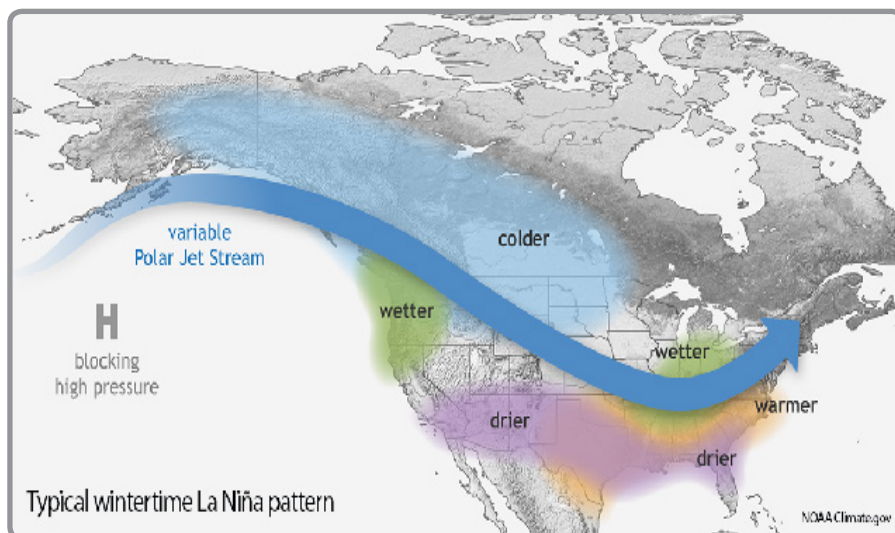




### Typical La Niña Winter Pattern



As shown by the thick blue arrow in the above graphic, a typical storm path during La Niña tends to track across the northwestern U.S. and dive just south of the Great Lakes. This generally means increased chances of precipitation for the Pacific Northwest, portions of the Great Lakes, and the Ohio River Valley, with occasional cold air outbreaks across the north.

Image courtesy of the National Oceanic and Atmospheric Administration.

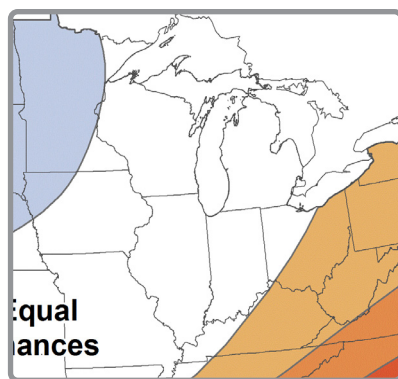
### Highlights for the Midwest

There is a 3 in 4 chance of La Niña developing this winter and a 1 in 4 chance it will not. A La Niña develops when sea surface temperatures are cooler-than-average in the central and eastern equatorial Pacific for an extended time. This is important to North America because La Niña can impact our weather patterns, especially in late winter and early spring.

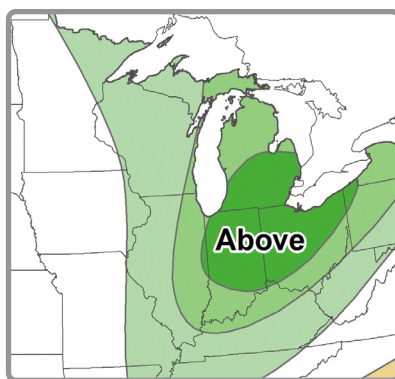
While no two La Niña events are alike, some general patterns are predictable. For instance, storm paths typically bring enhanced chances for below-normal temperatures to the western Upper Midwest. The Ohio River Valley also sees enhanced chances of wetter-than-normal conditions, particularly for late winter. Warmer or drier weather events can still occur, but those events may be milder and less frequent across the region.

### La Niña Outlook

#### Winter Temperature and Precipitation Outlooks Valid for January - March 2025



Temperature



Precipitation

The winter temperature outlook (issued in October) indicates a slightly increased chance of below-normal temperatures in the far northwest portion of the Midwest. The eastern portion of the region has a slightly increased chance of above-normal temperatures. The central portion of the region has equal chances of above-, below-, and near-normal temperatures.

Images courtesy of the National Oceanic and Atmospheric Administration.

The winter precipitation outlook shows a slightly increased chance of above-normal precipitation east of the Mississippi River, with higher probabilities in the southern Great Lakes area. There are equal chances of above-, below-, and near-normal precipitation in the west.

