

2012 WESTERN SOUTH DAKOTA HYDROLOGY CONFERENCE PRELIMINARY PROGRAM

Thursday, April 19, 2012

**Alpine/Ponderosa Rooms and Rushmore F, G, and H
Rushmore Plaza Civic Center**

7:00 – 8:00 a.m.	REGISTRATION		
8:00 – 10:20 a.m.	Plenary Session 1 in Alpine and Ponderosa Rooms – Missouri River Flood of 2011 (2.5 PDH) Moderator – Mark Anderson , U.S. Geological Survey		
8:00 – 8:10 a.m.	Welcome, general information	Mark Anderson and Daniel Driscoll , U.S. Geological Survey	
8:10 – 8:30 a.m.	General weather conditions and precipitation in the Missouri River and Red River of the North Basins, December 2010 through July 2011	Kevin Vining, Katherine Chase and Gina Loss , U.S. Geological Survey	
8:30 – 9:00 a.m.	An overview of impacts to the Missouri River channel from the 2011 flood	Tim Cowman , Missouri River Institute	
9:00 – 9:20 a.m.	Missouri River mainstem reservoir system—2011 flood (Invited presentation)	Joel Knofczynski , U.S. Army Corps of Engineers	
9:20 – 10:20 a.m.	John T. Loucks Distinguished Lecture – Flood 2011: Way ahead and opportunities for an improved system	Brigadier General John McMahon , Northwestern Division Commander of the U.S. Army Corps of Engineers	
10:20 – 11:00 a.m.	REFRESHMENT BREAK in Rushmore G		
11:00 a.m. – 12:20 p.m.	Concurrent Session 2A in Alpine Room – Missouri River and Climate (1.5 PDH) Moderator – Tim Cowman , Missouri River Institute	Concurrent Session 2P in Ponderosa Room – Sanford Laboratory (1.5 PDH) Moderator – Larry Stetler , South Dakota School of Mines and Technology	Concurrent Session 2H in Rushmore H Room – Stormwater (1.5 PDH) Moderator – Jeppe Kjaersgaard , South Dakota State University
11:00 – 11:20 a.m.	<i>History of the Pick-Sloan Plan in the Missouri River Basin</i> – Cheryl Chapman , RESPEC	<i>A progress update from the Sanford Underground Research Facility at Homestake</i> – Mike Headley , Sanford Underground Research Facility at Homestake	<i>Life cycle assessment analysis of engineered stormwater control methods common to urban South Dakota watersheds</i> – Tyler Hengen and James Stone , South Dakota School of Mines and Technology
11:20 – 11:40 a.m.	<i>Characterization of streamflow from Missouri River tributaries in South Dakota, 2011 flooding</i> – Joyce Williamson and Mark Anderson , U.S. Geological Survey		<i>Monitoring stormwater quality in two storage ponds in Rapid City, South Dakota, 2010-11</i> – Emily Fisher , South Dakota School of Mines and Technology, Galen Hoogstraat , U.S. Geological Survey, and Scott Kenner , SDSM&T
11:40 – 12:00 p.m.	<i>2011 in perspective: Climate trends and extremes in South Dakota</i> – Laura Edwards , SDSU Extension	<i>Water inflow management at the Sanford Underground Research Facility</i> – Bryce Pietzyk , Sanford Underground Research Facility at Homestake	<i>Southland Lane detention pond project is a “classroom” for future green infrastructure projects in the city of Brookings, SD</i> – Rocky Keehn , SEH

