

EXTREME PRECIPITATION IN A CHANGING CLIMATE FOR NEW YORK AND THE NEW ENGLAND STATES

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Abstract Extreme precipitation events can produce localized urban and widespread flooding with damage to property, degradation of water quality, and potential loss of life. This risk can be especially serious, both ecologically and economically, where development has created or is creating a high fraction of impervious land cover. The climatology of very large precipitation events is therefore a critical component of engineering design and regulations for structures and facilities that must withstand or protect against such events.

However, the latest comprehensive regional precipitation-frequency study for New York and the six New England states is US Weather Bureau Technical Paper 40, published in 1961. Since that time, much more precipitation data have been collected. These data provide longer periods of record for statistical analysis as well as additional reference for calculating shorter duration time periods.

A new web tool is being developed by the Northeast Regional Climate Center at Cornell University, with funding and technical assistance from the USDA NRCS. The website, which is expected to launch in summer 2010, will provide a much-needed update of extreme rainfall statistics for New York and New England. A variety of useful text and graphical products will be made available through a user-friendly web portal. In addition to the fixed standard period which is intended to be a base for regulations and policy decisions, the website will provide access to extreme rainfall statistics through the most recent year. In future years, these updates will provide the necessary information for considering subsequent updates and provide a readily available source of updated statistics.