



Web Usage During Flooding, 2009

How Customers Used Our Resources, Frustrations, and Possibilities

Karen R. Ryberg

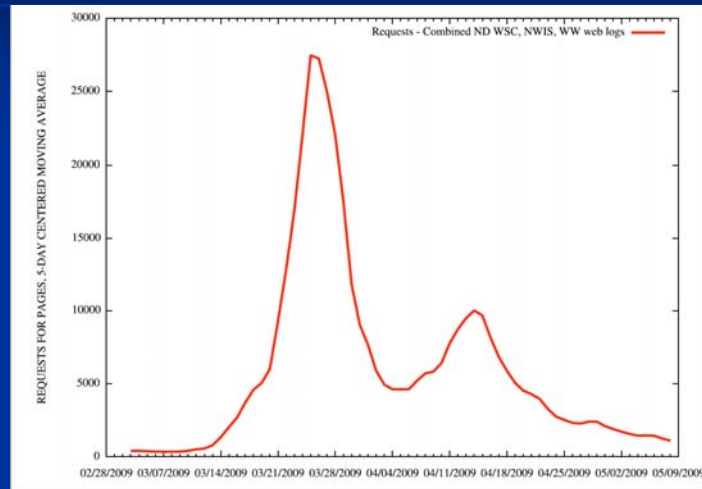
U.S. Department of the Interior
U.S. Geological Survey

Web Logs

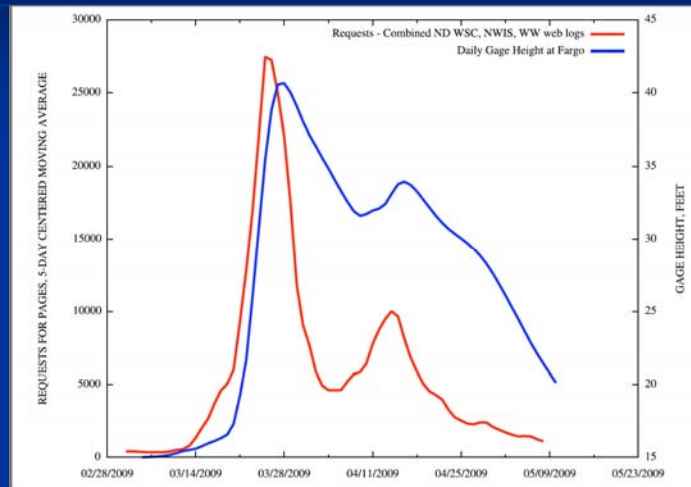
- Web Access Logs Extensively Cleaned
- Combined Logs from
 - nd.water.usgs.gov,
 - North Dakota portion of NWISWeb,
 - and North Dakota portion of WaterWatch.



Web Usage

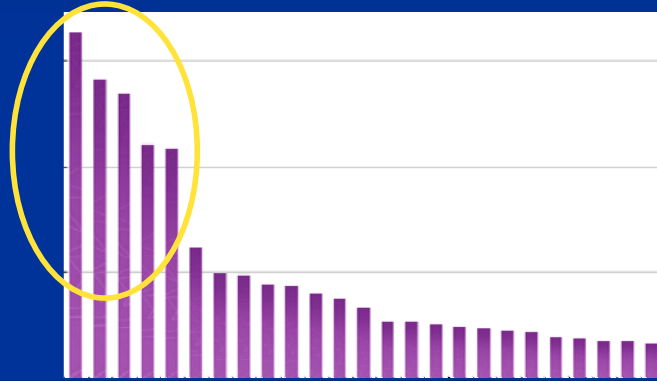


Web Usage and Hydrologic Conditions



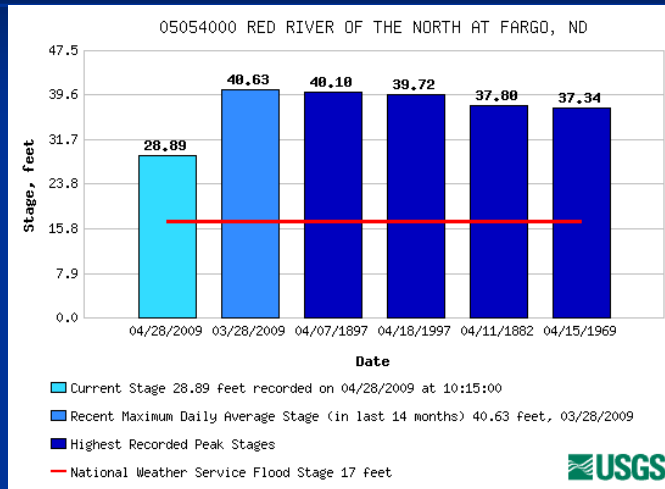
Examined Top 25 Requested Pages for nd.water.usgs.gov March 1-May 10, 2009

