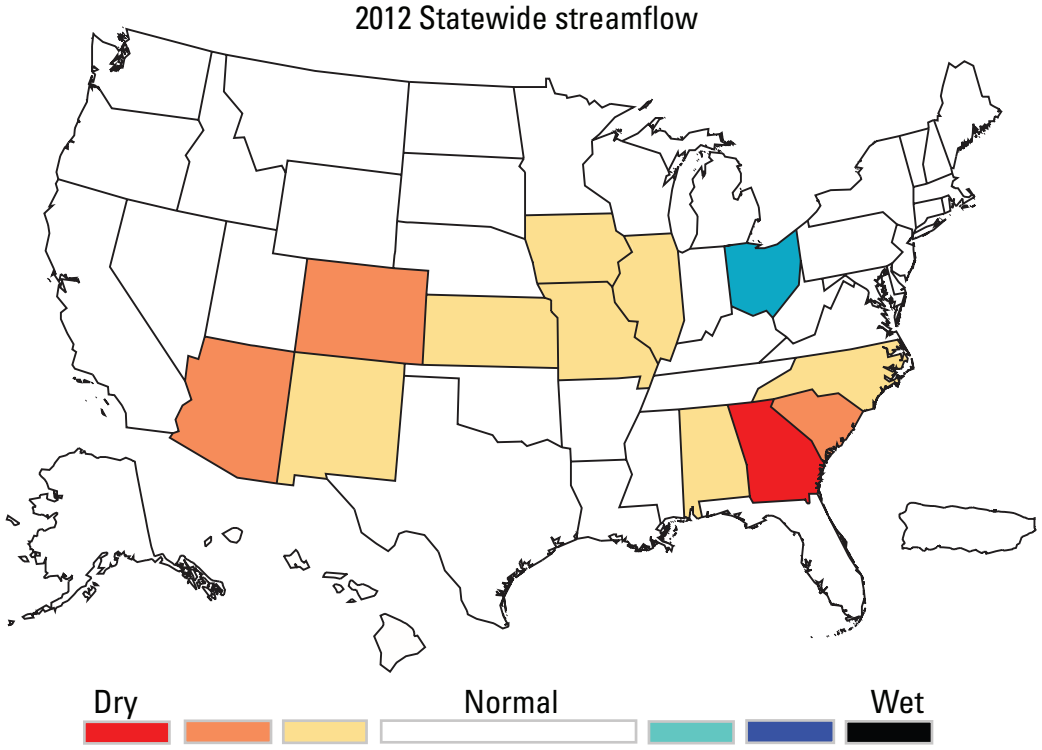
Streamflow of 2012—Water Year Summary

U.S. Geological Survey
Reston, Virginia

May 2013



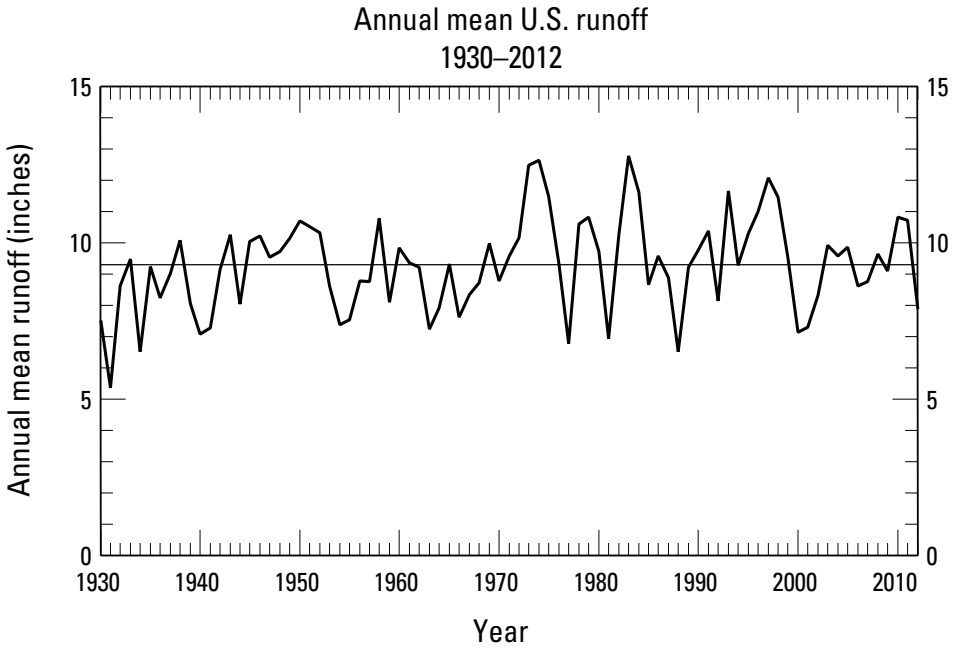
Introduction

The maps and graphs in this summary describe streamflow conditions for water year 2012 (October 1, 2011, to September 30, 2012) in the context of the 83-year period from 1930 through 2012, 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 1930–2012 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.

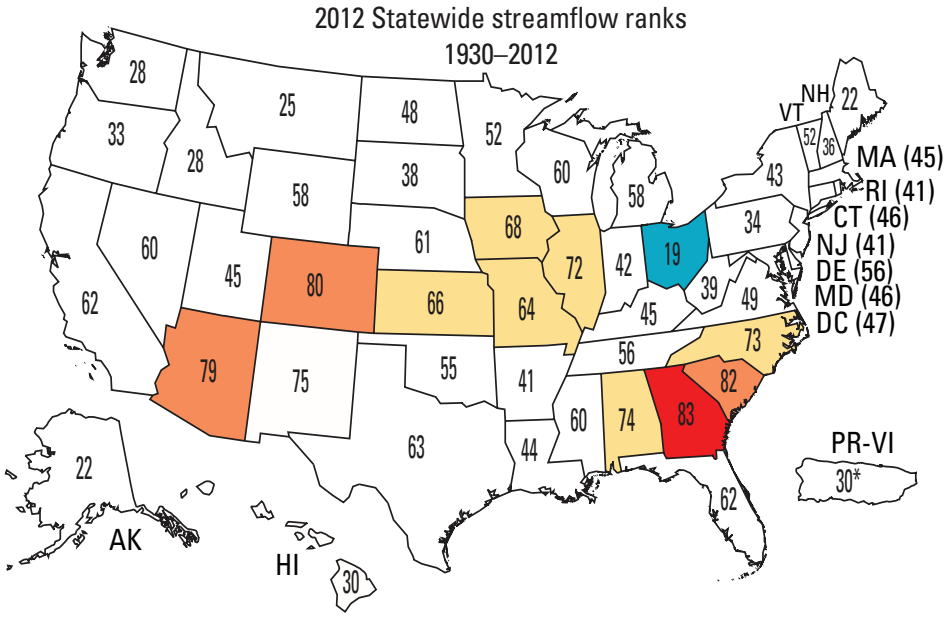
In the summary, reference is made to the term "runoff," which is the depth to which a river basin, State, or other geographic area would be covered with water if all the streamflow within the area during a specified time period was uniformly distributed upon it. Runoff quantifies the magnitude of water 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 the graphics, a rank of 1 indicates the highest flow of all years analyzed.

National Overview



Average runoff in the Nation's rivers and streams during 2012 (7.90 inches) was lower than the long-term annual mean for the United States (9.30 inches). Nationwide, 2012 streamflow ranked 69th out of the 83 years in the period 1930–2012. Note that in previous water year summaries (prior to 2011) the median runoff, not the average runoff, was compared among time periods.

