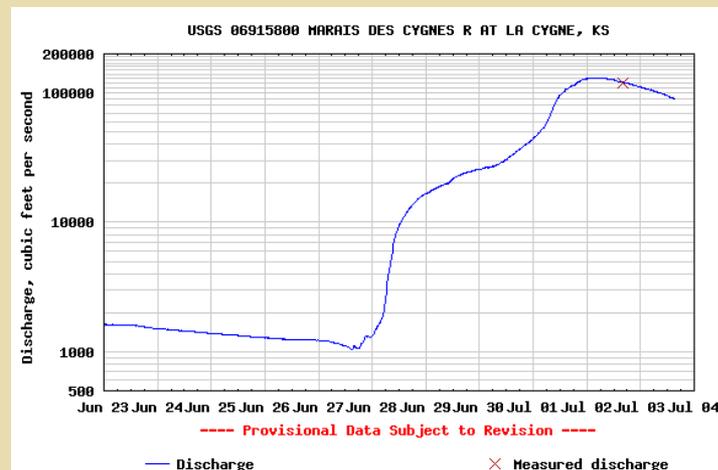


USGS Streamgaging Network and Flood Information



Brian Loving
USGS Kansas Water Science Center
Lawrence, Kansas
bloving@usgs.gov

November 9, 2011
Augusta, Kansas

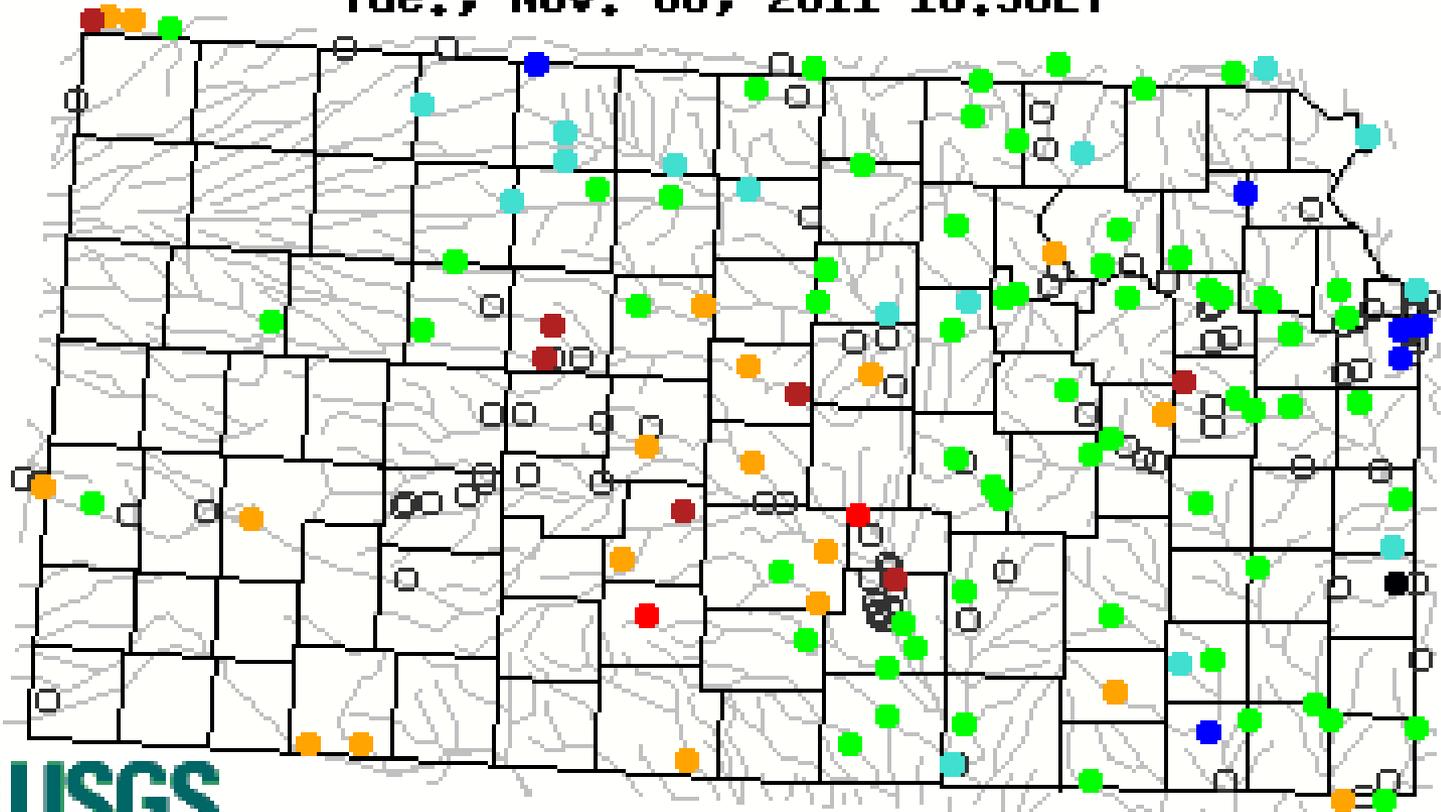


USGS Streamgaging Network and Flood Information

- Description of Kansas streamgaging network
- Uses of streamgage information
- Streamgage anatomy/operation
- Roles of Federal Agencies in Flood Info
- Flood information on the Web

USGS Streamgaging Network in Kansas

Tue., Nov. 08, 2011 16:30ET



USGS Streamgaging Network in KS

Streamgages-2011

159 real-time flow gages
22 real-time stage only
16 reservoir elevation
24 peak-flow gages



Network Costs

\$2.5M per year

Funding Sources

State / Local agencies	\$761K	30%
Other Federal agencies	\$558K	22%
USGS Cooperative Program	\$584K	23%
USGS Nat'l Streamflow Info	\$634K	25%

Who Pays for Streamgaging in Kansas?

- Kansas Water Office
- Kansas Department of Transportation
- Kansas Department of Health and Environment
- Kansas Department of Wildlife and Parks
- Arkansas River Compact Administration
- Pawnee Watershed District
- U.S. Bureau of Reclamation
- Johnson County
- Wyandotte County
- Shawnee County
- City of Wichita
- City of Hays
- City of Hutchinson
- City of Arkansas City
- City of Augusta
- City of Russell
- City of Topeka
- City of Manhattan
- City of Ottawa



**Plus funding from
USGS and USACE**



Expanding Uses of Streamflow Information

- Issuing flood warnings to protect lives and reduce property damage
- Mapping floodplains and flood inundation mapping
- Planning, designing, operating, and maintaining the nation's multipurpose water management system
- Designing highways and bridges
- Monitoring environmental conditions and protecting aquatic habitats
- Protecting water quality and regulating pollutant discharges
- Managing water rights and trans-boundary water issues
- Education and research
- Recreational uses



Cowskin Creek Flood Watch

Cowskin Creek Flood Watch

The Cowskin Creek flood of October 31, 1998 caused millions of dollars in damages in northwest Wichita, Kansas. This page was developed to help inform emergency management personnel and local citizens of potential flood hazards before, during and after they occur. Estimated flood-inundation maps are available here for flood heights of 17 to 23 feet based on the US Geological Survey's streamflow gage at 119th Street (station number 07144480), which is used by the National Weather Service (NWS) as the flood forecast point. All of these maps can be viewed at any time and the map coinciding with the most current flood forecast will automatically be displayed when the NWS flood forecast is issued. There are also many links to helpful information from the National Weather Service, Federal and Local Emergency Management, and the U.S. Geological Survey.

View All Flood Area Maps

Select Flood Height [Current](#)

Links

- [National Weather Service Advanced Hydrologic Prediction Service Page for Cowskin Creek](#)
- [Cowskin Creek @ 29th St, Wichita \(Realtime\)](#)
- [Cowskin Creek @ 119th St, Wichita \(Realtime\)](#)
- [Cowskin Creek @ Maple St, Wichita \(Realtime\)](#)
- [Sedgwick County Emergency Management](#)
- [FEMA - Information about flooding](#)
- [Wichita Weather Radar](#)
- [Current Streamflow Data For Kansas](#)

Publications

- [Full Report On Cowskin Creek](#)

