2013 WESTERN SOUTH DAKOTA HYDROLOGY CONFERENCE
PRELIMINARY PROGRAM

Thursday, April 18, 2013
Alpine/Ponderosa Rooms
Rushmore Plaza Civic Center

7:00 – 8:00 a.m.	**REGISTRATION**	
8:00 – 9:10 a.m.	**Plenary Session 1 in Alpine and Ponderosa Rooms – 2013 Themes: Climate and Resource Development (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.	Responding to extreme events in the Missouri River Basin	**Doug Kluck**, National Oceanic and Atmospheric Administration, Central Region Climate Services
8:50 – 9:30 a.m.	South Dakota's oil and gas potential and data availability through an interactive map	**Derric Iles,** South Dakota Department of Environment and Natural Resources
9:30 – 10:10 a.m.	**REFRESHMENT BREAK in Rushmore F**	
10:10 a.m. – 12:10 p.m.	**Concurrent Session 2A in Alpine Room – Surface-Water Issues (2.0 PDH)** **Moderator – TBA**	**Concurrent Session 2P in Ponderosa Room – Groundwater (2.0 PDH)** **Moderator – Joanne Noyes**, South Dakota Department of Environment and Natural Resources
10:10 – 10:30 a.m.	*Sediment transport in the Missouri River during the high-flow conditions of 2011* **– Joel Galloway, David Rus,** and **Jason Alexander**, U.S. Geological Survey	*A regional Black Hills groundwater-flow model of the Madison and Minnelusa aquifers: progress and plans* **– Andrew Long**, U.S. Geological Survey, and **Jonathan McKaskey**, South Dakota School of Mines and Technology
10:30 – 10:50 a.m.	*Riverbank stability due to hydropower dam operations* **– Soonkie Nam**, South Dakota School of Mines and Technology, **Marte Gutierrez**, Colorado School of Mines, **Panayiotis Diplas,** and **John Petrie,** Virginia Polytechnic Institute and State University	*Geophysical methods for characterization of karst features in the Madison aquifer on Boxelder Creek* **– Karl Koth,** U.S. Geological Survey, **Jonathan McKaskey, Trevor Irons,** South Dakota School of Mines and Technology, **Andrew Long,** and **Kyle Davis**, U.S. Geological Survey
10:50 – 11:10 a.m.	*Methods and challenges to wetland permitting in western South Dakota* **– Cheryl Chapman, Mary Kenner,** and **Jenifer Sorensen**, RESPEC	*Pulling it together: integrating well data to generate elevation and depth-to-aquifer maps for major aquifers in the northern Black Hills* **– Crystal Hocking**, RESPEC
11:10 – 11:30 a.m.	*Temperature total maximum daily load assessment for the Battle Creek watershed using the HSPF shade module* **– Tyler French, Cory Foreman,** and **Robert Smith**, RESPEC	*Interaction of groundwater and surface water in the Williston and Power River structural basins* **– Jennifer Bednar**, U.S. Geological Survey
11:30 – 11:50 a.m.	*Monitoring stormwater quality in two drainage basins in Rapid City, South Dakota, 2010-2012* **– Robert Prann,** South Dakota School of Mines and Technology, **Galen Hoogestraat**, U.S. Geological Survey, **Jennifer Benning,** and **Scott Kenner**, South Dakota School of Mines and Technology	*A comparison of groundwater recharge estimation methods in the Williston and Power River structural basins in the Northern Great Plains* **– Katherine Aurand**, U.S. Geological Survey
11:50 a.m. – 12:10 p.m.	*Exceedance-based analysis of the central Big Sioux River watershed* **– Jared Oswald, Peter Rausch**, RESPEC, and **Robert Kappel**, City of Sioux Falls	*Paleohydrology and the origin of Jewel Cave* **– Mike Wiles**, Jewel Cave National Monument
12:10– 2:00 p.m.	**LUNCH in Rushmore G Room –** with accompanying presentations **(1.0 PDH)** **RESPEC:** *Title TBA***, Todd Kenner**, President **John T. Loucks Distinguished Lecture: Chris Faulkner,** Breitling Oil and Gas **–** *Community Impact: Oil, Gas and Water – Water Recycling from Hydraulic Fracking*	
2:00 – 3:20 p.m.	**Concurrent Session 3A in Alpine Room – Water Implications for Resource Development (1.5 PDH)** **Moderator – J. Foster Sawyer**, South Dakota School of Mines and Technology	**Concurrent Session 3P in Ponderosa Room – Remote Sensing and GIS (1.5 PDH)** **Moderator – TBA**

