

Arctic Oscillation and Polar Vortex Analysis and Forecasts

February 5, 2024

Dr. Judah Cohen from Atmospheric and Environmental Research (AER) embarked on an experimental process of regular research, review, and analysis of the Arctic Oscillation (AO) and Polar Vortex (PV). This analysis is intended to provide researchers and practitioners real-time insights on one of North America's and Europe's leading drivers for extreme and persistent temperature patterns.

During the winter schedule the blog is updated once every week. Snow accumulation forecasts replace precipitation forecasts. Also, there is renewed emphasis on ice and snow boundary conditions and their influence on hemispheric weather. In late Spring, we transition to a spring/summer schedule, which is once every two weeks. Snow accumulation forecasts will be replaced by precipitation forecasts. Also, there will be less emphasis on ice and snow boundary conditions and their influence on hemispheric weather

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Summary

- The Arctic Oscillation (AO) is currently neutral and is predicted to remain negative this week and next week as pressure/geopotential height anomalies across the Arctic are currently mostly positive and are predicted to become increasingly positive over the next two weeks. The North Atlantic Oscillation (NAO) is currently neutral with positive but weak pressure/geopotential height anomalies across Greenland and the NAO is predicted to become increasingly negative the next two weeks as pressure/geopotential height anomalies turn more strongly positive across Greenland.
- The general pattern across Europe this week is troughing/negative geopotential height anomalies across Northern Europe with ridging/positive geopotential height anomalies across Southern Europe. The zonal pattern will support normal to above normal temperatures across much of Europe with the exception of normal to

below normal temperatures across Scandinavia, the Baltics and the United Kingdom (UK) this week. However, starting next week increasing ridging/positive geopotential height anomalies across Greenland will support troughing and colder temperatures spreading south across Europe including the UK.

- The general predicted pattern across Asia this week is an omega block pattern with ridging/positive geopotential height anomalies centered over the Barents-Kara Seas and the Urals bookended by troughing/negative geopotential height anomalies across Northwestern and Northeastern Asia. This pattern favors widespread normal to above normal temperatures across Asia with normal to below normal temperatures regionally limited in Northwestern Russia and Northeastern Asia but mostly Eastern Siberia. However, starting next week increasing ridging/positive geopotential height anomalies across Greenland will support troughing and colder temperatures spreading across much of Siberia.
- The general predicted pattern across North America this week is troughing/negative geopotential height anomalies across Western Canada and the Western United States (US) with ridging/positive geopotential height anomalies across North America east of the Rockies. Then next week the pattern transitions to one of ridging/positive geopotential height anomalies across western North America forcing troughing/negative geopotential height anomalies in the Eastern Canada and the Eastern US. This pattern favors normal to above normal temperatures across much of Alaska, Canada and United States (US) east of the Rockies this week with expanding normal to below normal temperatures starting in Canada then spreading into the US east of the Rockies next week.
- In the Impacts section I discuss a rapidly weakening polar vortex (PV) in mid-February and the impacts to Northern Hemisphere (NH) weather. Unfortunately or fortunately, I have more questions than answers.

Plain Language Summary

Now that we have made it to the first week of February the temperature pattern for winter 2023/24 is solidifying. Widespread warmth rules but also relatively cold in Alaska and adjacent Canada, Scandinavia, Northwest Russia and parts of Siberia (see **Figure**).

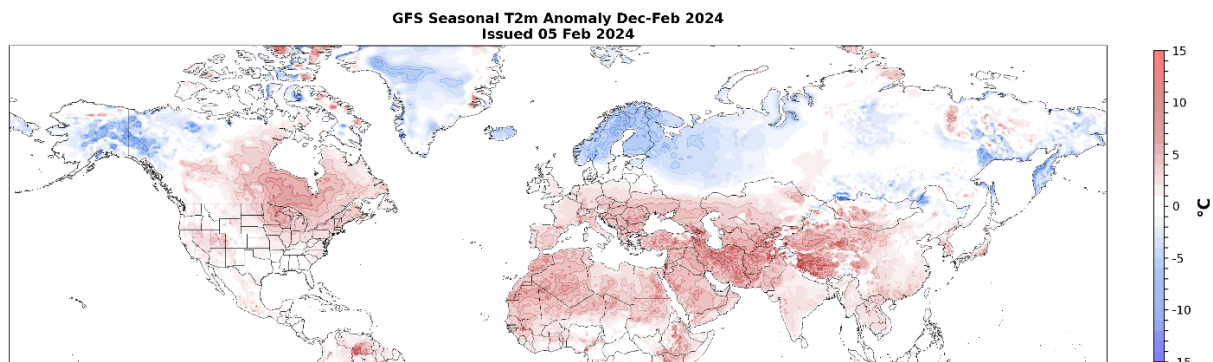


Figure. Estimate of the observed surface temperatures (°C; shading) from 1 December 2023 – 20 February 2024 based on GFS initializations and the GFS forecast from the 5 February 2024 forecast.

I am still anticipating a stretched polar vortex (PV) for mid-February. So at least in the near-term cold is likely across Alaska, the region most consistently cold so far this winter in North America. Cold is likely to return to eastern North America in mid-February, with the stretched PV. Winter continues strong in Northeast Asia and could also be reinforced with the stretched PV.

Impacts

My moving away from certainty to uncertainty about the upcoming weather pattern across the Northern Hemisphere (NH) and the impact to our sensible weather continues. The tropospheric wave pattern at least across Eurasia is supportive of exciting Wave Activity Flux (WAF) in the vertical direction with ridging predicted in the Kara Sea and getting close to the Urals with troughing downstream in the northern North Pacific and even upstream in the northern North Atlantic (e.g., see **Figures 2 and 5**). Certainly, seems sufficient for wave reflection but at least initially the wave pattern across North America is not consistent with wave reflection with troughing in western North America and strong ridging in Eastern Canada (see **Figure 2**). However, the forecasts are for Alaskan ridging to quickly develop, in response to and consistent with wave reflection and polar vortex (PV) stretching (see **Figure 5**). And looking at the WAF in the zonal and vertical directions we can see the iconic signature wave reflection predicted for next week with upward and eastward WAF vectors over Asia, that then bounces or boomerangs off the PV and then is downward and eastward over North America (see **Figure i**).

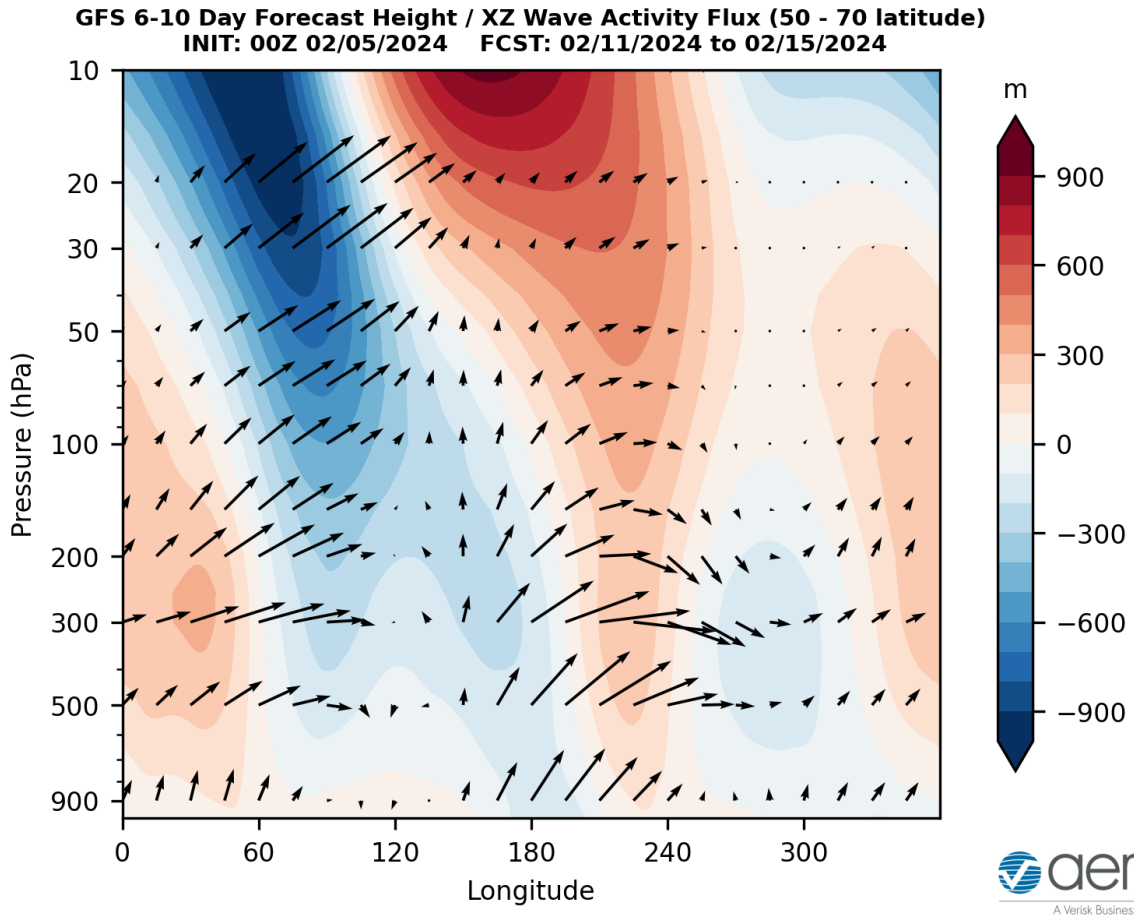


Figure i. Longitude-height cross section of geopotential eddy height anomalies (shading) and wave activity flux (vectors) averaged from 11 – 15 February 2024. The forecasts are from the 00z 5 February 2024 GFS ensemble.

The WAF reflection not only starts to elongate the PV (see **Figure ii** and compare with **Figure 13a**) but also strengthens the Alaskan ridging coupled with troughing in Eastern Canada (see **Figure 8**). Resulting in a colder pattern across eastern North America (see **Figure 9**). This is where I was last Monday and that part at least continues into this week.

