

2015 WESTERN SOUTH DAKOTA HYDROLOGY MEETING PRELIMINARY PROGRAM

Wednesday, April 15, 2015
Alpine/Ponderosa Rooms
Rushmore Plaza Civic Center

7:00 – 8:00 a.m.	REGISTRATION	
8:00 – 9:30 a.m.	Plenary Session 1 in Alpine and Ponderosa Rooms – Reliability, Vulnerability, and Resiliency (1.5 PDH) Moderator – Mark Anderson , Director of the U.S. Geological Survey South Dakota Water Science Center, Rapid City, SD	
8:00 – 8:10 a.m.	Welcome, general information	Mark Anderson and Daniel Driscoll , U.S. Geological Survey
8:10 – 8:50 a.m.	Integrated resiliency: Creating lifecycle value and opportunity	Niek Veraart , Vice President, Louis Berger (<i>invited</i>)
8:50 – 9:30 a.m.	Hydrology in a changing world	Robert Hirsch , U.S. Geological Survey (<i>invited</i>)
9:30 – 10:10 a.m.	REFRESHMENT BREAK in Rushmore G – Sponsored by Mid Continent Testing Labs, Inc.	
10:10 – 11:50 a.m.	Concurrent Session 2A in Alpine Room – Geomorphology and Geology (1.5 PDH) Moderator – J. Foster Sawyer , South Dakota School of Mines and Technology	Concurrent Session 2P in Ponderosa Room – Surface-Water Modeling and Management (1.5 PDH) Moderator – Lacy Pomarleau , RESPEC
10:10 – 10:30 a.m.	<i>Effects of bedrock properties, erosion rates, and slope processes on landform evolution at Badlands National Park – Larry Stetler</i> , South Dakota School of Mines and Technology	<i>Changes in seasonality and timing of peak streamflow in the north-central United States, 1910-2012 – Karen Ryberg</i> , U.S. Geological Survey, F. Adnan Akyüz , North Dakota State Climate Office, Gregg Wiche , U.S. Geological Survey, and Wei Lin , North Dakota State University
10:30 – 10:50 a.m.	<i>Geomorphologic and hydrologic controls on flooding in the lower Big Sioux River Basin – Tim Cowman</i> , South Dakota Department of Environment and Natural Resources, Geological Survey Program	<i>Utilizing cloud seeding as a water management tool in western South Dakota – Andrew Detwiler</i> and Paul Smith , South Dakota School of Mines and Technology
10:50 – 11:10 a.m.	<i>The origin of Sevey Lake in western South Dakota – Perry Rahn</i> , South Dakota School of Mines and Technology, and John Stamm , U.S. Geological Survey	<i>Decision-support tools driven by watershed models – Seth Kenner</i> , Jason Love , and Paul Senne , RESPEC
11:10 – 11:30 a.m.	<i>Paleohydrology and the origin of Jewel Cave (Part 2) – Michael Wiles</i> , Jewel Cave National Monument	<i>Story Mill ecological restoration – Matthew Johnson</i> , RESPEC
11:30 – 11:50 a.m.		<i>Overview of the new HEC-RAS 5.0 2D Model – Mark Forest</i> , HDR
11:50 a.m. – 1:40 p.m.	LUNCH in Rushmore F Room – with accompanying presentations (1.0 PDH) RESPEC overview: Cory Foreman John T. Loucks Distinguished Lecture: Rob Harmon , EnergyRM – <i>How Markets and People Can Keep Streams Flowing</i>	
1:40 a.m. – 3:00 p.m.	Concurrent Session 3A in Alpine Room – Groundwater Modeling (1.5 PDH) Moderator – Dan Driscoll , U.S. Geological Survey	Concurrent Session 3P in Ponderosa Room – Surface-Water Quality (1.5 PDH) Moderator – Scott Kenner , South Dakota School of Mines and Technology
1:40 – 2:00 p.m.	<i>Reactive transport modeling to evaluate post-mining site conditions at an in situ recovery uranium site – Ryan Truax</i> , James Stone , South Dakota School of Mines and Technology, Thomas Borch , Colorado State University, Raymond Johnson , Stroller Newport News Nuclear, Inc., and James Clay , Power Resources, Inc.	<i>Temperature total maximum daily load assessment for Whitewood Creek and Bear Butte Creek watersheds – Cory Foreman</i> , Tyler French , RESPEC, and Robert Smith , South Dakota Department of Environment and Natural Resources
2:00 – 2:20 p.m.	<i>RRAWFLOW: Rainfall-Response Aquifer and Watershed Flow Model – Andrew Long</i> , U.S. Geological Survey	<i>Resiliency of stream biofilms to alterations in climate and flow regime – Lisa Kunza</i> , South Dakota School of Mines and Technology
2:20 – 2:40 p.m.	<i>A groundwater-flow model of the Madison and Minnelusa aquifers in progress for the Black Hills, South Dakota and Wyoming – William Eldridge</i> and Andrew Long , U.S. Geological Survey	<i>Water-quality characteristics of stormwater in Rapid City, South Dakota, 2008–2014 – Galen Hoogestraat</i> , U.S. Geological Survey

