

Flood Event of 8/14/2011 - 8/16/2011

Main Stem Delaware

Site	Flood Stage	Date	Crest	Flow	Category	Basin	Stream	County of Gage	County of Forecast Point
Trenton	8.50	8/14/2011	8.82	2,180	Minor	Delaware	Assunpink Creek	Mercer	Mercer

Raritan

Site	Flood Stage	Date	Crest	Flow	Category	Basin	Stream	County of Gage	County of Forecast Point
Blackwells Mills	9.00	8/15/2011	10.56	4,760	Moderate	Raritan	Millstone River	Somerset	Somerset

Weather Summary

An unseasonably deep 500 hPa low moved over the eastern United States from 13-15 August 2011. The deep low and the surge of moisture into the Mid-Atlantic region produced some locally heavy rainfall. Several bands of showers produced some impressive 24 hour rainfall totals with 10.64 and 9.20 inches in Seabrook and Bridgeton, New Jersey. The 500 hPa pattern over the eastern United States shows the relatively deep 500 hPa low which moved over the eastern United States from 13-15 August 2011. As this system moved eastward a surge of deep moisture and above normal precipitable water (PW) moved up the East Coast of the United States. There was a surge of strong southerly winds associated with this plume of deep moisture and modest instability. The persistence of the pattern likely contributed to the heavy rainfall over the Mid-Atlantic region. Over the 48 hour period from 13/1200 UTC through 15/1200 UTC a deep trough was present over the Ohio Valley with a surge of strong winds at 850 hPa and a surge of deep moisture up the coastal plain. During the 24-hour period of heavy rainfall over New Jersey and New York, the pattern over Mid-Atlantic region showed a deep trough over Virginia. The plume of high PW air was focused along the coastal plain and into southern New England with strong southerly flow along the coastal plain. A deep surface cyclone was present in the mean along the coastal plain. The 250 hPa winds and 850 hPa u-winds during the peak of the rainfall showed a strong jet at 250 hPa and easterly winds north of the surface cyclone. The 850 hPa temperatures indicated a surge of below normal temperatures at 850 hPa and implied a cold front from the Gulf States into the Mid-Atlantic region. The 48-hour accumulated rainfall from the NMQ data showed the focus of the heavy rainfall over coastal regions from Virginia into New England. Farther inland these data implied a cyclone nature to the bands of rain west of the surge of strong southerly flow and the surge of high PW air. Portions taken from Rich Grumm NWS WFO-CTP.
<http://nws.met.psu.edu/sref/severe/2011/14Aug2011.pdf>.

Source: Grumm NWS WFO CTP

Crest Statistics and Flood Information

First flood of 2 that occurred in Aug, 2011

Eleventh flood of 18 that occurred in 2011

Number of Floods at MARFC Forecast Points - 2

Number of Floods Cresting in Minor Range - 1

Number of Floods Cresting in Moderate Range - 1

Number of Floods Cresting in Major Range - 0

Number of Floods Cresting in Missing Range - 0