

The Role of Buyouts in Flood Resilience

March 21, 2019



Kevin Geiger
Senior Planner, Two
Rivers-Ottawaquechee
Regional Commission

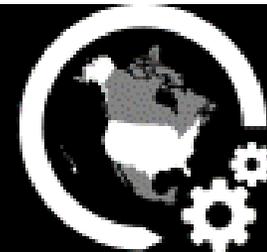


Lauren Oates
Vermont State Hazard
Mitigation Officer

Weathering Change: Local Solutions for Strong Communities

AU

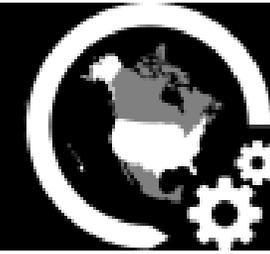
ANTIOCH UNIVERSITY NEW ENGLAND
**Center for Climate Preparedness
and Community Resilience**



**U.S. Climate
Resilience
Toolkit**

AU

ANTIOCH UNIVERSITY NEW ENGLAND
Center for Climate Preparedness
and Community Resilience



U.S. Climate
Resilience
Toolkit

Weathering Change: Local Solutions for Strong Communities

2018-19 Webinar Series is generously sponsored by:



**Town
Creek
Foundation**



**The
High Meadows
Fund**

AU

ANTIOCH UNIVERSITY NEW ENGLAND
Center for Climate Preparedness
and Community Resilience

www.communityresilience-center.org



Strengthen communities to prepare, respond and recover in the face of climate impacts and other disruptions through collaborative, innovative solutions.

Abigail Abrash Walton, Co-Director

AU

ANTIOCH UNIVERSITY NEW ENGLAND
Center for Climate Preparedness
and Community Resilience



U.S. Climate
Resilience
Toolkit

Climate Resilience Certificate for Professionals

Antioch University New England's Center for Climate Preparedness, in conjunction with Antioch's Sustainable Development and Climate Change graduate program, has initiated a set of six on-line courses leading to an accredited Climate Resilience Certificate for Professionals.

- Engage in each course for 4 weeks.
- Courses can be taken either for graduate credit or for professional continuing education credits.
- Increase your skill set in climate resilience for better outcomes.
- Discover solutions to local issues you face on the job or in your community.
- Register for one course or the whole series.

Visit our website for more information about this series and the certificate program.

<http://www.communityresilience-center.org/climate-change-resilience-series/>



Climate Justice and Equitable Adaptation

Dates: March 31 – April 27, 2019

Registration deadline: March 26, 2019



Course Instructor:
Sarika Tandon

Climate change disproportionately affects communities of color and communities facing poverty. This module will focus on understanding how the intersections of social injustice and climate change can intensify the effect of climate impacts in communities that have been historically marginalized. This course will train current and future resilience professionals to work in a more inclusive manner with diverse constituencies and to advocate for and implement strategies that yield more equitable outcomes. Participants will have the opportunity to learn about equitable adaptation strategies and tools, as well as on-the ground case studies from a community-based perspective. Participants will learn process oriented methods and outcome oriented strategies for integrating equity considerations into climate resilience initiatives in various settings, as well as developing interpersonal and leadership skills that will allow them to effectively support equitable outcomes in their work..

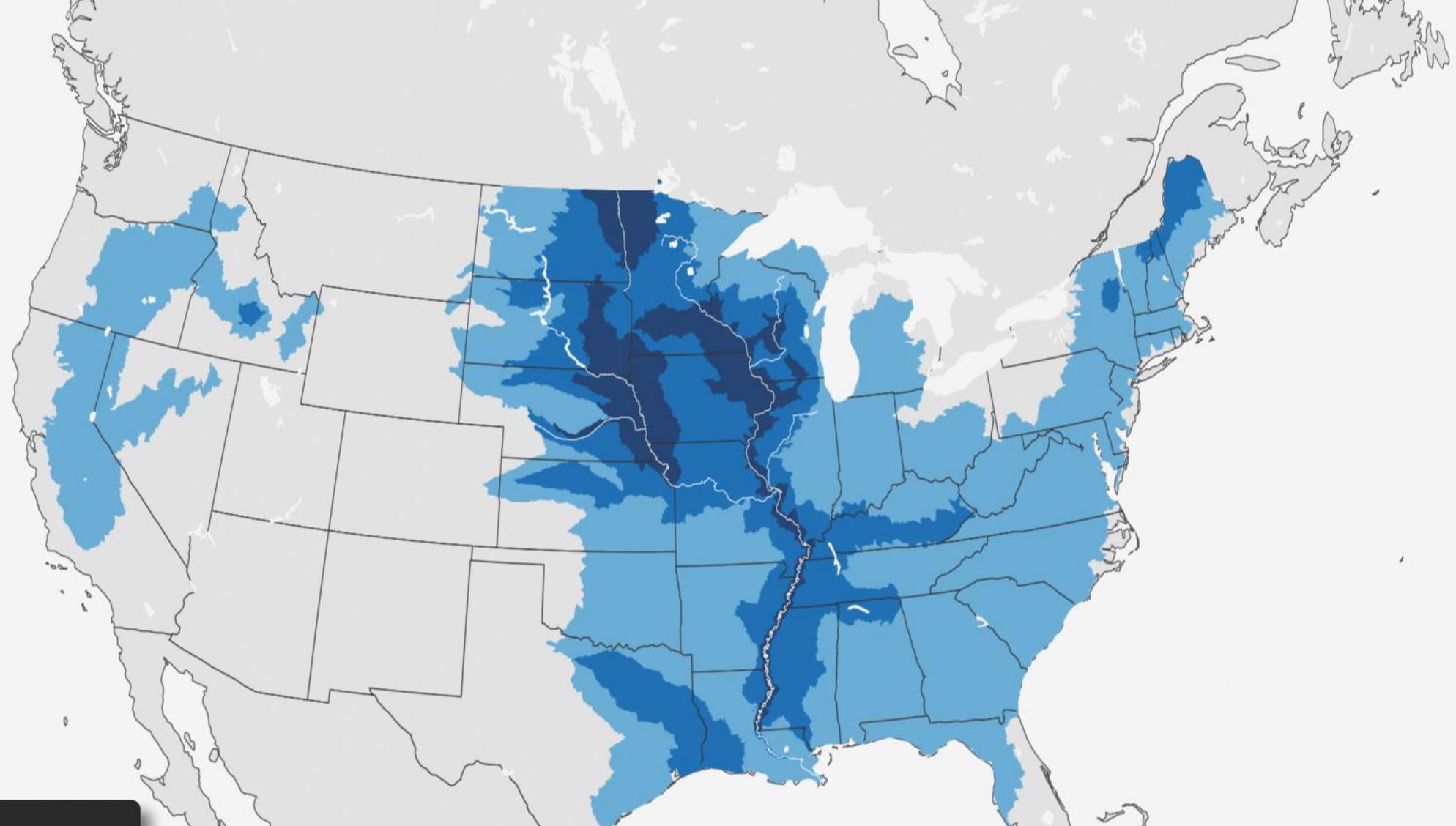
Register for this course: <https://www.antioch.edu/new-england/resources/centers-institutes/center-climate-preparedness-community-resilience/climate-change-resilience-series/>



