

Environmental Intelligence and Resilience

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Senior Leader

Coastal Inundation and Resilience

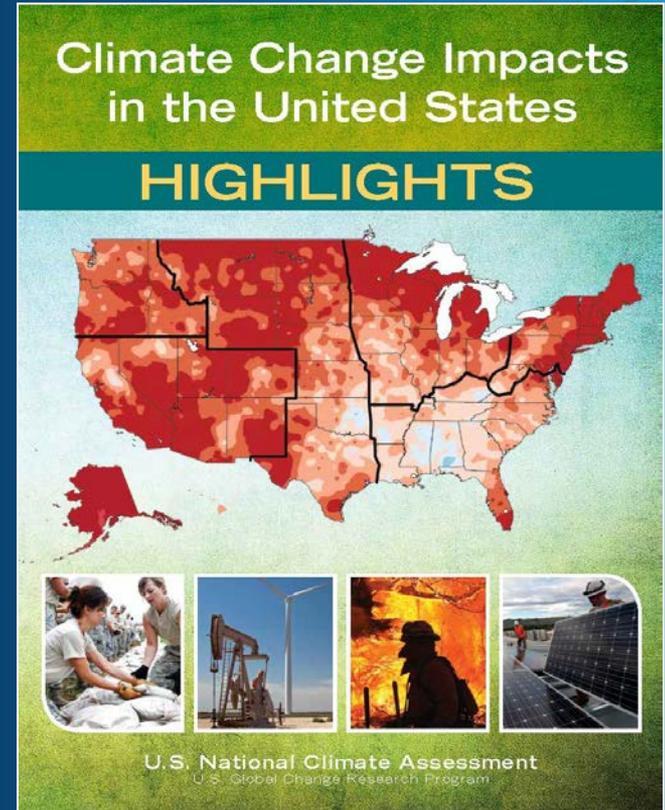
National Oceanic and Atmospheric Administration

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National Climate Assessment

- The **Assessment is the most comprehensive analysis to date** of the affects of climate change on our nation
- Climate change is not just a problem for the future – **it has moved firmly into the present**
- This **Assessment and the IPCC report agree** that climate change is already affecting many types of extreme weather and will continue to do so
- **Americans are already feeling the effects** of increases in certain types of extreme weather and sea level rise fueled by climate change
- America has **important opportunities** to reduce emissions and prepare for the effects of climate change



What is at Risk? What Can We Do?



