

National Weather Service Local 3-Month Temperature Outlook

September 2013

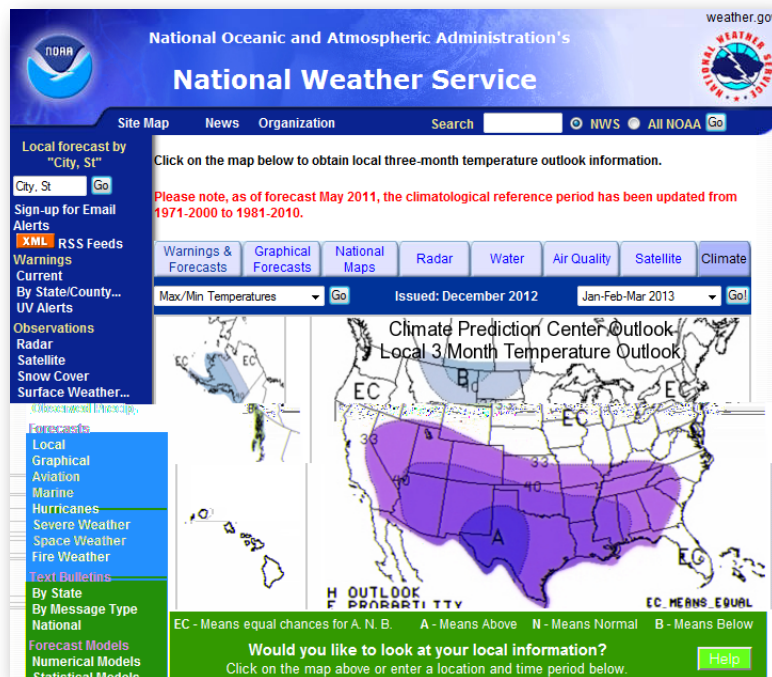
WHAT IS THE LOCAL 3-MONTH TEMPERATURE OUTLOOK (L3MTO)?

L3MTO provides probabilistic local forecasts of 3-month average daily temperatures for thirteen consecutive 3-month periods (January-February-March, February-March-April, March-April-May, etc.).

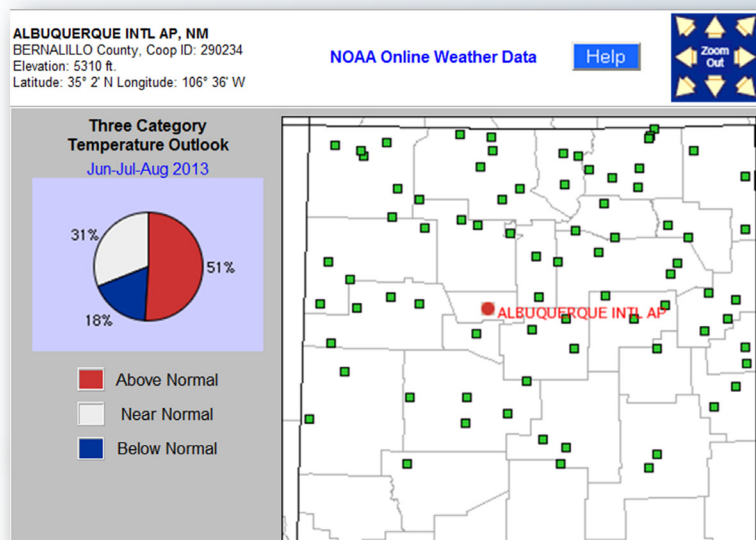
The L3MTO is currently available for approximately 1500 sites nationwide with the capability to expand up to 4000 sites. Users can request additional sites through their local National Weather Service (NWS) Weather Forecast Office (WFO).

This product extends the Climate Prediction Center's (CPC) national 3-Month Temperature Outlook to specific local sites and is released simultaneously with the national product on the 3rd Thursday of every month.

www.weather.gov/climate/l3mto.php



WHERE CAN YOU FIND L3MTO AND RELATED FEATURES?



L3MTO can be accessed from all WFO web pages by selecting the "Climate Prediction" tab. The local outlooks can also be reached from www.weather.gov/climate/l3mto.php by clicking on the area of interest on the national map.

Every "Local Outlook" page features a local map that shows the locations where forecasts are available in the WFO area.

The L3MTO Pie Chart is displayed as the default and corresponds to the station shown in red on the map. A display of the forecast data in tabular form, as well as a Temperature Range graph and the Probability of Exceedance Curves are also available.

If you would like to know how "good" the climate forecasts are for your location, please take a look at the Outlook Evaluation available on the site.

BENEFITS OF L3MTO

1. Provides more spatial detail and higher resolution outlooks
2. Includes multiple formats to accommodate a wide range of users
3. Includes helpful resources for interpretation
4. Extends the national outlook to the local level, greatly enhancing the product's exposure and increasing the number of local users

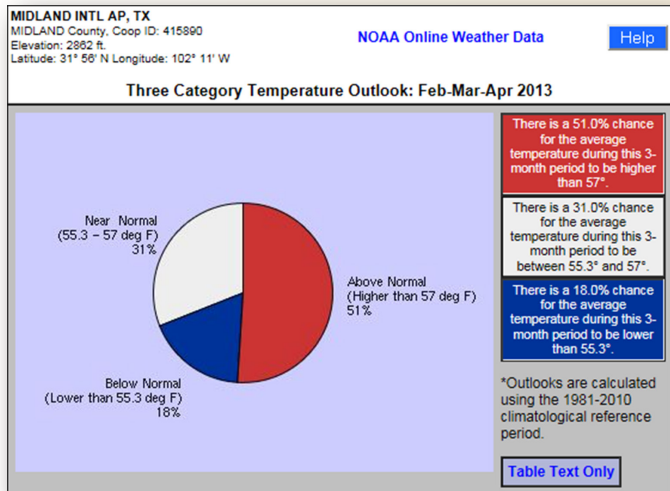
HOW IS L3MTO PRODUCED?

