

Strengthening Environmental Health Protections through Climate Change Planning: Lessons from the National Health Security Preparedness Index

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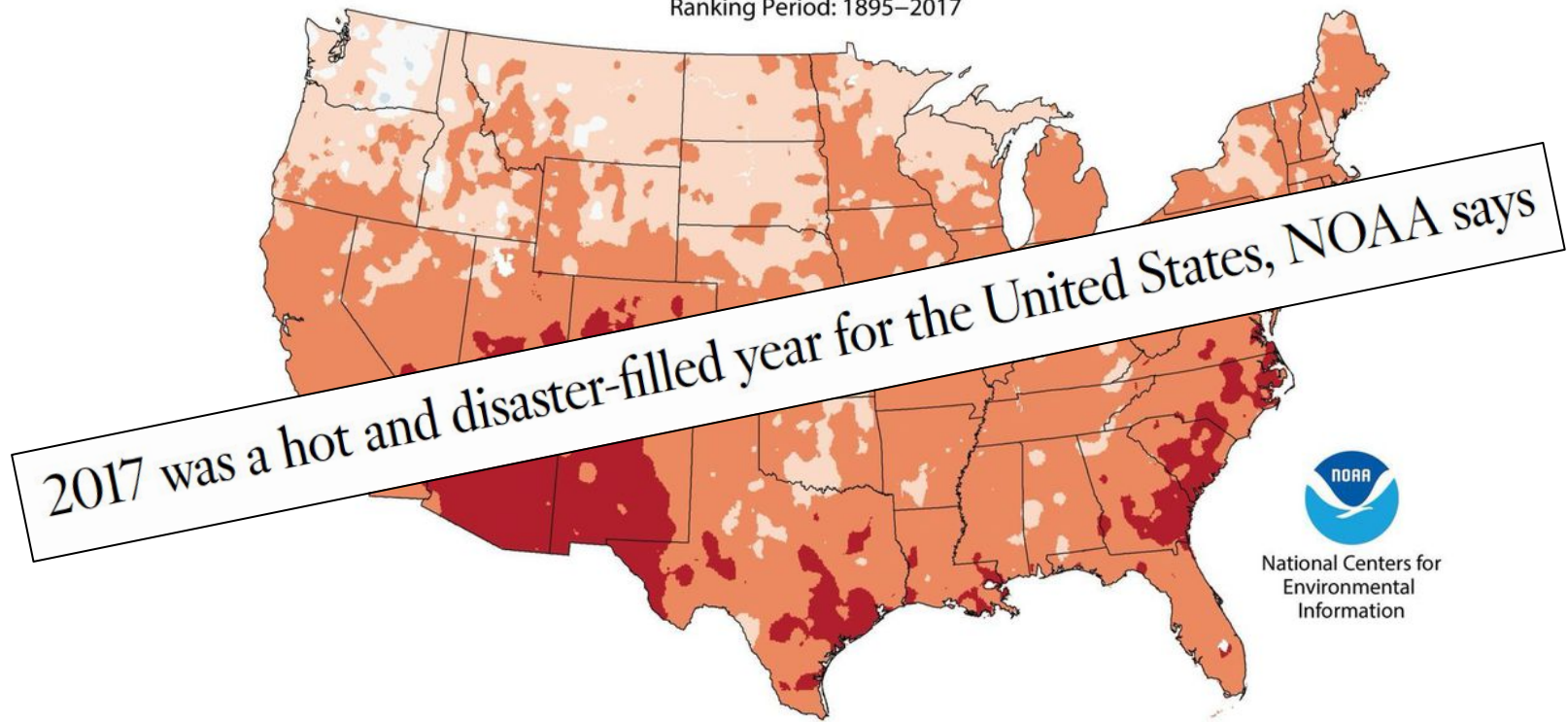
Collaborative on Health and the Environment – Boston University Superfund Research Program

Superstorms and Superfund Sites: Preventing Toxic Exposures from Climate Change Disasters Webinar

