



Sudbury, MA Municipal Vulnerability Preparedness (MVP) Public Listening Session

Beth Suedmeyer, Environmental Planner - Town of Sudbury
Craig Pereira, Project Manager - Horsley Witten Group

May 30, 2019



Is Sudbury prepared?



March 2018 and beyond... what can we do to become more resilient to climate change?

Several Roads Closed In Sudbury: A Map And Video

Seven roads are closed or partially closed due to flooding from the storm.

By Charlene Arseneault, Patch Staff | Mar 2, 2018 4:12 pm ET | Updated Mar 2, 2018 4:13 pm ET



SUDBURY, MA—The storm is spitting wind and rain on the area, and apparently is hitting quite a few streets hard right here in Sudbury. As of 4 p.m. on Friday, some seven streets were closed or included detours in Sudbury, including.

Here is an update of road situations as of 4:10 p.m.:

Here's where you can track power outages being reported in Massachusetts

Strong winds and heavy snow from the nor'easter have brought down trees and power lines in the state, knocking out power to thousands of homes and businesses.



A police vehicle blocks a road near downed power lines, Thursday in Natick. --Steven Senne / AP

By Dialynn Dwyer updated on March 8, 2018

A screenshot of a web page titled "Massachusetts Power Outages". It features a map of Massachusetts with various regions colored in green, yellow, and red to indicate the severity of power outages. A legend on the left explains the color coding: green for "No reported outages", yellow for "10% or less of customers without power", and red for "25% or more of customers without power". The map shows significant outages in the western and central parts of the state. Below the map, there is a tweet from MEMA (@MassEMA) dated March 8, 2018, at 5:34 PM, reporting approximately 320K outages and providing safety tips and a link to a restoration effort. The tweet has 26 likes and 50 people are talking about it.

Is Sudbury prepared?



Emergency Shelter Open at Fairbank Center March 8-11, 2018

- Served 346 residents, with 10 overnight residents
 - 250 snacks and 127 meals
- Rides to the shelter for homebound residents were provided via the senior van
- 59 people staffed the shelter
 - Medical Reserve Corps (MRC)
 - Community Emergency Response Team (CERT) members
 - Town staff
 - Neighboring town volunteers



Residents who came to the shelter had access to free WIFI, charging stations, 3 meals a day plus snacks, bathrooms, and a warm place to stay.

Recent national news...



On the rise: U.S. saw at least 8 tornadoes a day for 11 days, tying a record set in 1980

Updated May 29, 8:21 AM; Posted May 29, 8:05 AM



Gallery: After several quiet years, tornadoes erupt in United States

19

By [The Associated Press](#) | [MassLive](#)

After several quiet years, tornadoes have erupted in the United States over the last two weeks as a volatile mix of warm, moist air from the Southeast and persistent cold from the Rockies clashed and stalled over the Midwest.

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[Home](#) > [Get Help](#) > [Disaster Relief & Recovery Services](#) > [Find An Open Shelter](#)

Find Open Shelters

If an emergency has forced you to evacuate your home, the Red Cross may be able to help.

Click or tap the Red Cross icons for shelter information. [View full map >>](#)

Some of the shelters shown on the map may be operated by partner agencies and are not Red Cross shelters.

FEMA_NSS - Open Shelters

[Open](#)

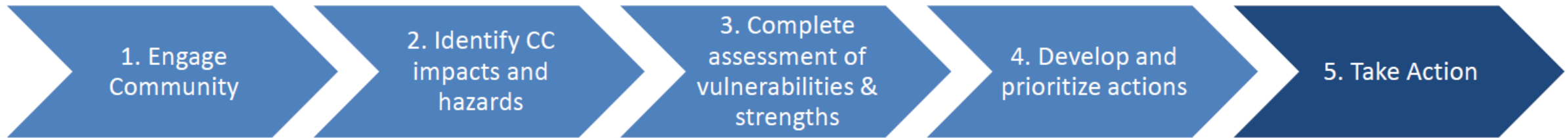
Shelter Name	County	Address	City
Coweta High School	WAGONER	14807 South 305th East Avenue	COWETA
Winfield Senior High School	LINCOLN	3020 E. Hwy 47	WINFIELD

Overview of Project Components



- Municipal Vulnerability Preparedness (MVP) Planning

State and local partnership to build resiliency to climate change



- Policy/Regulatory Review
- Hazard Mitigation Plan Update

Governor Baker's Executive Order 569 & Recent Climate Change Legislation



- September 2016, directed the state to assist municipalities to reduce vulnerability and improve resilience to climate change
- March 2018: *An Act Promoting Climate Change Adaptation, Environmental and Natural Resource Protection and Investment in Recreational Assets and Opportunity* (Environmental Bond Bill)
 - Puts into law essential components of Executive Order 569
 - \$1.4B with focus on climate change preparedness, environmental protection and community investments; \$300 million for climate change adaptation



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Municipal Vulnerability Preparedness (MVP) Program – Planning



- Provides support for cities/towns in MA to plan for resiliency and implement key climate change adaptation actions for resiliency:
 - Define extreme weather and natural and climate related hazards
 - Identify existing/future vulnerabilities and strengths
 - Develop and prioritize actions for the community
 - Identify opportunities to take action to reduce risk and build resilience (action-oriented resiliency plan)



Municipal Vulnerability Preparedness (MVP) Program – Action Grant



Grant opportunity to request funds to implement priority climate adaptation actions identified by MVP Communities.

Who's eligible?

- Municipalities with MVP designation
- Municipalities completing MVP planning process
- Funding: \$10,000 - \$400,000 per project
- Match: At least 25% of total project cost required

