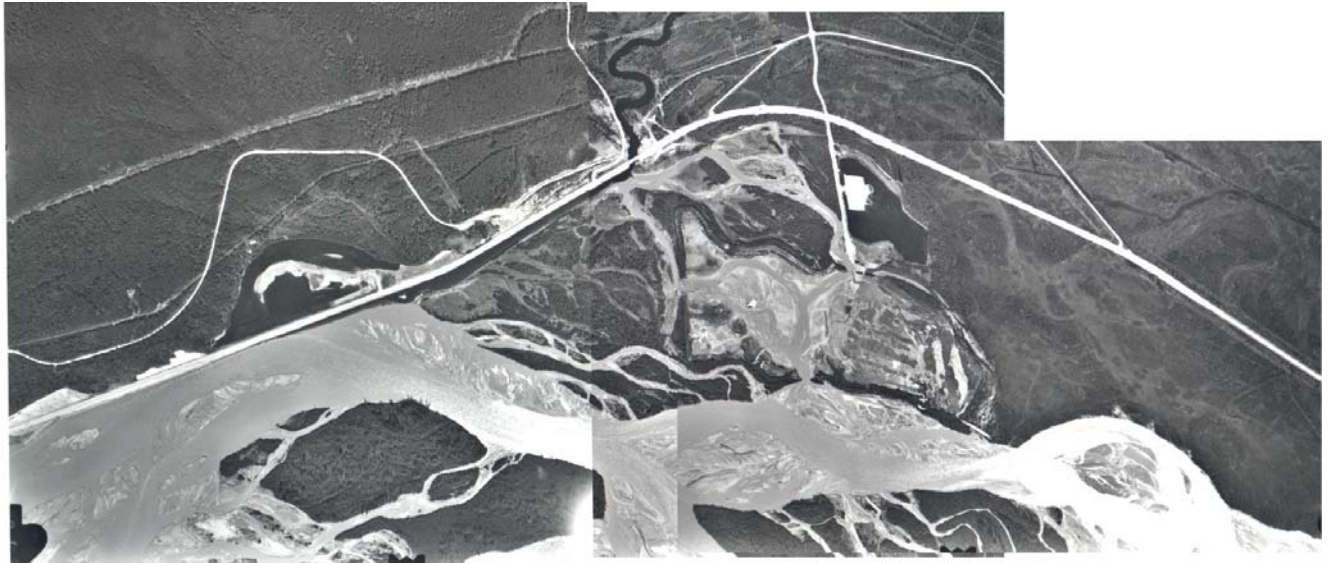


AWRA Alaska Section

2004 Annual Meeting

April 5-9, 2004

Pike's Waterfront Lodge - Fairbanks, AK



Confluence of Shaw Creek and the Tanana River (MP 286 Richardson Highway)

Cooperating Organizations:

Alaska Boreal Forest Council

Interagency Hydrology Committee for Alaska

US Permafrost Association

ASCE Technical Council on Cold Regions Engineering

Conference Sponsors:

Meridian Management

Taiga Ventures

Campbell Scientific, Inc.

Engineering and Environmental Internet Solutions, LLC

GW Scientific

Conference Co-Chairs: Tom Douglas and Jon Zufelt

AWRA Alaska Section

2004 Annual Meeting Agenda

Monday, April 5

- 8 hour Short Course - *“Estimating Flow Statistics for Gaged and Ungaged Streams in Alaska”*

Presented by Janet Curran, US Geological Survey

7:30-8:00 AM	Registration
8:00 AM-12:00 PM	Short Course
12:00PM-1:00PM	Lunch Buffet
1:00 PM-5:00PM	Short Course Conclusion

Tuesday, April 6

8:00 Registration - Coffee/Tea, Juice and Rolls

- **8:25 President's Welcome** – Joe Klein, President AWRA-Alaska; *Alaska Department of Fish and Game*
- **8:35 Remarks on Future Trends in Alaskan Hydrology**, *Larry Hinzman, Water and Environment Research Center, UAF*