GEFS 6-10 Day Forecast 10 mb GPH & T Anomaly
INIT: 00Z 02/05/2024 FCST: 02/11/2024 to 02/15/2024

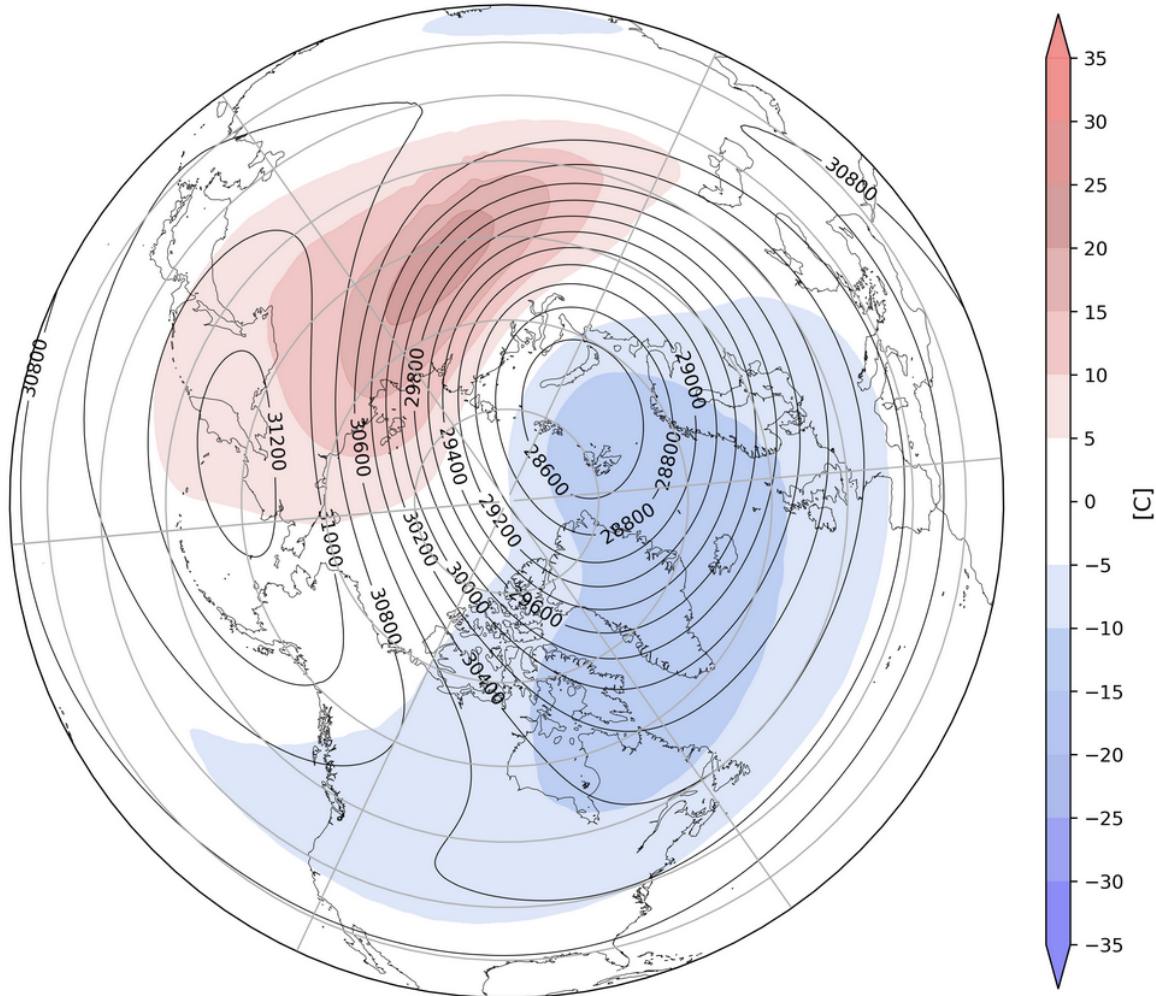


Figure ii. Predicted 10 mb geopotential heights (dam; contours) and temperature anomalies ($^{\circ}\text{C}$; shading) across the Northern Hemisphere averaged from 11 – 15 February 2024. The forecasts are from the 00Z 5 February 2024 GFS model ensemble.

What has complicated what might happen next is more robust ridging near the Urals than predicted earlier next week, raising the magnitude of the possible PV disruption from minor to major. So now the models have been suggesting that a major sudden stratospheric warming (SSW; a reversal in the zonal mean zonal wind at 60°N and 10hpa from westerly to easterly/from positive to negative). But it is certainly far from a given, especially because most of the most recent weather model forecast have been backing off the Ural ridging (see **Figure 8**). So, what will be the ultimate PV disruption and its influence on the tropospheric circulation is a wide-open question.

I do want to take a moment to appreciate if we do get another major warming back-to-back in January and February this would be an incredible feat for the atmosphere. (Alas though, as I have said before impressive atmospheric dynamics especially in the stratosphere doesn't necessarily translate to equally remarkable weather.) Others have said it happened in February and March 2010. I really don't think that there is any comparison. I don't want to spend my time here arguing my reasoning but just compare the March disruption in early March 2016 with the disruption of 24 March 2010. March 2016 is not an SSW but March 2010 is an SSW. This might be technically correct but physically in my opinion makes absolutely no sense to me. But maybe I am putting the cart before the horse.

And talking about putting the cart before the horse once again we are witnessing the theorized impact of a possible SSW occurring before the SSW itself even occurs! My explanation for this is that the Greenland blocking is a result of the major warming back in mid-January and/or the Canadian warming in late January as happened in early January. So even though wave reflection forces a cold pattern in eastern North America, simultaneously the pattern will turn colder also across Northern Europe in response to Greenland blocking.

The impacts from wave reflection only lasts on the order of days to a week up to two weeks in the most extreme cases and that is it. If we get an SSW the impacts can take longer to reach the surface or sensible weather, but the duration of the impacts can be multiple weeks and even months. And if we look at the WAF in the meridional and vertical directions for next week, we observe strong upward WAF and little in terms of reflection or mostly absorbing (see **Figure iii**). This can force a warmer pattern in the Eastern US until the impacts from the SSW descend to the surface about two weeks later. Another region that I am watching intently is Siberia. Some model forecasts are predicting Siberia will see the most robust cooling at the possible time of the SSW. This suggests a more classical SSW rather than wave reflection PV disruption and may favor longer lasting cold in Northern Europe compared to the Eastern US but for now this is mostly speculation.

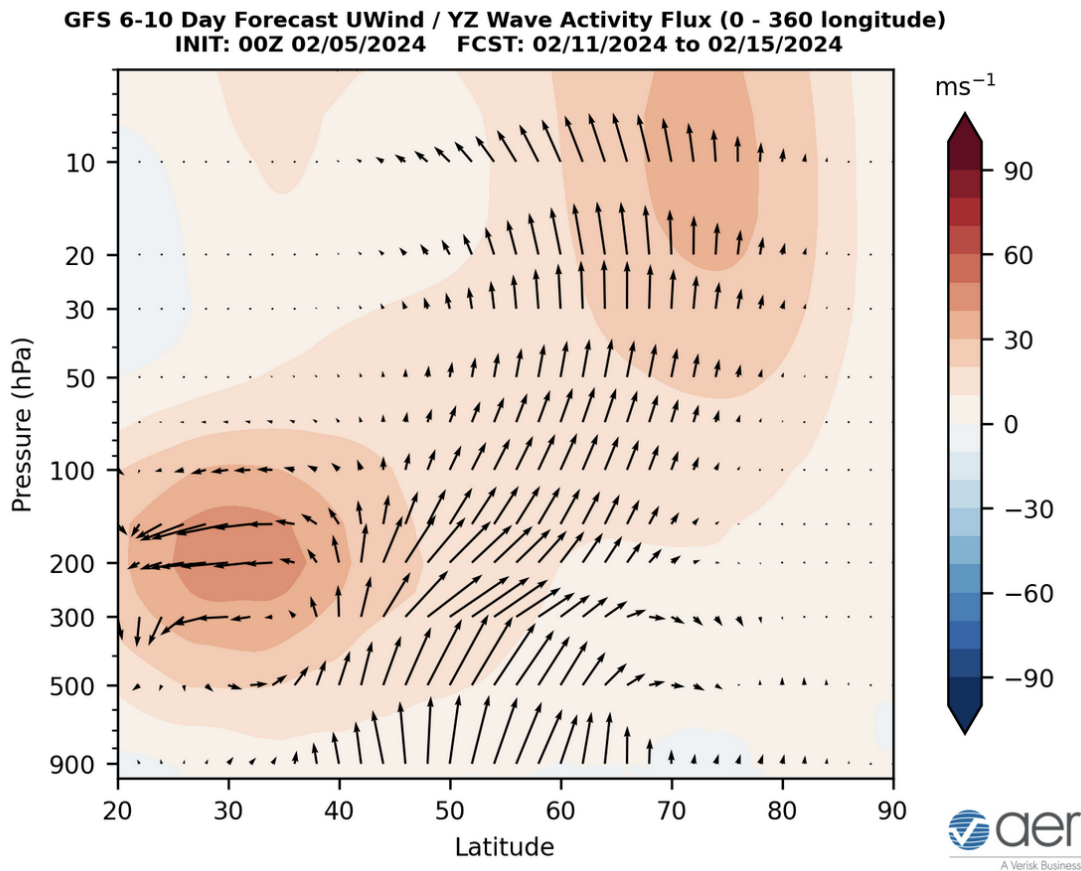


Figure iii. Latitude-height cross section of zonal mean zonal wind (shading) and wave activity flux (vectors) forecasted for 11 – 15 February 2024. The forecasts are from the 00Z 5 February 2024 GFS model ensemble.

Consistent with this we are seeing the model forecasts shift the PV center move ever so slowly closer to Scandinavia and the northerly flow into eastern North America abate. To me this shifts the likelihood of cold from eastern North America to Europe, at least in the short term.