- Validation of Value-Added Efforts Prior to Flooding and During Flooding



 USGS

There are many, many interesting things I could show you at this point from the web usage analysis. The most important though, is that the web usage analysis validates the importance and usefulness of the value added items we have invested in on our web site and it shows that people used the resources we added during the flooding.



North Dakota Water Science Center

Flood Tracking Charts for North Dakota and Selected Tributaries

To view a flood tracking chart, click on the desired station, represented by a blue dot on the map below, or scroll down to view text links to the charts.

Tributaries of the Missouri River

- Upper Missouri Lake Subbasins
- Lower Missouri River
- Kelly River
- Heart River
- Conestoga River
- Grand River
- Lower Missouri Lake Lake
- James River

Tributaries of the Red River of the North

- Trenton River
- Thompson River
- North Lake
- Red River of the North

Flood Tracking Charts for U.S. Geological Survey Gaging Stations in and around North Dakota

Stations in the Missouri River Basin

Missouri River Main Stem Only

- 06185500 Missouri River near Culbertson, MT
- 06327500 Yellowstone River at Glendive, MT
- 06329500 Yellowstone River near Salina, MT
- 06329502 CHARBONNEAU CREEK NR CHARBONNEAU, ND
- 06329610 YELLOWSTONE A NO. 2 NR CASTLEBRIGHT, ND
- 06330000 MISSOURI RIVER NR WILLISTON, ND
- 06331000 LITTLE MUDGY RIVER BL. COW CREEK NR WILLISTON, ND
- 06332111 BEAR DEN CREEK NR MANDAREE, ND
- 06332323 E. FORK SHELL CREEK NR FARGO, ND
- 06332770 DEEPWATER CREEK AT MOUTH NR RAUB, ND

Stations in the Red River of the North Basin

Red River of the North Main Stem Only

Devils Lake Basin Only

- 05030500 OTTER TAIL RIVER NEAR ELIZABETH, MN
- 05040500 OTTER TAIL RIVER BL. DUBUELL D. NR FERGUS FALLS, MN
- 05044773 OTTER TAIL RIVER DIVERSION AT BRECKENRIDGE, MN
- 05049500 MUSTANG RIVER ABOVE RECREATION, MN
- 05049555 MUD LAKE ABOVE WHITE ROCK DAM NEAR WHITE ROCK, SD
- 05050000 BOIS DE SIOUX RIVER NEAR WHITE ROCK, SD
- 05051200 BOIS DE SIOUX RIVER NEAR DORAM, MN
- 05051200 RED RIVER OF THE NORTH AT WINDPITON, ND
- 05051332 RED RIVER OF THE NORTH AT JACKSON, ND



