May 2019 continued the cool and wet pattern of 2019. The preliminary statewide average precipitation total for May was 5.21 inches, which is 1.84 inches above normal. The wettest locations were in southern Minnesota with Rochester finishing with 9.42 inches, 5.79 above normal, and the second wettest May on record for Rochester. Seasonal precipitation so far (April 1 through June 4) shows that the state is split between normal to slightly below normal precipitation in the north, to well above normal in the central and south. In fact, some locales saw one of their top five wettest starts to spring. The US Drought Monitor map released on June 6, shows Abnormally Dry conditions over 7.9% of the state. These abnormally dry conditions were confined to northwest Minnesota. The last time there was almost complete statewide coverage in the Moderate drought category was May 2015, and the last time there was substantial coverage (80% or greater) of the Severe drought category was in 2013. The U.S. Drought Monitor index is a blend of science and subjectivity where drought categories (Moderate, Severe, etc.) are based on several indicators.

Stream flow conditions in May were similar to April. Higher than normal flows occurred across a majority of the state, generally in the southern two thirds of the state. All indicator gages in the southern half of the state reported flows that were High (greater than 90th percentile) with the exception of one gage that is undergoing a rating curve modification. In the northern third of the state, gages along the northern border were mostly in the normal range (25 – 75th percentile) while just south of there, gages were Above Normal (75-90th percentile).

Eighty-four percent of gaged lakes showed May lake elevations above their average lake level of the entire historic record. Over 70% of these "above average" lakes reported lake elevations more than ½ foot higher than their average elevation. Thirty lakes reached their highest reported May lake level with locations in Becker, Beltrami, Cass, Chisago, Crow Wing, Isanti, Martin, Morrison, Otter Tail, Pine, Pope, Swift, and Washington Counties. Twelve of the 23 selected lakes in this report showed High or Above Normal percentiles in May. Two lakes in NE Minnesota showed Below Normal percentiles for this month.

Groundwater level data for the sites submitted for May 2019 show Normal to High water levels throughout much of the state. One site in Freeborn County recorded its highest water level in its 38-year period this May. Two wells in the northwest portion of the state have low water levels and are the only two wells in the state that are categorized as Low (less than 10th percentile). This area ended 2018 with Low to Normal water levels and continues to be low in early 2019.

The information in this report is provided by DNR through long term programs committed to recording and tracking the long term status of our water resources. The current conditions of precipitation, stream flows, lake levels and ground water levels in this report provide valuable information for natural and economic resource management on a state, county and watershed level. If you have questions on the content of this report please contact DNR Climatology Office: climate@umn.edu
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Surface Water: Stream Flow

Stream Flow Conditions
May 2019

Designated major watershed gage

* Percentile ranking based on mean daily flows for the current month averaged and ranked with all historical mean daily flows for that month.
A watershed ranked at zero means that the present month flow is the lowest in the period of record; a ranking of 100 indicates the highest in the period of record.
A ranking at the 50th percentile (median) specifies that the present-month flow is in the middle of the historical distribution.
Lake Level Status
May 2019

Percentile *

- High Water Levels (>90th percentile)
- Above Normal Water Levels (75 - 90th percentile)
- Normal Water Levels (25 - 75th percentile)
- Below Normal Water Levels (10 - 25th percentile)
- Low Water Levels (<= 10th percentile)
- No reading available

* Percentile ranking based on last reported reading for the current month compared to all historical reported levels for that month.
A lake ranked at zero means that the present reported level is the lowest in the period of record; a ranking of 100 indicates the highest in the period of record.
A ranking at the 50th percentile (median) specifies that the present-month reported lake level is in the middle of the historical distribution.

Source data from: MN DNR Waters Lake Level Minnesota Monitoring Program
Groundwater Level Historical Rankings
May 2019

* Percentile ranking based on last reported reading for the current month compared to all historical reported levels for that month. A water level ranked at zero means that the present reported level is the lowest in the period of record; a ranking of 100 indicates the highest in the period of record. A ranking at the 50th percentile (median) specifies that the present month reported water level is in the middle of the historical distribution.

Source data from: MN DNR Groundwater Level Monitoring Program