RESOURCES for the FUTURE

Flood Policy in the United States

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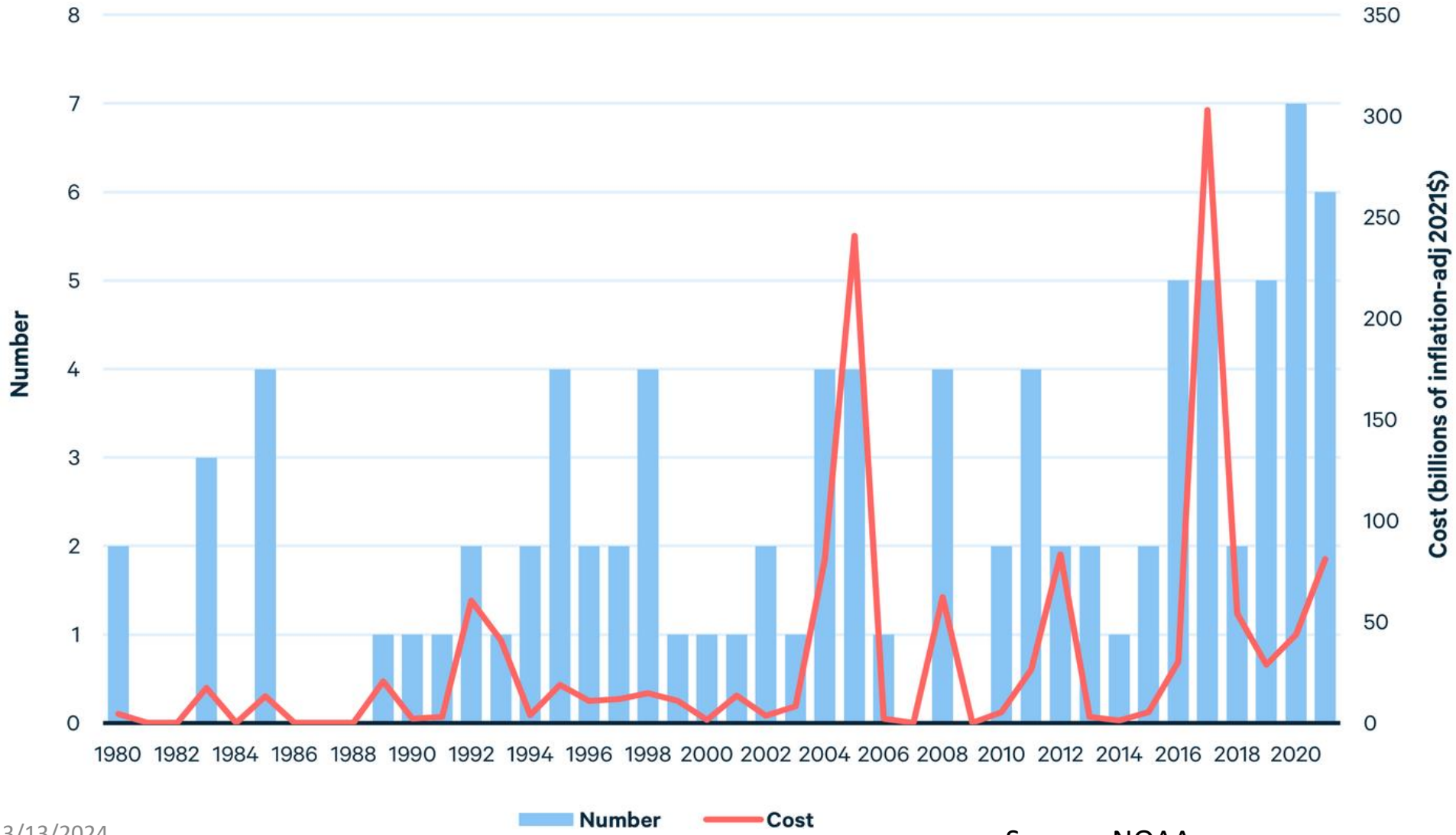
Communities, Climate Change, and Health Equity – Exploring Flood Adaptation Strategies to Support Health Equity