I think the forecast is highly uncertain and the weather model forecasts could be volatile. Besides trying to figure out the exact nature of the PV disruption the models and us have to figure out the interplay between all the players in the troposphere and all the different high latitude blocking. Looking like a hybrid PV disruption as in January. In January, I think that it was more a wave reflection/stretched PV than an absorbing/SSW event. But could the upcoming PV disruption be more of an absorbing/SSW than a wave reflection/stretched PV event? If we do get an SSW, is it a displacement or a split?

A major warming occurred just last February but without much notable impact on our weather (at least I can't think of any) though to be fair New England skiing was excellent in March 2023 and the best in a while. This is in contrast to February 2018 when an SSW occurred and arguably

it was the most impactful SSW across the NH certainly of the past decade. For the Central US you could make the argument that 2019 and 2021 were more impactful just not in the Eastern US.

I don't want to get out over my skis or put the cart before the horse so I will limit any concrete predictions for now other than to say the range of possibilities span February-March 2018 and February-March 2023, which is admittedly a chasm. I will update my thoughts when I feel that it is prudent to narrow the range of possibilities. We have the convergence of two exceedingly rare possibilities high latitude blocking (nearly) simultaneously in Alaska, Greenland and the Barents-Kara Seas/Urals and back-to-back large PV disruptions in January and February. Much of my forecast skill comes from pattern recognition. I can always guess but I can't pretend that this is a pattern that I recognize. One lesson that I have learned is to be very wary of highly unusual situations, first be skeptical that they will occur at all and second correctly predicting the impacts. I trust very little of what I see in the weather model forecasts beyond a week.

Near-Term

This week

The AO is predicted to be negative this week (**Figure 1**) with mostly positive geopotential height anomalies across the Arctic and with mixed geopotential height anomalies across the mid-latitudes of the NH (**Figure 2**). With predicted weak but positive geopotential height anomalies across Greenland (**Figure 2**), the NAO is predicted to be neutral to negative this week.

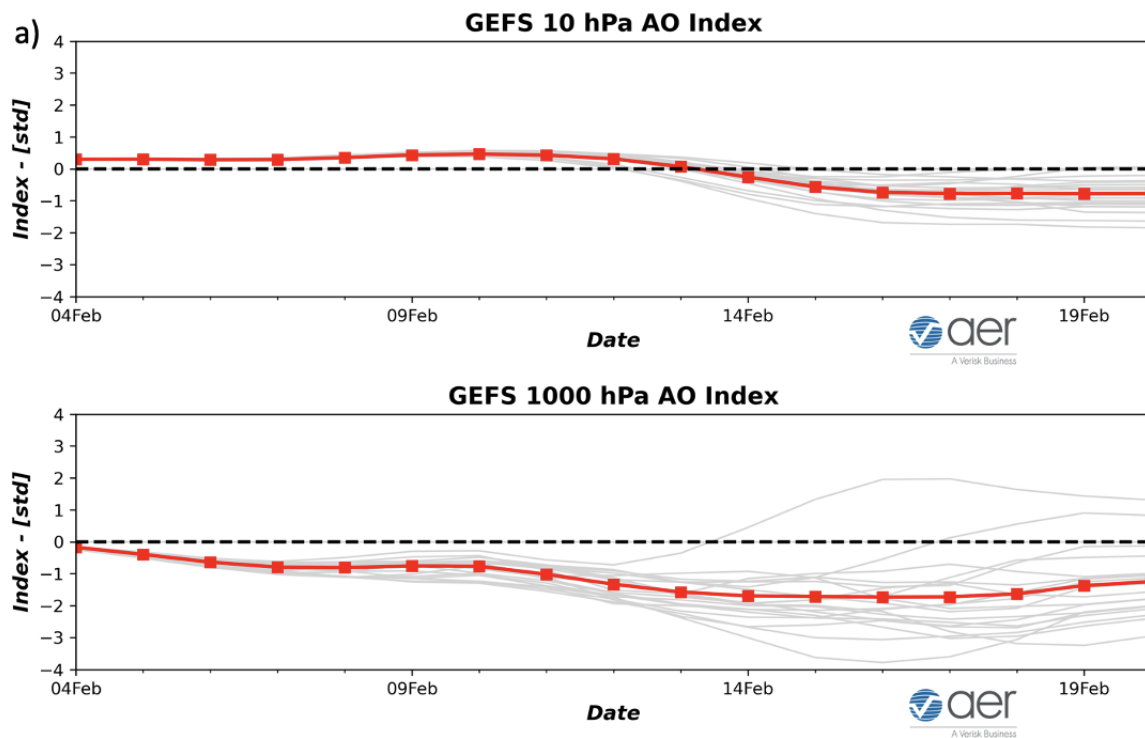


Figure 1. (a) The predicted daily-mean AO at 1000 hPa from the 00Z 5 February 2024 GFS ensemble. (b) The predicted daily-mean near-surface AO from the 00Z 5 February 2024 GFS ensemble. Gray lines indicate the AO index from each individual ensemble member, with the ensemble-mean AO index given by the red line with squares.

This week, the predicted pattern across Europe is troughing/negative geopotential height anomalies centered over Northern Europe with ridging/positive geopotential height anomalies across Southern Europe this week (**Figures 2**). This zonal pattern favors widespread normal to above normal temperatures across Europe with normal to below normal temperatures limited to Scandinavia, the Baltics and the UK (**Figure 3**). Predicted ridging/positive geopotential height anomalies centered in the Barents-Kara Seas and Urals/Western Siberia will be sandwiched by troughing/negative geopotential height anomalies across Northwestern and Northeastern Asia this period (**Figure 2**). This pattern favors widespread normal to above normal temperatures across much of Asia with normal to below normal temperatures across parts of Northwestern Russia and Northeastern Asia including parts of Eastern China (**Figure 3**).

GEFS 1-5 Day Forecast 500 hPa Anomaly
INIT: 00Z 02/05/2024 FCST: 02/06/2024 to 02/10/2024

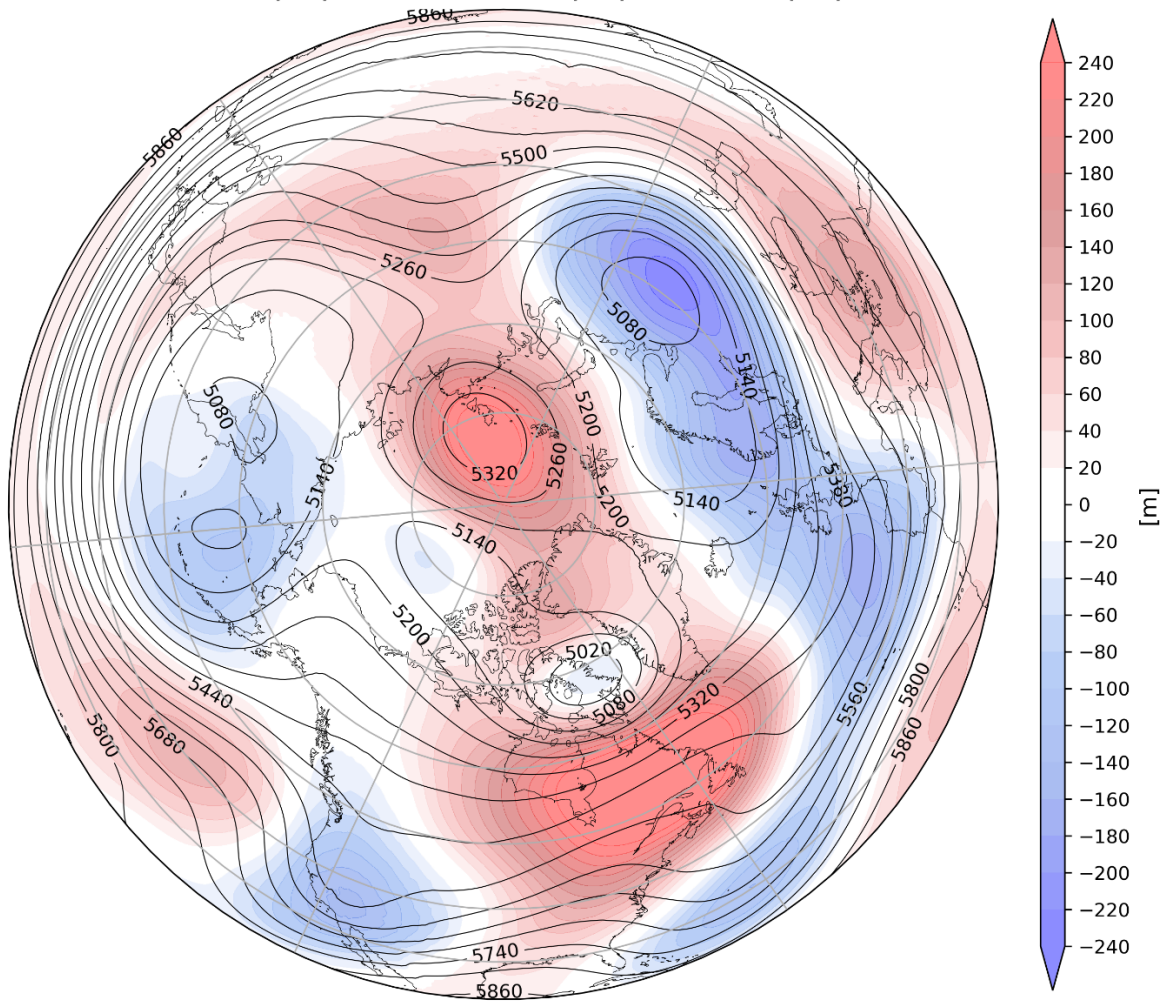


Figure 2. Forecasted average 500 mb geopotential heights (dam; contours) and geopotential height anomalies (m; shading) across the Northern Hemisphere from 6 – 10 February 2024. The forecasts are from the 00z 5 February 2024 GFS ensemble.

The pattern this week across North America is troughing/negative geopotential height anomalies across the west coasts of Canada and the US forcing ridging/positive geopotential height anomalies across Canada and the US east of the Rockies (**Figure 2**). This pattern will favor normal to below normal temperatures across Western Canada and the Western US with normal to above normal temperatures across Alaska and widespread across Canada and much of the US east of the Rockies (**Figure 3**).

