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# **NCA5 Adaptation Chapter**

**EESI Congressional Briefing  
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# Adaptation

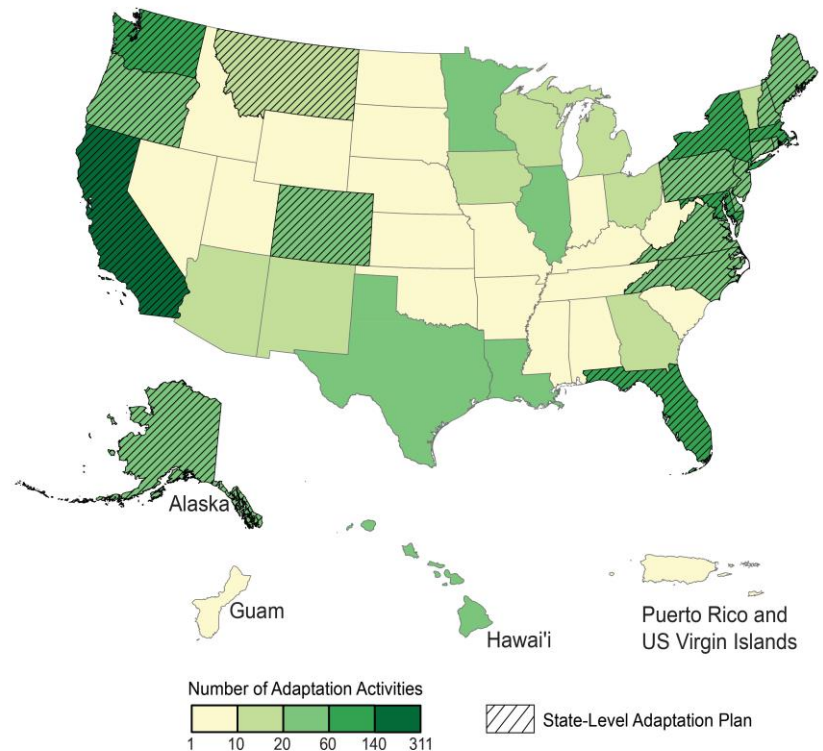
**Definition:** *The process of adjusting to an actual or expected environmental change and its effects in a way that seeks to moderate harm or exploit beneficial opportunities.*

Adaptation activities are occurring across the US but have been small in scale, incremental in approach, and lacking in sufficient investment. Transformative approaches will be necessary to adequately address current and future risks. To improve capacity and promote an equitable future, adaptation activities must address the uneven distribution of climate harms and incorporate collaboration with local communities.

# Adaptation Is Occurring but Is Insufficient in Relation to the Pace of Climate Change

- Since 2018, city- and state-level adaptation plans and actions increased by 32%.
- There is also evidence of barriers to adaptation
  - Differences between government, private industry, and civil society as well as regionally and culturally

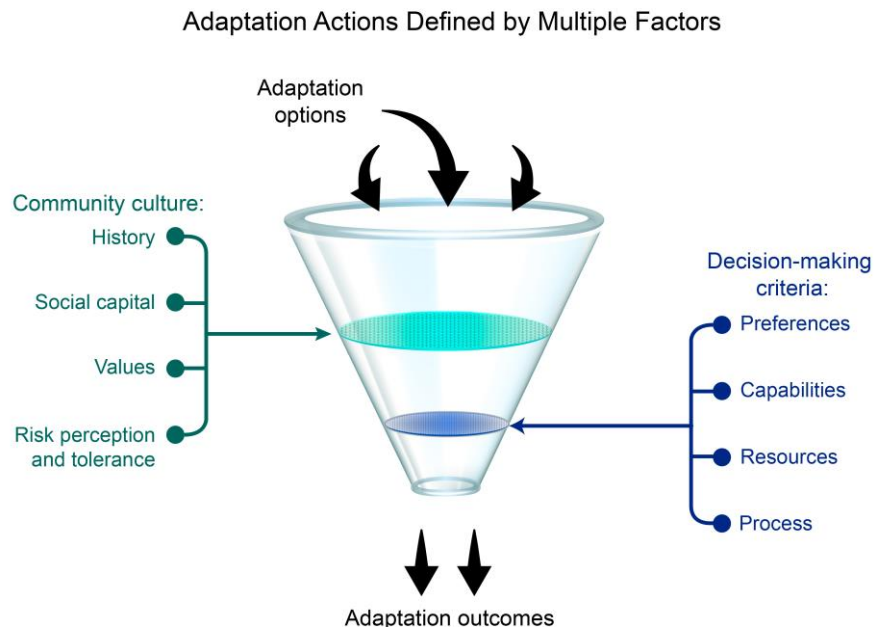
Number of Publicly Documented Adaptation Activities (2018–2022)



## Effective Adaptation Requires Centering Equity

Effective adaptations are just and equitable.