March 13, 2024

Number and Cost of Flood-related Disasters in the United States



- Annual average cost = $39 billion
- Account for 76% of all disasters

Source: NOAA

Policy approaches to addressing the flood problem

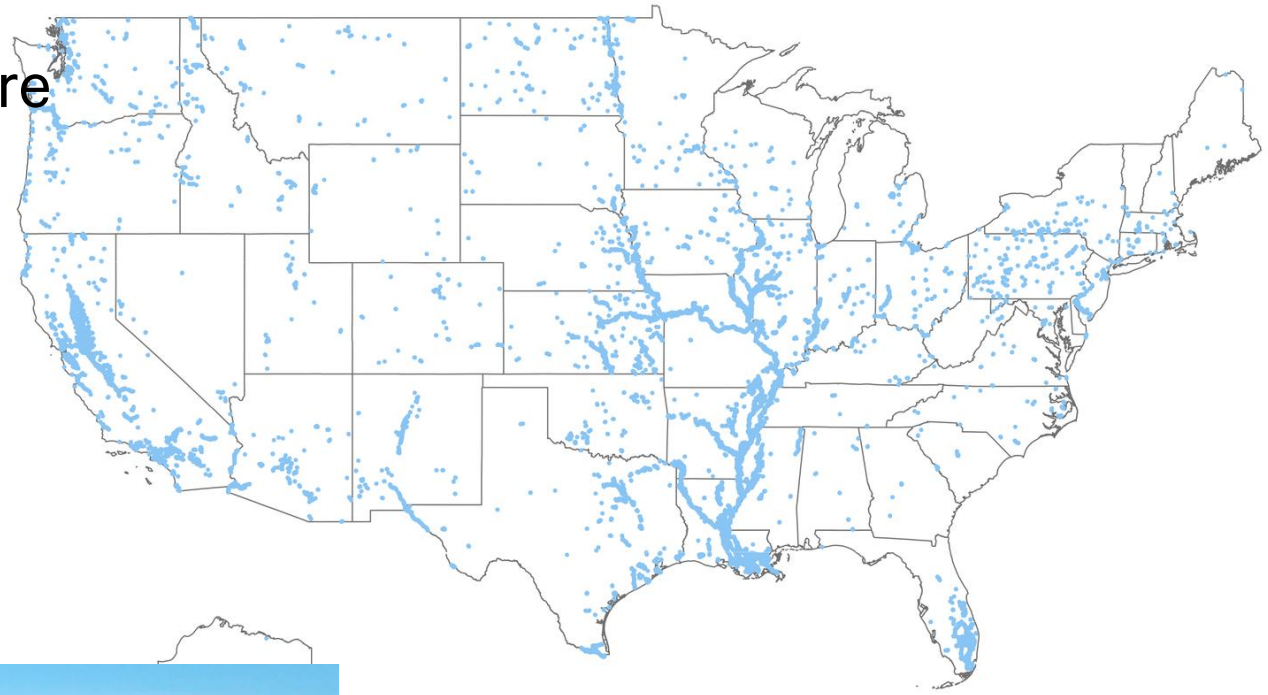
1. Investments in large-scale flood control infrastructure
2. Encouraging property-level and community hazard mitigation
3. Reducing exposure – limiting people and property in harm's way
4. The National Flood Insurance Program
5. Risk mapping and communication
6. Disaster recovery

Flood Control Infrastructure

We have built lots and lots of infrastructure

Mostly with direct federal investments (e.g. US Army Corps of Engineers)… 23,000 miles of levees

