

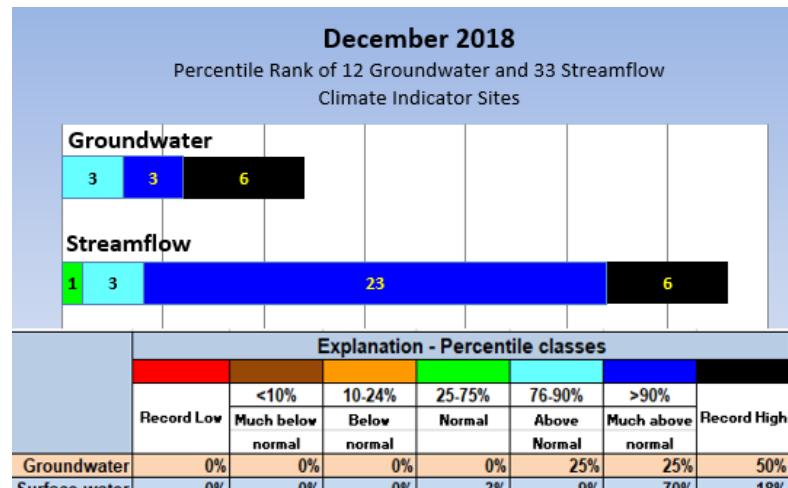
U.S. Geological Survey (USGS) Maryland-Delaware-District of Columbia Monthly Water Conditions Summary

USGS December 2018 Water Conditions Summary

Hydrologic data from 12* wells and 33 streamgages were used to monitor the monthly groundwater and streamflow response to weather conditions in Maryland, Delaware, and the District of Columbia. In December 2018, groundwater levels were at record December highs at six wells, and monthly mean streamflow was at record highs at six streamgages.

*Due to the Federal government lapse in appropriations starting on Dec. 22, 2019, groundwater measurements were not collected at 16 wells in December.

The number of groundwater and surface-water sites, and the percentage of the total number of groundwater and surface-water sites that fall within each percentile range, are shown in the graph for December 2018.



A **percentile** is a value on a scale from 0 to 100 that indicates the percent of a distribution that is equal to or below it. A percentile between 25 and 75 is considered normal. For example, a groundwater level in the 90th percentile is equal to or greater than 90 percent of the values recorded for that month.

Why is it important for the USGS to collect and analyze water-resources data?

USGS water data are valuable to the public, researchers, water managers, planners, and agricultural users, especially during extreme conditions like floods and droughts. The USGS is known for its consistent measurement techniques and the most extensive set of historical groundwater and streamflow data available to the public. Since these long-term data were collected during wet and dry periods, they can be used to assess how water resources respond to changes in weather, and to evaluate how current data compare to the historical data. The uniformity of the dataset enables multi-state comparisons and other comparative statistical analyses that can better inform policy makers of possible water-resources conditions they might encounter in the future.

The sites used in this water summary were carefully selected to include long-term datasets and show the response of streamflow and groundwater levels to weather conditions, rather than the effects of human influences. Of the USGS sites presented in this summary, 13 wells and 32 streamgages have more than 50 years of data. The current streamflow and groundwater data are ranked in comparison to the historical record and summarized. In addition to groundwater and streamflow data, this summary includes precipitation data to give a more complete picture of the region's water resources and the monthly freshwater flow to the Chesapeake Bay. Hydrologic and weather data have not been reviewed and are therefore provisional and subject to revision.

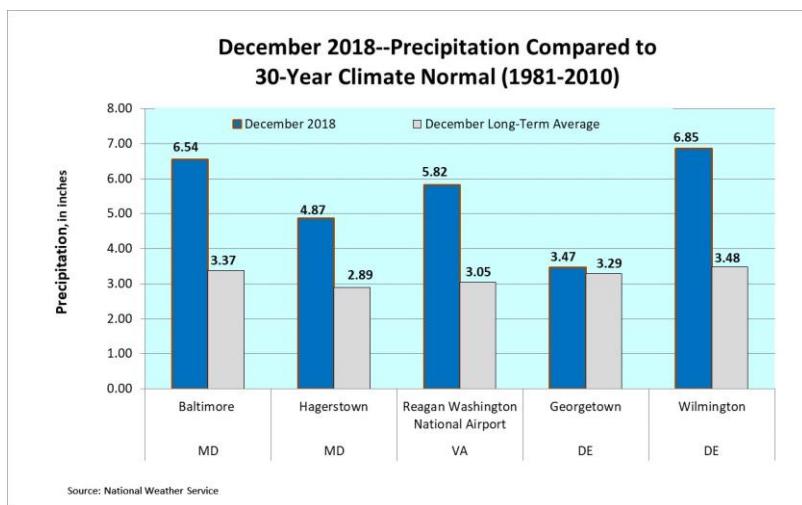
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Precipitation

Monthly data from five Mid-Atlantic National Weather Service (NWS) stations were used to show the relation between monthly precipitation and monthly groundwater levels and streamflows. The NWS uses averages of data over the 30-year climate normal period from 1981 through 2010.

