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Public Information Statement 17-05 Updated
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From: Jon Gottschalck
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 Climate Prediction Center

Subject: Updated: Climate Prediction Center Changing to Grid-Based
Historical Data for Production of the Degree Day Outlook Product Beginning
with the March 16, 2017, Issuance

Updated to add link to current product:

<http://www.cpc.ncep.noaa.gov/pacdir/DDdir/ddforecast.txt>

A sample of the new product (with the same valid dates as the current
product) is available at:

<http://www.cpc.ncep.noaa.gov/pacdir/DDdir/ddforecastg.txt>

The National Centers for Environmental Prediction (NCEP) Climate
Prediction Center (CPC) is accepting comments until March 3, 2017 on an
update to the Climate Prediction Center monthly degree day outlooks.

The outlooks are available at:

<http://www.cpc.ncep.noaa.gov/pacdir/DDdir/ddforecast.txt>

Heating and cooling degree days are derived quantities based on daily mean
temperatures that are used to estimate weather- related energy
consumption. Seasonal and monthly degree day totals are closely related
to the seasonal mean temperature making it possible to use the CPC
seasonal temperature outlook to produce an outlook for monthly degree day
totals. Regional degree day totals are generally based on population-
weighted averages (rather than area-weighting) over geographic areas.

Statistics based on historical data (1961 - 2010) were used to estimate
the relationship between the monthly and seasonal mean temperature and
degree day totals. These statistics are applied to the CPC Probability of
Exceedence temperature outlooks to obtain a probabilistic estimate of
degree day totals.

The historical data for both temperature and degree days are based on the
climate division (CD) data from the National Centers for Environmental

Information (NCEI). Until recently, the NCEI based its CD data on regional station averages. The NCEI recently developed methodology to more accurately estimate climate division averages based on terrain adjusted gridded analysis of station data. The modern methodology was applied to historical data, and the NCEI replaced the station-based CD data with the more accurate grid-based CD data in 2014. More information on the NCEI data sets can be found in the following link:

<https://www.ncdc.noaa.gov/monitoring-references/maps/us-climate-divisions.php>

The grid-based CD data is, in general, slightly cooler than the station-based data, leading to substantial differences in the 30-year normals of both temperature and degree days. This required that the CPC degree day outlook be adjusted to be consistent with the new population-weighted degree day outlooks available from the NCEI.

Beginning with the forecast issued on the third Thursday in March 2017, the revised Degree Day Outlook based on grid-based NCEI data will replace the current station-based degree day product. The impact in the anomaly forecast is minor, but the monthly degree day totals and their climatological values can be substantially different from the existing product.

Send comments to:

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National Public Information Statements are online at:

<https://www.weather.gov/notification/archive>

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