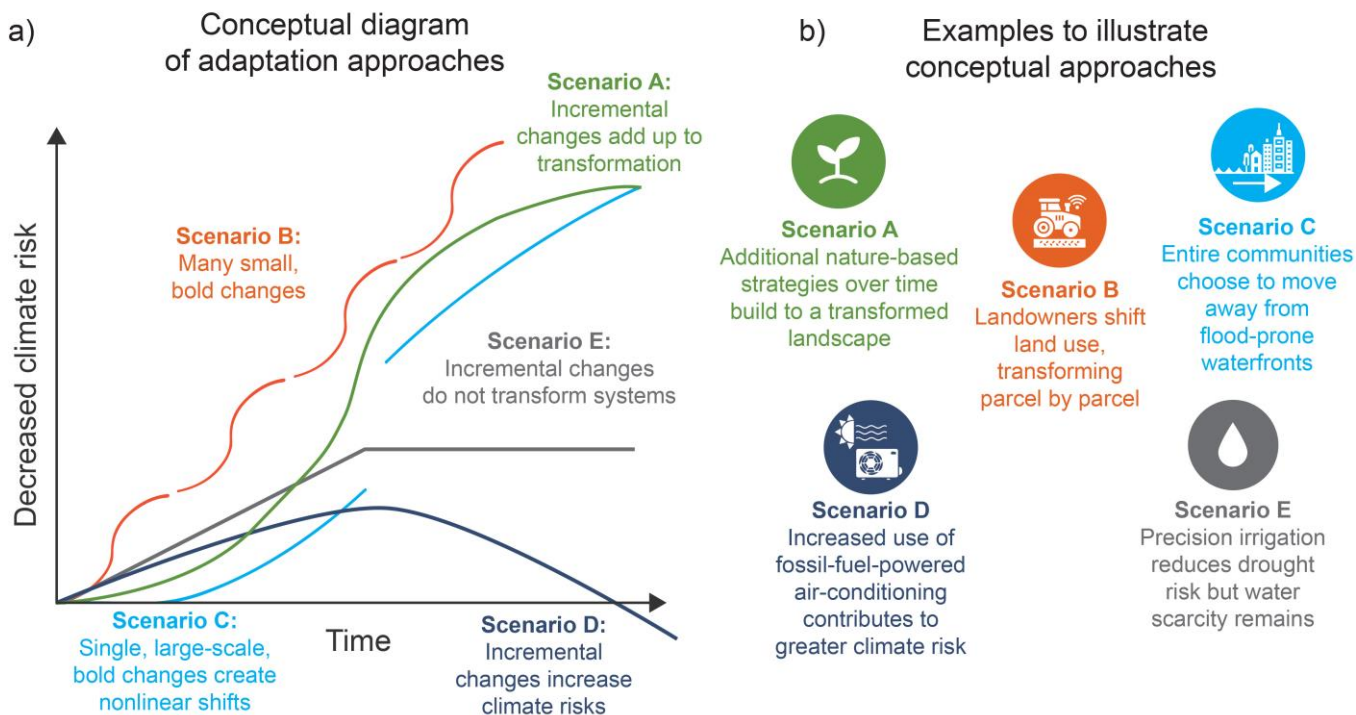
- For example, housing discrimination played a large role in putting people in hazardous areas.
- To adapt equitably, we have to ask questions like - Who can afford flood insurance or elevate their homes above floodwaters? Who can pay more for air conditioning during a heat wave, and who is working outside?