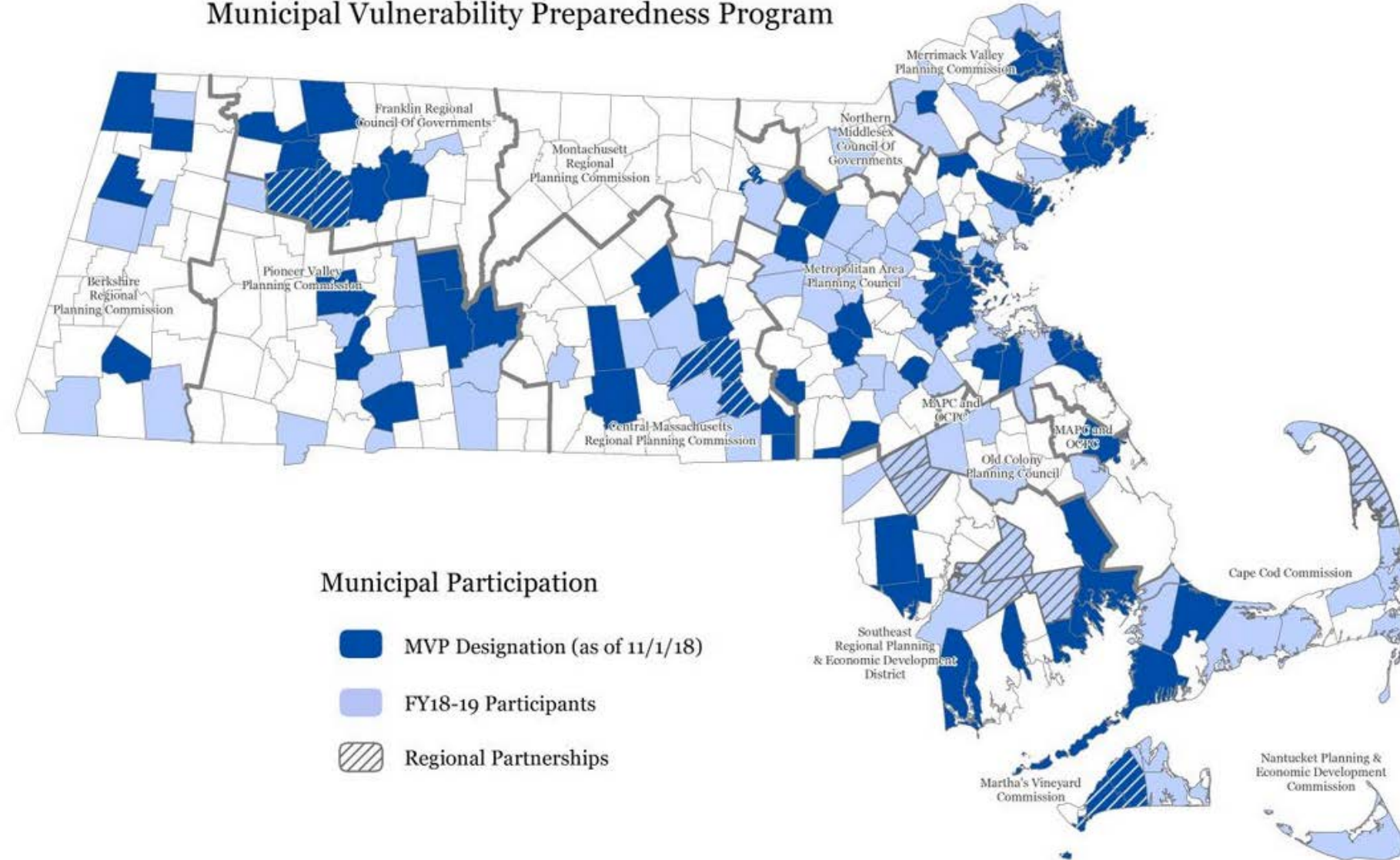


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MVP Program Status



Municipal Vulnerability Preparedness Program



As of October 1, 2018
MVP Designation:
73 communities

FY 2018 – 2019
Completed/Currently
Completing:
83 communities



←

→

↺

🏠

www.massclimatechange.org

67%

⋮


📌

☆

🔍 Search

☰

📖



resilient **MA**
Climate Change Clearinghouse for the Commonwealth

Explore Sectors

Identify Changes

Take Action

Maps

Data

Documents

Search for resources...

🔍 Search

Providing the most up-to-date climate change science and decision-support tools for the Commonwealth. [More »](#)

Climate Change Data

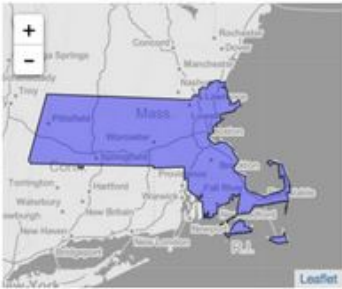
The Baker-Polito Administration is investing in the best science and data to understand how the climate is projected to change and to allow Massachusetts to plan and adapt for the future.

← More »

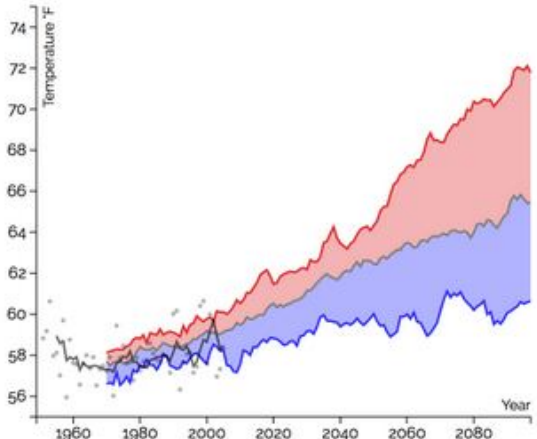
State: Massachusetts

Calculated Variable: Maximum Temperature

Season: Annual



Annual Maximum Temperature Massachusetts



Download Data

Observed

5-yr Mean

Modeled °F

Max

Median

Min

Changes from 1971-2000 for:

2020 - 2049	3.83°F
2040 - 2069	5.02°F
2060 - 2089	6.14°F
2080 - 2097	6.84°F

⏮

1

2

3

4

5

Workshop Planning

Sudbury MVP Core Team



- Beth Suedmeyer, Environmental Planner
- John Whalen, Sudbury Fire Chief
- Adam Duchesneau, Director of Planning and Community Development
- Dan Nason, Director of Public Works
- Bill Murphy, Health Director
- Bill O'Rourke, Deputy Director of Public Works
- Bill Barletta, Facilities Director
- Mark Herweck, Building Inspector
- Vin Roy, Executive Director Sudbury Water District
- Craig Pereira, Project Manager – Horsley Witten Group

Workshop Planning – Invited Stakeholders



- 70 community members invited. 56 participated.
 - Maryanne Bilodeau, Assistant Town Manager
 - Pat Brown, Board of Selectman
 - Janie Dretler, Board of Selectman
 - Representatives of Boards and Committees
 - Town Staff
 - Regional Partners (health care, conservation, utilities, and transportation)
 - Business and property owners



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Goal of the Workshop

Vibrant Discussion



- Presentation to **set the stage** for our discussion
- Determine which **climate change hazards** to focus on
- Identify the most **vulnerable features** in Sudbury
- Identify the **features that provide strength**
- Develop **actions** – what can the Town do to address vulnerabilities and protect/enhance strengths?
- Prioritize the **most important actions** for Sudbury

Common Understanding of Terms

Source: IPCC Definitions



- Vulnerability:** the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes.
- Resilience:** the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.
- Adaptation:** the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities.



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Setting the Stage

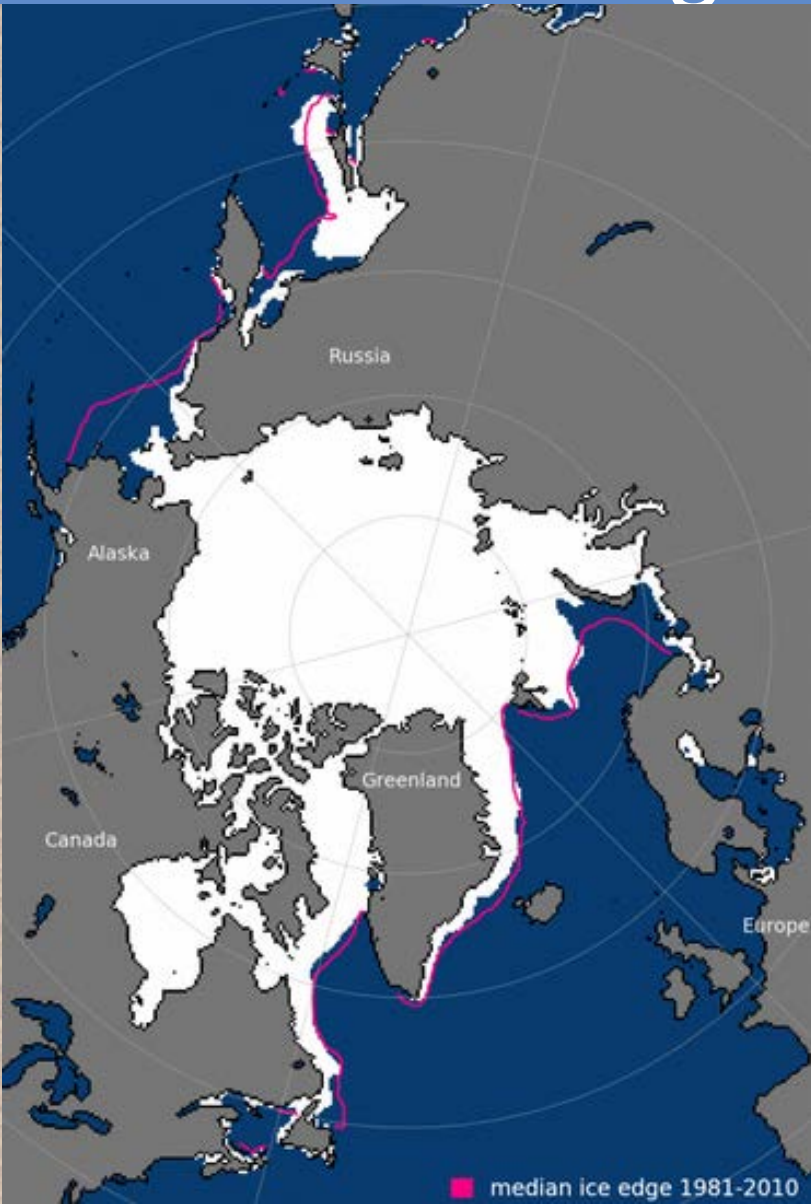
Climate Change - Global



Arctic Sea Ice Coverage Hits Record Low

The 1979 to 2019 linear rate of decline for April ice extent is 38,800 square kilometers (15,000 square miles) per year, or 2.64 percent per decade relative to the 1981 to 2010 average

