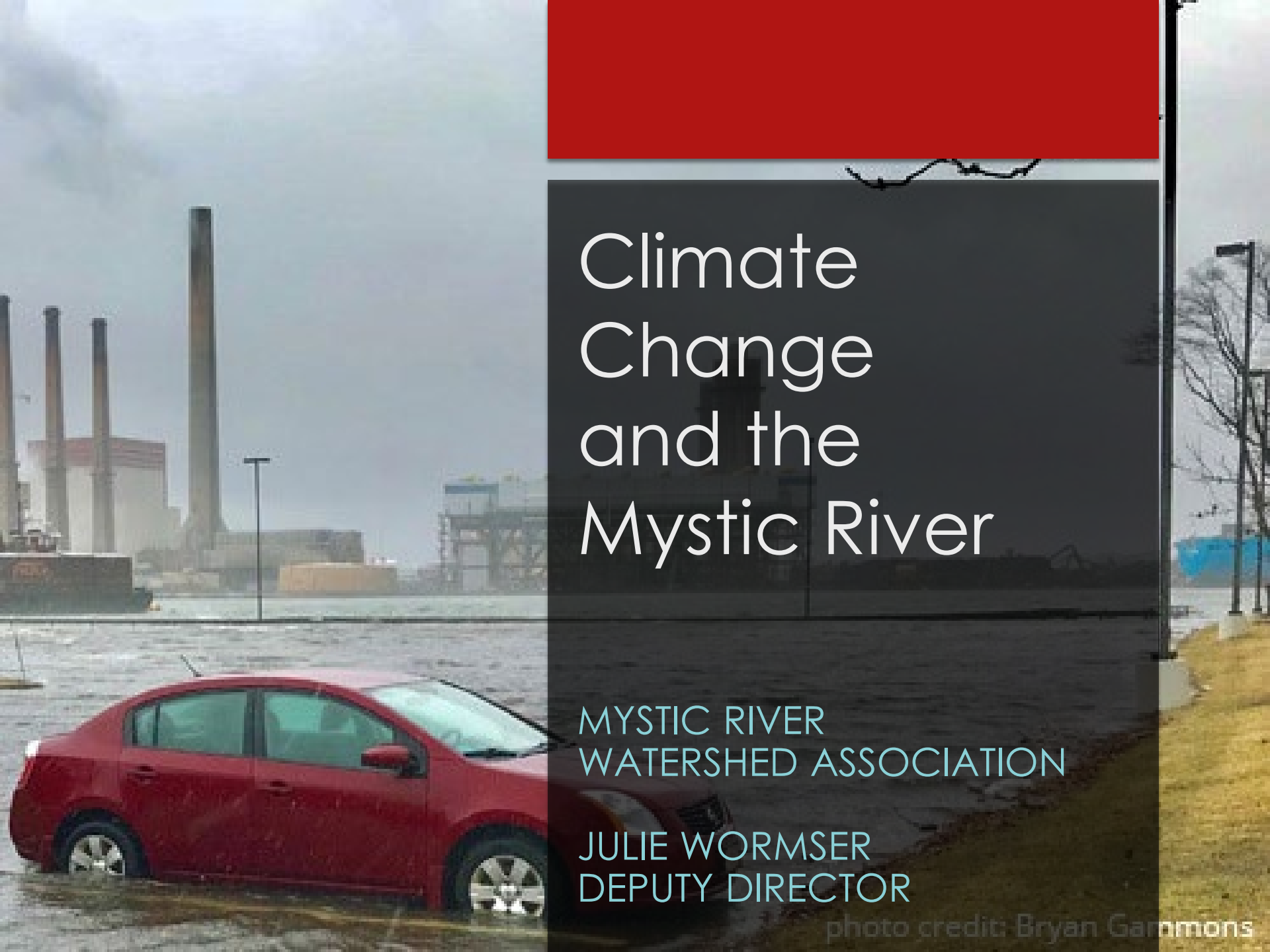


Climate Change and the Mystic River

MYSTIC RIVER
WATERSHED ASSOCIATION

JULIE WORMSER
DEPUTY DIRECTOR