Also stormwater infrastructure, dams/reservoirs, tide gates, and more



Source: USACE Levee Database

Must of the infrastructure is old and in need of repair

Property-level Flood Mitigation Investments

In FEMA-designated floodplains, there are some requirements…

- Building codes – first floor elevation requirements in floodplains

Otherwise, some financial incentives + communication/education…

- Elevate HVAC
- Elevate home
- “Dry” floodproofing, e.g. flood vents

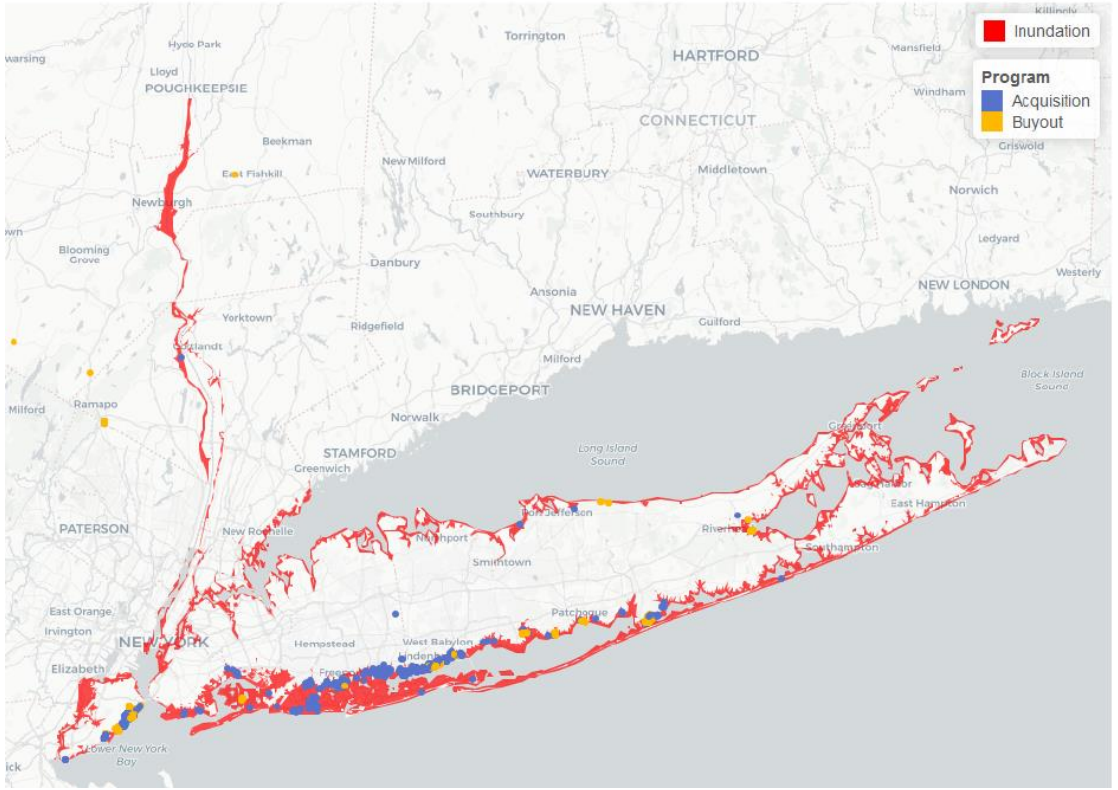
But it’s hard to get people to do these things

Reduce Exposure to Risk

Get people and property out of harm's way

- Local land use planning and zoning (e.g., purchase land and easements; create greenways, buffers, parks; resilience overlay zones; creative zoning to shift development patterns)
- Property buyouts

Most effective at reducing disaster costs, but we really don't do very much of it