Web Cams

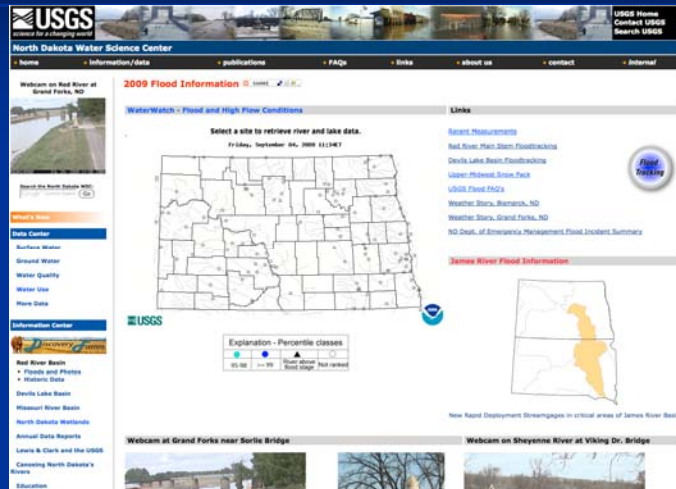
- [Wednesday_April_08_2009.JPG](#)
- [Tuesday_April_07_2009.JPG](#)
- [Tuesday_April_07_2009.JPG](#)
- [Monday_April_06_2009.JPG](#)
- [Monday_April_06_2009.JPG](#)
- [Monday_April_06_2009.JPG](#)
- [Sunday_April_05_2009.JPG](#)
- [Sunday_April_05_2009.JPG](#)
- [Sunday_April_05_2009.JPG](#)
- [Saturday_April_04_2009.JPG](#)
- [Saturday_April_04_2009.JPG](#)
- [Friday_April_03_2009.JPG](#)
- [Friday_April_03_2009.JPG](#)
- [Friday_April_03_2009.JPG](#)
- [Thursday_April_02_2009.JPG](#)
- [Thursday_April_02_2009.JPG](#)
- [Thursday_April_02_2009.JPG](#)
- [Wednesday_April_01_2009.JPG](#)
- [Wednesday_April_01_2009.JPG](#)
- [Wednesday_April_01_2009.JPG](#)
- [Tuesday_March_31_2009.JPG](#)
- [Tuesday_March_31_2009.JPG](#)
- [Tuesday_March_31_2009.JPG](#)
- [Monday_March_30_2009.JPG](#)
- [Monday_March_30_2009.JPG](#)
- [Monday_March_30_2009.JPG](#)
- [Sunday_March_29_2009.JPG](#)
- [Sunday_March_29_2009.JPG](#)
- [Sunday_March_29_2009.JPG](#)
- [Saturday_March_28_2009.JPG](#)
- [Saturday_March_28_2009.JPG](#)
- [Saturday_March_28_2009.JPG](#)
- [Friday_March_27_2009.JPG](#)
- [Friday_March_27_2009.JPG](#)



REDRIVERGE JUL 29, 2009 21:00 296K



2009 Flood Information Page



James River Basin




North Dakota Water Science Center
[Home](#) | [Information/data](#) | [Publications](#) | [FAQs](#) | [Links](#) | [About us](#) | [Contact](#) | [Internal](#)

Watch on Red River at Grand Forks, ND



James River Flood Information [RSS](#) [Print](#) [Email](#)

In response to potential flooding in the James River Basin, fourteen rapidly deployable, mobile streamgages have been installed to provide short-term water-level data in critical areas. The fourteen streamgages are temporary and will be removed when the threat of flooding has passed.

Select a site from the table or map (right) to view data.

1	06457752 JAMES RIVER AT HANCOCK, ND	*discontinued
2	06458000 JAMES RIVER AT NEW ROCKFORD, ND	*discontinued
3	06458330 ZIPPESTON CREEK ON US-81, 5A WEST OF CARROLLTON, ND	*discontinued
4	06459000 JAMES RIVER BRIDGE JAMESTOWN DAM AT JAMESTOWN, ND	*discontinued
5	06459300 JAMES RIVER BRIDGE JAMESTOWN DAM AT JAMESTOWN, ND	*discontinued
6	06459313 JAMES RIVER BRIDGE ON US-81, 2A JAMESTOWN, ND	*discontinued
7	06459330 ZIPPESTON CREEK ON 17TH AVENUE IN JAMESTOWN, ND	*discontinued
8	06459400 JAMES RIVER BRIDGE WEST OF JAMESTOWN, ND	*discontinued
9	06459513 JAMES RIVER AT STATE ROUTE 46 NE, ARDAM, ND	*discontinued
10	06459473 JAMES RIVER AT GATE NO. 21 NE GRAND RAPIDS, ND	
11	06459510 LUTTERWOOD CREEK SOUTHWEST OF LANSFORD, ND	
12	06459582 SOUTH BRANCH LUTTERWOOD CREEK SW OF LANSFORD, ND	*discontinued
13	06459590 LAKE LANSFORD SOUTH OF LANSFORD, ND	
14	06459593 LUTTERWOOD CREEK BRIDGE LAKE LANSFORD, ND	*discontinued

[Permanent Hydrologic Monitoring Network](#)

All North Dakota real-time pages in the James River Basin

All South Dakota real-time pages in the James River Basin

Rapid Deployment to Mobile Streamgages

The USGS has developed new rapidly deployable, mobile streamgages to provide short-term water-level data to critical areas lacking streamgages.

