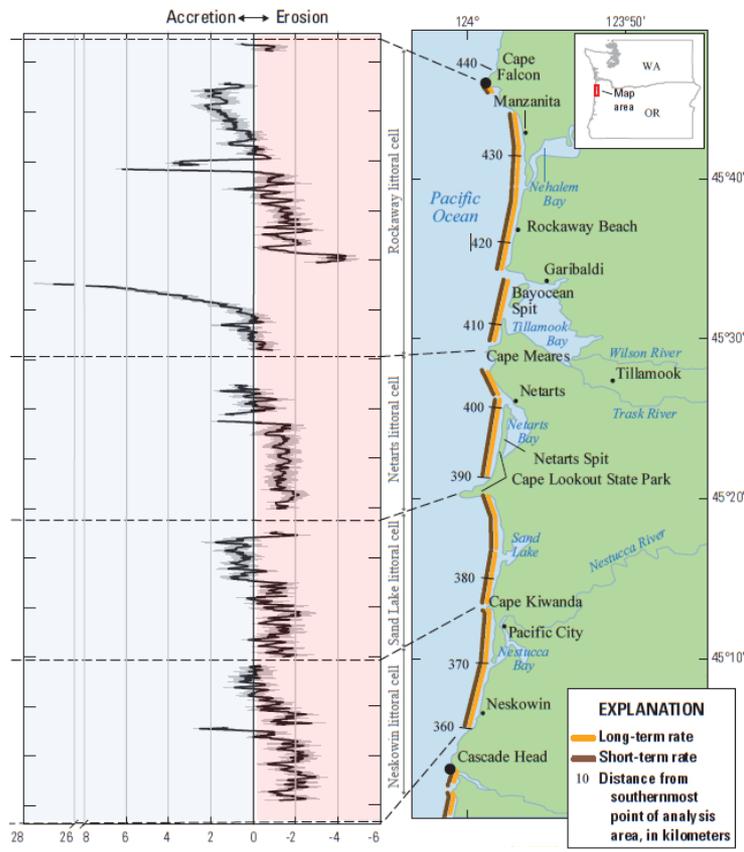




Assessing Impacts from Coastal Hazards

*Examples from **Tillamook, OR** and **Grays Harbor, WA***

Sample Tillamook County Problems: Chronic coastal erosion and flooding, prolific armoring, haves and have nots.



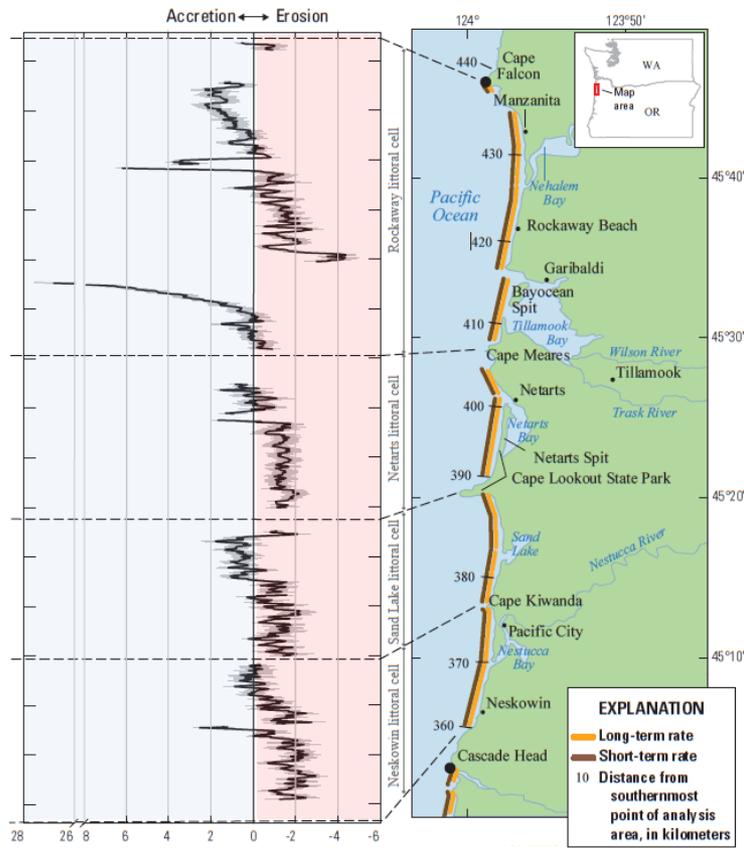
Shoreline Change rate (m/yr)

