

# River feels effects of 2011 flood

By Travis Gulbrandson  
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The flooding along the Missouri River that occurred the summer of 2011 both deposited and eroded sediment from much of the area downstream of the Gavins Point Dam.

"It wouldn't be surprising if many of those effects are permanent," said Chris Svendsen, hydraulic engineer with the U.S. Army Corps of Engineers. "It's just a whole new ballgame in terms of the sheer stresses the channel was exposed to."

Svendsen made these comments during the Missouri River Institute Research Symposium, which was held at the University of South Dakota on April 4.

During the floods, Gavins Point had a discharge of more than 100,000 cubic feet of water per second (CFS) for more than 80 days - with some of those days reaching a maximum 160,000 CFS.

While minimal sand materials were discharged from the dam itself, Svendsen said the floodwaters remained above average into the winter.

All sediment was subject to movement, with much deposition on riverbanks and existing islands, he said.

In addition to affecting the natural landscape and the people who live along the river, the floods also interfered with several projects being done by the Corps of Engineers.

"Prior to the flood, in 2010 you might recall that in the interest of trying to characterize the formation of an emerging sandbar habitat, we selected six sites to

potentially survey in the spring and fall to document that formation and the subsequent changes to the channel bed and above-average flows," Svendsen said. "Then 2011 came along, and blew out any formation that we had seen in 2010.

"We elected to continue the study and to characterize the formation. I think we're going to wrap up the surveys this spring," he said.

There have been significant reductions since the flood, in lower areas in particular, he said.

In 2004, the Corps constructed 563 acres of sandbar habitat along the river.

"Twenty-six percent of those were visible in the high flows in 2010," Svendsen said.

Construction efforts were entirely based on what the river created naturally, and while we still have sandbars existing in some of our original sites, I would say four of them are absolutely entirely eroded."

To do this kind of work, the surveyors need to see from one point on land to another. Svendsen said the flood changed things.

"The percentage of the area they were seeing prior to the flood and after the flood are significantly different," he said.

Svendsen noted that the area has been subject to flooding in past years, such as in 1997.

Although he said that some of the landscape and habitats recovered in the two to three years following that flood, it still did not return to what it had been.

"It depends on the flows that you have years afterward," he said.

## Dust on the water?

# Researchers study effect of wind on Mo. River sandbars

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Aeolian processes - the ability of the wind to change the surface of the earth - have a potentially large effect on the formation of and changes to sandbars.

This is why USD undergrad Karen Herrig and Dr. Mark Sweeney, associate professor of earth sciences, are studying the effects of the wind on sandbars located in three nearby locations, including Elk Point and Ponca, NE.

Herrig said that when the study is complete, they hope to know how much dust is emitted from the sandbars, how it impacts the air quality on windy days and to determine if there is a potential hazard to wildlife.

"We haven't gotten that far in the study," Herrig said. "I don't know if there's a link at all yet, but eventually we will get there."

Herrig made a presentation on the study during the annual Missouri River Institute Research Symposium, which took place at USD on April 4.

"Rivers are common source of dust, especially on glacial landscapes," Herrig said.

"(Transporting the dust) is such an easy thing for the wind to do, and that can change the landscape of the sandbars. We would like to know how much dust is getting emitted off of the sandbars."

To find out, Herrig and Sweeney used a Portable in-Situ Wind Erosion Lab (PI-SWIRL), which measures the amount of dust emitted from a surface when a known amount of wind shear is applied.

A flat blade inside the machine rotates at various levels to simulate specific rates of wind, which allows the dust to be measured.

"We went to about four to six different sites on each sandbar, and at each one of those sites we



USD undergrad Karen Herrig uses a PI-SWIRL to measure the amount of dust being emitted from an area sandbar.

(Courtesy photo)

did four tests using the PI-SWIRL as a means to judge the emissions potential of the dust on those sandbars," Herrig said.

They also measured on different surface types of each sandbar, including dune, interdune and wind ripple.

Dune is lighter in color and consists mostly of sand, which interdune is darker and made of other materials like gravel, Herrig said.