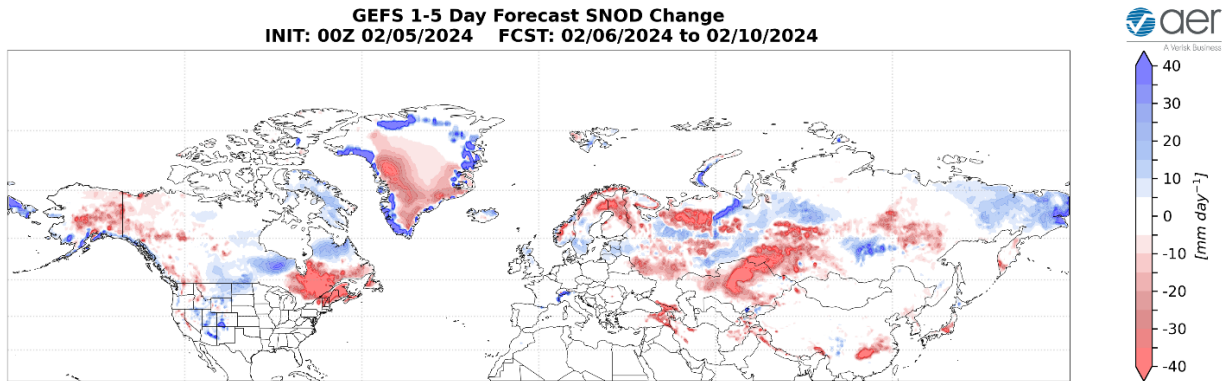


Figure 3. Forecasted surface temperature anomalies ($^{\circ}\text{C}$; shading) from 6 – 10 February 2024. The forecast is from the 00Z 5 February 2024 GFS ensemble.

Trouging and/or cold temperatures will support new snowfall across the Baltics, the Alps and Siberia while mild temperatures will support snowmelt across parts of Norway, Sweden, Finland, Eastern Europe, Western Russia and Southern Siberia this week (**Figure 4**). Trouging and/or cold temperatures will support new snowfall across Southeastern Alaska, Southern and Eastern Canada, the Rockies while mild temperatures will support snowmelt across Alaska, Western and Southeastern Canada and the Northeastern US this week (**Figure 4**).

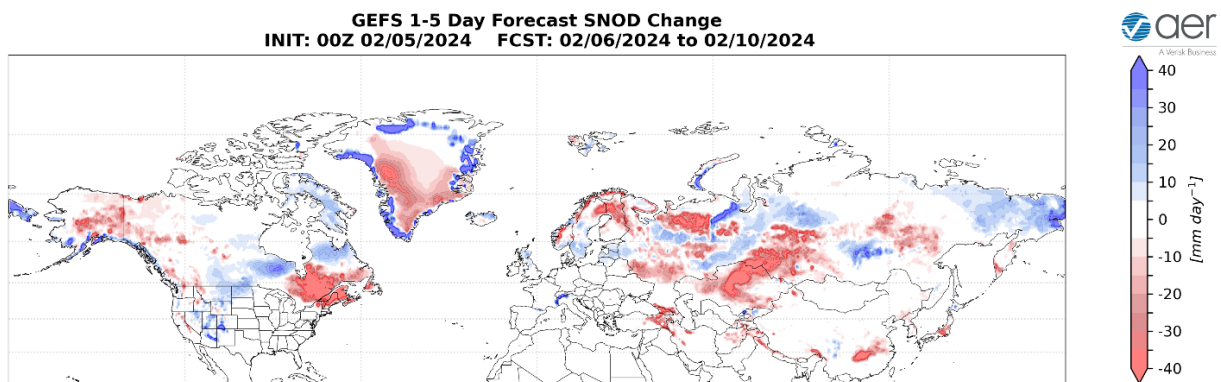


Figure 4. Forecasted snow depth changes (mm/day; shading) from 30 January – 3 February 2024. The forecast is from the 00Z 5 February 2024 GFS ensemble.

Near-Mid Term

Next week

With geopotential height anomalies becoming more positive across the Arctic and with mixed geopotential height anomalies across the mid-latitudes this period (**Figure 5**), the AO will become more negative this period (**Figure 1**). With pressure/geopotential height

anomalies across Greenland also turning more positive (**Figure 5**), the NAO will be negative as well this period.

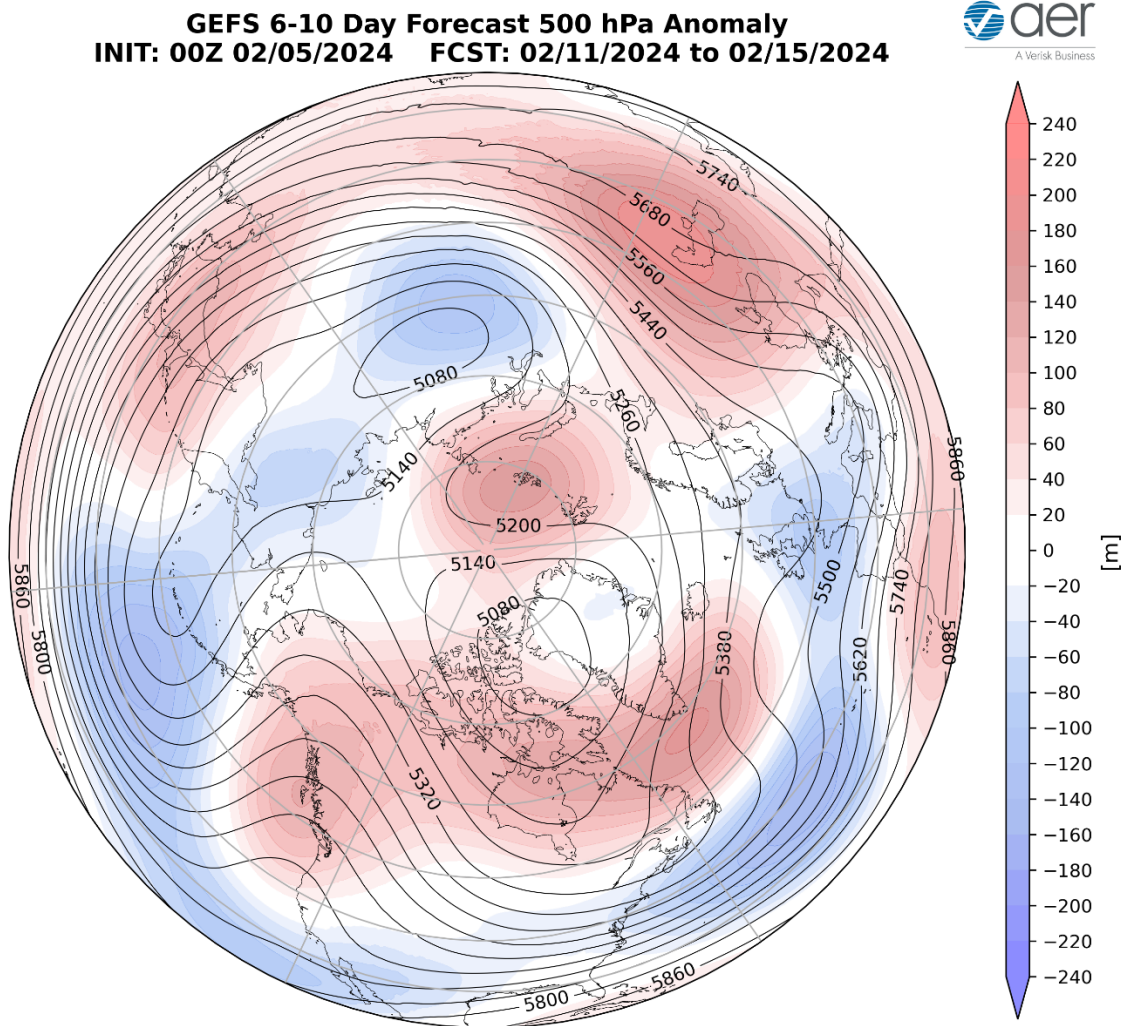


Figure 5. Forecasted average 500 mb geopotential heights (dam; contours) and geopotential height anomalies (m; shading) across the Northern Hemisphere from 11 – 15 February 2024. The forecasts are from the 00z 5 February 2024 GFS ensemble.

Increasing ridging/positive geopotential height anomalies across Greenland will support deepening troughing/negative geopotential height anomalies across Europe with ridging/positive geopotential height anomalies retreating into Southeastern Europe this period (**Figure 5**). This pattern will favor widespread normal to above normal temperatures across Southern and Eastern Europe with normal to below normal temperatures across Western and Northern Europe including the UK (**Figures 6**). Predicted persistent ridging/positive geopotential height anomalies in the Barents-Kara Seas and now sliding west over the Urals will support deepening troughing/negative geopotential height anomalies across Siberia with more ridging/positive geopotential height anomalies across Southern Asia this

period (**Figure 5**). This pattern favors widespread normal to above normal temperatures across Southern and Central Asia with normal to below normal temperatures spreading out across Siberia this period (**Figure 6**).

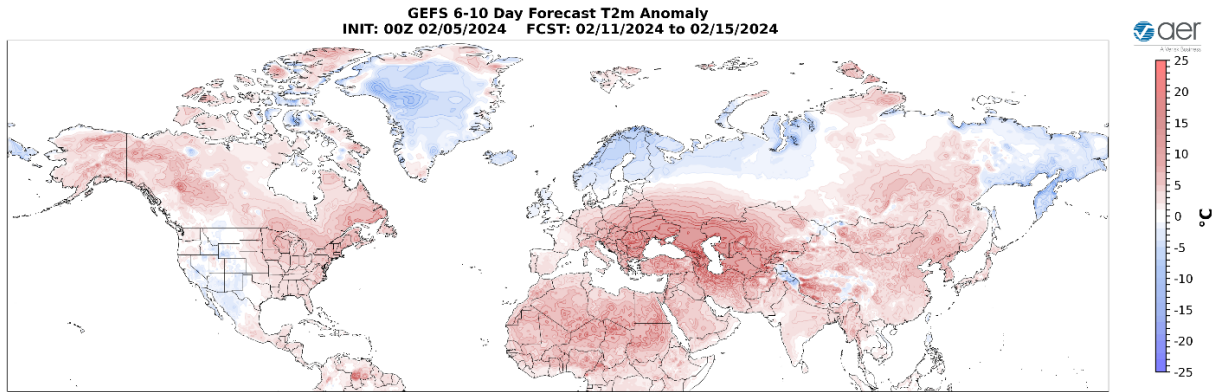


Figure 6. Forecasted surface temperature anomalies ($^{\circ}\text{C}$; shading) from 11 – 15 February 2024. The forecasts are from the 00z 5 February 2024 GFS ensemble.