Affiliations

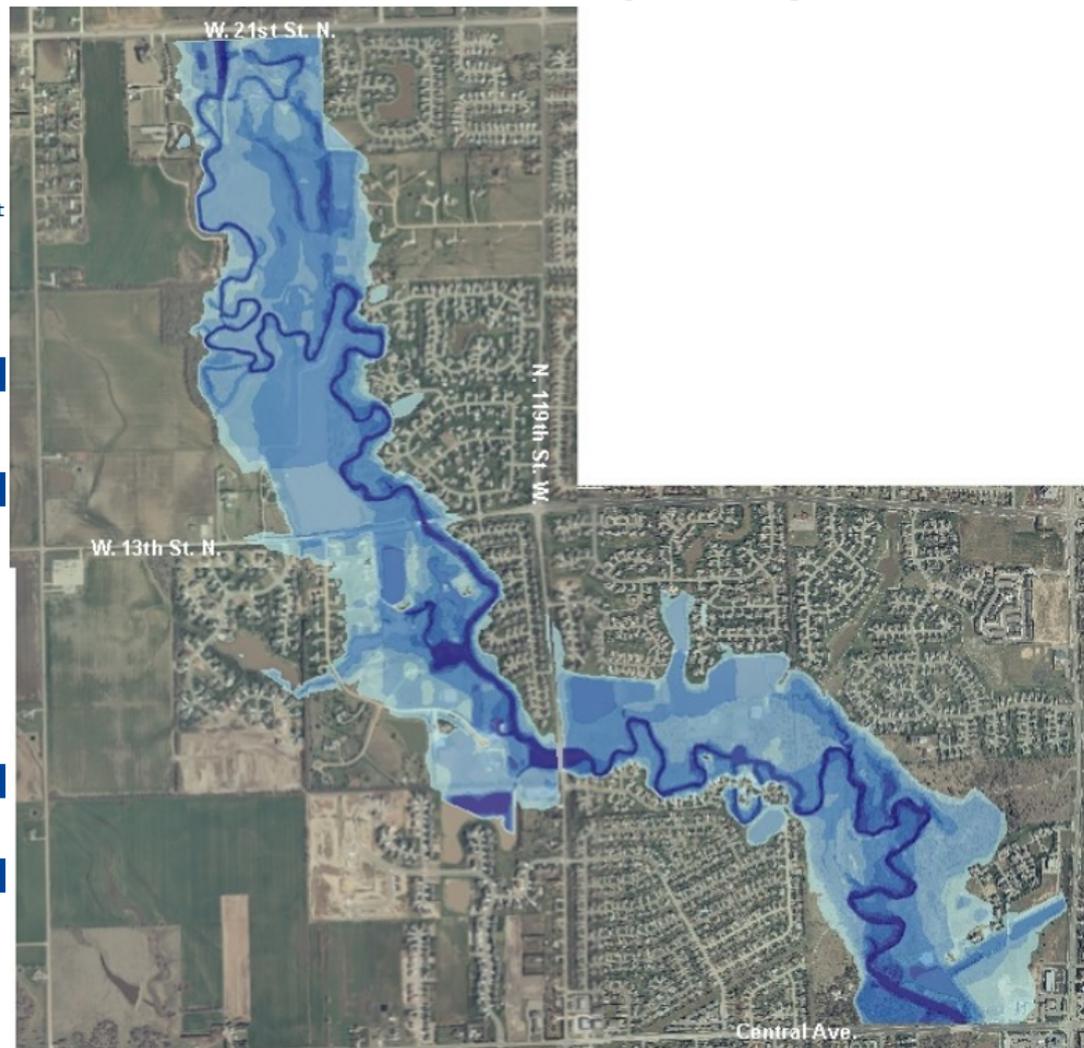


Kansas Flood Watch

NOTE: October 1998 Flood Height Was 22 Ft.

Flood Height - 22 ft.

Estimated Flood-inundation for given Flood Stage



USGS Streamgages Support Flood Forecasting



- **Historical data for model calibration**
- **Current conditions for model updates during a flood**
- **Stage-discharge rating for flow-to-stage conversions**

Operation and Maintenance of Streamgages



**Data Collection
Platform Antenna**

**Solar Panel-charges
12V battery**

**Tipping Bucket Rain
Gage**

Operation and Maintenance of Streamgages



**Pressure transducer-
measures changes in
water level**

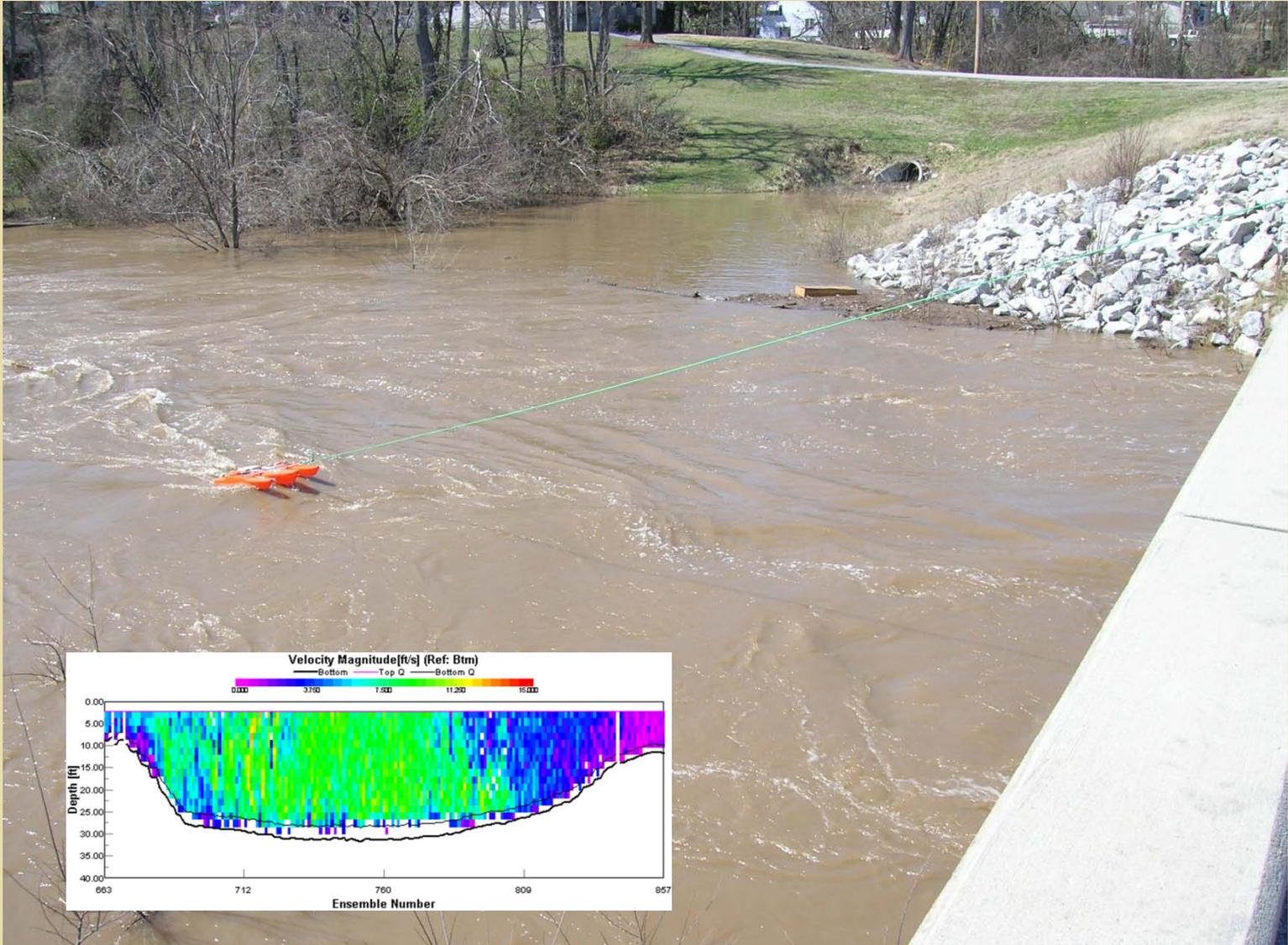
**Data Collection
Platform (DCP)-logs
data and transmits to
GOES satellite**