1967-2002

Ruggiero et al., 2013



Sample Tillamook County Endpoints: Reduction in buildings impacted by flooding, reduction in buildings impacted by erosion, maintain beach access

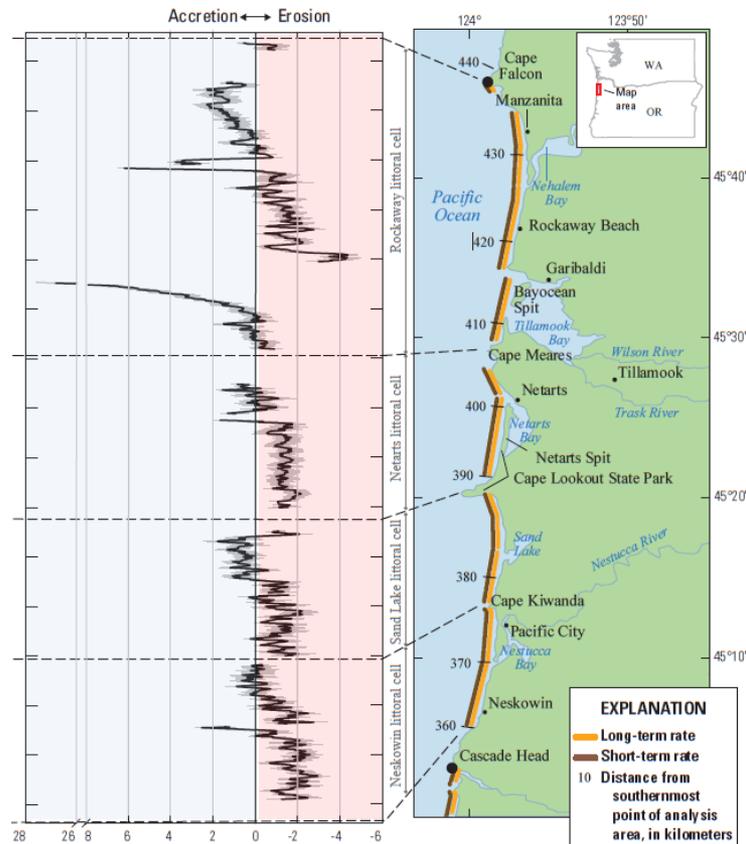


Shoreline Change rate (m/yr)
1967-2002

Ruggiero et al., 2013



Sample Tillamook County Strategies: Implement policies or decisions that involve *resisting* environmental change (e.g. building or raising flood defenses, building or strengthening shoreline armor, nourishing beaches) in order to preserve existing infrastructure and human activities (e.g. beach access).



Shoreline Change rate (m/yr)
1967-2002

Ruggiero et al., 2013



Policy Scenario Narratives



1. Status Quo

Continuation of present-day policies.

Example Policy: Maintain current backshore protection structures (BPS) and allow more BPS to be built on eligible lots.

Policy Scenario Narratives



1. Status Quo

2. Hold the Line

Policies or decisions are implemented that involve *resisting* environmental change (e.g. building or raising flood defenses, building or strengthening shoreline armor, nourishing beaches) in order to preserve existing infrastructure and human activities (e.g. beach access).