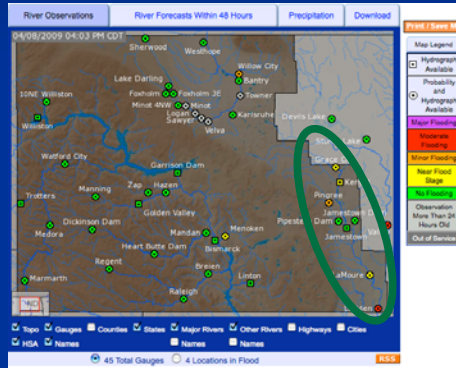
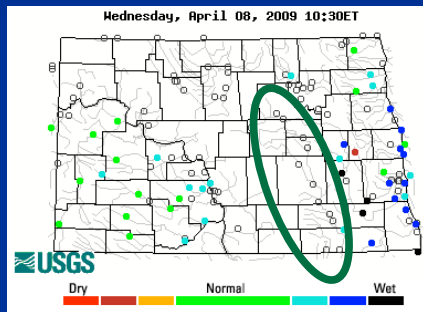
The USGS network of 7,400 streamgaging stations covers many of the Nation's streams - but not all. The lack of a gage can be critical during a storm or when an emergency condition requires more detailed monitoring. Therefore, USGS has developed new rapidly deployable, mobile streamgages to provide short-term water-level data to those areas. These mobile gages can also serve as emergency replacements for damaged or destroyed gages, especially when more detailed hydrologic information is needed less than a day before or after hurricane Katrina.

Communities in need of additional monitoring please contact [Gregg White](#) or [Steve Robinson](#)



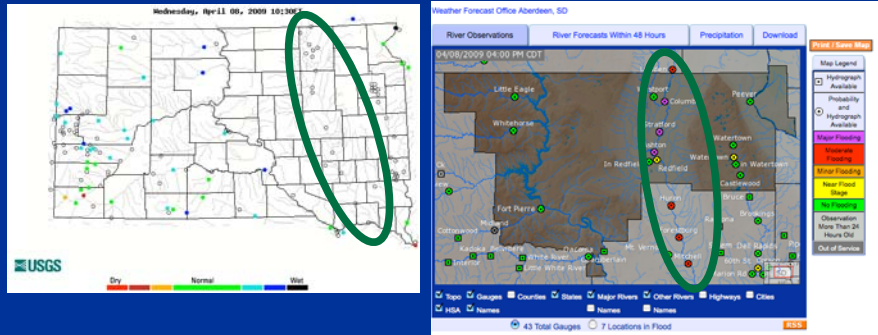


James River Basin Issue

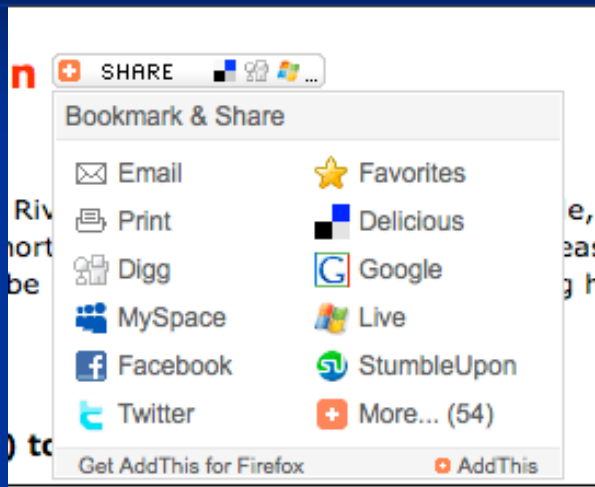


This one's for Mark Anderson SD WSC. He was the first one to point this out.