# Transformative Adaptation Will Be Needed to Adequately Address Climate-Related Risks

**Transformative adaptations** change the fundamental attributes of a social–ecological system.

Incremental and Transformative Adaptation Approaches



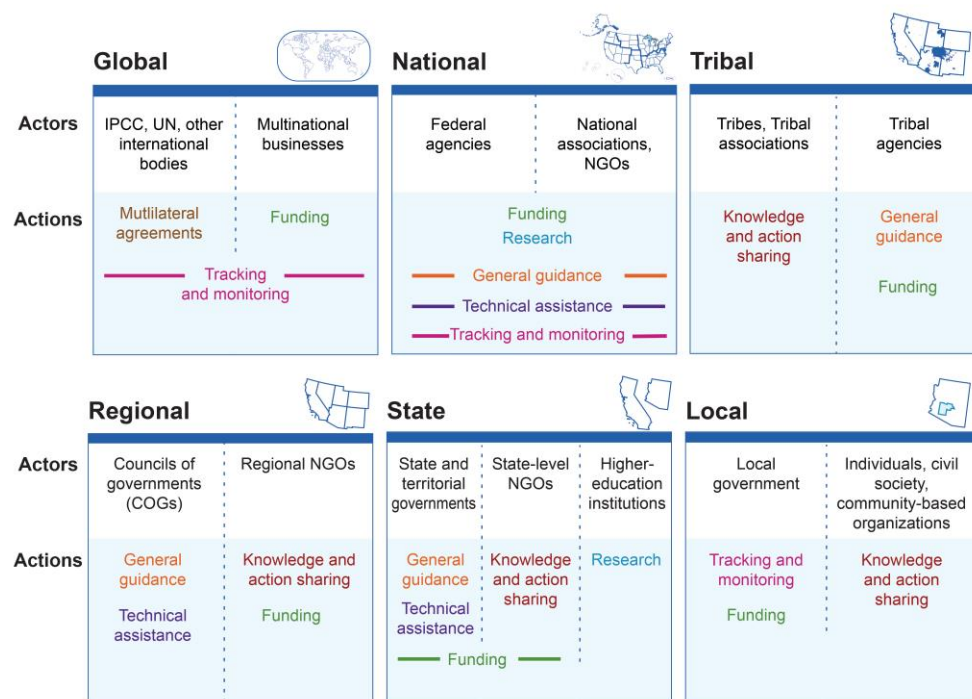
KEY  
MESSAGE

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# Effective Adaptation Governance Empowers Multiple Voices to Navigate Competing Goals

- Governance is structures and processes used by governments and other decision-makers to develop and implement policies, programs, and institutions
- Adaptation governance has tended to occur in a bottom-up fashion with minimal coordination

Organizations and Actors in Adaptation Governance



# Adaptation Requires More than Scientific Information and Understanding

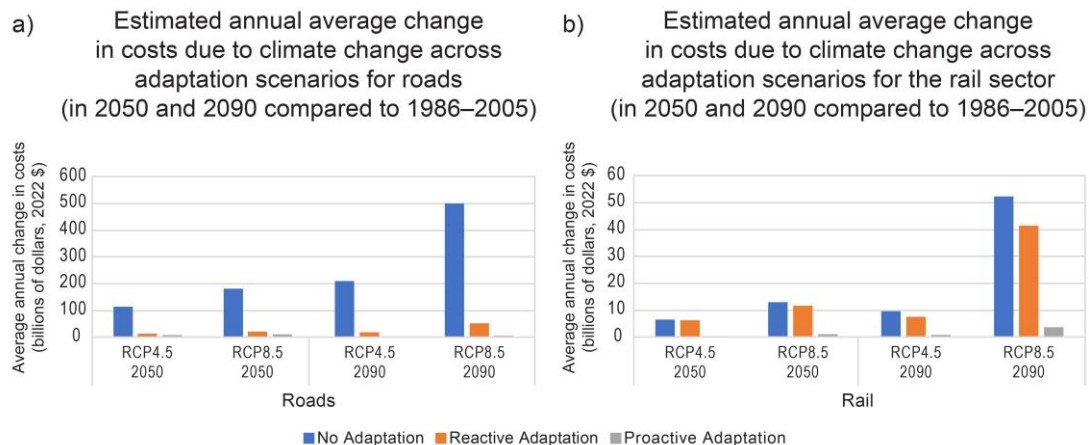
- Climate services (information and products that assist in decision-making and actions) are needed for effective adaptation
- These need to be coupled with intentional collaboration with communities.
- Climate services can be improved by ensuring broad access for historically disinvested communities.

Level of Community Engagement in Climate Services	Approaches to Adaptation	
	Incremental	Transformative
Low	<b>Are services enabling maladaptation?</b>	<b>Are services supporting equity?</b>
	Consider services that assess vulnerability and adaptive capacity to account for injustices.	Consider services that remove barriers to participation in climate adaptation, including knowledge generation.
High	<b>Are services operationalized?</b>	<b>Are services sustained and mainstreamed?</b>
	Consider services that provide decision tools to reduce engagement fatigue.	Consider institutional arrangements that maintain trust, credibility, and saliency and embed services into decision processes.

# Adaptation Investments and Financing Are Difficult to Track and May Be Inadequate

- More and different funding is needed for adaptation.
  - We are confident that investing in adaptation now will reduce the cost later.
  - We need better financial and evaluation data to determine what adaptation is occurring, how well it is distributed, and the effectiveness of the adaptation solutions.

Estimated Annual Change in Costs Due to Climate Change





## NOAA's Special Role in NCA5

### Administrative lead agency

- Legal/strategic advice, FRNs
- Continuity

### Technical Support Unit

- Editorial, production, scientific oversight
- Massive scientific input (observations, modeling, understanding)

## NCA5 Table of Contents

- Overview
- Climate Trends
- Earth System Processes
- Water
- Energy
- Land Cover and Land Use
- Forests
- **Ecosystems and Biodiversity**
- **Coastal Effects**
- **Oceans and Marine Resources**
- **Agriculture, Food Systems, Rural Communities**
- Built Environment
- Transportation
- Air Quality
- Human Health
- Tribes and Indigenous Peoples
- International
- Complex Systems
- **Economics**
- **Social Systems and Justice**
- **Northeast**
- Southeast
- **U.S. Caribbean**
- Midwest
- **Northern Great Plains**
- Southern Great Plains
- Northwest
- Southwest
- **Alaska**
- **Hawai'i and U.S.-Affiliated Pacific Islands**
- **Adaptation**
- **Mitigation**

### Appendices

- Process
- **IQA**
- **Data Tools**
- **Indicators**

Chapters with NOAA leadership in **bold dark blue**

Chapters with NOAA involvement in **bold light blue**

## Thank you

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