Policy Scenario Narratives



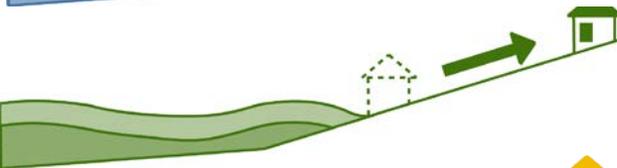
1. Status Quo



2. Hold the Line



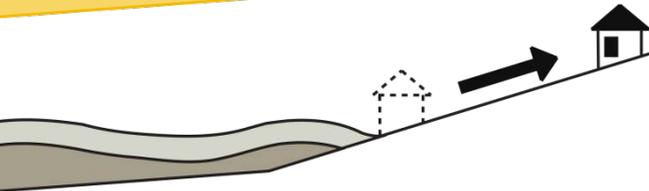
3. Laissez-Faire



4. ReAlign



5. Neskowin



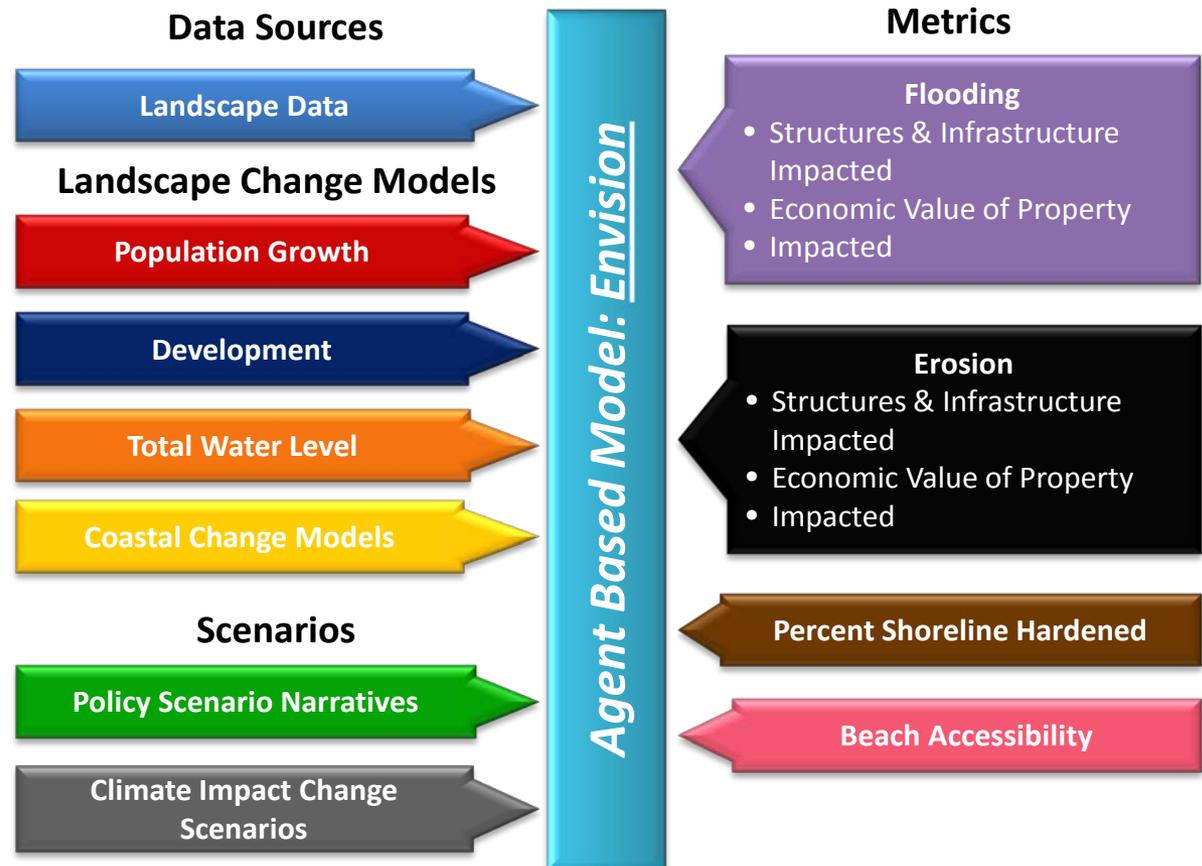
6. Hybrid

Implement policies in accordance with the **preferences established by the KTAN**