photo credit: Bryan Gammons

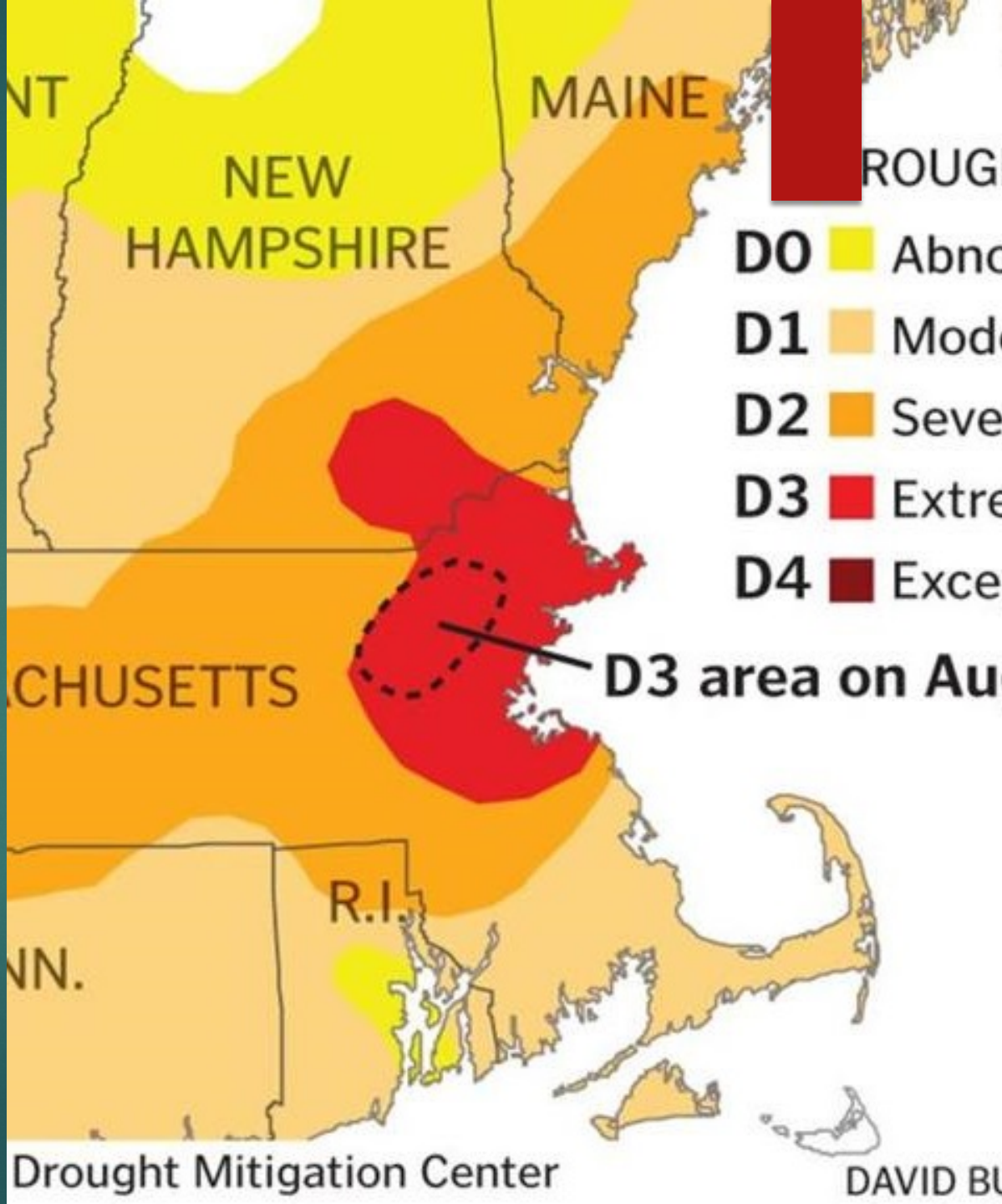
Climate change is transforming our relationship with the Mystic.

