August Conditions & Northeast DEWS Discussion

By: Jessica Spaccio, Climatologist
Northeast Regional Climate Center
August Temperatures

Average Temperature Departure (°F)
August 1-28, 2022

From 2°F below normal to 6°F above normal
August Temperatures

Southeast RCC Climate Perspectives

Observed Average Mean Temperature for Aug 1 2022 to Aug 28 2022 (103 stations)

Map

Legend
- Highest
- 2nd-5th
- 6th-10th
- 10th-6th
- 5th-2nd
- Lowest
* indicates tied ranking

Created by and hosted at the Southeast Regional Climate Center.
August Temperatures

Consecutive days w/ a high >= 95°F

<table>
<thead>
<tr>
<th>Rank</th>
<th>Run Length</th>
<th>Dates</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>1944-08-11 through 1944-08-17</td>
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<tr>
<td>2</td>
<td>6</td>
<td>2022-08-04 through 2022-08-09</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>1911-07-02 through 1911-07-06</td>
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<td>1984-06-08 through 1984-06-11</td>
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<td>1953-08-28 through 1953-08-31</td>
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<td>4</td>
<td>1949-07-27 through 1949-07-30</td>
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<tr>
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<td>4</td>
<td>1948-08-25 through 1948-08-28</td>
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<td>1925-06-03 through 1925-06-06</td>
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<td>4</td>
<td>1917-07-30 through 1917-08-02</td>
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<td>4</td>
<td>1882-07-24 through 1882-07-27</td>
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Period of record: 1872-03-01 to 2022-08-21

Total number of days w/ a high >= 95°F

<table>
<thead>
<tr>
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<th>Year-Month</th>
<th>Number of Days Max Temperature &gt;= 95</th>
<th>Missing Count</th>
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<tbody>
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<td>1911-07</td>
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<td>1949-07</td>
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<td>2022-08</td>
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<td>2002-07</td>
<td>7</td>
<td>0</td>
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<tr>
<td>3</td>
<td>2022-08</td>
<td>6</td>
<td>3</td>
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<table>
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<tr>
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<th>Missing Count</th>
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<tr>
<td>1</td>
<td>1991-07</td>
<td>6</td>
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August Temperatures

Total number of days in Aug. w/ a high $\geq90^\circ\text{F}$

<table>
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<th>Number of Days Max Temperature $\geq90$</th>
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<td>17</td>
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<td>1988</td>
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<td>3</td>
<td>1959</td>
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Warm minimum temperatures

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<td>2016</td>
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<tr>
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<td>1980</td>
<td>17</td>
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<td>5</td>
<td>1988</td>
<td>16</td>
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<td>1925-06-06</td>
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<td>2</td>
<td>78.0</td>
<td>2022-08-08</td>
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<td>78.0</td>
<td>2019-07-21</td>
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<td>78.0</td>
<td>2002-07-03</td>
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<tr>
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<td>78.0</td>
<td>1999-07-05</td>
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<td>-</td>
<td>78.0</td>
<td>1978-07-23</td>
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<tr>
<td>-</td>
<td>78.0</td>
<td>1933-08-02</td>
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<td>-</td>
<td>78.0</td>
<td>1911-07-11</td>
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<table>
<thead>
<tr>
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<th>Value</th>
<th>Ending Date</th>
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<td>74.0</td>
<td>2022-08-07</td>
</tr>
<tr>
<td>-</td>
<td>74.0</td>
<td>2006-08-02</td>
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<tr>
<td>-</td>
<td>74.0</td>
<td>1988-08-05</td>
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<td>4</td>
<td>73.0</td>
<td>2022-08-05</td>
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<td>73.0</td>
<td>1975-08-02</td>
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<td>73.0</td>
<td>1969-08-17</td>
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NRCC
August Rainfall

Last Night’s Rain & Flooding

4.44”
Total Rainfall at Yeager Airport
5:30pm Sun – 5:00am Mon

3.54”
Calendar Day Total for Monday

1.66”
Previous Record – 8/15/1950

Flooding & Aftermath in Smithers, WV. Credit Fayette Cty Sheriff’s Office
August Precipitation

Percent of Normal Precipitation (%)
August 1-28, 2022

From less than 25% of normal to more than 200% of normal
Precipitation

Accumulated Precipitation Departure from Normal

Green/black diamonds represent subsequent/missing values

(Click to hide/show lines)
- Portland Area, ME (ThreadEx):Precip Dprt
- Boston Area, MA (ThreadEx):Precip Dprt
- Islip Area, NY (ThreadEx):Precip Dprt
- Providence Area, RI (ThreadEx):Precip Dprt