HYDROLOGY AND HYDRAULICS

- **9:00 A Short History of the Susitna Hydroelectric Project - Jim Thrall**, *Meridian Management, Inc*
 - **9:20 The Impacts of Global Change on Domestic and Industrial Water Supplies in the Arctic** – Erin Strang, *Water and Environment Research Center, UAF (Co-authors: Dan White and Larry Hinzman)*
 - **9:40 Flow, Water-Quality, and Biological Conditions at Fixed Sites in the Cook Inlet Basin, Alaska, National Water-Quality Assessment Study - Tim Brabets**, *US Geological Survey*
 - **10:00 Protecting Bank Protection** – Jon E. Zufelt, *ERDC-Cold Regions Research and Engineering Laboratory, (Co-Author: Brandon C. Berta)*
- 10:20 – 10:40 BREAK** *Sponsored by Meridian Management - Jim Thrall 3940 Arctic Blvd., Ste#102 Anchorage, AK 99503 Phone: 907-677-2601; Fax: 907-677-2605; E-mail: jthrall@meridianak.com*
- **10:40 Moose Creek Conceptual Restoration Plan** – Chris Roach, *independent consultant*
 - **11:00 Verification of Flow Roughness Coefficients in Small Alaska Streams** – Janet Curran, *US Geological Survey*
 - **11:20 Seasonal Probabilistic Streamflow Forecasts** – Larry Rundquist, *National Weather Service*
 - **11:40 July 2003 Record Rainfall and Flooding in the Fairbanks Area, Alaska** – Edward Plumb, *National Weather Service*
- 12:00 – 1:00 Lunch Buffet**
- **Luncheon Speaker** – Jim Whitaker, Mayor of the Fairbanks North Star Borough

PANEL SESSION

- **1:00 - 3:00** - Water resources issues associated with developing a comprehensive plan for the Fairbanks North Star Borough
- **Moderator – Bernardo Hernandez**, *Fairbanks North Star Borough*
Bernardo took over as the Director of Planning for the Fairbanks North Star Borough after serving as Deputy Director since 1989. He holds a Masters of Science Degree from the School of Architecture and Urban planning at UCLA.
- **Presentations by panel members will be followed by question and answer session:**
 - **Bill Smyth**, *Alaska Department of Environmental Conservation*
(Bill_Smyth@dec.state.ak.us)
Mr. Smyth has worked for the Department of Environmental Conservation for the past 15 years in a variety of areas. He has worked on projects throughout the state, from Prudhoe Bay to the Seward Peninsula. Most recently he provided voluntary environmental compliance and pollution prevention assistance to small businesses and currently conducts engineered plan reviews on domestic wastewater projects for the Department at the Fairbanks office.
 - **Christy Everett**, *US Army Corps of Engineers* (christy.a.everett@poa02.usace.army.mil)
Christy is the Fairbanks Field Office Manager for the Alaska District. She previously worked for the Fairbanks North Star Borough as well as at the Corps Chena Flood Control Project. A resident of North Pole for 16 years, she holds a Masters of Science degree in Range Science with an emphasis on plant ecophysiology.
 - **Gordon Nelson**, *retired Alaska State Director of the US Geological Survey*
(g.l.nelson@worldnet.att.net)
Gordon Nelson retired in 2002 from his position as Chief of the Alaska District, U. S. Geological Survey, Water Resources Division. During his tenure as District Chief, he also served as the Alaska State Director for the USGS and as chairman of the Western Region District Chiefs committee. He lived in Fairbanks from 1967 to 1978 and has lived in Anchorage since then. He has spent nearly 30 years studying the hydrology of Alaska, including some of the early studies of the hydrology of the Fairbanks area during the late 70's and early 80's. Although he has broad experience in multiple fields of hydrology, his principal areas of interest are ground-water hydrology, Arctic hydrology, and global climate change.
 - **Larry K. Bright**, *US Fish & Wildlife Service*
(larry_bright@fws.gov)
Larry has worked for the U.S. Fish and Wildlife Service for the past twelve years. During this time, he has served as the Assistant Field Supervisor and Branch Chief for the Fairbanks Field Office. In this position he supervises a program that provides technical advice to project proponents and agencies seeking ways to minimize project impacts on fish and wildlife resources, including wetlands. Mr. Bright has an undergraduate degree in biology from Miami University in Oxford, Ohio and a graduate degree in Natural Resources Management from the University of Alaska - Fairbanks.

