



Alaska Section
American Water Resources Association

**AWRA Annual Conference
January 28 – 31, 2008
Centennial Hall
Juneau
Agenda**

Monday, January 28

- 8:00 Workshop registration – Coffee, Tea, Juice and Rolls
- 8:30 Workshop: **Estimating flow statistics for gaged and ungaged streams in Alaska**. By: Janet Curran – *USGS*
- 12:00 Lunch
- 1:30 – 4:45 Workshop continued
- 5:45 Social evening

Tuesday, January 29

- 8:00 Conference registration – Coffee, Tea, Juice and Rolls
- 8:45 President's Welcome – Thomas Douglas, President AWRA-Alaska; *Cold Regions Research and Engineering Laboratory*
- 8:50 President-Elect Meeting Agenda – Horacio Toniolo, President-Elect AWRA-Alaska; *University of Alaska Fairbanks*
- 8:55 TBA - Introductory remarks

SOUTHEAST HYDROLOGY AND WATERSHEDS

- 9:00 **One year of operating a wireless watershed in Lemon Creek, Juneau, Alaska - Matt Heavner**, *Environmental Science Program, University of Alaska Southeast* (co-authors Eran Hood, Marijke Habermann, Rob Fatland, Logan Berner)
- 9:20 **A high-resolution study of the impacts of glacial runoff on water quality and aquatic habitat, Lemon Glacier, Juneau, Alaska - Eran Hood**, *Environmental Science Program, University of Alaska Southeast* (co-authors Matt Heavner, Josh Jones)
- 9:40 **Modeling Glacier Runoff: A Case Study of Lemon Glacier, Juneau, Alaska - Josh Jones**, *Environmental Science Program, University of Alaska Southeast* (co-authors Eran Hood, Matt Heavner, Regine Hock)

- 10:00 **Coffee break**
- 10:30 **Collaborative watershed research in Southeast Alaska -Richard T. Edwards,** *U.S.D.A. Forest Service, Pacific Northwest Research Station* (co-authors David V. D'Amore, Eran Hood, Jason Fellman, Erik Norberg, Frances Biles, Chelsea Crenshaw)
- 10:50 **Recent Changes in Seasonal Stream Discharge Patterns in Southeast Alaska - Ed Neal,** *USGS*
- 11:10 **A Biogeochemical Comparison of Three Stream Types within SE Alaska - Erik Norberg,** *Forestry Sciences Lab* (co-authors Richard T. Edwards, Jason Fellman)
- 11:30 **Changes in the concentration, biodegradability and fluorescent properties of dissolved organic matter during stormflows in coastal temperate watersheds - Jason Fellman,** *Institute of Arctic Biology, University of Alaska Fairbanks* (co-authors Eran Hood, Richard T. Edwards, David V. D'Amore)
- 11:50 **Understanding the Influence of Climate and Landscape Change on Water Temperatures in Cook Inlet Salmon Streams - Sue Mauger,** *Cook Inlet Keeper*
- 12:10 **Hyporheic Exchange, Surface Water Hydraulics, and Redd Site Selection by Chum Salmon - Jason Mouw,** *Alaska Department of Fish and Game, Division of Sport Fish* (co-authors Tyler Tappenbeck, Jack A. Stanford, Jake L. Chaffin)
- 12:30 **Lunch**
- 1:30 **Will Work for Water- Southeast Alaska's watershed councils help improve fisheries habitat and water quality throughout the region? - Beverly Anderson,** *Southeast Alaska Watershed Coalition* (co-author Samia Savell)
- 1:50 **Government Creek Relocation - Hans Arnett,** *USKH, Inc.* (co-author Shane Cherry)
- 2:10 **NFK Bradfield River: Beyond Timber Tramps, The Movie – A View from the Ground - Dennis Reed,** *USDA Forest Service*
- 2:30 **Preliminary Assessment of Changing Hydrologic and Geomorphic Conditions of the Alsek River Outwash Plain - Ed Neal,** *USGS*

RIVERS AND LAKES

- 2:50 **Persistence and Geomorphology of Clearwater Side Channels in a Braided River: The More Things Change, the More They Stay the Same - Janet Curran,** *USGS Alaska Science Center, Water Resources* (co-authors Christian Zimmerman, Brian Winnestaffer, Jessica Dryden)
- 3:10 **Advanced Applications of Acoustic Doppler Current Profilers in Alaska - Jeff Conaway,** *USGS Alaska Science Center*
- 3:30 **Coffee break**
- 4:00 **Estimating Methane (CH₄) Ebullition in Arctic Lakes Using Active Remote Sensing - Dragos A. Vas,** *University of Alaska Fairbanks* (co-authors Katey Walter, Laura Brosius)
- 4:20 **Numerical modeling of reservoir sedimentation- Horacio Toniolo,** *Water and Environmental Research, University of Alaska Fairbanks*
- 5:00 **AWRA Business Meeting – Everyone is welcome to participate in the meeting. Please stay, ask questions and become involved!**