A method of statistical downscaling translates the CPC national 3-Month Temperature Outlook into Local 3-Month Temperature Outlooks.

The method applies linear regression and trend adjustment techniques to produce the local outlooks.

HOW TO INTERPRET L3MTO PRODUCTS

L3MTO is available in three graphical formats of increasing complexity. Pie Charts are the most basic, while the Temperature Range graphs and Probability of Exceedance (POE) Curves offer more sophisticated ways to view the outlooks. Each of the graphical formats is associated with helpful features, such as data tables and/or interpretive text. All of the L3MTO products were developed using climate data from a 30-year reference period, 1981-2010.

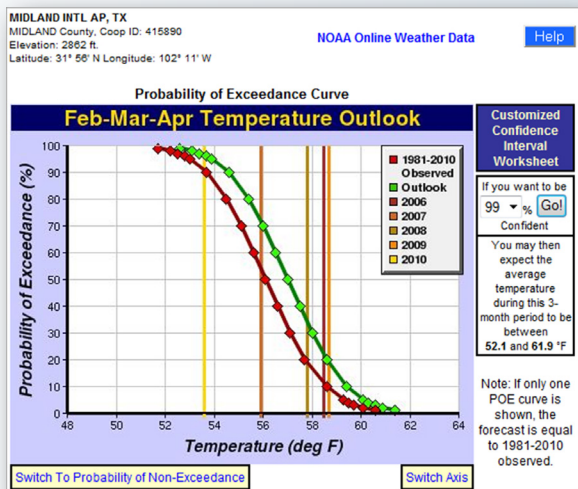
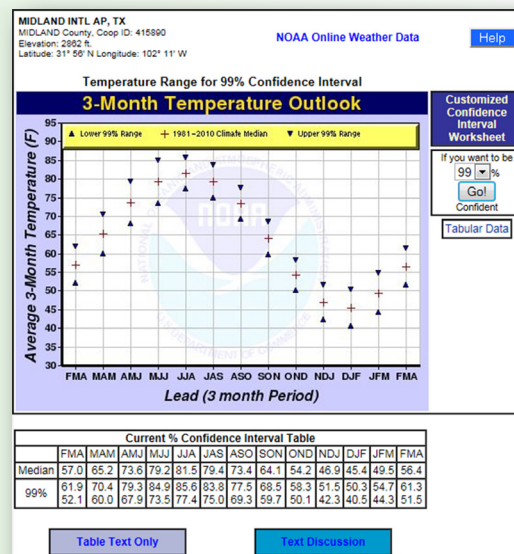


L3MTO Pie Chart

The L3MTO Pie Chart is the simplest of the product formats. It shows the expected chance for the average 3-month temperature to occur in each of three categories: Above Normal, Near Normal and Below Normal. The larger the pie slice, the higher the chance of occurrence. A legend, located to the right of the pie chart, has three corresponding boxes that show the forecasted probability for each category and the actual 1981-2010 temperature values used to define the forecast categories.

L3MTO Temperature Range Graph

The Temperature Range graph shows the expected range of the average 3-month temperature (in degrees Fahrenheit on the y-axis) for each of the thirteen 3-month forecast periods (x-axis). The expected temperature ranges can be viewed for five confidence intervals (or levels of forecast certainty): 99%, 95%, 90%, 75%, and 50%. The higher the confidence interval value, the greater the range of expected temperature.



L3MTO Probability of Exceedance

The Probability of Exceedance (POE) Curve provides the most detailed outlook information in the L3MTO suite. It shows the expected chance (y-axis, in percent) that the average 3-month daily mean temperature will exceed (or be greater than) the temperatures shown on the x-axis.

The graph contains two curves: a red curve, representing the POE for the 1981-2010 reference period, and a green curve, representing the forecasted POE. The five colored vertical lines represent the observed average 3-month daily mean temperatures for the past five years.

Special Case: When There is No Forecast

Under certain conditions, the methods and tools employed in the forecast process cannot produce a reliable outlook product. In these cases, there is effectively no forecast, and the "outlook" coincides with the climatological information from the 1981-2010 reference period. For the Pie Chart, this case is indicated when all three slices of the pie are shown to be about the same size; for the POE graph, the red and green curves overlap; and for the Temperature Range Graph, the values shown are the same as those for the reference period. No forecast is analogous to "EC" (equal chance) on the CPC national 3-Month Temperature Outlook map. In such cases, users are advised to seek additional information to help in their decision making process.

WHERE TO FIND MORE INFORMATION ON L3MTO?

Please contact your local Weather Forecast Office by visiting www.weather.gov