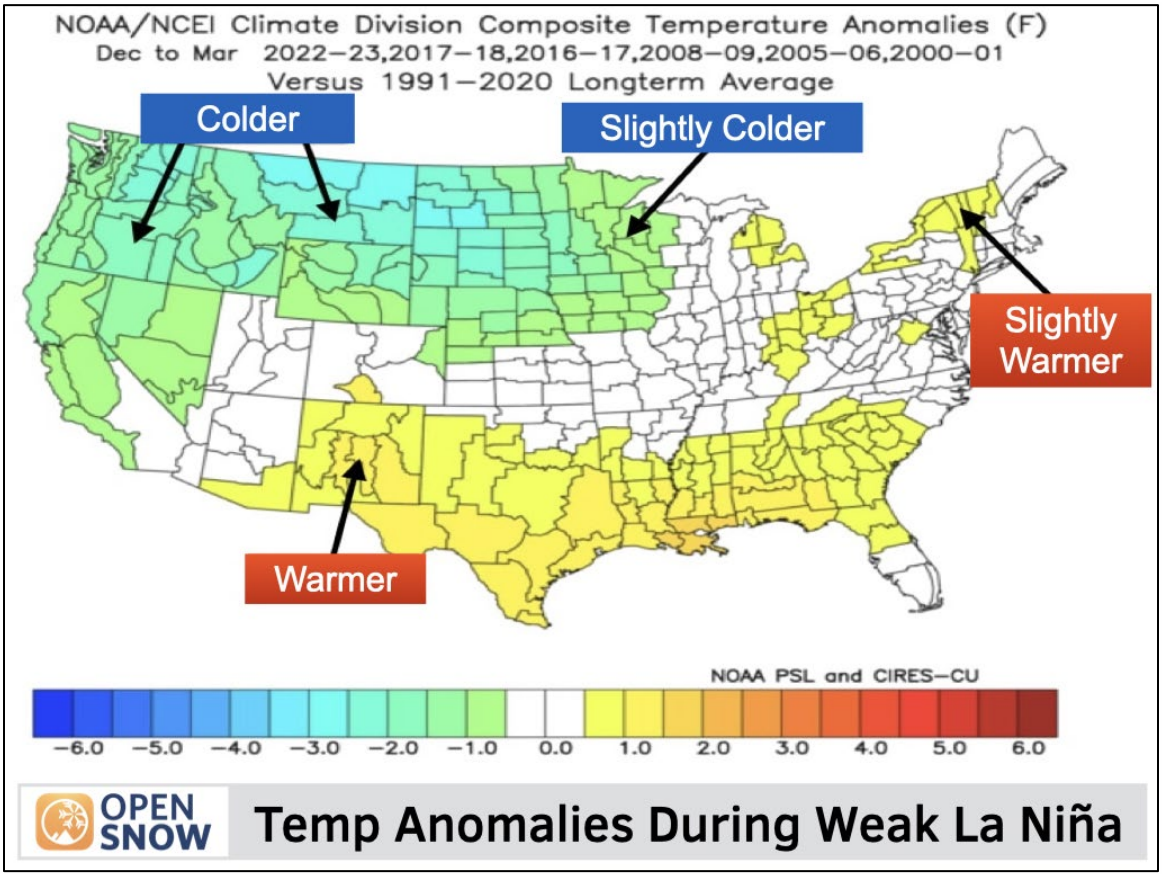

Image: Departure from average temperatures from December through March during the weak La Niña analog winters of '22-23, '17-18, '16-17, '08-09, '05-06, and '00-01. Green areas show colder than average temperatures and yellow/red areas show warmer than average temperatures.

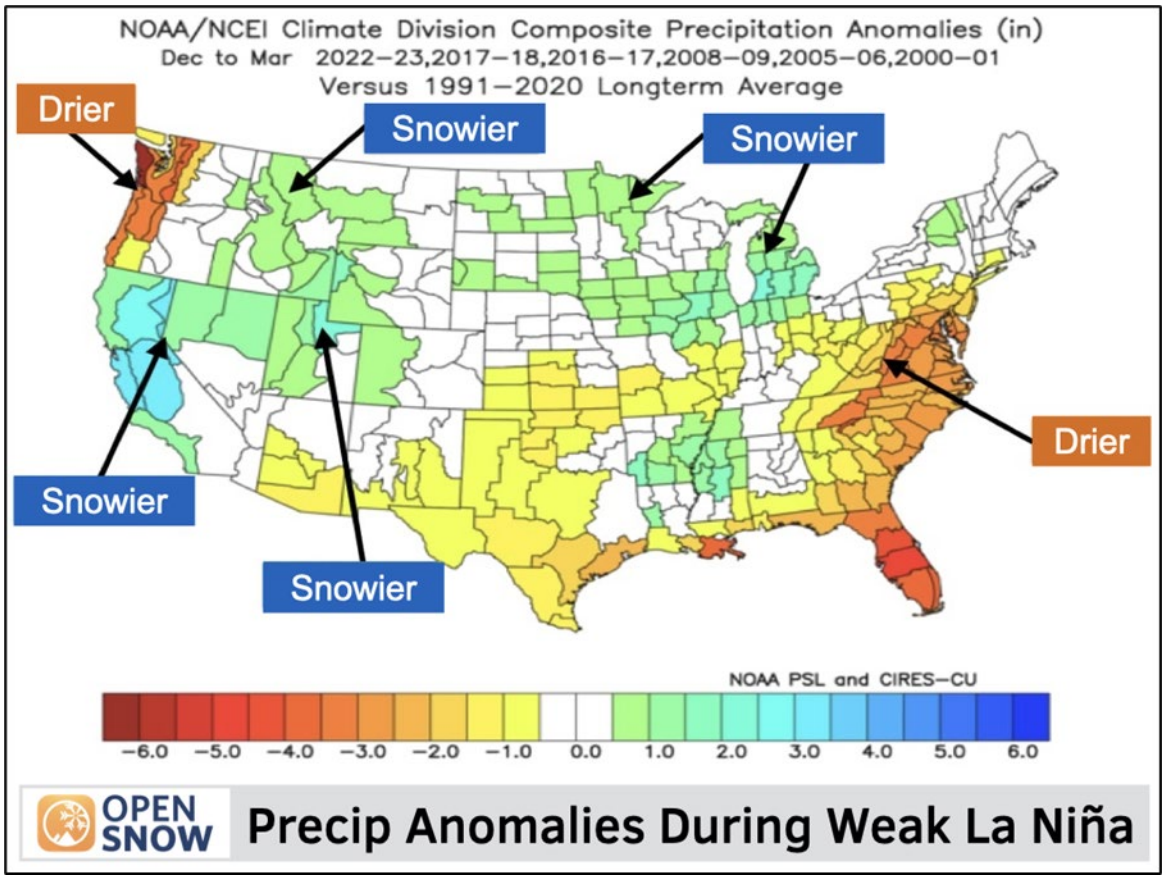

Image: Departure from average precipitation from December through March during the weak La Niña analog winters of '22-23, '17-18, '16-17, '08-09, '05-06, and '00-01. Green areas show wetter (which usually means snowier) weather.