<https://nsidc.org/arcticseaicenews/>



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Setting the Stage

Climate Change - Global



Increased Storm Intensity and Frequency



Image: <http://5newsonline.com/2017/09/07/garretts-blog-tracking-irma-katia-jose-lee/>



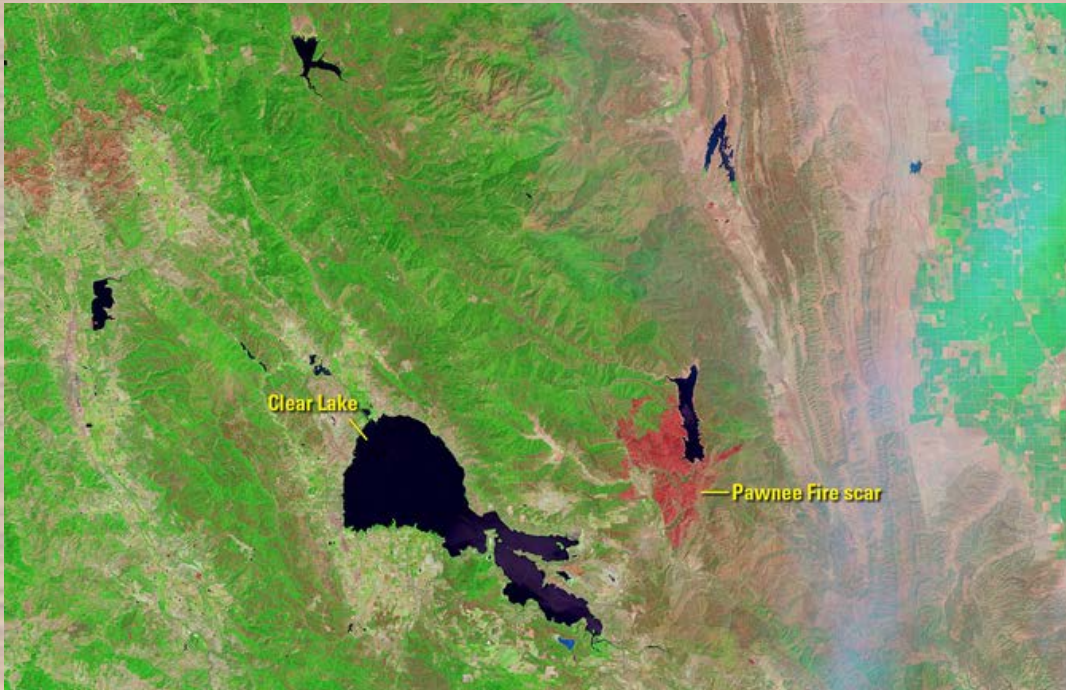
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Setting the Stage

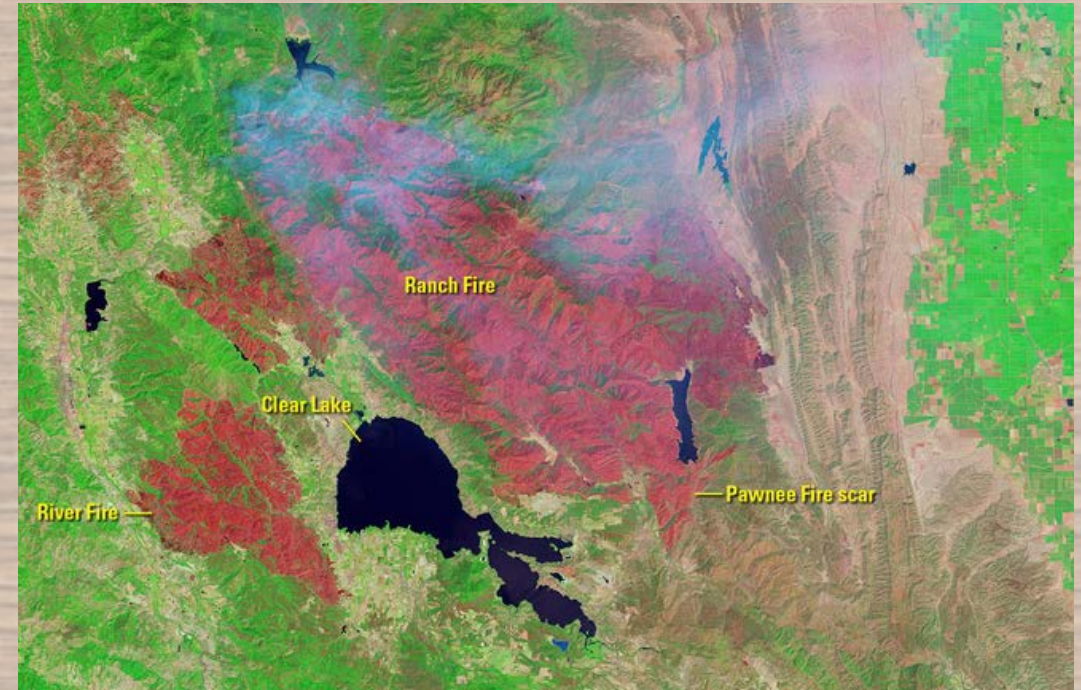
Climate Change – United States



Mendocino Complex Wildfires



July 2018 prior to fires



August 2018 after fires



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Image [https://climate.nasa.gov/images-of-change?id=677#677-mendocino-complex-california%E2%80%99s-largest-wildfire:](https://climate.nasa.gov/images-of-change?id=677#677-mendocino-complex-california%E2%80%99s-largest-wildfire)

