

Climate & Disaster Risk Reduction: Building *Coastal Resilience*

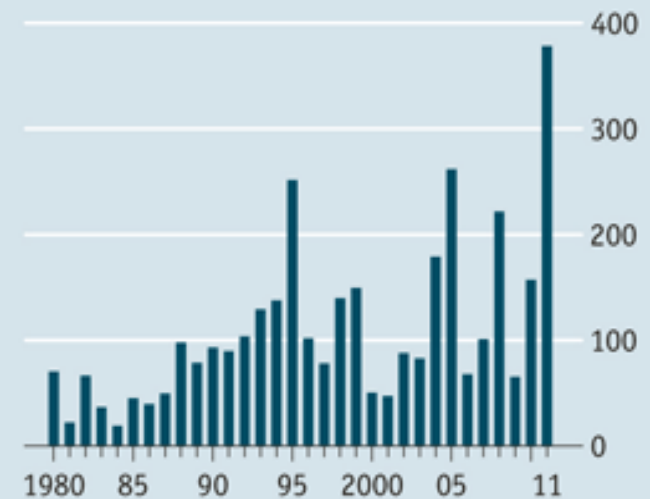


Coastal Hazards Are Real Now & Rising



After the storm, the reckoning

Global natural-disaster costs, \$bn (2011 dollars)



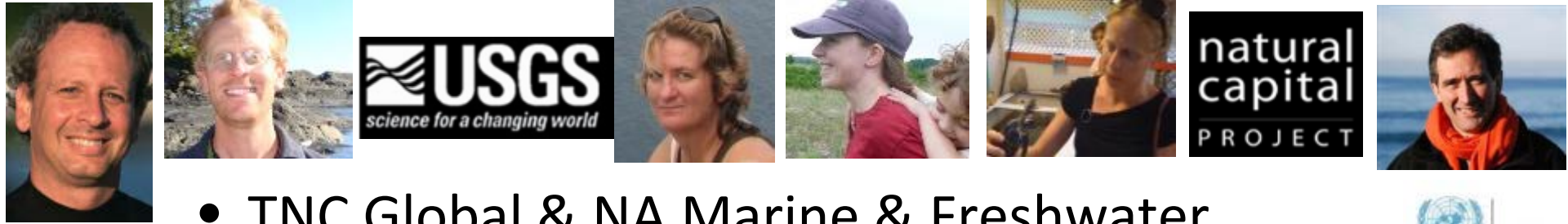
Source: Munich Re

TNC's GOAL

Mainstream Natural Infrastructure as a Tool to Reduce Risk from Flooding, Storms, & Sea Level Rise