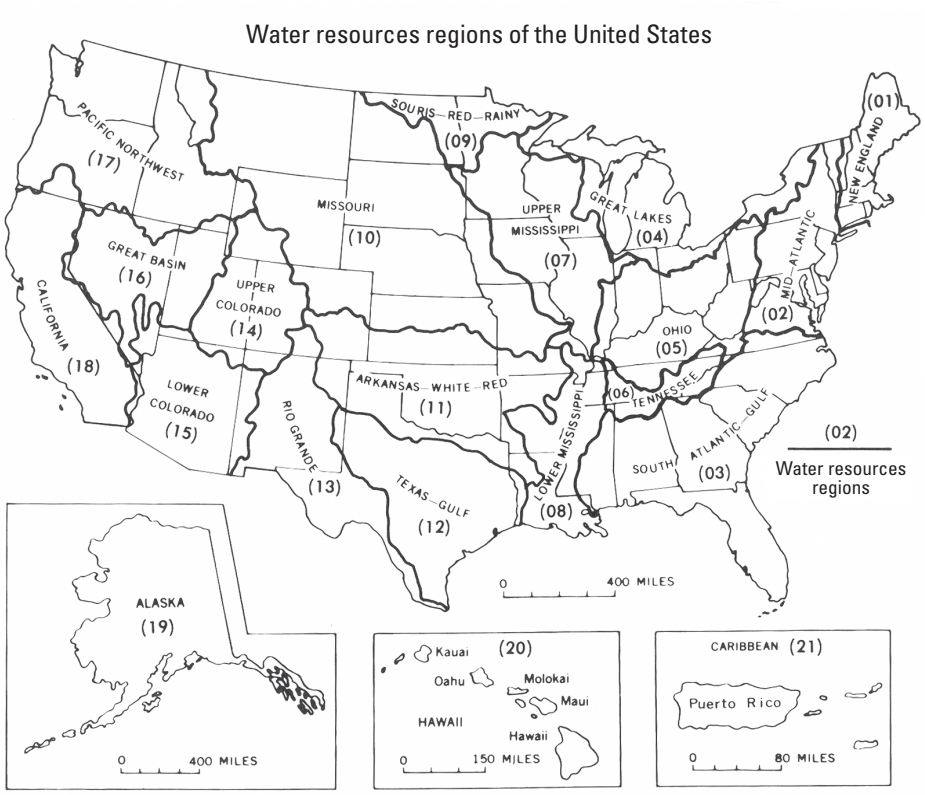


Streamflow was at record low levels (ranking 83d in 83 years) in Georgia. Below-normal and much-below-normal streamflow was prevalent cross the Southeast, Midwest, and Southwest. Above-normal streamflow occurred only in Ohio. Most States had stream-flow in the normal range.

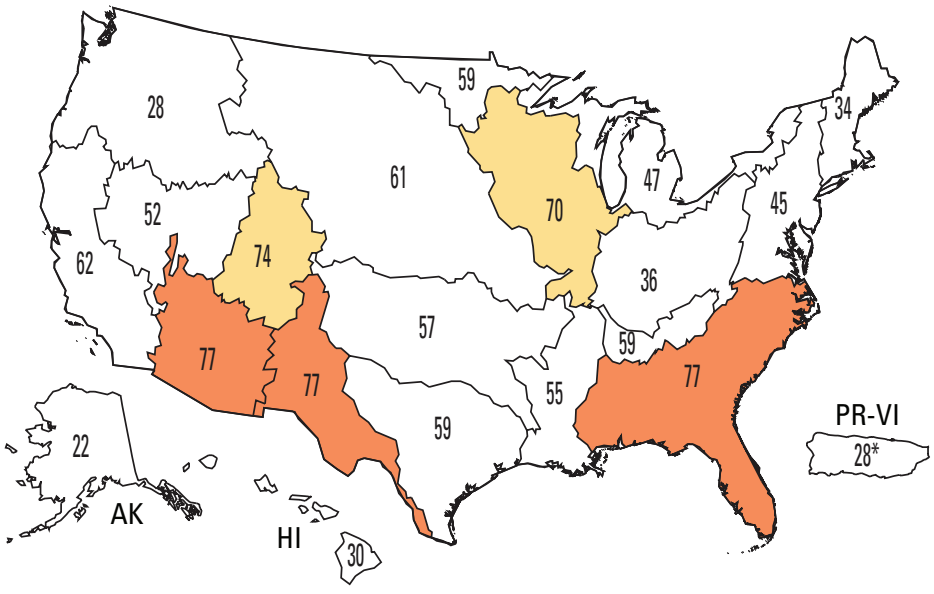
* For Puerto Rico, 69 years of available data were used.