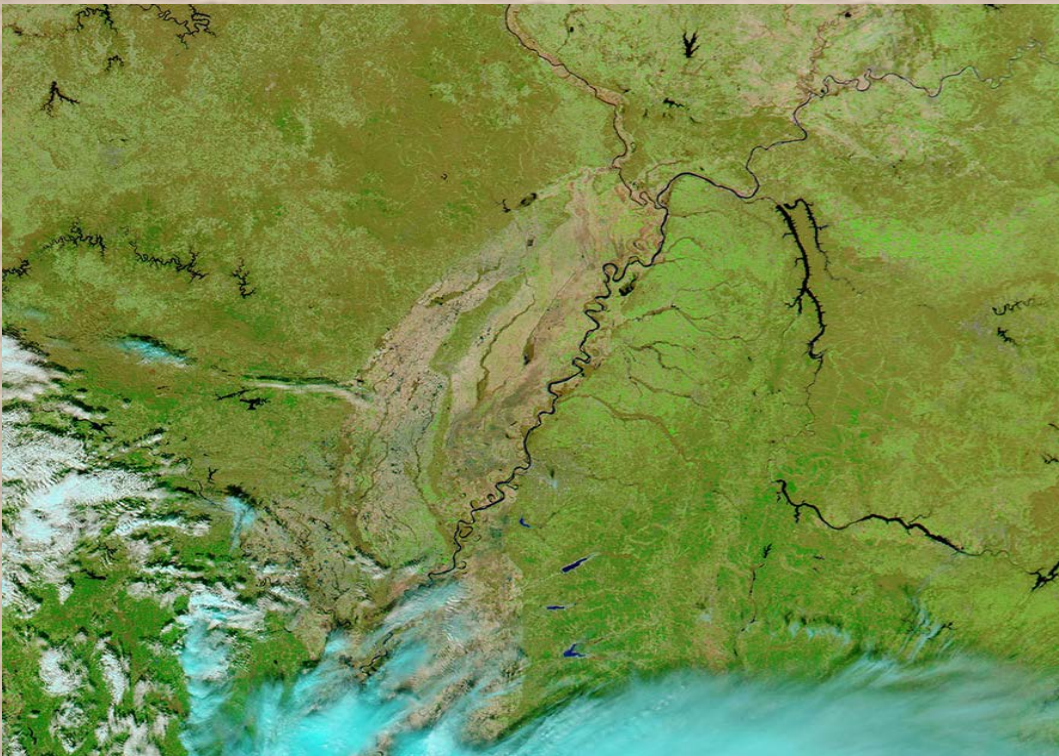
Setting the Stage

Climate Change – United States

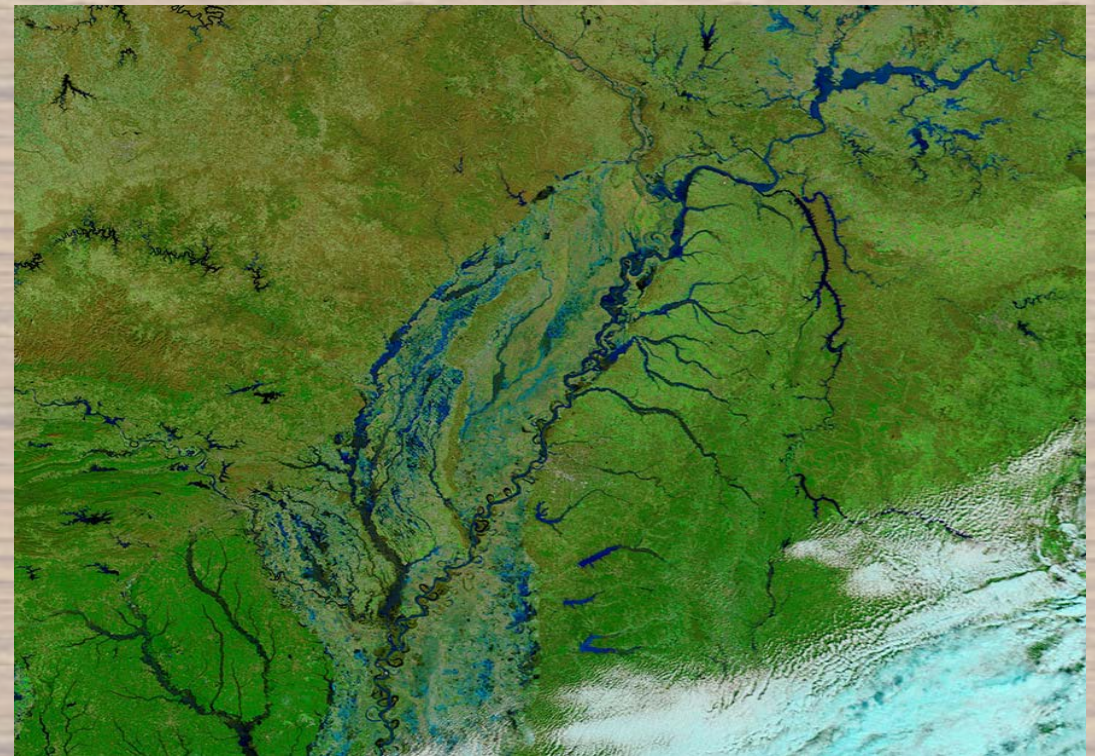


Flooding of the Ohio and Mississippi Rivers after intense rain in February 2018

February 2017



February 2018



Images: <https://climate.nasa.gov/images-of-change?id=639#639-flooding-of-ohio-and-mississippi-rivers>



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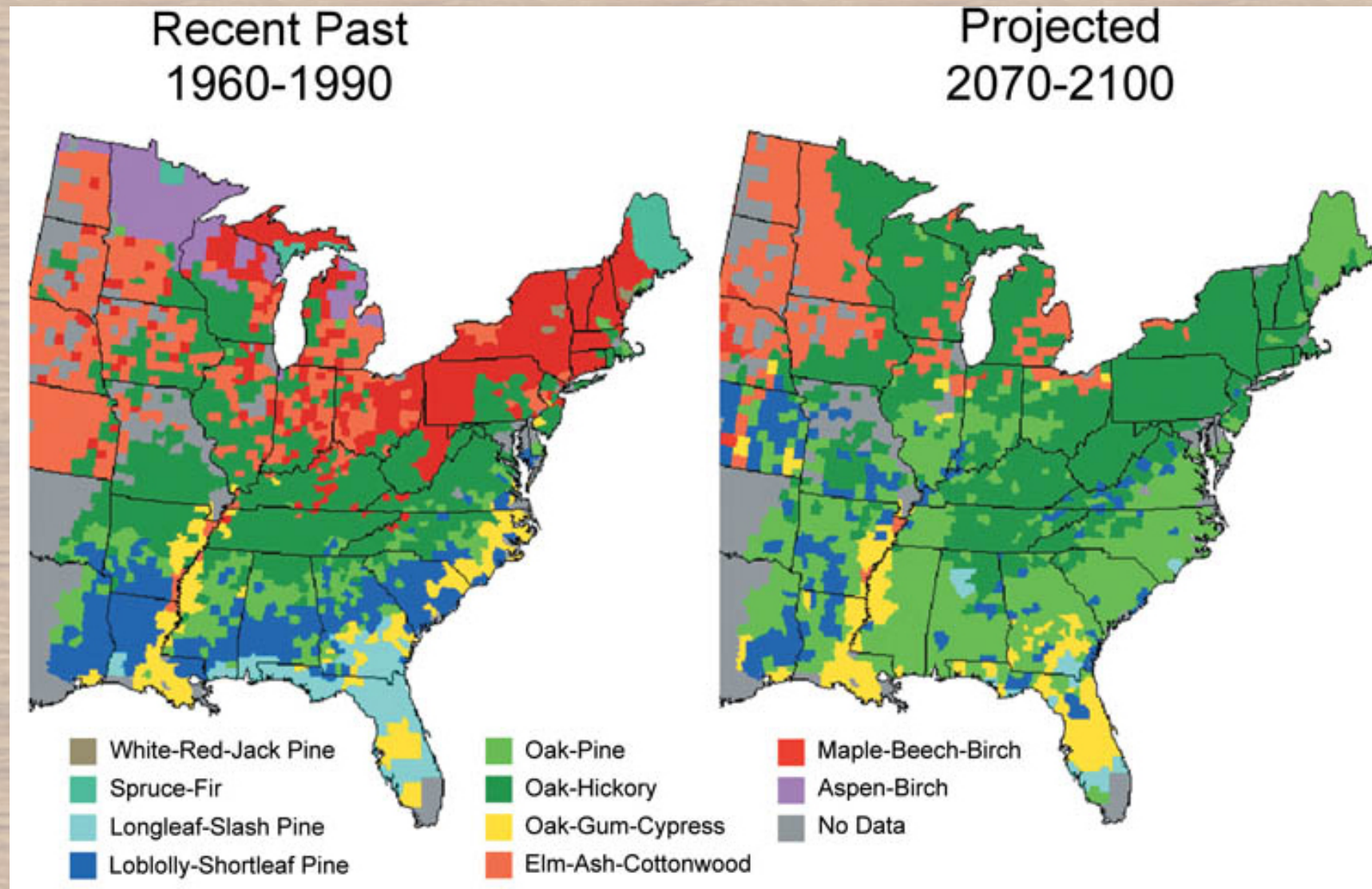
Climate Change – United States



In the Northeast, maple-beech-birch forest is projected to be displaced by the oak-hickory forest type.