**Pressure system-
supplies and
regulates constant
pressure in line
connected to stream**

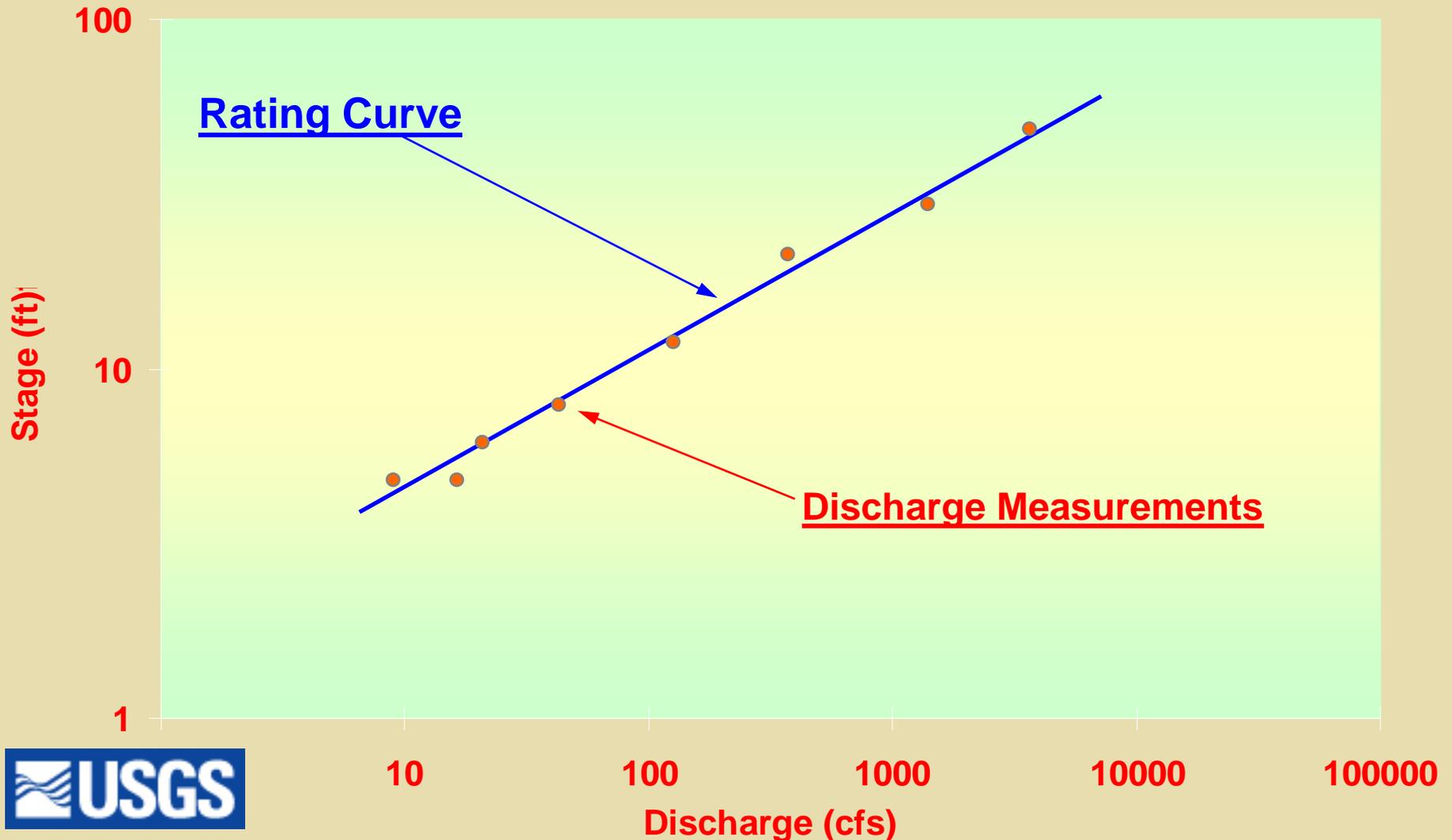
Non-Contact Radar Stage Sensor



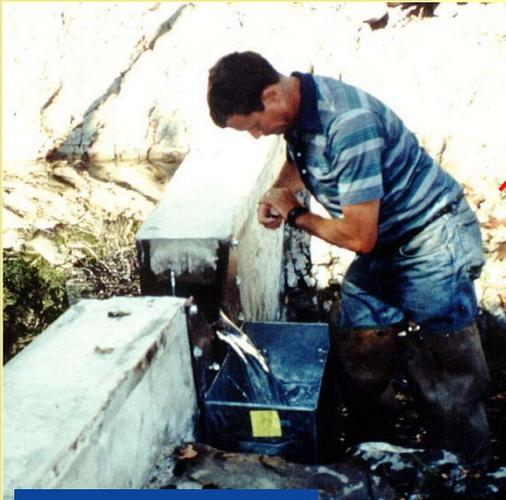
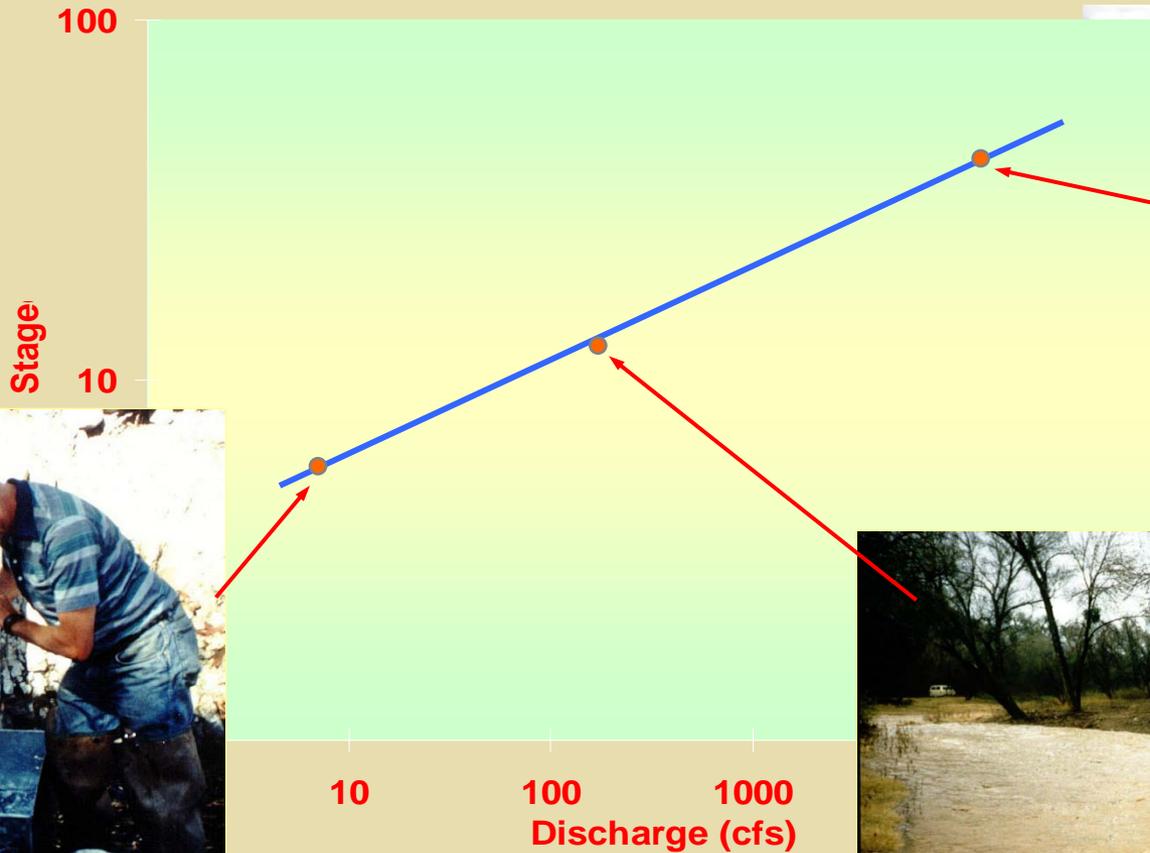
Direct Flow Measurements



Discharge measurements are used to develop rating curves



Discharge must be measured at all stages



Converting Stage to Discharge

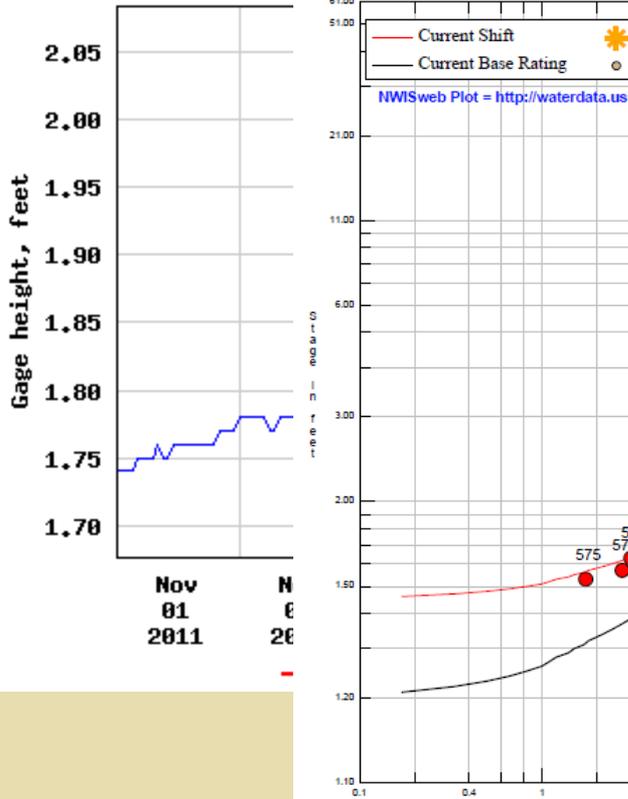
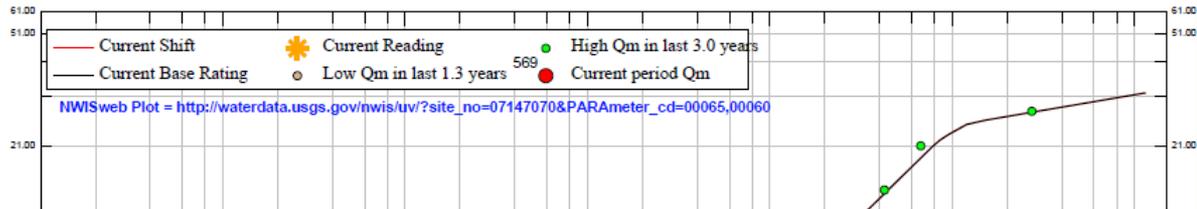
(and vice versa)

07147070 - WHITEWATER R AT TOWANDA, KS

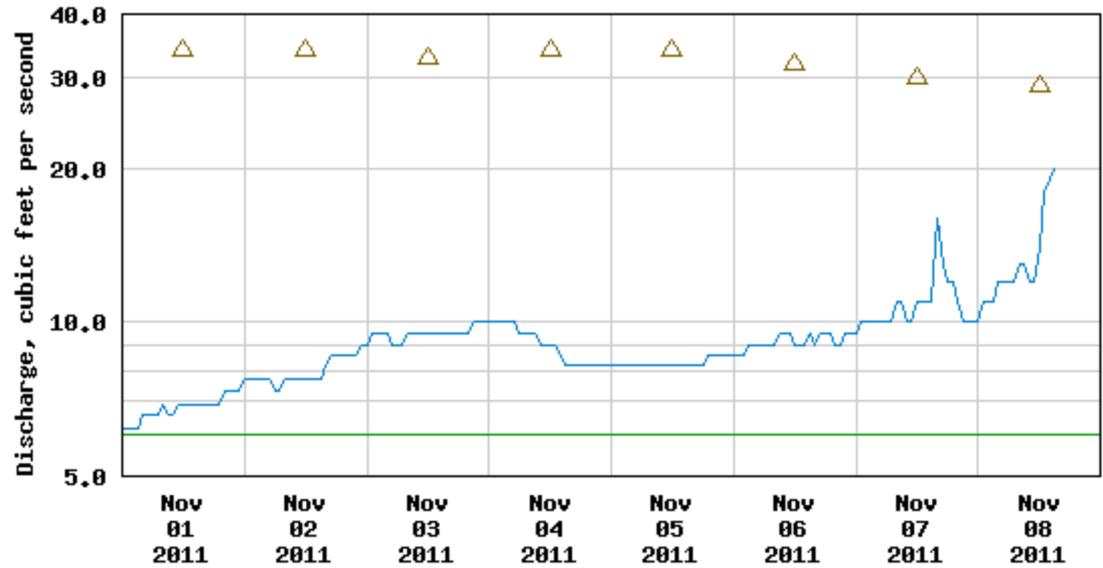
Current Period 02/08/2011 to 11/08/2011 (9 months)

Current NWISweb Reading:

11/08/11 04:00 GH:1.87 Q:12 CHG:0.01 ft/hr



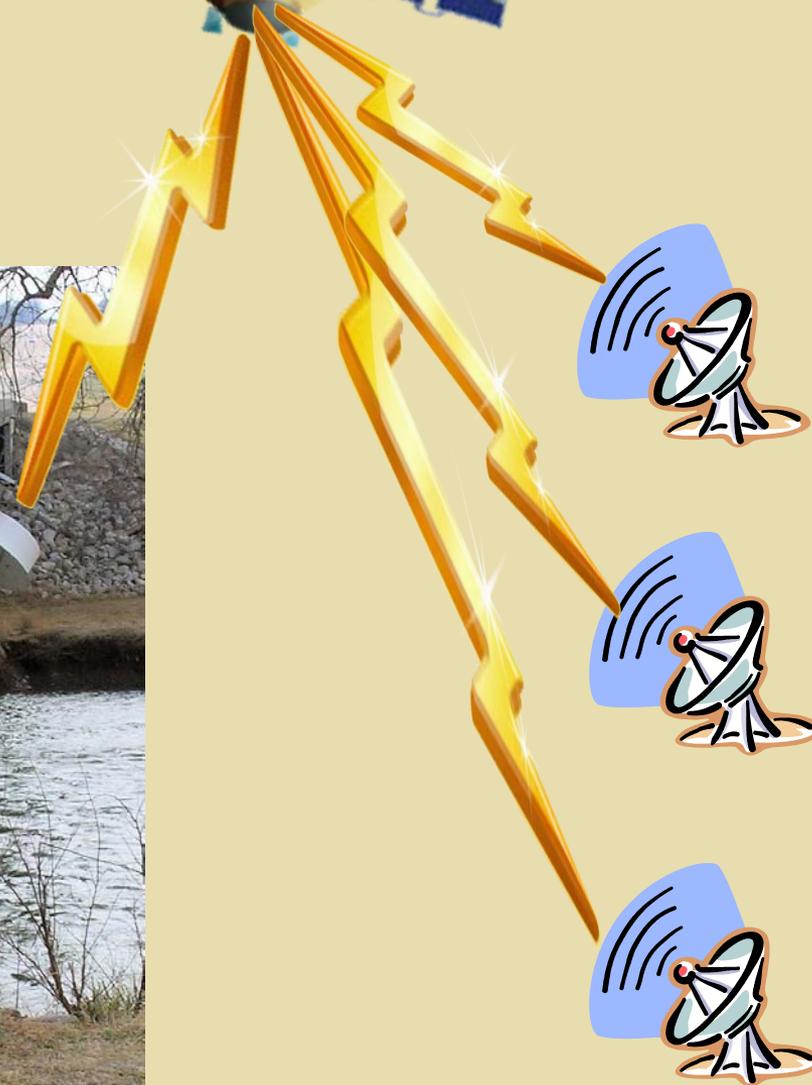
USGS 07147070 WHITEWATER R AT TOWANDA, KS



---- Provisional Data Subject to Revision ----

△ Median daily statistic (49 years) — MDS for November
 — Discharge

Transmission of Stream Stage Data



Roles of Federal Agencies In Flood Warning Operations



Streamflow Data Collection

- Operate Stream/Lake Gages
- Develop Stage-Discharge Ratings
- Provide data to public and other agencies at all levels



Forecasts/Warnings

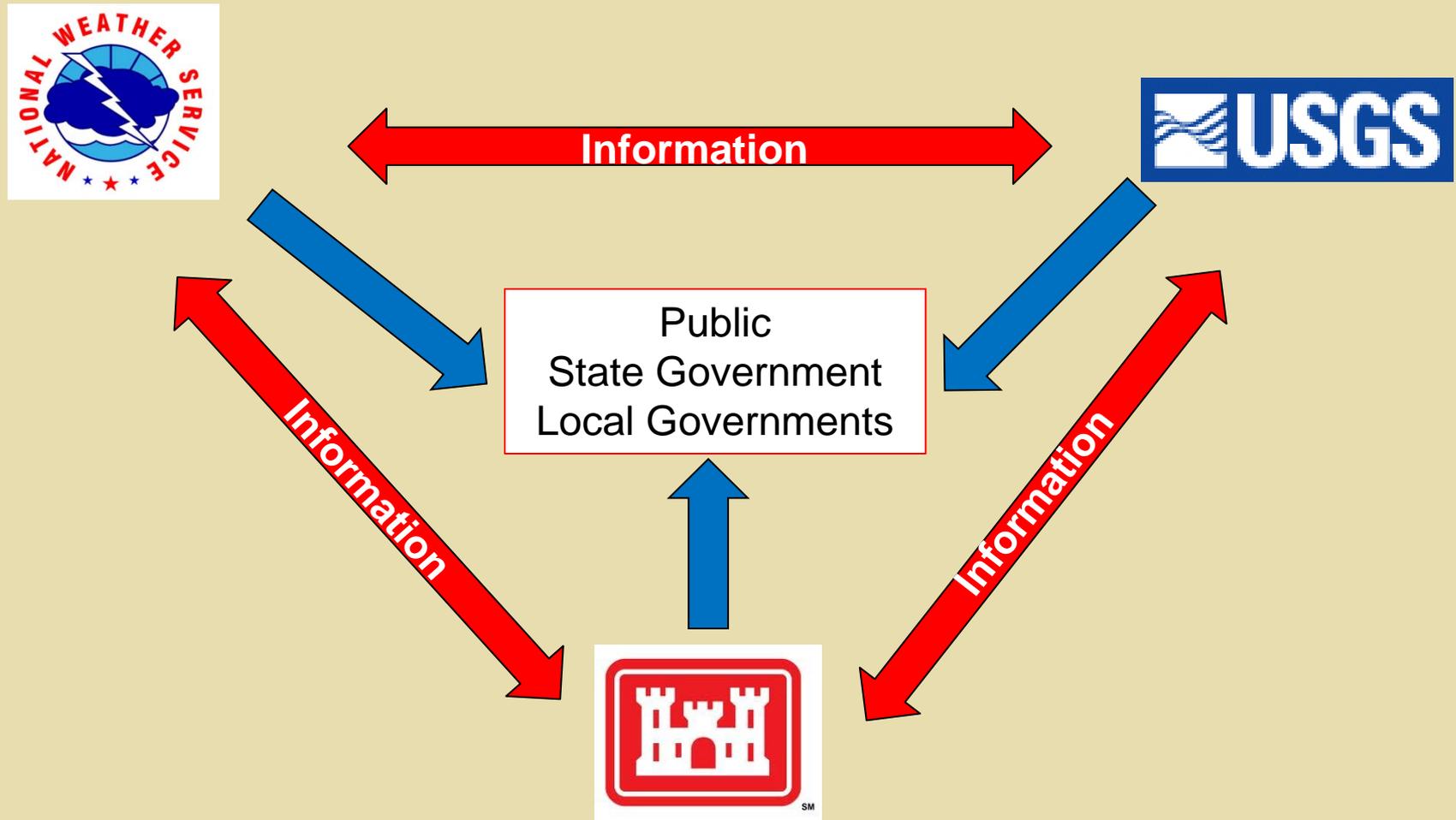
- Model and forecast future streamflows
- Set flood stages and determine local effects
- Notify other agencies, media and public of flood hazards



**Reservoir Operations and
Hazard Mitigations**

- Operate some Stream/Lake Gages
- Provide data to public and other agencies at all levels
- Operation of COE Reservoirs
- Flood mitigation efforts

Communication of Flood Information



Streamflow Data on the Web



Real-time Streamflow Information

<http://waterdata.usgs.gov/ks/nwis/rt>

USGS Real-Time Water Data for Kansas - Windows Internet Explorer

http://waterdata.usgs.gov/ks/nwis/rt

USGS science for a changing world

National Water Information System: Web Interface

USGS Water Resources (District Access)

Data Category: Real-time Geographic Area: Kansas GO

News - updated March 17, 2010

USGS Real-Time Water Data for Kansas

--- Predefined displays --- Introduction Group table by -- no grouping -- Select sites by number or name go

Daily Streamflow Conditions

Select a site to retrieve data and station information.
Monday, March 29, 2010 12:30ET

Statewide Streamflow Table

Real-time data typically are recorded at 15-60 minute intervals, stored onsite, and then transmitted to USGS offices every 1 to 4 hours, depending on the data relay technique used. Recording and transmission times may be more frequent during critical events. Data from real-time sites are relayed to USGS offices via satellite, telephone, and/or radio and are available for viewing within minutes of arrival.

All real-time data are **provisional and subject to revision**.

[Build Table](#) Build a custom summary table for one or more stations.

Local intranet 100%

Real-time Streamflow Information



USGS
science for a changing world

USGS Home
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

[USGS Water Resources](#) (District Access)

Data Category: Geographic Area:

