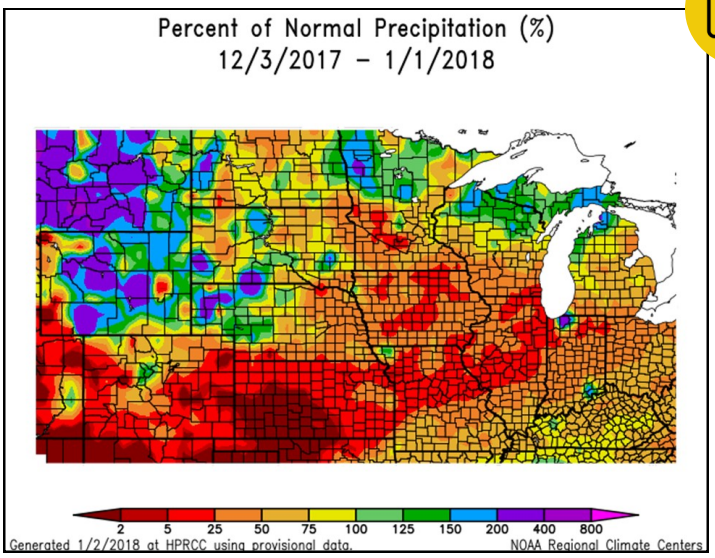
Midwest Climate Hub

U.S. DEPARTMENT OF AGRICULTURE

January 2, 2018

Midwest Ag-Focus Climate Outlook

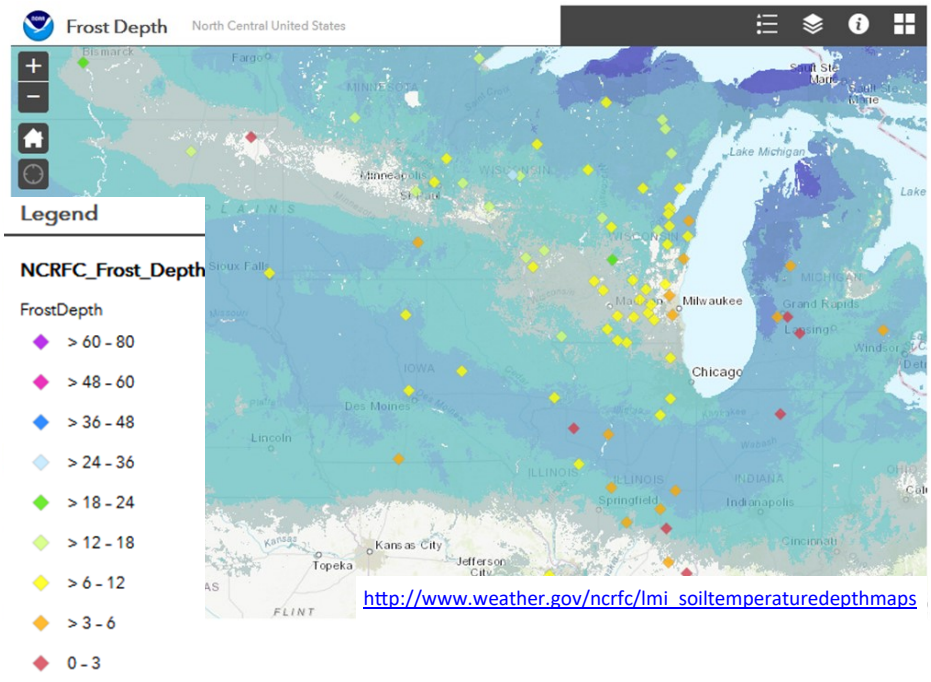


Current Conditions

Temperature conditions in late December flipped from warmer than average early in the month to much colder than average late in the month across the Midwest and most of the Northern Plains. The end result was mostly closer to average temperatures for December as a whole, except for areas close to the Great Lakes, which were 4-6°F below average. The last week of December was very cold with temperatures an impressive 20-30°F below average for a whole week.

Precipitation was limited across most of the Midwest and Northern Plains with less than 25% of average precipitation across large chunks of the Midwest. Above average precipitation was confined mainly to areas adjacent to the Great Lakes (mainly driven by lake effect snows) and a small area of northern Minnesota. Thus, snow cover did not reach much of the region before the end of December. Most of the Midwest and Northern Plains are now snow covered.

Impacts



http://www.weather.gov/ncrfc/lmi_soiltemperaturedepthmaps

The extreme cold has impacted livestock across the region with the sharp turn to colder temperatures. Cold temperatures set in across much of the Upper Midwest before snow covered the soil. Without that insulating effect, soils were able to freeze more readily. Most soils throughout the region were also fairly dry allowing the soil to freeze at depth more easily. With the consistent extreme cold and more cold likely into January, frost depths will continue to penetrate deeper causing potential problems for water supplies for livestock and potentially homes.