Aeolian processes are very important to the process of sandbar modification, she said.

"(The wind) can blow off sand on the bar, reducing the height of the bar over time," she said. "(It

can also) pick up the sediments and suspend them in the air ... and leave the coarser material like gravel behind. So then it makes just a layer over the sediment and reduces how much dust can be emitted because it takes a higher velocity to pick up the gravel."

Debris on the sandbars also play an important role.

"It can affect sediment transport, because the debris slows down the wind velocity, and when the velocity slows down it no longer keeps the sediment in suspension," Herrig said. "Then it just drops out and forms a deposit. So, debris like logs can definitely change the landscape

and change how sediment can be transported."

Herrig and Sweeney already have performed a particle size analysis of some of their samples at the University of Nebraska-Lincoln, and used X-ray diffraction to determine the composition of some surface samples.

However, she said it will take time for the overall project to be completed.

"This study is a work in progress. It's in the beginning stages," she said. "We'll be doing more this summer."

## TEEN

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Funeral services are scheduled for 10:30 a.m. Wednesday at Calvary Lutheran Church, Irene, with the Rev. Mark Ostrem officiating. Burial will follow in Hillcrest Cemetery, Irene.

Visitation is set for 5-7 p.m. Tuesday at the church.

Zavier was an eighth grader in the Irene-Wakonda school system. According to the district's Web site, no school will be held Wednesday to allow Irene-Wakonda students and staff to attend the funeral.

For obituary and online condolences, visit [hansenfuneralhome.com](http://hansenfuneralhome.com).

You can follow Randy Dockendorf on Twitter at [twitter.com/RDockendorf](http://twitter.com/RDockendorf)

# English professor recipient of Doyle award

Jason Berger, Ph.D., assistant professor of English at the University of South Dakota, is the 2013 recipient of the Monsignor James Doyle Humanities Teaching Award, presented by the College of Arts & Sciences at USD. Berger was honored with the award at the 2013 Phi Beta Kappa initiation/Lifo Amundson Lecture on March 14.

Berger joined the USD English Department nearly four years ago. In addition to publishing several articles, he has authored the book, "Antebellum at Sea: Maritime

Fantasies in Nineteenth-Century America," published in 2012 by the University of Minnesota Press. Berger was honored with the 2013 Doyle Humanities Teaching Award for his outstanding classroom instruction and mentoring, including working closely with students on almost 30 theses and dissertations.

Berger received his Ph.D. from the University of Connecticut, a M.A. in English from the University of Vermont and his B.S. in history and English from Central Connecticut State University.

Made possible thanks to a gift from Monsignor James Michael Doyle, former chair of religious studies at USD and a prominent theologian inducted into the South Dakota Hall of Fame, the Doyle Award is presented annually to an outstanding teacher in the Humanities Division of the College of Arts & Sciences.

## OBITUARIES

### George Horner

George R. Horner, 81, of Vermillion, died Thursday, April 4, 2013, at the Sanford Care Center, Vermillion.

George was born Dec. 1, 1931 in Sioux City, IA, the son of Samuel and Ann Marie (Lass) Horner. He grew up in Vermillion, SD and attended Vermillion schools, and graduated from high school in 1949. In high school, he participated in football, track, basketball and debate.

After graduation, he attended The University of South Dakota, majoring in political science, and graduated in June, 1953. The fall of that year, he entered law school and received his law degree in June of 1956. He was admitted to practice in the state of South Dakota as well as the state of Nebraska. He was recognized for his legal service of 50 years by both states.

George married Terri (Terese) Van Overscheld June 27, 1954, in Custer. George and Terri had two children, Catherine Ann, born in Vermillion, in 1956 and Robert Allan born in Omaha, in 1958. After graduation from law school, he and Terri moved to Omaha, NE, where he was employed at USF&G Insurance Company as a claims attorney. They lived there for 10 years when George was promoted to adjuster in charge at the Grand Island office. In 1968, George became city prosecutor.