(Low emissions scenario)

Source: [USGCRP \(2009\)](#)



Setting the Stage

Climate Change – New England



Photo: Brattleboro Reformer



Photo: WBUR



Photo : Boston Globe

Setting the Stage

Local Impacts – Flooding



Setting the Stage

Local Impacts – High Winds/Snow Storms



Setting the Stage

Local Impacts - Drought

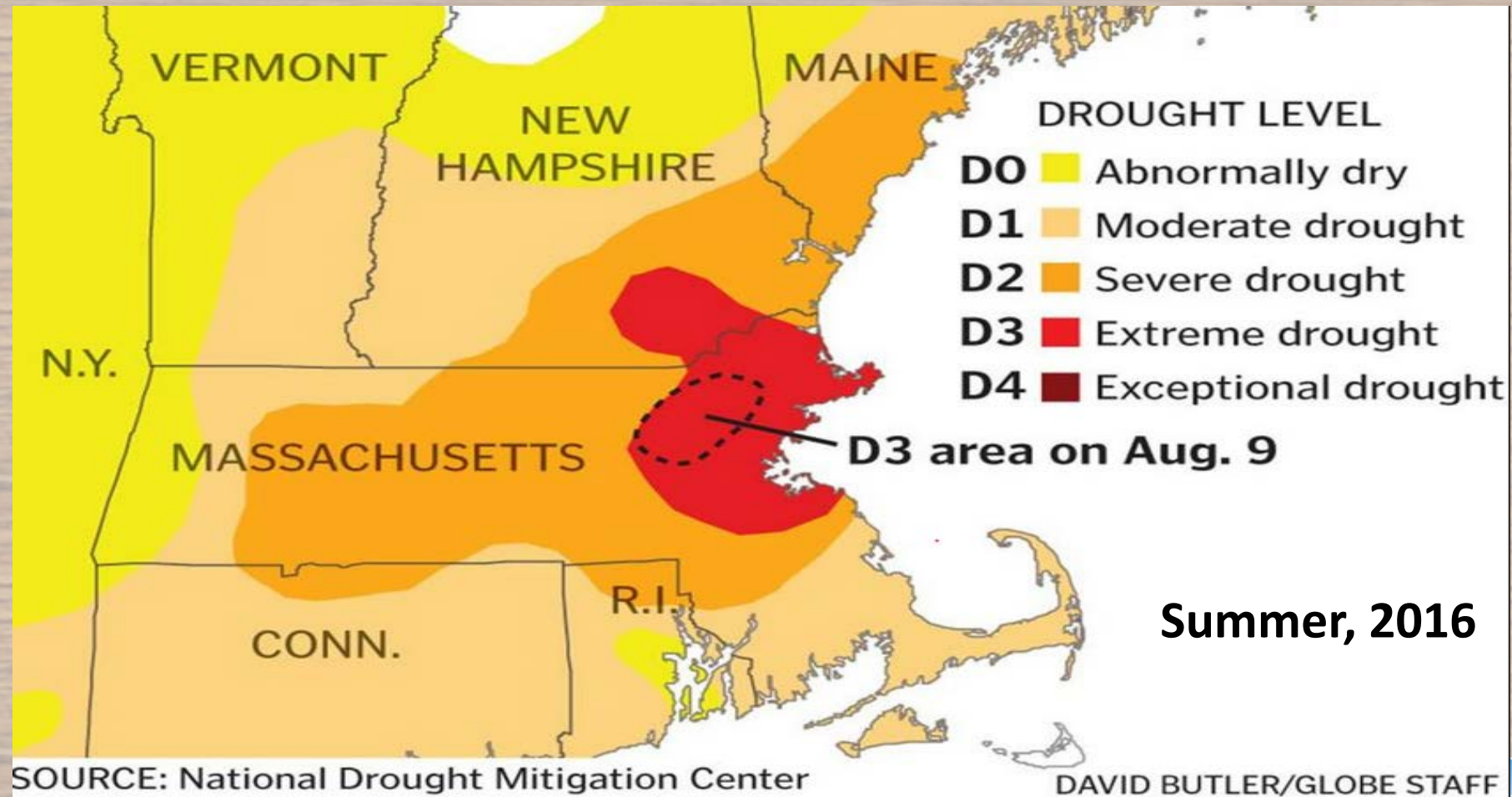


Image: Boston Globe



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Climate Projections



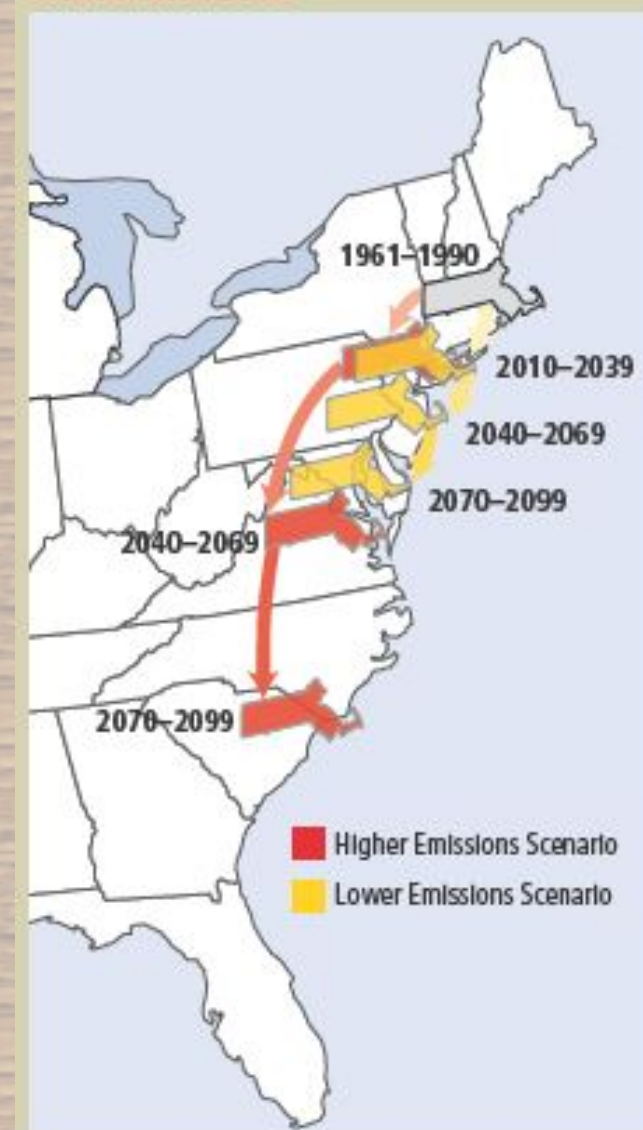
Similar to
Maryland

Similar to
North Carolina

Table 1: TEMPERATURE PROJECTIONS

Climate Parameter	Baseline (1971-2000)	Mid-Century (2050s)	End of Century (2090s)
Average Annual Temperature (°F) <i>Sudbury/Assabet/Concord</i>	48.7	51.6 – 55.0	52.5 – 59.6
Maximum Annual Temperature (°F) <i>Sudbury/Assabet/Concord</i>	59.6	62.3 – 65.9	63.0 – 70.5
Minimum Annual Temperature (°F) <i>Sudbury/Assabet/Concord</i>	37.9	41.0 – 44.3	42.0 – 48.9
Annual Days with Max Temp over 90°F <i>Sudbury/Assabet/Concord</i>	8	18 - 42	22 - 84
Annual Days with Min Temp below 32°F <i>Sudbury/Assabet/Concord</i>	143	103 - 124	78 - 119
Annual Heating Degree-Days (Base 65°F) <i>Sudbury/Assabet/Concord</i>	6,535	4,948 – 5,789	4,075 - 5551
Annual Cooling Degree-Days (Base 65°F) <i>Sudbury/Assabet/Concord</i>	585	870 – 1,356	743 - 983
Annual Growing Degree-Days (Base 50°F) <i>Sudbury/Assabet/Concord</i>	2,525	3,138 – 3,866	3,321 – 5,067

