

# FLOOD OF JUNE 2006 IN THE MOHAWK, DELAWARE AND SUSQUEHANNA RIVER BASINS

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The US Geological Survey (USGS) in cooperation with the Federal Emergency Management Agency (FEMA) documented the major flooding of June 26-29, 2006 in the Mohawk, Delaware, and Susquehanna River basins in New York. Prior to June 2006, streamflow conditions in the Mohawk and Delaware River basins were generally in the normal range and conditions in the Susquehanna River basin were in the dry range. A stalled frontal system caused tropical moisture to be funneled northward into New York causing severe flooding in the Mohawk, Delaware, and Susquehanna River basins during June 26-29, 2006. Rainfall totals for this multi-day event ranged from 2 to 3 inches to greater than 13 inches in southern New York. The storm and flooding claimed four lives in New York, destroyed or damaged thousands of homes and businesses, and closed hundreds of roads and highways. Thousands evacuated their homes as floodwaters reached new record elevations at many locations within the three basins. A total of 12 New York counties were declared Federal disaster areas, over 15,500 residents applied for disaster assistance, and millions of dollars in damages resulted from the flooding. Disaster-recovery assistance for individuals and businesses adversely affected by the floods of June 2006 has reached over \$227 million.

The National Weather Service rainfall station at Delta Dam recorded over 6 inches of rain, while the stations at Walton and Fishs Eddy recorded storm totals of greater than 13 inches of rainfall. The USGS stream-gaging stations along the Mohawk River from below Delta Dam to Cohoes are regulated by power-generation dams, municipal water suppliers, and the New York State Canal Corporation. The Mohawk River near Rome and Little Falls

stream-gaging stations recorded peak discharges on the morning of June 28, 2006, and downstream near the mouth of the Mohawk River at Cohoes, the peak discharge was recorded in the morning hours of June 29, 2006. Recurrence intervals at these USGS stream-gaging stations ranged from less than 5 years to greater than 100 years. The USGS stream-gaging station Mohawk River below Delta Dam near Rome recorded a peak discharge of 3,100 ft<sup>3</sup>/s on June 28 which had a recurrence interval of less than 5 years. The USGS stream-gaging station Mohawk River near Little Falls recorded a peak discharge of 35,000 ft<sup>3</sup>/s on June 28 which had a recurrence interval of greater than 100 years. Recurrence intervals at USGS stream-gaging stations on the major tributaries to the Mohawk River along the East and West Canada Creeks and the Schoharie Creek ranged from greater than 500 years at East Canada Creek at East Creek, to greater than 100 years at the West Canada Creek at Kast Bridge, to as low as less than 5 years at Schoharie Creek at Burtonsville. The peak water-surface elevation and discharge recorded on June 28 and 29, 2006, at the Mohawk River near Little Falls and West Canada Creek at Kast Bridge stream-gaging stations were new period-of-record maximums.

In the Delaware and Susquehanna River basins, the West Branch Delaware River at Hale Eddy and the Susquehanna River at Vestal were also among the USGS stream-gaging stations that recorded peak discharges with greater than 100-year recurrence intervals. The peak water-surface elevation and discharge recorded on June 28, 2006, at the Delaware River at Port Jervis stream-gaging station was the highest since the flood of August 1955 and at the Susquehanna River at Conklin stream-gaging station, which has been in operation since 1912, the peak water-

surface elevation and discharge exceeded the previous period-of-record maximums that were set during the flood of March 1936.

The US Geological Survey and Federal Emergency Management Agency personnel selected a total of 104 high-water-mark study sites along the Mohawk River and selected tributaries; the East, West, and main branches of the Delaware River and selected tributaries downstream to Port Jervis, NY; and the Susquehanna River and selected tributaries downstream to Athens, PA. The study area in the Mohawk River basin included study sites on the West and East Canada creeks and along the Mohawk River from below Delta Dam near Rome east to Erie Canal Lock 9 at

Rotterdam Junction. Peak water-surface elevations for the June 2006 flood were compared with 10-, 50-, 100-, and 500-year flood-profile elevations for published Federal Emergency Management Agency flood-insurance studies at these sites. Many of the peak water-surface elevations during the June 2006 flood exceeded the 100-year flood-profile elevations determined in the flood-insurance studies in the Mohawk, Delaware, and Susquehanna River basins. The US Geological Survey report documenting the major flooding in the Mohawk, Delaware, and Susquehanna River basins in New York is currently in press and should be available to the public later this year.