Many Staff and Partners

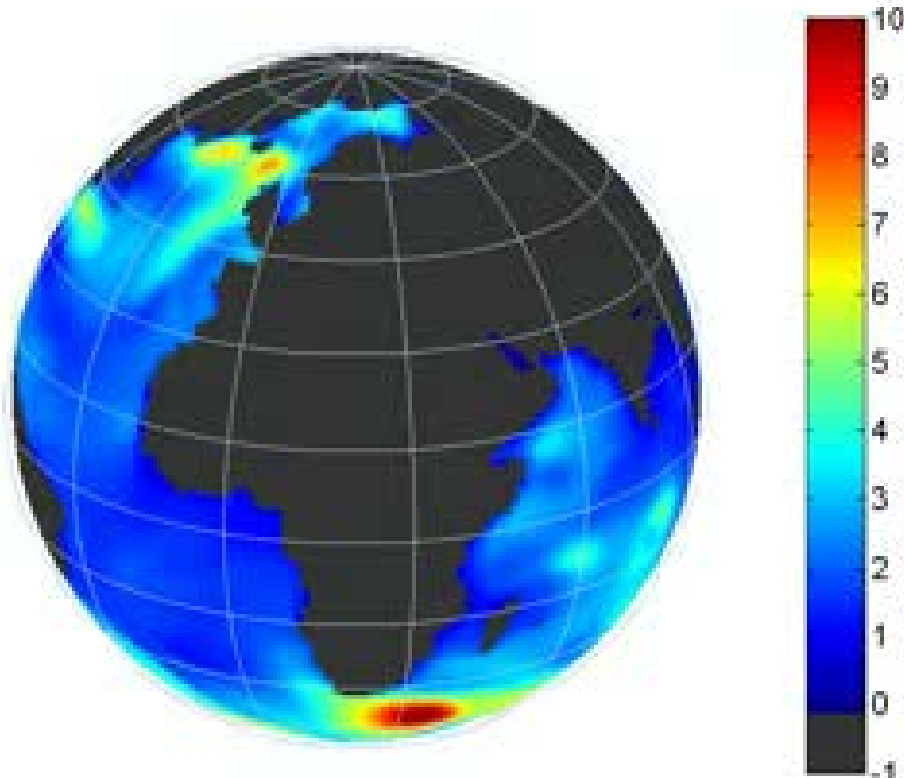


- TNC Global & NA Marine & Freshwater
- TNC chapters – USA, Mexico, Caribbean
- **Partners-** Univ. So. Miss., NOAA, USGS, United Nations U., NASA- Goddard, ASFPM, UCSC, Nat Cap Project & 30+ others