Alternative Futures Analysis: *Envision*



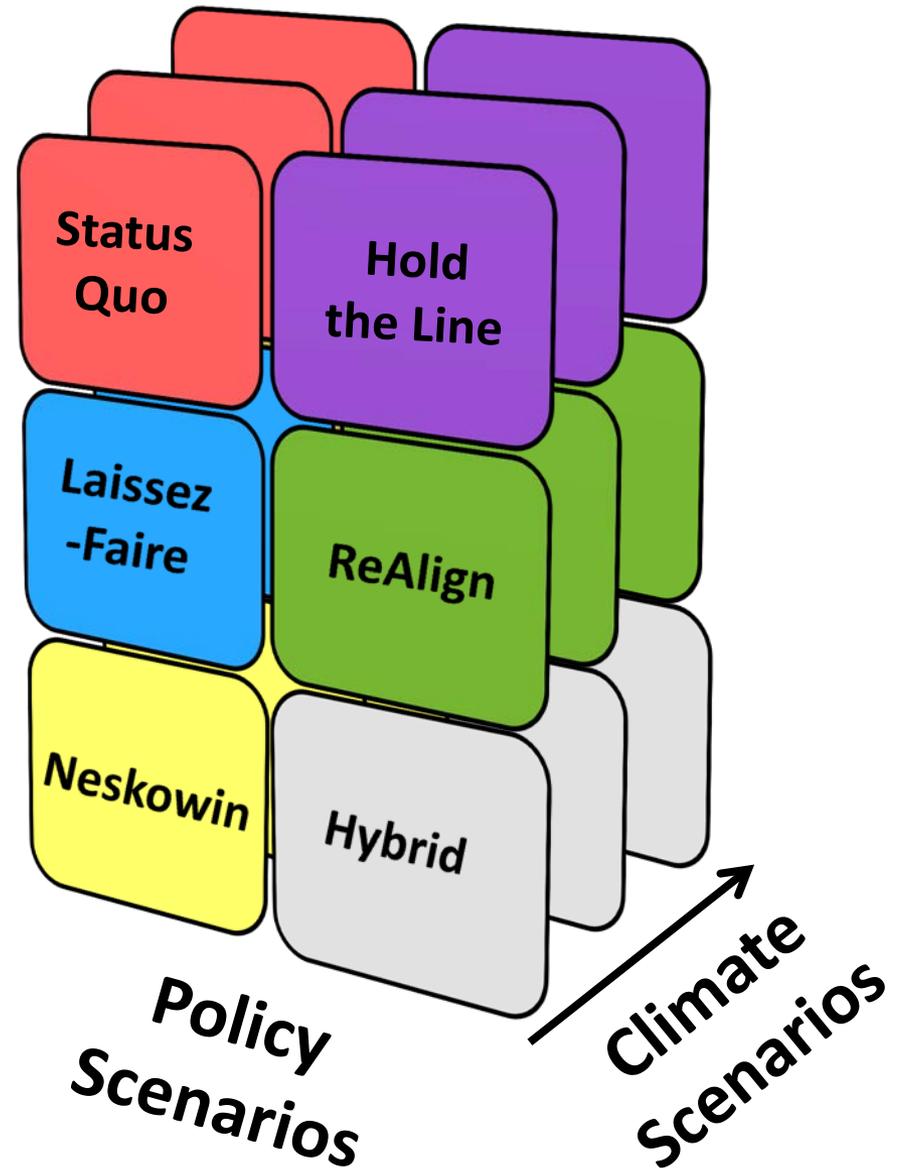
Bolte et al., 2007

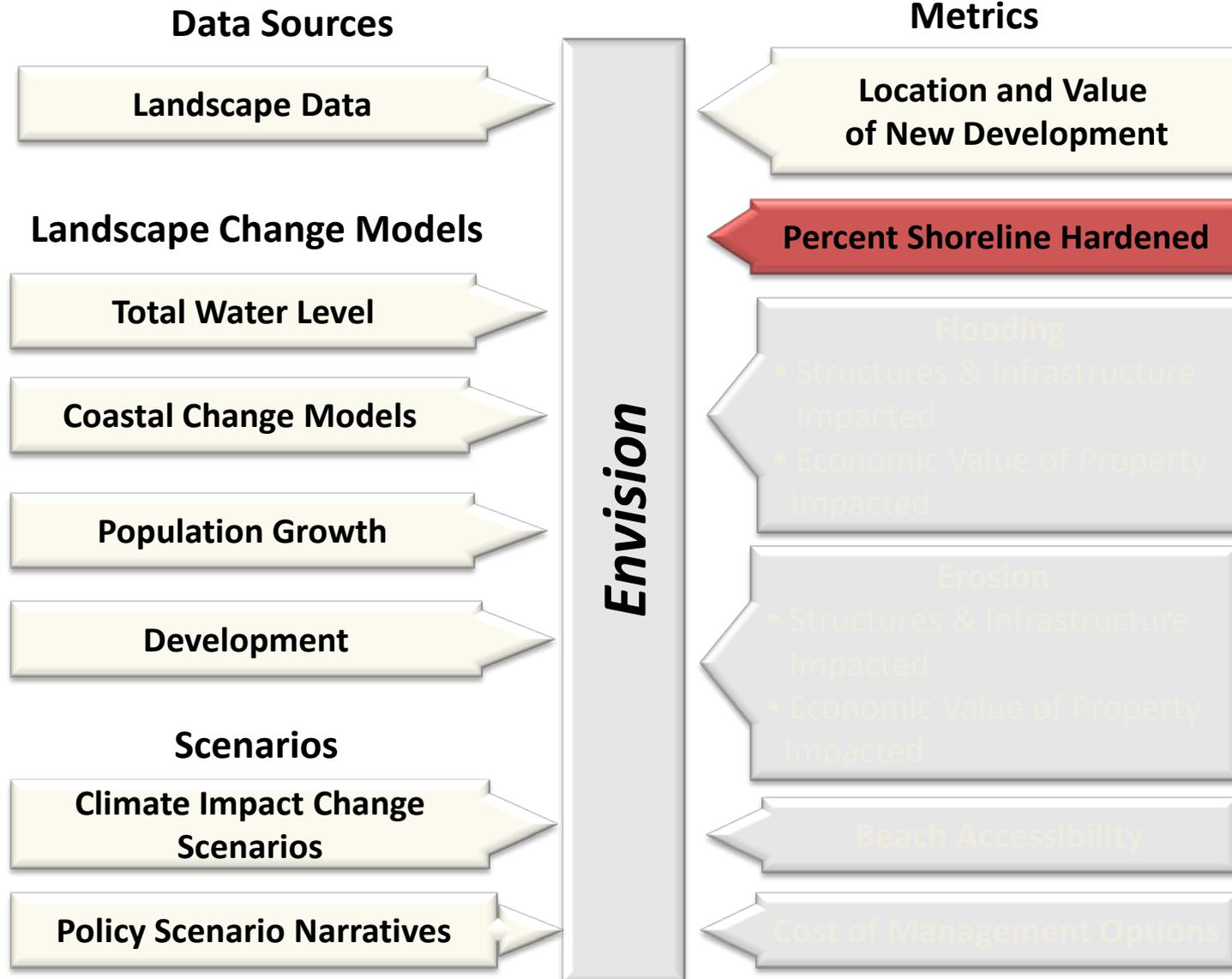


**Climate Scenarios
(Physical Drivers)**

X

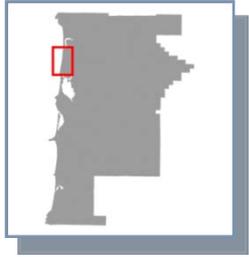
**Policy Scenarios
(Human Drivers)**



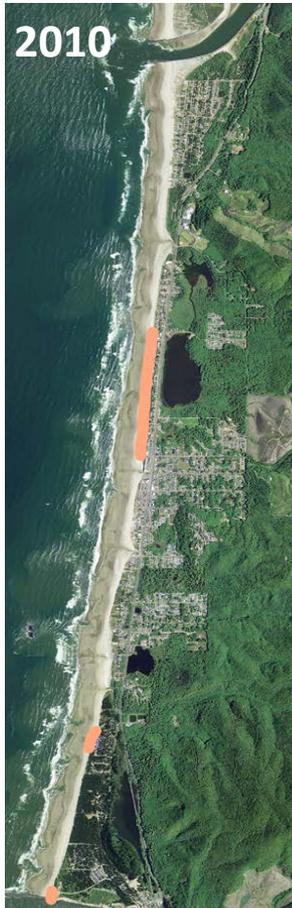


Coastline armored in response to erosion

Rockaway Beach Littoral Sub-Cell



Existing BPS New BPS



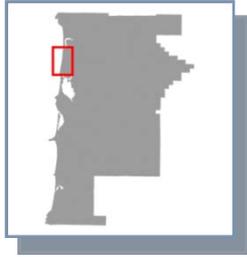