Ned Gardiner, Engagement Manager

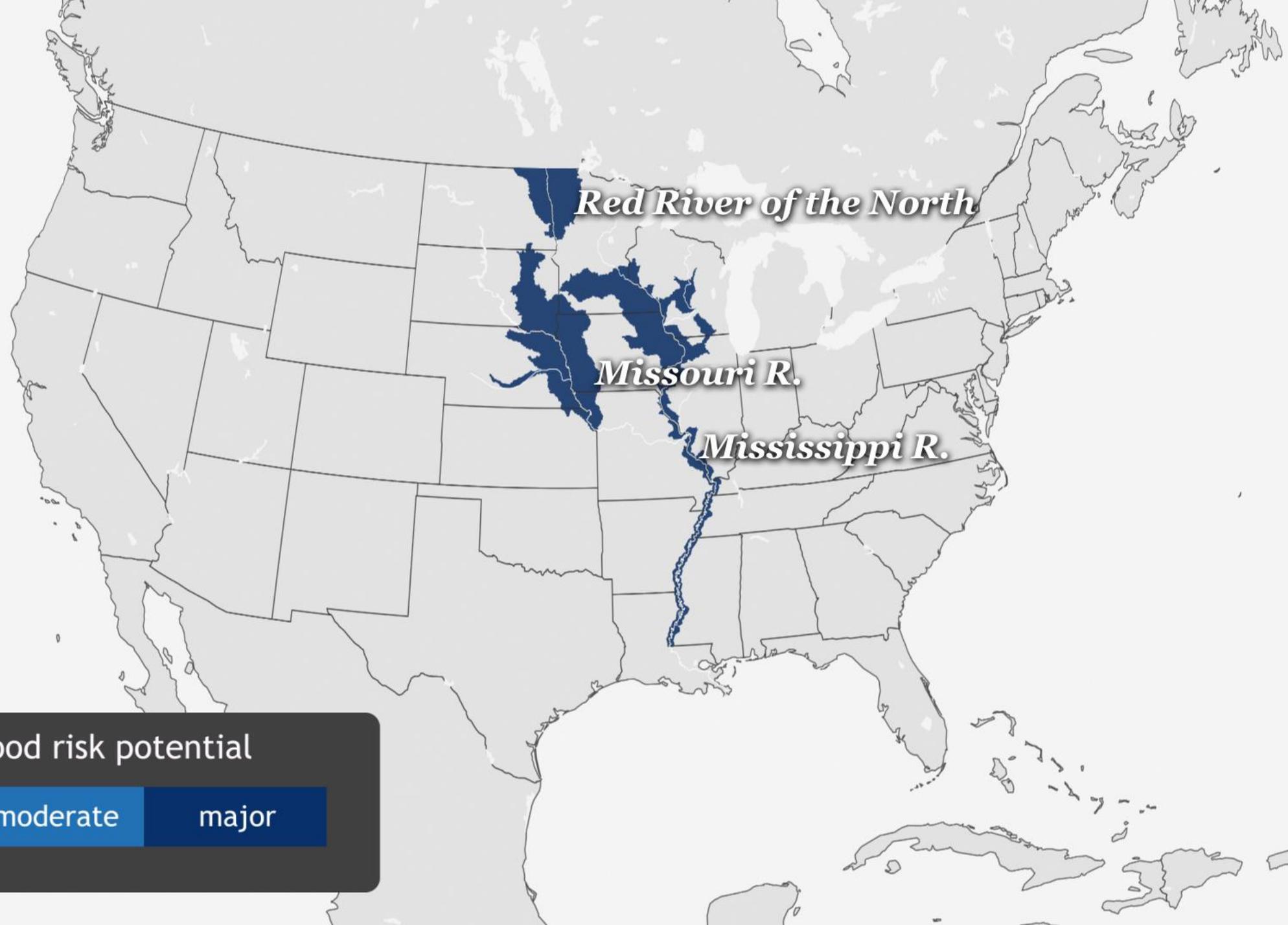
www.toolkit.climate.gov

Meet the challenges of a changing climate by finding information and tools to help you understand and address your climate risks.



Climate.gov

Flood Risk (March - May)

