

Town of Ludlow Municipal Vulnerability Preparedness Planning and Hazard Mitigation Plan Update

Core Team Kickoff Meeting
December 15, 2021



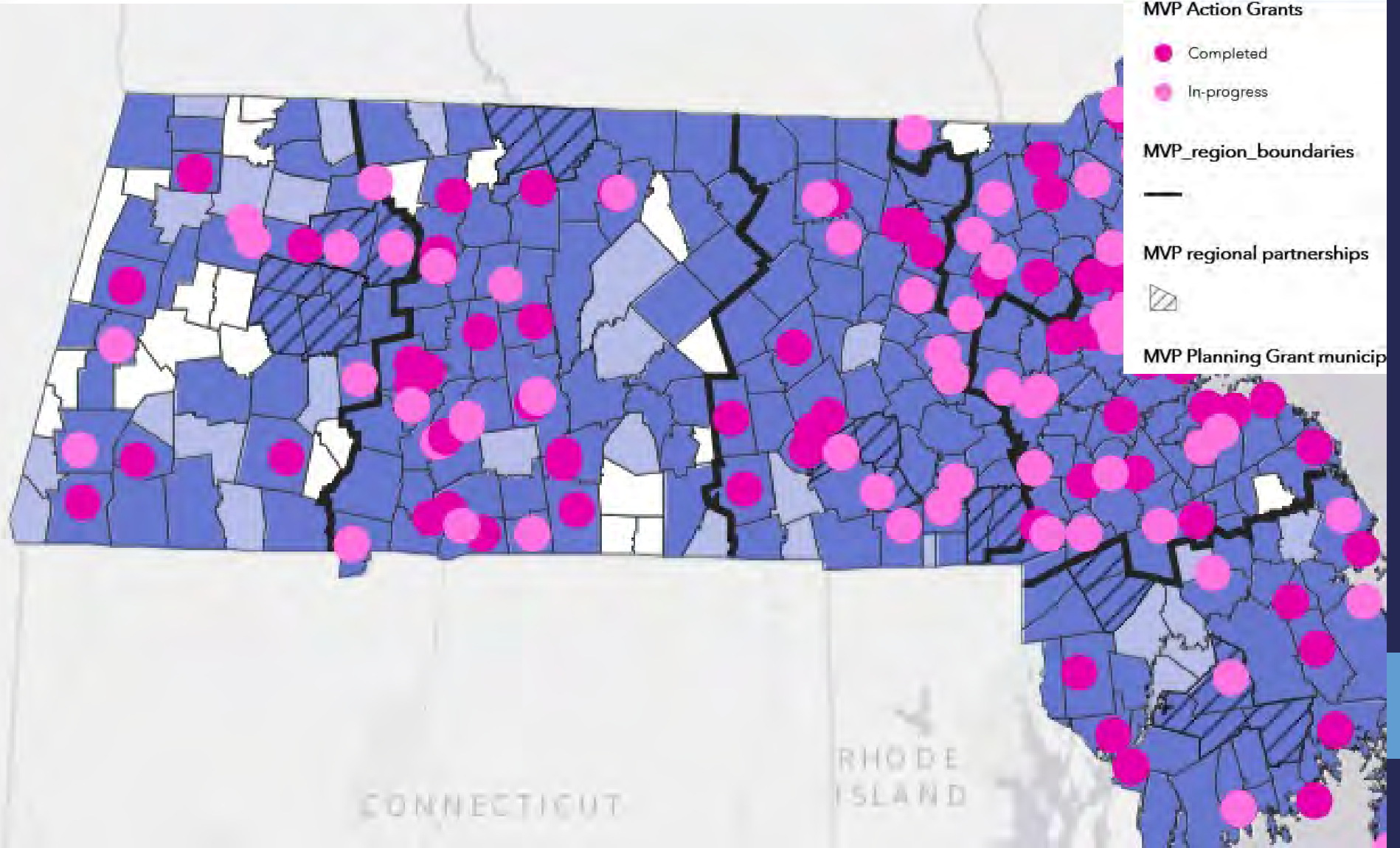
Welcome & Introductions



Agenda

- Project scope and planning process
- Climate change impacts and vulnerabilities
- Goals of MVP process in Ludlow
- Workshop logistics and attendance
- Data needs
- Next steps