Explanation - Rank						
83	76–82	64–75	21–63	9–20	2–8	1
Lowest	Much below normal	Below normal	Normal	Above normal	Much above normal	Highest

Regional Patterns



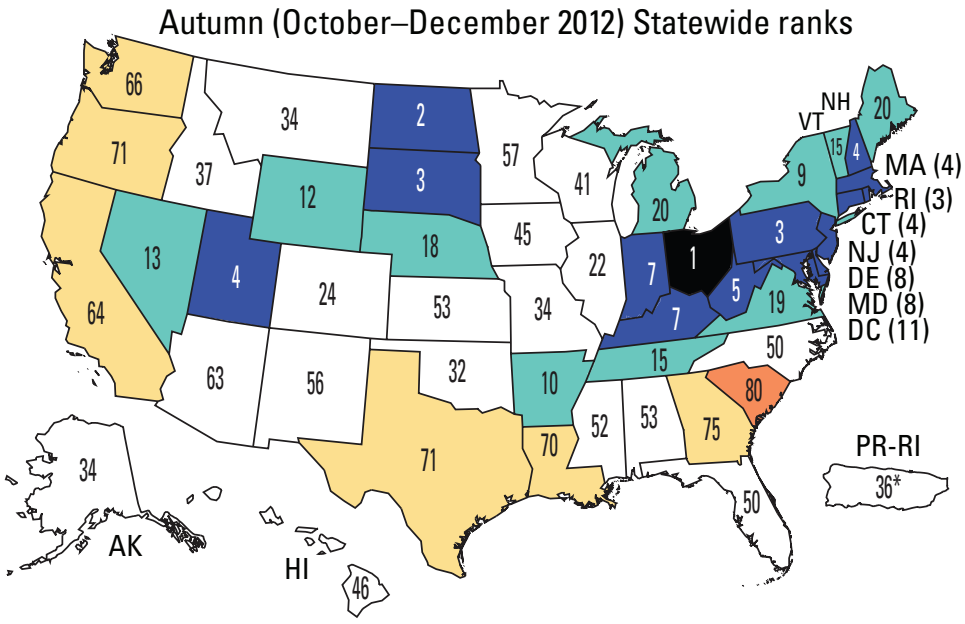
The United States (including Puerto Rico) is divided into 21 large drainages, or water resources regions. These hydrologic areas are based on surface topography and contain either the drainage area of a major river, such as the Columbia, the combined drainage areas of a series of rivers, such as the 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 at much-below-normal levels were reported in the South Atlantic-Gulf, Rio Grande, and Lower Colorado regions. Below-normal conditions were measured in the Upper Mississippi and Upper Colorado regions.

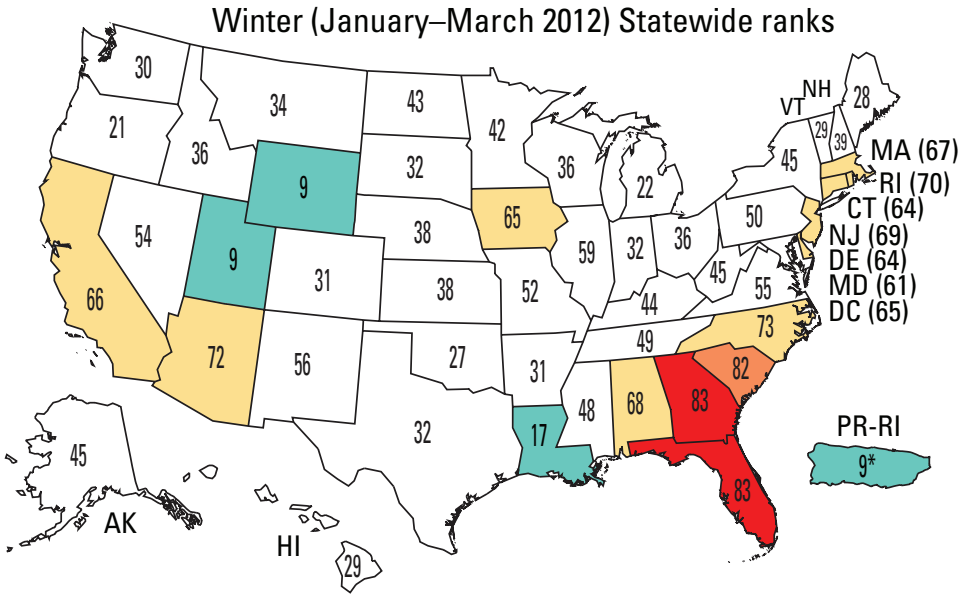
Explanation - Rank						
83	76–82	64–75	21–63	9–20	2–8	1
Lowest	Much below normal	Below normal	Normal	Above normal	Much above normal	Highest