Predicted strengthening ridging/positive geopotential height anomalies across Western Canada and Greenland will support deepening troughing/negative geopotential height anomalies across Canada and the US east of the Rockies this period (**Figure 5**). This is a transition period across North America with widespread normal to above normal temperatures across Alaska much of Canada, and the US east of the Rockies with normal to below normal temperatures limited to the Western US (**Figure 6**).

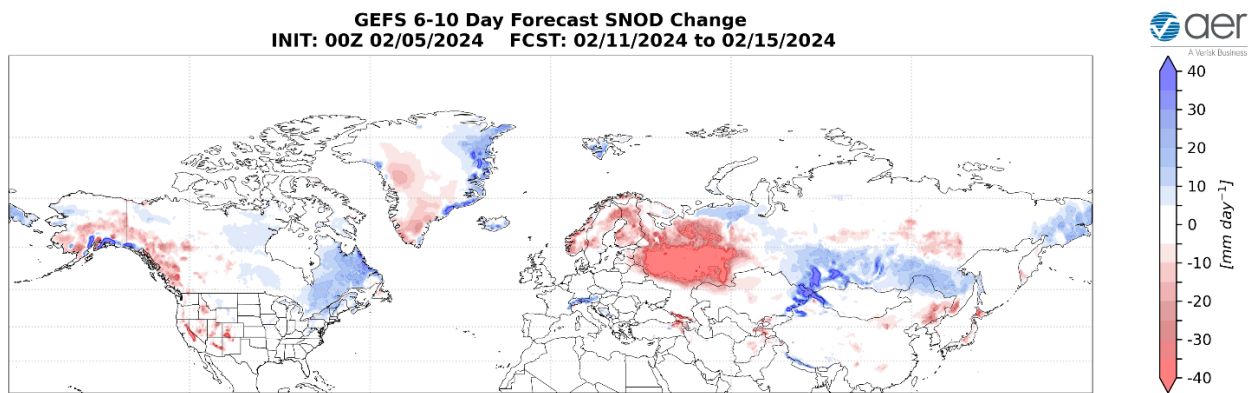


Figure 7. Forecasted snow depth changes (mm/day; shading) from 11 – 15 February 2024. The forecast is from the 00Z 5 February 2024 GFS ensemble.

Troughing and/or cold temperatures will support new snowfall across the Alps, Southern Siberia and Central Asia while mild temperatures will support snowmelt in Scandinavia, Western Russia, Central Asia and parts of Siberia and Northeast Asia this period (**Figure 7**). Troughing and/or cold temperatures will support new snowfall across southeastern Alaska, Eastern Canada and the

Northeastern US while mild temperatures will support snowmelt in Southern Alaska, Western Canada and the Western US this period (Figure 7).

Mid Term

Week Two

With positive geopotential height anomalies across the Arctic and mixed geopotential height anomalies across the mid-latitudes this period (Figure 8), the AO will likely remain negative this period (Figure 1). With strengthening positive pressure/geopotential height anomalies across Greenland (Figure 8), the NAO should be negative as well this period.

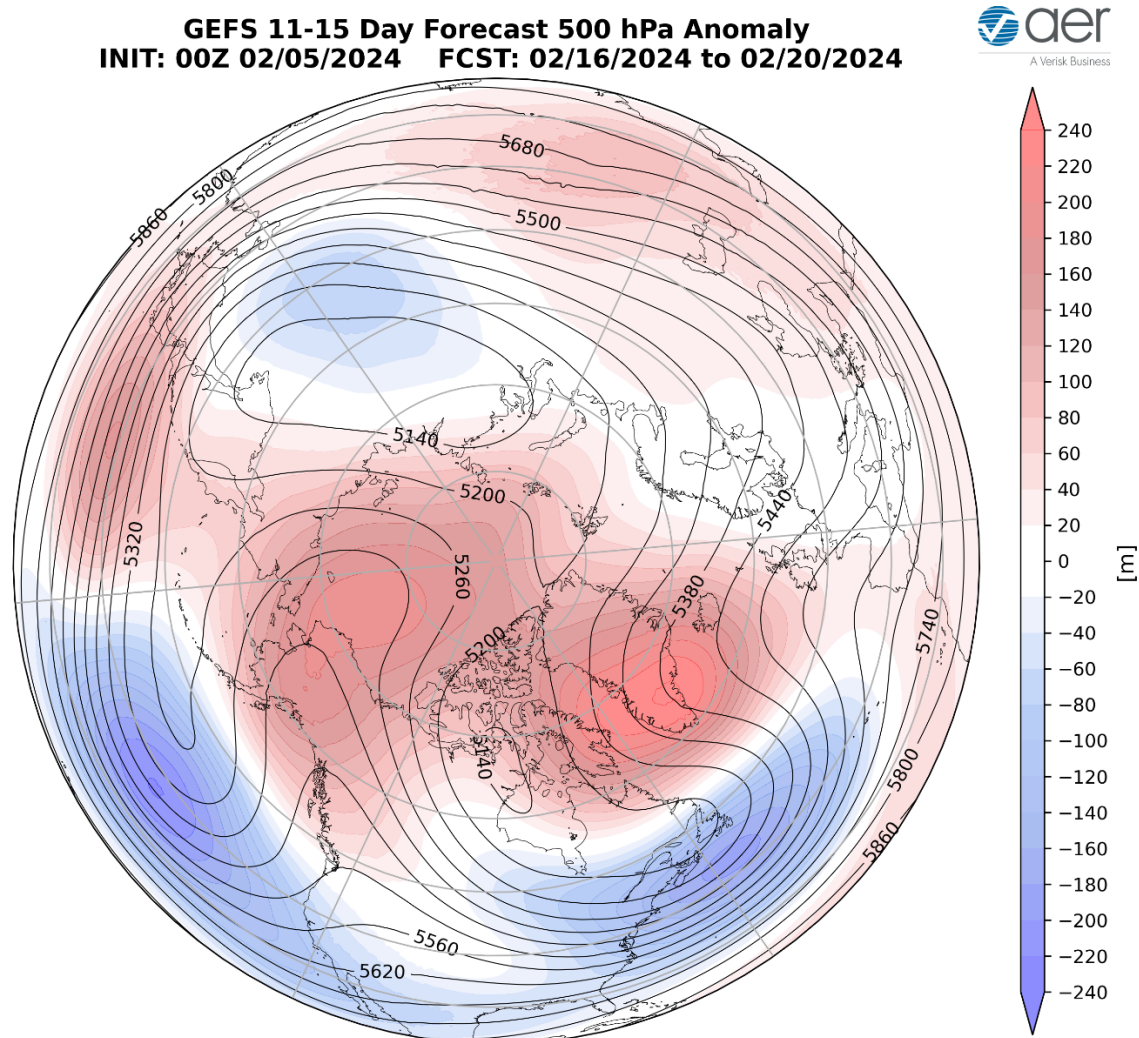


Figure 8. Forecasted average 500 mb geopotential heights (dam; contours) and geopotential height anomalies (m; shading) across the Northern Hemisphere from 16 – 20 February 2024. The forecasts are from the 00z 5 February 2024 GFS ensemble.

Strengthening ridging/positive geopotential height anomalies across Greenland will continue to support deepening troughing/negative geopotential height anomalies across Europe with ridging/positive geopotential height anomalies mostly limited to across Southwestern and Southeastern Europe this period (**Figure 8**). This pattern should favor normal to below normal temperatures to spread across Northern and Central Europe including the UK with normal to above normal temperatures across Southern Europe this period (**Figures 9**). Strengthening ridging/positive geopotential height anomalies across Greenland will support deepening troughing/negative geopotential height anomalies across Siberia with more ridging/positive geopotential height anomalies across Southern Asia this period (**Figure 8**). The predicted pattern favors widespread normal to above normal temperatures across Southern and Central Asia with normal to below normal spreading across Northern Asia this period (**Figure 9**).

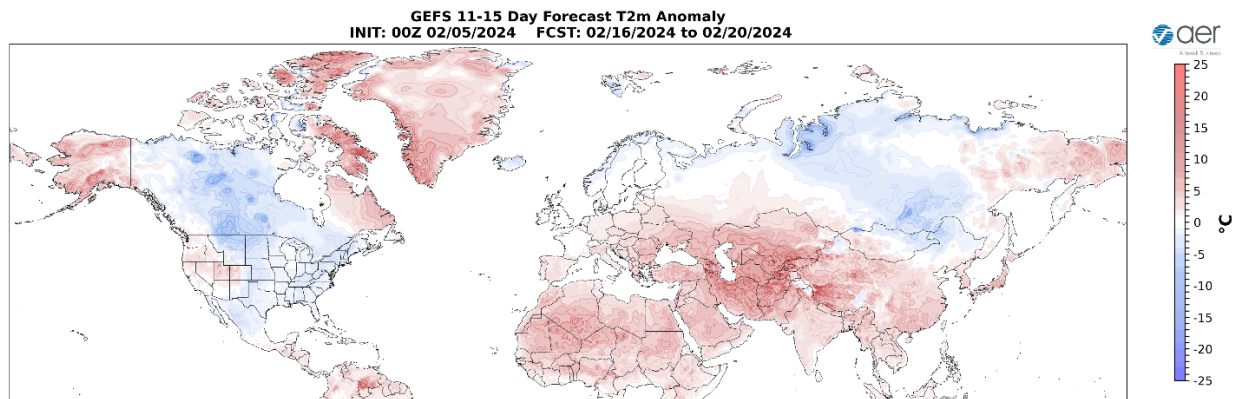


Figure 9. Forecasted surface temperature anomalies ($^{\circ}\text{C}$; shading) from 16 – 20 February 2024. The forecasts are from the 00z 5 February 2024 GFS ensemble.