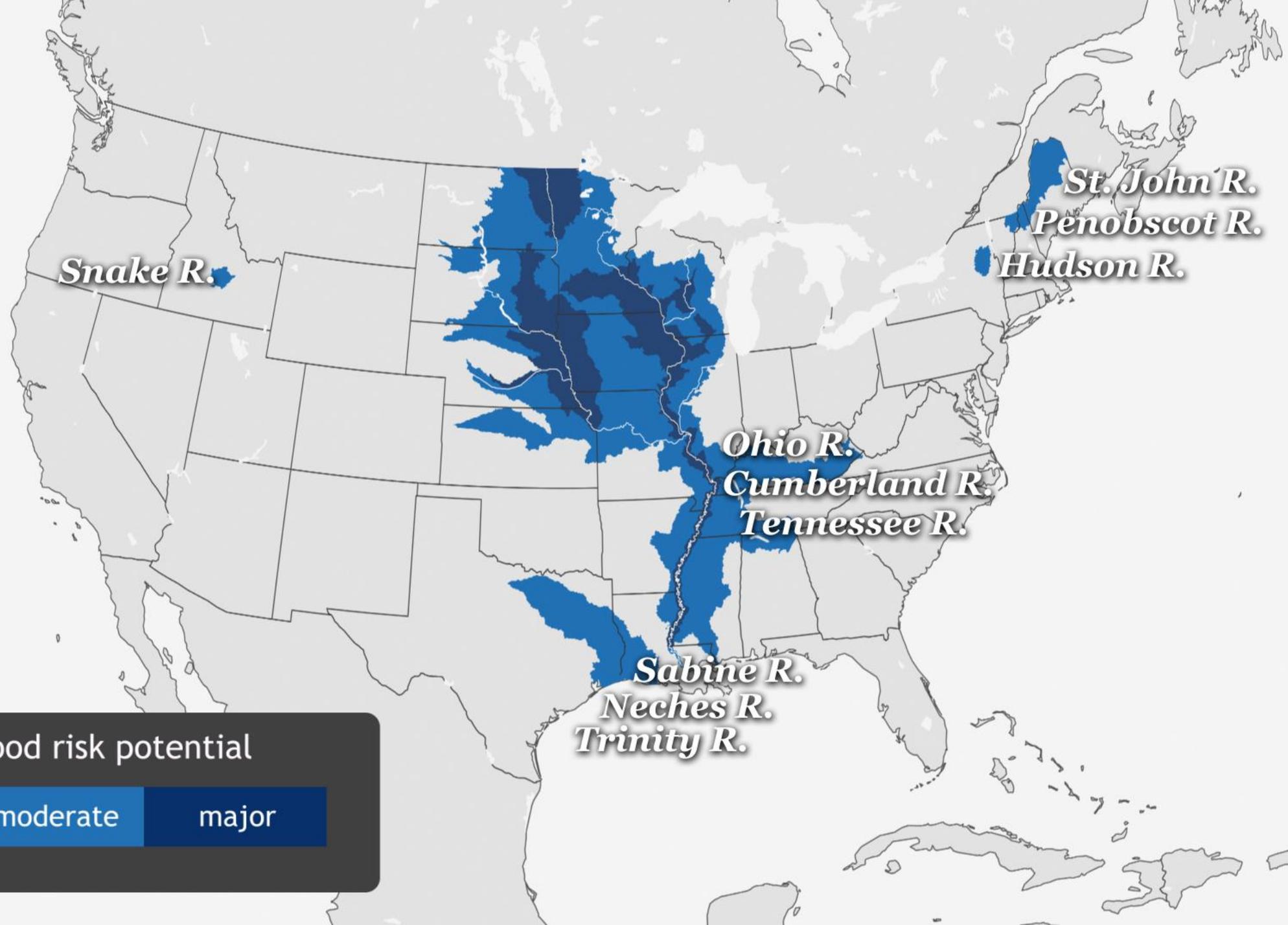


spring flood risk potential

minor

moderate

major



spring flood risk potential

minor

moderate

major

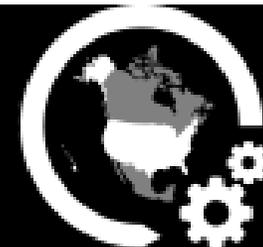


Logistics

- If you can hear me, you are already connected to the Broadcast and do not need to call in.
- If you have a question, please write it in the *Q&A section* (not Chat) and select to All Panelists, so we can see the questions.
- If you are having technical difficulty, please use *Chat* and send to Host, so we can address the issue with you directly.
- The presentation will be recorded and posted to the Antioch website within a week: www.communityresilience-center.org

AU

ANTIOCH UNIVERSITY NEW ENGLAND
Center for Climate Preparedness
and Community Resilience



U.S. Climate
Resilience
Toolkit

Questions

- **Please submit questions via the Q&A section (not Chat)**
- **Select to All Panelists.**
- **If we are not able to get to your question today, we will try to address it after the webinar in our general follow up email or you may hear directly from the presenters.**

AU

ANTIOCH UNIVERSITY NEW ENGLAND
**Center for Climate Preparedness
and Community Resilience**



**U.S. Climate
Resilience
Toolkit**

The Role of Buyouts in Flood Resilience

Lauren Oates

State Hazard Mitigation Officer, Vermont Emergency Management

Lauren.Oates@vermont.gov

and

Kevin Geiger, AICP CFM

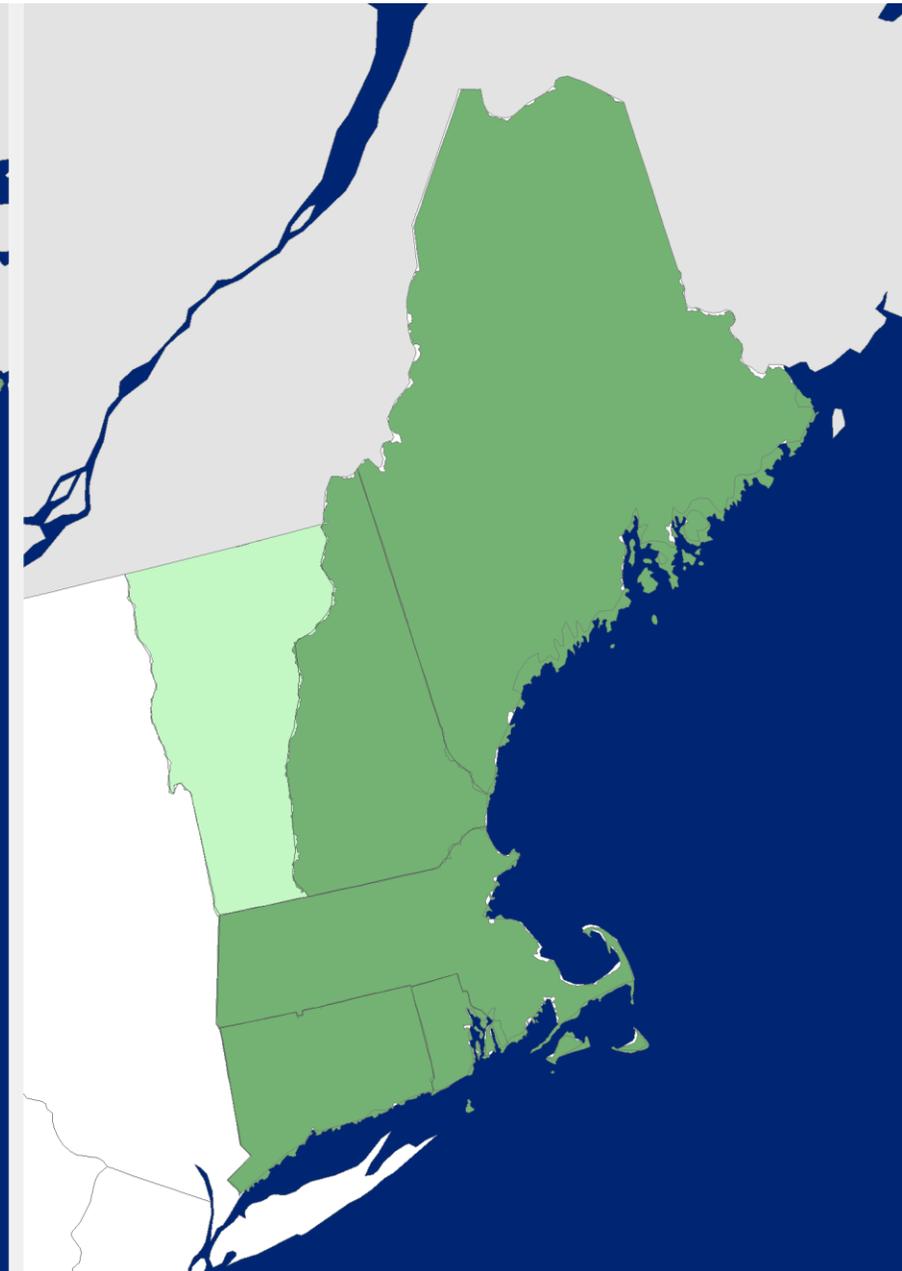
Senior Planner, Two Rivers-Ottawaquechee Regional Commission

