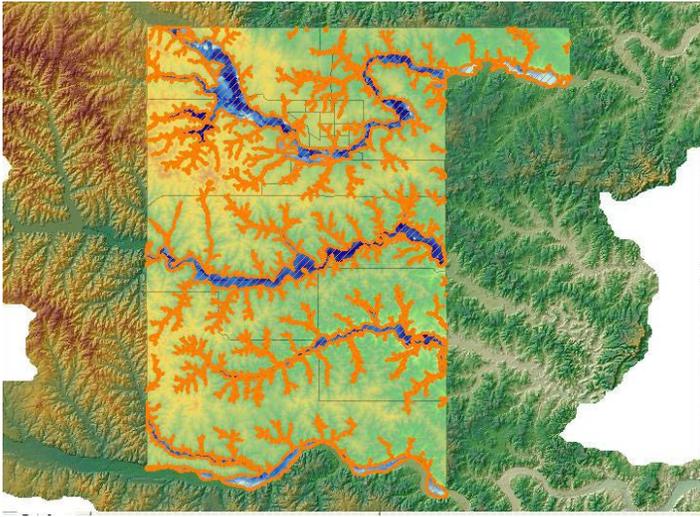




# State Hazard Mitigation and Climate Adaptation Plan Update: Risk Assessment Methodology



## Project Overview

The Massachusetts Emergency Management Agency and the Executive Office of Energy and Environmental Affairs are developing a fully integrated State Hazard Mitigation and Climate Adaptation Plan. While there have been efforts at the municipal level to embed climate adaptation considerations into local hazard mitigation plans, the Commonwealth is likely the first state to officially integrate these two types of plans. This new planning framework will allow the Commonwealth to address climate change and hazards in a comprehensive way while charting a course that cities and towns and other states can follow.

## Risk Assessment Methodology

Risk assessment will serve as the foundation for much of the plan's analysis. Risk assessment is designed to characterize hazards, which in turn allows the Commonwealth to assess the vulnerabilities and risks they face as a result of those hazards.

The project team has developed a Risk Assessment Methodology document, which will serve as a road map of required tasks to complete the risk assessment component of this project. The team is collaborating closely to determine how hazards have changed since the risk assessment was last updated in 2013, and to make sure that the best available data, models and approaches will be utilized in the risk assessment update. The impacts of climate change on each hazard will be evaluated as part of the analysis.

The team first determined the most accurate method of characterizing the hazards addressed in this document, which reflect hydrologic, atmospheric, geologic, manmade, and other types of hazards. The methodology for each hazard outlines not only how existing conditions will be characterized, but also how the impacts of climate change on that hazard will be reflected in the document. New climate change projections developed by the Northeast Climate Science Center and the University of Massachusetts-Amherst

and showing changes in temperature and precipitation as well as inland hydrology and sea level rise will be incorporated into the risk assessment and throughout the plan.

In addition to hazard characterization, the Risk Assessment Methodology outlines the steps that will be required to transform this data into a comprehensive analysis of the Commonwealth's vulnerabilities – now and in the future.

While the approach will vary for each hazard, these vulnerabilities will generally be determined by analyzing the intersection of the hazard with a wide range of assets within the Commonwealth for both existing conditions and anticipated future conditions due to climate change. These assets include state buildings, infrastructure, other built environment components, natural resources, and vulnerable populations.

The Risk Assessment Methodology will be revised as needed as data become available and analyses are conducted. The risk assessment itself is scheduled to be completed in Fall 2017.

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