George had a lifetime interest in sports and while living in Grand Island was a (volunteer) certified lifeguard for the YMCA. He was selected as a member of the All-Star Team in the Industrial Basketball league. He won swimming awards, and received trophies for his running. He was on the board of directors, Grand Island



HORNER

Association.

In 1969, George joined the faculty at The School of Business, University blood donor, an award-winning photographer, and gardener. He retired from the School of Business Dec. 1996.

Because George was a reserve officer, he was able to maintain his commitment to the Navy along with his commitment to The School of Business. He took his active duty during the summer and during the Christmas holidays.

During his naval career, he was stationed for duty at The Pentagon, Norfolk, VA, Jacksonville, FL, Seattle, WA, Honolulu, HI, and San Francisco and Coronado, CA. George's Naval career expanded

YMCA, board of deacons, First Presbyterian Church and president of the Central Nebraska Reserve Officers

38 years (12 years enlisted and 26 years as a commissioned officer in Naval Intelligence). During his many tours of Naval service, George served as a summary courts martial officer, and acting inspector general, U.S. Naval Intelligence Command. He was 3rd Fleet intelligence officer during Operation "Jennifer" (recovery of a sunken Soviet submarine in the 1970s). George was intelligence officer on staff in Operation "Varsity Spring" and in Operation "Kernal Bogey" which were two of the largest combined fleet exercises in the Pacific during the Cold War. He wrote a brief for the President of the United States regarding the prisoners of war in Viet Nam. George held "Top Secret" clearance during his entire tenure as a commissioned officer.

George loved fishing and caught trout, bass, northern pike, walleyes, lake trout and pan fish, in more than a half dozen states and three provinces of Canada. He made several trips with friends to three Canadian provinces and received a Master Angler Award from the Province Ontario for season's second largest walleye caught in the entire province.

He has successfully hunted deer, antelope, geese, ducks, quail, pheasants and grouse in South Dakota, Nebraska and Wyoming. He also enjoyed photography and took many outstanding pictures during his travels.

George is survived by his wife, Terri, of Vermillion; a daughter, Catherine Bennett (Bill) of Taos, NM and a son, Robert Horner (Audrey Hanken), of Milwaukee, WI; three grandchildren, Jasmine Cecelic (Zach), Ashley Horner and Alex Horner; five nieces; and one nephew. George was preceded in death by his parents and a sister, Marilyn Heald.

Funeral service was held at 4 p.m. on Saturday, April 6, 2013 at United Church of Christ, Vermillion. Donations appreciated to The Parkinson Foundation or The Salvation Army.

Kober Funeral Home, Vermillion, is in charge of arrangements.

Condolences may be posted online to [www.koberfuneralhome.com](http://www.koberfuneralhome.com).

### Irene White

Irene White, 96, of Wakonda, passed away Saturday, April 6, 2013, at Avera Sacred Heart Hospital in Yankton. Funeral services were 10 a.m., Tuesday, April 9, 2013, at Pleasant Valley Lutheran Church, rural Wakonda, With Pastor Anna Peck officiating. Burial followed in Union Cemetery at Wakonda.

Visitation was from 5 to 7 p.m., Monday, April 8, 2013, with family present at the Hansen Funeral Home in Irene.

Irene was born Nov. 30, 1916, to Walter and Delia Peterson of Minneapolis, MN. On Oct. 31, 1936, Irene was united in marriage to Vincent White of Wakonda, where they spent the entire 53 years of their marriage on the family farm.

Irene was a member of Pleasant Valley Lutheran Church, Lodi Club, Extension Club, Ladies Aid and Senior Citizens.

She is survived by her three children, Jim (Anita) White of Wakonda, Bob (Gayle) White of Sioux Falls, Linda (Mike) O Connor of De Soto, KS; nine



WHITE

her parents; husband, Vince; sisters, Norma Hedemark and Hazel Mettin.

For obituary and online condolences, visit [hansenfuneralhome.com](http://hansenfuneralhome.com).

grandchildren; 11 great-grandchildren; also two sisters, Luella Grose and Betty Jean Westlake.

Irene was preceded in death by

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