2010

Present Day

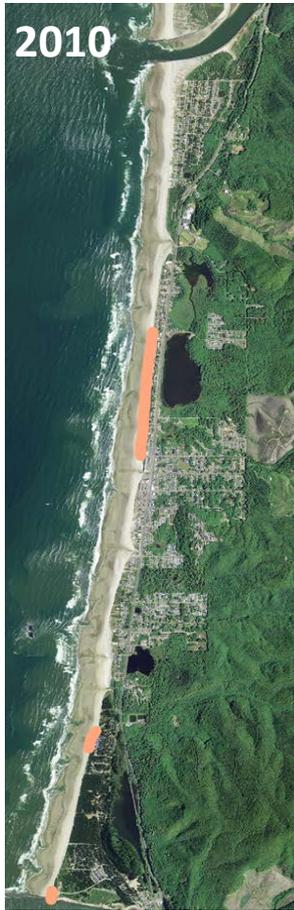


Coastline armored in response to erosion

Rockaway Beach Littoral Sub-Cell



Existing BPS New BPS



Present Day



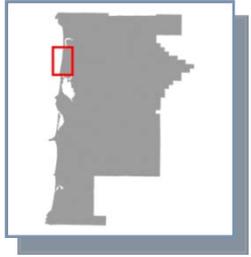
Status Quo



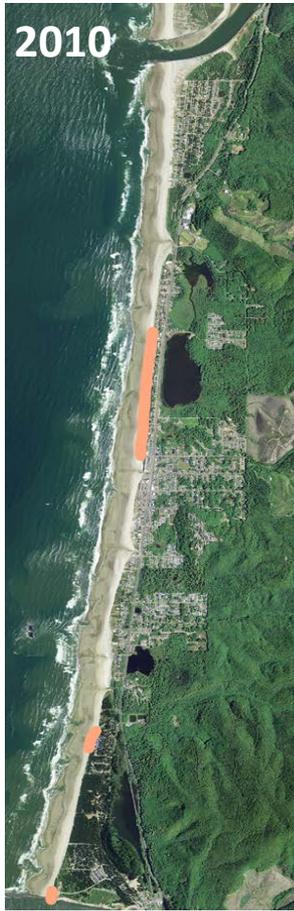
Medium Climate Impact Scenario

Coastline armored in response to erosion

Rockaway Beach Littoral Sub-Cell



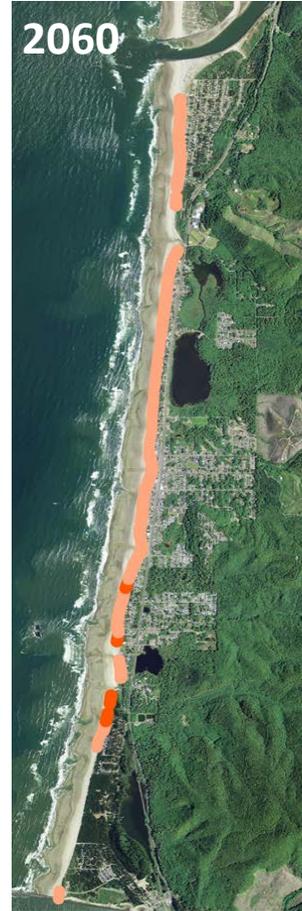