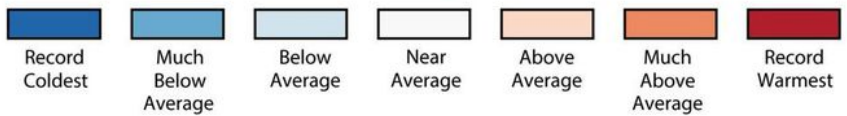
13 March 2018



Mean Temperature Percentiles January–December 2017 Ranking Period: 1895–2017



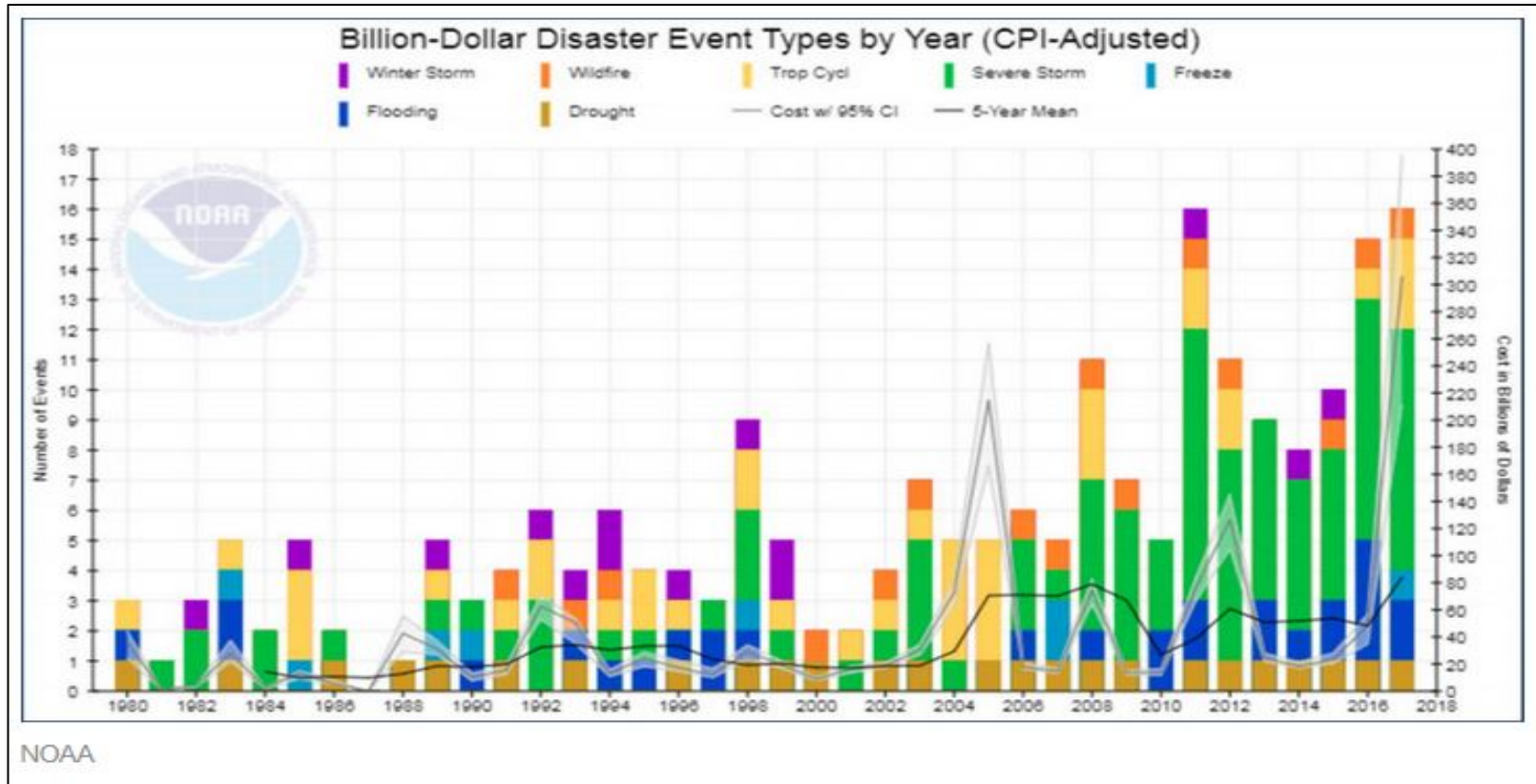
National Centers for
Environmental
Information



Created: Thu Jan 04 2018

Data Source: 5km Gridded Dataset (nClimGrid)

Extreme Weather Disasters



NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2018). <https://www.ncdc.noaa.gov/billions/>

EPA finds damage at Superfund site from Hurricane Harvey
By **Lise Olsen** and **Brooke A. Lewis** Updated 9:14 am, Friday, September 29, 2017

NATION NOW

Hurricane Harvey may have washed...

America Has a Toxic Waste Hurricane Problem

Desperate Puerto Ricans are drinking water from a hazardous waste site

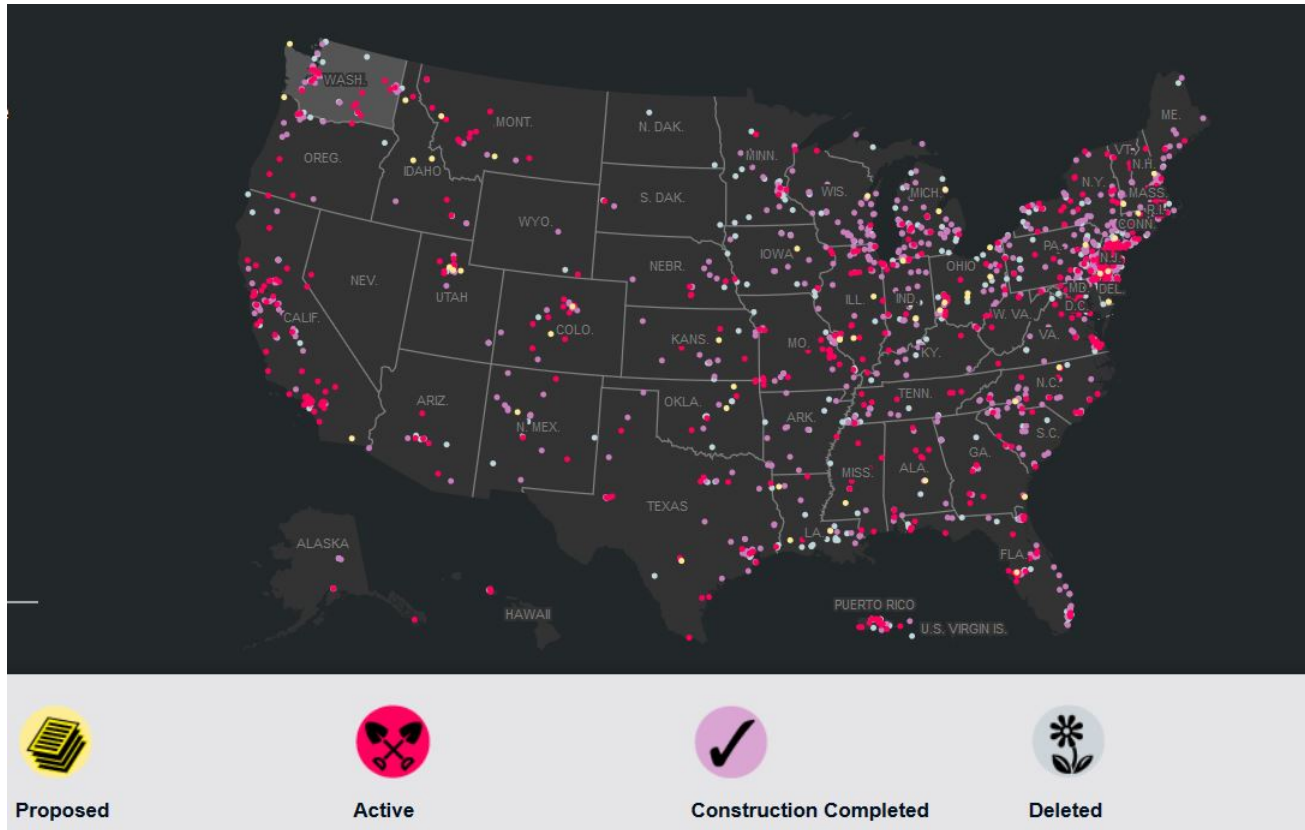
AP finds climate change risk for 327 toxic Superfund sites



