

Scenarios 101

Envision Coastal Futures for Grays Harbor

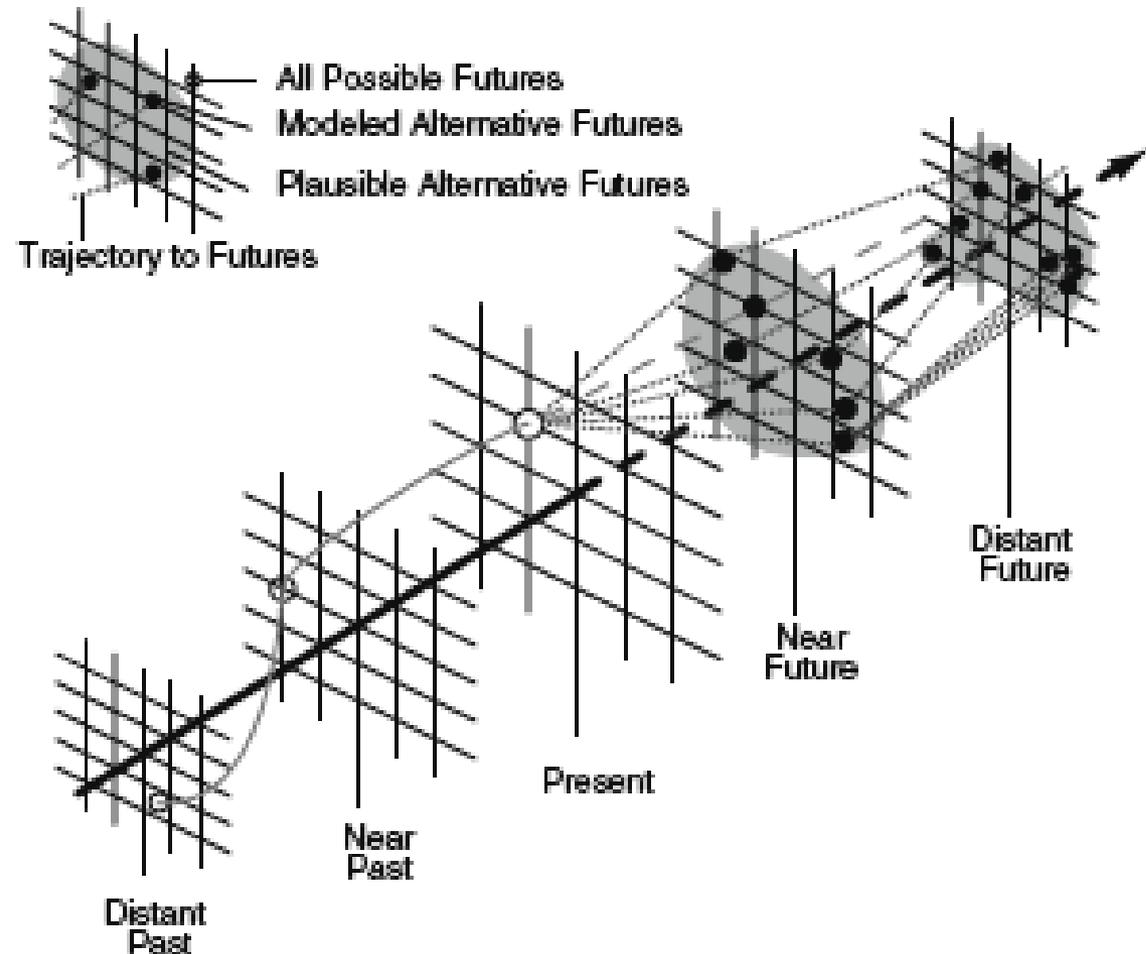