kgeiger@trorc.org



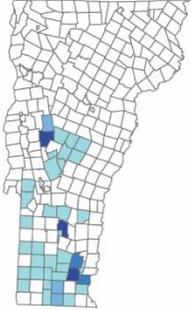
Flooding in Vermont

Increasing in frequency and severity



FEMA-Declared Flooding Disasters in Vermont

DR-1336: July 2001



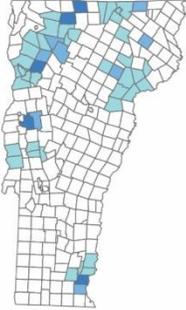
Total: \$2,363,000

DR-1488: July 2003



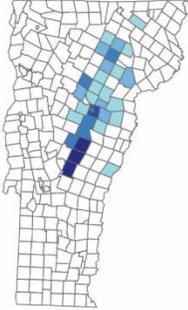
Total: \$916,000

DR-1559: August 2004

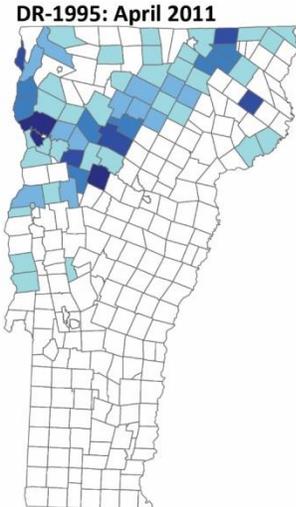


Total: \$2,240,000

DR-1715: July 2007



Total: \$4,703,000



DR-1995: April 2011

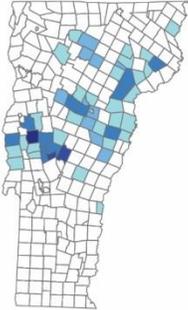
Total: \$10,477,000

DR-1778: June 2008



Total: \$1,087,000

DR-1790: July 2008



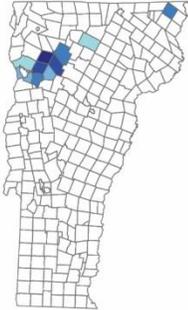
Total: \$4,571,000

DR-4043: May 2011



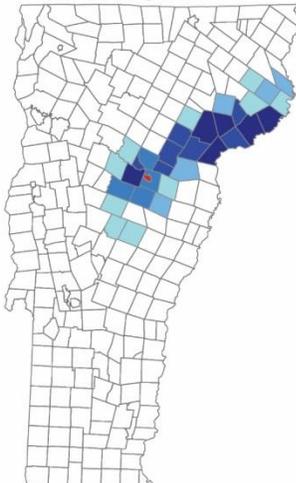
Total: \$946,000

DR-4120: May 2013



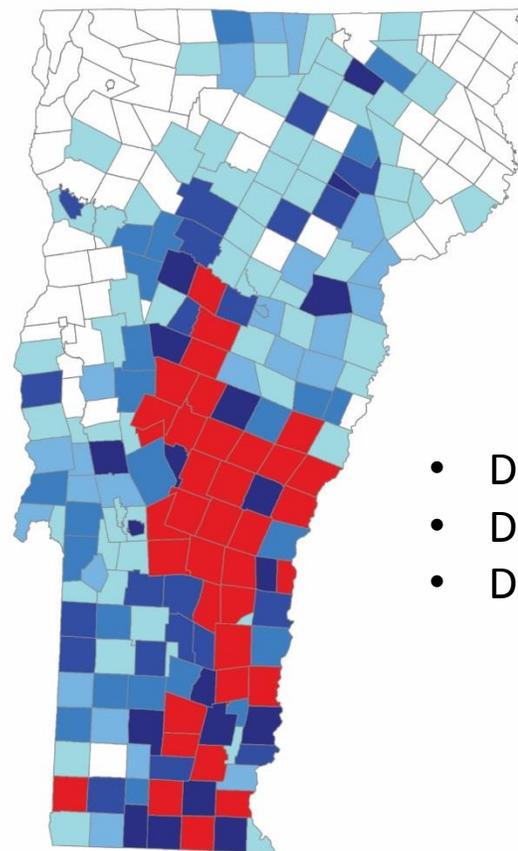
Total: \$1,915,000

DR-4001: July 2011



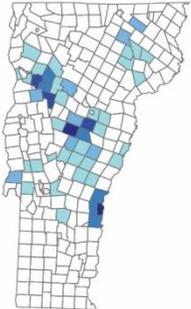
Total: \$10,674,000

DR-4022: Tropical Storm Irene, September 2011



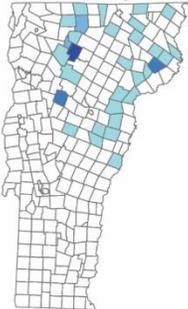
Total: \$210,461,000

DR-4140: June 2013



Total: \$5,619,000

DR-4178: April 2014



Total: \$1,824,000

DR-4232: June 2015



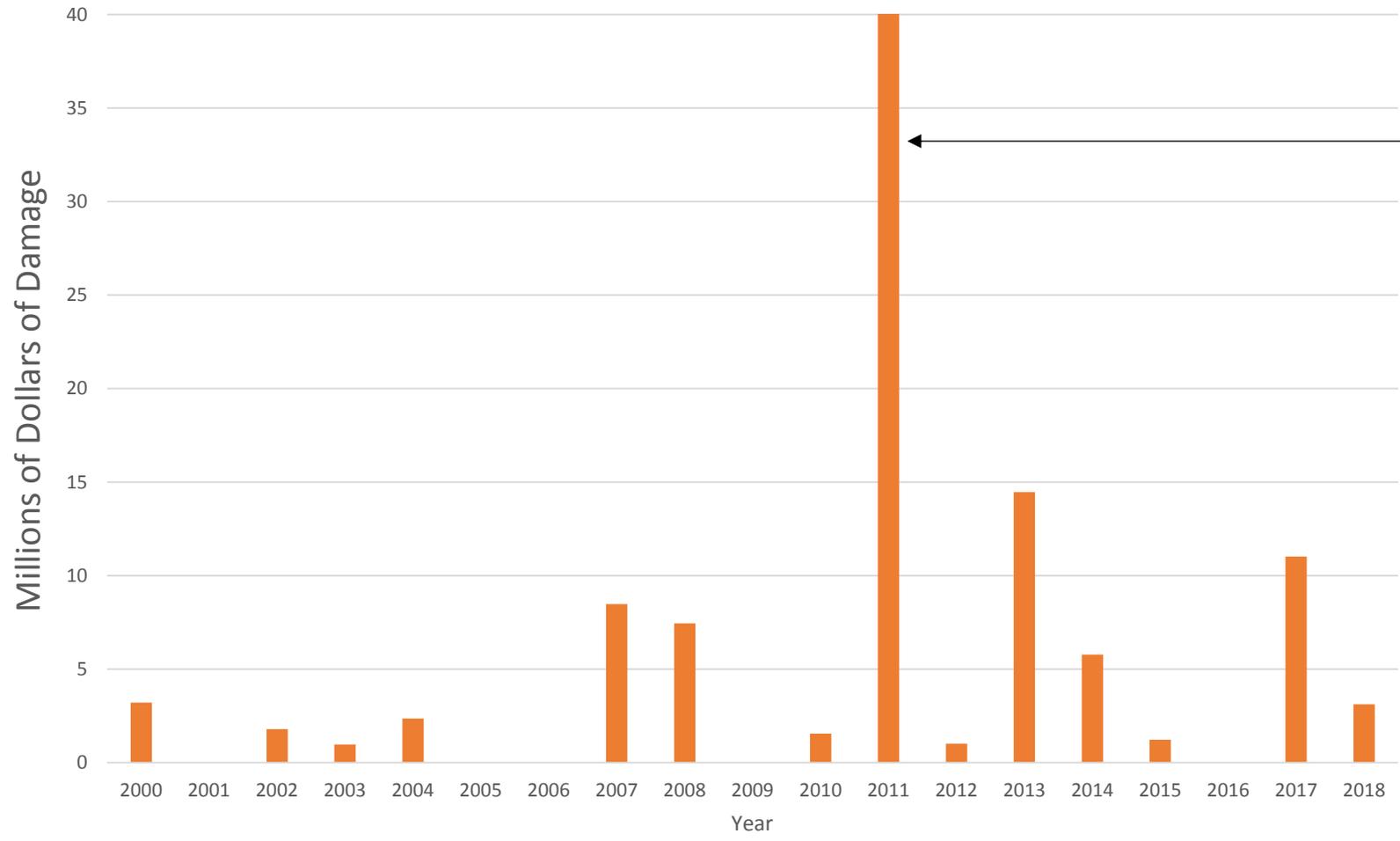
Total: \$1,227,000

- DR-4330 – July 2017 (\$6.1m)
- DR-4356 – October 2017 (\$4.9m)
- DR-4380 – May 2018 (\$3.1m)

≤ \$50,000 \$50,001 - \$100,000 \$100,001 - \$250,000 \$250,001 - \$500,000 \$500,001 - \$1,000,000 ≥ \$1,000,001