[News](#) updated March, 2011

Real-Time Data for Kansas: Streamflow -- 182 site(s) found

PROVISIONAL DATA SUBJECT TO REVISION

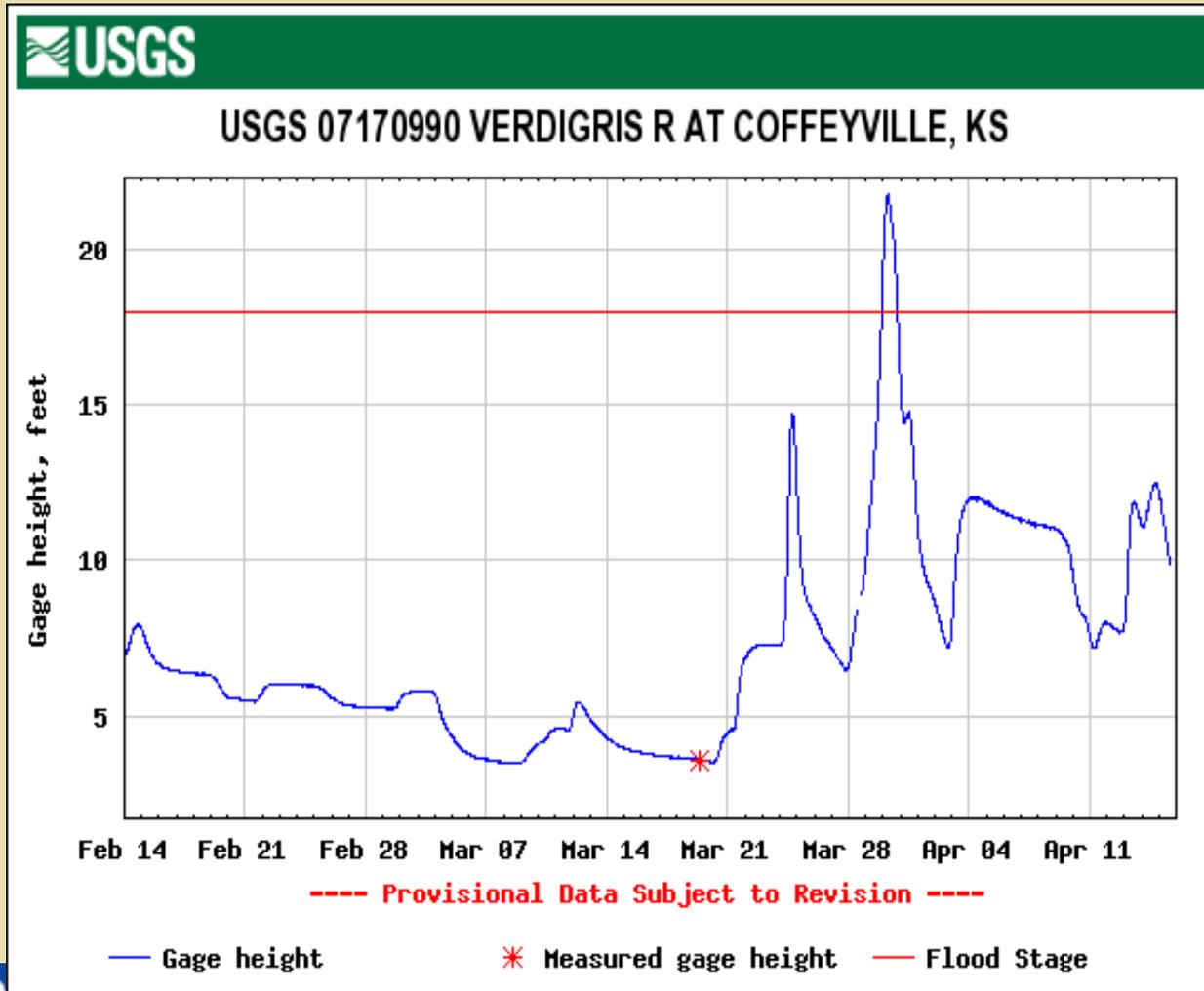
--- Predefined displays ---	Group table by	Select sites by number or name
<input type="text" value="Kansas Streamflow Table"/>	<input type="text" value="-- no grouping --"/>	<input type="text" value=""/> <input type="button" value="go"/>

[Customize table to display other real-time parameters](#)

Station Number	Station name	Long-term median flow 4/20	Gage height, feet	Dis-charge, ft ³ /s	Date/Time
06814000	TURKEY C NR SENECA, KS	43.0	2.77	99	04/20 13:45 CDT
06827000	SF REPUBLICAN R NR CO-KS ST LINE, KS	8.00	3.53	9.6	04/20 13:45 CDT
06845110	SAPPA C NR LYLE, KS	4.90	5.51	7.1	04/20 13:30 CDT
06846500	BEAVER C AT CEDAR BLUFFS, KS	.000	2.76	0.00	04/20 14:00 CDT
06847900	PRAIRIE DOG C AB KEITH SEBELIUS LAKE, KS	4.50	3.75	7.4	04/20 13:45 CDT
06848500	PRAIRIE DOG C NR WOODRUFF, KS	6.70	3.45	22	04/20 14:30 CDT
06853500	REPUBLICAN R NR HARDY, NE	200	3.68	498	04/20 13:30 CDT
06853800	WHITE ROCK C NR BURR OAK, KS	12.0	2.37	27	04/20 13:45 CDT
06854000	WHITE ROCK C AT LOVEWELL, KS	---	1.12	--	04/20 13:45 CDT
06856000	REPUBLICAN R AT CONCORDIA, KS	373	6.07	591	04/20 14:30 CDT
06856600	REPUBLICAN R AT CLAY CENTER, KS	648	8.35	796	04/20 14:30 CDT
06857100	REPUBLICAN R AT JUNCTION CITY, KS	231	5.56	226	04/20 13:45 CDT
06860000	SMOKY HILL R AT ELKADER, KS	2.60	3.54	0.16	04/20 14:30 CDT
06861000	SMOKY HILL R NR ARNOLD, KS	3.50	0.45	3.0	04/20 13:30 CDT
06862700	SMOKY HILL R NR SCHOENCHEN, KS	12.0	3.48	2.1	04/20 13:30 CDT

Real-time Water Level Data

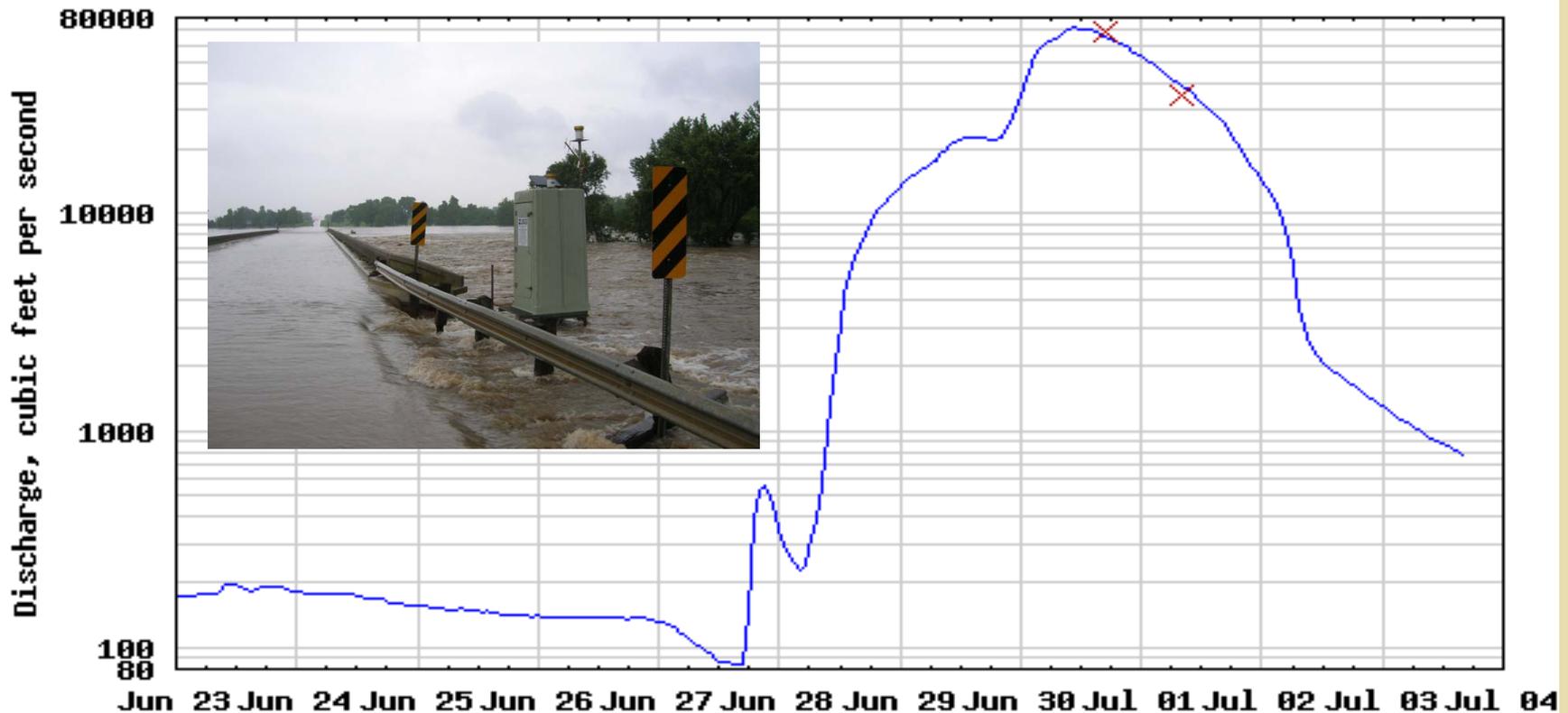
<http://waterdata.usgs.gov/ks/nwis/rt>



Real-time Flow data

<http://waterdata.usgs.gov/ks/nwis/rt>

USGS 07169500 FALL R AT FREDONIA, KS



---- Provisional Data Subject to Revision ----

— Discharge

× Measured discharge



Streamflow Information by County

<http://ga2.er.usgs.gov/kswater/>

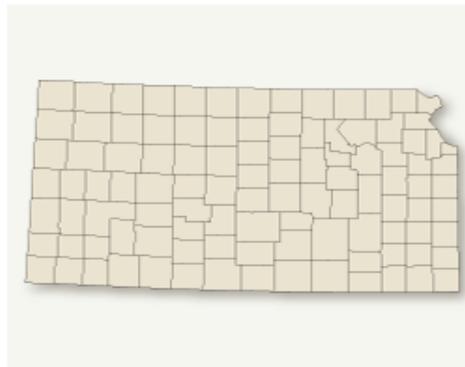


Kansas Water Information Network (KWIN)



Kansas Counties

The U.S. Geological Survey (USGS) provides current ("real-time") water information for over 170 sites in Kansas and historical information for thousands of more sites. Select a county from the map or from the links below.