BRATTLEBORO, VT
AUGUST 2011

2010: Extreme rainfall

2015: Record blizzards

2016: Record drought



2018 Record Nor'easters

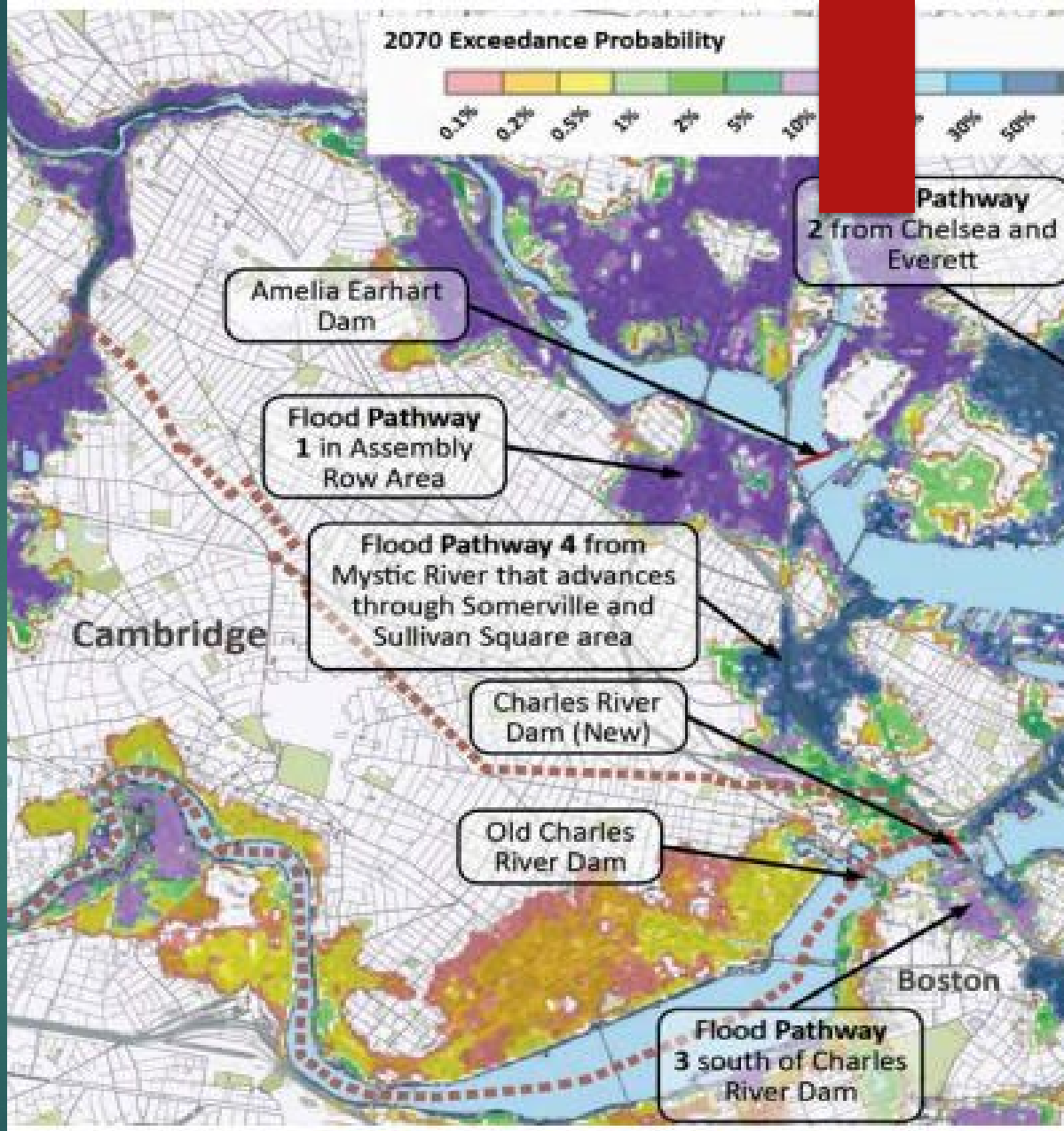
Plus Superstorm Sandy, Hurricanes Katrina, Harvey, Irma, Maria, Michael…

We're not ready for this.

NEW ENGLAND PRODUCE CENTER
MARCH 2018

Mystic watershed: 21 municipalities, 500,000 people, concentrated infrastructure, universities, and dramatic wealth inequality.

- Historic land building leaves us profoundly at risk of coastal flooding.

