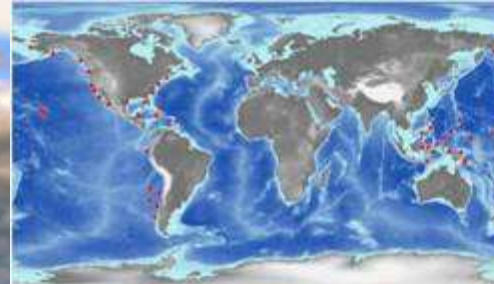


ShoreZone in Conservation Planning

Zach Ferdaña The Nature Conservancy zferdana@tnc.org

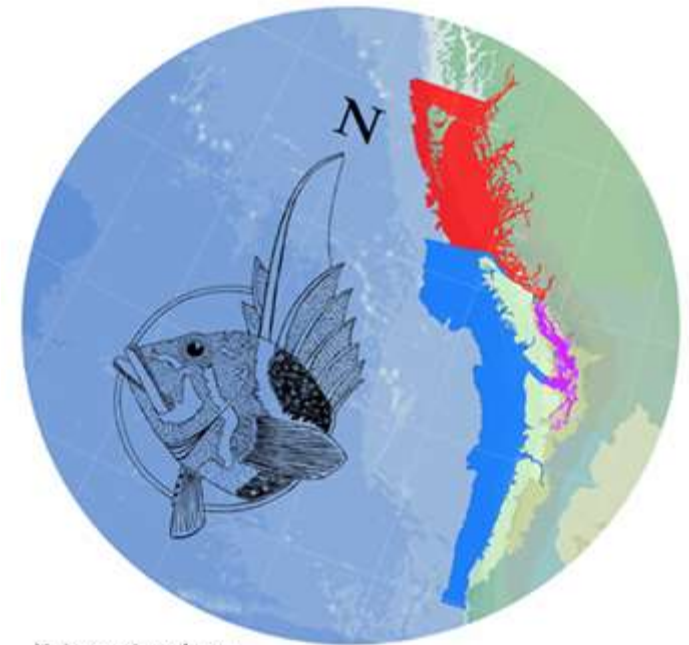





Ecoregional Planning Approach

2000 - 2010

Ecoregional planning -- identifies a portfolio of sites that will conserve the diversity of species, communities, and ecological systems in each ecoregion

Marine regional planning -- to identify a set of conservation areas (i.e., an ecoregional portfolio) which, if conserved, will protect a representative subset of the marine biodiversity in an ecoregion



Marine ecoregion study areas
 Coast Information Team
 Northwest Coast
 Puget Trough - Georgia Basin

Pacific Northwest Coast ecoregion

conservation targets

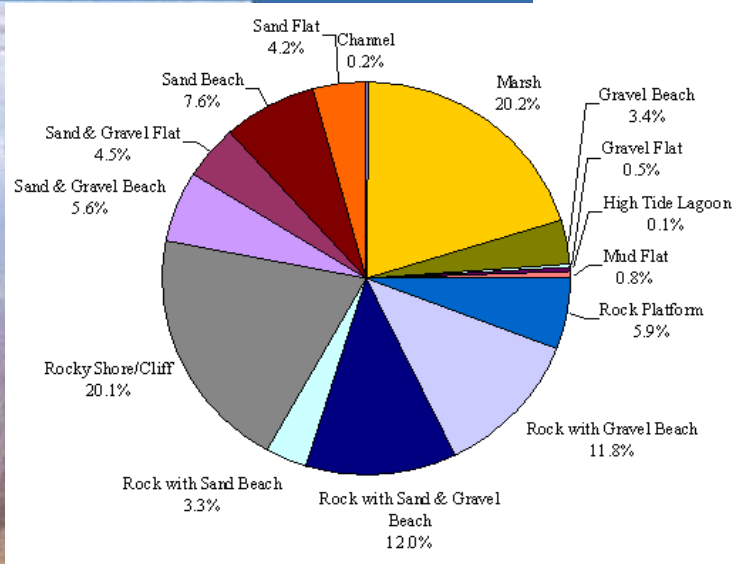
- 520 total conservation targets in the U.S. portion of the ecoregion
- 315 estuarine and nearshore marine (stratified into subregions)
- before stratification: 191 marine targets (58 shoreline types, 18 estuarine types, 26 intertidal vegetation habitats, 25 marine fish, 39 seabirds and shorebirds, 12 marine mammals, and 13 marine invertebrates).
- 205 terrestrial ecosystems and species



