



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

Natural & Historic Resources
Office of Engineering & Construction

MARK N. MAURIELLO
Acting Commissioner

MEMORANDUM

TO: David Rosenblatt, Administrator, Office of Engineering and Construction
Benjamin Keiser

FROM: Benjamin Keiser, Manager, Bureau of Coastal Engineering

DATE: October 19, 2009

SUBJECT: Coastal Storm Survey & Damage Assessment
Storm Activity Impact - October 15th through 18th, 2009

SUMMARY:

A relatively calm time period from mid-September through mid-October allowed the New Jersey coastline to recover from the increased storm activity that occurred during the end of the summer. This period allowed beach berm widths and elevations to recover and provide some level of protection to dunes, properties, and infrastructure landward of the beach. The calm period ended along the New Jersey coast as two storm systems created a long period of persistent onshore winds, abnormally high tides, high seas and rough surf; this activity began on Thursday, October 15th, 2009 and did not subside until Sunday, October 18th, 2009.

A strong coastal low pressure system developed off of the Carolinas on Thursday October 15th and tracked northeast off the New England coast and through the Canadian Maritimes through Friday; the pressure gradient related to this system created strong northeasterly winds and high seas, increasing the tidal levels higher than normal. The moderate northeasterly winds persisted through Saturday, when a second low pressure system intensified off of the Delmarva coast; the effects of this second storm lasted through late Sunday, October 18th, 2009. The long duration of moderate to strong northeasterly winds and the astronomically high tides related the new moon on October 18th allowed water levels to increase and stay elevated for much of the period.

Off of the New Jersey coast, sustained winds of 38 miles per hour with gusts as high as 50 miles per hour occurred. In addition, the largest nearshore sea heights were measured as high as 16 feet; this resulted in surf heights ranging from 5 to 8 feet, with some areas along the New Jersey coastline experiencing even higher surf heights. The strong onshore winds, large surf heights, and increased water levels created varying degrees of erosion along the New Jersey coastline.

The Bureau of Coastal Engineering conducted a survey of the New Jersey coastline on Monday, October 19, 2009, the results of which are included as part of this report. As this report was being compiled, surf heights continued to be in the 2- to 4-foot range with north-northwest winds ranging from 5 to 15 miles per hour; this is forecast to subside by Tuesday, October 20, 2009. A detailed summary listed by municipality from north to south follows this report.

Note: Wind data courtesy of the National Oceanic & Atmospheric Administration's National Data Buoy Center
Wave heights courtesy of Steven's Institute's Davidson Lab NJ Coastal Monitoring Network
Surge data courtesy of the National Oceanic & Atmospheric Administration's Meteorological Data Laboratory.