



Presents a one day seminar on:

Climate Change and Water Resource Engineering

**Thursday
May 25, 2017**

**Mukogawa Fort Wright Institute
Commons Building
4000 W. Randolph Road
Spokane, WA
(509) 328-2971**

The ASCE Inland Empire Section is pleased to present a one-day workshop on regionally relevant impacts of climate change on engineering practices.

The seminar will include presentations on:

- Flood Magnitude, Frequency, and Trends
- Fire Impacts on Hydrology
- Columbia Basin Water Resource Trends
- Climate Change Impacts on Civil Design
- Water Rights and the Hirst Decision

Presenters for the workshop include:

- John Finnegan, Budinger and Associates
- Katherine Rowden, National Weather Service
- Mark Mastin, U.S. Geologic Survey
- Oriana Chegwiddden, University of Washington
- George Wilhere, Washington Department of Fish and Wildlife
- Rob Lindsay and Mike Hermanson, Spokane County

This course qualifies for 6 PDH continuing education hours.

Agenda

	<u>Morning</u>	<u>Afternoon</u>
8:15 to 8:45	Registration and Coffee	12:45 to 1:45 The Columbia River in the 21st Century: Projections of Climate Change Impacts on the Hydrology of the Columbia River Basin
8:45 to 8:50	Welcome and Introduction - Alan Gay, Stantec	- Oriana Chegwiddden, University of Washington Civil and Environmental Engineering
8:50 to 9:25	If Flashier Storms Produce More Landslides – Review of 2017 Road Closures - John Finnegan, Budinger & Associates	1:45 to 2:45 Incorporating Global Climate Model Projections into Culvert Design - George Wilhere, WDFW
9:25 to 10:25	After the Wildfires, Prepare for the Floods - Katherine Rowden, NWS, Spokane	2:45 to 3:00 Break & refreshments
10:25 to 10:45	Break & refreshments	3:00 to 4:00 Water Rights and the Hirst Decision - Rob Lindsay and Mike Hermanson, Spokane County
10:45 to 11:45	Magnitude, Frequency, and Trends of Floods in Washington - Mark Mastin, U.S. Geologic Survey Spokane	4:00 Adjourn
11:45 to 12:45	Lunch	

Instructor Bios

Oriana Chegwiddden is a research scientist in Civil and Environmental Engineering at the University of Washington. As a member of the Computational Hydrology group since 2013, she has been investigating the impacts of climate change on the hydrology of the Pacific Northwest. She is currently also a PhD student within the same program. She graduated from Haverford College in 2011 with a B.S. in chemistry. You can reach her at orianac@uw.edu.

Mark Mastin started working for the USGS in Vernal Utah in 1985 as a streamgager and then moved a year later to the USGS office in Tacoma Washington to streamgage five more years. Mr. Mastin then transferred to Studies to focus on applying analytical and numerical methods and modeling to address surface-water hydrology questions. In 2003 Mr. Mastin was selected to be the USGS Washington Water Center Surface-Water Specialist to oversee the quality assurance of surface-water data collection and surface-water projects. Currently, Mr. Mastin is the acting Data Chief for the Washington Water Center. Mark has a BS and MA in Geography from the University of Oregon, as well as additional undergraduate training in engineering from the University of Nevada at Reno. Mark has authored or co-authored 40 water resources publications while working for the USGS.

Katherine Rowden obtained her B.S. in civil engineering from Gonzaga University. Since 2010 she has served as the Hydrologist for the National Weather Service forecast office in Spokane, WA, which serves much of eastern WA and northern ID, and where she is responsible for the flood warning and water resources forecast program for the area. Over the past several years her primary focus has been on post-wildfire risk and she has participated in several interagency flood risk assessment teams. She is a member of both the Washington and the Idaho Silver Jackets interagency flood risk reduction teams and is a co-founder of the newly formed Washington State Post-Wildfire Committee. She is a recipient of the 2016 NOAA Administrator's Award for her work with communities on post-fire flood preparedness.

Rob Lindsay is the Water Programs Manager for Spokane County Environmental Services. He is a registered hydrogeologist in the State of Washington, and has a B.S. degree in Environmental Geology from Western Washington University. Rob's responsibilities include implementation of Spokane County's Toxic Management Plan and oversight of the County's regional Water Reclamation Facility and Water Resource Center. Prior to serving Spokane County, Rob spent over 20 years as an environmental engineering consultant.

Mike Hermanson is a project manager with the Water Resources Section of Spokane County Environmental Services. He is currently managing the development of a water bank in the Little Spokane River Basin. He has also been involved in the development of Spokane County's interim ordinance to address the Hirst Decision. Over the last 10 years at Spokane County he has been involved in the development and implementation of watershed plans for WRIAs 54, 55, and 57. He has been involved in numerous water resource investigations, both as a project manager and scientist. He graduated from Western Washington University in 1994 with a degree in Environmental Science.

George Wilhere is lucky to be a senior research scientist at the Washington Department Fish and Wildlife where he does various types of quantitative analysis and modeling. He has applied his modelling expertise to spotted owl populations, snag dynamics, forest growth, habitat quality of various wildlife species including salmon, ecological integrity assessments, conservation planning, and culvert design. He survived a one-year stint as a manager/policy maker but shrewdly returned to science. He earned his master's degree in conservation biology from Duke University where he developed population models for red-cockaded woodpeckers. He also has earned bachelor's and master's degrees in biomedical engineering from Case Western Reserve University. In the distant past he was high school biology teacher and Outward Bound instructor.

John Finnegan is a principal and senior geotechnical engineer at Budinger & Associates with 25 years of experience. He earned a BSCE in 1992 from University of Washington. He is a licensed professional engineer in 4 states, a licensed geotechnical engineer in Oregon, and a licensed engineering geologist and hydrogeologist in Washington. He was the ASCE Section's 2012 engineer of merit. He has 3 wonderful kids and a brilliant, darling wife.

