July Review & Northeast DEWS Discussion

By: Samantha Borisoff, Climatologist
Northeast Regional Climate Center
## July Heat

### Time Series Summary for Baltimore Area, MD (ThreadEx)
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Year-Month</th>
<th>Number of Days Max Temperature &gt;= 100</th>
<th>Missing Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2024-07</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>-</td>
<td>2010-07</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>2012-07</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

### Number of Consecutive Days Max Temperature >= 100 for Baltimore Area, MD (ThreadEx)
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Run Length</th>
<th>Missing Days</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>0</td>
<td>2024-07-14 through 2024-07-17</td>
</tr>
<tr>
<td>-</td>
<td>4</td>
<td>0</td>
<td>1930-07-19 through 1930-07-22</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2011-07-21 through 2011-07-23</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2010-07-05 through 2010-07-07</td>
</tr>
</tbody>
</table>

### Maximum 1-Day Mean Max Temperature for Washington Area, DC (ThreadEx)
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Value</th>
<th>Ending Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>106.0</td>
<td>1930-07-20</td>
</tr>
<tr>
<td>-</td>
<td>106.0</td>
<td>1918-08-06</td>
</tr>
<tr>
<td>3</td>
<td>105.0</td>
<td>2012-07-07</td>
</tr>
<tr>
<td>-</td>
<td>105.0</td>
<td>1997-08-17</td>
</tr>
<tr>
<td>-</td>
<td>105.0</td>
<td>1936-07-10</td>
</tr>
<tr>
<td>6</td>
<td>104.0</td>
<td>2024-07-16</td>
</tr>
</tbody>
</table>

### Time Series Summary for Middletown-Harrisburg Area, PA (ThreadEx)
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Year-Month</th>
<th>Number of Days Min Temperature &gt;= 75</th>
<th>Missing Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2024-07</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2011-07</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>1999-07</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>2022-07</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

### Number of Consecutive Days Min Temperature >= 75 for Washington Area, DC (ThreadEx)
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Run Length</th>
<th>Missing Days</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18</td>
<td>0</td>
<td>1980-07-26 through 1980-08-12</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>0</td>
<td>2024-07-05 through 2024-07-19</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>0</td>
<td>2011-07-19 through 2011-08-01</td>
</tr>
</tbody>
</table>

### Maximum 1-Day Mean Max Temperature for Washington Area, DC (ThreadEx)
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Station</th>
<th>July Date</th>
<th>Low Temp (°F)</th>
<th>July Rank (hottest)</th>
<th>All-time Rank (hottest)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany, NY</td>
<td>9</td>
<td>76</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Albany, NY</td>
<td>10</td>
<td>76</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Allentown, PA</td>
<td>6</td>
<td>77</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Baltimore, MD</td>
<td>6</td>
<td>81</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Beckley, WV</td>
<td>4</td>
<td>71</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Concord, NH</td>
<td>6</td>
<td>74</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Concord, NH</td>
<td>11</td>
<td>75</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Dulles Airport, VA</td>
<td>6</td>
<td>76</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Dulles Airport, VA</td>
<td>9</td>
<td>76</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Dulles Airport, VA</td>
<td>10</td>
<td>77</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Hartford, CT</td>
<td>6</td>
<td>76</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Hartford, CT</td>
<td>9</td>
<td>76</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Hartford, CT</td>
<td>11</td>
<td>76</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>6</td>
<td>81</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>10</td>
<td>81</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Wilmington, DE</td>
<td>6</td>
<td>80</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>
July Temperatures

Average Temperature Departure (°F)
July 1-28, 2024

From near normal to 6°F above normal
July Wildfire Smoke

**NWS State College** @NWSStateCollege · Jul 28

🌞 Sunny skies across central Pennsylvania this morning with clouds to the west and east of the area, expect generally clear skies to continue overnight into Monday.

💧 Clouds will be on the increase Monday, with some potential for a late PM shower/storm across the Laurels. #PAwx

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**NWS Albany** @NWSAlbany

Smoke aloft from wildfires across the western US led to a reddish color to the sun as it set across the region this evening.
Beryl Remnants

Maximum 1-Day Total Precipitation for LOWVILLE, NY
Click column heading to sort ascending, click again to sort descending.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Value</th>
<th>Ending Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.02</td>
<td>2024-07-11</td>
</tr>
<tr>
<td>2</td>
<td>4.78</td>
<td>2001-09-25</td>
</tr>
<tr>
<td>3</td>
<td>4.38</td>
<td>1893-08-29</td>
</tr>
</tbody>
</table>
July Severe

Top 10 Dates
America/Chicago
2024-07-10 42
1998-05-31 41
2011-04-28 18
1998-06-02 16
2017-06-22 11
2004-05-22 11
2024-07-16 10
2023-08-07 9
2018-05-15 9
1990-06-20 8

NWS Issued for Counties/Zones for State of New York
Tornado Warning (T.O.W) Issued by Year, Month

Preliminary, unofficial data!

