

Streamflow of 2015—Water Year National Summary

July 2016

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Introduction

The maps and graphs in this summary describe national streamflow conditions for water year 2015 (October 1, 2014, to September 30, 2015) in the context of the 86-year period 1930–2015, unless otherwise noted. The illustrations are based on observed data from the U.S. Geological Survey's (USGS) National Streamflow Information Program (http://water.usgs.gov/nsip). The period 1930–2015 was used because prior to 1930, the number of streamgages was too small to provide representative data for computing statistics for most regions of the country.

In the summary, reference is made to the term "runoff," which is the depth to which a river basin, State, or other geographic area would be covered with water if all the streamflow within the area during a specified time period was uniformly distributed upon it. Runoff quantifies the magnitude of water flowing through the Nation's rivers and streams in measurement units that can be compared from one area to another.

Each of the maps and graphs below can be expanded to a larger view by clicking on the image. In all of the graphics, a rank of 1 indicates the highest flow of all years analyzed. Rankings of streamflow are grouped into much-below normal, below normal, normal, above normal, and much-above normal, based on percentiles of flow (greater than 90 percent, 76–90 percent, 25–75 percent, 10–24 percent, and less than 10 percent, respectively) (http://waterwatch.usgs.gov/?id=ww_current). Some data used to produce maps and graphs are provisional and subject to change.

National Overview



Average runoff in the Nation's rivers and streams during water year 2015 (9.07 inches) was very close to the long-term (1930–2015) annual mean for the contiguous United States (9.29 inches). Nationwide, 2015 streamflow ranked 51st out of the 86 years in the period 1930– 2015. Note that in some previous water year summaries (prior to 2011) prepared by the USGS, the median runoff, not the average runoff, was compared among time periods.



Explanation – Rank							
86	79–85	66–78	22–65	9–21	2–8	1	
Lowest	Much- below normal	Below normal	Normal	Above normal	Much- above normal	Highest	

Streamflows were reported at record low levels in Alaska (AK). Much-below-normal streamflow was reported in California, Nevada, and Puerto Rico-Virgin Islands (PR-VI). Below-normal streamflow occurred in Oregon, Idaho, Arizona, South Carolina, North Carolina, and Rhode Island. Above-normal streamflow occurred in South Dakota, Iowa, Nebraska, Arkansas, Kentucky, Illinois, Oklahoma, and Missouri. Much-above-normal streamflow was reported in Texas and Indiana. Most States had streamflows in the normal range. Nationwide, streamflow ranked 51st out of 86 years.

**For PR-VI, 72 years of available data were used and rank was adjusted accordingly.

Regional Patterns



2015 regional streamflow ranks (1930–2015)



Explanation – Rank							
86	79–85	66–78	22–65	9–21	2–8	1	
Lowest	Much- below normal	Below normal	Normal	Above normal	Much- above normal	Highest	

The United States (including Puerto Rico-Virgin Islands in the Caribbean region and the District of Columbia in the Mid-Atlantic region) is divided into 21 large drainages, or water-resources regions. These hydrologic areas are based on surface topography and contain either the drainage area of a major river, such as the Columbia in the Pacific Northwest region; the combined drainage areas of a series of rivers, such as the Texas-Gulf region, which includes a number of rivers draining into the Gulf of Mexico; or the area of an island or island group. Water-resources regions provide a coherent, watershed-based framework for depicting streamflow variations.

Streamflows were reported at record low levels in the Alaska region (number 19 on the waterresources regions of the United States map). Streamflows at muchbelow-normal levels were reported in the California (18), Great Basin (16), and Caribbean (21) regions. Below-normal conditions were measured in the Pacific Northwest (17) and Lower Colorado (15) regions. Above-normal streamflows were reported in the Upper Mississippi (07), Ohio (05), and Arkansas-White-Red (11) regions. Much-above-normal streamflow was reported in the Texas-Gulf region (12).

**For PR-VI, 72 years of available data were used and rank was adjusted accordingly.

Water-resources regions of the United States

Seasonal Characteristics



(NO(49))	Dakota, Washington, Iowa, Wyo-
(DE(55))	ming, Michigan, and South Dakota.
(MD(48))	Nationwide, autumn-season stream-
(DC(38))	flow ranked 41st out of 86 years.
PR-VI	**For PR-VI, 72 years of avail- able data were used and rank was adjusted accordingly.