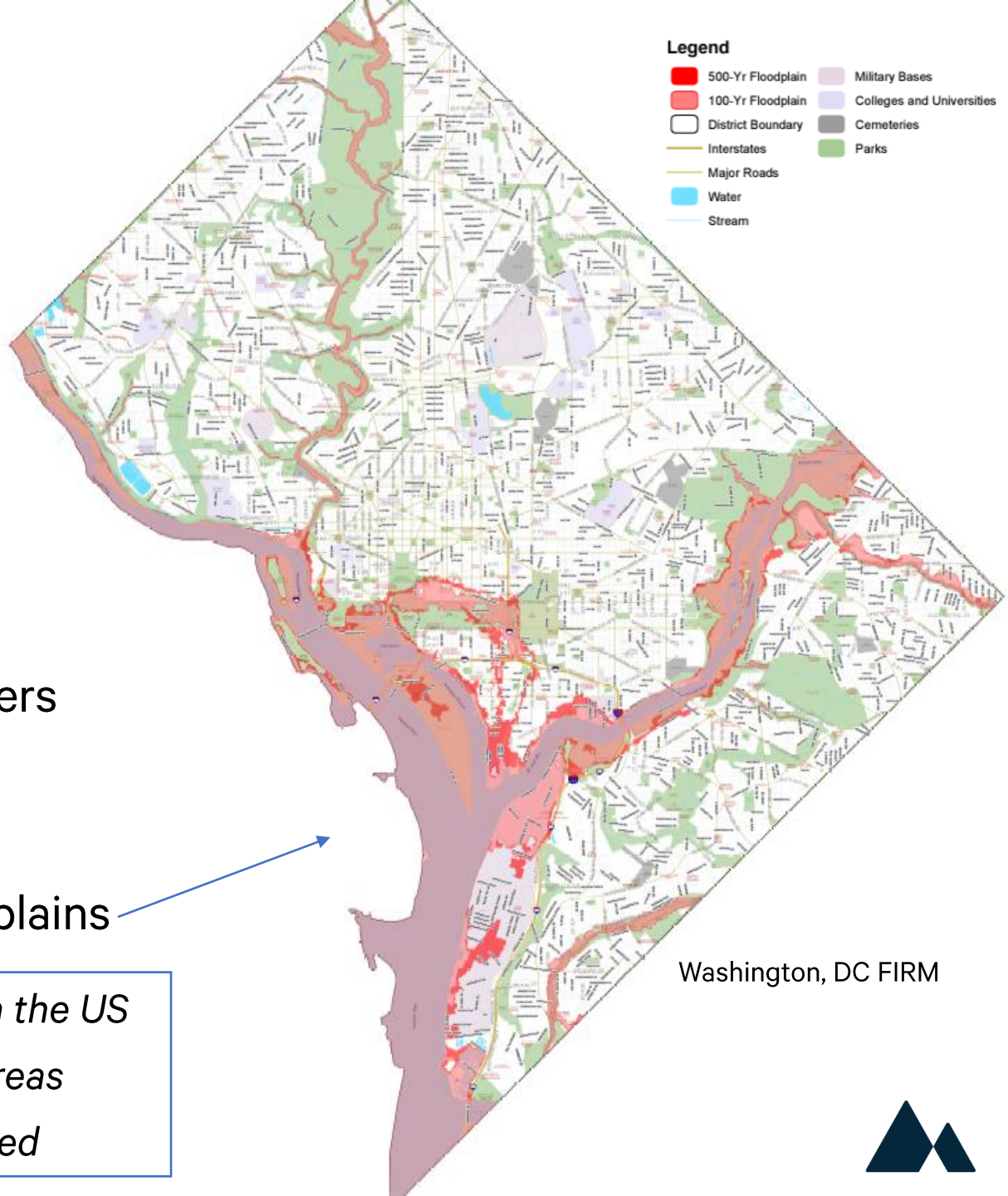


Hurricane Sandy Buyout/Acquisition Program in NY

Source: Guo et al. (2023), RFF Working Paper

Flood Insurance, Risk Mapping & Communication

- Insurance is critical for two reasons:
  - Signaling and pricing risk
  - Aiding in recovery after a flood
    - Up to $250K for building damage; $100K for contents
    - Money comes pretty quickly
    - Otherwise… savings, loans, charity, federal aid
- Floods are not covered in standard homeowners policies
- NFIP provides most flood insurance
- Flood Insurance Rate Maps – i.e., FEMA floodplains