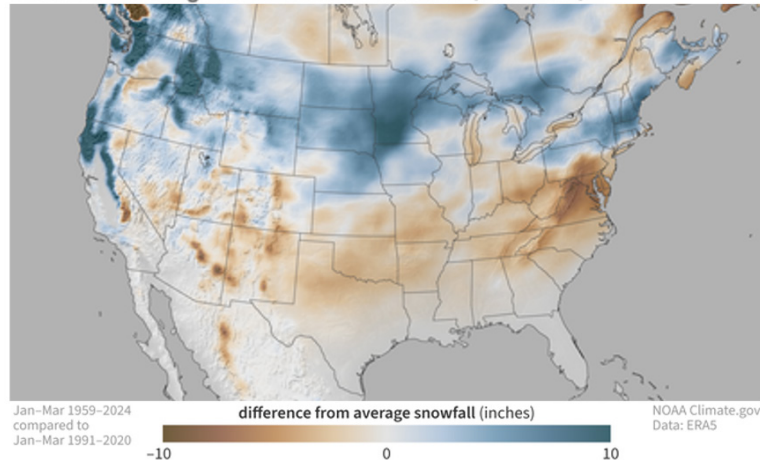
A La Niña Watch is currently in effect, which means La Niña conditions are favorable for development. Sea surface temperatures across most of the central and eastern tropical Pacific are currently near average, and the ocean-atmosphere system reflects ENSO-neutral conditions.

According to the NOAA Climate Prediction Center, there is a 75 percent chance that weak La Niña conditions will emerge by the end of November and persist through January-March 2025.



## Potential Winter and Spring Impacts

### Snowfall during weak La Niña winters (Jan–Mar)



The image above shows areas that tend to receive more (blue) or less (tan) than average snowfall during a La Niña year. The upper Midwest tends to have above-average snowfall during La Niña years while the lower Midwest is usually near or below average.

### Economy

Negative impacts commonly associated with La Niña are increases in heating costs, snow removal, and difficulties in transportation. Colder and snowier weather may also hamper construction. Sectors that depend on winter weather (recreation, snow removal companies, and road salt sales) could see a benefit from increased snowfall.

### Agriculture

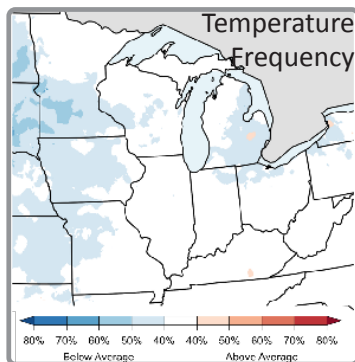
Portions of the Midwest are entering winter with below-normal soil moisture, so wetter-than-normal conditions could be beneficial. However, in the north, below-normal temperatures could result in earlier and deeper soil frost, limiting soil moisture recharge. Increased snowpack could insulate crops from harsh conditions, and colder temperatures in the upper Midwest could limit certain pests and diseases. Cold outbreaks can adversely impact livestock producers due to increased operating costs and animal stress.

### Rivers and Water Supply

Typically, La Niña brings wetter-than-normal conditions to much of the Midwest. This could be extremely beneficial due to the ongoing drought. Water availability is complex and depends on the rain/snow mix and when the precipitation falls. Winter precipitation on unfrozen soils would be beneficial to recharge streams in the Upper Midwest suffering from drought, while a large snowpack on frozen soils may lead to increased runoff and higher stream flows in spring.

## Comparisons and Limitations

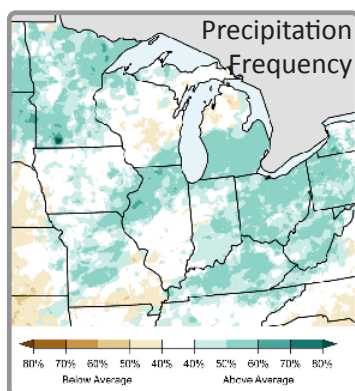
### Winter Conditions During Past La Niña Years



The left top map shows how frequently winter (Jan-Feb-Mar) temperatures were cooler (blues) or warmer (reds) than normal in 12 past weak La Niña events from 1950-2023. The left bottom map shows how frequently winter (Jan-Feb-Mar) precipitation was wetter (green) or drier (tan) than normal. Darker colors are more frequently warmer/colder or drier/wetter during La Niña winters. Locations with light colors or white indicate variable conditions from event to event.

It should be noted that each La Niña is different and other factors may influence the overall winter.

La Niña impacts can be limited by many factors, including long-term trends and being overcome by short-term weather events.



While past La Niña events can help inform forecasters about certain conditions, there are limitations. For instance, in the Midwest, La Niña is *not* known to impact:

- first freeze in the fall (early or late)
- last freeze in the spring (early or late)
- potential for ice storms or blizzards
- track/intensity of any one weather system
- potential for drought in the spring

### Midwest Partners

[Midwestern Regional Climate Center](#)

[American Association of State Climatologists](#)

[National Integrated Drought Information System](#)

[USDA Midwest Climate Hub](#)

[National Oceanic and Atmospheric Administration](#)

[Great Lakes Environmental Research Laboratory](#)

[NWS Climate Prediction Center](#)

[NWS Central Region Headquarters](#)

[North Central River Forecast Center](#)

[National Centers for Enviro. Info](#)

Maps: NOAA Physical Sciences Laboratory