James River Basin in South Dakota



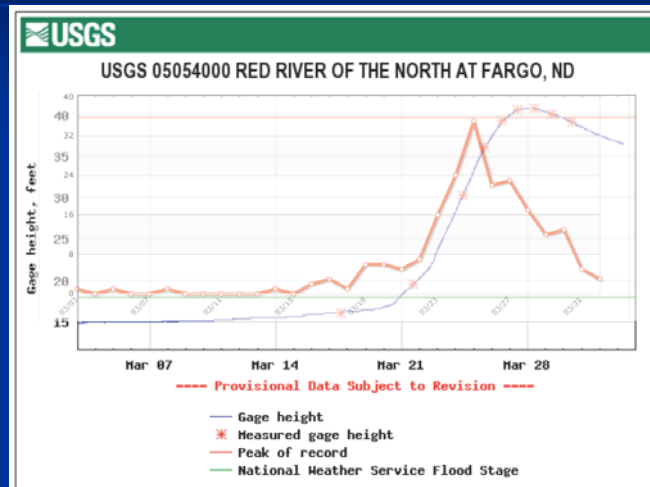
Facebook



USGS

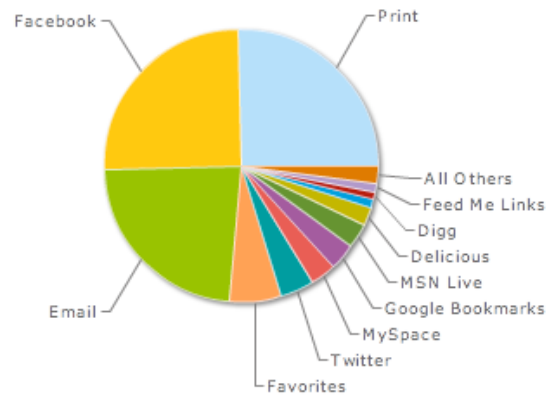
Blocked by DOI. Doesn't mean we can't encourage people to post our resources to Facebook

2009 Flooding First Time Facebook was a Major Referrer to Our Web Site



We know this from web log analysis and can see it in the tools provided by the share this service.

How Share Icon was Used



Relax Report

Relax Report

There is much more to this report. Numerous parts deleted to focus on 2 areas.

Search engine query terms and their local targets

n.	Count	%	Query term, local target
1	1418	2.28%	north dakota flooding
1	1358	95.77%	/floodtracking/
2	60	4.23%	/
2	713	1.15%	red river water level
1	713	100.00%	/nd/nwis/uv?05082500
3	635	1.02%	maple river dam
1	624	98.27%	/floodtracking/charts/05059715_09020205.html
2	10	1.57%	/floodtracking/
3	1	0.16%	/usa/nwis/uv?site_no=05059715
4	571	0.92%	north dakota flood
1	543	95.10%	/floodtracking/
2	21	3.68%	/
3	7	1.23%	/floodinfo/
5	566	0.91%	flooding in north dakota
1	556	98.23%	/floodtracking/
2	9	1.59%	/
3	1	0.18%	/nd/nwis/rt
6	507	0.81%	baldhill dam
1	468	92.31%	/floodtracking/charts/05058000_09020204.html
2	20	3.94%	/pubs/wdr/wdrnd97416/htdocs/f/05058000.html
3	6	1.18%	/pubs/wdr/wdrnd001/htdocs/f/05058000w00.html
4	5	0.99%	/pubs/wdr/wdrnd00344/htdocs/f/05057200.html
5	4	0.79%	/canoeing/sheyenne/flow.html
6	3	0.59%	/pubs/wdr/wdrnd991/htdocs/f/05058000wq99.html
7	1	0.20%	/canoeing/sheyenne/index.html



Relax

12	333	0.54%	why does the red river flow north
1	248	74.47%	/index/rrfaqs.html
2	54	16.22%	/canoeing/red/desc.html
3	20	6.01%	/canoeing/red/index.html
4	8	2.40%	/photos/1997RedFlood/
5	2	0.60%	/index/relatedlinks.html
6	1	0.30%	/index/faqs.html

17	264	0.42%	lake tschida
1	238	90.15%	/photos/resources/laketschida.html
2	24	9.09%	/floodtracking/charts/06345780_10130202.html
3	2	0.76%	/usa/nwis/uv?site_no=06345780