Strengthening ridging/positive geopotential height anomalies across Alaska, Western Canada and Greenland are predicted to support deepening troughing/negative geopotential height anomalies across eastern North America this period (**Figure 8**). This pattern favors normal to above normal temperatures across Alaska and the west coasts of Canada and the US with normal to below normal temperatures across Canada and the US east of the Rockies this period (**Figure 9**).

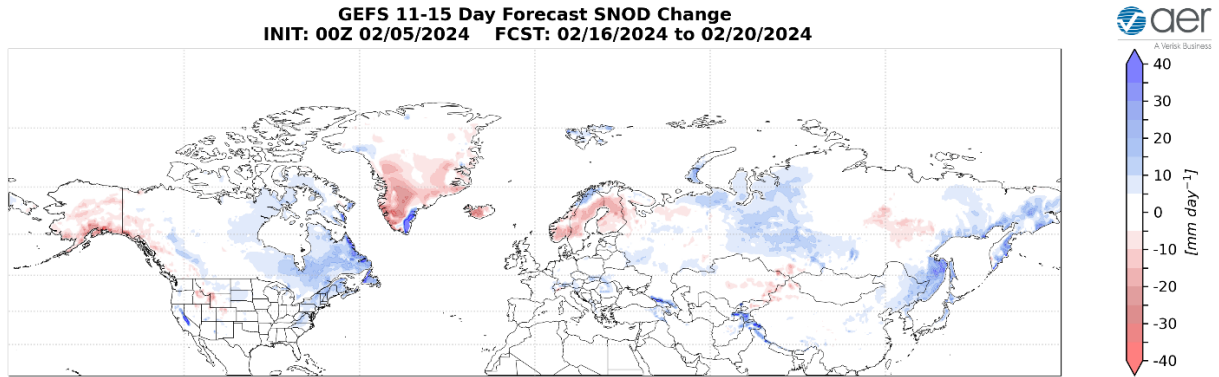


Figure 10. Forecasted snow depth changes (mm/day; shading) from 16 – 20 February 2024. The forecast is from the 00Z 5 February 2024 GFS ensemble.

Trouging and/or cold temperatures will support new snowfall across the Tibetan Plateau, Siberia and Northeast Asia while mild temperatures will support snowmelt in Scandinavia this period (**Figure 10**). Trouging and/or cold temperatures will support new snowfall across California, Eastern Canada and the Northeastern US. Mild temperatures will support snowmelt in Southern Alaska, the West Coast of Canada and the US Rockies this period (**Figure 10**).

Longer Term

30-day

The latest plot of the polar cap geopotential height anomalies (PCHs) currently shows warm/positive PCHs in the troposphere and lower stratosphere with cold/negative PCHs in the mid- to upper-stratosphere (**Figure 11**). Warm/positive PCHs in the lower stratosphere are predicted to descend throughout the troposphere this week while the cold/negative PCHs in the mid-stratosphere are predicted to briefly descend into the troposphere at the end of the week (**Figure 11**). However next week PCHs will turn warm/positive throughout the troposphere and stratosphere (**Figure 11**) as the PV becomes increasingly disrupted and high latitude blocking increases in the troposphere.

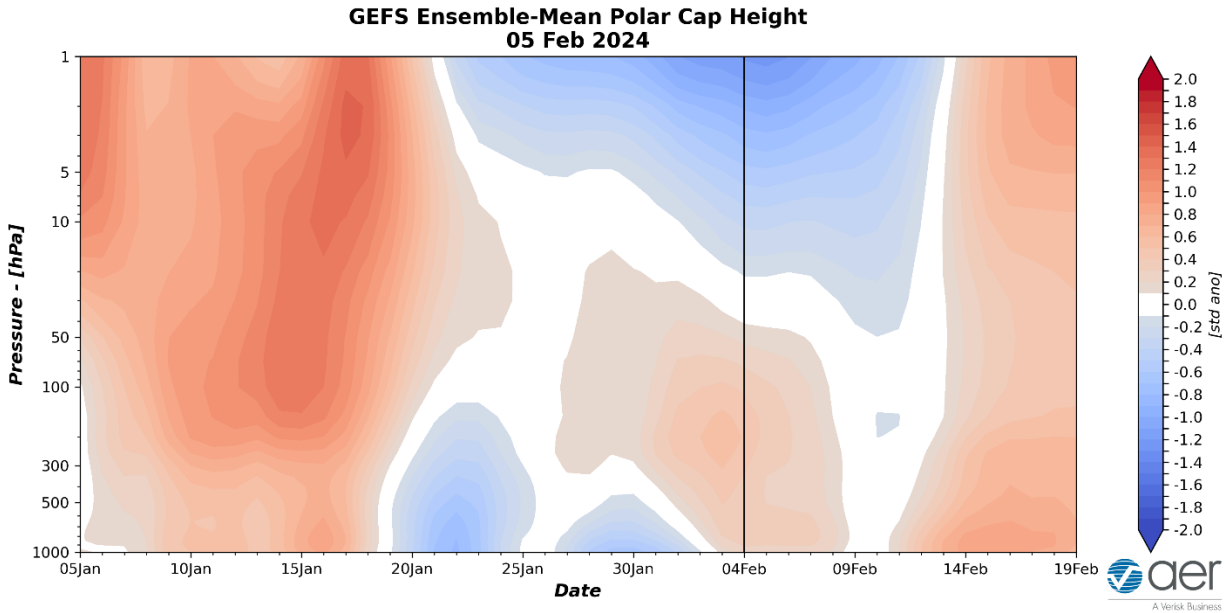


Figure 11. Observed and predicted daily polar cap height (i.e., area-averaged geopotential heights poleward of 60°N) standardized anomalies. The forecast is from the 00Z 5 February 2024 GFS ensemble.

The predicted warm/positive PCHs in the lower troposphere this week (**Figure 11**) are consistent with the predicted negative surface AO this week (**Figure 1**). Then next week the predicted return of warm/positive PCHs in the lower troposphere (**Figure 11**) are consistent with the predicted surface AO remaining negative.

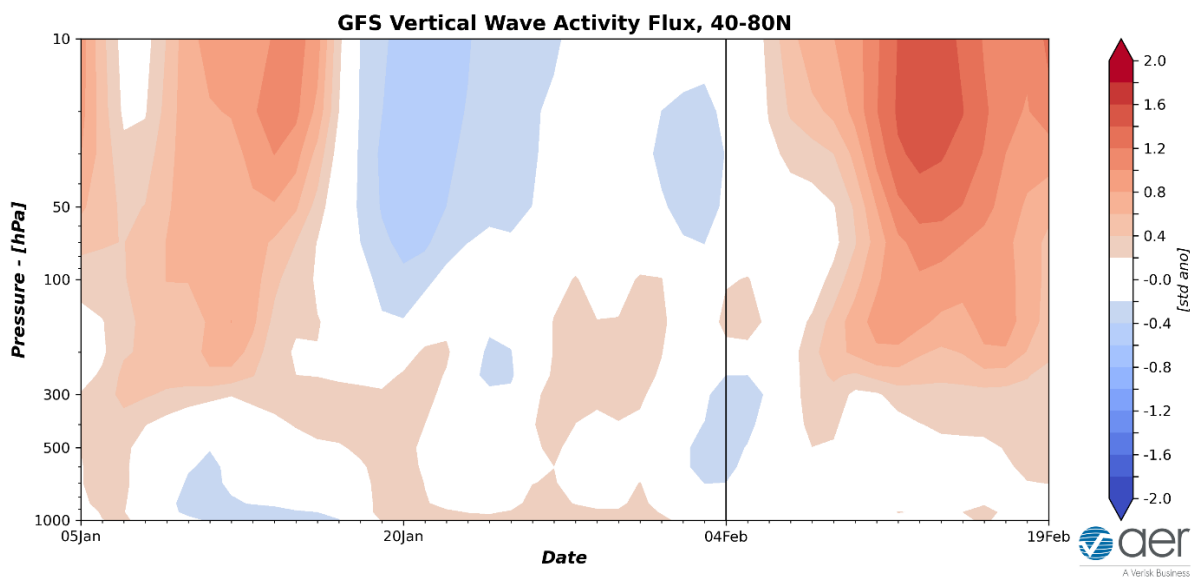


Figure 12. Observed and predicted daily vertical component of the wave activity flux (WAFz) standardized anomalies, averaged poleward of 40-80°N. The forecast is from the 00Z 5 February 2024 GFS ensemble.

Also shown in **Figure 1** is the stratospheric AO. The stratospheric AO is currently slightly positive but is predicted to trend towards neutral and then negative for mid-February. This is consistent with increasingly warm/positive stratospheric PCHs in the mid-stratosphere. The forecast of warming PCHs in the stratosphere signals a weakening PV.

Vertical Wave Activity Flux (WAFz) from the troposphere to the stratosphere or poleward heat transport in the stratosphere has been relatively quiet since mid-January and is predicted to last for a few more days (**Figure 12**). The quieter WAFz should end this week and become much more active (**Figure 12**). This should result in a weakening PV. A very strong pulse of WAFz predicted in mid-February could potentially result in a major SSW.