 [List of Kansas real-time water-monitoring sites](#)

Related Links

[Annual hydrologic summaries](#)

[Water Use in Kansas](#)

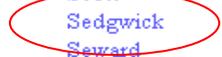
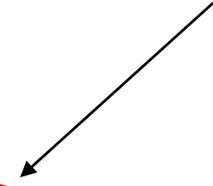
[Water Resources of Kansas](#)

Home page of Kansas Water Resources

Select a county:

Allen	Ellis	Lincoln	Rice
Anderson	Ellsworth	Linn	Riley
Atchison	Finney	Logan	Rooks
Barber	Ford	Lyon	Rush
Barton	Franklin	Mcpherson	Russell
Bourbon	Geary	Marion	Saline
Brown	Gove	Marshall	Scott
Butler	Graham	Meade	Sedgwick
Chase	Grant	Miami	Seward
Chautauqua	Gray	Mitchell	Shawnee

Select county



Streamflow Information by County

<http://ga2.er.usgs.gov/kswater/>



Kansas Water Information Network (KWIN) [Back](#) • [Home](#)

Sedgwick County



County facts

2000 population: 466,061
Land area: 1017 square miles
County seat:
[County statistics](#)

Water use

In 2000, total freshwater use was 94.82 million gallons per day (Mgal/d), of which 34.58 Mgal/d (36%) was from surface-water sources and 60.24 Mgal/d (64%) came from ground water.
[Data tables and charts](#)
[Water use for Kansas](#)

Sedgwick County real-time water information

Stage and streamflow

- [Arkansas R at Derby, KS](#) (07144550)
- [Arkansas R at Wichita, KS](#) (07144300)
- [Arkansas R nr Maize, KS](#) (07143375)
- [Cowskin C at 119th St at Wichita, KS](#) (07144480)
- [Cowskin C at 29th St North of Wichita, KS](#) (07144470)
- [Cowskin C at Maple St, Wichita, KS](#) (07144485)
- [Floodway At Arkansas R at Wichita, KS](#) (07144301)
- [Floodway At L Arkansas R at Valley Center, KS](#) (07144201)
- [L Arkansas R at Valley Center, KS](#) (07144200)
- [L Arkansas R nr Sedgwick, KS](#) (07144100)
- [Nf Ninneseah R at Cheney Dam, KS](#) (07144795)

Water quality

- [Cheney Res nr Cheney, KS](#) (07144790)
- [L Arkansas R nr Sedgwick, KS](#) (07144100)

Ground water

- [25S 01W 15BBB A01 Sedgwick Well](#) (375259097252901)
- [25S 01W 36BCCD01 Valley Center Well](#) (374956097231601)

Continuous Water Quality

- [L Arkansas R nr Sedgwick, KS](#) (07144100)



Kansas Water Information Network [Back](#) • [Sedgwick County \(KWIN\)](#) • [Home](#)

Kansas water picture



Help

- [Help: Streamflow concepts.](#)
- [Help: Explanations of topics](#)

Cowskin C at 29th St North of Wichita, KS (07144470)

Real-time water information

- [Stage and streamflow](#)

Long-term water information

Site description

- [Site-description page](#)

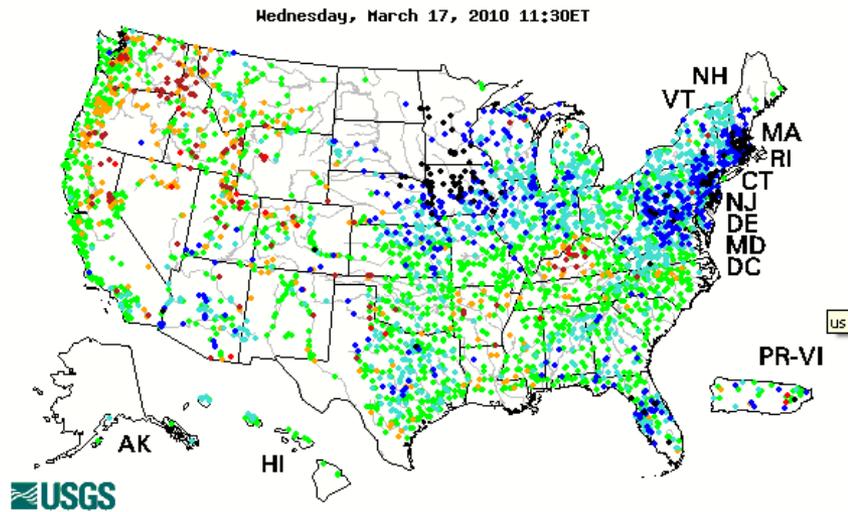


USGS WaterWatch

Streamflow Conditions

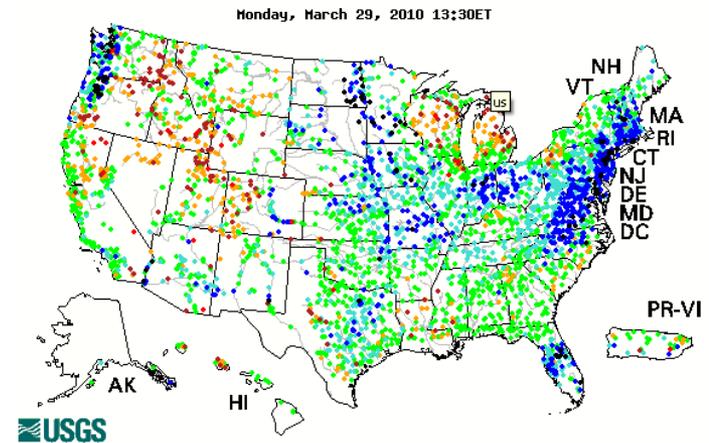
<http://waterwatch.usgs.gov/>

Map of real-time streamflow compared to historical streamflow for the day of the year (United States)



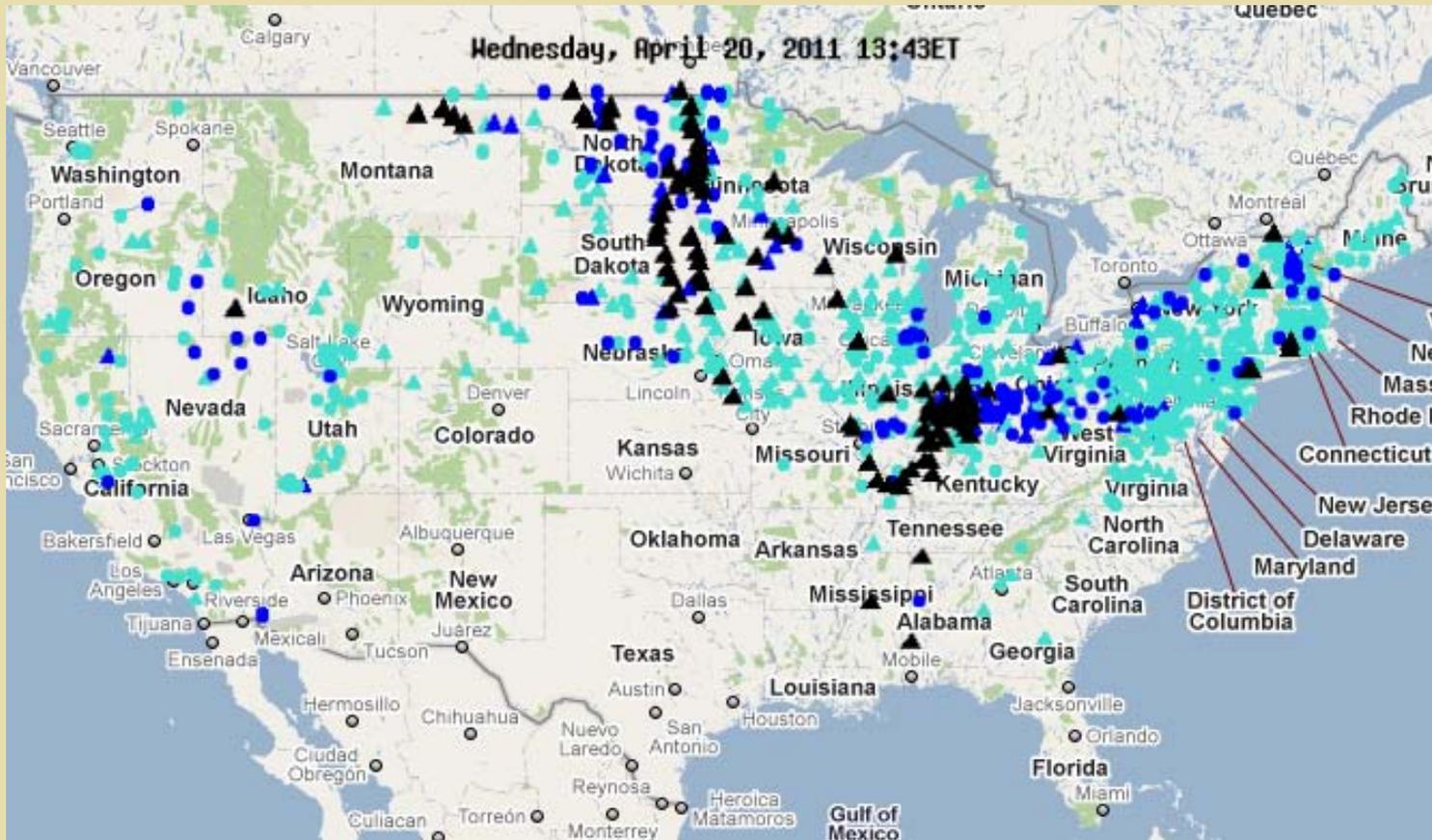
WaterWatch -- *Current water resources conditions*

Map of real-time streamflow compared to historical streamflow for the day of the year (United States)



