

A look back on the devastating floods of March 2010 in Rhode Island

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Much of eastern New York and central and southern New England experience multiple moderate to major floods during the late winter and early spring of 2010. Flooding across parts of Rhode Island, southeast Connecticut and eastern Massachusetts were historic, with several locations experiencing not one but two record floods within a two week period. The driving force behind this dramatic and devastating 5 week period was a series of four major rain producing nor'easters. Each system was enhanced by the tremendously active southern stream jet and plumes of deep tropical moisture originating from the moderate El Nino event in the tropical Pacific. Each system spent days raining over the region, blocked in their forward progress by a persistent ridge of high pressure over Greenland.

The combined effects of power-house, moisture laden, slow moving nor'easters would play out across the region in the form of heavy rains and record breaking flooding. By the time the rains had ended and flood waters had subsided, damages in the hardest hit states of Rhode Island and Massachusetts would be in the millions of dollars. Hundreds of roads and bridges would be damaged or destroyed. Dozens of dams would be pushed to the brink; several would fail under the strain of 10 to 20 inches of rainfall in a 5 week period. Lastly, thousands of residents in the region would be forced to leave their homes and businesses, some as I write this today still unable to return or rebuild.

This presentation will provide a review the hydrometeorological conditions which ever so steadily brought the region to such a historic point in its flood history. It will also examine the flood frequencies along several basins and will touch upon changes in the frequency of heavy rainfall events in the Ocean State.