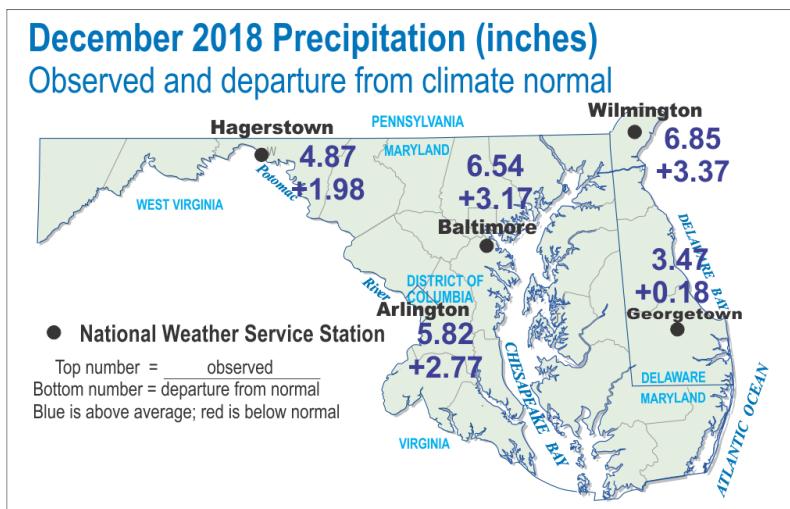
December 2018 Precipitation

Precipitation was above normal at the five Mid-Atlantic NWS weather stations in December. The long-term average December 2018 precipitation for the five Mid-Atlantic NWS weather stations is shown next to the December 2018 precipitation in the graph and map below.



National Weather Service Stations

- Baltimore** = Baltimore/Washington International Thurgood Marshall Airport (BWI)
Georgetown = Georgetown, Sussex County Airport
Hagerstown = Hagerstown Regional Airport
Arlington = Ronald Reagan Washington National Airport
Wilmington = New Castle Airport

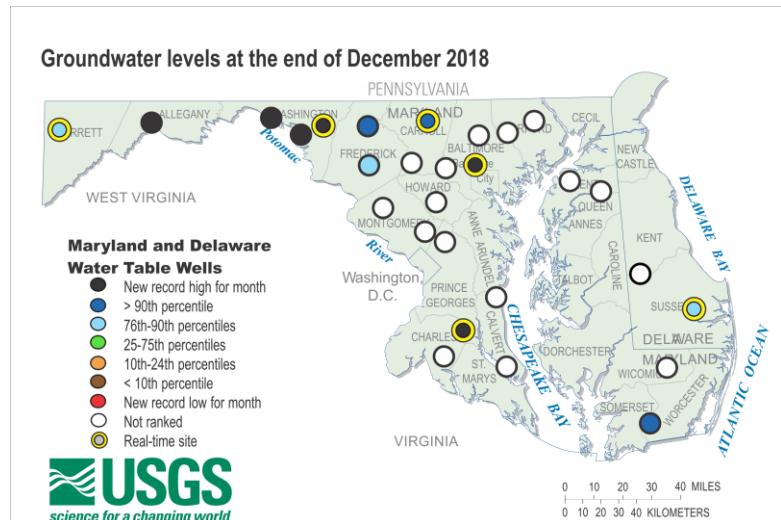


Source: National Weather Service
DC and MD: <https://w2.weather.gov/climate/index.php?wfo=lwx>
DE: <https://w2.weather.gov/climate/index.php?wfo=phi>
MARFC: http://www.weather.gov/marfc/Precipitation_Departures

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December 2018 Groundwater Levels

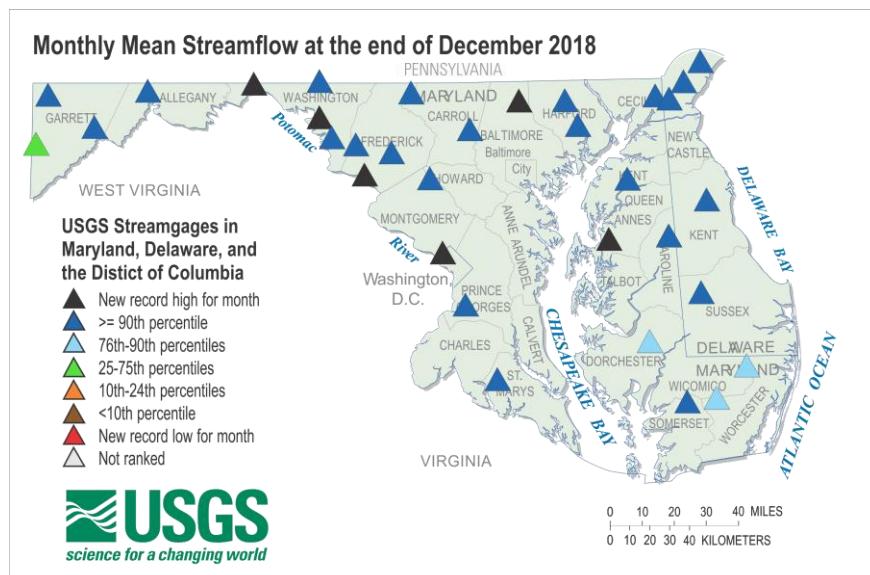
Groundwater levels were at record December highs at 6 of 12 wells, above the 90th percentile at 3 wells, and within the 76th-90th percentile range at 3 wells. There were 16 wells that were not measured in December due to lack of Federal government appropriations.



To access the clickable groundwater map, go to:
http://md.water.usgs.gov/groundwater/web_wells/current/water_table/counties/

December 2018 Streamflow

Monthly mean streamflows were at record December highs at 6 streamgages and above the 90th percentile at 23 streamgages. There were three streamgages with streamflow between the 75th and 90th percentiles, and 1 streamgage in the normal range (25th-75th percentiles).



To access the clickable streamflow map, go to:
<http://md.water.usgs.gov/surfacewater/streamflow/>