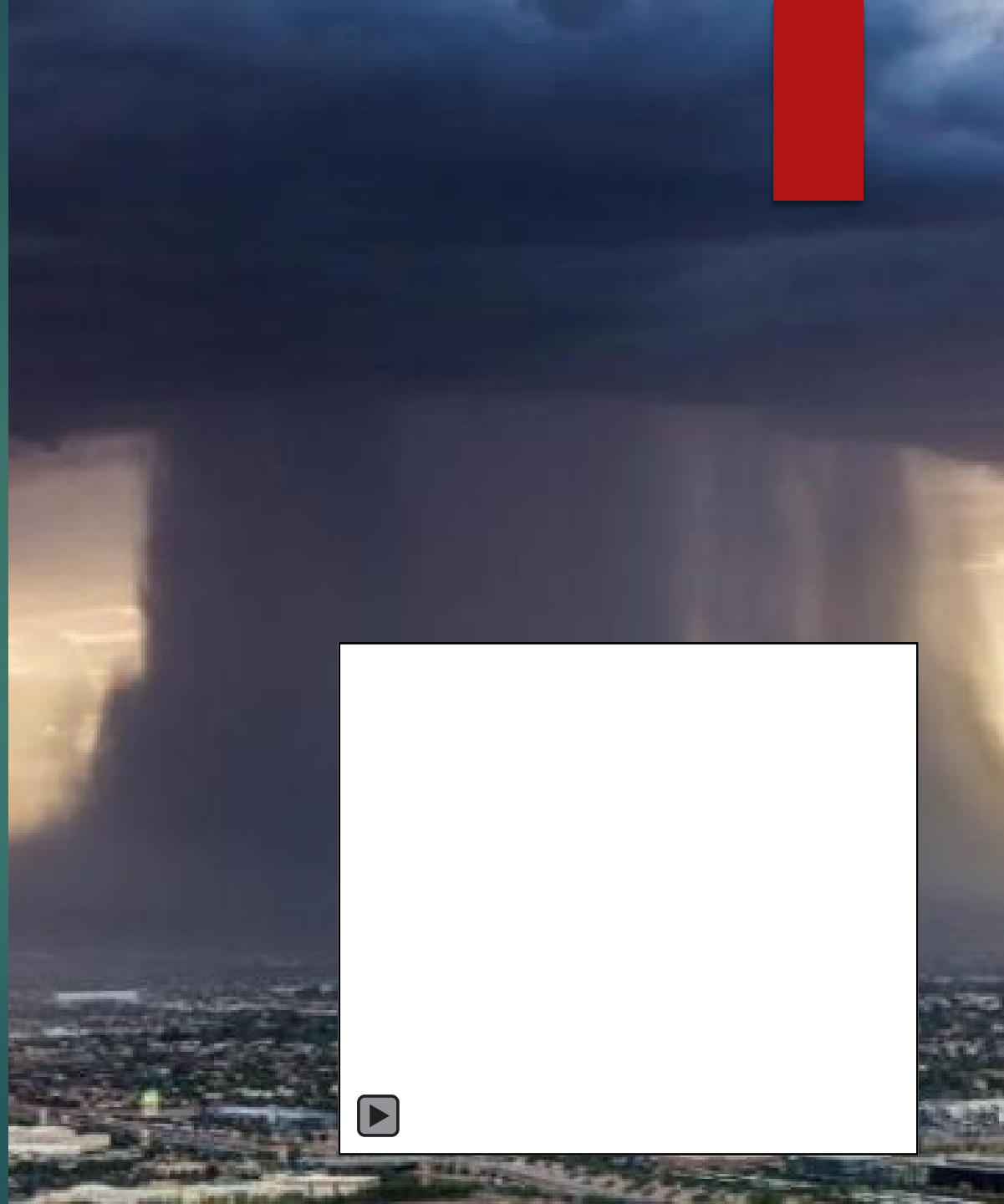


flooding by 2070 for City of Cambridge and surrounding

ds Hole Group, February 2017)

Flash floods, flash droughts

- More intense, slow-moving weather systems.
- Shorter, more intense droughts.
- Higher water table, more surface flooding.
- Wild swings in winter weather.