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

USGS WaterWatch Goggle Map of Floods Last Week

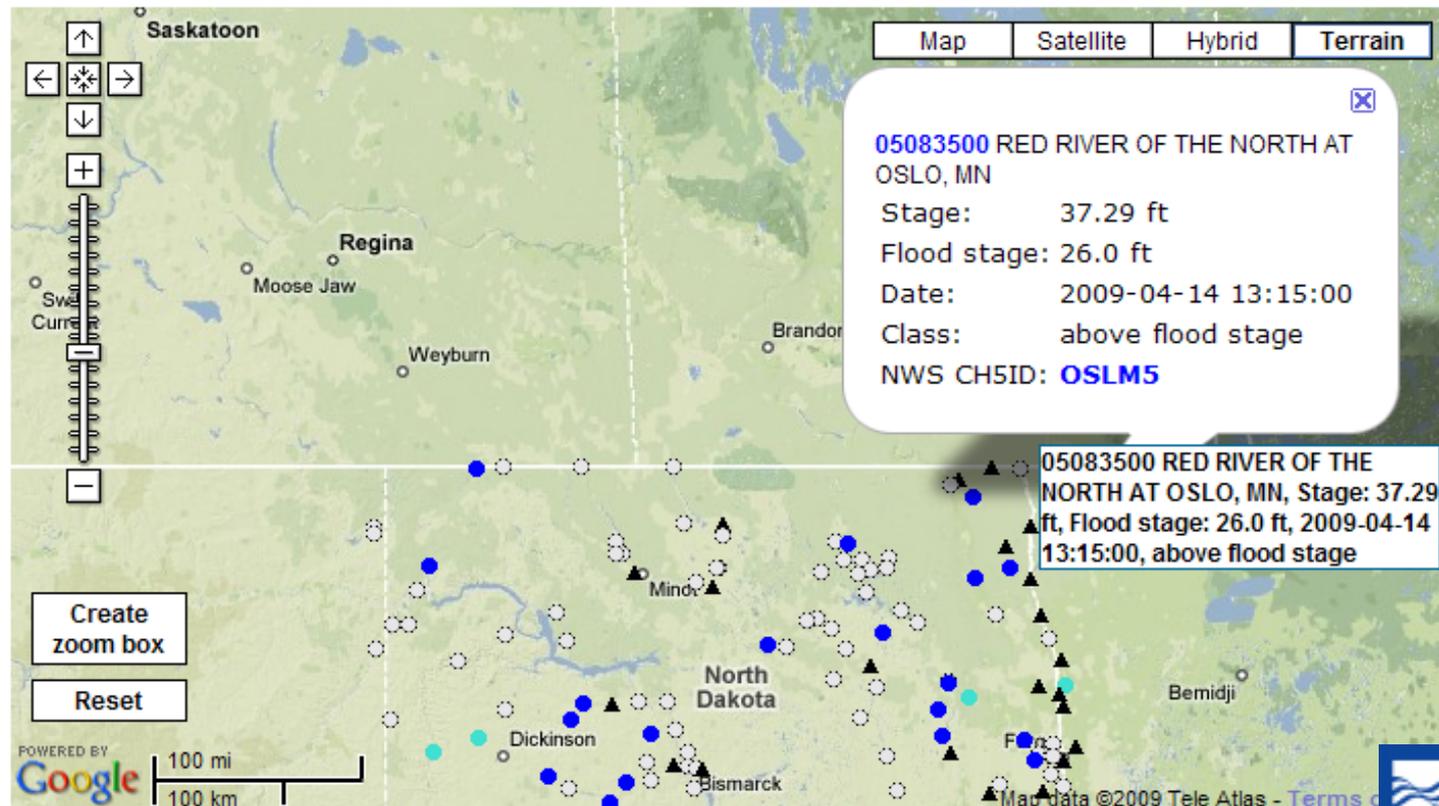


USGS WaterWatch

Google map with details

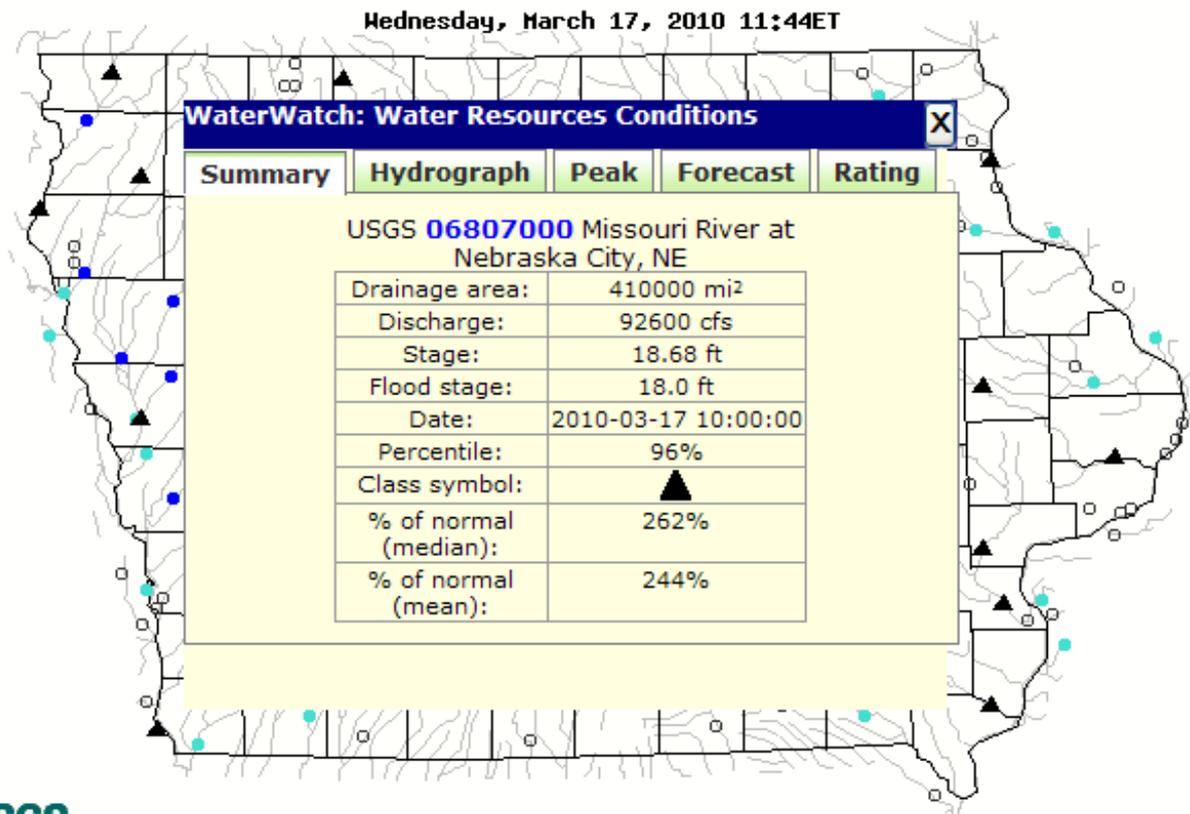
WaterWatch -- *Current water resources conditions*

Map of flood and high flow condition (United States)



USGS WaterWatch Iowa Current Conditions

Map of flood and high flow condition (Iowa)
[Google Maps version of this map](#)

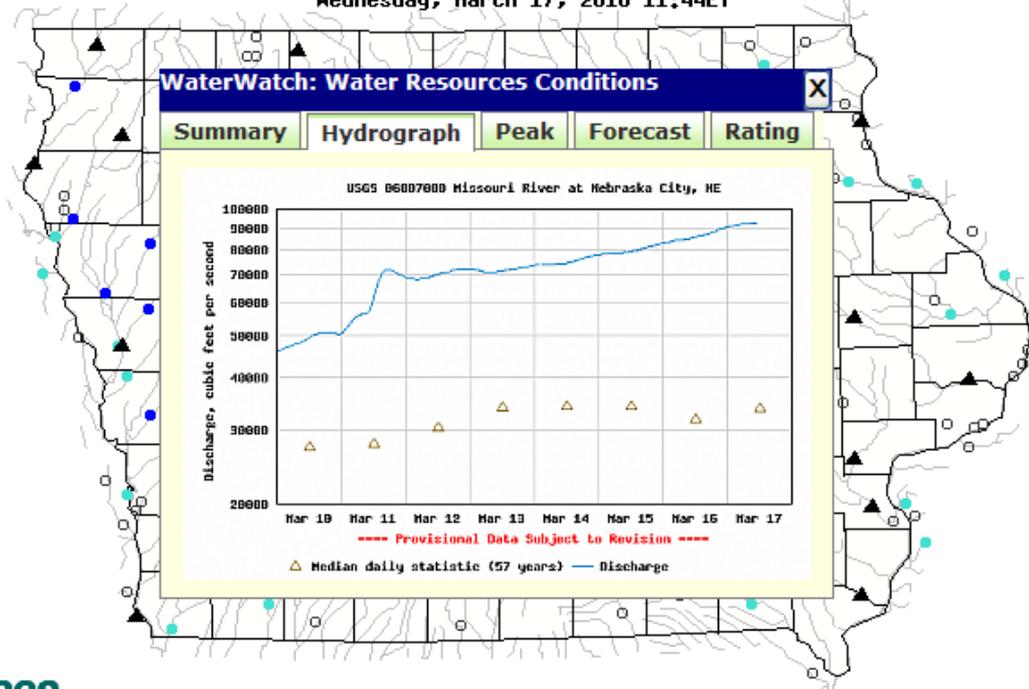


USGS WaterWatch Iowa Current Conditions

Map of flood and high flow condition (Iowa)

[Google Maps version of this map](#)

Wednesday, March 17, 2010 11:44ET



⚠ Done, but with errors on page.