MVP Program



MVP Process

MVP Planning Grant

COMMUNITY RESILIENCE
BUILDING WORKSHOP(S)

Define and characterize hazards using latest science and data

Identify existing and future community vulnerabilities and strengths

Develop and prioritize community adaptation actions

Identify opportunities to take action

Conduct community engagement

MVP A

Imple
adapt

Community Resilience Building (CRB) Process



HMP Update Process

MVP



Future climate driven hazards




HMP

Include neighboring

Vulnerability Assessment All natural hazards

Climate Change Impacts on Natural Hazards

Climate Change Projections for Massachusetts

CLIMATE CHANGES	RELATED NATURAL HAZARDS	PROJECTIONS BY THE END OF THIS CENTURY
Changes in precipitation 	<ul style="list-style-type: none"> - Inland flooding - Drought - Landslide 	<ul style="list-style-type: none"> - Annual precipitation: Increase up to 16% (+7.3 inches) - Days with rainfall accumulation 1+ inch: Increase up to 57% (+4 days) - Consecutive dry days: Increase 18% (+3 days) - Summer precipitation: Decrease
Rising temperatures 	<ul style="list-style-type: none"> - Average/extreme temperatures - Wildfires - Invasive species 	<ul style="list-style-type: none"> - Average annual temperature: Increase up to 23% (+10.8 degrees Fahrenheit) - Days/year with daily minimum temperatures below freezing: Decrease up to 42% (-62 days) - Winter temperatures: Increase at a greater rate than spring, summer, or fall - Long-term average minimum winter temperature: Increase up to 66% (+11.4 degrees Fahrenheit) - Days/year with daily maximum temperatures over 90 degrees Fahrenheit: Increase by up to 1,280% (+64 days) - Growing degree days: Increase by 23% to 52%
Extreme weather 	<ul style="list-style-type: none"> - Hurricanes/tropical storms - Severe winter storms/nor'easters - Tornadoes - Other severe weather 	<ul style="list-style-type: none"> - Frequency and magnitude: Increase

Note: This plan also assesses earthquakes, but there is no established correlation between climate change and earthquakes.

Source of Climate Change Projections: Northeast Climate Adaptation Science Center at the University of Massachusetts, Amherst.

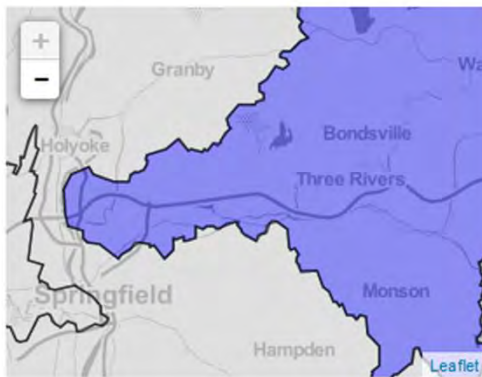
Climate Change Impacts – Chicopee River Basin

Basin

Calculated Variable:

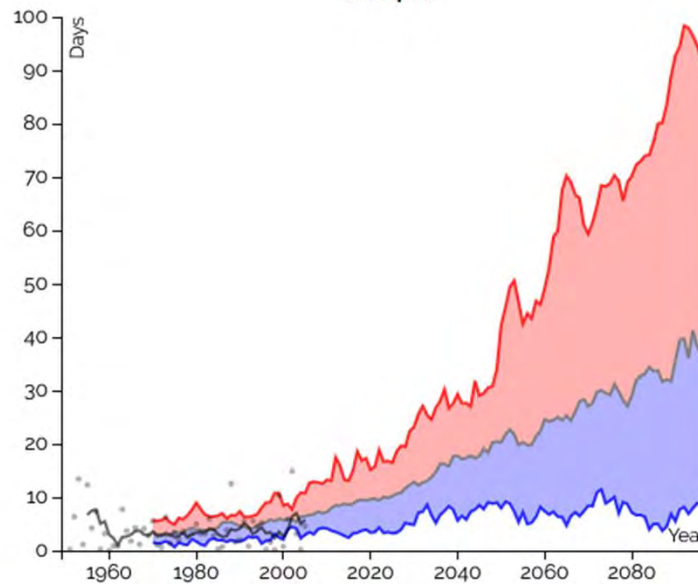
Days with Maximum Temperature Above 90°F

Season:



Add Chart

Annual Days with Maximum Temperature Above 90°F
Chicopee



Download Data

Observed

5-yr Mean

Modeled days

Max
Median
Min

Changes from 1971-2000 for:

2020 -	11.27
2049	days
2040 -	17.95
2069	days
2060 -	26.13
2089	days
2080 -	31.09
2097	days

About the Source
Data



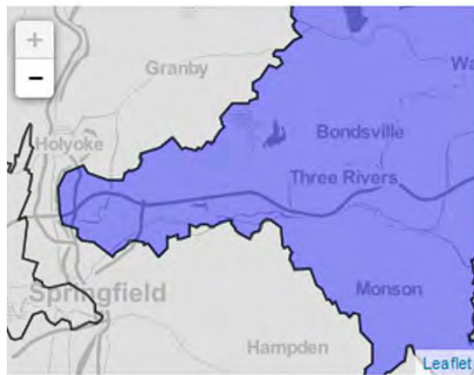
Climate Change Impacts – Chicopee River Basin

Basin

Calculated Variable:

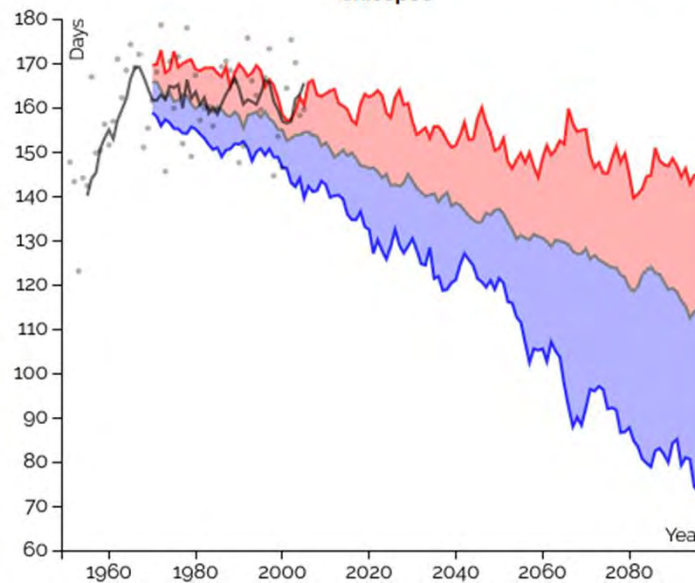
Days with Minimum Temperature Below 32°F

Season:



Add Chart

Annual Days with Minimum Temperature Below 32°F
Chicopee



Download Data

Observed

5-yr Mean days

Modeled days

Max
 Median
 Min

Changes from 1971-2000 for:

2020 -	
2049	-21.08days
2040 -	
2069	-30.22days
2060 -	
2089	-36.77days
2080 -	
2097	-42.44days