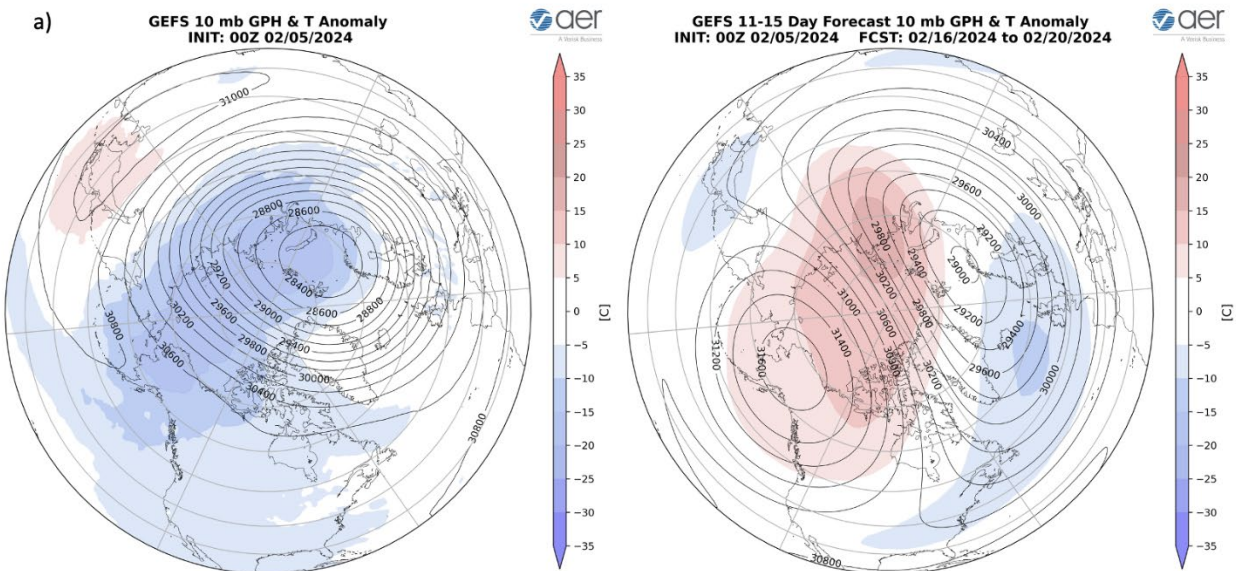


Figure 13. (a) Initialized 10 mb geopotential heights (dam; contours) and temperature anomalies (°C; shading) across the Northern Hemisphere for 5 February 2024 . (b) Same as (a) except forecasted averaged from 16 – 20 February 2024. The forecasts are from the 00Z 5 February 2024 GFS model ensemble.

This week the polar vortex (PV) is relatively circular in shape with the PV center shifted south of the North Pole centered over the Barents-Kara Seas with weak ridging and relative warm temperatures centered over the Sea of Japan in the polar stratosphere (**Figure 13a**). This PV configuration is consistent with a strong PV that favors overall milder temperatures across the continents of the NH. However, the more active WAFz is predicted to significantly weaken the PV. The center of the PV is predicted to edge ever so slowly closer to Scandinavia (**Figure 13b**). The configuration is predicted to become more elongated from Western Siberia to Eastern

Canada, reminiscent of a stretched PV. The ridging and warming in the polar stratosphere are predicted to become much more pronounced centered over Alaska with warming over the entire Western Arctic. This is also consistent with a stretched PV event but could also be the beginning of a larger disruption more consistent with an SSW.

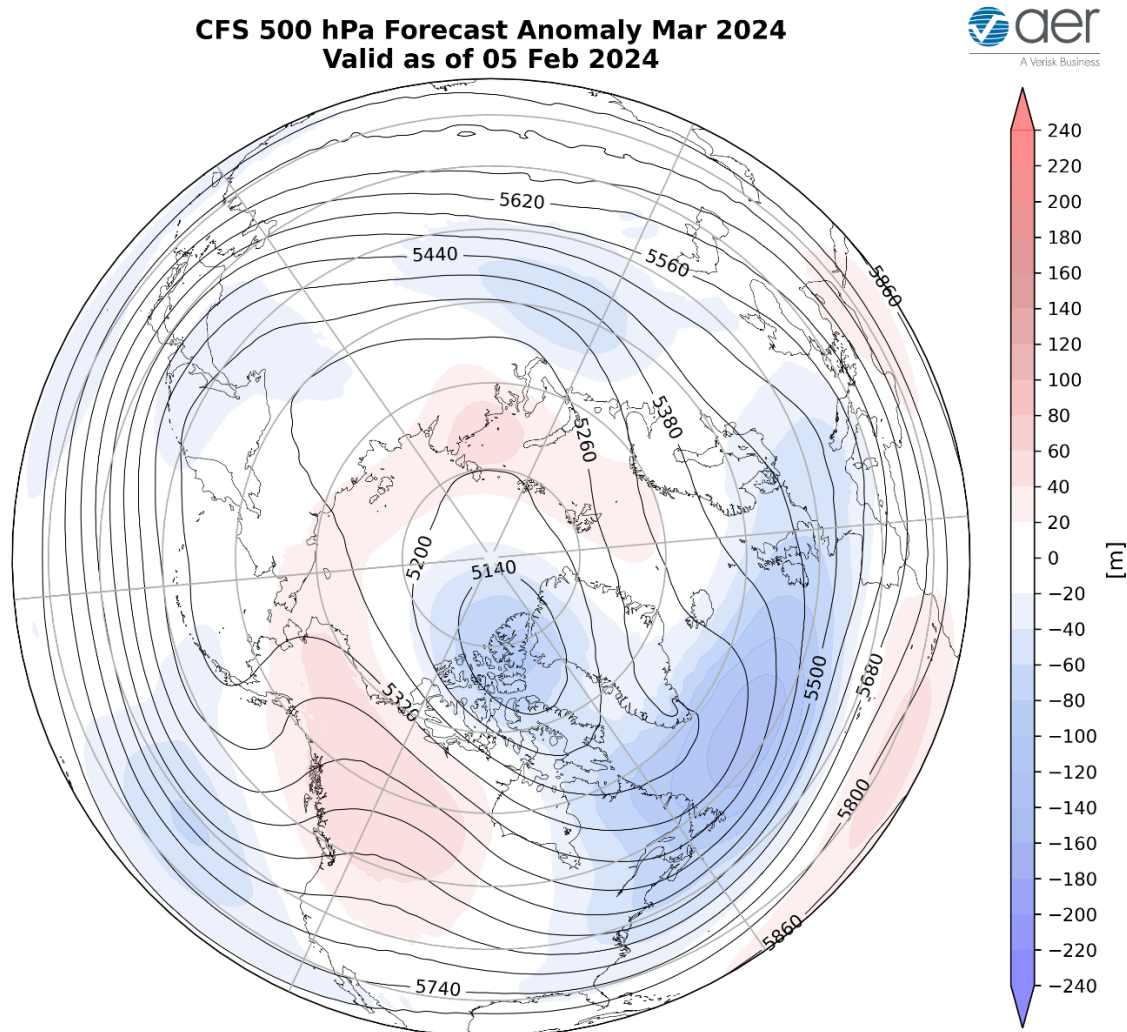


Figure 14. Forecasted average 500 mb geopotential heights (dam; contours) and geopotential height anomalies (m; shading) across the Northern Hemisphere for March 2024. The forecasts are from the 00Z 5 February 2024 CFS.

I include in this week's blog the monthly 500 hPa geopotential heights (**Figure 14**) and surface temperatures for March (**Figure 15**) from the Climate Forecast System (CFS; the plots represent yesterday's four ensemble members). The forecast for the troposphere is ridging centered in the Barents-Kara Seas, Alaska and Western Canada with troughing in Northern Europe, Siberia, Northeast Asia, south of the Aleutians, Eastern Canada and the Eastern US (**Figure 14**). This pattern favors seasonable to relatively warm temperatures across Southern Europe, Southern

Asia, Alaska, Western Canada and the Western US with seasonable to relatively cold temperatures across Northern Europe, Siberia, Northeast Asia Eastern Canada and the Eastern US (**Figure 15**). For what it's worth, this pattern resembles the negative AO and widespread cold consistent with the influence of an SSW.

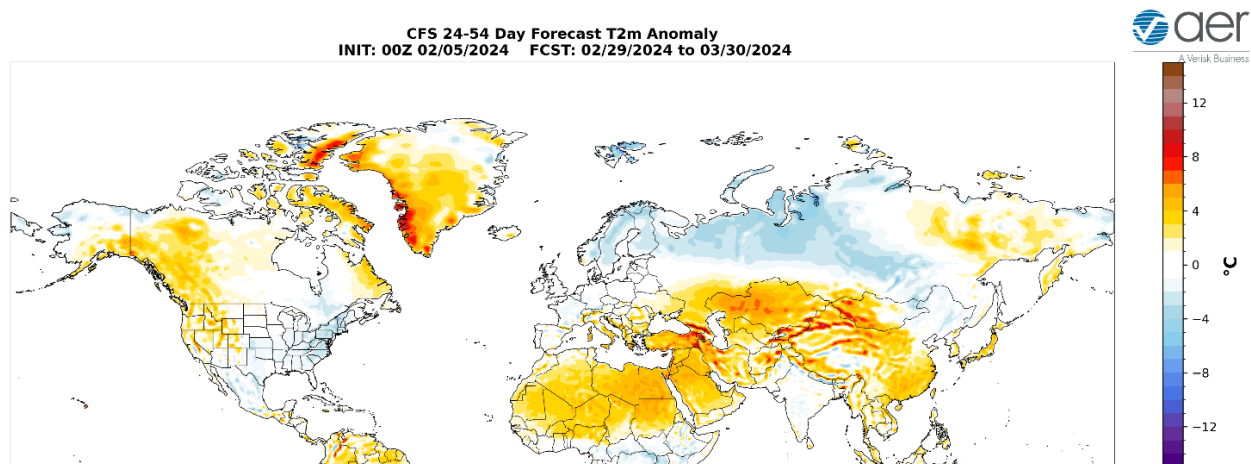


Figure 15. Forecasted average surface temperature anomalies (°C; shading) across the Northern Hemisphere for March 2024. The forecasts are from the 00Z 5 February 2024 CFS.

Arctic sea ice extent

Arctic sea ice extent melted back this week, unusual for February and likely related to incredible warmth in the Arctic this week. I continue to expect that the negative sea ice anomalies will remain focused in the North Atlantic sector, which is currently more so than previously this winter. Blocking in the Barents-Kara sea region is critical for weakening the PV that is favorable for widespread and meaningful cold in Northern Eurasia and eastern North America, which can persist for weeks.

