

## Weather Pattern Shift Likely In United States Dec. 20-22

By Brad Luchen

Temperatures across much of the Northern Plains and Hard Red Winter Wheat Region will be above average into the middle of next week. A large cause of this will be related to a flow of air that will often be from the northwest to southeast. This air will warm up as it moves down in elevation into the central United States. As air sinks, it compresses and warms as the air molecules become closer together.

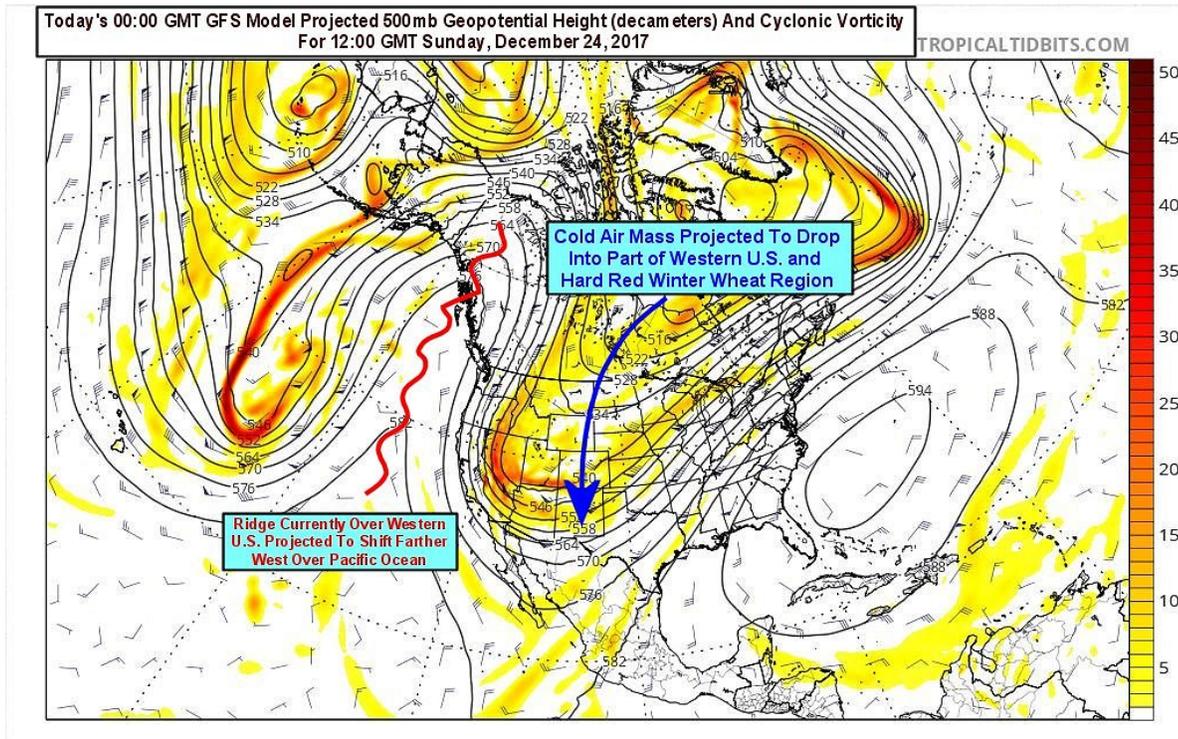
Another reason for the above average temperatures will be the lack of snow cover across a majority of the Northern Plains. Often in this time of year, as air travels into the Hard Red Winter Wheat Region from a northern source, it is cooler because it travels across snow-covered land. Currently, there is a significant lack of snow in the northern United States.



The GFS model has been rather aggressive lately on a large, cold arctic air mass dropping into the United States and impacting a majority of the Northern Plains, Hard Red Winter Wheat Region, and portions of the western U.S Dec. 21 – 29. The model is likely exaggerating the cold temperatures, but it is an interesting trend in the data and a key feature is that the blocking ridge in the western United States is projected to weaken some and then re-establish itself farther west over the Pacific Ocean for a while. This would allow a trough of low pressure and colder air to potentially drop into the western United States. The

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significance of the cold air is suspect due to the lack of snow and, while some snow is expected in the Northern Plains before Dec. 22, snow cover in general may still be rather low overall in the northern half of the U.S. in this timeframe.



If the cold air shifts into place as advertised, there will become some concern for the under-developed winter wheat crop in the west-central high Plains region. All winter crops, but especially those that are not well established will need some protective snowfall ahead of the coldest conditions to avoid crop damage if and when temperatures fall near and below zero Fahrenheit. In this particular case, it is too early to predict the lowest temperatures for the region, but the odds are good that some snow will precede the coldest days and adequate protection for crops will be in place before a threat of damage evolves.

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