Massachusetts



Climate Projections

Up to 10X more
very hot days

5x more very
hot days



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Climate Projections



28% fewer
freezing days

45% fewer
freezing days

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Climate Projections

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Less energy required for indoor heating

More energy required for cooling



Climate Projections



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Growing season doubles
by end of century



Climate Projections

Table 2: PRECIPITATION PROJECTIONS

Climate Parameter	Baseline (1971-2000)	Mid-Century (2050s)	End of Century (2090s)
Total Precipitation (inches):			
Annual <i>Sudbury/Assabet/Concord</i>	45.4	50.0 – 51.5	46.6 – 53.4
Winter <i>Sudbury/Assabet/Concord</i>	11.2	11.3 – 13.8	11.6 – 15.3
Spring <i>Sudbury/Assabet/Concord</i>	11.6	11.6 – 13.7	11.8 – 14.2
Summer <i>Sudbury/Assabet/Concord</i>	10.8	10.3 – 13.0	9.7 – 14.0
Fall <i>Sudbury/Assabet/Concord</i>	12.0	10.7 – 13.7	10.5 – 13.4
Annual Days with Precipitation over 1 inch <i>Sudbury/Assabet/Concord</i>	7	8 - 10	8 - 11
Annual Days with Precipitation Over 2 inches <i>Sudbury/Assabet/Concord</i>	1	1 - 2	1 - 2
Annual Days with Precipitation Over 4 inches <i>Sudbury/Assabet/Concord</i>	0	0 - 0	0 - 0
Annual Consecutive Dry Days <i>Sudbury/Assabet/Concord</i>	17	17 - 19	16 - 20

Largest increase is
expected in winter

Greater number of
significant rain events and
longer dry periods



Demographics



Significantly
lower than
statewide

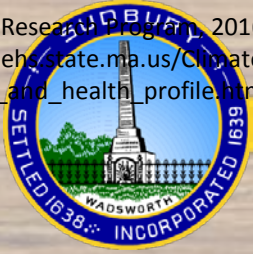
Significantly
lower than
statewide

Population	18,697 people (ACS, December 2018)
Age	0-19 = 32% 20-34 = 7% 35-64 = 47% 65+ = 15%
Income	<\$40K = 10% \$40-60K = 6% \$60K+ = 84%
% Below Poverty Line	2%
Race	White = 87% Black = 1% Asian = 9% Other = 3%
Ethnicity	Hispanic = 2% Not Hispanic = 98%
Environmental Justice	0% (U.S. Census 2010)
% Population Over 65 Living Alone	2.2%
Heart Attack Hospitalizations	11.8 (age-adjusted rate per 10,000 people)
Asthma Emergency Department Visits	3.2 (age-adjusted rate per 10,000 people)
Pediatric Asthma Prevalence	8.9% of all children enrolled in grades K-8
Heat Stress Emergency Department Visits	0 (age-adjusted rate per 10,000 people)

Lower
than statewide



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Health Impacts of Climate Change



Extreme Heat

Rising temperatures will lead to an increase in heat-related deaths and illnesses



Outdoor Air Quality

Rising temperatures and wildfires and decreasing precipitation will lead to increases in ozone and particulate matter, elevating the risks of cardiovascular and respiratory illnesses and death.



Flooding

Increased coastal and inland flooding exposes populations to a range of negative health impacts before, during, and after events



Vector-Borne Infection
(Lyme Disease)

Ticks will show earlier seasonal activity and a generally northward range expansion, increasing risk of human exposure to Lyme and disease-causing bacteria.



Water-Related Infection
(*Vibrio vulnificus*)

Increases in water temperatures will alter timing and location of *Vibrio vulnificus* growth, increasing exposure and risk of water-borne illness.



Food-Related Infection
(*Salmonella*)

Rising temperatures increase *Salmonella* prevalence in food, longer seasons and warming waters increase risk of exposure and infection.



Mental Health and Well-Being

Changes in exposure to climate- or weather-related disasters cause or exacerbate stress and mental health consequences, with greater risk for certain populations.

Top Four Climate Change Hazards Impacting Sudbury



- Winter Storms/Extreme Cold
- Wind/Hurricanes/Tornadoes/Micro Bursts
- Flooding/Intense Rain
- Drought/Extreme Heat



Small Facilitated Work Groups



Participants worked together in small groups to identify strengths and vulnerabilities.



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Group
Solutions

Identification of Strengths



Infrastructural

- Underground power lines
- Underground gas mains
- Culverts (size and maintenance)
- Emergency sheltering
- Reverse 911/Emergency communications system
- DPW storm response
- Citizen Emergency Response Team (CERT)/Medical Reserve Corp (MRC)
- Fire Dept. capacity (response time/multiple locations)
- Police dispatch/emergency command
- Hospital/Home Care agencies



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Identification of Strengths

Infrastructural

- Stormwater management system (Town-wide/retail center)
- Fuel storage (DPW facility)
- Public water supply (Town-wide)
- Septic systems (Town-wide)
- Municipal stormwater system/regulations
- Renewable/Solar energy
- Center traffic lights
- Tree canopy (reduces heat-island effect)
- Amount of pervious land area
- Updated regulations for new developments (utilities underground)
- Pavement Management Plan

Identification of Strengths



Societal

- Reverse 911
- DPW storm response
- Citizen Emergency Response Team (CERT)/Medical Reserve Corp (MRC)
- Fire Dept. capacity (response time/multiple locations)
- Police dispatch/emergency command
- Hospital/Home Care agencies
- Critical Care Customer Support (BOH/Eversource)
- Food Supply (Town-wide)
- Communication resources/education



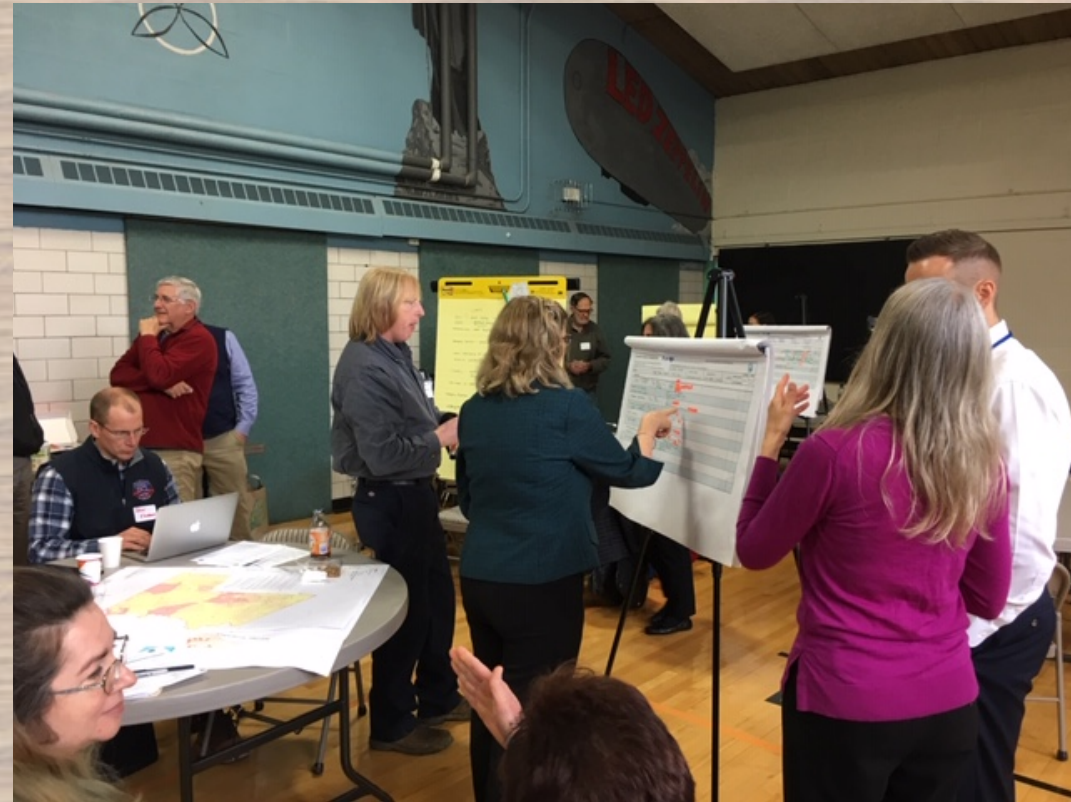
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Identification of Strengths