Explanation – Rank							
86	79–85	66–78	22–65	9–21	2–8	1	
Lowest	Much- below normal	Below normal	Normal	Above normal	Much- above normal	Highest	



Explanation – Rank							
86	79–85	66–78	22–65	9–21	2–8	1	
Lowest	Much- below normal	Below normal	Normal	Above normal	Much- above normal	Highest	

Winter-season (January-March) streamflows were at much-below-normal levels in New York, California, and Hawaii (HI). Below-normal flows were reported in Nevada, Pennsylvania, Vermont, Kansas, Massachusetts, Alaska, Connecticut, Oregon, Rhode Island, Alabama, New Hampshire, and Utah. Above-normal streamflows were reported in Idaho, Colorado, and Wyoming. Streamflows at much-above levels were reported in Montana. Nationwide, winterseason streamflow ranked 67th out of 86 years.

Autumn-season (October-

December) streamflows were at much-below-normal levels

in Alaska. Below-normal flows

flows were reported in Illinois,

were reported in Texas and Puerto

Rico-Virgin Islands. Above-normal

Colorado, Wisconsin, Maine, North

Iowa, Wyo-

**For PR-VI, 72 years of available data were used and rank was adjusted accordingly.



normal

normal

normal

Spring-season (April–June) streamflows were at record low levels (ranking 86th in 86 years) in Oregon and Washington. Streamflows were much-below normal in California, Arizona, Nevada, Idaho, Alaska, and Puerto Rico-Virgin Islands. Below-normal flows were reported in Montana, Utah, and South Carolina. Above- and muchabove-normal streamflows were reported in Central and Southern States: South Dakota, Illinois, Kentucky, Louisiana, Missouri, District of Columbia, Kansas, Ohio, Indiana, Arkansas, Nebraska, Texas, and Oklahoma. Nationwide, springseason streamflow ranked 4th out of 86 years.

**For PR-VI, 72 years of available data were used and rank was adjusted accordingly.



Summer-season (July-September) streamflows were at record low levels in Washington and Puerto Rico-Virgin Islands. Muchbelow- and below-normal streamflows were reported in Western and southeastern States: Oregon, California, South Carolina, North Carolina, Nevada, Montana, Idaho, Alabama, Arizona, and Georgia. Alaska also was at much-belownormal level, and Rhode Island was at below-normal level. Abovenormal streamflows were observed in Nebraska, Tennessee, Florida, Pennsylvania, West Virginia, South Dakota, and Ohio. Much-abovenormal streamflows occurred in Arkansas, Hawaii, Oklahoma, Illinois, Iowa, Missouri, Indiana, and Kentucky. Nationwide, summer-season streamflow ranked 22d out of 86 years.

**For PR-VI, 72 years of available data were used and rank was adjusted accordingly.

High and Low Flows



Percentage of streamgages with very high and very low monthly streamflow

In any given month, on average, it is expected that 5 percent of the streamgages will experience very high (>95th percentile) and 5 percent will experience very low (<5th percentile) average streamflow. During water year 2015, there were 3 months (May, June, and July) that had a greaterthan-expected percentage of streamgages reporting very high streamflow (6, 11, and 13 percent, respectively). In contrast, there were 8 months from February through September with a greater-than-expected percentage of streamgages with very low flows (7, 8, 8, 12, 8, 8, 7, and 6 percent, respectively).

Additional Information

The USGS operates a network of approximately 8,100 streamgages nationwide, almost in real time. Current information derived from these stations is available over the Internet at http://waterwatch.usgs.gov. Tables of data that summarize historical streamflow conditions by State, beginning in the year 1900, can be accessed at http://waterwatch.usgs. gov/?m=statesum. These tables are updated every few months to reflect the most current streamflow data.

The streamflow information used to prepare this summary is also used for water management, monitoring floods and droughts, bridge design, and for many recreational activities. To obtain real-time and archived streamflow data and information, visit http://waterdata.usgs.gov/nwis. The national streamflow network, which is part of the Groundwater and Streamflow Information Program (GWSIP), is operated primarily by the USGS; however, funding for network operation is provided by the USGS and approximately 850 Federal, State, tribal, regional, and local partners. For more information on this network and the GWSIP, visit https://www.usgs.gov/science/ mission-areas/water/groundwater and watch for more information with new USGS Web sites in the future.

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