

Speaker Bios and Project Descriptions:

Hedia Adelsman, Department of Ecology, serves as Executive Policy Advisor in the Director's Office on major statewide policies and programs implementing some of the Governor's and the Agency's priority initiatives. She works on ocean acidification, climate change adaptation, and greenhouse gas reduction policies and programs; energy facilities siting and development; and innovative water management initiatives. She managed the State Water Resources Program; led the statewide salmon recovery effort; and worked on regulatory streamlining, and integration of land use and environmental programs.

Scott Andrews, Swinomish Tribe, has worked as the Environmental Management Coordinator for the Swinomish Tribe for 11 years covering issues ranging from environmental permitting to air quality monitoring to shoreline management. He was closely involved in the Swinomish Climate Initiative particularly on adaptation to sea level rise. Mr. Andrews has a M.S. in Watershed Management and Forestry and a law degree and worked for a variety of state agencies and non-profits in several states before finding home near the Salish Sea.

Fred Buckenmeyer, Public Works Director for the City of Anacortes, was involved in flood control for the city of Mount Vernon for over 20 years and later was in charge of flood control operations. Public Works administers:

- A regional water treatment and distribution system
- Sewer treatment and conveyance
- Storm water treatment and conveyance
- Solid Waste
- Street maintenance
- Engineering
- Fleet maintenance
- Facilities maintenance

Michael Hogan, Port of Bellingham, is an Environmental Analyst at the Port of Bellingham who has helped develop plans for a 220-acre redevelopment project on Bellingham's central waterfront as a member of the Port's waterfront redevelopment team. Mike studied chemistry and political science at the University of Utah and received a Masters in Public Health with an emphasis in Environmental Health Sciences at the University of California at Berkeley. Mike has been working on environmental cleanup, property redevelopment and salmon restoration projects since starting at the Port in 2004.

Julie Morse, TNC, is an Ecologist with The Nature Conservancy in Mount Vernon, WA. As part of team of scientists collaborating on the Coastal Resilience project, Julie's work is focused on science communications and engaging stakeholders in developing effective decision support tools.

Philip W. Mote, Oregon State University, is a professor in the College of Earth, Oceanic, and Atmospheric Sciences at Oregon State University; director of the Oregon Climate Change Research Institute (OCCRI) for the Oregon University System; and director of Oregon Climate Services, the official state climate office for Oregon. Dr. Mote's current research interests include scenario development, regional climate change, regional climate modeling with a superensemble generated by volunteers' personal computers, and adaptation to climate change. He is the co-leader of the NOAA-funded Climate Impacts Research Consortium for the Northwest, and also of the Northwest Climate Science Center for the US Department of the Interior. Since 2005 he has been involved in the Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Peace Prize. He is also a coordinating lead author and advisory council member for the US National Climate Assessment, and has served on numerous author teams for the National Research Council (NRC). He earned a B.A. in physics from Harvard University and a Ph.D. in atmospheric sciences from the University of Washington, and arrived at OSU to establish OCCRI in 2009.

Betty Renkor, Department of Ecology, is a senior shorelines planner with the Washington Department of Ecology. She has worked for Ecology for almost 8 years, all in shoreline management. Betty has more than 20 years experience in planning, including land use and environmental planning at county governments and a consulting firm.

John Rozum, NOAA Coastal Services Center, has led and coordinated the EBM Tools Training Program in partnership with NOAA Coastal Services Center since January 2010 and has been extensively involved in numerous climate change-related trainings and projects. His primary focus has been integrating geospatial tools and analysis into climate adaptation planning activities. John is a certified land use planner with over 15 years experience working at the local level as a consultant, a planning commissioner and a university educator. He has a M.S. in Ecology and a M.S. in Urban and Regional Planning both from the University of Arizona.

Kelly Stone, FEMA Region X, is a Risk Analyst in the Risk Analysis Branch of Mitigation where she began working in September 2008. She works with the State of Washington to identify future mapping and RiskMAP project locations, as well as conduct outreach and training to local communities. Kelly is a Hazus certified practitioner and is the Hazus point of contact for FEMA Region X. She also runs the Washington Hazus User Group. Kelly has a M.S. in Geology, as well as Environmental Science and has been working in GIS for over 12 years.