Seasonal Characteristics



Autumn season (October–December) streamflow was at record-high levels (ranking first in 83 years) in Ohio. Above-normal and much-above-normal flows were reported in the Northeast, Great Lakes, and northern States, as well as a few western States. West coast States, Texas, Louisiana, Georgia, and South Carolina had below-normal and much-below-normal streamflows. Nationwide, autumn season streamflow ranked 21st out of 83 years.

* For Puerto Rico, 69 years of available data were used.



Winter season (January–March) streamflow was at record-low levels in Georgia and Florida. Below-normal and much-below-normal streamflows were reported in east coast States, California, Arizona, and Iowa. Above-normal conditions occurred in Wyoming, Utah, Louisiana, as well as Puerto Rico. Nationwide, winter season streamflow ranked 52d out of 83 years.

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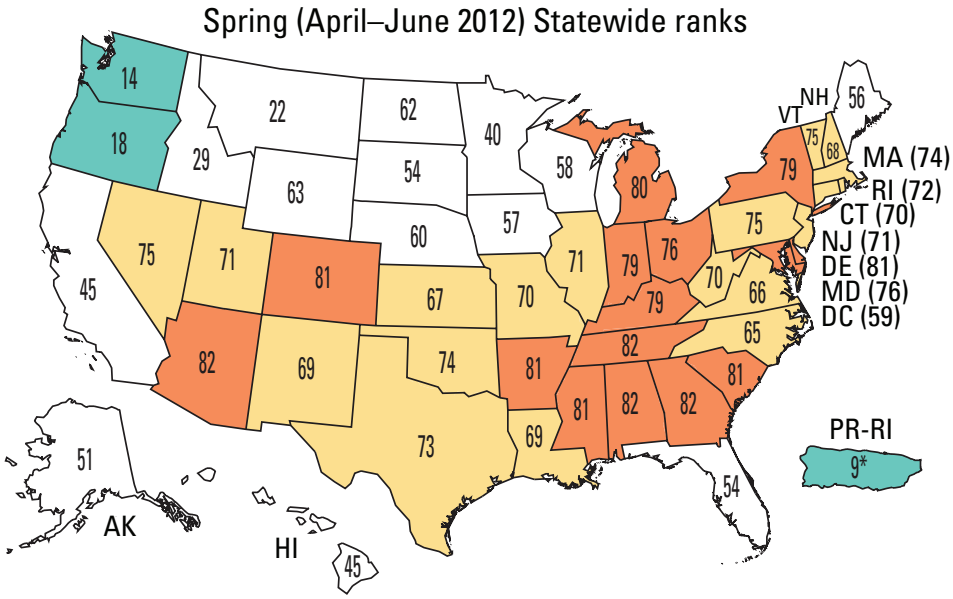
Explanation - Rank						
83	76–82	64–75	21–63	9–20	2–8	1
Lowest	Much below normal	Below normal	Normal	Above normal	Much above normal	Highest



Spring season (April–June) streamflow was below or much below normal in most States (37). Above-normal streamflow was seen only in Washington, Oregon, and Puerto Rico. On a nationwide basis, spring season streamflow was much below normal, ranking 81st in 83 years.