By **John D. Sutter**, CNN
Updated 1:05 AM ET, Sat October 14, 2017



Superfund National Priorities List Sites



Source: National Geographic. <https://www.nationalgeographic.com/superfund/#charts/>

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)
 - Establishes liability of potentially responsible parties (PRP)
 - Authorizes U.S. Environmental Protection Agency (US EPA) and other federal agencies, states, and tribes to recover damages caused by hazardous substances
 - Creates Agency for Toxic Substances and Disease Registry (ATSDR)

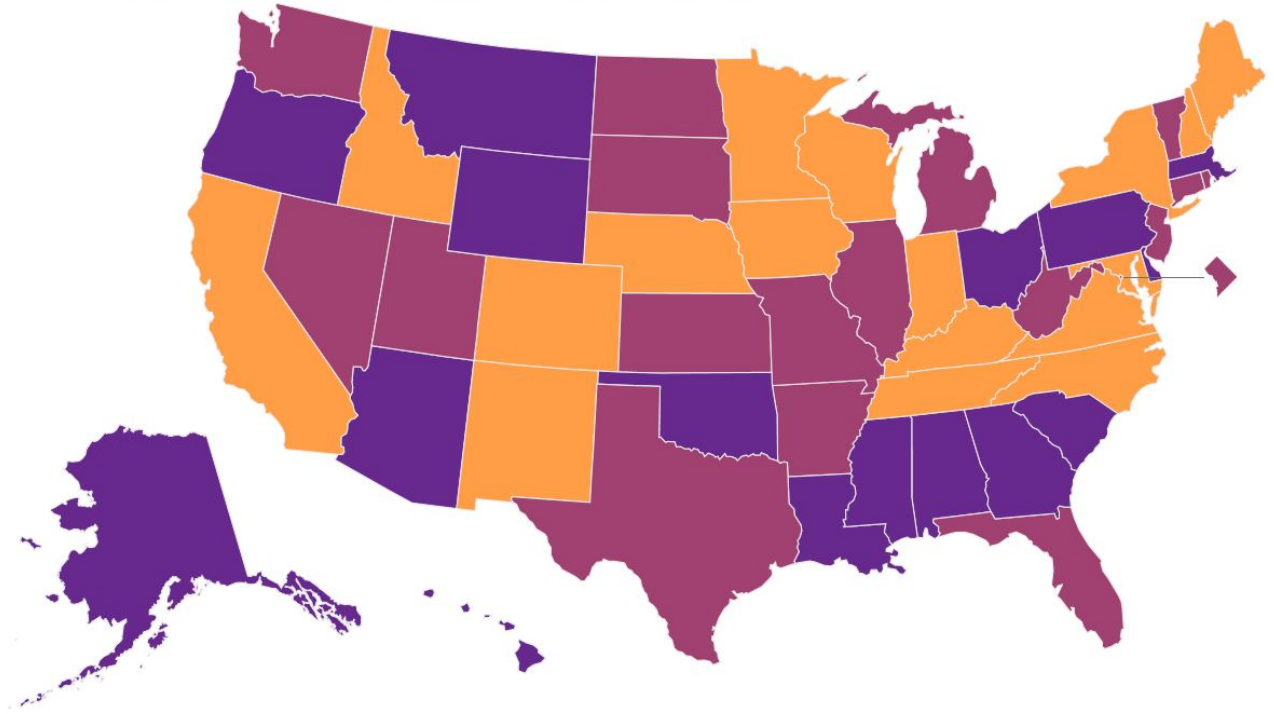
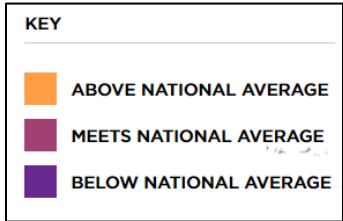