Wave Height

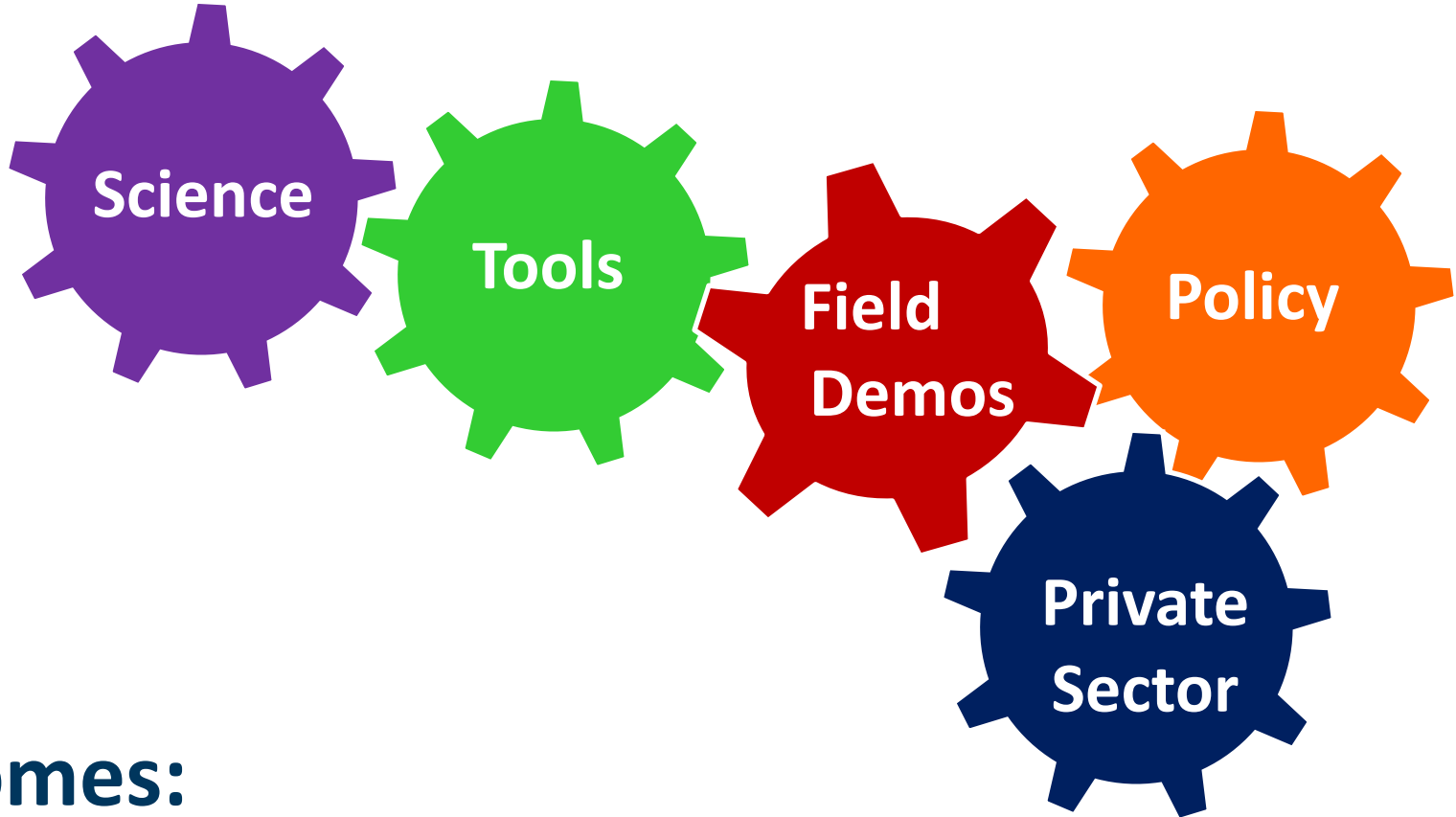


Assets

Feb. 2008



TNC Strategic Approach