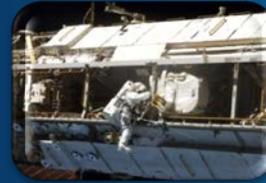
Life and Property



Aviation



Maritime



Space Operations



Forests



Emergency Management



Commerce



Ports



Energy



Hydropower



Reservoir Control



Infrastructure



Construction



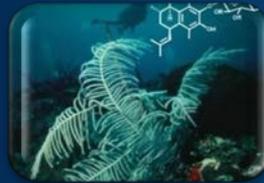
Agriculture



Recreation



Ecosystems



Health



Environment

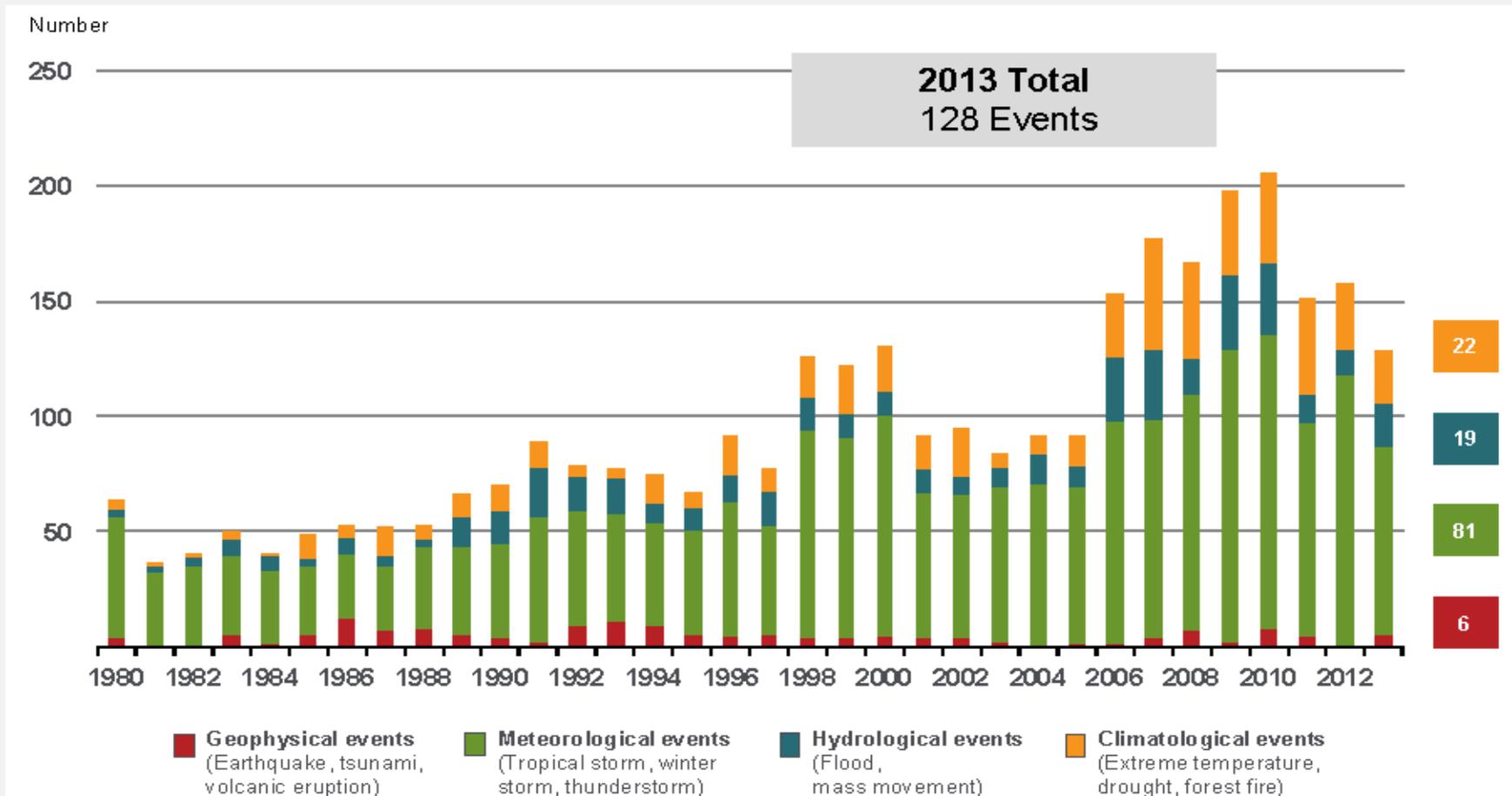


Increased Vulnerability to High Impact Weather

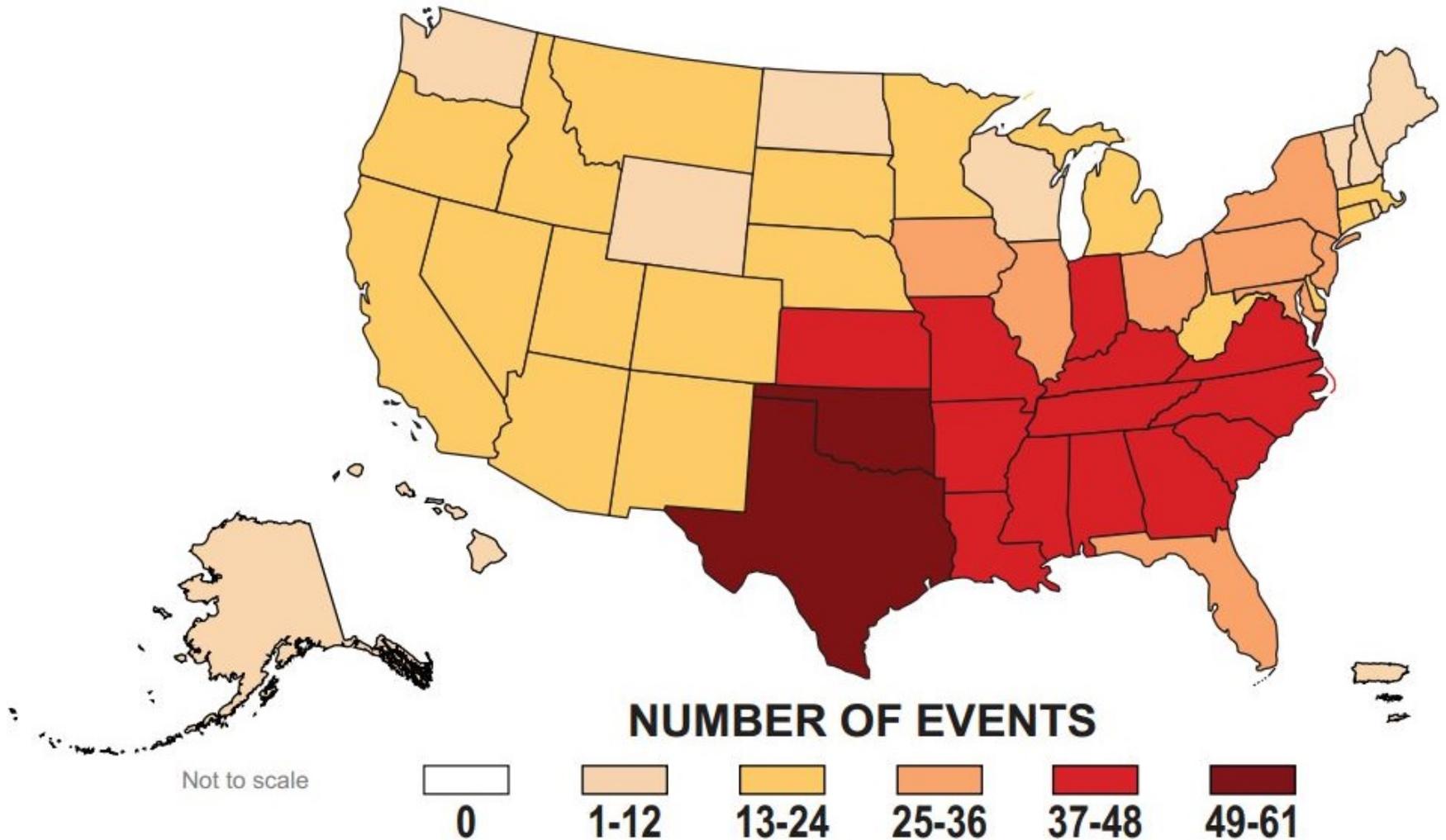
US Natural Catastrophe Update

Loss Events in the U.S. 1980 – 2013

Number of events



Billion-Dollar Weather/Climate Disasters (1980 – 2013)