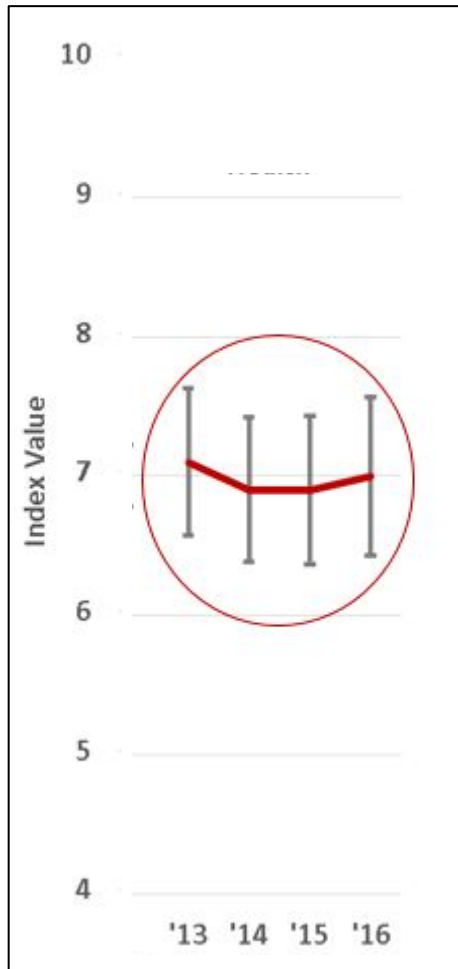
Kentucky's Valley of the Drums
Archive Photo: US EPA

- Superfund Amendments and Reauthorization Act of 1986 (SARA)
 - Increases state involvement in the Superfund program
 - Increases focus on human health (e.g., Superfund Research Program/SRP)
- Emergency Planning and Community Right-to-Know Act (EPCRA)
 - Sets requirements for local and state emergency planning
 - Establishes right of public access to risk information on chemical hazards in communities



Measuring Environmental Health Protections: National Health Security Preparedness Index



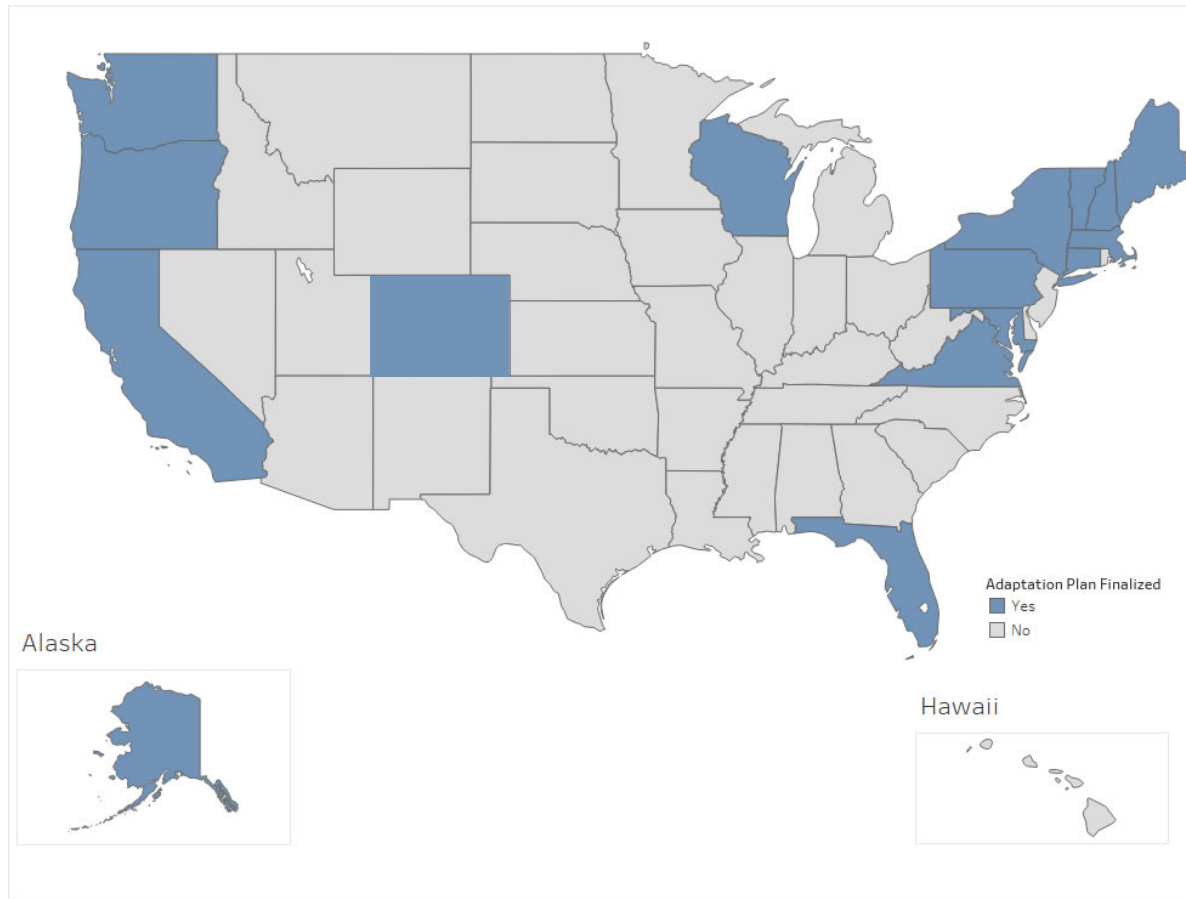


- More than 40% of states have experienced declines in EOH protections since the first Index release in 2013
- 17% of top-tier states in overall health security are below the national average in EOH protections
- More than 1/3 of top-tier states in overall health security have experienced declines in EOH protections since the first Index release
- By 2016, the top EOH state reflected EOH protections 2.4X higher than its lowest-scoring counterpart