About the Source
Data



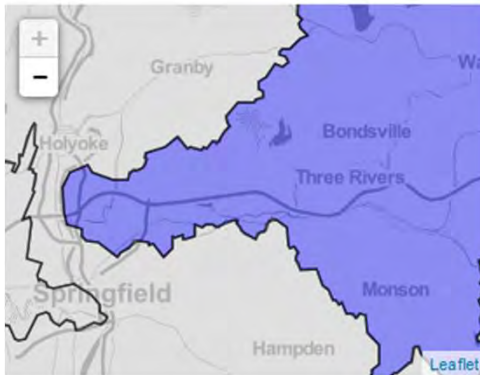
Climate Change Impacts – Chicopee River Basin

Basin ▾ Chicopee ▾

Calculated Variable:

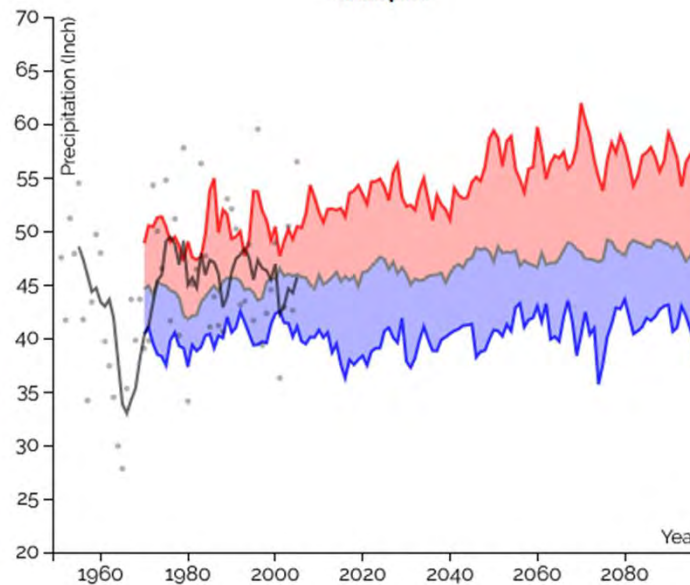
Total Precipitation ▾

Season: Annual ▾



Add Chart

Annual Total Precipitation
Chicopee



Download Data

Observed

Inches

5-yr Mean

Modeled Inches

Max

Median

Min

Changes from
1971-2000 for:

2020 -	0.77"
2049	
2040 -	1.72"
2069	
2060 -	2.52"
2089	
2080 -	2.92"
2097	

About the Source
Data

Goals

- Why does Ludlow need to discuss current and future impacts of hazards?
- How will Ludlow use the information and decisions developed during the process?

What Does Ludlow Get Out of This Process?

- Understanding of local strengths and vulnerabilities
- Eligibility to apply for funding to implement priority projects
 - MVP Action Grants
 - FEMA Hazard Mitigation Assistance Grants

Applicant	Project Title	Recommended Funding
Concord	Reforestation and Tree Resilience	\$150,000
Deerfield	Reducing Flooding Vulnerability in Deerfield	\$278,023
Northampton	Protecting Downtown: Northampton's Flood Control Levees	\$315,000
Walpole	Culvert Assessment and Green Infrastructure Survey	\$166,496
Wrentham	Eagle Dam Removal	\$46,000

Core Team Roles and Responsibilities

- Provide local information and expertise
- Identify and engage stakeholders
- Attend and participate in meetings, workshop(s), and public listening session(s)
- Review and provide input on draft plan chapters, hazard maps, and priority actions

Workshop Schedule and Logistics

- In person or virtual
- One day (6-8 hours) or two half-days (4 hours each)
- If in person, suitable location
- Date(s) and time(s) – March/April timeframe