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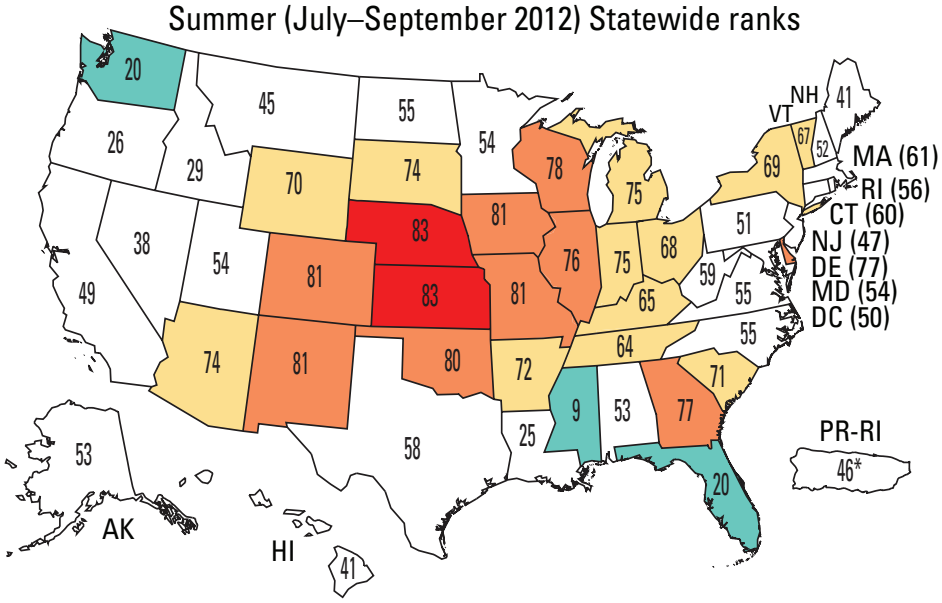

Summer season (July–September) streamflow in Midwestern and southeastern States—as well as Delaware, Vermont, and New York—was below or much below normal. Streamflows in Kansas and Nebraska were at record-low levels. Streamflow was above normal in Washington, Louisiana, and Florida. On a nationwide basis, summer-season streamflow was much below normal, ranking 76th in 83 years.