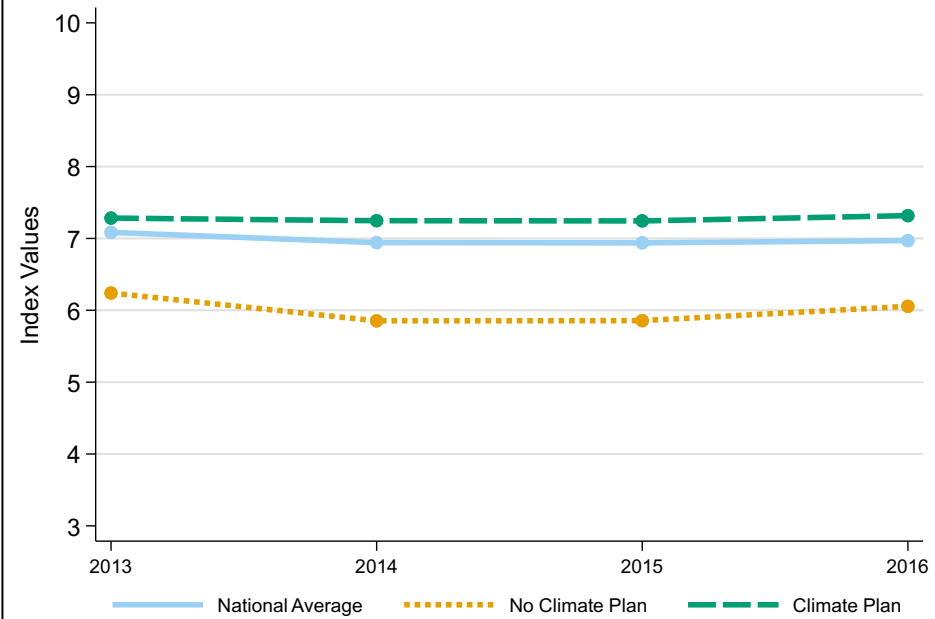
<p>m334</p>	<p>Does state have a climate change adaptation plan?</p>
<p>Measure Name</p>	<p>M334</p>
<p>Measure Source</p>	<p>Center for Climate and Energy Solutions (C2ES), State and Local Climate Adaptation</p>
<p>Data date(s)</p>	<p>2014 - 2016</p>
<p>Limitations</p>	<p>The measure is an indicator of state planning for climate change; however, it only indicates if a state has a plan. The quality of the plan is not evaluated. The degree to which the plan is being implemented is also not evaluated.</p>



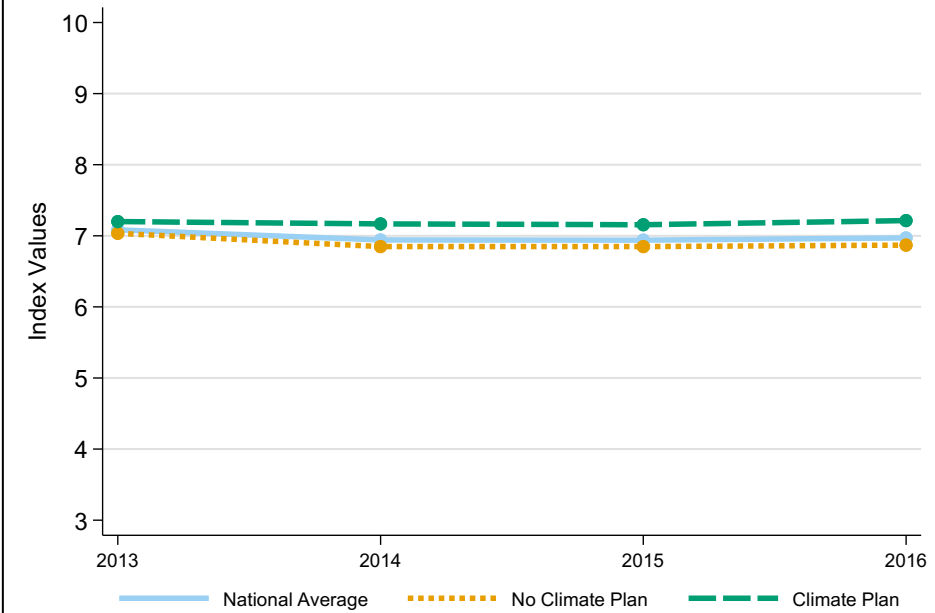
Finalized State Climate Adaptation Plans



Coastal States



All States



Why?

m334	Does state have a climate change adaptation plan?
Measure Name	M334
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- Timelines