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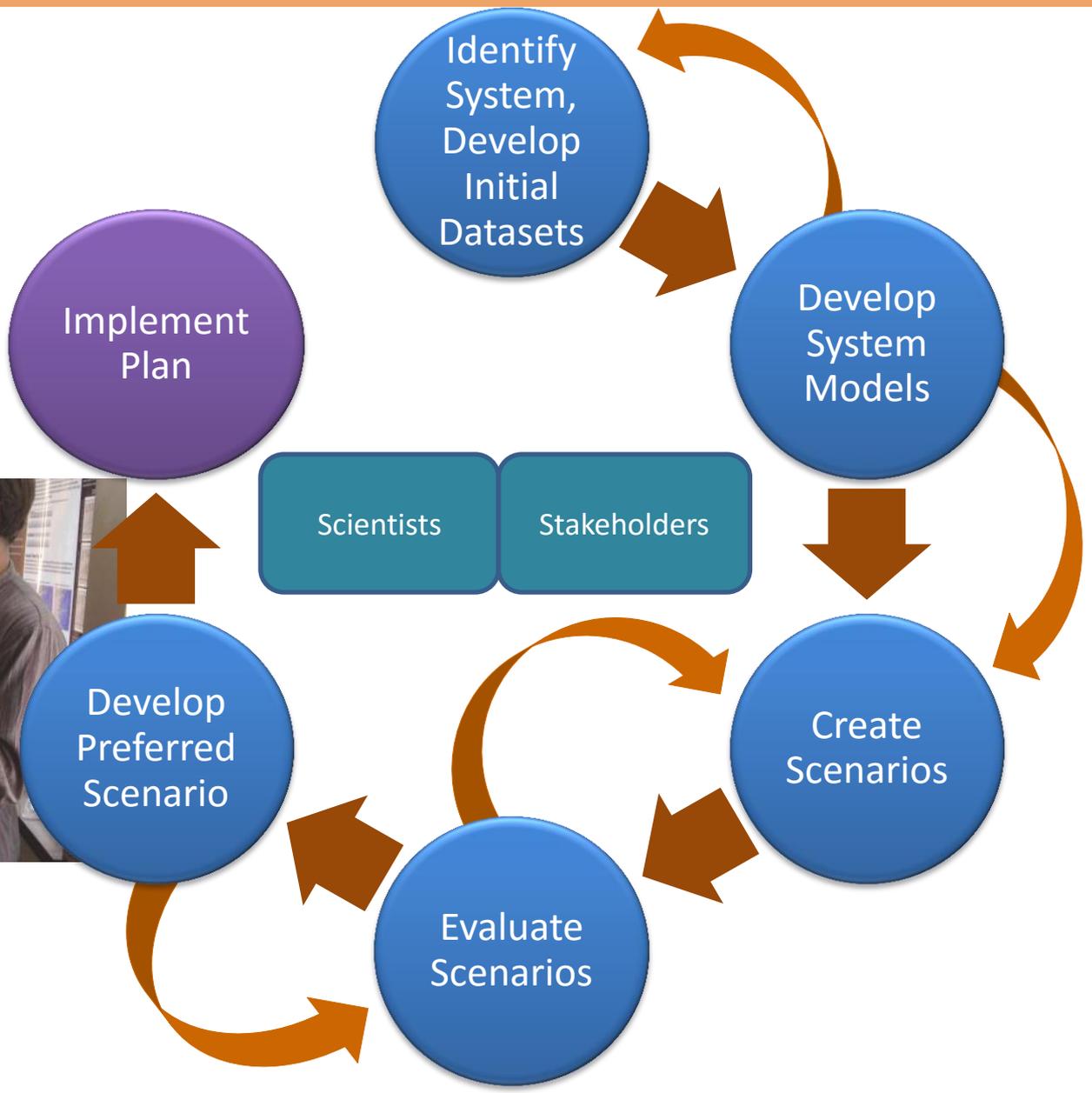
Trajectories of Change and Alternative Futures