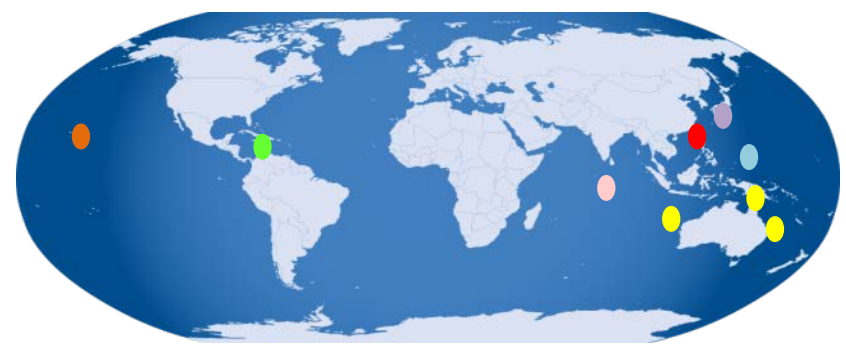
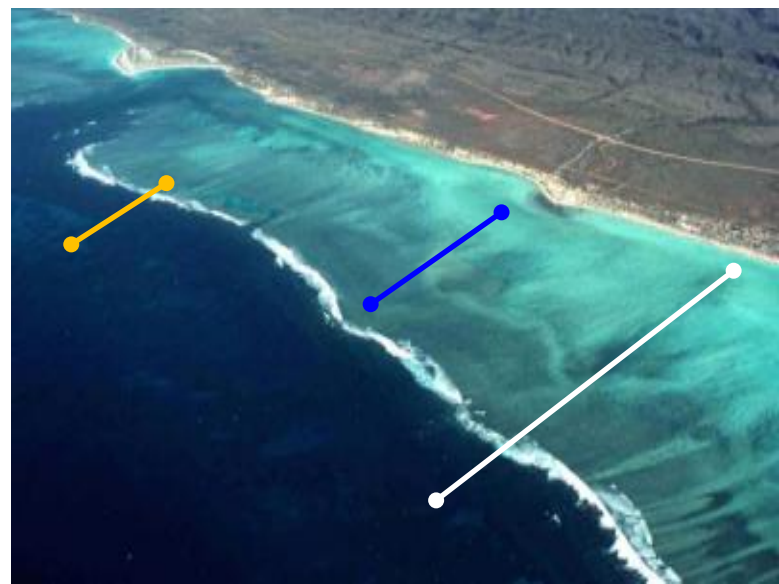
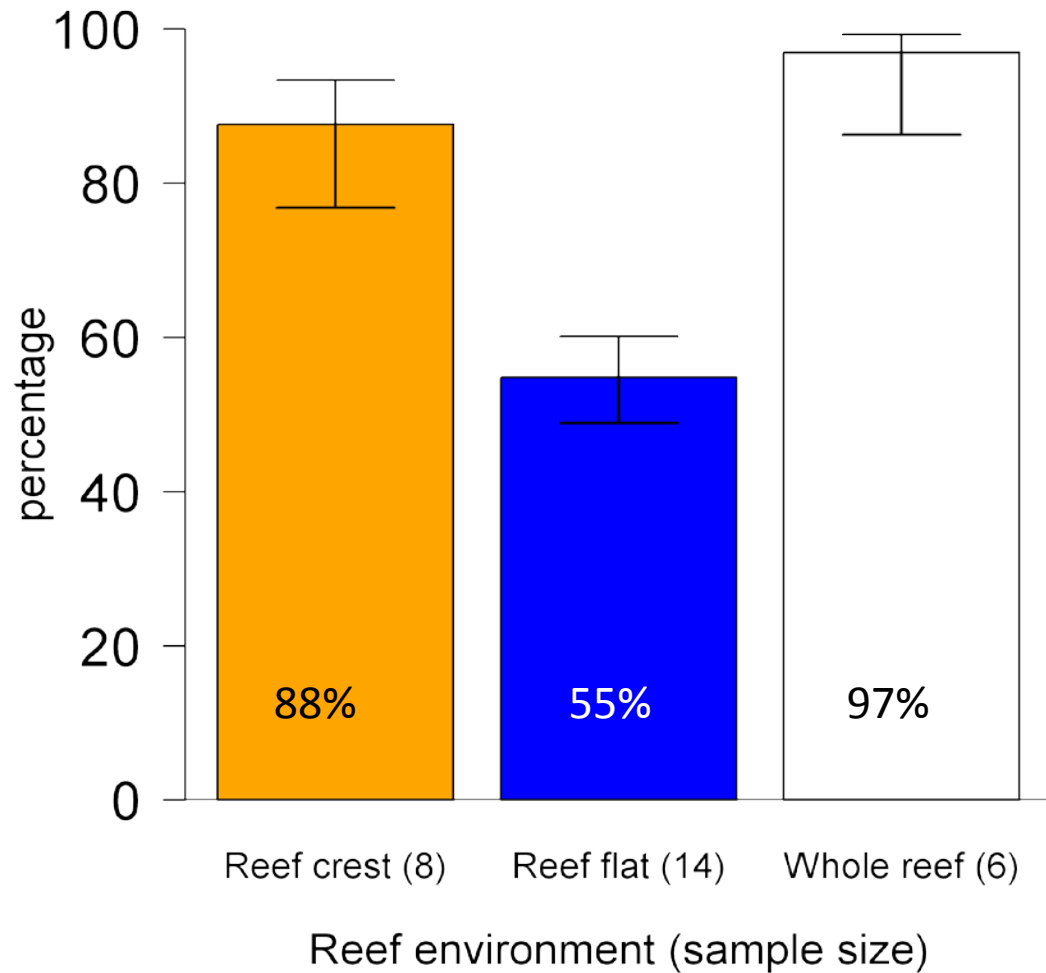
Outcomes:

Nature-based defenses consistently identified as solutions by agencies, (re)insurers, and engineers

By 2020, nature-based defenses incorporated in 10% of flood risk reduction projects

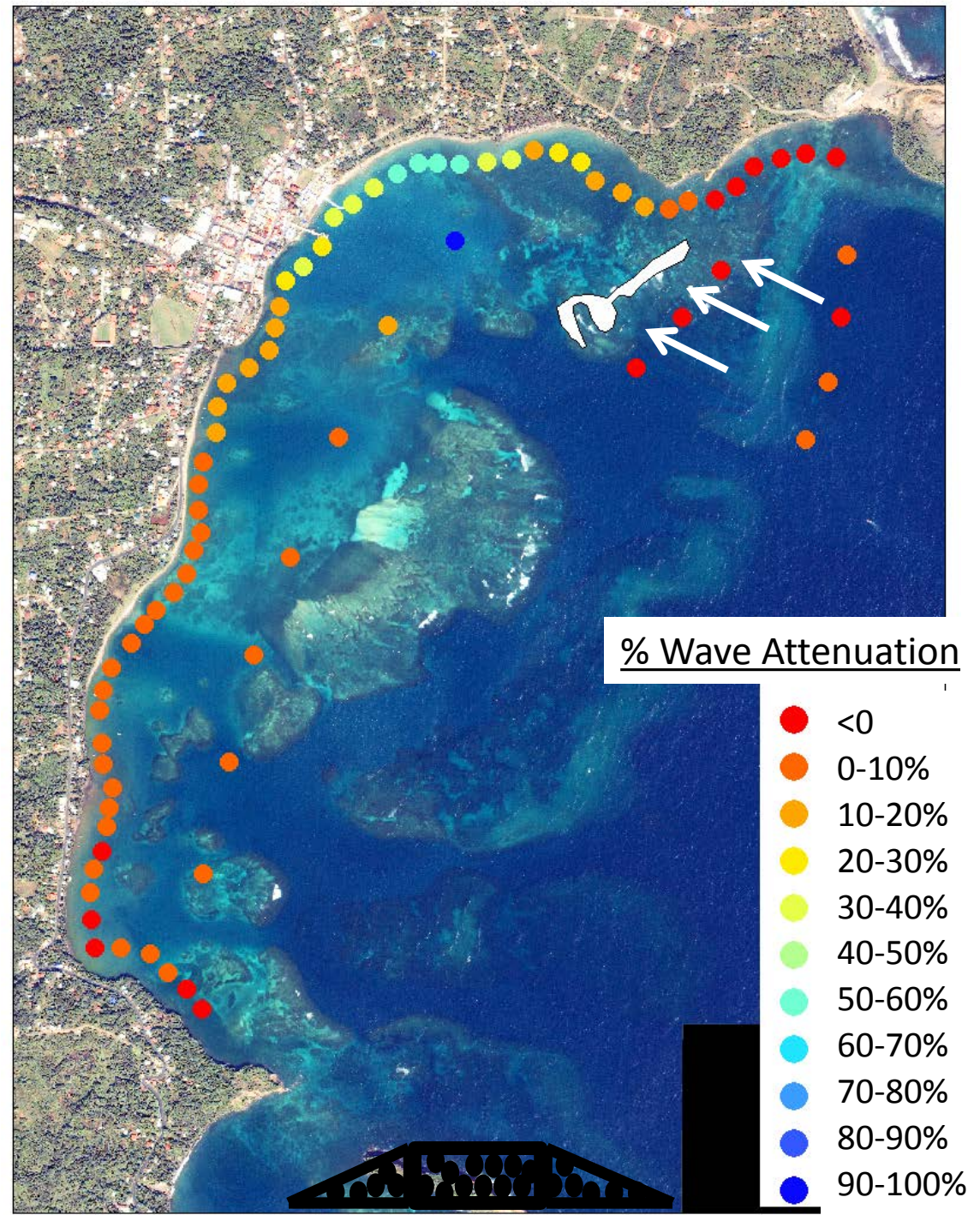


Wave Energy Reduction By Coral Reefs





Wave Attenuation: Reef Restoration vs Current Situation



Oyster Reef Restoration across the Gulf of Mexico





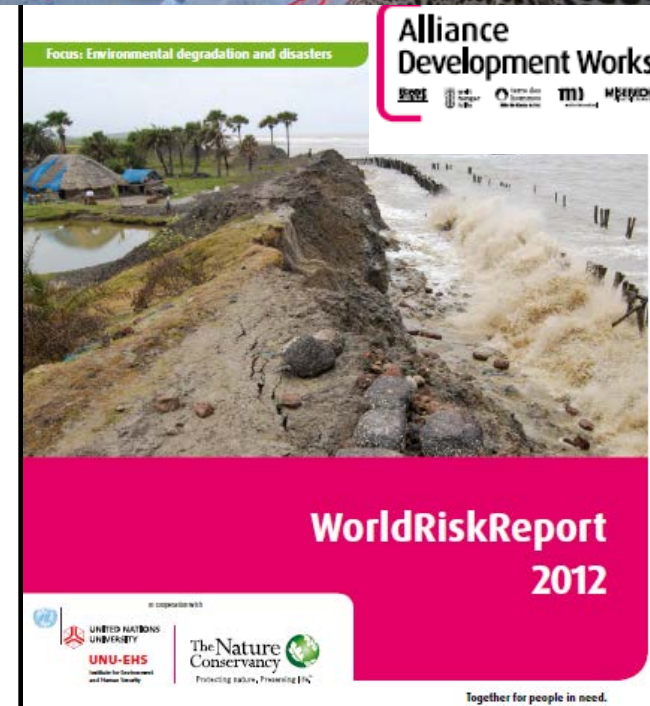
Public Policy Impacts

- ✓ State Statute in CT provides for living shorelines
- ✓ CT communities improving FEMA scores
to reduce insurance costs
- ✓ Army Core Engineers cuts permit time 50% for
living shorelines in MS & AL
- ✓ \$40M in Public Funding in FY13/14