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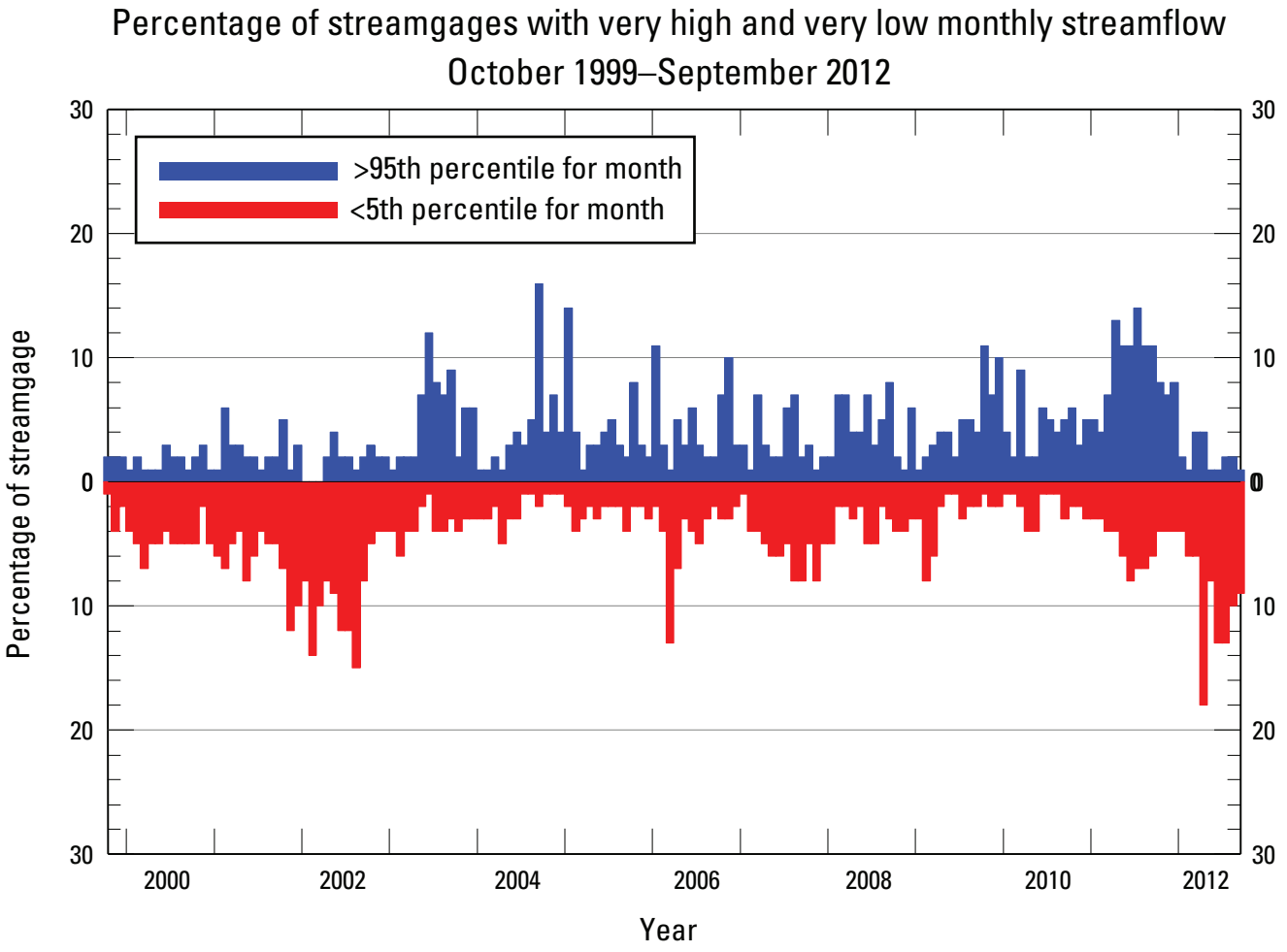
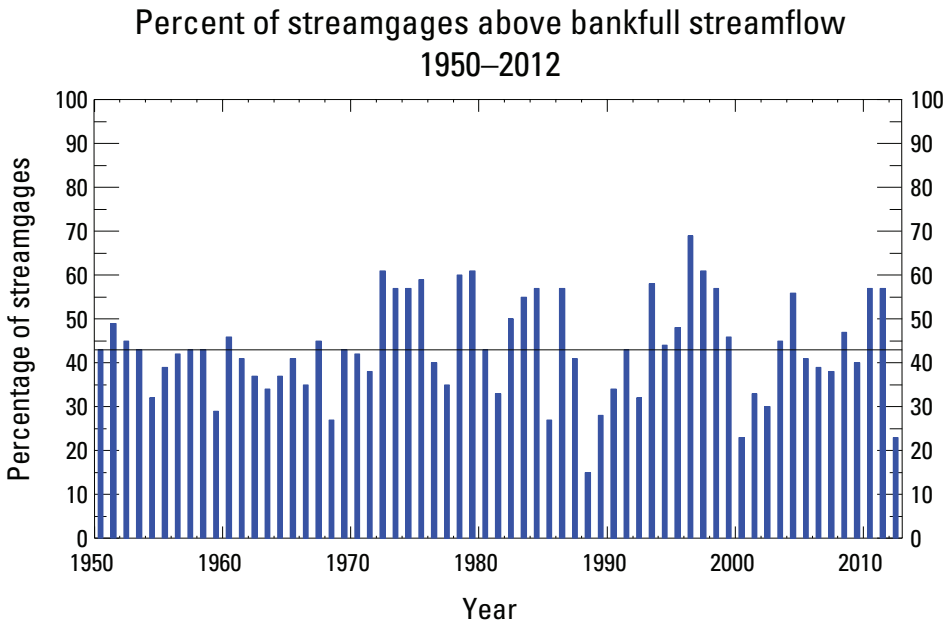
Explanation - Rank						
83	76–82	64–75	21–63	9–20	2–8	1
Lowest	Much below normal	Below normal	Normal	Above normal	Much above normal	Highest