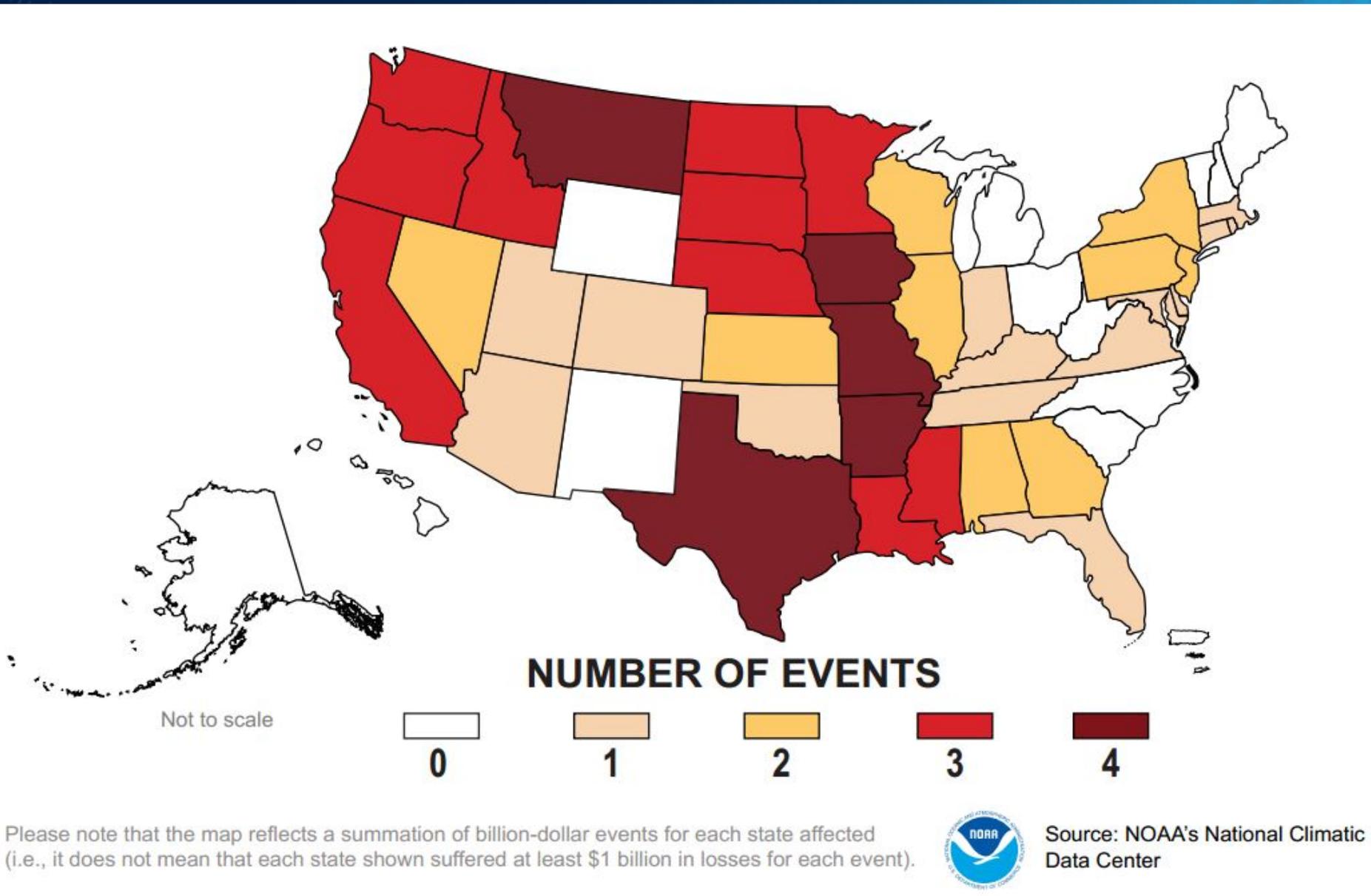


Please note that the map reflects a summation of billion-dollar events for each state affected (i.e., it does not mean that each state shown suffered at least \$1 billion in losses for each event).