- Plan finalization dates range from 2008 to 2016
- 75% of coastal states had finalized plans before the first non-coastal state plan was finalized in 2011
- Only 1 new plan since the first Index release in 2013

- Length: from 12 pages to >400

- Leadership

- Most authored by governor-appointed commissions/task forces
- Some by state environmental agencies
- One by a state health agency

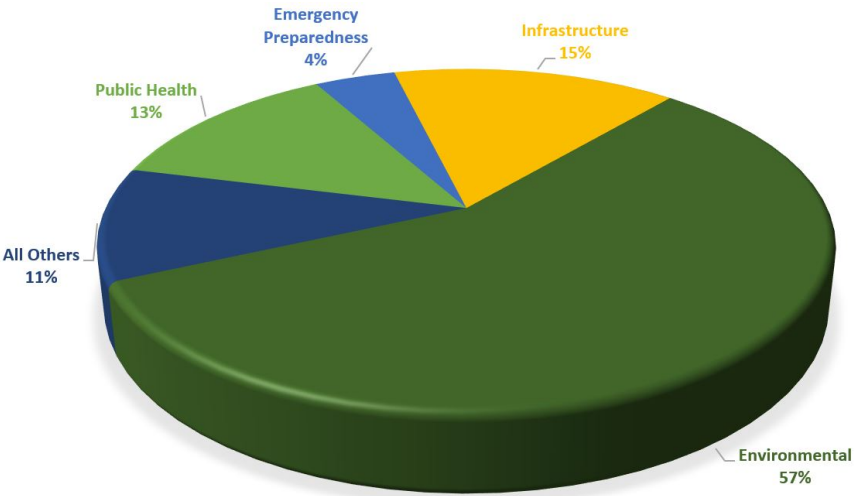
- Collaborative Roles

- Less than half of steering committees included public health sector representation
- Stakeholder-engaged processes often included public health sector representation on workgroups

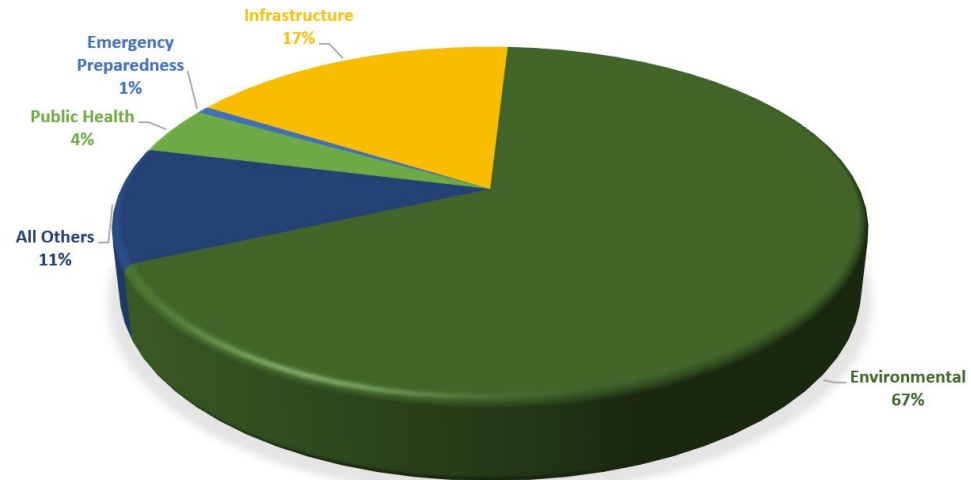


State Adaptation Goals by Sector

Coastal States



Non-Coastal States



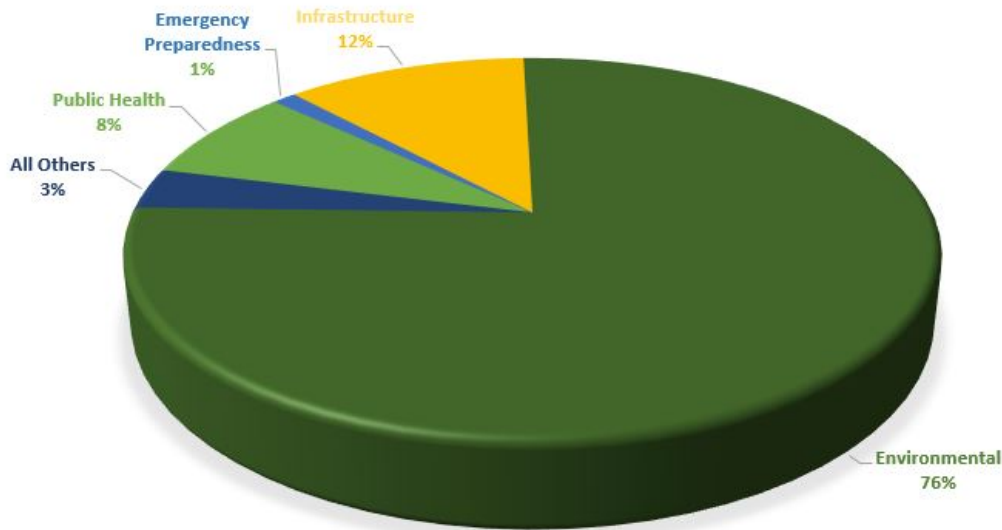
- Public Health Goals

- Extreme Heat
- Other Extreme Weather Health Hazards
- Surveillance (Food, Water, Air)
- Water Quantity and Quality
- Vector Control
- Smoke Emergencies
- Vulnerable Populations
- Preparedness Planning