U.S. portion of the ecoregion

Shoreline\Estuarine Conservation Targets

determining substrate classes and calculating wave energy



substrate + exposure = biotic assemblage



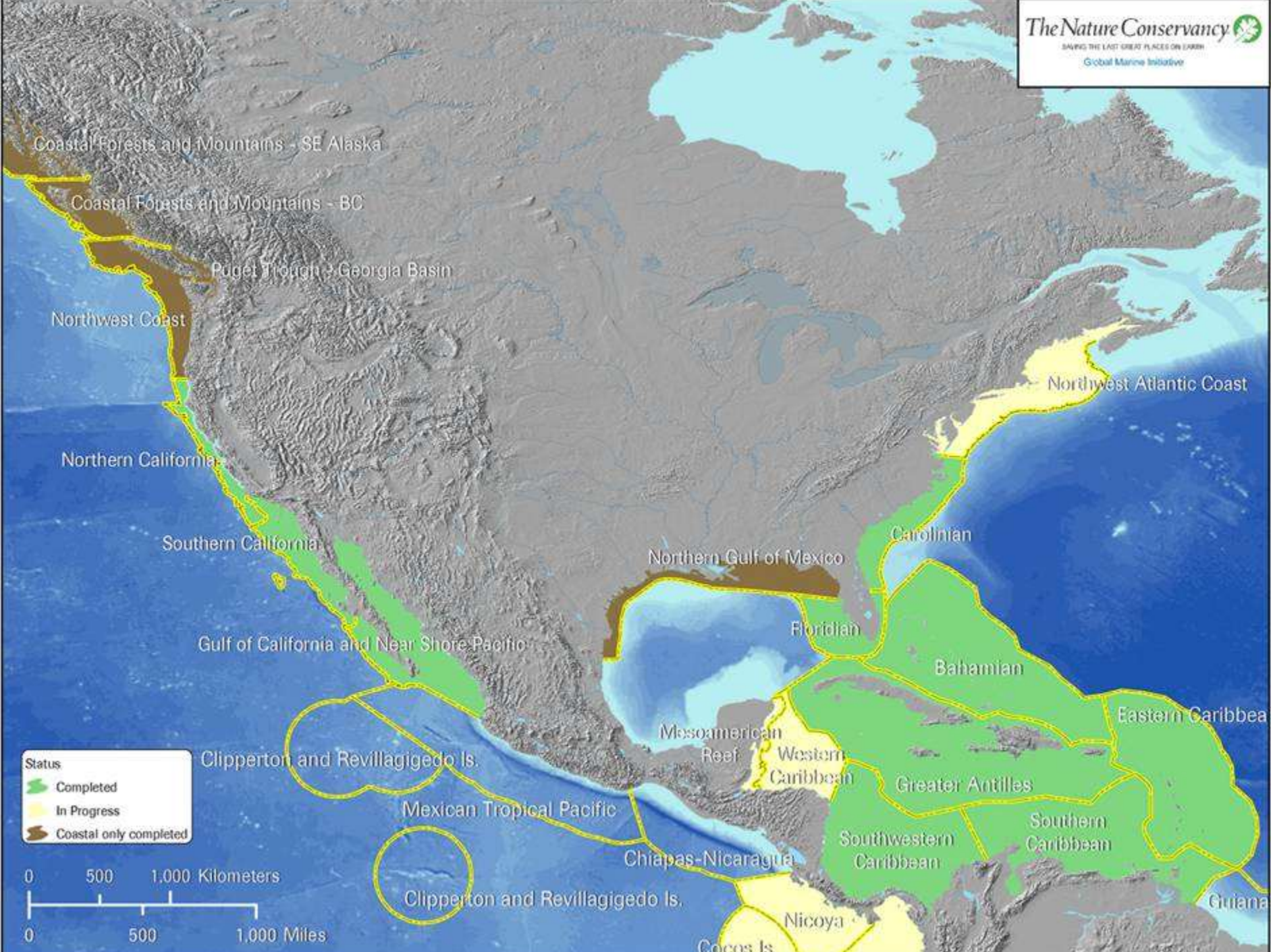
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rocky shores, tidal flats, sandy beaches, kelps, seagrasses, saltmarshes