Partnering with Aid/Development Groups



Adding Fisheries & Habitats to
Social Risk Assessments

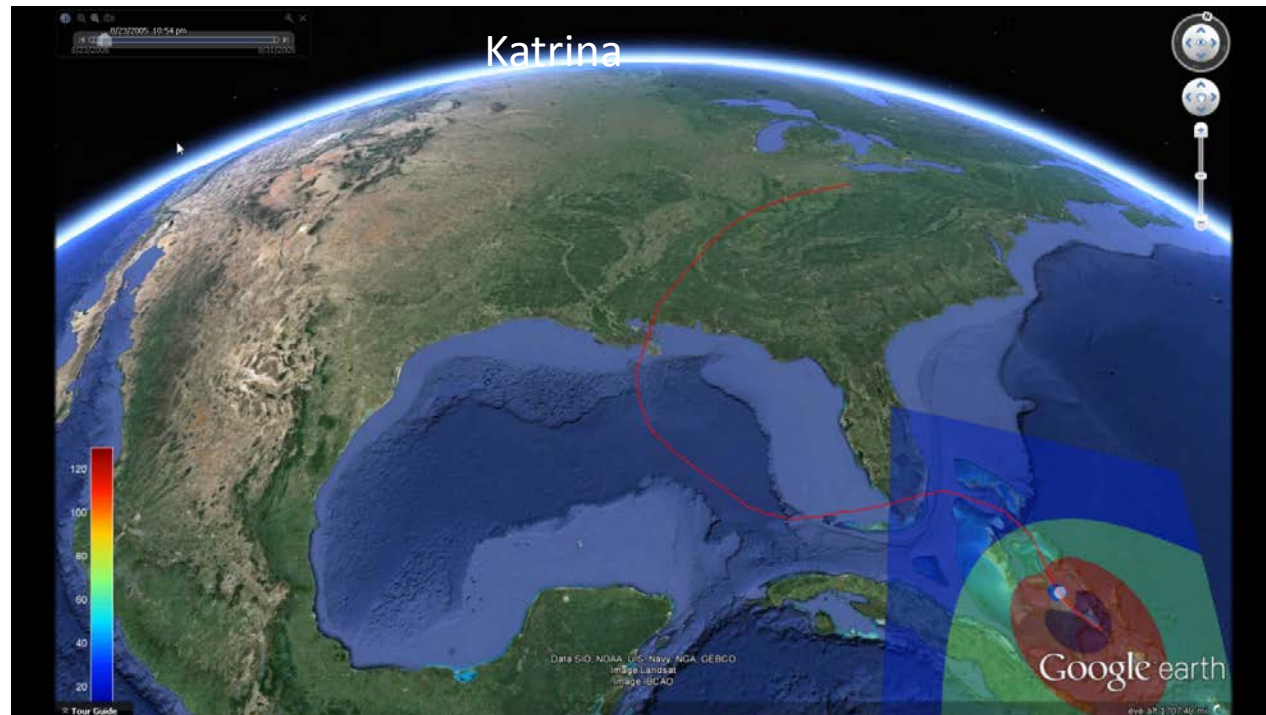


Partnership with Swiss Re

Where are nature-based defenses cost effective for risk reduction?

Aims

- Work with worlds 2nd largest re-insurer
- Public cost effectiveness model that includes nature
- Add ecosystem (co)benefits



Looking Forward

- Great Acceptance of Nature-based Defenses
- Opportunity to re-focus \$Billions in Hazard & Adaptation Funds
- Partnerships in Engineering, Re-Insurance & Aid
- Build Resilient Communities- Socially, Ecologically, Economically

