

# **World Climate Service**

## Preliminary Winter Outlook

### Forecast Summary

September 2022



**World Climate Service**

*If you knew then what we knew then ...*



## North America

### Confidence: moderate

- Warm in the Southwest and along the Gulf Coast
- Cold from central Canada to the Great Lakes
- Wet in the Northern Rockies and in southeastern Canada; dry across the southern U.S.
- Above-normal wind from the Pacific Northwest to the Plains, calm near Newfoundland

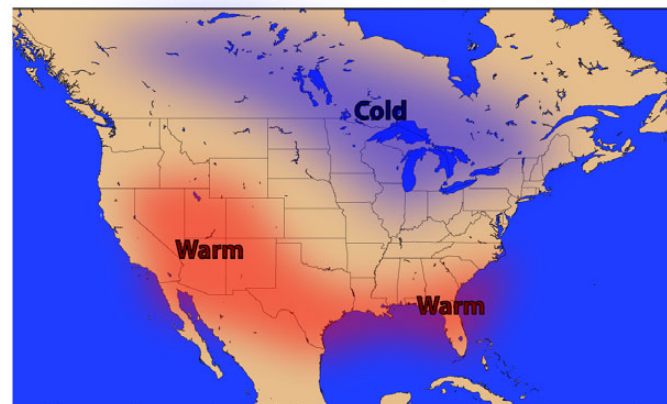
### Summary

A weakening La Niña during winter may begin to relinquish control to other climate drivers in the North Pacific and North Atlantic. Following a period of cooling during late autumn, warm SST anomalies will likely emerge again in the northeastern Pacific. This will drive enhanced ridging in the North Pacific that will lead to a downstream trough developing near Hudson's Bay. The forecast guidance is also signaling some risk of North Atlantic blocking developing this winter, which is unusual during La Niña and a significant change from last year. This would enhance the northerly flow over the eastern U.S., and consequently, there is a chance of numerous cold air intrusions into the Ohio Valley. The lingering influences from La Niña will keep much of the southern U.S. warm and dry, and a strong jet in the Pacific Northwest will bring widespread windy conditions to the Northern Rockies.

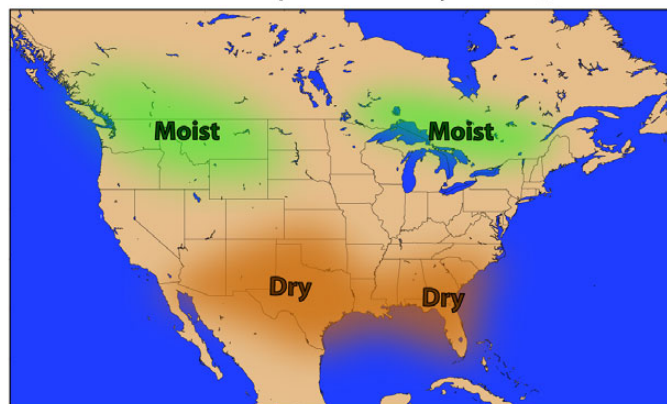
### Risk Factors

- If a prolonged episode of Greenland blocking develops, then the cold pattern could extend farther south (20% risk).
- If a strong La Niña persists, then a zonal flow pattern will favor milder conditions in the eastern U.S. (20% risk).

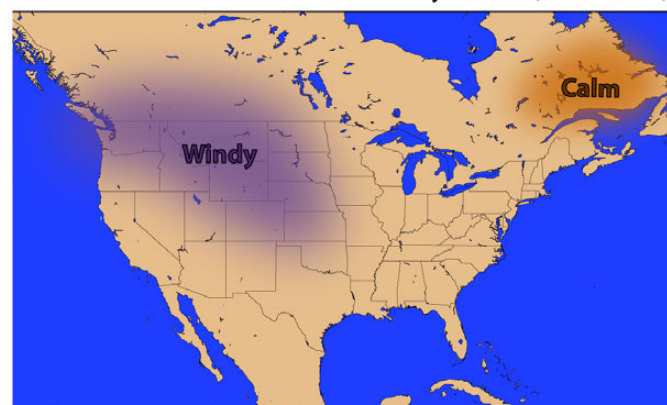
World Climate Service Temperature Anomaly Outlook (Dec-Jan-Feb)