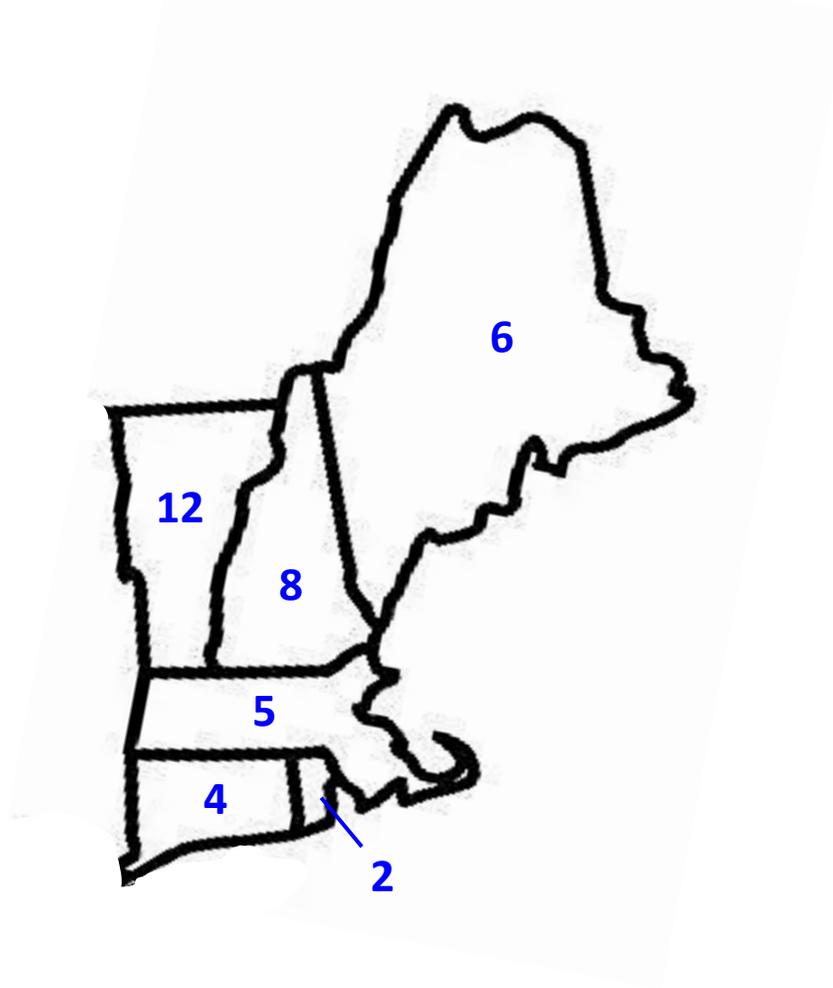


Disaster Damages in Vermont in 21st Century



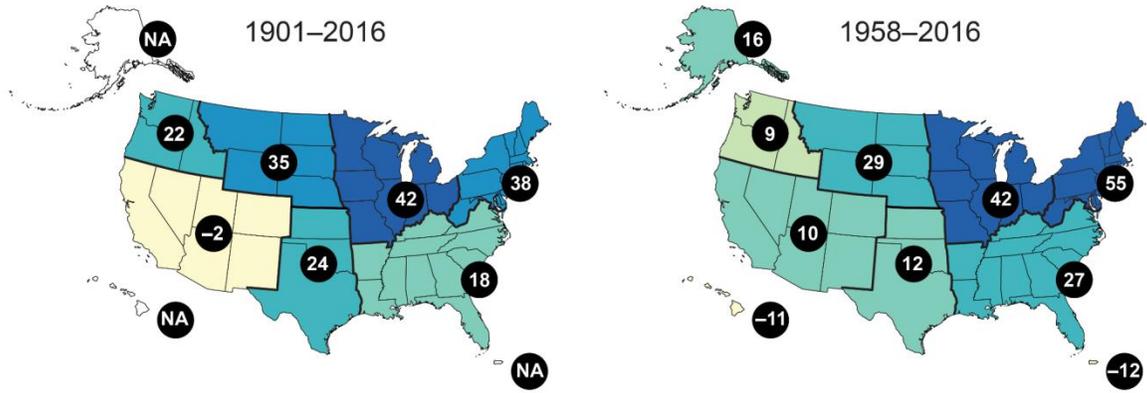
Off the Chart!
2011 Spring Floods
& Tropical Storm
Irene: **\$259.8m**

FEMA-Declared Flooding Disasters in New England since 2011

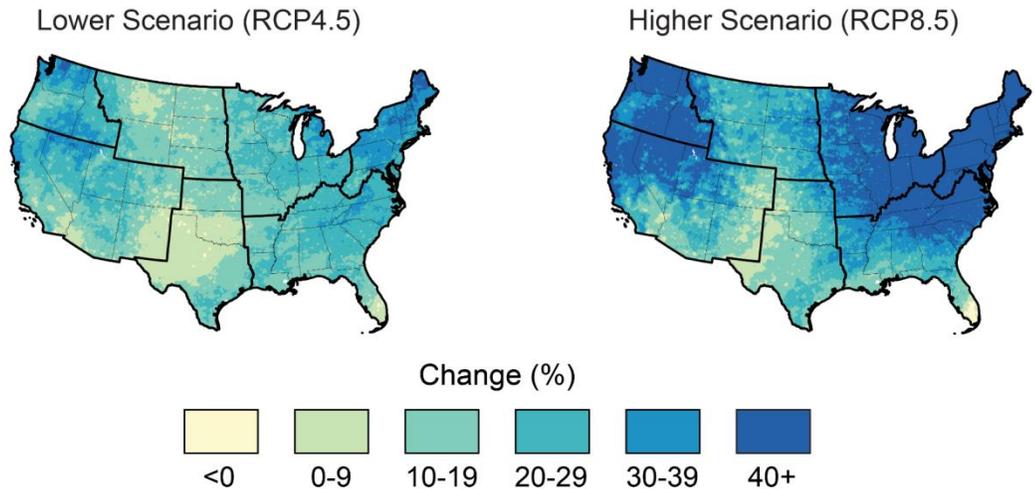


Precipitation Events & Implications of Climate Change

Observed Change in Total Annual Precipitation
Falling in the Heaviest 1% of Events



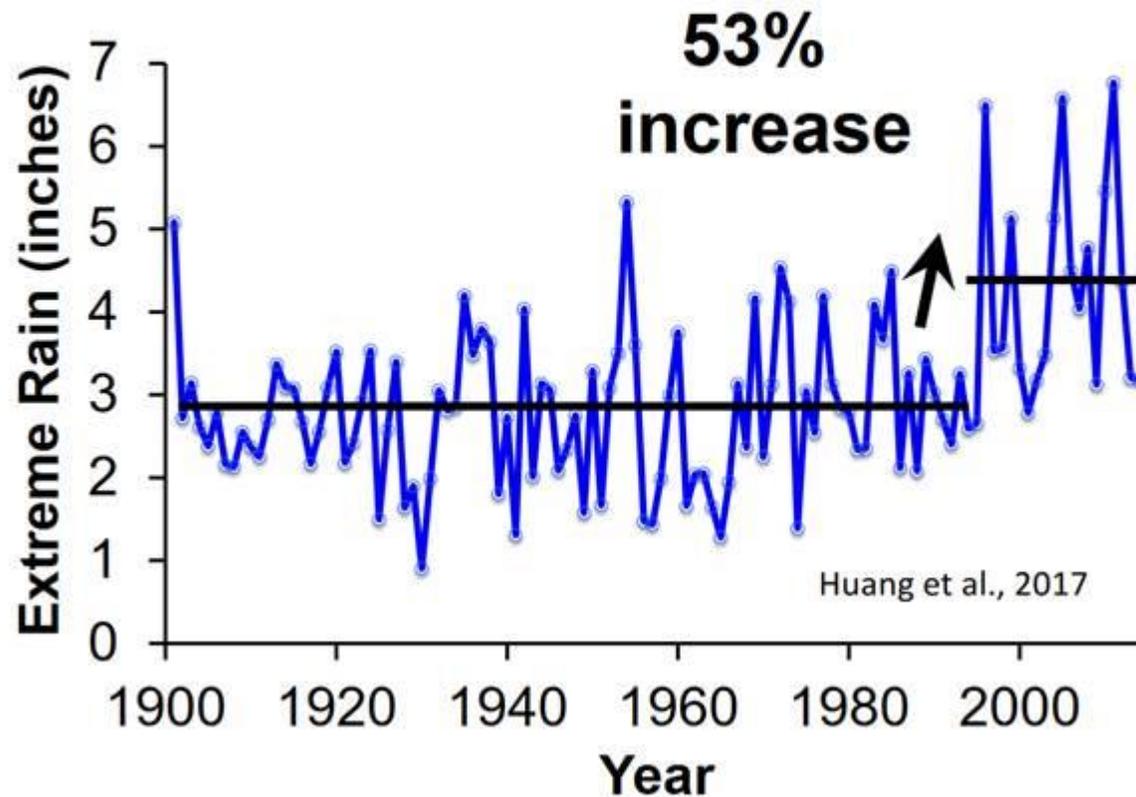
Projected Change in Total Annual Precipitation
Falling in the Heaviest 1% of Events by Late 21st Century



- Increasing urbanization will increase impervious cover, leading to flashier watersheds
- Warmer winters will mean more rain events than snow
- Rivers and streams are still in disequilibrium from historic channel dredging and straightening, and thus recreating flood plains
- Sea levels will rise on coasts, and storms may move slower, increasing surge heights.