Approach and Network

Decision support tool platform

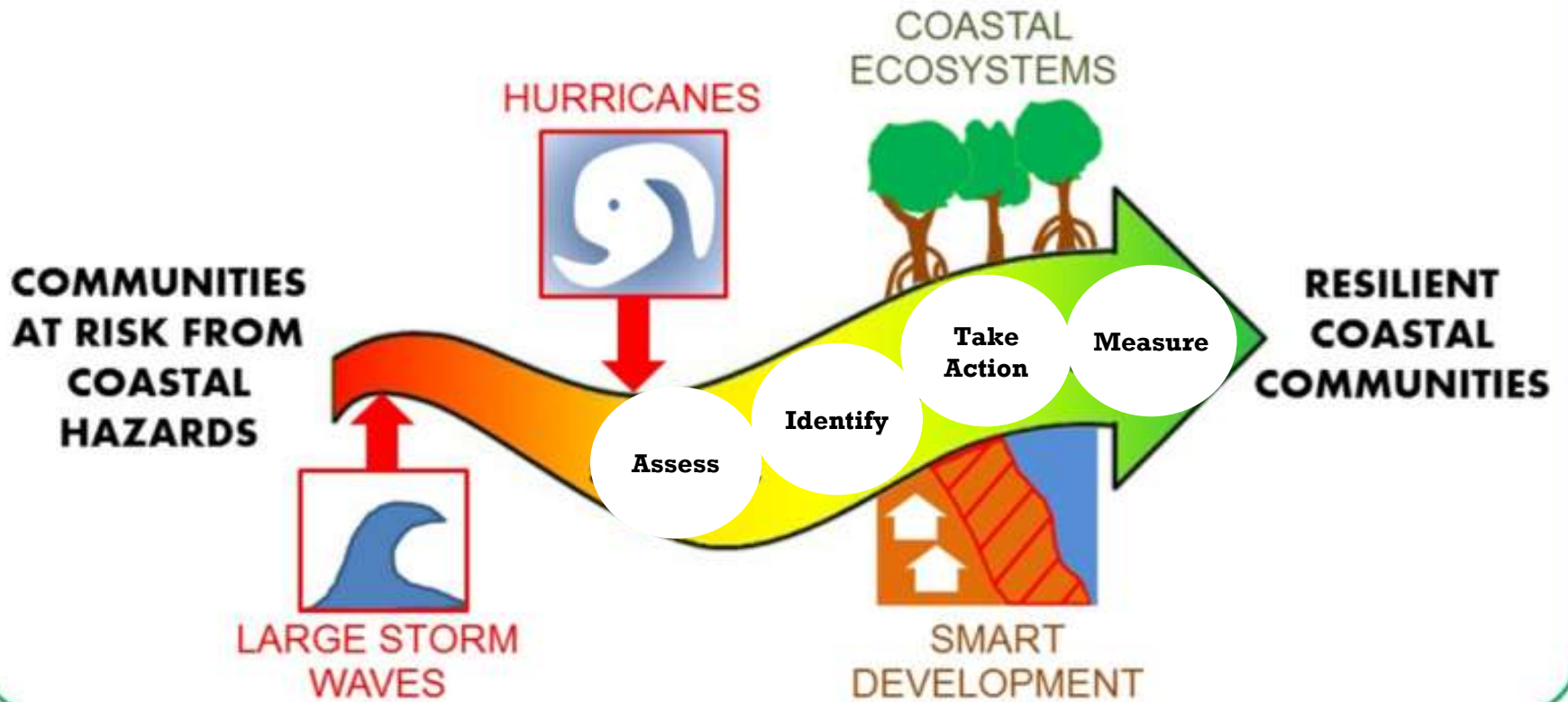
Apps

...that address disaster risk reduction using nature-based solutions to coastal hazards & climate change

A photograph of a mangrove forest with dense green foliage and prominent red roots extending into the water. The text 'NATURE-BASED SOLUTIONS' is overlaid in large white letters across the center of the image.