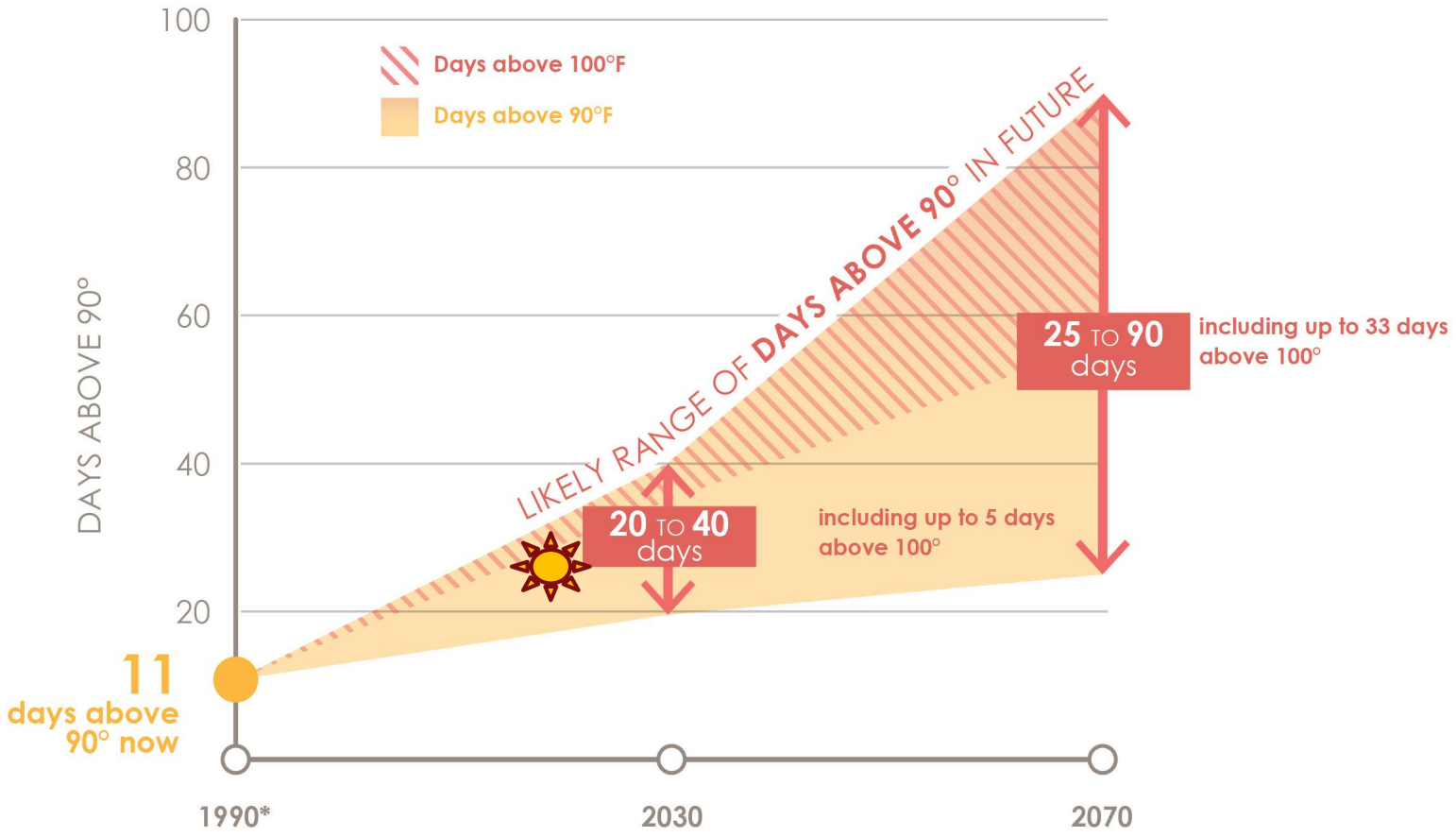
PHOENIX, AZ JULY 2016

Managing freshwater flooding

- Current stormwater systems can't handle more intense rain.
- Smaller, urbanized watersheds like the Mystic are seeing the worst flash floods.

FALL RIVER, MA MARCH 2010

Projected summer heat



* Baseline represents historical average from 1971-2000
Upper values from high emissions scenario. Lower values from low emissions scenario.

Data source: Rossi et al. 2015

Increased risks to Mystic River communities

- Toxic releases from industrial sites
- Sewage discharges during storms
- Need for places to cool off
- Exposure to water-borne pollution
- Lower fish diversity
- Pressure on local budgets


Mystic Climate
Collaborative

Began organizing in early 2018

- So far involves 10 of 21 municipalities
- Focusing on completing projects of regional concern.
- Steering committee identifies regional risks/opportunities.
- Highly inclusive project groups develop, implement solutions

Opportunities

- Recent storms are raising awareness
- National leaders in climate preparedness willing to share resources and knowledge
- Local philanthropic and public funding (especially Barr Foundation and State MVP grants)
- Many existing productive relationships among municipal and NGO staff

Challenges

- Two generations of lower taxes, anti-government sentiment
- Our existing laws assume static environment, promote slow rate of change
- Limited municipal capacity (staff and funding) for non-mandated activities.

Next Steps

- We have identified initial priority projects and a means to evaluate and choose additional projects.
- We are applying for regional funding.
- Goal is to experiment, document and communicate as a pilot for other watersheds.

Thank you
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