2:40 – 3:00 p.m.	<i>Comparison of a new stream base-flow estimation method in two basins using multivariate analysis in the Northern Great Plains – Jennifer Bednar and Andrew Long, U.S. Geological Survey</i>	<i>Potential organic carbon exports within the upper Rapid Creek watershed due to the current mountain pine beetle outbreak – Erik Vik, James Stone, Scott Kenner, Heidi Sieverding, Lisa Kunza, South Dakota School of Mines and Technology, and John Stamm, U.S. Geological Survey</i>
3:00 – 3:40 p.m.	REFRESHMENT BREAK in Rushmore G	
3:40 – 5:00 p.m.	Concurrent Session 4A in Alpine Room – Groundwater and Mapping (1.5 PDH) Moderator – Kelli McCormick, South Dakota School of Mines and Technology	Concurrent Session 4P in Ponderosa Room – Flooding (1.5 PDH) Moderator – Melissa Smith, National Weather Service
3:40 – 4:00 p.m.	<i>A continued examination at Sanford Laboratory's water quality - 2015 – John Scheetz, Sanford Underground Laboratory</i>	<i>Evaluation of post-fire runoff response to two high-intensity, short-duration thunderstorm events, Sioux and Ashland Ranger Districts, Custer National Forest, Montana – James (Andy) Efta, USDA Forest Service – Custer Gallatin National Forest</i>
4:00 – 4:20 p.m.	<i>Preliminary results of water-quality sampling from Precambrian wells in the Custer area of the southern Black Hills – Arden Davis, Alvis Lisenbee, Maribeth Price, Joseph Cange, and Victoria Bierwirth, South Dakota School of Mines and Technology</i>	<i>Hydrologic response and context for a high-elevation storm in the South Dakota Black Hills – Dan Driscoll, U.S. Geological Survey, Matthew Bunkers, National Weather Service, Galen Hoogestraat, U.S. Geological Survey, and Melissa Smith, National Weather Service</i>
4:20 – 4:40 p.m.	<i>Characterization of glacial aquifer hydrogeological framework using airborne electromagnetic surveys – Karl Koth and Joshua Valder, U.S. Geological Survey</i>	<i>CoCoRaHS: An incredible database for research – Scott Rudge, National Weather Service</i>
4:40 – 5:00 p.m.	<i>Ensuring flood resiliency, Oglala Lakota Arts and Business Incubator – John Wirries, KLJ</i>	<i>Geomorphic conditions following a high-elevation storm in the South Dakota Black Hills – Dan Driscoll, U.S. Geological Survey</i>
5:00 – 7:30 p.m.	POSTER SESSION AND EVENING SOCIAL (with refreshments) in Rushmore G Moderator – Janet Carter, U.S. Geological Survey	
	Applicability of WRF-Hydro to western South Dakota	Lucas Barrett and William Capehart, South Dakota School of Mines and Technology
	Simulation of the effects of deforestation on headwater streams in the Black Hills, western South Dakota	Brian Freed, South Dakota School of Mines and Technology, John Stamm, U.S. Geological Survey, and Scott Kenner, South Dakota School of Mines and Technology
	Comparing nutrient cycling and metabolism in streams containing varying amounts of <i>Didymosphenia geminata</i> mat coverage in Grand Teton National Park	Jaime Haueter and Lisa Kunza, South Dakota School of Mines and Technology
	Missouri Basin River Forecast Center's River Stage Forecast Verification Webpage	Lisa Holts, National Weather Service/Missouri Basin River Forecast Center
	Establishing gene fingerprints of pathogenic bacteria along selected reaches of Rapid Creek	Linda DeVaux, Lisa Kunza, and Kelsey Murray, South Dakota School of Mines and Technology
	Recent paleontological record of <i>Didymosphenia geminata</i> in Grand Teton National Park	Christopher Schiller, Jaime Haueter, and Lisa Kunza, South Dakota School of Mines and Technology
	Using low-cost adsorption materials to remove phosphorus from agricultural subsurface drainage	Bjorn Sellner, Guanghui Hua, Samia Amiri, Todd Trooien, Christopher Hay, Laurent Ahiablame, and Jeppe Kjaersgaard, South Dakota State University
	Reduction of turbidity in South Dakota construction site stormwater runoff using polyacrylamide	Jacob Humburg and Dr. Guanghui Hua, South Dakota State University
	Groundwater quality from aquifers in Precambrian rocks of the central Black Hills, Pennington County, South Dakota	Mackenzie Kester, Umit Yildiz, Andrew Clift, Kyle Hazelwood, Alvis Lisenbee, Arden Davis, and Maribeth Price, South Dakota School of Mines and Technology
	Climate factors contributing to streamflow inputs and extreme water-level deviations from long-term averages for Lakes Superior and Michigan-Huron	Mark Anderson and John Stamm, U.S. Geological Survey

OPTIONAL FIELD SEMINARS/TRIPS

Thursday, April 16, 2015

Times	Field Seminar/Trip
8:00 a.m. – 2:00 p.m.	Post-flood geomorphic conditions in Keough Draw and Ward Draw – Dan Driscoll , U.S. Geological Survey (4.0 PDH)
10:00 a.m. – 3:00 p.m.	Barrick Gold Corp and Sanford Lab wastewater treatment plants – Todd Duex , Barrick Gold Corp, and John Scheetz , Sanford Laboratory (4.0 PDH)
8:30 – 10:30 a.m.	Rapid City stormwater management practices – Galen Hoogestraat , U.S. Geological Survey (2.0 PDH)
9:00 a.m. – Noon	Belle Fourche Irrigation District (BFID) Operation and Water Conservation – Jared Oswald , RESPEC, and Bill Anderson , Belle Fourche Irrigation District Manager (3.0 PDH)