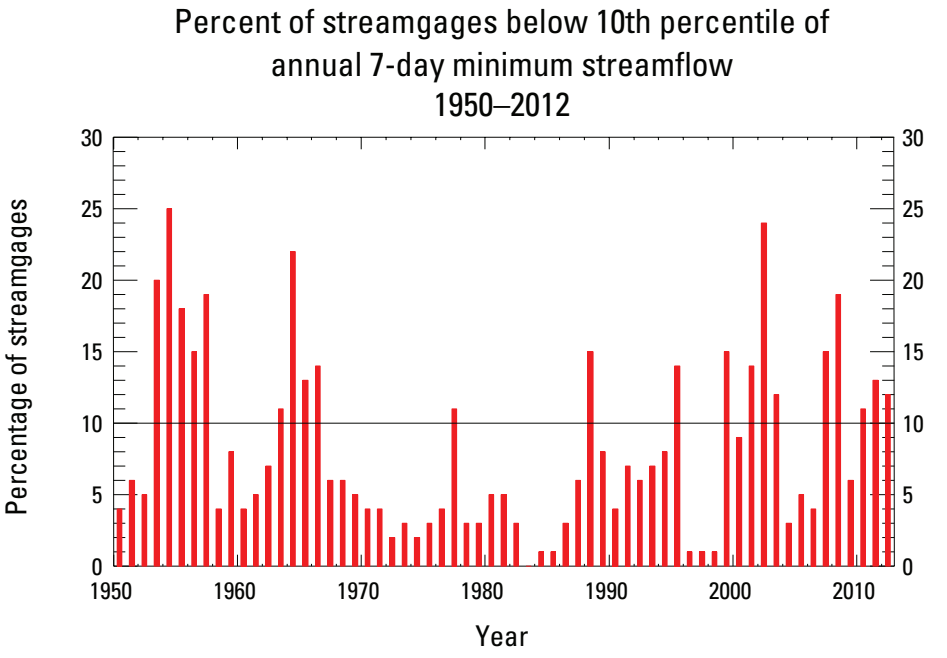
High and Low Flows



In any given month, on average, it is expected that 5 percent of the streamgages will experience very high (>95th percentile) and very low (<5th percentile) average streamflow. During water year 2012, only 3 fall months (October, November, and December) had a greater-than-expected percentage of streamgages reporting very high streamflow (8, 7, and 8 percent, respectively). In contrast, there were 8 months (from February to September) with a greater-than-expected percentage of streamgages with very low flows (6, 6, 18, 8, 13, 13, 10, and 9 percent, respectively).



The bankfull streamflow is defined as the highest daily mean streamflow value expected to occur, on average, once in every 2.3 years. In 2012, 23 percent of streamgages had a daily mean streamflow value above the bankfull level. This value is much smaller than the expected number (43 percent) to occur in any given year. Since 1950, the largest number of streamgages reporting higher-than-bankfull streamflow in any 1 year was 69 percent, which occurred in 1996.



The 10th percentile 7-day low flow is defined as the lowest 7-day average streamflow expected to occur, once every 10 years. In water year 2012, 12 percent of the streamgages reported a 7-day average low flow less than the 10th percentile 7-day low flow value. The expected number to occur in any given year is 10 percent. Since 1950, the largest percentage of streamgages reporting a 7-day low flow less than the 10th percentile 7-day low flow was 25 percent in 1954.

Additional Information

The USGS operates a network of nearly 8,000 streamgages nationwide, most in real time. Current information derived from these stations is available at *http://waterwatch.usgs.gov*. Tables of data that summarize historical streamflow conditions by State, beginning in 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://water.usgs.gov/nwis*. Although the national streamgage network is operated primarily by the USGS, it is funded by a partnership of 850 agencies at the Federal, State, tribal, and local levels. For more information about the streamgage network, visit *http://water.usgs.gov/nsip/*.

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