

Massachusetts State Hazard Mitigation and Climate Adaptation Plan State Agency Vulnerability Assessment Reference Materials: Ice Storms

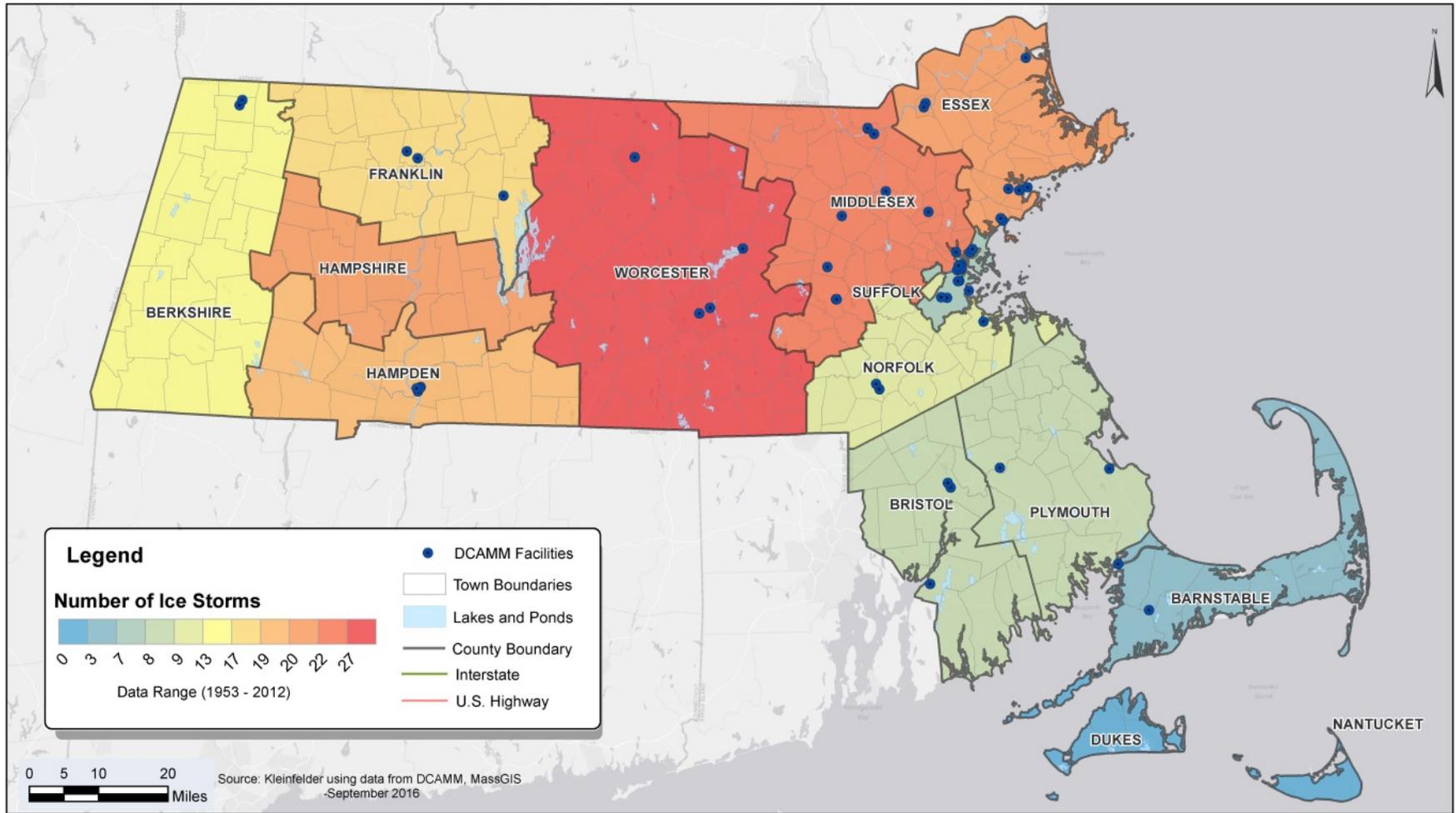
Data Source: DCAMM Statewide Resiliency Master Plan

Ice storms occur on a fairly regular basis in Massachusetts. It is currently not clear how climate change will impact the frequency, intensity, and geographical distribution of ice storms due to competing temperature, precipitation, and surface effects¹. Ice storms are often driven by similar climatic conditions to snowstorms, and more research has been conducted on the effects of climate change on snowstorms. Therefore, the trends described in the “Severe Winter Storm” hazard reference materials may be applicable to ice storms as well. Specifically, 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 20th century than 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 slowly². 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 ice storms may increase across Massachusetts in the future (as is expected for snowstorms), the present-day map below provides valuable information on the distribution of this hazard.

¹ Klima, K. & Morgan, M.G. Climatic Change (2015) 133: 209. <https://doi.org/10.1007/s10584-015-1460-9>

² 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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Ice Storms by County

DCAMM Statewide Resiliency Master Plan

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