- Emergency Management Themes

- Early Warning Systems
- Information Sharing
- Emergency Response Planning

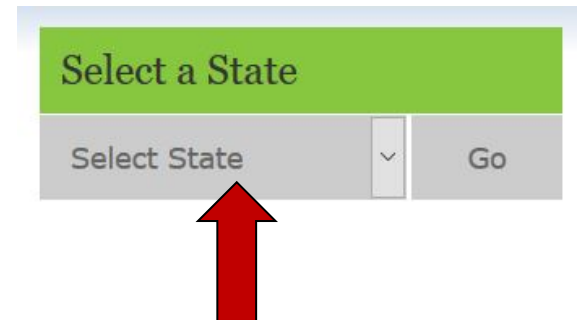
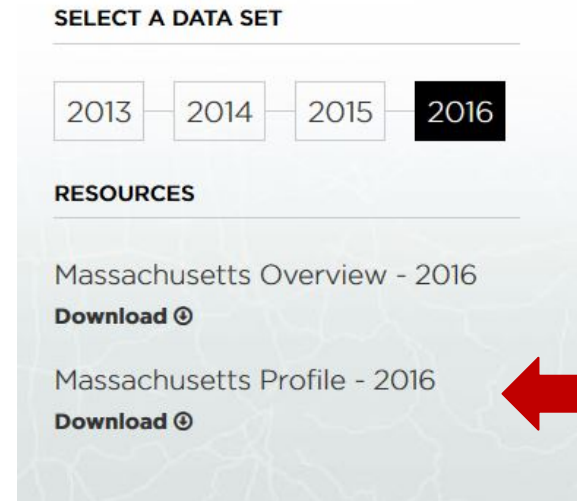




- State Adaptation Plan finalized in 2011
- Public Health Goals = 8%, including
 - Walkable communities
 - Proactive planning for heat stress, flooding, & droughts
 - Strengthen Environmental Health Tracking Program
 - Improve surveillance data and databases
- Emergency Preparedness Goals = 1%
 - Include response in future climate plans
- Public Health Steering Committee Reps = 1 (state)
- Included a public health & safety working group

- Existing data can assist in analyzing and prioritizing climate-related vulnerabilities and capabilities
- The National Health Security Preparedness Index can help climate adaptation planning by:
 - Identifying gaps and helping prioritize environmental health protections needed to mitigate climate impacts on health
 - Tracking progress over time in target areas
- Because state climate adaptation plans vary across a number of dimensions, it is important to examine whether health goals are explicitly included
- Including public health expertise in collaborative climate adaptation planning and similar long-range strategic initiatives can help identify relevant protections to strengthen health security

- What environmental health and other health security protections does your state have in place? Visit the National Health Security Preparedness Index website at www.nhsipi.org, then navigate to your state's page to download measure-level details in your state profile.
- Does your state or locality have finalized climate adaptation plans in place? If so, what is in them? Visit the Georgetown Climate Center's website at <http://www.georgetownclimate.org/adaptation/plans.html> to download plans.



Read More: References

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- Dominique Zephyr, Glen Mays, Michael Childress, Nurlan Kussainov, and Ann Kelly – National Health Security Preparedness Index Program Office
- Georgetown University, Georgetown Law, and the Georgetown Climate Center
- Robert Wood Johnson Foundation

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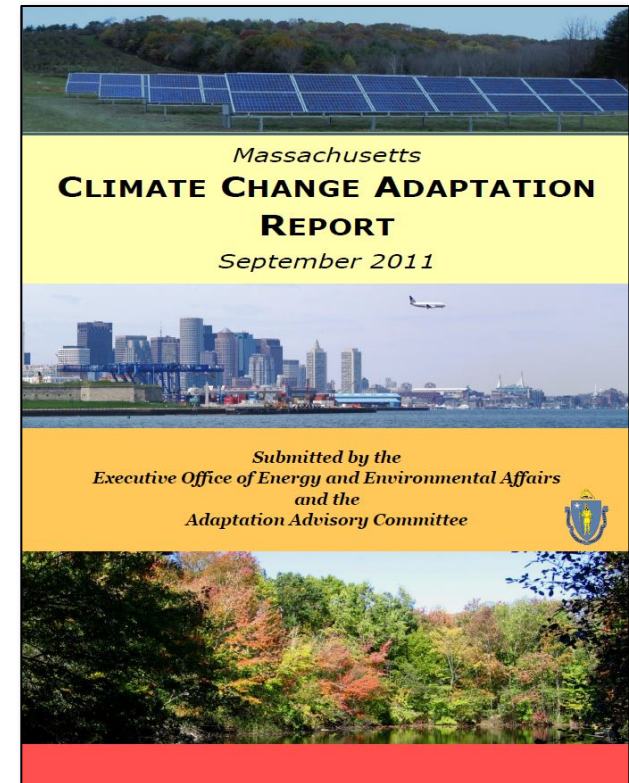
http://works.bepress.com/anna_hoover/