Exhibitors:

Nicole Faghin, Washington Sea Grant, is a coastal Management Specialist at Washington Sea Grant based at the University of Washington in Seattle and the Center for Urban Waters in Tacoma. Nicole is a trained land use and environmental planner and lawyer specializing in waterfront planning issues. She has 25 years experience as a project manager for a wide variety of complex land use planning and development projects for ports, industrial, commercial and municipal clients, with her primary focus on the shoreline arena. Nicole has taught courses at the UW Seattle in the Urban Planning Program and at UW Tacoma in the Urban Studies Program. She has been a guest lecturer with the UW School of Marine and Environmental Affairs and the Coastal Training Program. She is also teaches courses on Coastal Resiliency and Sea Level Rise and frequently lectures on these issues, receiving training from the National Disaster Preparedness Training Center at the University of Hawaii. She currently manages the Green Shores for Homes project, a grant funded effort led by the City of Seattle and San Juan County.

Gretchen Glaub, Sea Grant Fellow, is a Marc Hershman Marine Policy Fellow with the Department of Ecology focused on laying the groundwork to create a coastal hazards and resiliency network in Washington State. Prior to living in Washington, Gretchen directed an AmeriCorps program providing disaster response and natural resource management assistance for municipalities in Barnstable County (Cape Cod), Massachusetts. She has taught middle school science, led adventure and service projects for students and the general public, and is an active volunteer with a number of environmental education and community disaster response programs. She has a Bachelors of Science in Environmental Conservation from the University of New Hampshire and is a concurrent Masters student at UW's Evans School of Public Affairs and the School of Marine and Environmental Affairs.

Rachel Gregg, EcoAdapt, is an environmental specialist with experience in the application of natural and social science, policy, and outreach. She has a background in marine biology and ecology, oceanography, and environmental, marine, and coastal resources law, policy, and management. Her education and work experiences have been primarily focused on marine and coastal resources management strategies for natural and human influences, including water quality degradation, coastal hazards, and climate change. Rachel manages the State of Adaptation Program and serves as a Content Editor for the Climate Adaptation Knowledge Exchange (CAKE); her primary responsibilities include finding and developing examples of climate change adaptation, building a network of individuals and organizations engaged or interested in adaptation, developing guidance to support decision making and management in a changing climate, and conducting outreach to advance the field.

Dr. Eric Grossman, United States Geological Survey is a coastal and marine geologist with the U.S. Geological Survey who leads the Interdisciplinary Studies of Large River Deltas Task of the USGS Coastal Habitats in Puget Sound Project. His research is focused on sediment transport, seafloor and habitat mapping, and modeling of coastal change to assess habitats and their response to climate change and land use including floodplain and estuary restoration. Grossman has published extensively on late Holocene and recent sea-level history in California, Hawaii, and the Pacific basin, including evidence for abrupt sea-level rise events during periods of relative climate stability like today as well as during the last deglaciation. Eric is working with the Nature Conservancy and UW-Climate Impacts Group to develop a web-based tool, the Puget Sound Coastal Resilience Tool, to help resource managers assess vulnerability and protection/restoration opportunities that will help increase ecosystem and coastal community resilience in the face of impending climate change and sea level rise.

John Phillips, Water Quality Planner/Program Manager: John has worked for the King County Wastewater Treatment Division for thirteen years. Over the last six years he has worked on the Combined Sewer Overflow Control Program and leads the Climate Change adaptation efforts. John has developed the Green Stormwater Infrastructure (GSI), Climate Change Adaptation and Sediment cleanup programs. John has worked regionally as well as nationally on sea-level rise adaptation through the Department of Ecology, University of California, Water Environment Federation and Western Governors Association. John has a Bachelor of Science Degree in Environmental Science from Oregon State University and served six years in the U.S. Navy sonar technician aboard nuclear submarines.

Project Descriptions:

City of Anacortes: Fred will speak about the City's 56 million dollar water treatment plant currently under construction, and some of the elements taken into consideration given the input on climate change and sea level rise. Both climate change and sea level rise, along with the uncertainty associated with them, will affect the future operations of the water system.