Monitoring frost depths would be a good idea: Cold conditions in the winter of 2013-14 caused some water lines to freeze throughout the Upper Midwest. The early winter warmth may have helped limit the potential problems by keeping the soils warmer this winter.

Frost depths will continue to deepen throughout the winter because cold takes time to penetrate to deeper soil depths.

The main dryness impacts are in Missouri/Illinois/Iowa where the longer term dryness (in some places since last year) has left farm ponds low limiting water for cattle and reduced feed availability in places.

For more information, please visit:
https://www.climatehubs.oce.usda.gov/hubs/midwest

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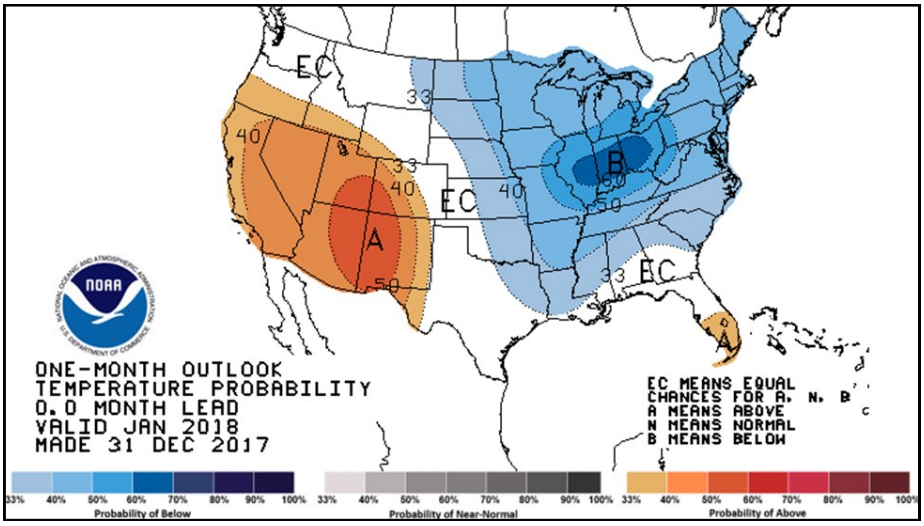
Outlook

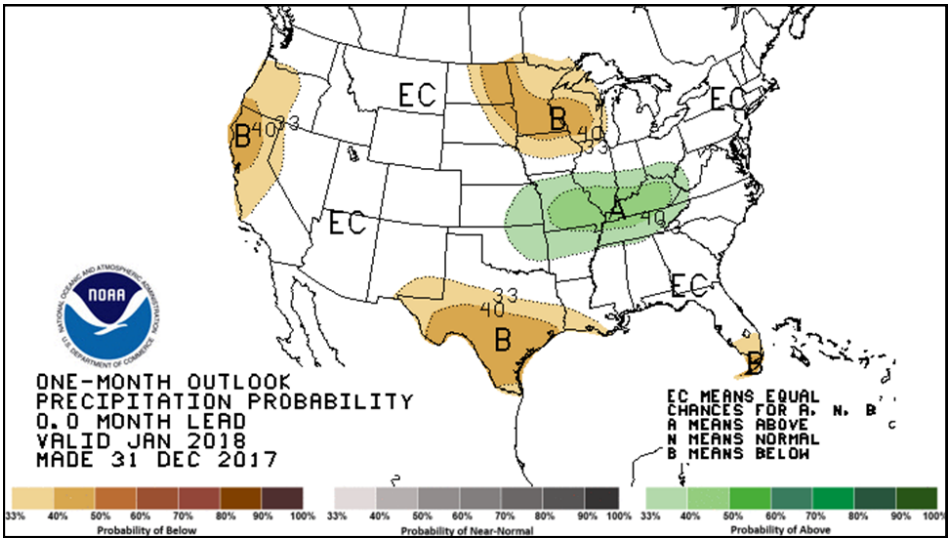


The updated January outlooks from NOAA's Climate Prediction Center indicate similar conditions for the rest of the month. Colder than average temperatures are more likely as the jet stream pattern will continue to bring additional cold to much of the Northern Plains and Midwest with some intervening warmer periods. Additional extreme cold seems unlikely.

Livestock will continue to experience colder conditions and need additional management. Soil frost depths are also likely to continue to go deeper which will need to be monitored for potential water line issues with the extreme and persistent cold.

Drier than average conditions are more likely in the Dakotas to Iowa and Illinois. Wetter than average conditions could impact Missouri into the Ohio Valley. With the current temperatures, precipitation should occur as frozen precipitation.

Drought conditions are unlikely to change much largely because precipitation is limited even in a more normal January. Dry conditions do not worsen conditions much in winter. Only extremely wet conditions can improve in the winter. That is very unlikely at this point.



Partners and Contributors

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National Weather Service (NWS)
National Center for Environmental Information (NCEI)
National Drought Mitigation Center (NDMC)
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