

JANUARY 1996 FLASH FLOOD IN THE SUSQUEHANNA RIVER BASIN

What conditions led to the January 1996 basinwide flash flood?

An unusual combination of heavy snowpack, high winds, unseasonably warm temperatures, heavy rainfall, and ice jams resulted in the basinwide flash flood from January 19-21, 1996.

The heavy accumulation of snow from the Blizzard of 1996 and previous snow events represented about four inches of liquid equivalence. As the temperature and dew point rose steadily during the night of January 18, the snowpack became saturated and unable to absorb the additional precipitation from the heavy rainfalls that followed.

What were the impacts and damages to the Susquehanna River Basin from the January 1996 flash flood?

- 14 lives were lost.
- More than \$600 million in damages were suffered. The flood is considered the third worst in the basin's history in terms of magnitude.
- The Chesapeake Bay received the largest amounts of nutrients and sediments since the 1972 flood. The U.S. Geological Survey reported that the streamflow during the flood were the highest January flows ever seen in the Susquehanna River.
- The Conowingo Dam facility in Maryland recorded its second highest flow (909,000

cubic feet per second) with a peak stage of 34.18 feet. According to the U.S. Geological Survey, this was equivalent to having 27 large community swimming pools being filled each second--about 6.8 million gallons per second.

- The formation or breakup of ice jams caused rises in river levels as much as 8 feet in an hour.
- The U.S. Army Corps of Engineers' reservoirs held back 167 billion gallons of flood waters. This prevented more than \$1.3 billion in additional damages.
- The peak flow at Harrisburg, Pa., during the flood was 570,000 cubic feet per second--20 times the normal flow (normally 30,000 cubic feet per second for this time of the year). The Susquehanna River rose from 7 feet to over 22 feet in little over 14 hours--the greatest surge occurred over a short 3-hour span.
- The federal government declared the entire Commonwealth of Pennsylvania as a disaster area. Many New York counties, including all those in the basin, also were declared disaster areas. Five counties in Maryland, including the basin's Cecil County, were declared.
- Severe ice jams destroyed about two-thirds of the skimmer wall at the Safe Harbor Water Power Facility in Lancaster County, Pa. The Holtwood hydroelectric facility also suffered significant damages. As a result, both facilities had to push back the expected completion dates for their mechanical fish lifts.