The Climate Adaptation Knowledge Exchange (CAKE): CAKE is an innovative community website for people working to manage the natural environment in the face of climate change. CAKE includes case studies of on-the-ground adaptation efforts, a virtual library of resources to support your work, a community forum with an expert advice column, a directory of individuals and organizations rich with adaptation knowledge, and a tools section full of useful online resources for adaptation planning and implementation.

Federal Emergency Management Agency: will provide an overview of the coastal flood studies that are currently being completed in the Puget Sound. The coastal flood studies will provide various risk assessment products focusing on coastal floods, sea level rise,

and tsunami. Products from the coastal study can be used to identify buildings at risk from coastal hazards and sea level rise which can be incorporated into a mitigation plan update and identified for future grant opportunities.

Green Shores, Washington Sea Grant: *Incentivizing Low Impact Shoreline Development: Developing and Piloting Green Shores for Homes on the City of Seattle's Lake Washington Shorelines and in San Juan County.* The City of Seattle in collaboration with San Juan County, Washington Sea Grant and Islands Trust in British Columbia is in the process of developing and testing a program designed to incentivize protection and improvement of ecosystem function and processes along shorelines of single-family waterfront homes. The assessment framework, Green Shores for Homes, is based upon on the existing Green Shores for Coastal Development certification system developed in British Columbia (www.greenshores.ca) and the Green Shorelines guidelines developed by the City of Seattle.

King County, Department of Natural Resources and Parks, Wastewater Treatment Division: The average tidal level of the Puget Sound has been rising steadily since recording began and the rate will increase under current climate change projections. This study was conducted to evaluate the vulnerability of the King County wastewater treatment system to surface flooding, increased saltwater intrusion, and decreased hydraulic capacity as a result of these rising sea levels. The current configuration of major wastewater facilities were evaluated against forecast sea levels developed by the University of Washington Climate Impacts Group for years 2050 and 2010 under multiple climate model scenarios including historical storm surges. Of the 40 major facilities evaluated, three will be vulnerable by 2050 under the 22" rise scenario with as little a two year storm surge with an increase to eight facilities vulnerable in 2100. 14 facilities are at risk in 2100 with a 100 year surge. 17 facilities are at risk of saltwater intrusion and reduced hydraulic capacity under the same scenario with as many as 21 given a 50" rise and 100 year storm surge. Under existing conditions increased treatment plant deterioration and reduced capacity for transporting wastewater due to saltwater intrusion can increase costs and reduced effectiveness of the conveyance system. As a result, King County monitors tidal forecasts, is reviewing flap gate maintenance at system outfalls and is developing system operational plans with sea level rise adaptation strategies.

The Nature Conservancy: The Coastal Resilience mapping tool is a unique interactive decision support tool that explores future coastal flooding scenarios in Puget Sound. The web based tool provides communities with an easy means to visualize impacts and evaluate alternative management scenarios. The information is intended to inform decisions in coastal planning and conservation and to maximize opportunities to meet multiple management objectives while minimizing adverse impacts to human and natural communities. The Coastal Resilience project is a cooperative project lead by

The Nature Conservancy, USGS, and UW Climate Impact Group and is available at <http://coastalresilience.org/geographies/puget-sound>.

NOAA Sea Level Rise and Coast Flooding Impacts Viewer: Being able to visualize potential impacts from sea level rise is a powerful teaching and planning tool, and the Sea Level Rise and Coastal Flooding Impacts Viewer brings this capability to coastal communities. Developed by NOAA Coastal Services Center, this web-based tool has recently been released for the U.S. West Coast. A simple user interface makes this tool extremely approachable, including a slider bar that shows how various levels of sea level rise will impact coastal communities. Other information in the Viewer includes photo simulations, uncertainty, flood frequency, marsh impacts, and socioeconomics.

The Swinomish Tribe: The Swinomish Climate Change Initiative in 2009 and 2010 developed a technical assessment and a long-term adaptation plan to begin addressing the impacts of climate change on the Reservation and its resources. The presentation will present an overview of that study and a discussion of our continuing work to address sea level rise impacts on the Swinomish People and homeland.