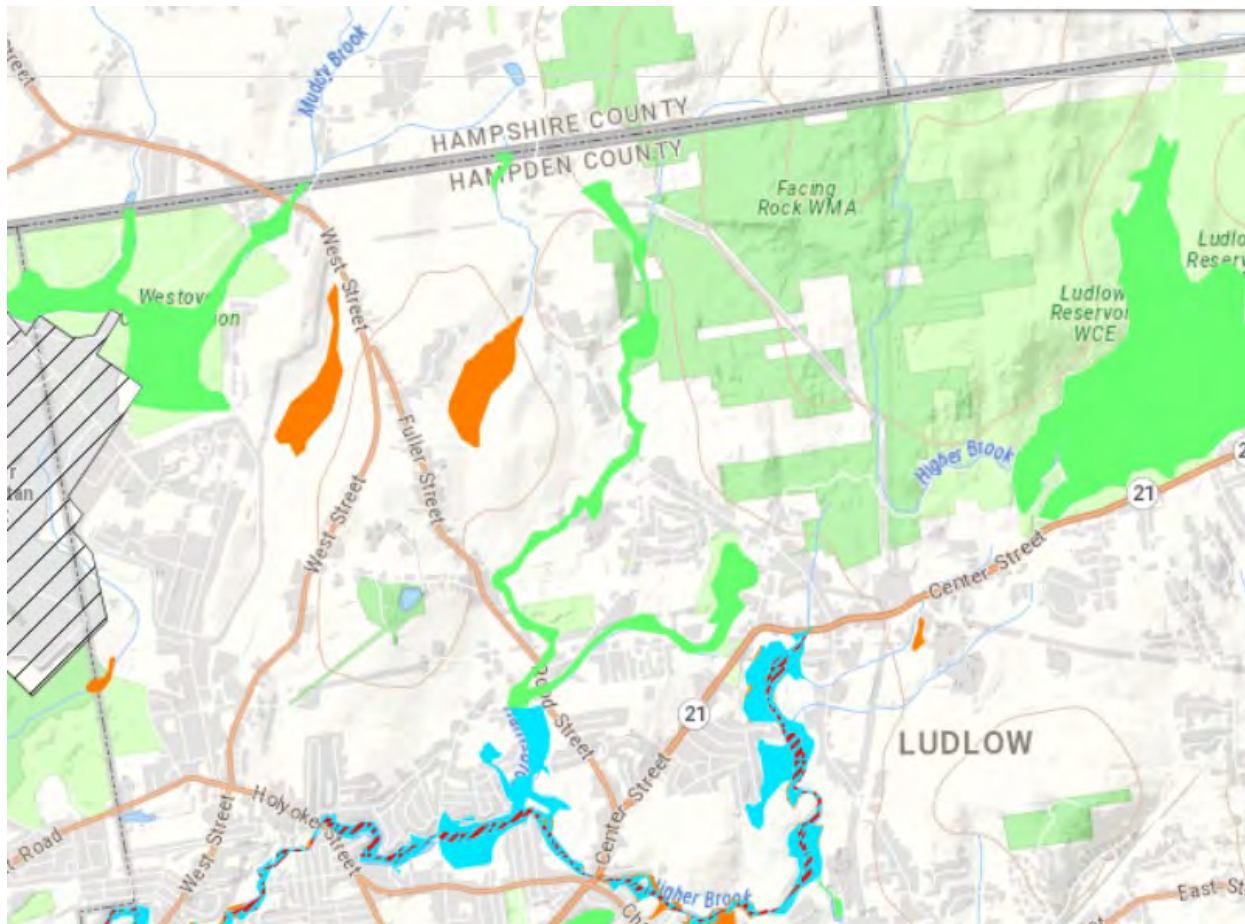


Stakeholder Identification

- Who are the key decision makers in your community?
- Who is directly responsible for implementing decisions?
- Who has influence on decisions in your community?
- Which entities will be impacted by decisions?

Data Needs

- Past plans, studies, or reports
- Any specific hazard mapping needed?



Next Steps

- Send community photos to etully@pvpc.org
- Schedule next meeting
- Finalize list of participants
- Finalize workshop dates
- Finalize outreach and publicity plan
- Schedule stakeholder interviews