Relax

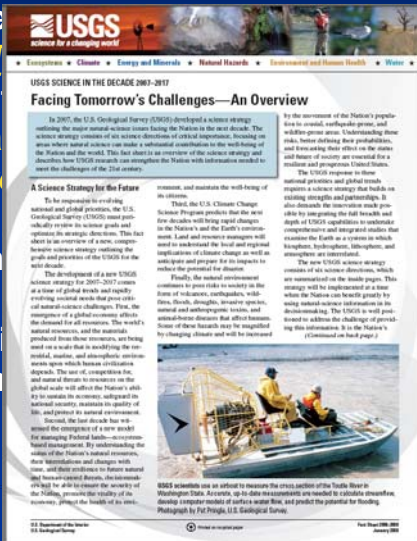
- External referring URLs to this site, and their local targets

Frustrations

- A Sampling

Facing Tomorrow's Challenges—An Overview

The USGS is well positioned of providing the Nation's and the world with the science and information and approaches to address the issues of tomorrow. The high, and the organization is multidisciplinary



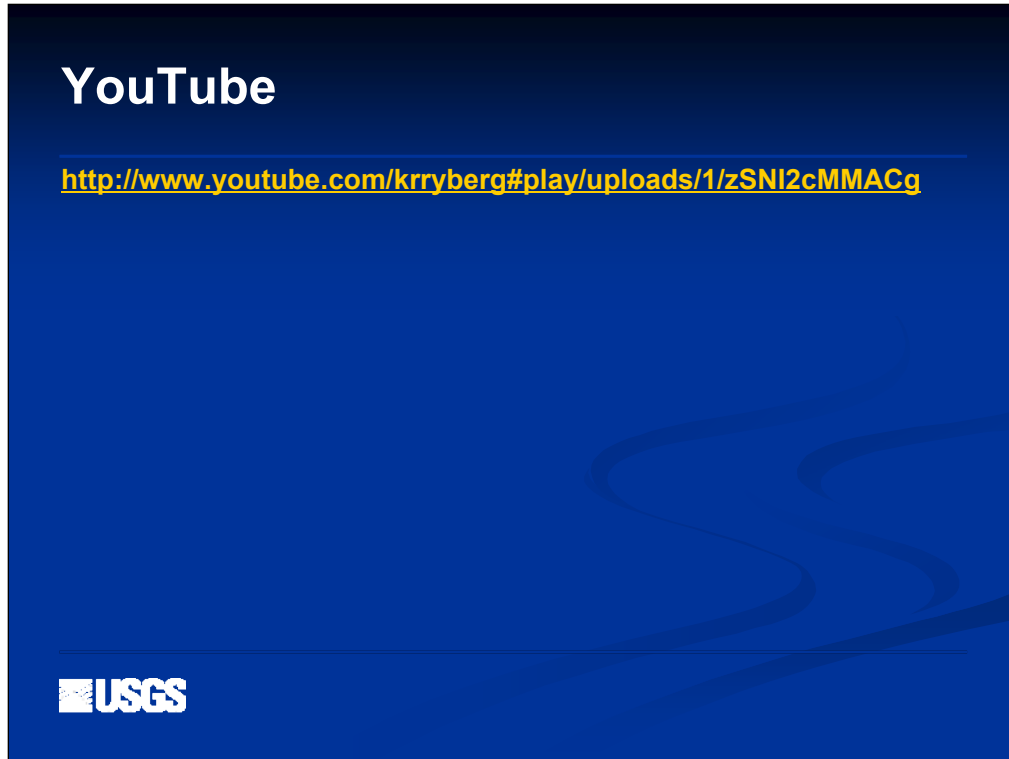
the challenge of providing the Nation's and the world with the science and information and approaches to address the issues of tomorrow. The high, and the organization is multidisciplinary



<http://pubs.usgs.gov/fs/2008/3008/fs2008-3008.pdf>

For many of us the world leading scientific expertise goes hand in hand with technology. We get this message, but if we want to chat with the National Weather Service online, we have to spend 5 months working on a waiver.

There are many wonderful, talented people keeping NWISWeb, NatWeb, WaterWatch, Science Center networks and web sites going. We want to be part of the world's leading natural science and information agency, but the restrictions can be demoralizing.