- **Doug Kane**, *Institute of Northern Engineering and Water and Environmental Research Center, University of Alaska Fairbanks*
(ffdlk@aurora.uaf.edu)

Doug is the Director of the Institute of Northern Engineering and the Director of Water and Environmental Research Center at UAF. He also serves as a Professor of water resources and civil engineering at UAF. Doug is a registered PE in the State of Alaska and received his PhD from the University of Minnesota. His research interests include groundwater hydrology, snow hydrology, hydraulics, and climate change.

- **Nancy Fresco**, *Northern Alaska Environmental Center*
(nancy@northern.org)

Nancy Fresco is the Local Issues Coordinator for the Northern Alaska Environmental Center. The Local Issues program addresses environmental and quality-of-life concerns linked with air and water quality, waste disposal, and land use in the Fairbanks area. Nancy has a Master's degree in Forestry and Environmental Studies.

- **John Davies**, *Cold Climate Housing Research Center*
(John.Davies@cchrc.org)

John serves as the Director of Research for the CCHRC and is responsible for overseeing current research projects and developing and implementing a long-term strategy for projects including financial management and grant development. In his past, he has been a Research Associate at Lamont-Doherty Geological Observatory of Columbia University, the State Seismologist for both the Alaska Division of Geological and Geophysical Surveys and the Geophysical Institute at UAF and was a principal in the creation of the Alaska Earthquake Information Center and the Alaska Volcano Observatory. John has also served on the Fairbanks North Star Borough Assembly and as a Representative to the State Legislature.

3:00 – 3:30 BREAK AND POSTER SESSION PREPARATION

Poster session participants please make sure your posters are hung up at this time

3:30-5:30 POSTER SESSION RECEPTION WITH FINGER FOOD

Variations in Stream-ice Formation and Related Ice-bridge Construction Issues in the Shaw Creek Watershed Area, Alaska - Michael R. Lilly, *GW Scientific*, (Co-Author: *Emily Youcha*,)

Extracting a Climate Signal from the Buzzard Creek Maar Lakes in the Alaska Range - Matthew Wooller, *Water and Environmental Research Center, UAF* (Co-Authors: *Sarah Fowell, Jim Beget*)

Spatial and Temporal Variation of Soil Temperatures in the Kuparuk River Basin, Alaska - Robert Gieck, *Water and Environmental Research Center, UAF* (Co-Authors: *Douglas L. Kane and Larry D. Hinzman*)

Bed Sediment Characteristics in Streams at the Caribou Poker Creek Research Watershed - Horacio Toniolo, *University of Alaska Fairbanks* (Co-Author: *Debasmita Misra*)

Kenai River Ground-Water and Surface-Water Interactions - Michael Lilly, GW Scientific (Co-Authors: Emily Youcha, David Nyman, Robert Ruffner)

The Long-Term Variations and Changes of Heat Flow Transferred by the Lena River - Baozhong Liu, *Water and Environmental Research Center, UAF* (Co-Authors: Daqing Yang, Baisheng Ye, Sveta Berezovskaya)

Characterizing the Influence of Permafrost on Hydrological Processes Through a Spatially Distributed Model - W. Robert Bolton, *Water and Environmental Research Center, UAF* (Co-Authors: Larry Hinzman, Kenji Yoshikawa, Doug Kane, and Scott Peckham)

Characterizing Kenai River Water Quality Concerns – Approach and Selected Results – Robert Ruffner, *Kenai Watershed Forum* (Co-Author: Ole Andersson)

Wednesday, April 7

8:00 Registration - Coffee/Tea, Juice and Rolls

WATER QUALITY/WATER TREATMENT/GROUNDWATER

- **8:40 Coliform Problems and Remediation in Chester Creek – Graham Stahnke**, *University of Alaska Anchorage (Co-Author: William E. Schnabel)*
- **9:00 Investigation of Selected Contaminants in Streambed Sediment in the Lower Chena River Watershed, 2001-2003 – Ben Kennedy**, *US Geological Survey (Co-Author: Matthew S. Whitman)*
- **9:20 Assessment of Organochlorine Pesticides, Polychlorinated Biphenyls, and Semivolatile Organic Compounds in the Lower Chena River Watershed Using Semipermeable Membrane Devices – Ben Kennedy**, *US Geological Survey*
- **9:40 Electron Donor Amendment and Bioaugmentation to Stimulate Bioremediation of Chlorinated Ethenes in Subarctic Sediments – Sharon Richmond**, *Alaska Department of Environmental Conservation*