2:00 – 2:20 p.m.	*Investigation of mercury and arsenic sediment concentrations within the Cheyenne River Basin of the Cheyenne River Sioux Tribe Reservation* **– Maria Squillace** and **James Stone**, South Dakota School of Mines and Technology	*Landsat* **– Rachel Headley**, U.S. Geological Survey EROS Data Center
2:20 – 2:40 p.m.	*Groundwater availability and flow processes in the Williston and Powder River Basins in the Northern Great Plains* **– Kyle Davis, Andrew Long, Joanna Thamke, Katherine Aurand, Timothy Bartos, Jennifer Bednar, Gary LeCain, Derek Ryter,** and **Roy Sando**, U.S. Geological Survey	*Remote-sensing-based evapotranspiration from fields with and without cover crops* **– Jeppe Kjaersgaard, Brett Hankerson,** and **Christopher Hay**, South Dakota State University
2:40 – 3:00 p.m.	*Water for oil country: the Western Area Water Supply Project* **– Cory Chorne**, AE2S	*Building digital elevation models (DEMs) for hydrologic modeling from LAS datasets* **– Janet Gritzner** and **Bruce Millett**, South Dakota State University
3:00 – 3:20 p.m.	*Comparison of water quantity impacts and economic benefits of the Dewey-Burdock in-situ uranium recovery project (DBP)* **– Mark Hollenbeck,** Powertech (USA) Inc.	*GIS based pollution load water quality model* **– Jeff Boeckler**, Northwater Consulting
3:20 – 4:00 p.m.	**REFRESHMENT BREAK in Rushmore F**	
4:00 – 5:00 p.m.	**Concurrent Session 4A in Alpine Room – Climate (1.0 PDH)** **Moderator – Melissa Smith**, National Weather Service	**Concurrent Session 4P in Ponderosa Room – Water Quality (1.0 PDH)** **Moderator – TBA**
4:00 – 4:20 p.m.	*The 2012 South Dakota drought: perspectives of the State Fire Meteorologist* **– Darren Clabo**, South Dakota School of Mines and Technology	*Water-quality sampling of Precambrian crystalline aquifers in the central Black Hills* **– Arden Davis, Alvis Lisenbee, Maribeth Price, Katherine Aurand, Jennifer Bednar**, and **Micheal Tekle**, South Dakota School of Mines and Technology
4:20 – 4:40 p.m.	*Dual-polarization radar applications for hydrology* **–Matthew Bunkers**, NOAA/National Weather Service	*Groundwater impacts of highways stabilized with waste materials* **– Bora Cetin**, South Dakota School of Mines and Technology
4:40 – 5:00 p.m.	*Severe weather associated with mergers between squall lines and isolated supercell thunderstorms* **– Adam French**, South Dakota School of Mines and Technology	*Evaluation of water-quality characteristics and sampling design for streams in North Dakota, 1970-2008* **– Joel Galloway, Aldo Vecchia, Kevin Vining,** and **Robert Lundgren**, U.S. Geological Survey
5:00 – 7:00 p.m.	**POSTER SESSION AND EVENING SOCIAL (with refreshments) in Rushmore F**	
	Developing BMPs to minimize the water quality impacts of winter manure spreading	**Nathan Brandenburg, Jeppe Kjaersgaard, Ronald Gelderman, and Todd Trooien**, South Dakota State University
	Evaluating spatial and temporal scale issues with hydrologic models	**Dolraj Chalise, Thomas Fontaine,** South Dakota School of Mines and Technology, and **Adel Haj,** U.S. Geological Survey
	Improving reclamation design through runoff and erosion modeling of high-intensity precipitation events at the Riley Pass CERCLA Site, Custer National Forest, Harding County, South Dakota	**James Efta** and **Dan Seifert,** USDA Forest Service
	Geomorphic assessment of the Missouri River from Lake Sakakawea to Lake Oahe, North Dakota, 2012-2015 (LiDAR)	**Joel Galloway, Katherine Skalak, Edward Schenk, Rochelle Nustad, Adam Benthem,** and **Clifford Hupp,** U.S. Geological Survey
	A study on the effect of flow variation on the existing stability condition at the lower mouth of the Plum Creek, Stanley County, South Dakota	**Govinda Karki** and **Suzette Burckhard,** South Dakota State University
	A groundwater-flow model of the Black Hills area: Madison and Minnelusa aquifers	**Jonathan McKaskey**, South Dakota School of Mines and Technology, and **Andrew Long**, U.S. Geological Survey
	Demonstrating the nitrogen-removal effectiveness of denitrifying bioreactors for improved drainage water management	**Cynthuja Partheeban, Jeppe Kjaersgaard, Christopher Hay,** and **Todd Trooien**, South Dakota State University
	Using LIDAR and historic photography for current and historic surface water modeling at the Riley Pass CERCLA Site, Custer National Forest, Harding County, South Dakota	**Dan Seifert**, USDA Forest Service, **James Monty, Jeremy Webb,** RedCastle Resources, Inc., and **Haans Fisk**, USDA Forest Service
	Ground-water quality and relationships to fault zones and mining districts in Precambrian crystalline rocks of the central Black Hills	**Micheal Tekle, Arden Davis, Alvis Lisenbee, Maribeth Price, Katherine Aurand,** and **Jennifer Bednar,** South Dakota School of Mines and Technology