NATURE-BASED SOLUTIONS

TNC's Coastal Resilience Approach



The Coastal Resilience network supports a community of practitioners who are applying nature-based solutions to coastal hazard and adaptation issues

Caribbean



MesoAmerican Reef



North America

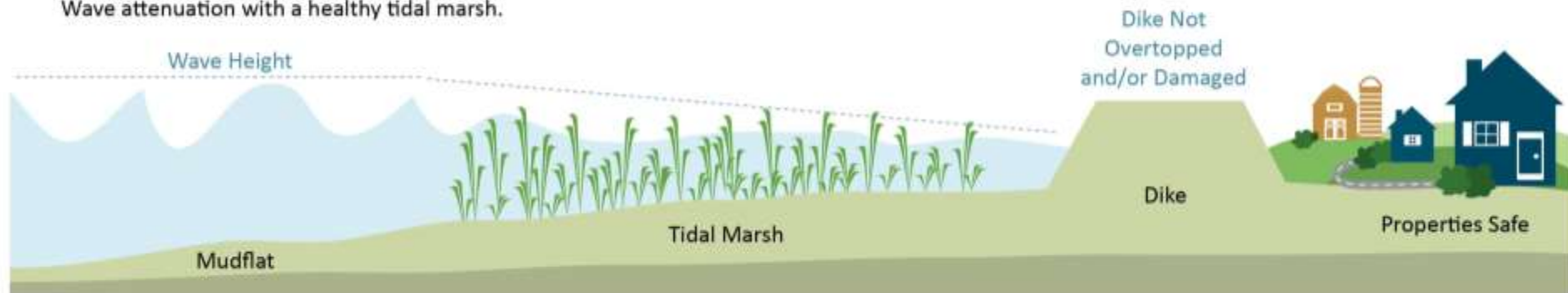


Mapping tool platform with apps

Coastal Defense

Coastal Defense quantifies how natural habitats (oyster reefs, tidal marshes, seagrass ...) protect coastal areas by reducing wave-induced erosion and inundation. It uses standard engineering techniques to help you estimate how and where to restore or conserve critical habitat, and increase the resilience of your coastal community and infrastructure.

Wave attenuation with a healthy tidal marsh.