12:00 – 12:20 p.m.	<i>Development of conceptual and mathematical models to understand and describe the uncertainty of hydrological events in the changing conditions of the State of South Dakota – Matthew Biesecker, Chris Hay, Geoffrey Henebry, Carol Johnston, Jeppe Kjaersgaard, Boris Shmagin, and Evert Van Der Sluis, South Dakota State University, and others</i>	<i>Dewatering, water treatment, and water quality at Sanford Underground Laboratory – John Scheetz, Sanford Underground Research Facility at Homestake</i>	<i>BMP optimization for stormwater runoff quantity and quality control in Hill City, SD – Pete Rausch and Scott Kenner, South Dakota School of Mines and Technology</i>
12:20 – 2:00 p.m.	LUNCH in Rushmore F Room (1.0 PDH) – with accompanying presentations RESPEC: Past, Present, and Beyond – Todd Kenner, President Panel Discussion: Missouri River Flooding – Lessons Learned and Planning for the Future; Moderator: Dr. Scott Kenner, South Dakota School of Mines and Technology		
2:00 – 3:40 p.m.	Concurrent Session 3A in Alpine Room – Ground Water (1.5 PDH) Moderator – Joanne Noyes, South Dakota Department of Environment and Natural Resources	Concurrent Session 3P in Ponderosa Room – Water Treatment and Monitoring (1.5 PDH) Moderator – J. Foster Sawyer, South Dakota School of Mines and Technology	Concurrent Session 3H in Rushmore H Room – Effects of Land Use (1.5 PDH) Moderator – Melissa Smith, National Weather Service
2:00 – 2:20 p.m.	<i>Example of ground-water recharge in metamorphic rocks – Perry Rahn, South Dakota School of Mines and Technology</i>	<i>Design for long-term monitoring of water resources at National Park Service Northern Great Plains Network Parks – Marcia Wilson, National Park Service, Barbara Rowe, U.S. Geological Survey, and Stephen Wilson, National Park Service</i>	<i>Identifying barriers for adopting new drainage technology among agricultural producers– Jeppe Kjaersgaard, Nickolas Benesh, and Christopher Hay, South Dakota State University</i>
2:20 – 2:40 p.m.	<i>Numerical simulation of groundwater flow in the Ogallala aquifer in Tripp and Gregory Counties, SD – Kyle Davis, South Dakota School of Mines and Technology, and Larry Putnam, U.S. Geological Survey</i>	<i>Education for the protection of water resources on the Pine Ridge Reservation – Nicholas Marnach, South Dakota School of Mines and Technology, Jennifer Benning, Scott Kenner, Foster Sawyer, South Dakota School of Mines and Technology, Delinda Simmons, and Kat Converse, Oglala Sioux Tribe</i>	<i>Remotely detecting the influence of off-stream water sources on the riparian vegetation of ephemeral streams – Matthew Rigge, Arctic Slope Regional Corporation Research & Technology Solutions, Alexander Smart, South Dakota State University, and Bruce Wylie, U.S. Geological Survey EROS</i>
2:40 – 3:00 p.m.	<i>Simulating future hydraulic responses to precipitation for two karst aquifers – Andrew Long, U.S. Geological Survey</i>	<i>Iron treatment of limestone for increased efficiency of arsenic removal from water – Arden Davis, South Dakota School of Mines and Technology, Cathleen Webb, Western Kentucky University, Jenifer Sorensen, RESPEC, David Dixon, SDSM&T, Benadin Varajic, Western Kentucky University, Kenton Brannan, Pete Lien & Sons, Inc., and Micheal Tekle, SDSM&T</i>	<i>Estimating potential environmental impacts associated with beef cattle production in the Northern Great Plains, using life cycle assessment – Christopher Lupo, James Stone, South Dakota School of Mines and Technology, Kenneth Olson, and David Clay, South Dakota State University</i>
3:00 – 3:20 p.m.	<i>Microgravity methods for characterization of groundwater storage changes and aquifer properties in the karstic Madison aquifer in the Black Hills of South Dakota – Karl Koth and Andrew Long, U.S. Geological Survey</i>	<i>Monitoring disinfection byproduct forming potential with simultaneous absorbance spectra and fluorescence excitation-emission mapping: Supporting Stage 2 EPA regulation monitoring compliance – Adam Gilmore, and Michael Oweimrin, Horiba Instrumentation, Inc.</i>	<i>Impacts of alternative land management and vegetation regimes on Northern Great Plains hydroclimate – Daniel D’Amico, Parker Norton, William Capehart, South Dakota School of Mines and Technology, Valeriy Kovalskyy and Geoffery Henebry, South Dakota State University</i>
3:20 – 3:40 p.m.	<i>Groundwater recharge estimates using a soil-water-balance model for the Powder River and Williston structural basins – Katie Aurand, Andrew Long, and Larry Putnam, U.S. Geological Survey</i>	<i>Historical trends associated with sediment-bound mercury for select South Dakota Lakes – Maria Squillace, James Stone, South Dakota School of Mines and Technology, and Steven Chipps, U.S. Geological Survey</i>	<i>Modeling hydrologic and water quality impacts of tile drainage using hydrological simulation program-FORTRAN (HSPF) – Megan Burke and Daniel Reisinger, REPSEC</i>
3:40 – 4:10 p.m.	REFRESHMENT BREAK in Rushmore G		
4:10 – 5:10 p.m.	Concurrent Session 4A in Alpine Room – Geology and Mapping (1.0 PDH) Moderator – Jenifer Sorensen, RESPEC	Concurrent Session 4P in Ponderosa Room – Natural Resources and Mining (1.0 PDH) Moderator – Kelli McCormick, South Dakota Department of Environment and Natural Resources – Geological Survey Program	