10:00 - 10:20 BREAK. Sponsored by Taiga Ventures - Mike Tolbert. 2700 Cushman Street Fairbanks, Alaska 99709. Phone: 907-452-6631; Fax: 907-452-8632; E-mail: Taiga@taigaventures.com

- **10:20 Use of Citrus Residue to Remove Heavy Metals from WasteWater – Santosh Patil**, *Water and Environmental Research Center, UAF (Co-Author: Silke Schiewer)*
- **10:40 Optimization of Enzymatic Degradation of Contaminated Cellulosic Sorbent Materials for the Release and Recovery of the Contaminants – David Fish**, *Water and Environmental Research Center, UAF (Co-Authors: D.L. Barnes, S. Schiewer, P.I. Trivedi, C. Heintz)*
- **11:00 ExtremeSTP On-Site Aerobic Sewage Systems in Galena, Alaska - Bob Tsigonis**, *Lifewater Engineering Company (Co-Authors: Keith Hanneman and Karen Brady)*
- **11:20 Air sparging in a Membrane Bioreactor (MBR) for Performance Enhancement – Christian Psoch**, *Water and Environmental Research Center, UAF (Co-Author: S. Schiewer)*
- **11:40 – 1:00 Lunch Buffet**
- **1:00 Arsenic in Fairbanks Area Groundwater: Krieged Distribution Versus Reality – Rainer Newberry**, *Department of Geology and Geophysics, University of Alaska Fairbanks*
- **1:20 Ground-Water Capture Zone Delineations on Fort Wainwright, Alaska - Julie A Ahern** *Water and Environmental Research Center, UAF (Co-Authors: Michael R. Lilly and Larry D. Hinzman)*
- **1:40 Source Water Assessments in the Fairbanks and North Pole Area - Sarah Rygh**, *Alaska Department of Environmental Conservation*

- **2:00 How Chemical Differences in Soil Leachates Relate to Groundcover – Sarah Seelen,** *Water and Environmental Research Center, UAF (Co-Authors: Daniel White, Kenji Yoshikawa, Vincent Autier)*
- **2:20 The Influence of a Sub-arctic River’s Hyporheic Zone on Terrestrial Nitrogen Dynamics – Nicholas J. Lisuzzo,** *Institute of Arctic Biology, UAF (Co-Author: Knut Kielland)*
- **2:40 – 3:00 BREAK**
- **3:00 Impact of Snowpack Metamorphism on the Fate of Nutrients and Pollutants in the Environment - Anne-Sophie Taillandier,** *International Arctic Research Center (Co-Authors: Laura Alvarez-Aviles, Florent Dominé, William R. Simpson, Thomas A. Douglas, Matthew Sturm, Ken Severin and Stephan Houdier)*
- **3:20 An Overview of the U.S. Fish and Wildlife Service's Fairbanks Fish and Wildlife Field Office – Jeff Adams,** *U.S. Fish and Wildlife Service*

ALASKA SECTION 2004 SCHOLARSHIPS AND AWARDS

- **3:40-4:00 2004 Alaska Section Scholarship Presentations and Awards,** *Matt Schellekens, US Geological Survey*

Scholarship Contributions

Jeff Oatley
Jim Thrall
Engineering and Environmental Internet Solutions, LLC
Gary Whitton
Jon Zufelt

ALASKA SECTION BUSINESS MEETING

- **4:00 - 6:00 PM AWRA Business Meeting – Everyone is welcome to participate in the meeting. Please stay, ask questions and become involved! Drinks and finger food are provided.**