Existing BPS New BPS



Present Day



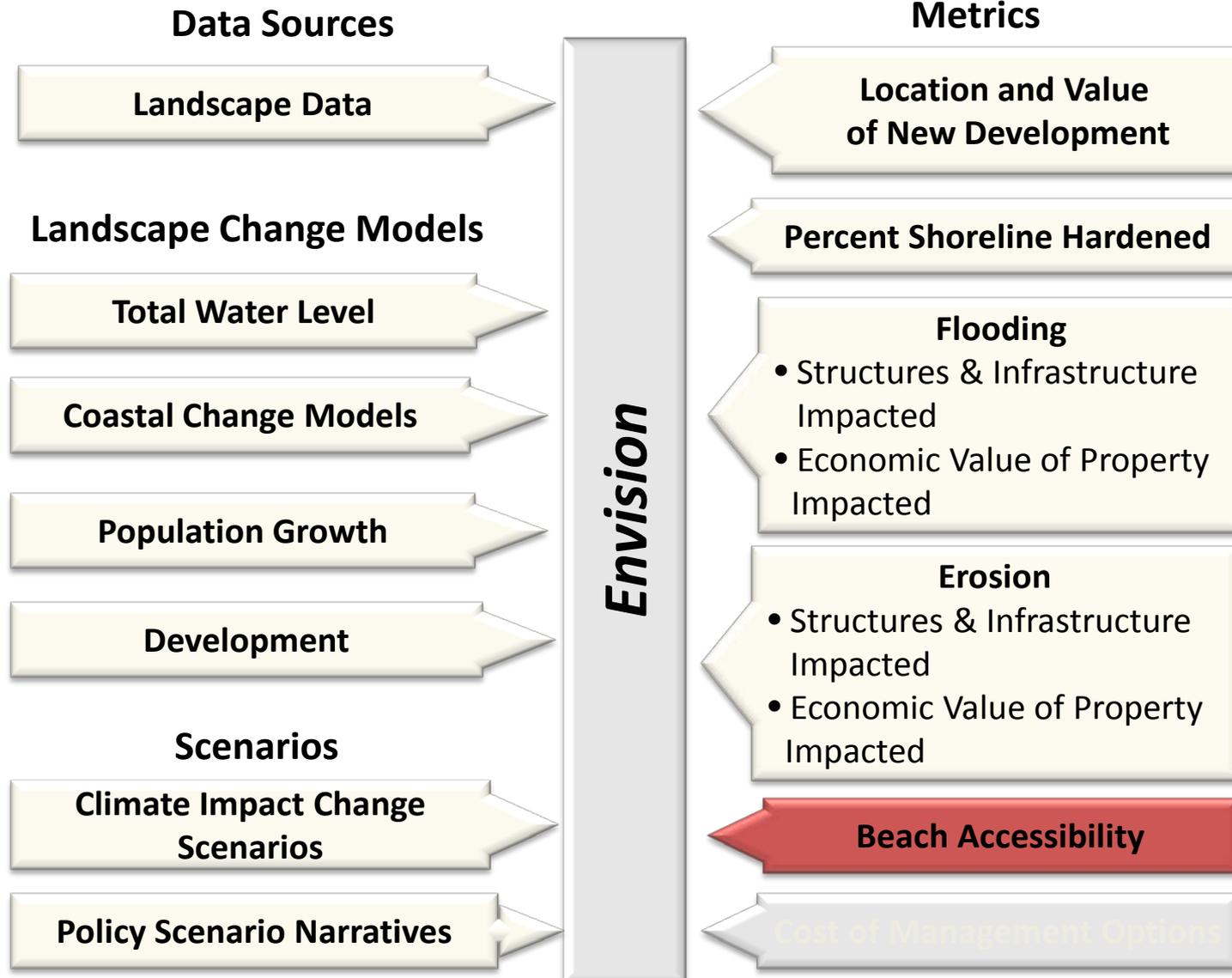
Status Quo



Status Quo



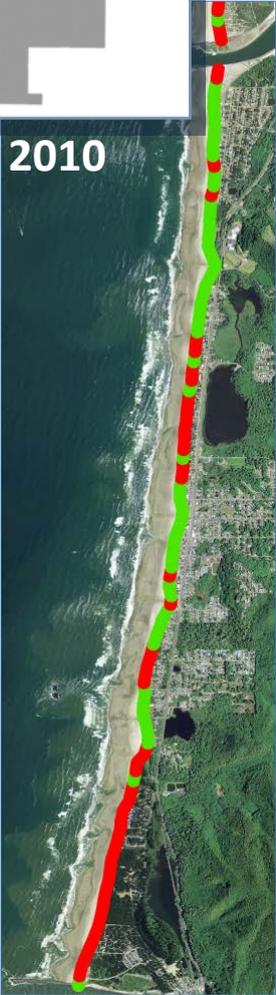
Status Quo



Beach Accessibility



2010



Present Day



■ Limited Beach Access

■ Unlimited Beach Access

Beach Accessibility



— Limited Beach Access — Unlimited Beach Access



2010

Present Day



2100

Status Quo



2100

Hold the Line



2100

Laissez-Faire



2100

