

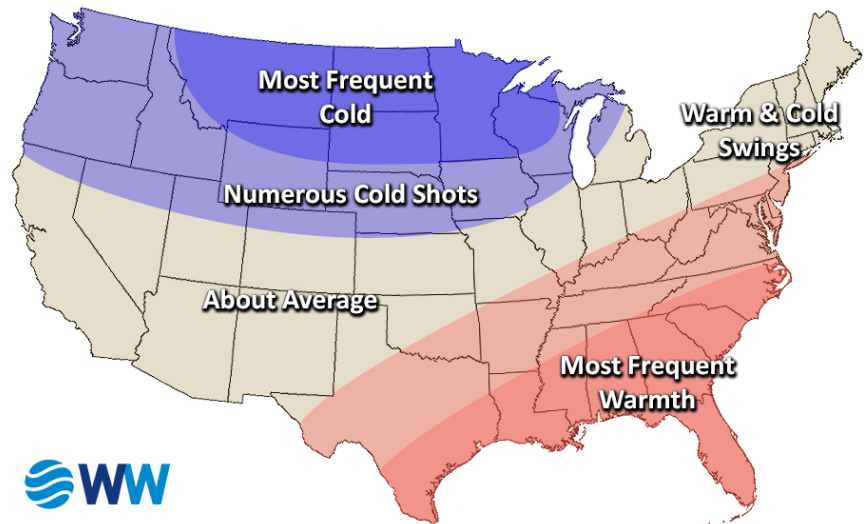
## 2022 – 2023 Winter Outlook Preview

While last winter wasn't the coldest and most active on record, it still had busy periods. This was especially true in late March and April, when snowy weather and cold spells didn't want to give up. The late season cold has been a recurring theme in recent winters and 2022-2023 has similarities to last year. While we do think the upcoming winter ends up near normal if not a bit milder, there will be opportunities for periods of cold and snow. Let's break down the potential patterns...

### Part I: Preliminary Outlook for Winter 2022 – 2023

- The most persistent cold this winter is expected to occur across the Pacific Northwest, Northern Rockies, and Upper Midwest. These areas have a higher potential for prolonged arctic blasts.

- Milder temperatures are most favored across the Southeast, as high pressure will likely be a common theme this winter. However, occasional shots of cold air can make it down to the Gulf Coast.

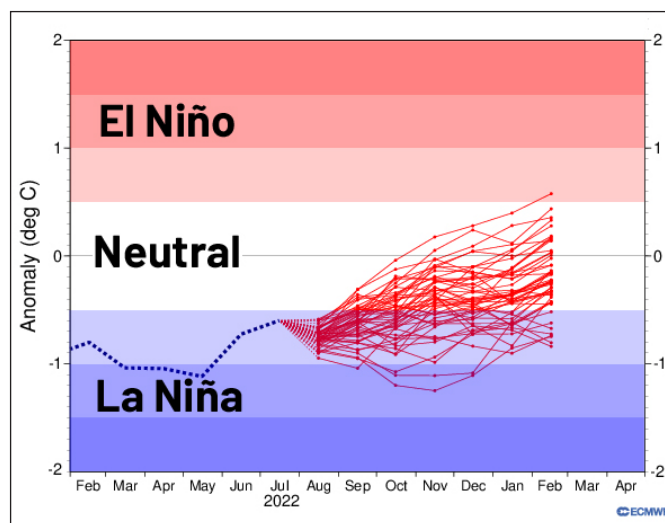


Expected temperature trends from December – February based on early season analysis.

- From the Ohio Valley into the Northeast, we are not favoring one dominant pattern (warm or cold). However, we are leaning towards a milder pattern for much of the mid-Atlantic. With that said, we believe the potential is also there for a few sustained periods of cold that last more than a week.
- Early indications point to an active winter in the Pacific Northwest and Rockies in terms of precipitation and snowfall, due to a persistent trough of low pressure that brings an increased risk of winter storms.
- Across the Southeast and parts of the mid-Atlantic, a drier than normal winter is favored at this time.
- Precipitation signals are mixed across the Ohio Valley and Northeast. However, when it does turn cold, these areas will have numerous risks for snow and ice based on the projected jet stream pattern.

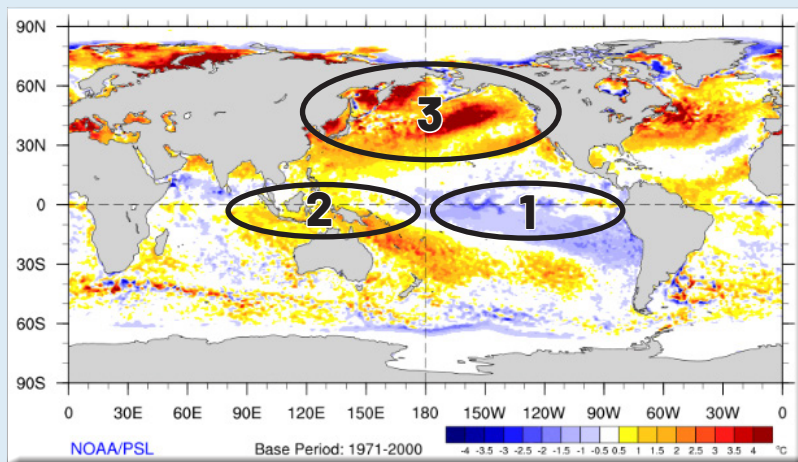
## Part II: Yet Another La Niña

- Tropical waters along the equatorial Pacific have a pivotal role in influencing global weather patterns.
- We saw two back-to-back moderate La Niña events during the 2020-21 and 2021-22 winters, and it looks likely that La Niña will continue this winter.
- Even though there has been some recent warming, the tropical Pacific remains in La Niña territory.
- This winter, the La Niña should be weak, which means it will exert a bit less of an influence on global patterns, especially in December.
- Third-year La Niña winters include 2012-13, 2000-01, and 1985-86. These seasons featured mixed results, especially north of NYC.



