USGS Crews Measure Record Flooding near Flandreau, South Dakota

Heavy rainfall of up to six inches on Sept. 22 and 23 in eastern South Dakota has resulted in record flooding on Flandreau Creek near Flandreau, S.D., and multiple evacuations along the Big Sioux River.

The U.S. Geological Survey documented a new record peak flow of approximately 4,000 cubic feet per second (cfs) for Flandreau Creek above Flandreau on Sept. 24, breaking the previous record set in 1984 at 2,650 cfs (streamgage 06480650).

This heavy rainfall added to an already wet September in which nearly 15 inches of rain was reported for parts of eastern South Dakota. Much of eastern South Dakota is experiencing high-flow conditions on the James, Vermillion, and Big Sioux Rivers, similar to the high-flow conditions during the summer of 2009 and spring of 2010.

A high flow of approximately 16,500 cfs was documented on Sept. 25 for the Big Sioux River near Brookings (streamgage 06480000). The flow at this streamgage reached its second highest recorded flow since 1954. The Big Sioux River near Dell Rapids (streamgage 06481000) peaked at approximately 15,900 cfs, which was the sixth highest flow for this streamgage since operation began in 1949. The record flows for these two streamgages of 33,900 cfs near Brookings and 41,200 cfs near Dell Rapids were set in 1969.

“For streamgages with long periods of record, maximum flows do not appear to be increasing with time; however, the high flows appear to be more frequent,” said USGS Hydrologist Joyce Williamson. “Also,
annual mean flows are trending upward at many streamgages, which indicates that the volume of water that flows past a streamgage in a given year is increasing.”

The South Dakota Flood Watch website can be used to help track current flooding conditions and provides flood tracking charts for the state.

The USGS operates approximately 7,500 streamgages nationwide.

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