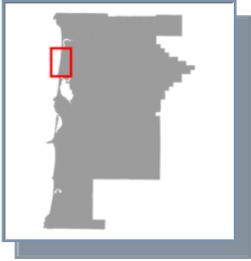
ReAlign



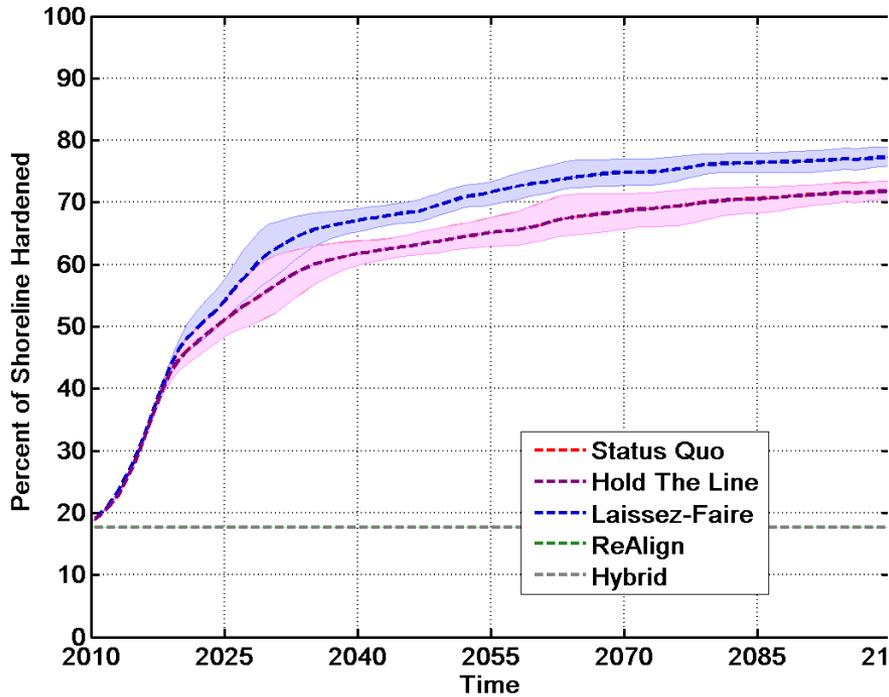
2100

Hybrid

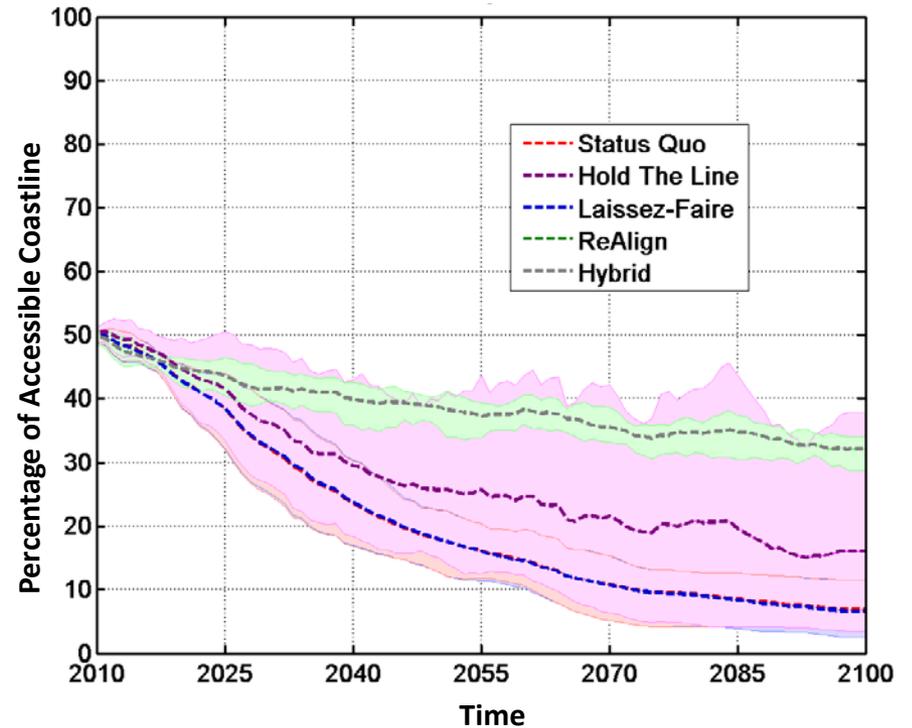
Shoreline Armoring vs. Beach Accessibility



Percent Armored (Rockaway Beach)



Beach Accessibility (Rockaway Beach)



Next Steps??

- Form and bolster a **Grays Harbor County ‘Knowledge to Action’ Network**
- **Co-develop policy and climate scenarios** to incorporate and explore in Envision
- Begin ‘envisioning’ **alternative Grays Harbor County Coastal Futures**
- Initiate dialogue regarding how the approach and findings might inform land use planning.
- **Next workshop ~ mid May??**

Last Thoughts??

- Did anything about today's discussion surprise you?
- Is there anything in particular that you would like us to follow up on?
- Who was not here that should have been?
- Our contact information is on the back of your agendas

Thanks Very Much!!