

April 1, 2022

**Dear Precipitation Observer,**

Each year, we reach out to our amazing volunteer citizen scientists with a summary of the previous year's weather, observation tips for the upcoming year, and a note of thanks.

**2021 Weather Summary:**

2021 was dry with a statewide average of 23.76 inches or 4.81 inches less than the 1991-2020 normal. It was drier than 2020 and the driest year since 2006.

A major drought overtook Minnesota during 2021, as persistent moisture deficits combined with above-normal temperatures across the state. In some parts of the state, the drought was as serious as anything experienced in over 40 years, though for most of the state it was the worst drought in 10-30 years. Although the period of greatest intensification and expansion began during the summer of 2021, dry conditions had been building in many areas during since early and mid-2020.

A heat wave from June 3<sup>rd</sup> to the 11<sup>th</sup> really kicked the drought into high gear. The highest temperatures recorded during the heat wave, mostly observed June 4th and 5th, included 104 F at Warren and Granite Falls; 103 F at Milan, Benson, and Browns Valley; and 102 F at Redwood Falls, Crookston, and Lamberton (among several other stations). Benson recorded four high temperatures of at least 100 F during the heat wave; Granite Falls, Marshall, and Milan each recorded three.

The peak of the drought was in the first half of August. By August 10th, a swath of northwestern through north-central Minnesota was designated in Exceptional Drought (D4), marking the first time any part of the state had made it to that level of drought during the 21-year history of the US Drought Monitor. By mid-August, 8% of the state was designated in Exceptional Drought, and an additional 42% of the state was in Extreme Drought, and this condition continued into the final week of August.

The late summer, autumn, and early winter precipitation helped chip away at the drought, with the state becoming free from the Exceptional category during September, and with most of the state seeing steady improvements and reductions in areal coverage of drought categories. By mid-December 2021, slightly less than one-half of the state remained in official drought designation.

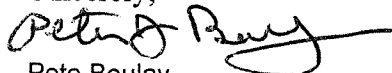
**Observation Tips:**

The 2021 listing of monthly precipitation totals for locations in your county should depict your measurements. If your data are missing, or if inaccurate values are shown for you, please let us know. Contact: [peter.boulay@state.mn.us](mailto:peter.boulay@state.mn.us) or 651-296-421.

The enclosed **annual** observation form is for your personal records only. Please use the **monthly** forms to report data to the network administrator. You can also provide your data on-line. To learn how contact: [peter.boulay@state.mn.us](mailto:peter.boulay@state.mn.us). Your data, and data from all of our volunteers, can be viewed on the State Climatology Office Web Site [www.climateapps.dnr.state.mn.us](http://www.climateapps.dnr.state.mn.us)

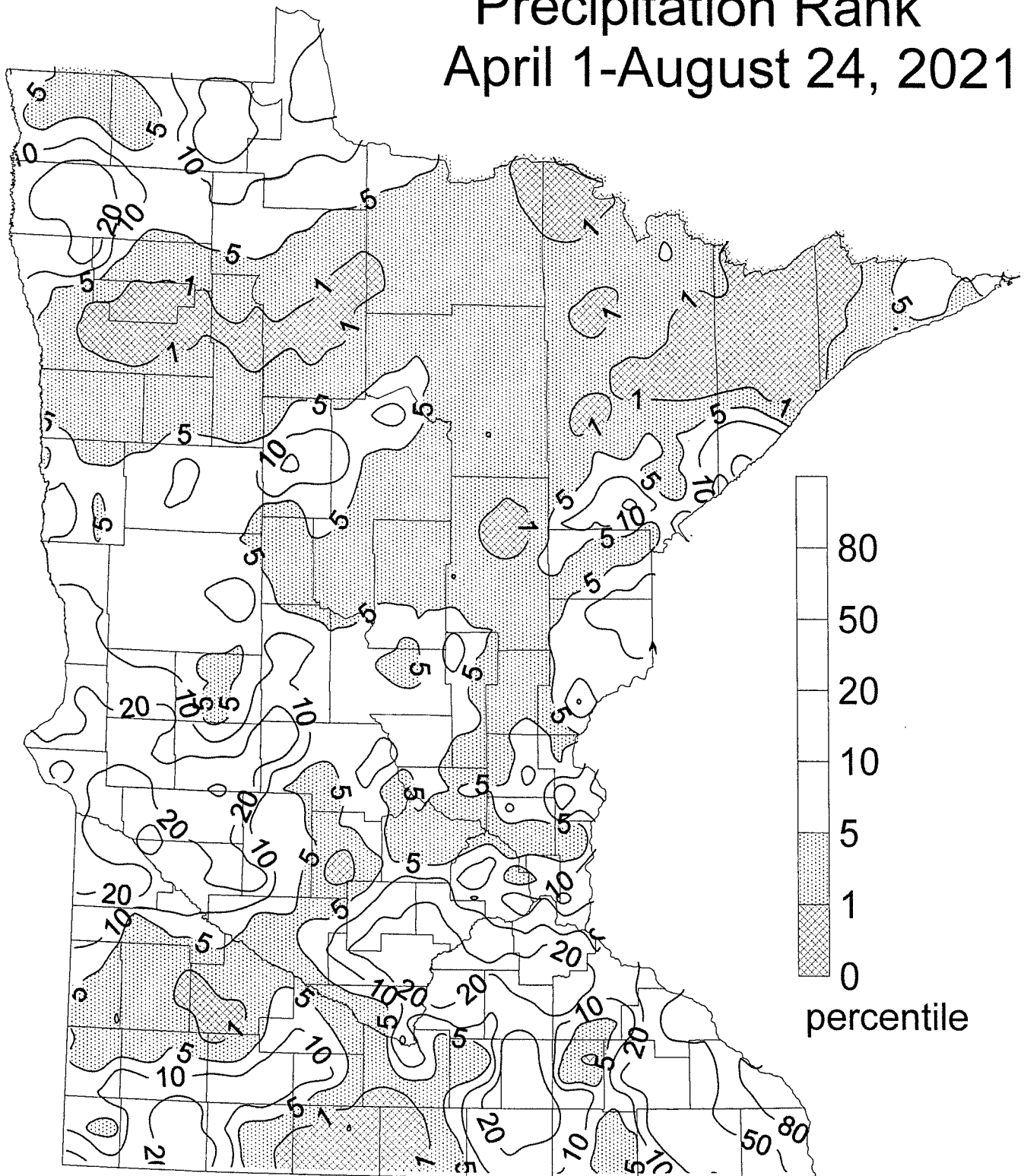
**Thank you** for contributing your data to the statewide precipitation archive. We appreciate your time and your hard work. The data you provide is critical to our understanding and appreciation of Minnesota's dynamic weather patterns.

Sincerely,



Pete Boulay  
Climatologist  
DNR-Climatology

# Precipitation Rank April 1-August 24, 2021



DNR State Climatology Office

This map depicts the precipitation ranking for April 1-August 24, 2021 compared to the period of record. Historical ranking maps depict annual precipitation totals as they rank when compared to annual totals over the modern record. The values presented are percentiles. A ranking near zero indicates the year was drier than any found during the period of record. A ranking near 100 designates that the year was wetter than any found on record. A ranking of 50 is equivalent to the "median", a measure of central tendency.