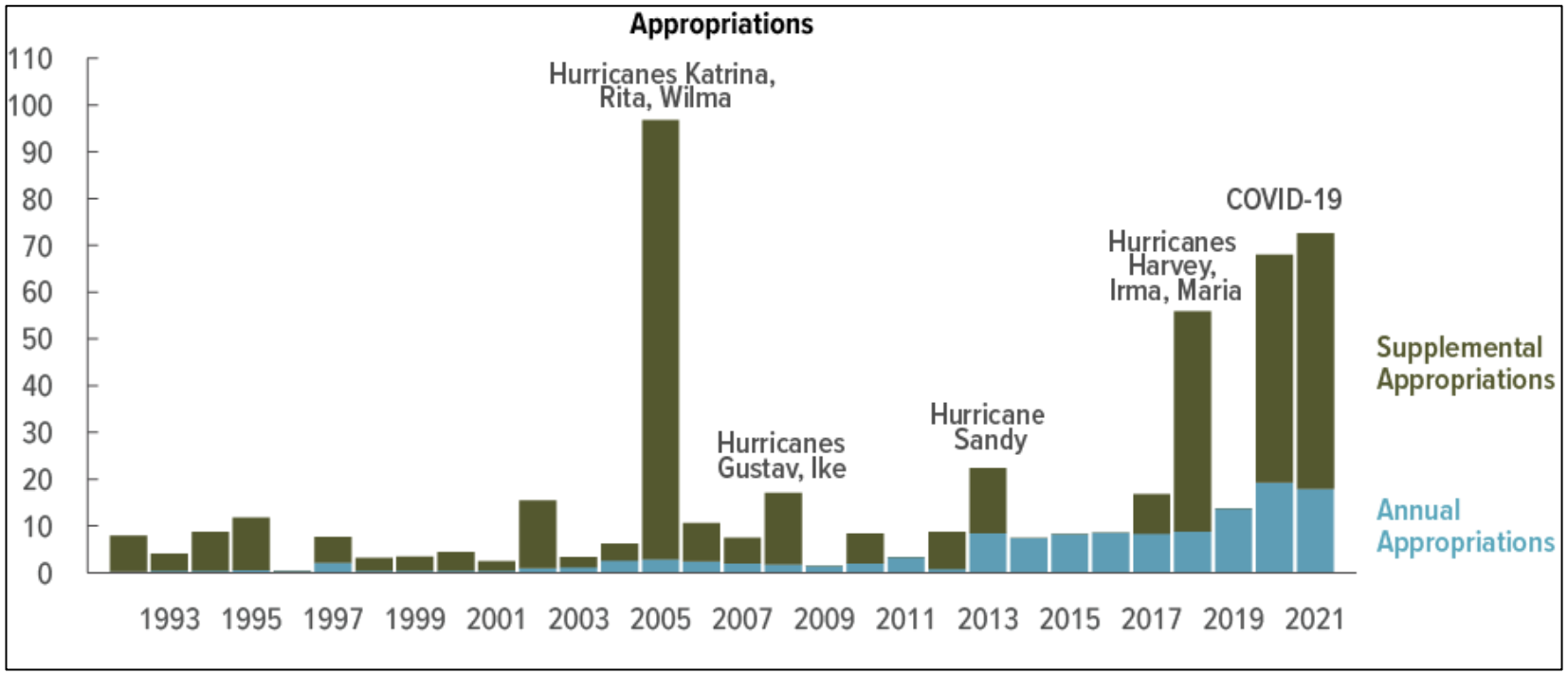
Washington, DC FIRM

We have a flood insurance "gap" in the US

The gap is bigger in low-income areas

Flood maps are often misinterpreted

Disaster Aid



Source: Congressional Budget Office

- FEMA Individual assistance (to homeowners and renters)
  - Capped at $37,500
  - In 2017 (worst year on record), avg household got $13,100
- FEMA Public assistance (to state/local govts)
- HUD Community Development Block Grant-Disaster Recovery

*Things are slowly changing but our policies have focused on **post**-disaster at the expense of **pre**-disaster*

Justice and Equity Challenges

- Low-income populations and people of color disproportionately exposed to flood risks
- Social vulnerability means floods hit these populations harder
  - No insurance; lack of savings; poor credit
  - Underlying health risks, English language challenges, etc
- Policy and institutions (inadvertently?) discriminate
  - Benefit-cost analysis (FEMA reqt) based on avoided flood damages & thus property values
  - Local cost-share requirements
  - Mitigation grant applications are daunting

Problems are recognized; changes slowly being made (note: Justice40) but challenging and won't be solved overnight

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Thank you!

Comments, questions: walls@rff.org

Find out more about RFF's Climate Risks and Resilience Program: https://www.rff.org/topics/climate-risks-and-resilience/

Flooding 101 and 102 Explainers:

https://www.rff.org/publications/explainers/flooding-in-the-united-states-101-causes-trends-and-impacts/

https://www.rff.org/publications/explainers/flooding-in-the-united-states-102-policy-and-solutions/