

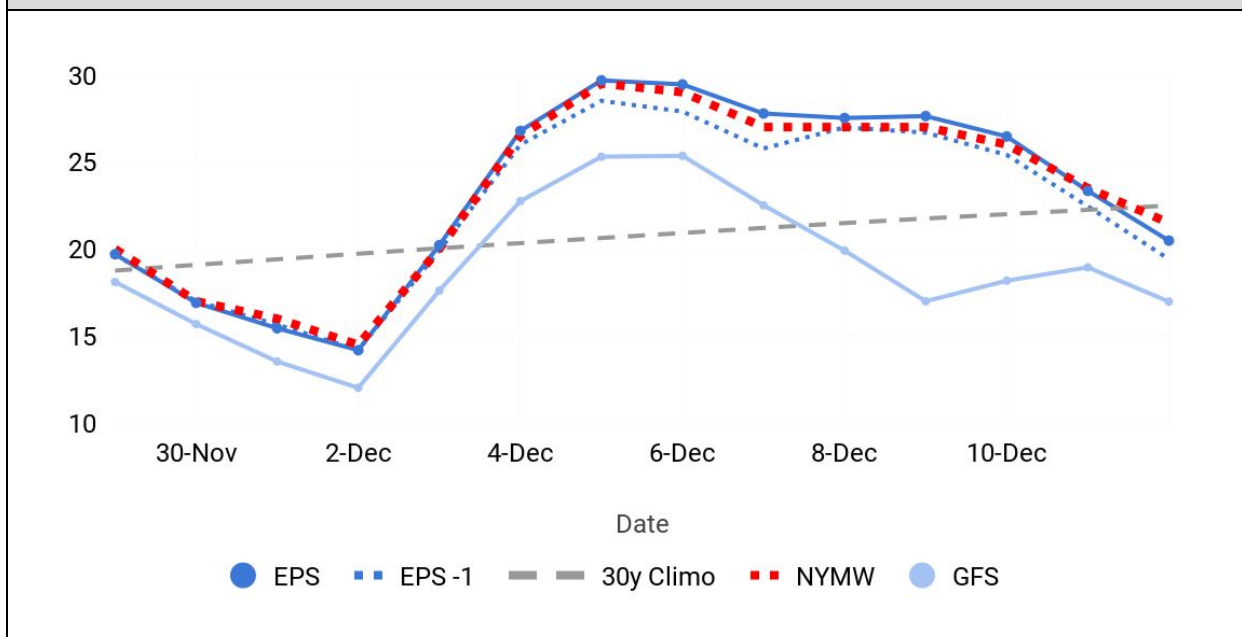
### Afternoon Brief

We are getting closer to the period in time where the moderation does become inevitable. Combine that with a bit more of a Pacific jet extension in the modeling at the end of their runs, and we saw some warmer changes compared to the overnight data. The moderation still appears relatively brief, however, and we still do think the EPS is a bit too rushed with its bigger warmth.