World Climate Service Precipitation Anomaly Outlook (Dec-Jan-Feb)



World Climate Service 100m Wind Anomaly Outlook (Dec-Jan-Feb)



## Europe

### Confidence: low to moderate

- Colder than normal in Iberia and interior northeastern Europe
- Warm in far southeastern Europe
- Wet in Italy and southeastern Europe
- Low wind in western France and northern and eastern Scandinavia

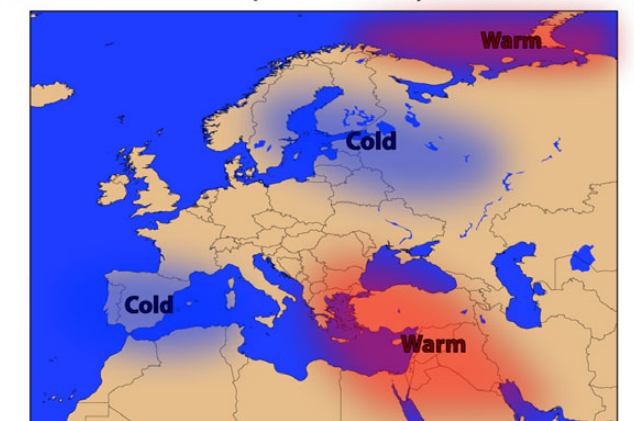
### Summary

Despite an entrenched La Niña that is expected to linger through a third consecutive winter, there is considerable evidence that high-latitude blocking may produce a less zonal regime than is typical of La Niña winters. More so than in recent years, the dynamical models hint at blocking patterns, and statistical modeling suggests Arctic ridging with cold and reduced wind over northern Europe. However, extreme warmth in the mid-latitude oceans favors stronger westerlies, and blocking may be too far east to bring widespread cold to Europe. As is typical for La Niña, the cold signals are most prominent for early-mid winter.

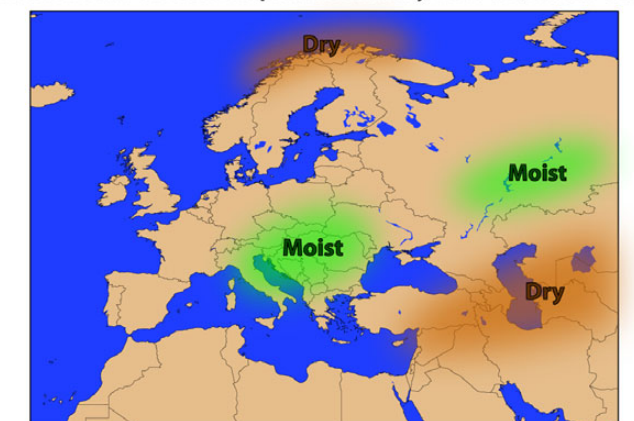
### Risk Factors

- 2013 is a very good analog, and if a similar regime develops over North America (warm North Pacific, cold Canada), then a strong North Atlantic jet stream will be favored, leading to a warm, wet, and windy winter in western and northern Europe (25% risk).
- If La Niña weakens quickly, then a weaker stratospheric polar vortex will increase the risk of sustained cold, particularly in February (20% risk).

World Climate Service Temperature Anomaly Outlook (Dec-Jan-Feb)



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## Contact Information

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### For further information contact:

Jeremy D. Ross, Ph.D.  
jeremy.ross@prescientweather.com  
814 380 9799

Richard P. James, Ph.D.  
richard.james@prescientweather.com  
706 206 7380

Paul G. Knight, M.S., CCM  
paul.knight@prescientweather.com  
814 441 5727

John A. Dutton, Ph.D.  
john.dutton@prescientweather.com