Legal Barriers & Bridges to Climate Change Adaptation

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The Need to Adapt

Sea Level Rise Threatens Key Coastal Infrastructure

Yoskowitz et al., The Socio-Economic Impact of Sea Level Rise in the Galveston Bay Region (2009).
The Need to Adapt

Increased Storminess Disrupts Business

Source: AP/John Minchillo


Source: NPR
The Need to Adapt

Changes in Water Availability Present Challenges

[Map showing areas with increasing and decreasing drought conditions in the United States]
The Need to Adapt

Changes in Water Availability Present Challenges
Barrier 1: Property Rights and the Takings Clause

Policy Responses to Sea Level Rise

• Coastal Engineering
  – Armoring
  – Beach nourishment

• Managed Realignment
  – Rolling easements
  – Economic incentives
The 5th Amendment of the Constitution forbids the taking of private property without just compensation.

Two types of takings
  – Physical
  – Regulatory
Barrier 1: Property Rights and the Takings Clause

Regulatory Takings

- When government regulation too intrusive, it is equivalent to a physical invasion.
- *Lucas*: some government regulations are so intrusive that they are equivalent to physical invasion
  - Background principles are key.
Barrier 1: Property Rights and Regulatory Takings

The Public Trust Doctrine as a Bridge?

- State holds title to submerged lands in trust for the public
Federal programs reduce disaster recovery costs borne by local communities
• National Flood Insurance Program
• Stafford Disaster Relief
• Rebuilding Tax Credits

www.msc.fema.gov
Barrier 3: Scope of Agency Authority to Adapt

Environmental Protection Agency

• Evaluating legal basis for incorporating climate change impacts in setting new standards and permits under CWA and CAA
• Determining long-term environmental and economic consequences of climate change when incorporating adaptation measures in proposed actions
Barrier 3: Scope of Agency Authority to Adapt

U.S. Fish and Wildlife Services / Department of Interior

- Development of new policies (e.g. managed relocation)
- Revisions of existing policies (e.g. redefining what constitutes native, invasive and exotic species)
- Identifying new and revising existing laws, polices and guidance to provide incentives to mitigate climate change by reducing agency’s carbon footprint
- Trans-boundary issues related to cross-border species
Barrier 3: Scope of Agency Authority to Adapt

U.S. Forest Service / Department of Agriculture

- Enhance capacity of forests and grasslands to adapt to environmental stresses of climate change and maintain ecosystem services
- Assess how land management activities can be modified to better facilitate adaptation at various spatial scales
- Effective nationwide integration and coordination mechanisms
- Strategies on integrated vegetation management, biomass, open space, ecological restoration, and water
• Developing methods and procedures to address nonstationarity in water resource management
• Working with States and interstate bodies to incorporate Integrated Water Resources Management and adaptation planning into programs
• Working with States to identify flood risk and drought management
• Developing benchmarks for incorporating adaptive management into water projects, operational procedures and planning strategies
The Biggert-Waters Flood Insurance Reform Act of 2012

- Reauthorizes NFIP through 2017
- Premium reform
- Limitations on the availability of grandfathered premiums
- Improved flood risk mapping
- Establishment of reserve fund
- Creation of repayment schedules
Incentive to elevate

- Elevating building above FEMA flood elevation level lowers premium significantly

- E.g., $250,000 home in A-zone built 3 feet above flood elevation level will cost ~$376/year; built at flood elevation level = $7,203/year
Bridge 2: Green Infrastructure

CSOs and the Challenge of Sea Level Rise

Source: Greatlakes.org

Source: HudsonRiverkeeper.blogspot.com

Source: Bridgemi.com

Source: Cincinnati.com
Bridge 2: Green Infrastructure

Source: EPA.gov

Source: EPA.gov

Source: EPA.gov

Source: EPA.gov

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Bridge 3: *Force Majeure*

**Force Majeure** as a Driver of Corporate Adaptation

Source: NY Times

http://texasclimateneWS.org/wp/?p=2839

http://www.pioga.org/photo_images/177_large.jpg

A *force majeure* clause “protects the parties in the event that a part of the contract cannot be performed due to causes which are outside the control of the parties and could not be avoided by exercise of due care.” Black’s Law Dictionary 645 (6th ed. 1990).
• *Force majeure* is a pure provision of contract law
• *Force majeure* includes both contractual and common law aspects.
  – Typically states following this interpretation of *force majeure* require a showing that the event was unforeseeable at the time of contracting.

**Key Questions:**
– Are disruptive climate events truly unforeseeable?
– What must parties do to prove that the disruption could not have been avoided through the exercise of due care?
Bridge 4: Tort Liability?

Tort Liability as a Driver of Adaptation?


Source: [npr.org](http://npr.org)

Source: [http://slfpae.com/](http://slfpae.com/)

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