Societal

- Vulnerable populations registry (in development)
- Schools/Police Dept. relationship
- Transportation routes to hospitals generally clear during events
- Critical Facilities list
- R.A.V.E.
- Hazard Preparedness Guide (BOH)



Identification of Strengths



Environmental

- Wild and scenic river (floodplain)
- Overall regulatory framework
- Conservation of forests/open spaces/wetlands (Town-wide)
- Achieving 40B 10% housing stock
- Pest management (Middlesex Mosquitos)
- Wetlands/floodplain resources (Town-wide)
- Trees/forests (Town-wide)
- Drinking water (quality and supply)
- Wildlife habitat (refuges/hunting)

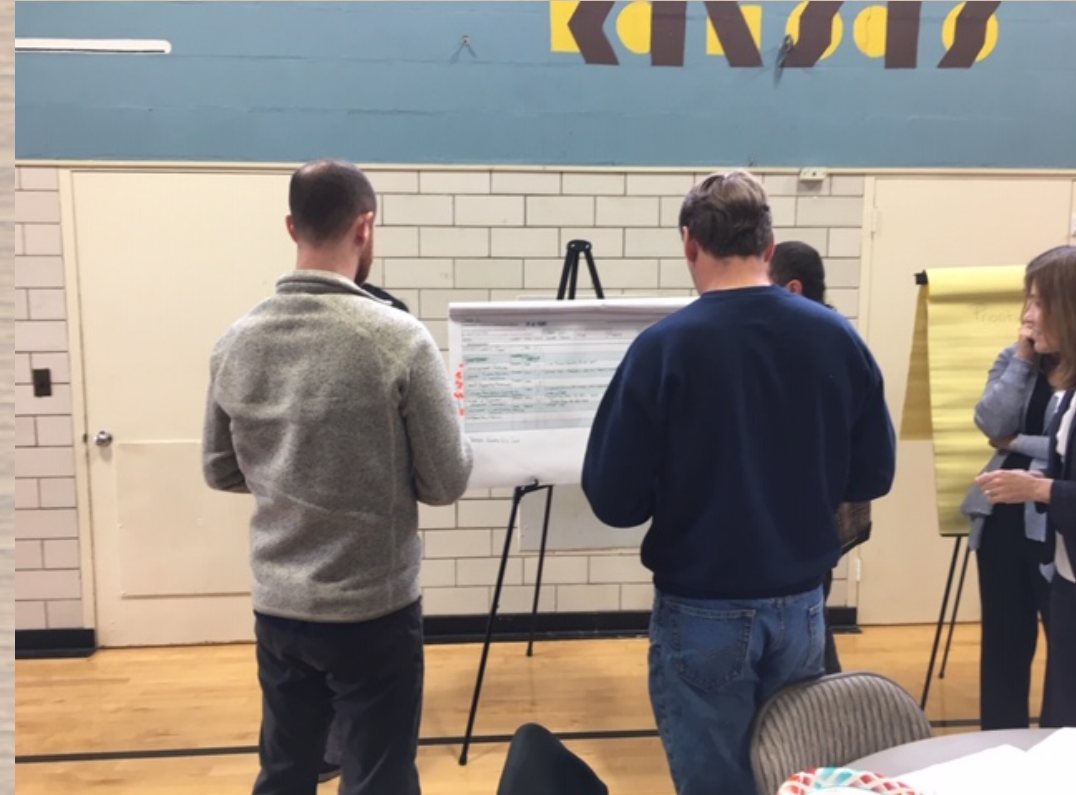


Identification of Vulnerabilities



Infrastructural

- Above-ground power lines (power outages)
- Drainage capacity/maintenance (Town-wide)
- Bridges (Rte. 20, Lincoln Road, Sherman)
- Tree maintenance
- Schools capacity as shelters
- Emergency shelter (capacity)
- Inadequate culverts (Lincoln/Concord Roads)
- Roads (narrow, difficult to maintain, tree cover)
- Dated public water supply/wells system
- Septic systems (Town-wide)



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Identification of Vulnerabilities



Infrastructural

- Transportation systems/flooding (Town-wide)
- Fuel storage (DPW facility)
- Private homes/driveways (Town-wide)
- Dams (various)
- Potential for drought-related wildfires
- Downed trees/Power outages
- Private wells (power supply)
- Building accessibility/evacuation
- Aging buildings

Several Roads Closed In Sudbury: A Map And Video

Seven roads are closed or partially closed due to flooding from the storm.

By Charlene Arsenault, Patch Staff | Mar 2, 2018 4:12 pm ET | Updated Mar 2, 2018 4:13 pm ET



SUDBURY, MA—The storm is spitting wind and rain on the area, and apparently is hitting quite a few streets hard right here in Sudbury. As of 4 p.m. on Friday, some seven streets were closed or included detours in Sudbury, including.

Here is an update of road situations as of 4:10 p.m.:



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Identification of Vulnerabilities



Societal

- Need database of vulnerable populations
- Low-density population (Town-wide)
- Emergency Response Plans (Town/Utility providers)
- Communications to residents
- Agricultural operations
- Weatherization of homes (vulnerable populations)
- Hospitals/Home Care agencies
- Transportation protocol for affected residents/emergency vehicles
- Snow removal fire hydrants/storm drains
- Aging population (resources/services needed)



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Identification of Vulnerabilities



Societal

- Pets/livestock (Town-wide)
- Food Supply (Town-wide)
- Looting (Town-wide) Large-scale sheltering for residents
- Lack of emergency personnel/volunteers during emergencies
- Maintain cell phone availability (Charging stations)
- Awareness of shelters (tornado events)
- Asthma rate increases
- Vector-borne illnesses increase
- Schools/sheltering in place (air conditioning)
- Evacuation along Sudbury River/floodplain



Identification of Vulnerabilities



Environmental

- Wild and scenic river
- Development pressure (Town-wide)
- Update science/climate change projections in regulations
- Outdoor recreation opportunities (mosquito/tick exposure)
- Changes in species composition (invasives)
- Wetland/floodplain resources (Town-wide)
- Trees/forests (aging/white pines triangle)
- Drinking water (quality and supply)
- Steep slopes
- Air quality



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Identification of Vulnerabilities



Environmental

- Wildlife habitat (refuges/hunting)
- Beaver dams
- Impervious surfaces/runoff (water quality)
- Pesticide/fertilizer use
- High water table
- Erosion along roadsides