Scenario analysis “aims to identify the **several most important issues responsive to policy and planning decisions**, along with the **widest range of options pertaining to these issues**... A scenario is then created to reflect choices among the possible options for each policy in the set.”

From Steinitz et al. 2003



Scenario Planning Process



Endpoints

Endpoints are metrics that measure how well we are doing at achieving some desirable outcome.

Endpoints provide a way to evaluate how well a given scenario performs

Examples:

- 1) Value of Property Impacted by a hazard
- 2) Amount Habitat provided for species of concern
- 3) Amount of developable lands
- 4) Costs of hazard mitigation



Policies and Strategies

Landscape policies and strategies are decisions or plans of action for accomplishing desired outcomes.

Policies and Strategies define the **rules** and **management options** that are available to landowners, decision-makers.

Examples:

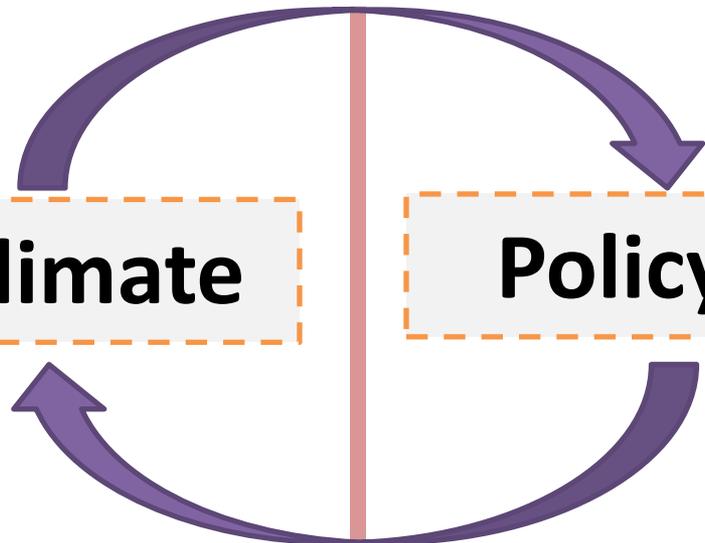
- 1) Add BPS when erosion rates are high and structures are impacted
- 2) Restrict new development in areas that have experienced flooding more than twice in the last 10 years
- 3) Move structures to the safest site on lot when subject to frequent flooding





Climate

Policy



Alternative Futures Analysis:
How complex coupled human and natural systems dynamically respond to varying management strategies and driving forces.