Tornado Warning Event Count by State
Issued between 01 Jul 2024 00:00 - 18 Jul 2024 23:59 UTC, based on VTEC: TO.W

Preliminary, unofficial data!
July Precipitation

From 25% of normal to more than 200% of normal
Standardized Precipitation Index
Precipitation
Evap. Demand Drought Index

3-week EDDI categories for July 24, 2024

Drought categories

ED4 | ED3 | ED2 | ED1 | ED0
100% | 95%  | 95%  | 90%  | 90%  | 80%  | 70%  | 60%  | 50%  | 40%  | 30%  | 20%  | 10%  | 5%   | 2%   | 0%

Wetness categories

EW0 | EW1 | EW2 | EW3 | EW4
(EDDI-percentile category breaks: 100% = driest; 0% = wettest)

Generated by NOAA/ESRL/Physical Sciences Laboratory
Soil Moisture

SPoRT–LIS 0–100 cm Soil Moisture percentile valid 30 Jul 2024

Courtesy of NASA
Streamflow

28-Day Streamflow

Explanation - Percentile Classes

<table>
<thead>
<tr>
<th>Low</th>
<th>Much below normal</th>
<th>Below normal</th>
<th>Normal</th>
<th>Above normal</th>
<th>Much above normal</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10%</td>
<td>10-24%</td>
<td>25-75%</td>
<td>76-90%</td>
<td>&gt;90%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data provided by [USGS WaterWatch - Streamflow](https://waterwatch.usgs.gov); updated 2024-07-29.
Groundwater Status

### Explanation - Percentile Classes

<table>
<thead>
<tr>
<th>Level</th>
<th>Much below normal</th>
<th>Below normal</th>
<th>Normal</th>
<th>Above normal</th>
<th>Much above normal</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>&lt;10%</td>
<td>10-24%</td>
<td>25-75%</td>
<td>76-90%</td>
<td>&gt;90%</td>
<td></td>
</tr>
</tbody>
</table>

Data provided by [USGS Groundwater](https://waterdata.usgs.gov) - [About this map](https); updated 2024-07-29.
Wildfire Risk

Keetch-Byram Drought Index
July 29, 2024
Drought Impacts

Eastern Panhandle farmers trying to water where they can

By MetroNews Staff
July 18, 2024 - 4:19 pm

Peabody To Impose Water Restrictions Starting Wednesday
Residents are asked to limit consumption outdoors to three days a week early in the morning or the evening depending on their address.

Scott Souza, Patch Staff
Posted Tue, Jul 16, 2024 at 4:38 pm ET

LOCAL NEWS
Another Midstate township issues burn ban amid dry weather
by: Kaylee Lindenmuth
Posted: Jul 13, 2024 / 6:15 PM EDT
Updated: Jul 13, 2024 / 6:15 PM EDT

YORK COUNTY, Pa. (WHTM) — A York County township is issuing a burn ban.

Conewago Township placed the ban in effect immediately and until further notice.

Summary of Impacts
Links: See/submit Condition Monitoring Observer Reports (CMOR) and view the Drought Impacts Reporter

Hydrologic Impacts
- River stream flows and subsurface water levels are running at near record low levels
- The Interstate Commission on the Potomac River Basin continues to monitor Potomac River streamflow levels as discharge values have dropped below 1200 CFS
- Multiple reports received of dry well levels throughout the Shenandoah River Valley, along the Blue Ridge Mountains and up along the Potomac Highlands

Agricultural Impacts
- Farmers have reported stunted growth of crops and crop stress due to lack of precipitation and high temperatures.
- Crop losses of up to 20 percent have been reported by Ag Extension reports across the Shenandoah Valley

Mitigation Actions
- Fauquier County, VA has instituted mandatory water conservation efforts
- The State of Virginia has a Drought Warning in effect for all of our counties in Virginia
- The State of Maryland has issued a Drought Watch for parts of western Maryland

Courtesy of K. Hensell
Precipitation Forecast

7 Day QPF
Valid: 12Z 07/30/24 - 12Z 08/06/24

Explanation - Forecast precipitation (inches)

Data provided by DOC/NOAA/NWS/NCEP/WPC.
Short-term Outlooks

6-10 Day Precipitation Outlook
2024-08-04 to 2024-08-06

6-10 Day Temperature Outlook
2024-08-04 to 2024-08-06

8-14 Day Precipitation Outlook
2024-08-06 to 2024-08-12

8-14 Day Temperature Outlook
2024-08-06 to 2024-08-12

Explanation - Probabilities (percent)

<table>
<thead>
<tr>
<th>Prob Below Normal</th>
<th>Normal</th>
<th>Prob Above Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

Data provided by DOCG/NOAA/NWS/NCEP/CPC.
Tropical Outlook

Seven-Day Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida

Current Disturbances and Seven-Day Cyclone Formation Chance:

- < 40%
- 40-60%
- > 60%

Tropical or Sub-Tropical Cyclone:
- Depression
- Storm
- Hurricane

Post-Tropical Cyclone or Remnants
Monthly & 3-Month Outlooks
Summary

July-to-date conditions:
• Above-normal temperatures, with record or near-record heat first half of month
• Much below-normal rainfall for some, locally heavy rainfall for others

Drought:
• Drought and abnormal dryness expanded in parts of the Mid-Atlantic with extreme drought in Maryland and West Virginia for the first time since September 2010
  • Impacts on waterways, crops, fire risk, etc.
  • Some improvement in other areas such as region’s southeastern corner, northern Maine, and western New York

Outlooks:
• Short-term: near- or above-normal precipitation and temperatures favored
• August and Aug-Oct: above-normal precipitation for areas close to the coast and southern spots; above-normal temperatures for all
• Keeping an eye on the tropics!
Contact Information

- nrcc@cornell.edu
- NEW - NRCC newsletter!

Upcoming Webinars

- Thursday, August 29 at 9:30am EDT
  - Hurricane outlook and season update
- Thursday, September 26 at 9:30am EDT
  - NRCC projects
- Thursday, October 31 at 9:30am EDT
  - TBD

www.nrcc.cornell.edu