

VISUALIZING SEA LEVEL RISE; A GLIMPSE AT RHODE ISLAND'S FUTURE COASTLINE

*Angela Wilson, Virginia Lee, Pam Rubinoff, Nate Vinhatero
Coastal Resources Center, University of Rhode Island*

The consequences of climate change are a concern for coastal communities. Based on the sea level estimates for Rhode Island, visualizations were created to help inform policy makers about the future of the Rhode Island coast and help to foster discussion about climate coastal climate change adaptation. Photographs taken at high tide were calibrated and digitally altered in Photoshop to show a conservative 3 feet above the current high tide, and 3 feet above a decade average spring tide (the highest tide of the month). These visualizations were used in conjunction with scientific information to inform government officials about the inundation of coastal sites in Rhode Island.

Sea level rise will result in more coastal flooding and erosion, damage to infrastructure and property, drinking water contamination from salt intrusion into aquifers and compromise wastewater treatment facilities. A higher sea level will have a huge impact on coastal populations and will ultimately lead to the loss of public access and recreation areas such as beaches, coastal wetlands and inundation of historic harbor areas.

As the agency responsible for managing coastal development in Rhode Island, the Coastal Resources Management Council has developed and adopted a policy on sea level rise. These visualizations have contributed to the development of this policy. The regulations are a first for Rhode Island. They summarize scientific findings and set forth new policy: *"It is the Council's policy to accommodate a rate of expected 3 to 5 foot rise in sea level by 2100 in the siting, design, and implementation of public and private coastal activities and to insure proactive stewardship of coastal ecosystems under these changing conditions. This long term sea level change rate will be revisited by the Council periodically to address new scientific evidence"* (CRMC, 2007). The Council, under these regulations, is also authorized to work with the State Building Commissioner to adopt freeboard calculations to determine new development guidelines.