

# Massachusetts State Hazard Mitigation and Climate Adaptation Plan

## State Agency Vulnerability Assessment Reference Materials:

### Severe Winter Storms

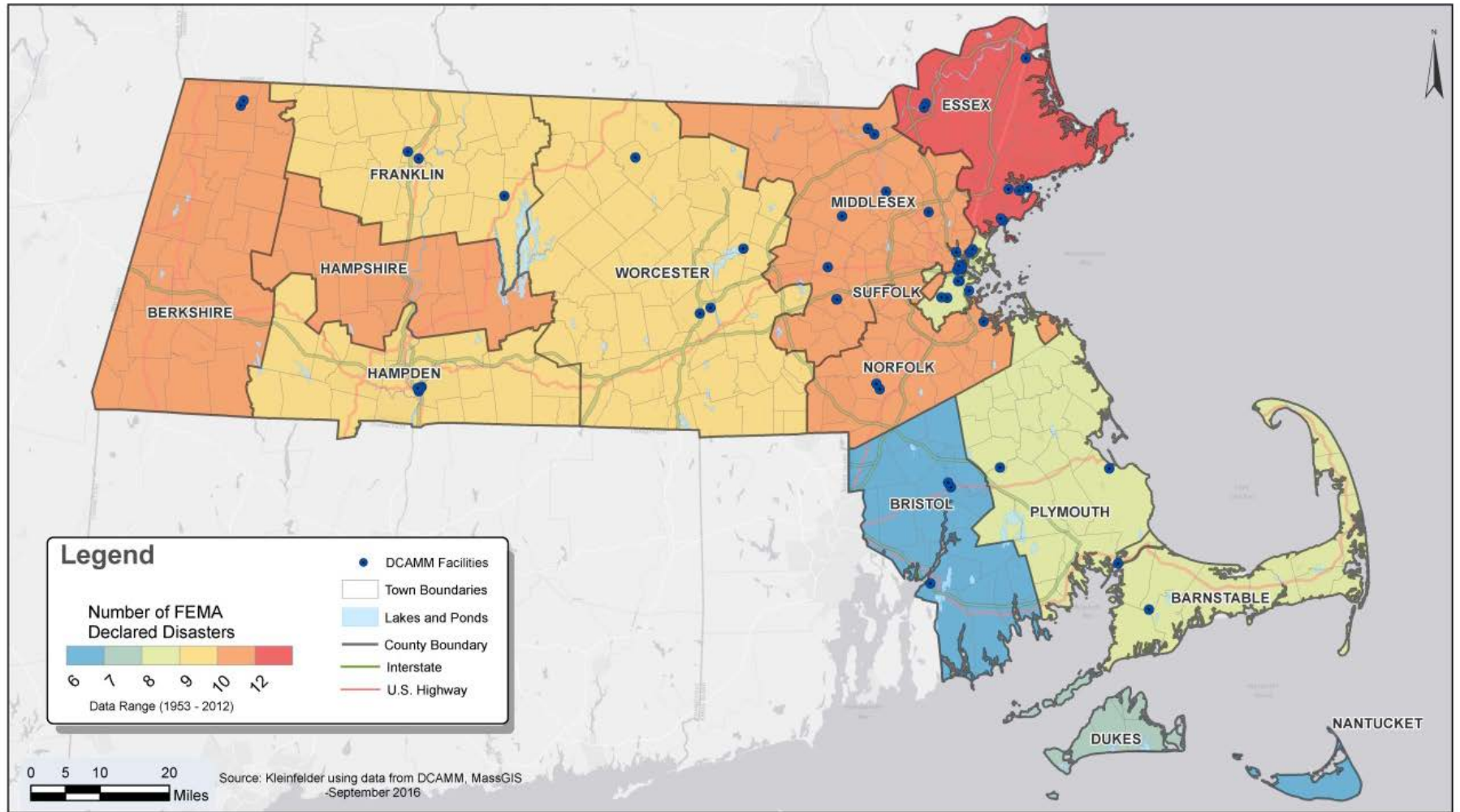
*Data Source: DCAMM Statewide Resiliency Master Plan*

Severe winter storms occur on a fairly regular basis in Massachusetts, and it is anticipated that the frequency of these events will increase in the future as a result of climate change. NOAA data shows that the frequency of snowstorms in the eastern portion of the U.S. has increased over the past century, with twice as many extreme snowstorms occurring in the second half of the 20<sup>th</sup> century as in the first. There are a number of factors behind this trend, including warmer oceans providing additional moisture to storms and melting Arctic sea ice modifying atmospheric circulation patterns. According to NOAA, these changes will specifically result in “a greater prevalence of high pressure blocking patterns over the North Atlantic” that will increase the frequency and severity of cold-weather events, and will also cause storms to move more slowly<sup>1</sup>. Although specific maps or data describing cold weather events at the survey planning horizons are not currently available, it is anticipated that existing trends in the spatial distribution of these events will continue. Thus, while the number of FEMA declared winter emergencies is likely to increase across Massachusetts in the future, the present-day map below provides valuable information on the distribution of this hazard.

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<sup>1</sup> Climate Change and Extreme Snow in the U.S. *NOAA NCEI*. <https://www.ncdc.noaa.gov/news/climate-change-and-extreme-snow-us>

## Present-Day Conditions



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## Winter Emergencies by County

DCAMM Statewide Resiliency Master Plan

Drawn: 9/21/2016