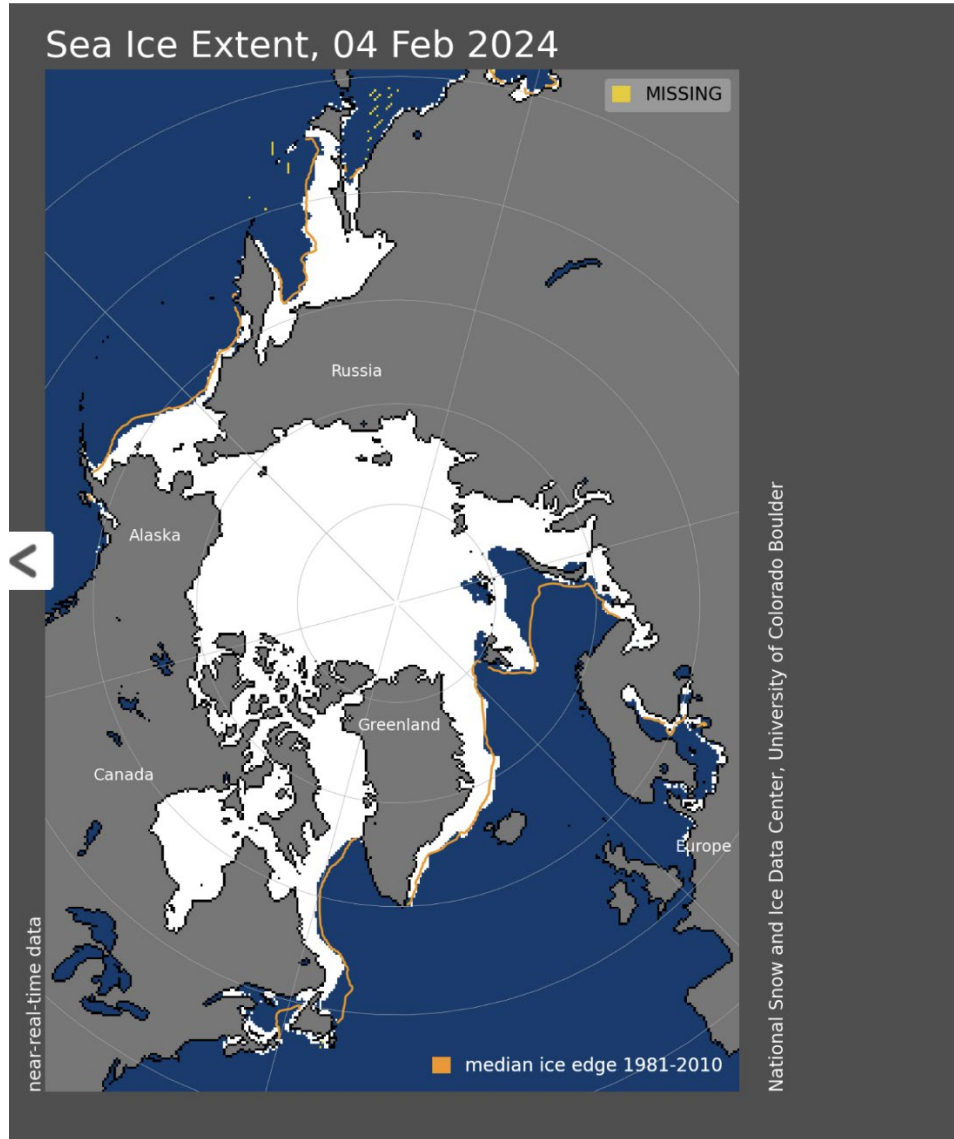


Figure 16. Observed Arctic sea ice extent on 4 February 2024 (white). Orange line shows climatological extent of sea ice based on the years 1981-2010. Image courtesy of National Snow and Ice Data Center (NSIDC). Snow and Ice Data Center (NSIDC).

SSTs/El Niño/Southern Oscillation

Equatorial Pacific sea surface temperatures (SSTs) anomalies are well above normal, especially along the South America coast, indicating that and El Niño remains strong (**Figure 17**) and El Niño conditions are expected through the end of the winter. Observed SSTs across the NH remain well above normal especially in the central North Pacific (west of recent years), the western North Pacific, the eastern North Atlantic and offshore of eastern North America though below normal SSTs exist regionally especially in the South and North Pacific and the North Atlantic.

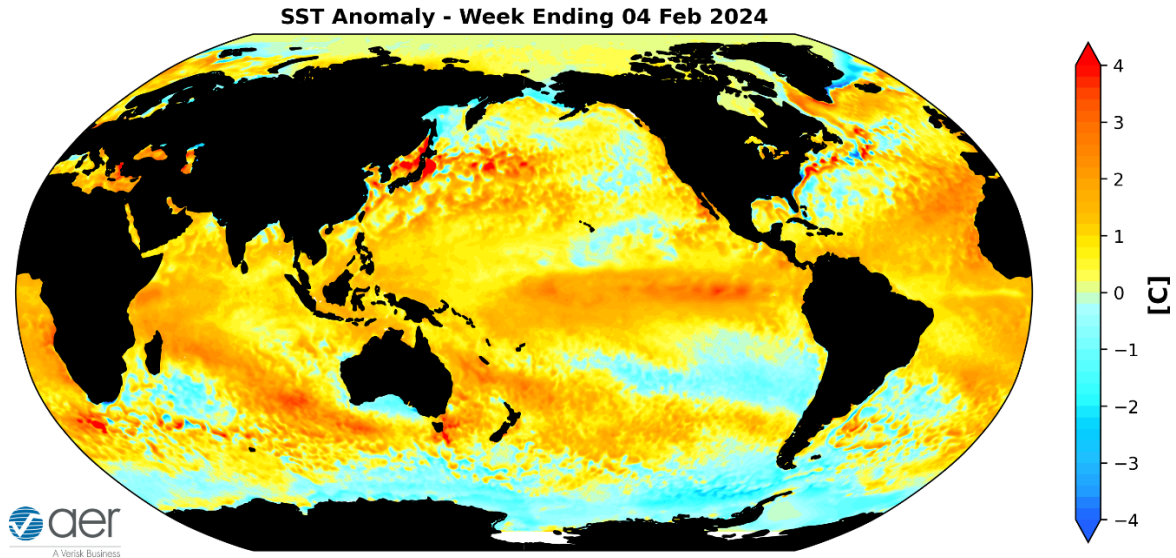


Figure 17. The latest weekly-mean global SST anomalies (ending 4 February 2024).
Data from NOAA OI High-Resolution dataset.

Madden Julian Oscillation

Currently the Madden Julian Oscillation (MJO) is in phase seven (**Figure 18**). The forecasts are for the MJO to stall in phase seven. Phase seven favors troughing near the Aleutians, ridging across Canada forcing troughing across the US. Therefore it seems that the MJO may be having some influence on the weather across North America weather this week and next week. But admittedly this is outside of my expertise.

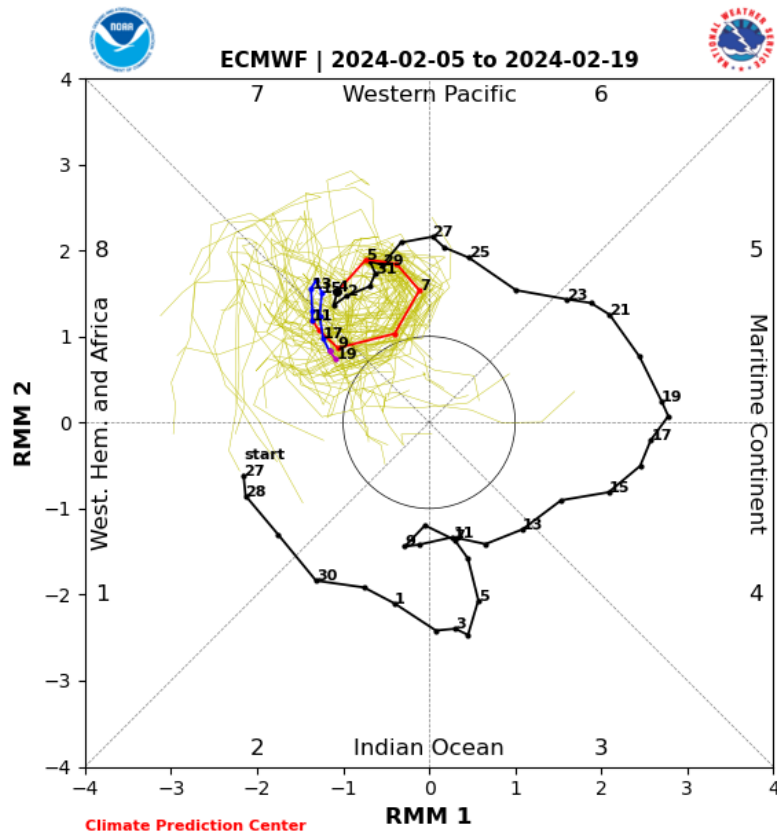


Figure 18. Past and forecast values of the MJO index. Forecast values from the 00Z 5 February 2024 ECMWF model. Yellow lines indicate individual ensemble-member forecasts, with the green line showing the ensemble-mean. A measure of the model “spread” is denoted by the gray shading. Sector numbers indicate the phase of the MJO, with geographical labels indicating where anomalous convection occurs during that phase. Image source:

https://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/CLIVAR/clivar_wh.shtml

Get Detailed Seasonal Weather Intelligence with sCast

We appreciate your taking the time to read the public Arctic Oscillation blog from Dr. Judah Cohen and the AER Seasonal Forecasting team.

Dr. Cohen’s detailed monthly seasonal forecast, sCast, is also available for purchase. sCast provides a monthly 30-60-90-180-day outlook into temperature and precipitation, solar flux and wind anomalies across the globe, and regional population weighted cooling and heating degree forecasts for the US.

Our sCast principal engineer, Karl Pfeiffer, can help you use sCast and other AER seasonal forecast products to deliver important, long-lead time weather intelligence to your business. Please reach out to Karl today!