

2021 WESTERN SOUTH DAKOTA HYDROLOGY CONFERENCE DRAFT PROGRAM

Wednesday-Thursday, April 21-22, 2021

Virtual format held via Zoom.

All times are MDT zone.

Session 1 – 8:00 – 10:00 AM, Wednesday 4/21/2021		
8:00 – 8:10 AM	Welcome and general announcements	Galen Hoogestraat and Mark Anderson , <i>USGS</i>
8:10 – 8:30 AM	SD Department of Agriculture / DENR Merger Update	Brian Walsh , Public Affairs Director, <i>SDDA / DENR</i>
8:30 – 8:50 AM	Overview of West Dakota Water Development District stormwater inventory and erosion control projects	Dan Driscoll , <i>West Dakota Water Development District</i>
8:50 – 9:10 AM	Pilot Project for an Inventory of Impervious Areas and Green Spaces that may have Potential for Future Stormwater Mitigation Measures	Jason Phillips , <i>SDSMT</i> and <i>TerraSite Design</i>
9:10 – 9:30 AM	Hydrogeology and Dewatering Options for Summerset, South Dakota	Bill Eldridge and Todd Anderson , <i>USGS</i>
9:30 – 9:50 AM	Improving the City of Spearfish’s FEMA Floodplain Mapping with 2D Hydraulic Modeling	Amber Lefers , <i>AE2S</i>
9:50 – 10:00 AM	BREAK – Sponsor recognition	
Session 2 – 10:00 AM – 12:00 PM, Wednesday 4/21/2021		
10:00 – 10:30 AM	Ice-affected flow analyses in the Lower Heart River Levee System	Jon Zufelt and Dennis Reep , <i>HDR Engineering</i>
10:30 – 10:50 AM	Water-Quality Assessment of the Heart River Basin, North Dakota, 1970-2019	Wyatt Tatge , <i>USGS</i>
10:50 – 11:20 AM	The LaPrele Dam Project, Douglas, WY: Project History, Investigation and Design Options	Peter Rausch , <i>RESPEC</i> , and Cory Foreman , <i>HDR Engineering</i>
11:20 – 12:00 PM	An update of surface and subsurface geological mapping, potentiometric map, and flow directions in the Madison aquifer at Jewel Cave National Monument	Mike Wiles , Erin Dundas , and Sierra Heimel <i>Jewel Cave National Monument</i>

Session 3 – 8:00 – 10:00 AM, Thursday 4/22/2021		
8:00 – 8:05 AM	Welcome and general announcements	Galen Hoogestraat , USGS
8:05 – 8:30 AM	Impacts of Sedimentation on Missouri River Reservoirs and Free-Flowing Segments	Tim Cowman <i>South Dakota DENR; Geological Survey Program</i>
8:30 – 8:50 AM	Analysis of Potential Alternative Operations for Pactola and Deerfield Reservoirs	David Waterman and Rosemary Squillace , SDSMT
8:50 – 9:10 AM	Hydraulic Analysis of Fish Habitat Restoration of Rapid Creek Downstream of Pactola Reservoir	Anne Winkel , SDSMT and RESPEC, and Scott Kenner , SDSMT
9:10 – 9:30 AM	Examining the Influence of Climate Change on Stream Yield in the Black Hills of South Dakota	Lucas Graunke , Lisa Kunza , William Capehart , and Mengistu Nisrani , SDSMT
9:30 – 9:50 AM	Characterization of Factors Affecting Groundwater Levels in and near the Rosebud Indian Reservation and the Former Lake Traverse Indian Reservation, 1956-2017	Kristen Valseth , USGS
9:50 – 10:00 AM	BREAK – Sponsor recognition	
Session 4 – 10:00 AM – 12:00 PM, Thursday 4/22/2021		
10:00 – 10:20 AM	Mesonet Monitoring of Soil Moisture and Snowpack Monitoring in the Upper Missouri River Basin	Nathan Edwards , <i>South Dakota State University – South Dakota Mesonet</i>
10:20 – 10:40 AM	Principles of Ecology in Agricultural Landscapes	David Kringen , <i>South Dakota State University – SDSU Extension</i>
10:40 – 11:00 AM	Image Segmentation of Tile Drainage Systems Using U-Nets	Fleford Redoloza , Tanja Williamson , and Alex Headman , USGS
11:00 – 11:20 AM	Investigation of Muskingum Routing parameters in natural channel in North Dakotan river under snowmelt-induced flooding conditions	Vida Atashi and Yeo Lim , <i>University of North Dakota</i>
11:20 – 11:40 AM	Improving Water quality with the Scenario Application Manager (SAM)	Seth Kenner , RESPEC
11:40 – 12:00 PM	Modeling transport and retention of graphene oxide in biochar media under subsurface aquatic environment	Md Sazadul Hasan , Venkataramana Gadhamshetty , and Mengistu Geza , SDSMT