Precipitation Events & Implications of Climate Change

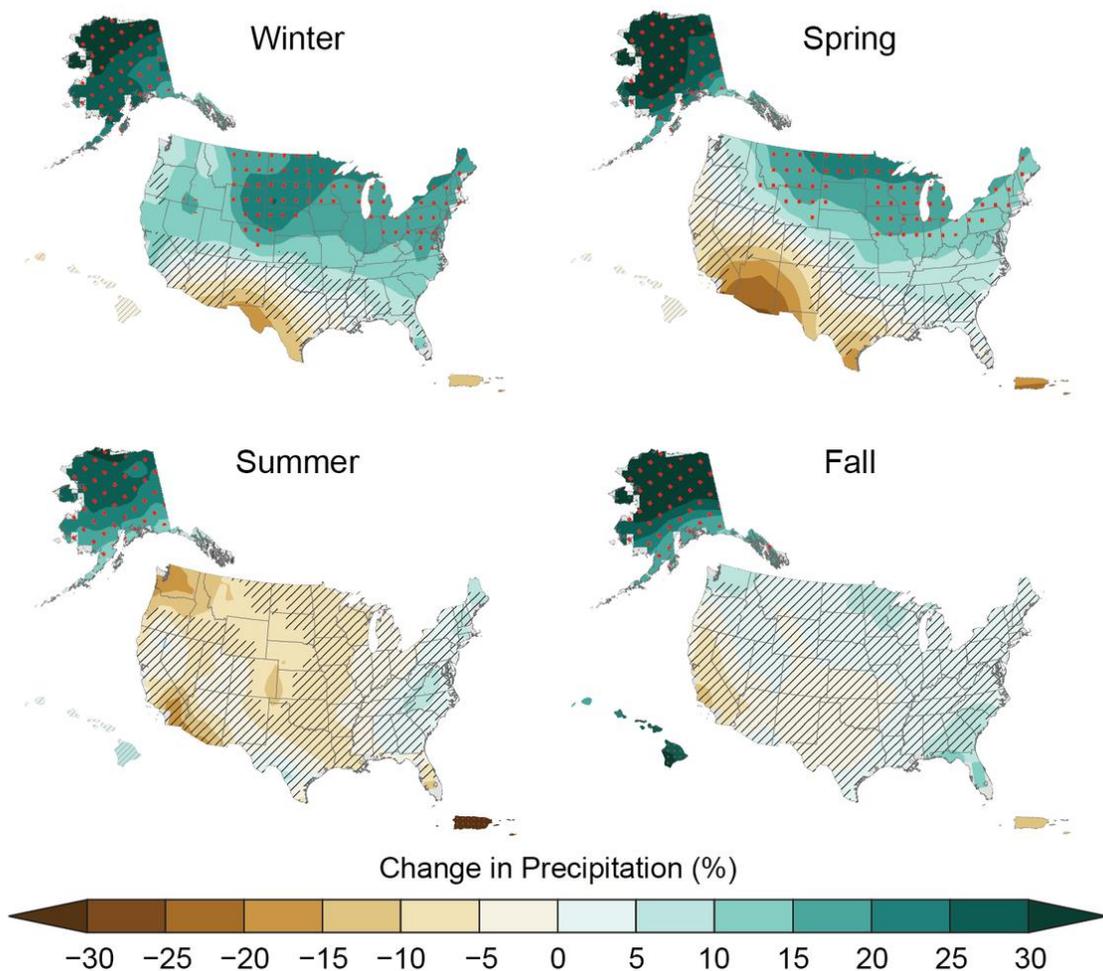
Extreme Rainfall Jumped 53% in 1996



- Annual and extreme precipitation across the Northeast have both increased significantly since 1901
- Extreme precipitation from 1996-2014 is 53% higher than 1901-1955
- Since 2002, annual precipitation rates in the Northeast have increased significantly

Seasonal Precipitation & Implications of Climate Change

Late 21st Century, Higher Scenario (RCP8.5)



- For the Northeast, all four seasons expected to see an increase in precipitation, with most significant increases in winter and spring.
- Wetter, warmer winters followed by early-arriving springs will lead to increases in ground saturation and spring flooding.

It's not *all* bad news

Vermont's Post-Irene Approach to Flood Mitigation

What are Buyouts?

Include:

- Fee simple acquisition and permanent removal of structures
- Deed restrictions on future development



What are Buyouts?

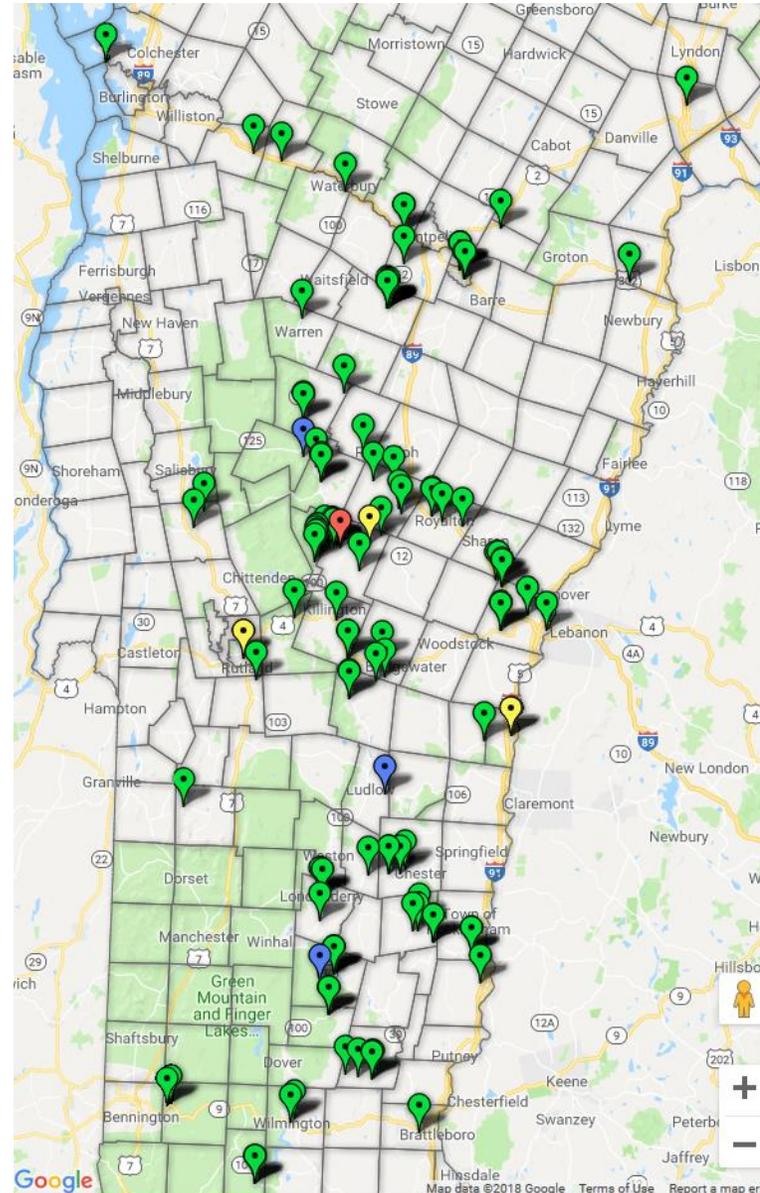
May Include:

- Channel improvements for increased storage
- Brownfield cleanup
- Sites for agricultural use and recreational improvements (e.g. parks, community gardens)



Vermont's Buyout Program

150 *properties*
40 *towns*
3 *sources of funds*



Why do Buyouts?

- PERMANENT fix
- Reduces future flood risk to the buildings you buy and others
- Improves channel shape and increases flood storage/lowers flood peaks
- Reduces emergency response
- Opportunity to remove roads/not have to replace bridges



Why do Buyouts?

- Restores owners' finances
- Avoids leaving towns with demolition
- Can create needed parks/water access



How do you do Buyouts?

With Money \$\$\$

- FEMA
- CDBG
- Other Funding



How do you do Buyouts?

With Patience and More Staff

Get a Bob!

A screenshot of a Microsoft Excel spreadsheet. The ribbon at the top shows 'File', 'Home', 'Insert', 'Page Layout', 'Formulas', 'Data', 'Review', 'View', 'Help', and 'ACROBAT'. The 'Home' tab is active, showing options for Cut, Copy, Paste, Format Painter, Clipboard, Font, Alignment, and Number. The spreadsheet itself is a complex financial model with many columns and rows. The columns are color-coded: orange, green, yellow, and blue. The text 'HMGP Approved' is visible in the top right area of the spreadsheet. The spreadsheet contains various numerical values and text entries, likely representing financial data and project details.

How do you do Buyouts?

In-Person

- Owners are frustrated
- They have been traumatized
- They need to tell stories
- They need to trust you



How do you do Buyouts?

Fast, and then reallllllly sloooooowlly

- You need to reach people before they invest in rebuilding
 - For small clean-up repairs, make sure they keep receipts!
- People want to normalize ASAP
- Buyouts will take months to years, average about 2 years



How do you do Buyouts?

With Partners

- Other funding to get to 100% is *invaluable*
- Partners can supply match, help owners, clear sites, create parks, etc.
- Towns are the usual buyers, but can be others such as conservation organizations



Lessons Learned

- Be in there fast
- Take pictures
- Don't demolish, unless ordered to (and then as PA)
- Have a social services team working with you
- Be prepared to hold the town's hand
- Remember the emotional component
- Coordinate w/ the FEMA Hazard Mitigation Grant Program (HMGP) and Community Development Block Grant (CDBG) administrators – 100% funding!
- Identify possible State or Local sources of funding to match federal aid – 100% funding!
- Buyouts can happen any time, not just after a major disaster
- NFIP Increased Cost of Compliance (ICC) can be used for demolition
- Consider Nature-Based Solutions
 - Identify undeveloped floodplain and conserve it
 - Promote floodplain/wetland restoration efforts



Some Wrinkles...

- Property owners are going through a divorce and aren't talking
- The owner has died, is hospitalized, in jail or has moved out without providing a new address
- The bank is going to foreclose and has to be persuaded not to
- The bank is owed more than the pre-flood value and owner and bank have to negotiate
- The site is contaminated and has to be remediated prior to purchase
- The site has a tenant that needs to be relocated
- The home is jointly owned by several family members and it is easiest to get signed forms by meeting them all at their Thanksgiving dinner table. Really.

Contact info slide holder

Questions

- **Please submit questions via the Q&A section (not Chat)**
- **Select to All Panelists.**
- **If we are not able to get to your question today, we will try to address it after the webinar in our general follow up email or you may hear directly from the presenters.**

AU

ANTIOCH UNIVERSITY NEW ENGLAND
**Center for Climate Preparedness
and Community Resilience**



**U.S. Climate
Resilience
Toolkit**

The Role of Buyouts in Flood Resilience

Lauren Oates

State Hazard Mitigation Officer, Vermont Emergency Management

Lauren.Oates@vermont.gov

and

Kevin Geiger, AICP CFM

Senior Planner, Two Rivers-Ottawaquechee Regional Commission

kgeiger@trorc.org



Join us again in April for:

Community-Based Climate Change Resilience Planning, Strategies and Case Studies

Thursday, April 11, 2019 12:00-1:15 PM EST

This session will feature presentations of ongoing projects that are focused on community-led climate change planning efforts in the Northeast. The presentation will include findings from a multi-year planning process in New York City focused on social equity outcomes in sustainable development projects (now in [The Upper Manhattan\(n\) Project book](#)), and a new partnership between the High School for Environmental Studies and several environmental organizations in which students are prototyping rapid local solutions for the flooding, heat, and other impacts of climate change.



Aurash Khawazard
Independent Consultant



Sean Abbott-Klafter
Teacher, High School for Environmental Studies

AU

ANTIOCH UNIVERSITY NEW ENGLAND
Center for Climate Preparedness
and Community Resilience



U.S. Climate
Resilience
Toolkit

Thank You

Please take the time to fill out the short **evaluation** for this webinar so we can continue to bring you topics that are most useful for you. An evaluation link has already been emailed to you.

The 2018-19 Webinar Series
is generously sponsored by:



AU

ANTIOCH UNIVERSITY NEW ENGLAND
Center for Climate Preparedness
and Community Resilience



U.S. Climate
Resilience
Toolkit