National Health Security Preparedness Index

www.nhspe.org

HealthSecurity@uky.edu

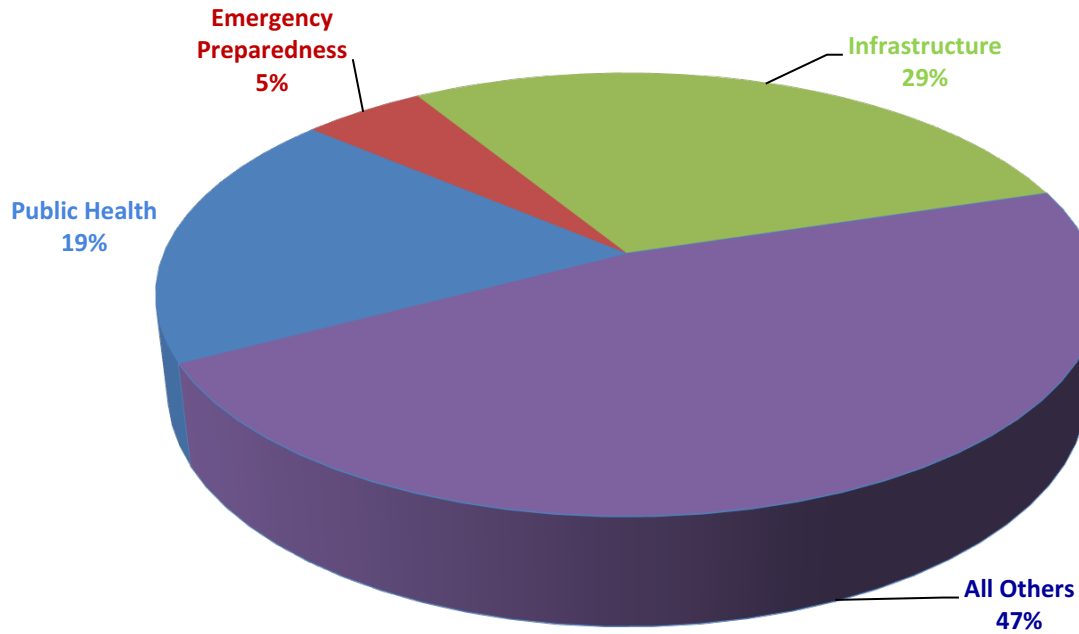
- **Timeline**
 - Plan finalized: 2011
 - **Status**
 - ~59% of plan goals have been achieved (March 2018)
 - ~66% of public health goals have been achieved
 - ~35% of emergency preparedness goals have been achieved
- **Leadership and Collaborative Roles**
 - **Authorship:** Executive Office of Energy and Environmental Affairs and the Adaptation Advisory Committee
 - Advisory Committee included representation from Massachusetts Emergency Management Agency and Harvard Medical School
 - State Agencies Steering Committee included Department of Public Health representation
- **Chapter Six Is Devoted to Human Health and Welfare**
 - Identifies vulnerabilities (e.g., infrastructure, vector-borne diseases, air quality, algae blooms, water demand, food security, extreme weather)
 - Describes long- and short-term mitigation strategies for each set of vulnerabilities



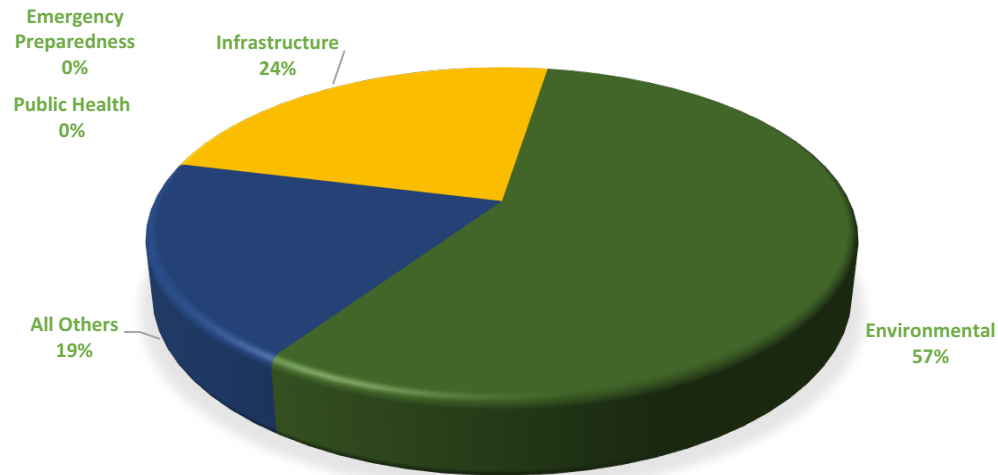
- Public Health Goals include
 - Climate-related needs assessments of public health infrastructure, vulnerable populations, provider capacity, etc.
 - Climate-related education campaigns
 - Asthma action programs
 - Workforce development on climate-related health threats
 - Enhancing electronic reporting procedures for laboratories
 - Strengthening vector surveillance systems
 - Promoting telecommuting during air quality alerts
 - Supporting the planting of hypoallergenic trees and use of porous pavement
 - Work with communities on water supply issues related to extreme weather
 - Strengthen runoff controls
 - Monitor pesticides and pursue integrated pest management strategies
- Emergency Preparedness Goals include
 - Evaluate and update hazard mitigation, evacuation, and emergency response plans for climate vulnerabilities
 - Assess and enhance emergency management tools and capabilities for addressing extreme weather events



Massachusetts Climate Adaptation Plan Goals by Sector



Colorado



- Public Health Goals = 0
- Emergency Preparedness Goals = 0
- Public Health Steering Committee Reps = 0