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Identification of Actions



Infrastructural

- Implement tree-trimming/new DPW equipment (i.e. bucket truck)
- Repair/replace/design of culverts
- Maintain drainage/stormwater system (i.e. capacity)
- Upgrade generators/shelters, consider new facility
- Consider green infrastructure/recharge for aquifers
- Establish backup well/conservation of resident water use (conservation notices/bans, drinking water over lawn care)
- Evaluate placing utility lines underground/require when repaving based on prioritization, explore backup battery systems
- Strengthen private wells regulations (i.e. homeowner responsibility)
- Expand water supply service areas to reach vulnerable populations



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Identification of Actions



Infrastructural

- Consider elevating roads that flood periodically (i.e. Route 27/Concord Rd.)
- Explore grant opportunities to study/assess ADA compliance for buildings/shelters
- Consider more stringent regulations for septic system inspections
- Contract with local gas stations (i.e. fuel storage for emergencies)
- Establish mutual aid agreements for water supply
- Maintain/modernize emergency communications system
- Explore renewable/solar energy expansion opportunities
- Maintain dams
- Explore low impact development/green infrastructure stormwater management system (i.e. Boston Post Road retail center)
- Consider snow plow prioritization plan

Identification of Actions



Infrastructural

- Consider MA Surcharge Program/Solar credits to bury utility lines
- Replace Sherman Bridge
- Consider purchase of high-profile fire engines (i.e. floods)

Identification of Actions



Societal

- Identify/register more residents (RAVE)
- Develop emergency action plans for housing developments
- Print/distribute hazard preparedness guides
- Retrofit schools with HVAC
- Public education on evacuation protocols
- Recruit/retain volunteer staffing, train municipal staff (i.e. sheltering)
- Minimize local sources of air pollution
- Outreach on public health (i.e. asthma)
- Outreach to public/control for vector-borne illnesses
- Outreach to faith-based/home health groups (i.e. vulnerable populations registry)
- Develop plan for large-scale evacuation/sheltering



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Identification of Actions



Societal

- Establish mutual aid agreements with more municipalities (i.e. vulnerable populations)
- Consider training for HAM radio use during events
- Coordinate critical care customer support with BOH/Eversource
- Create a plan for pets/livestock during emergency events
- Plan/Coordinate/Educate the community around food supply
- Provide adequate resources (cameras/education) during emergencies (i.e. looting)
- Develop town-wide protocol for transportation during emergencies (affected residents and emergency providers)
- Educate residents on clearing fire hydrants and storm drains



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Identification of Actions



Societal

- Explore funding for emergency response plans/communications/CERT/MRC through Metropolitan Area Planning Council
- Update Fire Station for North Quarry development project/Capital funding for station improvements

Identification of Actions



Environmental

- Town/Eversource coordination on tree-trimming, maintenance along ROW, public education on trimming/planting (i.e. native species)
- Educate/communicate with Conservation Commission (i.e. Wetlands regulations)
- Encourage green infrastructure techniques in development proposals (Plan. Board)
- Educate public/develop management plan for invasives
- Educate public on use of pesticides/fertilizers (i.e. water quality)
- Develop forest management plan (i.e. drought/wildfire-related fires)
- Consider a restrictive tree canopy ordinance (i.e. heat-island effect)
- Strengthen restrictions on development in floodplains
- Outreach to homeowners managing open space/trees



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Identification of Actions



Environmental

- Regulate erosion control on steep slopes
- Consider catch basin treatment for vector-borne illnesses
- Manage beaver dams
- Educate/outreach to community on reducing emissions, increasing transportation options and car-charging stations
- Plan for management/protection of wildlife habitat (i.e. refuges/hunting)
- Continue to conserve open space
- Increase Conservation Commission participation in SuAsCo CISMA (Cooperative Invasive Species Management Area)
- Continue to maintain 10% low/moderate-income housing stock
- Develop long-term floodplain projections maps

Identification of Actions



Environmental

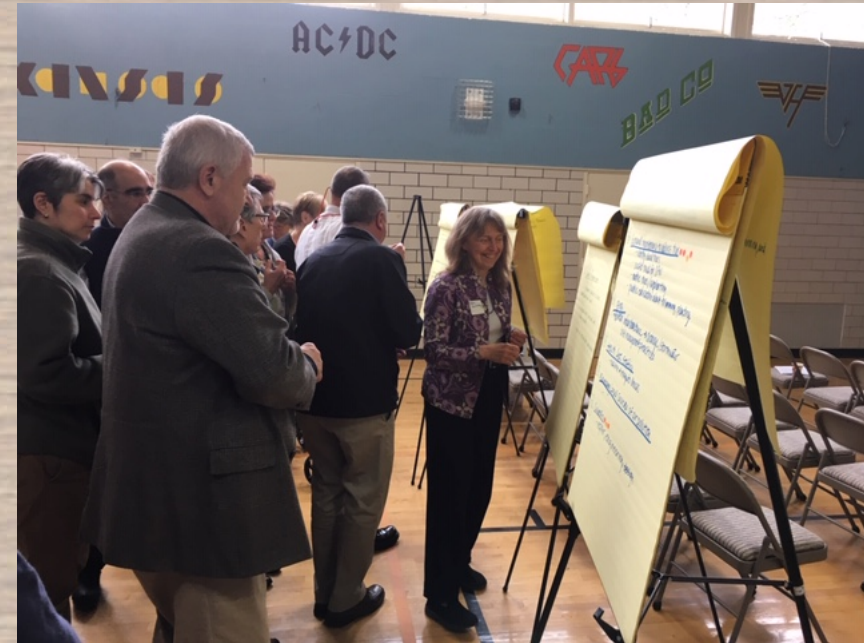
- Consider green building standards for new development
- Coordinate public health with outdoor recreation amenities (i.e. vector-borne illnesses)
- Develop stewardship plans for public lands (access NPS funds)

Development of Actions



Overarching Goal for the Workshop

To identify the 5 – 7 Highest Priority actions that the Town of Sudbury should take to increase *resilience* and *adapt* to climate change.



High Priority Actions



- Tree maintenance and forest management
 - Maintain trees at roadways / Utilities rights of way
 - Preserve existing tree canopy/Plan for future species changes
 - Identify/remove dead/failing trees
 - Develop plan for re-planting (native species/size/shape/placement)
 - Purchase bucket truck for DPW
 - Public education around trimming/planting
- Power / utility lines mangement
 - Bury lines underground as roads are repaved
 - Establish tree/buffer management
 - Evaluate resources
 - Rate-payer funding
 - MA Surcharge Program
 - Solar facilities



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High Priority Actions



- Improve Emergency response planning and communication
 - Increase capacity and support for CERT and MRC (recruitment)
 - Training/communication protocol for hospitals and home care agencies
 - Educate community on Reverse 911
 - Assess needs of vulnerable populations to understand sheltering needs/'know your neighbor'
 - Maintain database of vulnerable populations, address data privacy/sharing challenges
- Update existing regulations
 - Stormwater regulations to reduce flooding/water quality impacts
 - Incorporate latest science/climate change projections
 - Private well restrictions/water bans during drought events



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High Priority Actions



- Improve drainage infrastructure and capacity
 - Stormwater Infrastructure Assessment
 - Retrofits, replacement, Low Impact Development/Green Infrastructure
 - Culvert Replacement
 - Repair, replace, engineering/design
- Strengthen emergency shelters (schools, libraries, Community Center)
 - Generators
 - Air-conditioning
 - Charging stations



Next Steps



- MVP Final Plan submitted to Energy and Environmental Affairs for review
- Sudbury Certified as MVP Community
- Eligible for MVP Action Grants to implement priority action items
- Policy/Regulatory Review
 - Recommendations advanced
- Hazard Mitigation Plan Update
- All of the above will also inform the Master Plan Update currently underway

