

POLICY SCENARIO NARRATIVES

Impact Status Quo es Hold the Line C ReAlign Laissezfaire

Scenario 1: Status Quo **Continuation of present day policies. Scenario 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). Scenario 3: ReAlign Policies or decisions are implemented that involve changing human activities to suit the changing environment (e.g. relocation of infrastructure and/or people, changing land use or livelihoods). Scenario 4: Laissez-Faire

Current policies (state and county) are *relaxed* **such** that existing homes, infrastructure, and new development all trump the protection of coastal resources, public rights, recreational use, beach access, and scenic views.

Backshore Protection Structure (BPS) - A structure, such as a rock revetment, built to control erosion by armoring the dune face. These structures dissipate wave energy and prevent further recession of the backshore. **Erosion** - A general term applied to the wearing away and movement of earth materials, in this case sand and sediment, by gravity, wind, water, and ice.

Flooding - An overflow of water onto lands that are normally above sea level. Flooding can be produced by storm surge, sea level rise, and the effects of climatological phenomena such as the El Niño Southern Oscillation (ENSO). Scenario Narratives - Scenarios do not predict future changes, but describe future potential conditions in a manner that supports decision-making under conditions of uncertainty. Scenarios are used to develop and test decisions under a range of plausible futures.

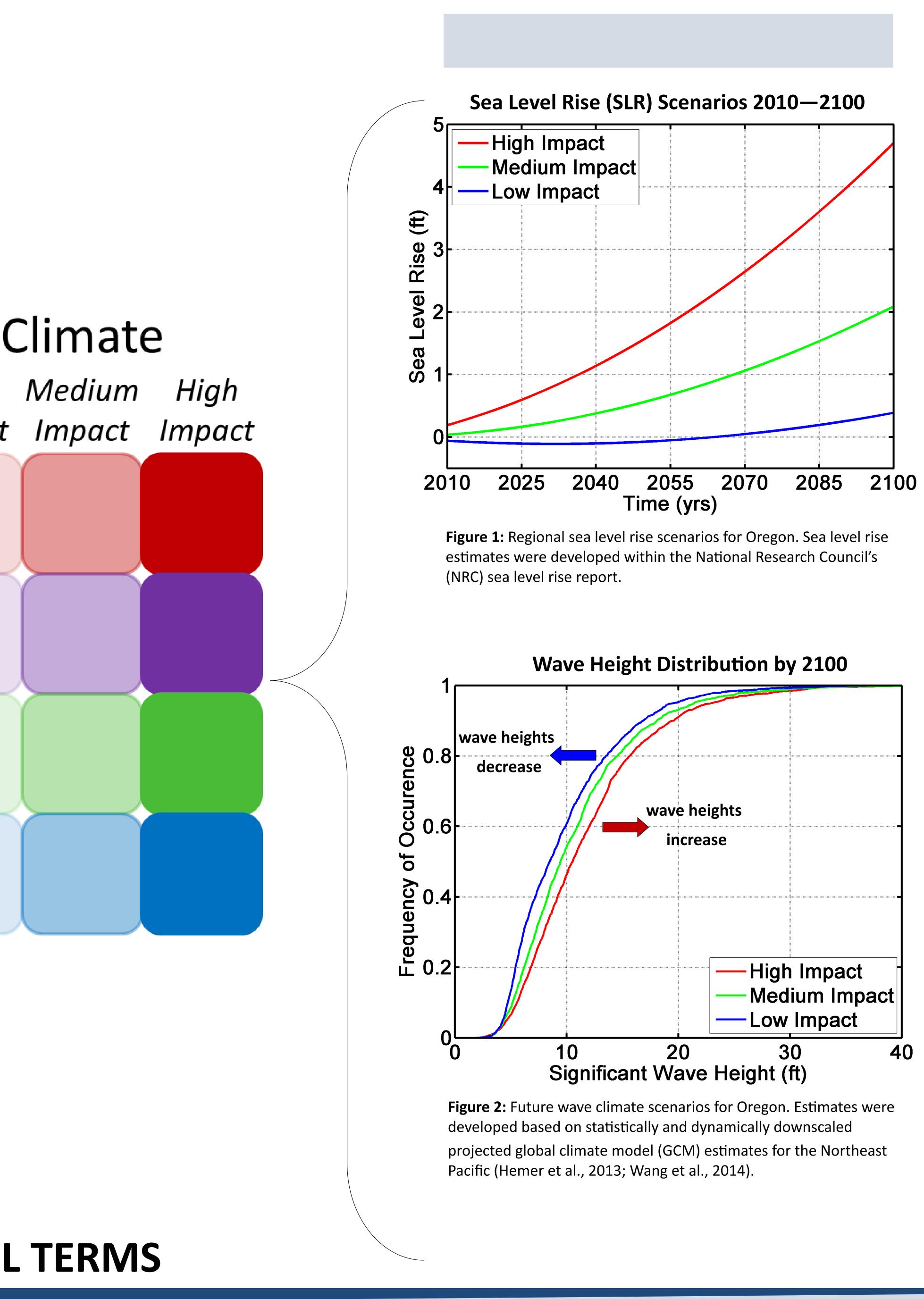
TILLAMOOK COUNTY COASTAL FUTURES PROJECT: SCENARIO REVIEW MEETING

SCENARIO NARRATIVES

USEFUL TERMS

REFERENCES

Low



Sea Level Rise (SLR) - Increases in the height of mean sea surface elevation. In this application, SLR takes regional factors (e.g., vertical land motions, ocean dynamics, and cryosphere and fingerprinting effects) affecting sea level in Oregon into account. Significant Wave Height (SWH) - A statistical measure of wave height, related to the average of the 1/3 highest waves. This measurement was intended to express the wave height estimated by a "trained observer." **Total Water Level (TWL)** - The combination of the water level (tides and non-tidal residuals) with waves. In Oregon, the wave-induced component can account for as much as 60% of the elevation of the total water level. **Urban Growth Boundary (UGB)** - A regional boundary set in attempt to control urban sprawl.

Hemer, M. A., Fan, Y., Mori, N., Semedo, A., and X.L. Wang (2013), Projected changes in wave climate from a multi-model ensemble. Nature Climate Change, 3(5), 471-476. National Research Council (2012), Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Future. Committee on Sea Level Rise in California, Oregon, and Washington: Past, Present, and Resources; Ocean Studies Board; Division on Earth and Life Studies.

Wang, X. L., Feng, Y., and V. Swail (2014), Changes in global ocean wave heights as projected using multi-model CMIP5 simulations. Geophysical Research Letters.



CLIMATE IMPACT SCENARIO NARRATIVES

Low Impact: The low climate impact scenario uses National Research Council (NRC, 2012) derived lowend estimates of regional sea level rise (SLR) of ~5 inches by 2100. This scenario assumes a decrease in storminess, and average significant wave height (SWH) decreases by 1 ft by 2100 with a slight decrease in the height of extreme waves.

Medium Impact: The medium climate impact scenario uses NRC (2012) derived mean estimates of regional SLR of ~2 ft by 2100. This scenario assumes SWHs stay similar to present-day.

High Impact: The high climate impact scenario uses NRC (2012) derived high-end estimates of regional SLR, ~4.5 ft by 2100. This scenario assumes an increase in storminess, and average SWH increases by 1 ft by 2100 with a slight increase in the height of extreme waves.