Wednesday, January 30

8:00 Conference registration – Coffee, Tea, Juice and Rolls

NORTH SLOPE HYDROLOGY, CLIMATE CHANGE AND SUSTAINABLE WATER USE

- 8:30 **Results of Snowfall/Blowing Snow Observations in Barrow - Daqing Yang,** *Water and Environmental Research Center, University of Alaska Fairbanks* (co-authors Konosuke Sugiura, Tetsuo Ohata)
- 8:50 **Accuracy of snow water equivalent measurements at watershed scale - Sveta Berezovskaya,** *Water and Environmental Research Center, University of Alaska Fairbanks* (co-author Douglas L. Kane)
- 9:10 **Contrasting Extreme Runoff Events in Areas of Continuous Permafrost, Arctic Alaska – Douglas Kane** *Water and Environmental Research Center, University of Alaska Fairbanks* (co-authors Larry D. Hinzman, Robert E. Gieck, James P. McNamara, Jeffrey A. Oatley)
- 9:30 **Potential Recharge Estimates of Arctic Lakes to Aid Water Management on the North Slope of Alaska - Chad Cormack,** *Water and Environmental Research Center, University of Alaska Fairbanks* (co-authors Michael Lilly, Horacio Toniolo, Daqing Yang)
- 9:50 **Coffee break**
- 10:20 **North Slope Snow Water Equivalence and Its Use in Estimating Potential Lake Water Recharge - Mark McBroom,** *Michael Baker Jr., Inc*
- 10:40 **Hydrologic modeling on the North Slope of Alaska using the Swedish HBV Model - Emily Youcha,** *Water and Environmental Research Center, University of Alaska Fairbanks* (co-authors Erin D. Trochim, Douglas L. Kane)
- 11:00 **TopoFlow Soil Moisture Simulations and Validation - Anna Liljedahl,** *University of Alaska Fairbanks* (co-author Larry Hinzman)
- 11:20 **Decadal to Seasonal Lake Salinity Dynamics in the Teshekpuk Lake Special Area - Christopher D. Arp,** *USGS, Anchorage, Alaska* (co-author Benjamin M. Jones)
- 11:40 **Surface Water Storage Change as Influenced by Permafrost Degradation Rena Bryan,** *University of Alaska Fairbanks* (co-authors Larry Hinzman, Robert Busey, Kenji Yoshikawa)
- 12:00 **Arctic Lake Water Use and Management for Transportation Networks - Michael Lilly,** *Geo-Watersheds Scientific* (co-authors Horacio Toniolo, Chad Cormack, Daniel White)
- 12:20 **Lunch**
- 2:00 **Panel Session: Climate Change and Water Resource Management –** Moderator Michael Lilly, *GWS* --Several agencies' representatives will discuss issues related to climate change and water management

4:00 – 5:30 **POSTER SESSION WITH FINGER FOOD**

Changing Lake Bathymetry with deglaciation: the Mendenhall system - Nick Korzen, *Environmental Science Program, Department of Natural Sciences, University Alaska Southeast* (co-authors Ed Knuth, Cathy Connor)

Fate and transport of fish biodiesel, biodiesel blends and conventional diesel in natural porous media - Agota Horel, *Water and Environmental Research Center, University of Alaska Fairbanks* (co-authors Silke Schiewer, Debasmita Misra)

Other water related posters will be presented in the session. Come and see them!

Thursday, January 31

8:00 Registration – Coffee, Tea, Juice and Rolls

WETLANDS/ ENGINEERING DESIGN/GENERAL TOPICS

- 8:30 **Do wetlands and salmon influence mercury concentrations in Juneau area streams? - Sonia Nagorski**, *Environmental Science Program University of Alaska Southeast* (co-authors Eran Hood, Richard Edwards, David D'Amore)
- 8:50 **The Role of Meteorological Variables on Arctic Wetland Evapotranspiration- - Anna Liljedahl**, *University of Alaska Fairbanks* (co-author Larry Hinzman)
- 9:10 **Optimal Storage Volumes for Rainwater Catchment Systems in Alaska - Greta Myerchin**, *Institute of Northern Engineering, University of Alaska Fairbanks* (co-authors Amy Tidwell, Bill Schnabel, Daniel White)
- 9:30 **Using HY8 to Design Depressed Invert Fishpassage Culverts - Donald E. Carlson**, *State of Alaska DOT&PF, Northern Region Hydraulics Unit.*
- 9:50 **The Hydrology and Performance of a Green Roof at the Cold Climate Housing Research Center in Fairbanks, Alaska - Daniel Reichardt**, *Geo-Watersheds Scientific* (co-authors Colleen Rust, Jeff Derry, Michael Lilly)
- 10:10 **Coffee break**
- 10:30 **Climate-Induced Groundwater Flooding at an Upland Site near Palmer, Alaska, and Management of a Water Diversion Crisis - James Munter**, *Munter Consulting Inc*
- 10:50 **Groundwater Travel Times and Seafloor Arrival Locations at Amchitka Island, AK - Anna Wagner**, *Cold Regions Research and Engineering Laboratory* (co-author Dave Barnes)
- 11:10 **Investigations at the Permafrost Experiment Station and the Fox Permafrost Tunnel, Fairbanks, Alaska - Thomas A. Douglas**, *Cold Regions Research and Engineering Laboratory*
- 11:30 **Spatial & Temporal Modeling Using Artificial Intelligence/Pattern Recognition Technique - Debasmita Misra**, *University of Alaska Fairbanks* (co-author Thomas Oommen)

- 11:50 **Alaska Water Use Act & The Prior Appropriation System - Valerie De Laune**, *Water Resource Section, Department of Natural Resources, Juneau Office*
- 12:10 TBA - **Agota Horel**, *Water and Environmental Research Center, University of Alaska Fairbanks* (co-author Silke Schiewer)
- 12:30 **Lunch**
- 1:45 **Visit to NOAA facility**