Projected status of El Niño and La Niña into the winter of 2022 - 2023. Courtesy ECMWF.

## Part III: Current Oceanic Conditions



**Current Oceanic Temperature Departures.**  
Blue = Colder than avg. Yellow/Red = warmer than avg.

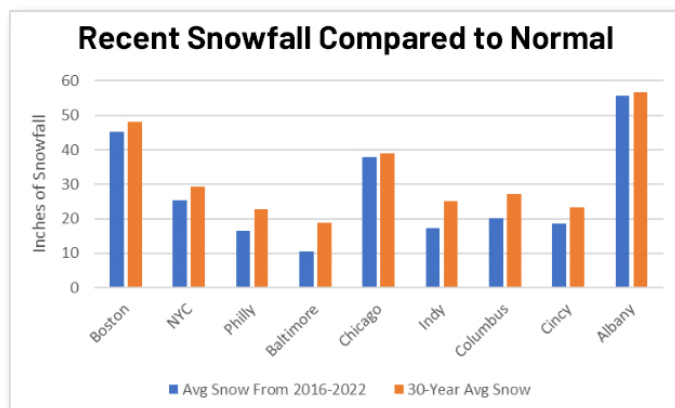
- Global sea surface temperatures (SSTs) are important in diagnosing the potential winter pattern.
- Region 1 shows the healthy La Niña taking up much of the eastern Pacific Basin.
- Region 2 outlines the persistent warmer than average waters across the Philippines into the

Indian Ocean. Early in the winter, this setup helps provide high pressure along the West Coast into the North Pacific, leading to cold shots east. However, these warm waters help promote milder weather into January and February.

- Region 3 displays the extremely warm waters throughout the North Pacific. These are a signal for Pacific ridging pushing the jet stream into Alaska, which can help dislodge cold air from the Pole towards the CONUS. The warmest anomalies are towards the Aleutian Islands, which could mean cold air floods into the Plains more often than the Midwest & Eastern US.
- These three areas were factored into our analog years (with the most weight given to regions 1 & 2). Signals are mixed between warmer and colder outcomes, and any changes or trends will be monitored as we head into autumn.

## Part IV: Recent Winter Season Analysis

Over the last several winters, we have been “stuck” in an anomalously warm pattern due to a persistent high pressure setup over the Southeast. This tends to flood the Ohio Valley and eastern US with warmer air. Nevertheless, these winters between 2016-17 and 2021-22 have still brought periods of colder and snowier weather at times, even if seasonal temperatures ended up above average. This scenario may happen once again this season, especially from the Great Lakes into the Northeast, where snowfall has been pretty close to normal.

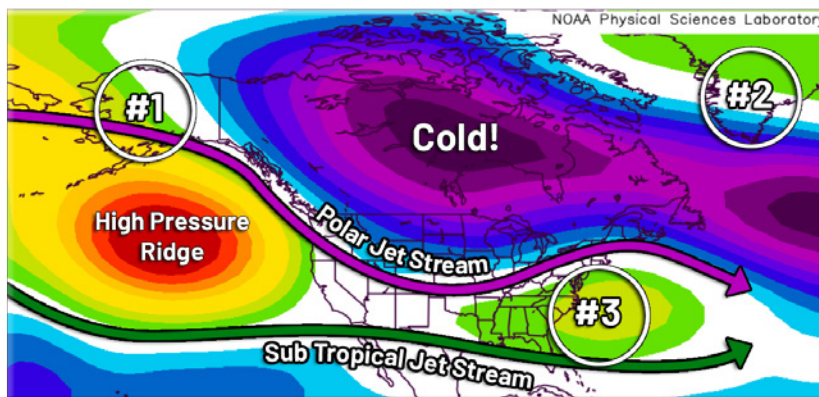


## Part V: Analogs and What We're Watching

1. How far north does Pacific ridging push the jet stream into Alaska? Stronger high pressure in the North Pacific would support a colder winter over the central and eastern United States, while a weaker state would support a milder winter. Our early analogs lean slightly weaker on the North Pacific high pressure ridge.

2. How much blocking develops near Greenland (aka a negative NAO)? A stronger negative NAO signal supports more sustained cold and increases the chances for meaningful snow along the East Coast. Our early analogs indicate that at least a few brief periods of blocking can occur through the season.

3. How strong will the warm high pressure be in the Southeast US this winter and will it be persistent? This is a fairly common feature during La Niña



Potential 2022 - 2023 pattern based on analogous years.

winters, which tends to spread mild air up the East Coast. Most of our early analogs feature some semblance of a mild Southeast ridge at various points during the winter, but this can be somewhat suppressed with stronger forcing near Alaska or Greenland.

The snow and ice industry is a rapidly expanding market and the need for weather data continues to grow. Many like to begin their snow and ice removal contracts with **Snowtistics**®, which breaks down normals and event data to prepare for winter's variability. Our meteorologists recognize the importance of this historical data and we've been diligently expanding our database to meet your needs. **Need a Snowtistics® report? Request one here: [data@weatherworksinc.com](mailto:data@weatherworksinc.com).**



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