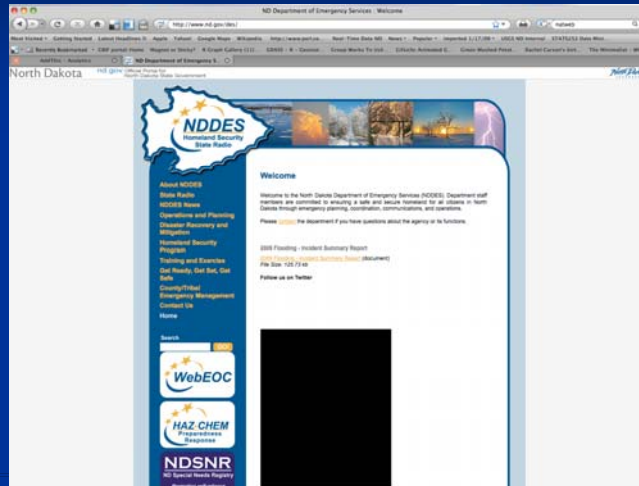
Cooperator asked us to visit YouTube as a tool for temporary gage sighting.

Blocked.

Corps of Engineers, National Guard, Red Cross, Coast Guard were all posting video to YouTube. I accessed on personal computer, was helpful in visualizing severe ice jam on Missouri River.

Uploaded video to You Tube using personal computer. Was very useful in getting images out to our cooperators and the public. Provides statistics and feedback. Once restriction was lifted, embedded YouTube vidoes on our web site – very easy, easier than us housing the video creating the html to display.

Twitter

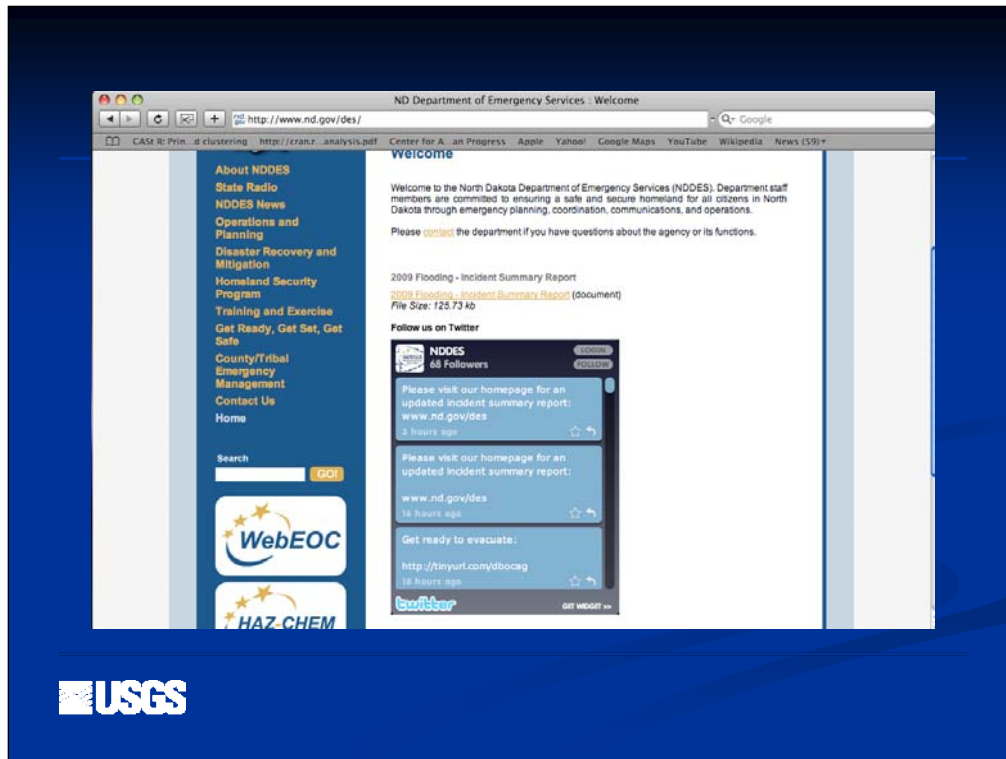


We did not use twitter. Was initially blocked by DOI, restriction temporarily lifted, but really too late for us to utilize and now it is blocked again.