Powered by ACIS

NRCC
Precipitation
Standardized Precipitation Index
Evap. Demand Drought Index

3-week EDDI categories for August 24, 2022

Drought categories
- ED4
- ED3
- ED2
- ED1
- ED0

Wetness categories
- EW0
- EW1
- EW2
- EW3
- EW4

(DDDI-percentile category breaks: 100% = driest; 0% = wettest)

Generated by NOAA/ESRL/Physical Sciences Laboratory
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://waterdata.usgs.gov/nwis); updated 2022-08-29.
Drought Impacts

East Branch Neponset River
Canton MA
9 August 2022

Ronald S.W. Horwood
Sr. Meteorologist
NWS / NERFC
MA Drought Management Task Force
23 August 2022

Connecticut River Valley region
Nashawannuck Brook, Northampton

August 18, 2022

NRCC

Courtesy of Maine Forest Rangers

Courtesy of Kate Bentsen – MA DER, MA DFG, and MA Drought Management Task Force
Groundwater

![Map of Groundwater Status with explanation and data source](https://www.usgs.gov/centers/nrcc/products/groundwater-watch)

**Explanation - Percentile Classes**

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

Data provided by [USGS Groundwater Watch](https://www.usgs.gov/centers/nrcc/products/groundwater-watch) - AGLN; updated 2022-08-29.
Drought Impacts

Drought Impacts

Wildfires
583
Fires by Cause Class

MASSACHUSETTS WILDFIRE OCCURRENCE MAP
August to Date

Courtesy of Dave Celino – MA Chief Forest Fire Warden
Drought Impacts

Why apples may be smaller this season: Understanding the root of the problem
Linda Borg
The Providence Journal
Published 5:59 p.m. ET Aug. 5, 2022

Hudson Valley farmers report crop damage during severe drought conditions
Aug 12, 2022, 5:50pm • Updated on Aug 12, 2022
By: Blaise Gomez

Drought continues to impact N.H. farms, forests and water supply
New Hampshire Public Radio | By Mara Hoplamazian
Published August 9, 2022 at 5:04 PM EDT

Western Massachusetts urban, rural farmers feeling effects of severe drought
Connecticut Public Radio | By Jill Kaufman
Published August 25, 2022 at 3:00 PM EDT

Drought is hitting farmers' pocketbooks, Connecticut agriculture chief says
Connecticut Public Radio | By Jennifer Ahrens
Published August 18, 2022 at 2:23 PM EDT

Northeastern Farmers Face New Challenges With Severe Drought
The impacts of climate change have been felt throughout the Northeastern U.S. with rising sea levels, heavy precipitation and storm surges causing flooding and coastal erosion.
By Associated Press | Aug. 15, 2022, at 12:15 a.m.
Precipitation Forecast

7 Day QPF
Valid: 12Z 08/30/22 - 12Z 09/06/22

Explaination - Forecast precipitation (inches)

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

August-to-date conditions:
• Above-normal temperatures
• Highly variable precipitation – drought in New England; flash flooding in WV

Drought:
• Drought/dryness expanded and intensified in New England, NY, and NJ due to factors such as below-normal rainfall, record low streamflow, low soil moisture, and water and ag impacts

Outlooks:
• Short-term outlooks: below- or near-normal precipitation and above-normal temperatures; drought likely to persist and possibly intensify?
• September and September-November: equal chances of below-, near-, or above-normal precipitation for all except WV which could be drier for fall; generally above-normal temperatures are favored particularly for eastern half of region
August 26, 2022
Drought Early Warning Update for the Northeast
Drought Impacts Continue To Expand and Intensify

Key Points

- Extreme Drought (D3) expanded to cover most of Rhode Island and eastern Connecticut, and expanded in Massachusetts.
- Extreme Drought (D3) also pushed into a small portion of southern New Hampshire.
- Severe Drought (D2) expanded across most of Connecticut and Massachusetts and into New Hampshire and southern Vermont, as well as southern Long Island.
- Moderate Drought (D1) expanded in eastern New York, Long Island, and Vermont.
- Some areas of Maine saw rain and conditions improved, while other areas missed out and Moderate Drought (D1) expanded.

Accumulated Precipitation Departure from Normal

https://nedews.nrcc.cornell.edu/
Contact Information

- nrcc@cornell.edu

Upcoming Webinars

- Thursday, September 29 at 9:30am EDT
  - Seasonal Bird Migration
- Thursday, October 27 at 9:30am EDT
  - TBD
- Tuesday, November 29 at 9:30am EST
  - ENSO Update and Winter Outlook

www.nrcc.cornell.edu