Thursday, April 8

8:00 Registration - Coffee/Tea, Juice and Rolls

IMPACTS OF CLIMATE CHANGE/ARCTIC LAKES

- **8:40 Hydrological Changes in Polar Regions, Impacts of a Changing Climate – Larry Hinzman**, *Water and Environmental Research Center, UAF (Co-Authors: Matt Nolan, Daqing Yang, Kenji Yoshikawa, and Douglas Kane)*
- **9:00 Using Remote Sensing to Examine Changes in Water Levels Associated with Climate Warming – Brian Riordan**, *Natural Resource Management, UAF (Co-Authors: Dave Verbyla and Dave McGuire)*
- **9:20 Denitrification in Watersheds with Discontinuous Permafrost of the Boreal Forest of Interior Alaska – Jonathan O'Donnell**, *Institute of Arctic Biology, UAF (Co-Author: Jeremy B. Jones)*
- **9:40 Global Warming Feedbacks of Methane Bubbling along Expanding North Siberian Lake Margins – Katey Walter**, *Institute of Arctic Biology, UAF (Co-Authors: Terry Chapin, Sergei Zimov, Dmitir Draluk, Jeff Chanton)*

10:00 – 10:20 BREAK Sponsored by Campbell Scientific, Inc. – Austin McHugh. 815 West 1800 North, Logan, UT 84321; Phone: 435-750-9558; Fax:435-750-9596;Austin@campbellsci.com

- **10:20 Factors Impacting Hydrologic Measurements on Arctic Lakes – Michael Lilly**, *GW Scientific (Co-Authors: Emily Youcha, Dan Miller, and Larry Hinzman)*
- **10:40 Physical and Chemical Implications of Mid-Winter Tundra Lake Pumping – Derek Dan Miller**, *Water and Environmental Research Center, UAF (Co-Authors:Larry D. Hinzman, Douglas L. Kane, Michael R. Lilly and Emily K. Youcha)*
- **11:00 Whitestone Training Center presentations introduced by John Donaldson**
Laura Jennings and Yvonne Dias – Environmental Issues using GPS Maps/Pipeline Model
Patrick Ekstrom – Groundwater Model Demonstration/Arsenic Co-precipitation Technology
Renee Selvaggio and Erika Greenleaf – Salmon Raising and Transplanting
Elias Wheeler – Refrigeration Technology for Incubating Salmon Eggs
Nicholaus Donaldson and Ryan Brown – Coal Bed Methane and its Effects on pH

11:45 Close of AWRA Annual Meeting

12:00 – 1:00 Bag lunch pick up and preparation for field trips

1:00 – 4:00 Field Trips (please sign up for one at the registration table)

- **Fort Knox Gold Mine tour (limited to one van)**
- **University of Alaska Fairbanks Geophysical Institute tour**
- **Chena River Flood Control Project tour**
- **Cold Regions Research and Engineering Laboratory Permafrost Research Tunnel tour**

Interagency Hydrology Committee for Alaska Meeting

5:30 PM - 8:00 PM Interagency Hydrology Committee for Alaska Meeting

5:30 PM Opening
5:45 PM Secretaries Report
6:00 PM On-going Project/Committee Reports
6:15 PM Old Business
til 8:00 PM Agency Reports (time permitting)

Friday, April 9, 2003

8:00 AM - 12:00 PM Interagency Hydrology Committee for Alaska Meeting

8:00AM Agency Reports
10:00 AM Break
11:00 AM New Business
11:30 AM Officer Elections
11:45 AM Announcements
12:00 PM Meeting Adjournment

EPA Meeting Agenda

12:00 PM Buffet Lunch at Pikes Hotel
Meeting Overview and EPA Welcoming Comments, John Iani, Region X Regional Administrator

12:30 PM EPA Region X New Organizational Structure for Office of Water and Watersheds
John Iani, Amber Wong

1:00 PM Update and current status of EPA perspectives on the Alaskan Performance Partnership Agreement and Alaska Clean Water Action (ACWA)
Greg Kellogg, Ken Fisher, Amber Wong

1:30 PM Break

2:00 PM Where does EPA Administration see water-issue priorities in the future for Alaska?
Moderated Round-Table Style Discussion

2:30 PM What is the organization and agency roles of ACWA for ADNR, ADF&G, and ADEC?

3:15 PM What can Tribes, non-profit watershed groups, local governments, and professional water-resource associations do to strengthen the ACWA concept?

4:00 PM Wrap-up and discuss next steps
Moderated Round-Table Style Discussion

4:30 PM Adjourn