Tony and I did monitor on our own time how people were using twitter during flooding. Very interesting – a lot of opportunities for the USGS.

Our Cooperators used twitter.

<http://www.nd.gov/des/> - web site has changed slightly since this screen shot was taken



http://www.nd.gov/des/ - on a non-DOI computer - web site has changed slightly since this screen shot was taken



OFFICE OF THE SECRETARY
U.S. Department
of the Interior

www.doi.gov

Media Advisory

For Immediate Release: April 24, 2009
Contact: Frank Quimby, (DOI) 202-208-6416
Nedra Darling, (Indian Affairs) 202-219-4152

Secretary Salazar to Visit North Dakota, Meet State and Tribal Leaders, Announce Indian Affairs Economic Recovery Projects

***Will be Joined by U.S. Senators Byron Dorgan and Kent Conrad,
U.S. Rep. Earl Pomeroy and North Dakota Governor John Hoeven***

On Saturday, April 25, 2009, Secretary of the Interior Ken Salazar will visit North Dakota, where he will be joined by Senators Byron L. Dorgan (D-ND) and Kent Conrad (D-ND) Rep. Earl Pomeroy (D-ND) and Gov. John Hoeven, and meet with local leaders and tribal officials. The Secretary will announce Interior's Indian Affairs funding under the American Recovery and Reinvestment Act of 2009. He also will visit communities hit by recent flooding and confer with state and federal flood response officials.

Event #1 -- Tour of State Emergency Operations Center

Who: Secretary of the Interior Ken Salazar
U.S. Senator Byron L. Dorgan (D-ND)
U. S. Senator Kent Conrad (D-ND)
U.S. Rep. Earl Pomeroy (D-ND)
North Dakota Governor John Hoeven

What: Tour State Joint Emergency Operations Center and briefing on flood response coordination efforts

When: The tour will begin at 8 a.m. CDT in the Emergency Operations Center

Where: The Emergency Operations Center is Building #35 in the National Guard facility on Fraine Barracks Lane, west side of Bismarck, North Dakota, 58506

Media: Credentialed media are invited to join the tour and briefing.



http://www.doi.gov/news/09_News_Releases/042409.html

Climate Change and Water Resources Management: A Federal Perspective

Two science agencies, USGS and NOAA, “share a symbiotic relationship, where the operating capabilities required by one agency may drive the direction of science inquiries for another, which in turn may result in *improved knowledge and processes for operation.*”

USGS Circular 1331



<http://pubs.usgs.gov/circ/1331/>

Possibilities

- How might we use resources like Twitter and Facebook?



Twitter, kicking babies, and the USGS

I kicked Mommy at 08:52 P M on
Fri, Jan 2!

- Earthquakes
- Floods
- Dissolved oxygen



Putting Twitter's World to Use

By [CLAIRE CAIN MILLER](#)

Published: April 13, 2009

The New York Times

Soon, machines could twitter as much as people. Corey Menscher, a graduate student at [New York University](#), developed the Kickbee, an elastic band with vibration sensors that his pregnant wife wore to alert Twitter each time the baby kicked: "I kicked Mommy at 08:52 PM on Fri, Jan 2!" Mr. Menscher is now considering selling the product.

Twitter, Nicholas Kristof, National Geographic, Facebook, and the USGS

- Crowd Sourcing

- National Geographic



- The James River Basin

- New USGS Publications



Based on fan comments on Nicholas Kristof's page in Facebook.

American Geophysical Union and Social Networking

AGU is now
on Facebook

<http://www.facebook.com/AmericanGeophysicalUnion>

EOS, American Geophysical Union, July 14, 2009



American Geophysical Union and Social Networking



EOS, American Geophysical Union, July 21, 2009



Leaders, Peloton, Stragglers



USGS

The pack rides at Envalira pass on July 11, in the 176 km eighth stage of the 2009 Tour de [France](#) cycling race run between Andorre-la-Vella and [Saint-Girons](#). AFP / Getty Images / Patrick Hertzog

Used for educational, non-commercial purposes only

<http://www.sacbee.com/static/weblogs/photos/2009/07/tour-de-france-enters-the-seco.html>