4:10 – 4:30 p.m.	<i>The relationship of Jewel Cave with modern geologic and topographic features – Mike Wiles, Jewel Cave National Monument</i>	<i>Data availability developed through DENR's Oil and Gas Initiative – Derric Iles, South Dakota Department of Environment and Natural Resources</i>	
4:30 – 4:50 p.m.	<i>Aquifers of the Piedmont quadrangle – Kathleen Grigg, Alvis Lisenbee, Arden Davis, Maribeth Price, and Samantha Saxton, South Dakota School of Mines and Technology</i>	<i>Wharf gold mine expansion project – Crystal Hocking, RESPEC, Ken Nelson, and Ron Waterland, Wharf Resources</i>	
4:50 – 5:10 p.m.	<i>Black Hills aquifer atlas: Providing the public with online groundwater information – Katherine Aurand, Alvis Lisenbee, Arden Davis, and Maribeth Price, South Dakota School of Mines and Technology</i>	<i>Life cycle assessment analysis of various active and passive acid mine drainage treatment options for the Stockton Coal Mine, New Zealand – Tyler Hengen, Maria Squillace, James Stone, South Dakota School of Mines and Technology, Aisling O'Sullivan, University of Canterbury, Christchurch, and F.A. Crombie, Solid Energy New Zealand</i>	
5:10 – 7:00 p.m.	POSTER SESSION AND EVENING SOCIAL (with refreshments) in Rushmore G		
	<i>A study of rain-induced erosion in the Badlands National Park – Emily French, Donna Kliche, Paul Smith, and Larry Stetler, South Dakota School of Mines and Technology</i>		
	<i>Using InSAR technology and groundwater pumping data to model land subsidence from coal bed methane production in the Powder River Basin, Wyoming – Kathleen Grigg, Kurt Katzenstein, and Arden Davis, South Dakota School of Mines and Technology</i>		
	<i>Regional hydrogeologic framework for Madison and Minnelusa aquifers: Preparation for a groundwater-flow model of the Black Hills area – Jonathan McKaskey, South Dakota School of Mines and Technology, and Andrew Long, U.S. Geological Survey</i>		
	<i>An overview of South Dakota StreamStats—A U.S. Geological Survey Web application for stream information – Chelsea Wattier and Ryan Thompson, U.S. Geological Survey</i>		
	<i>High-resolution hydrographic mapping using lidar-derived digital elevation models – Sandra Poppenga, Ryan Thompson, and Daniel Driscoll, U.S. Geological Survey</i>		
	<i>Missouri River bank erosion: ongoing monitoring on the Lower Brule Reservation, 2012 – Kathleen Neitzert, U.S. Geological Survey, George Honeywell, Lower Brule Sioux Tribe, Ryan Thompson, U.S. Geological Survey, and James Sanovia, Oglala Lakota College</i>		
	<i>Contemporary and projected climate in the Missouri River watershed: 1901-2050 – John Stamm and Parker Norton, U.S. Geological Survey</i>		
	<i>Application of SWAT in quantifying impacts of land use and climate change on water resources in the Midwestern United States – Yiping Wu, ARTS, contractor to U.S. Geological Survey EROS, and Shuguang Liu, U.S. Geological Survey</i>		
	<i>Erosion trends in fossil-bearing strata at Badlands National Park – Mingwei Zhang and Larry Stetler, South Dakota School of Mines and Technology</i>		
	<i>Solutions for mine-tailing leachate affecting the floodplain south of Creede, CO – Thomas Jones, Erin Metzler, Caitlin Rohde, Jonathan McKaskey, Larry Stetler, and James Stone, South Dakota School of Mines and Technology</i>		
	<i>Reclamation of the Holy Moses Mine to prevent the contamination of East Willow Creek and its aquatic resources – Kirk Tisher, Maria Squillace, James Hoyle, Anzhelika Muraveva, Larry Stetler, and James Stone, South Dakota School of Mines and Technology</i>		
	<i>Reclamation of the Last Chance Waste Rock Pile near Creede, CO – Christopher Lupo, Derek Morris, Caine Shagla, Larry Stetler, and James Stone, South Dakota School of Mines and Technology</i>		
	<i>Identifying hydroclimatic extremes in the Missouri River watershed using paleoclimate and paleohydrology records – Adel (Eddie) Haj and Dan Driscoll, U.S. Geological Survey</i>		