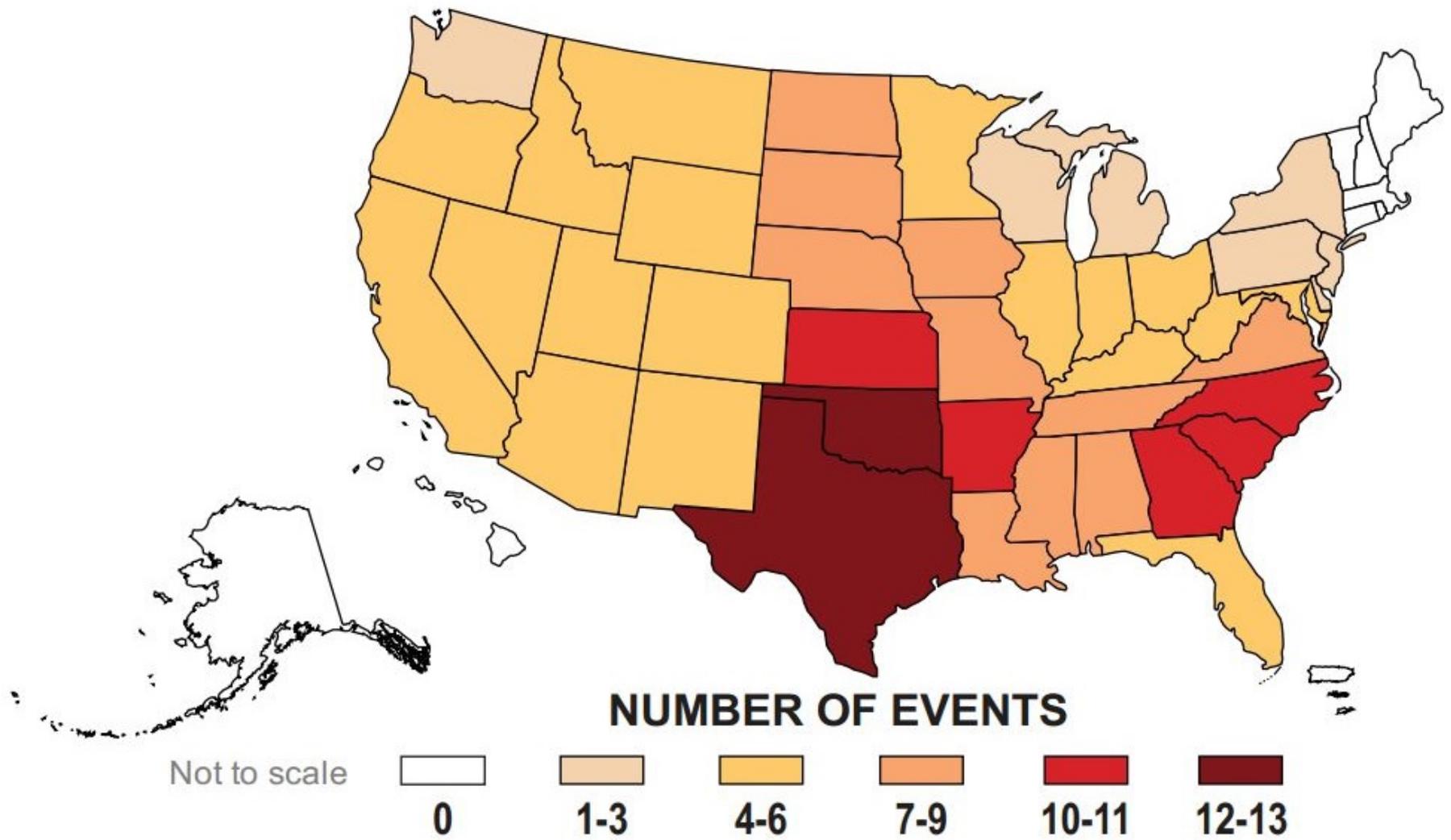


Source: NOAA's National Climatic Data Center

Billion-Dollar Flooding Disasters (1980 – 2013)



Billion-Dollar Droughts and Heatwaves (1980 – 2013)



Please note that the map reflects a summation of billion-dollar events for each state affected (i.e., it does not mean that each state shown suffered at least \$1 billion in losses for each event).