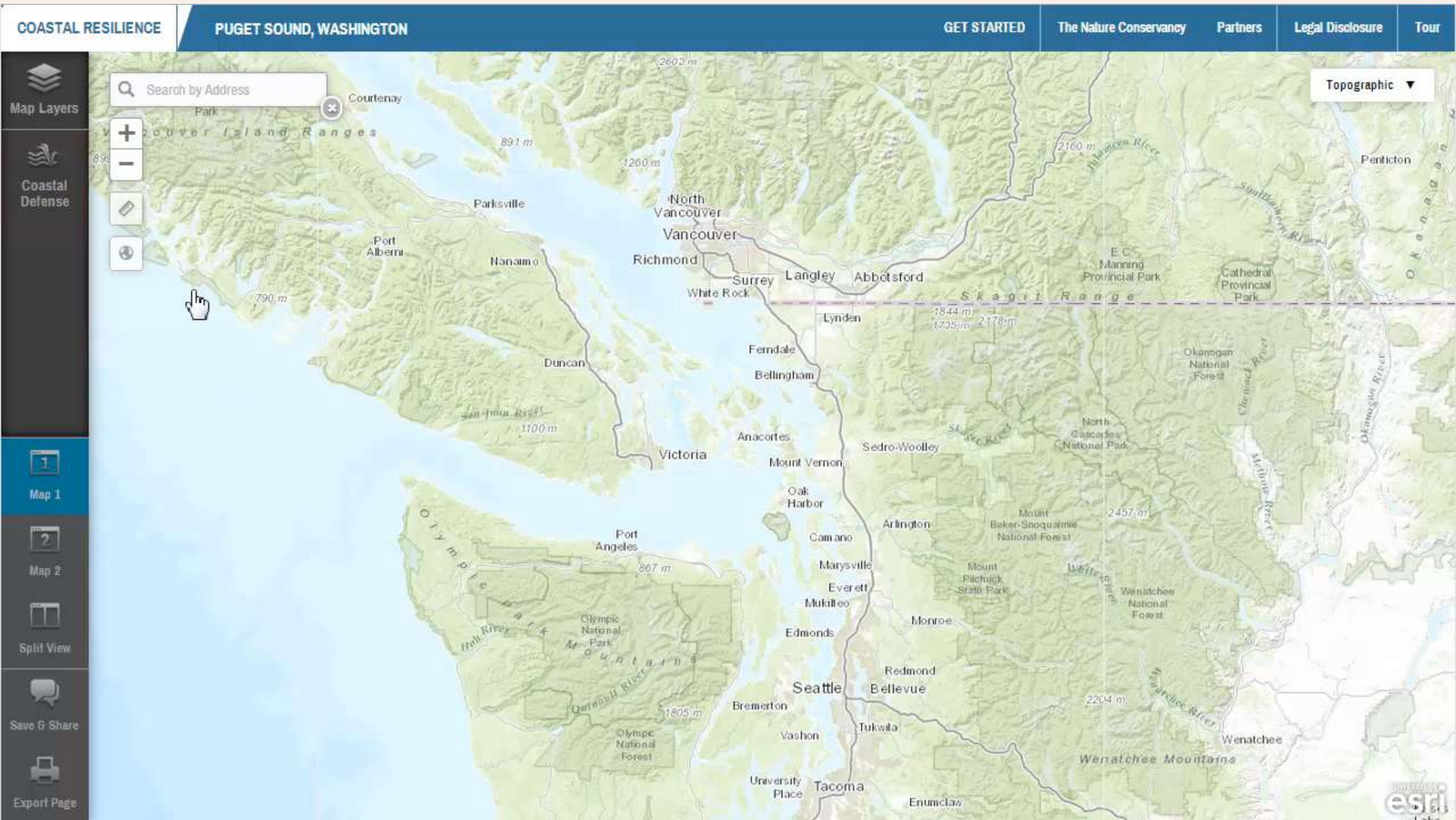


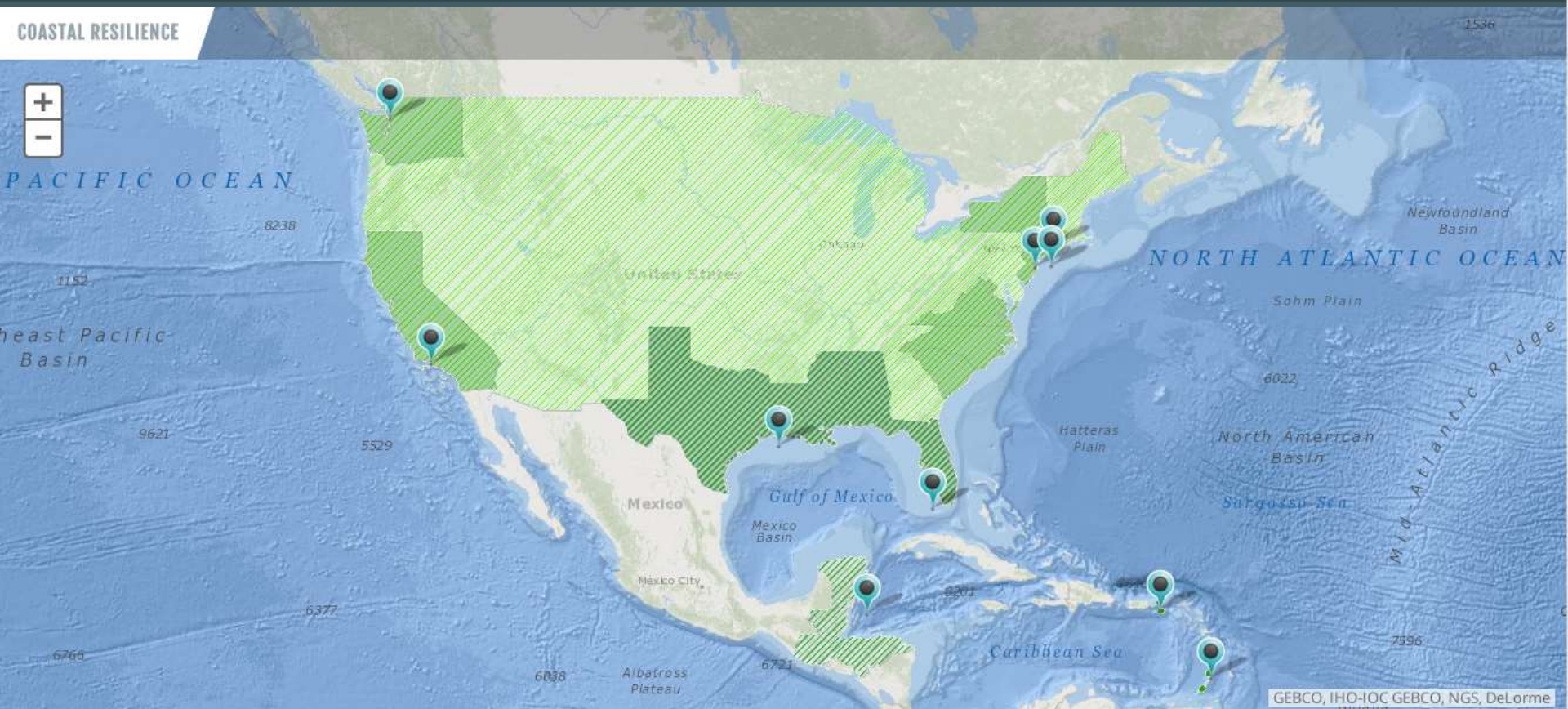
Wave attenuation with a degraded tidal marsh.