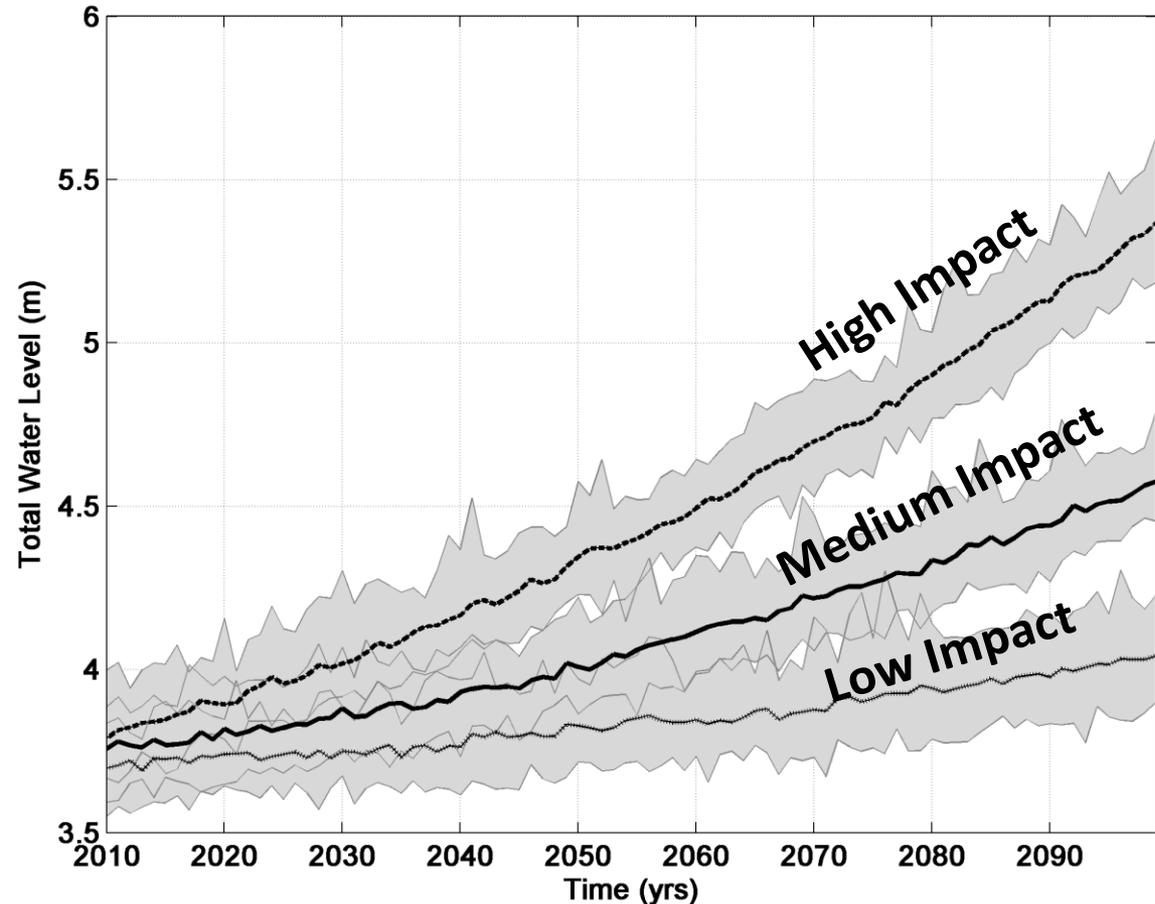


Climate Change Scenarios

sea level rise

wave
variability

El Niño
variability



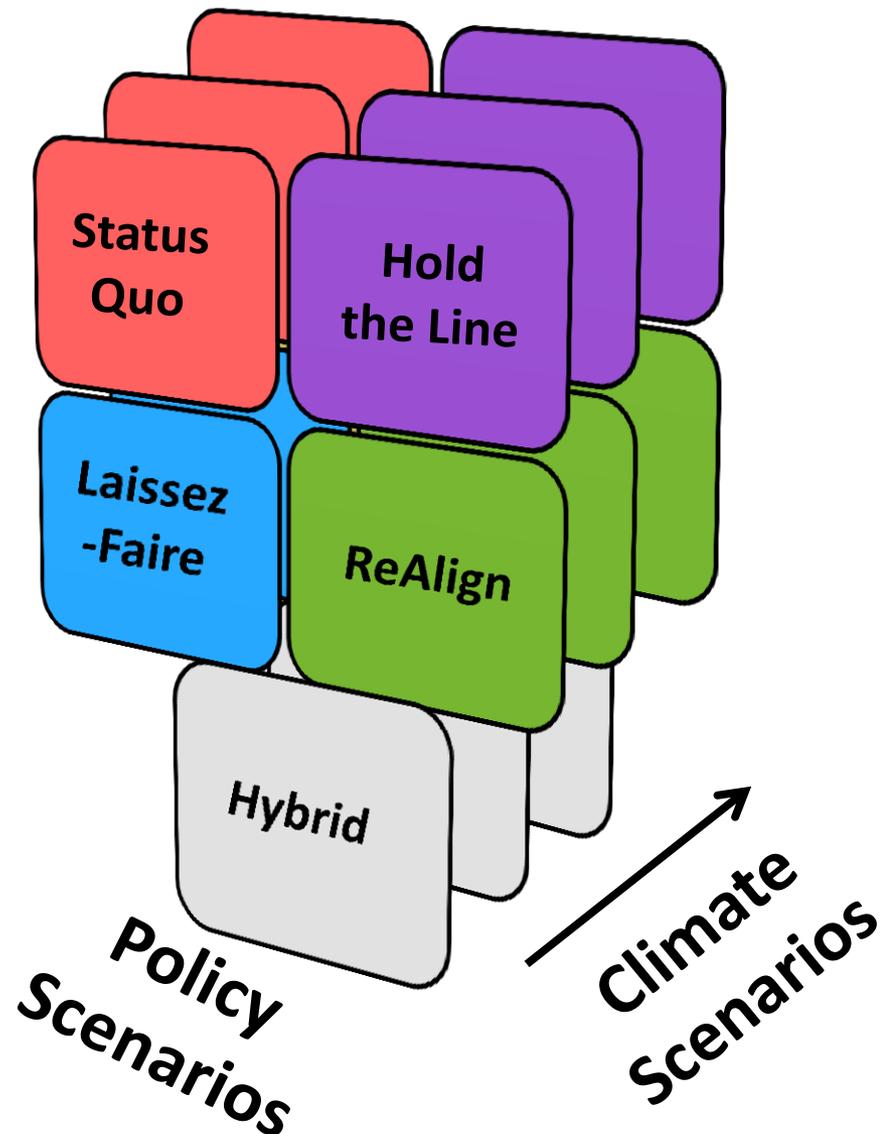
Co-development of Policy Scenarios



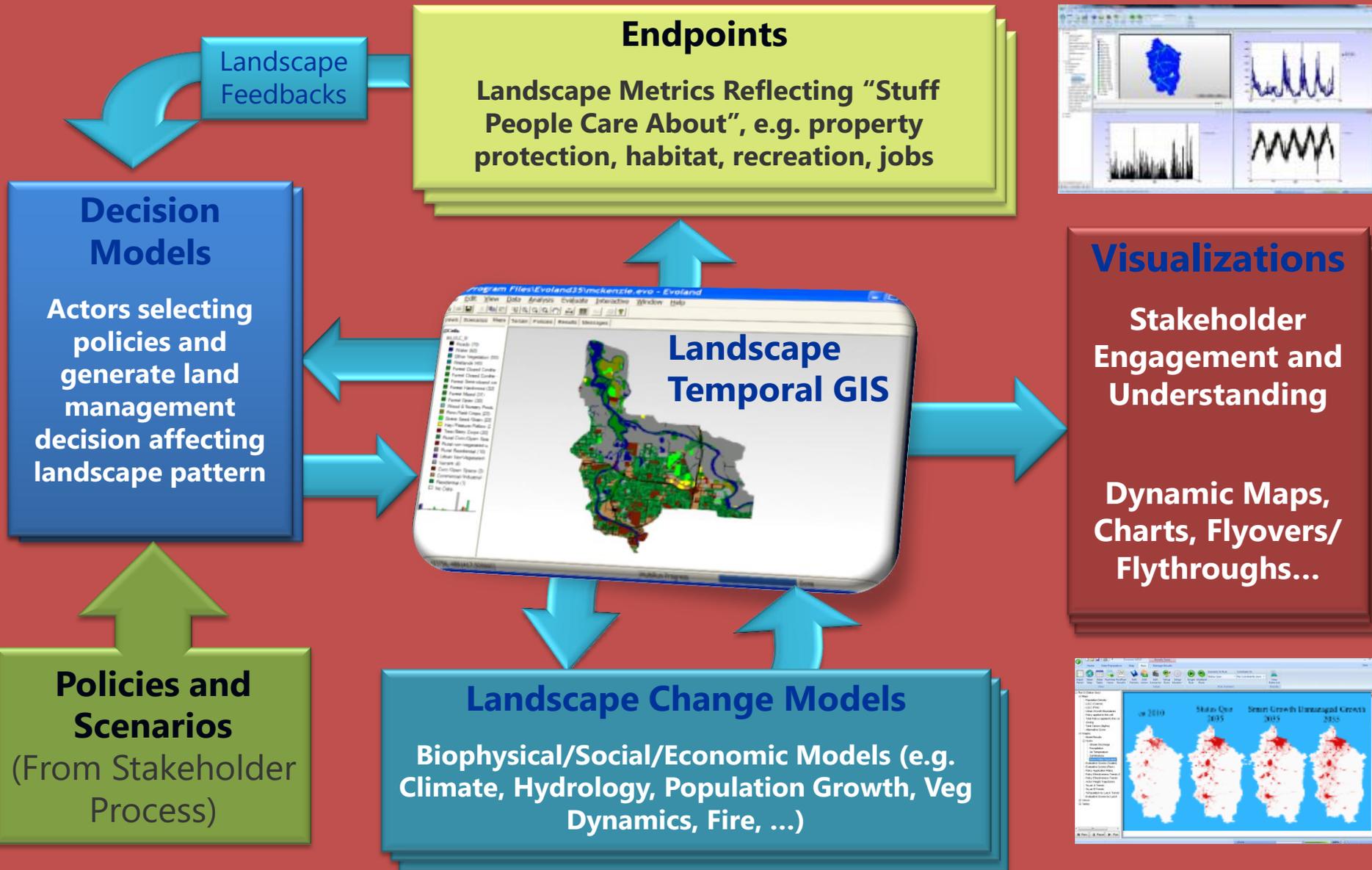
Climate Scenarios (Physical Drivers)

X

Policy Scenarios (Human Drivers)



Envision – A Modeling Platform for Scenario-Based Planning



Envision Grays Harbor

Landscape Data

- Land Use/Land Cover
- Soils
- Climate
- Population Density Pattern
- Coastal Hazards
- Infrastructure
- Coastal Ecosystems ...

Actors, Policies and Scenarios

Landscape Change Models

- Population Growth
- Land Use, Infrastructure development
- Coastal Ecosystem Change Processes
- Storm Impacts, ???

ENVISION

Evaluative Models

- Ecosystem Functions, Services
- Infrastructure Costs
- Community Adaptive Capacity
- Hazard mitigation
- ???