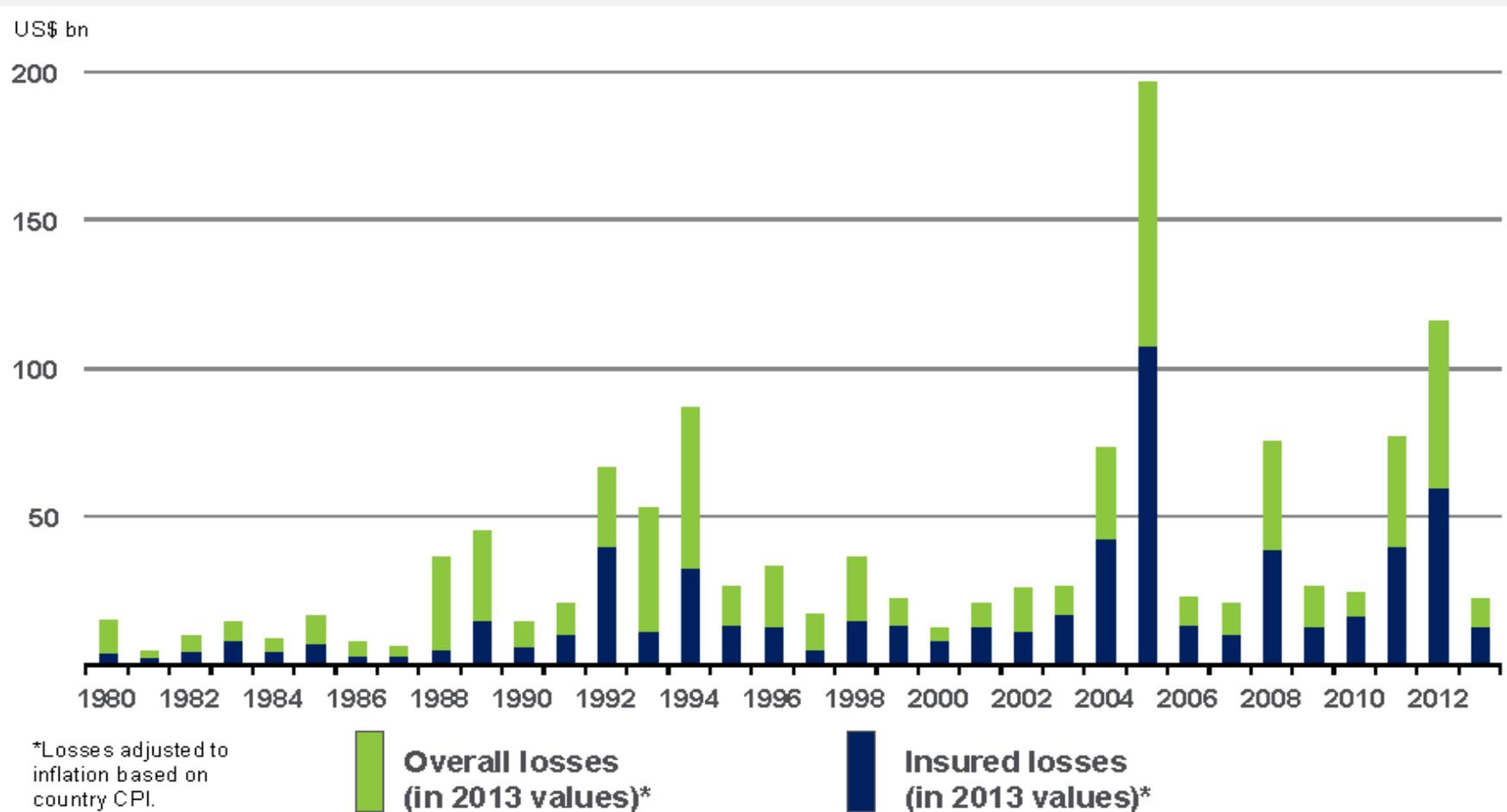


Source: NOAA's National Climatic Data Center

U.S. Disasters Losses

Loss Events in the US 1980 – 2013

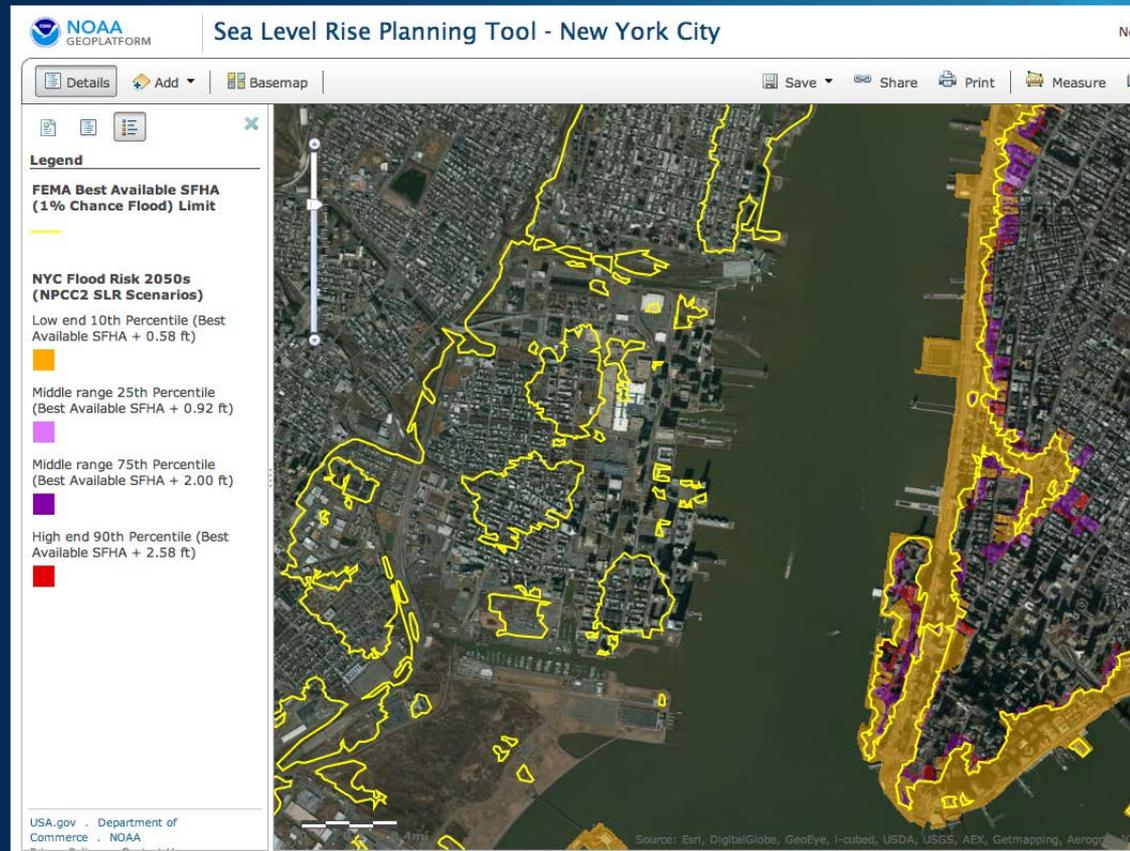
Overall and insured losses



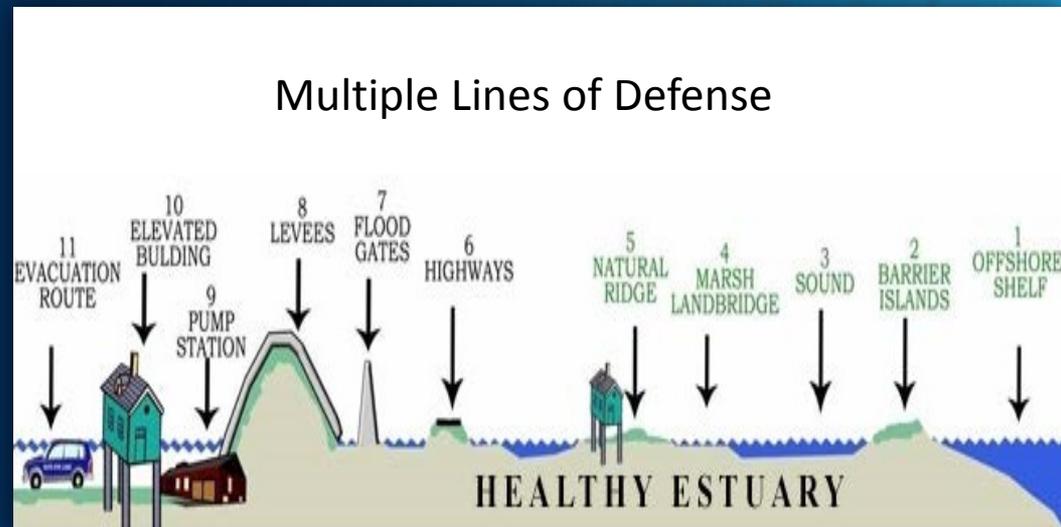
Getting from Data to Resilience