Coastal Resilience

Coastal Defense app





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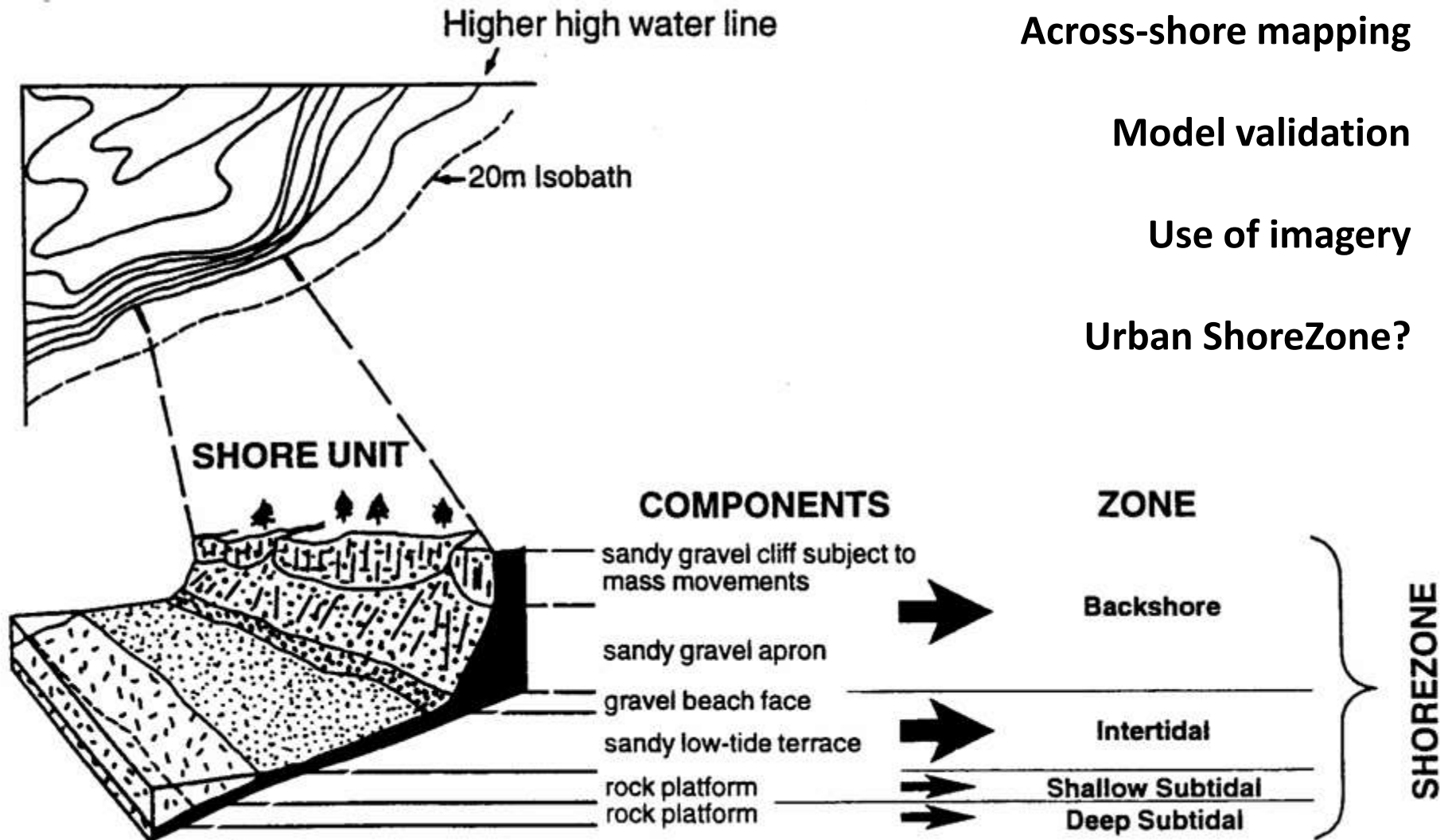
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ShoreZone use for Climate Resilience



Across-shore mapping

Model validation

Use of imagery

Urban ShoreZone?