### Today's Model Trends

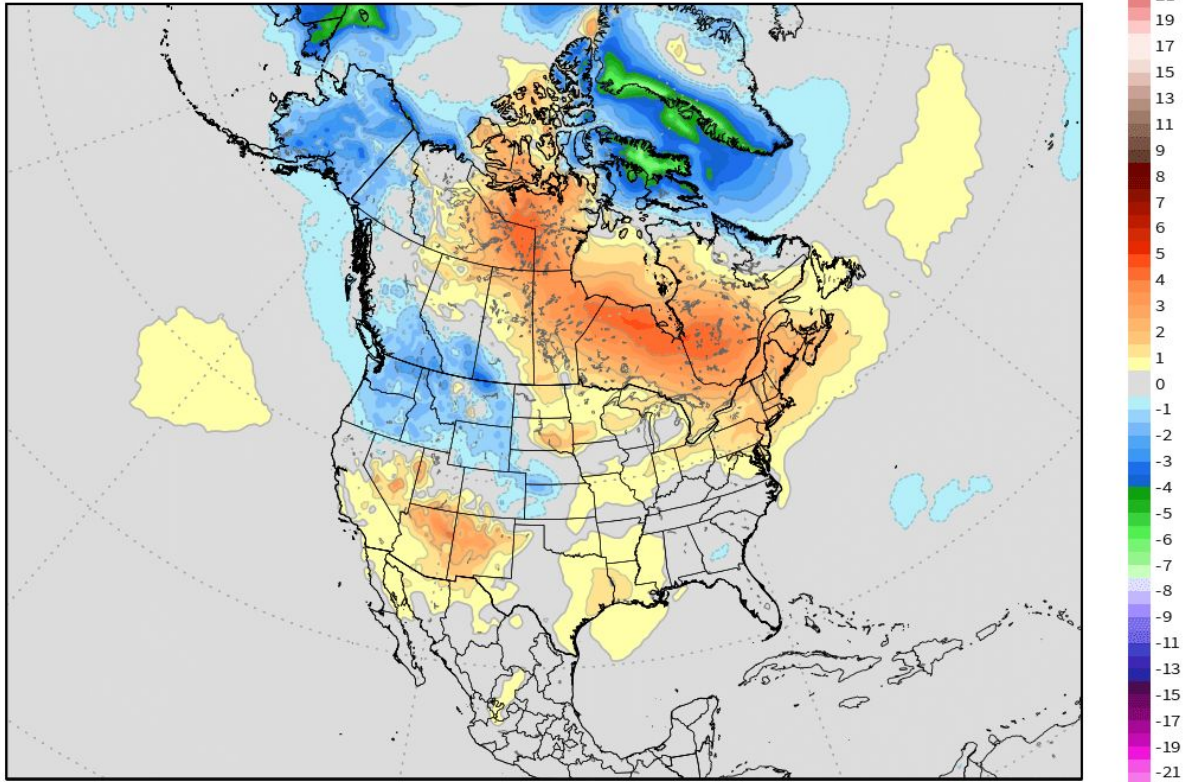
Model	Threat	Time	Region	Impact	Trend
All	Cold	12/4 - 12/9	C US → E US	GWHDD ↑	Steady
All	2nd Cold Shot	12/8 - 12/12	Eastern US	GHWDD ↑	Increasing
EPS	Moderation	12/11 +	C US, Midwest, E US	GWHDD ↓	Increasing
GEFS	Cool Lingers	12/11 - 12/15	Midwest, E US	GHWDD ↑	Decreasing
Pattern	Moderation	12/15 +	Eastern US	GWHDD ↓	Increasing
Pattern	Cold Returns	2nd ½ Dec	Eastern US	GWHDD ↑	Mixed

### Today's Weighted HDD Trends



## Afternoon Model Data Highlight: EPS Trends More Pure “El Nino Pattern” Week 2

ECMWF EPS 7-Day Temperature [°F] | Ensemble Mean --> Days 7,5 to 14.5 | Model Cycle Difference [CURRENT minus 12-h PRIOR]  
 Init: 12Z29NOV2018 -- [348] hr --> Valid Fri 00Z14DEC2018 MIN|MAX: -7.3 | 4.9 °F



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## Discussion & Briefing

**...All data did trend a bit warmer in the long range...**

**...While we still believe the big moderation is rushed, this proves that moderation is inevitable...**

The big cold shot from 12/4 and onward still looks quite legitimate on all the data. The EPS verbatim did lose some HDDs in the 12/6 and 12/7 period, though that is because it is showing some height rises out ahead of a Pacific shortwave that sets up a potentially large winter storm in the 12/7 - 12/10 period. This might be overdone, but the idea of an initial big HDD spike, then a small drop, and then another rise 12/8 - 12/10 as that storm brings in more cold air on its cold side certainly has validity. So the initial dip in HDDs cannot be discounted. The way that storm sets up is interesting: if it ejects from the Pacific slowly enough, then a big secondary cold shot would run out *ahead* of it, and you can truly get another very large HDD surge on the 8th and 9th (the exact timing is yet to be determined).

Cold weather likely still lingers in the means in the East for a few more days, but the moderation signals back off to the west are becoming more inevitable, and they will eventually spread eastward. Additional west to east momentum in the pattern will help to make the Pacific pattern more zonal,



which will cut off the source of Arctic air. The EPS is probably still too quick to make this pattern zonal, as there is room for one more Aleutian ridge surge that breaks into parts of Alaska during this transition, which could allow cool weather to linger for a couple or a few more days longer than the EPS is depicting.

Having said this, the west to east momentum is even being shown to now affect the NAO domain now that we move up in time and get closer to the period in question. This could potentially serve to weaken the -NAO, and further allow the moderation to spread east. Thus, once we get to 12/15, moderation does seem to become inevitable even in the populated east, and it could get fairly warm for a few days.

This moderation period will probably only be between 1-2 weeks, and perhaps only for about 1 week in the East if it does ultimately get delayed. This is because the warm pattern ironically sets up a favorable precursor pattern to more attacks to the Stratospheric polar vortex, which should get further perturbed in mid-December as a result. This should allow more cold risks to return sometime in late December.

**Forecast Issued: 5:30pm CST 11/29/2018 Forecaster: Simonian**