- Understanding our Environment
- Planning for Climate Resilience
- Investing in Communities and Infrastructure



We Live in a Built Environment

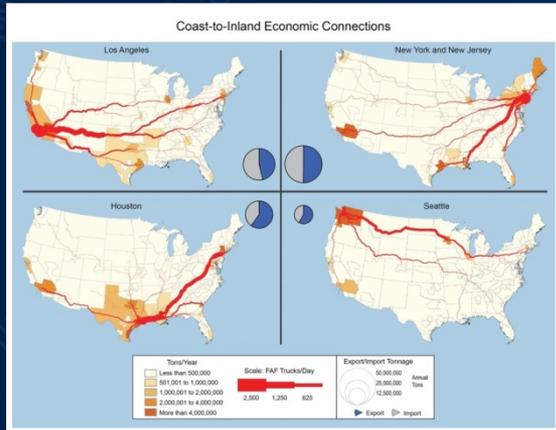


Coastal Key Messages

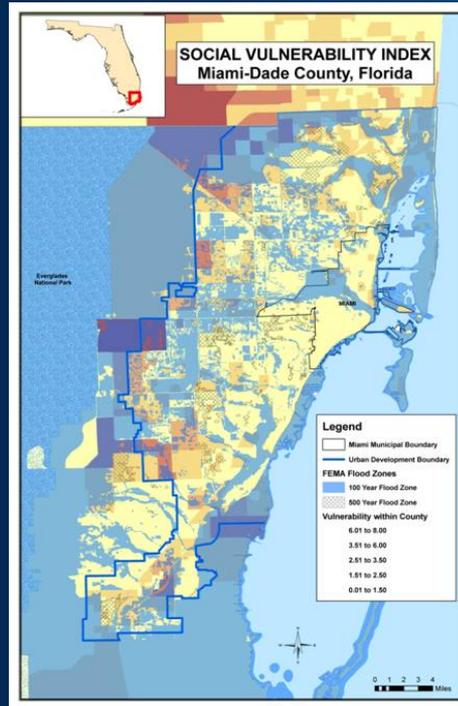
1. Coastal Lifelines at Risk



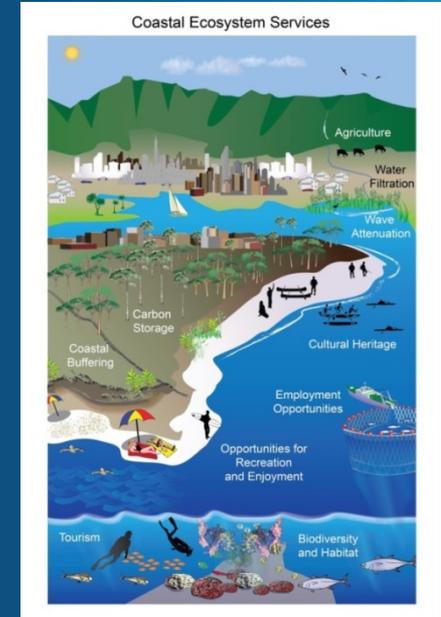
2. Economic Disruption



3. Uneven Social Vulnerability



4. Vulnerable Ecosystems



Ecosystem Restoration



5. The State of Coastal Adaptation



Green/Gray Infrastructure: Working with Nature



Today's Flood is Tomorrow's High Tide

The Market – Charleston, SC