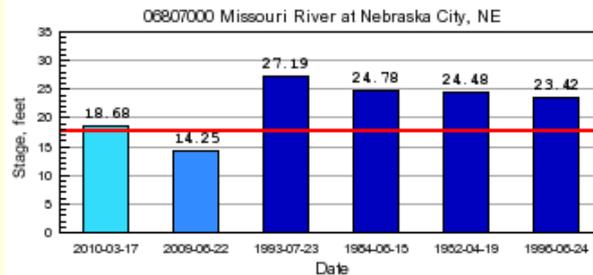
USGS WaterWatch Iowa Current Conditions

Map of flood and high flow condition (Iowa) Google Maps version of this map

Wednesday, March 17, 2010 11:44ET

WaterWatch: Water Resources Conditions

Summary Hydrograph Peak Forecast Rating



- Current Stage 18.68 feet on 2010-03-17 10:00:00 (provisional)
- Recent Maximum Stage (previous 365 days) 14.25 feet on 2009-06-22 (provisional)
- Highest Recorded Peak Stages
- National Weather Service Flood Stage 15.0 feet



Additional Information:

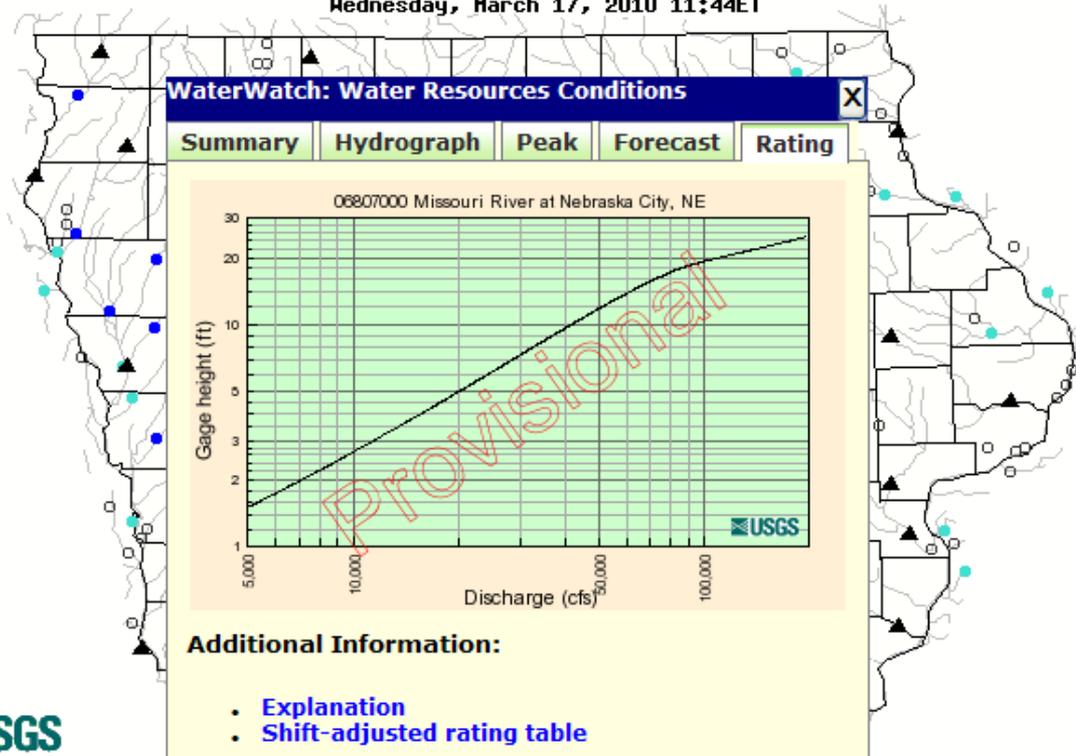
- USGS Peak Streamflow



USGS WaterWatch Iowa Current Conditions

Map of flood and high flow condition (Iowa)
Google Maps version of this map

Hednesday, March 17, 2010 11:44ET



USGS WaterWatch

Summary of SD Flood Conditions-2011

Retrieve Summary of Recent Flood and High Flow Conditions

(Warning: These Data are Provisional and May be Prone to Error.)

Geographic area: South Dakota	Region (Box): Open Box Chooser	SW: 	NE: 	Refresh
Begin Date: 2011-03-20	End Date: 2011-04-20	Output format: <input checked="" type="radio"/> table <input type="radio"/> map	<input type="checkbox"/> Flooding sites only	Sort by: Rank
				Sort order: <input checked="" type="radio"/> ascend <input type="radio"/> descend

Summary of Recent Flood and High Flow Conditions

(2011-03-20 -- 2011-04-20)

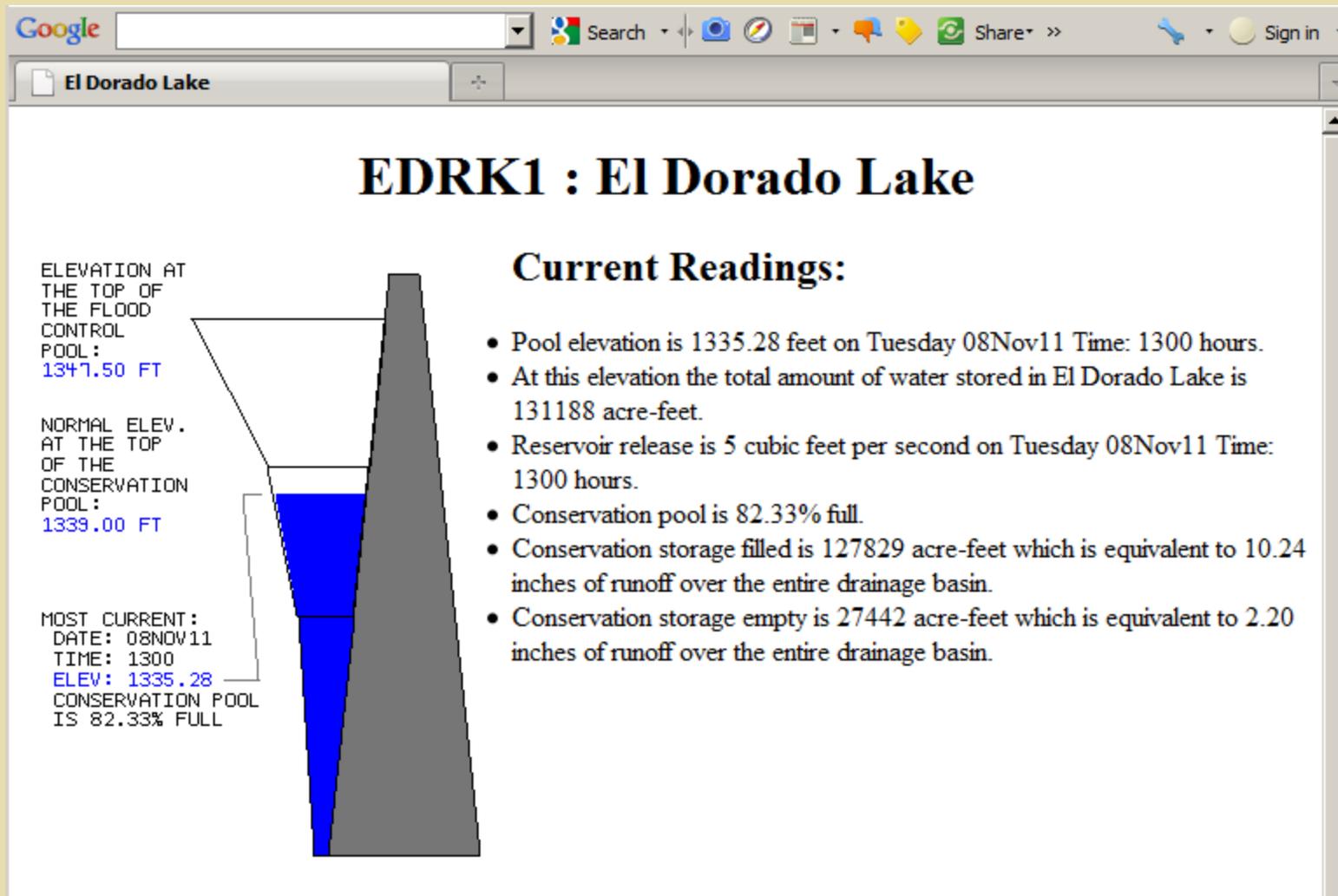
["--", no data; "<", less than all historical peaks]

USGS station number	USGS station name	Drain. area [mi ²]	NWS flood stage [ft]	No. of days above flood stage	Highest peak from 2011-03-20 to 2011-04-20						Historical Peaks	
					Date	Stage [ft]	Stream flow [ft ³ /s]	Recur. interval [years]	Perc. flood	Rank	No. of years	Max. (year) [ft ³ /s]
06360500	MOREAU R NEAR WHITEHORSE,SD	4880	21	2	2011-03-20	26.59	32600	25-50	2-4	1	57	29700 (1997)
06477000	JAMES R NEAR FORESTBURG,SD	17590	12	32	2011-03-25	20.27	28000	>100	<1	1	63	25600 (1997)
06478000	JAMES R NEAR MITCHELL,SD	19100	17	32	2011-03-25	25.16	28100	>10	<10	1	24	28000 (1997)
06476000	JAMES R AT HURON,SD	15869	11	32	2011-03-26	20.15	20300	>100	<1	2	73	23400 (1997)
05050000	BOIS DE SIOUX RIVER NEAR WHITE ROCK, SD	1160	80	0	2011-04-13	15.91	7000	--	--	2	69	8750 (1997)
06481480	SKUNK CR NR CHESTER,SD	53.2	7	0	2011-03-20	6.38	1010	--	--	2	13	1060 (1986)
06478513	JAMES RIVER NR	20842	--	--	2011-03-28	22.22	28100	>10	<10	2	24	28800



USACE Tulsa District

<http://www.swt-wc.usace.army.mil/>





USACE Tulsa District

<http://www.swt-wc.usace.army.mil/>

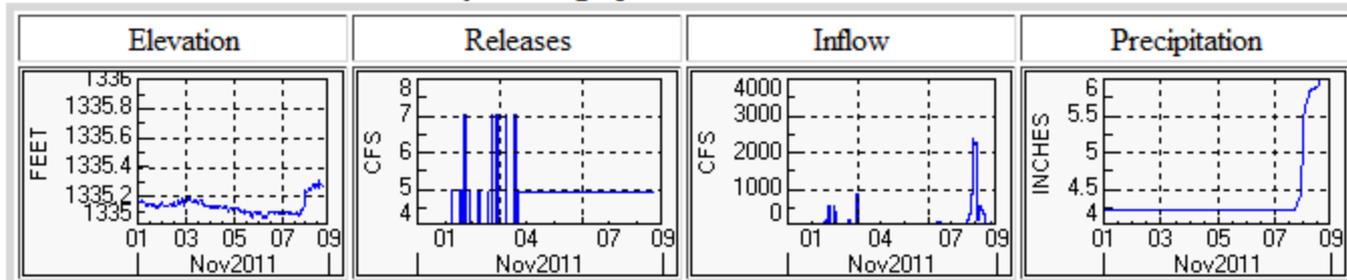
Reservoir Data:

	Elevation	Incremental Storage		Cumulative Storage	
	(feet)	(inches)	(acre-feet)	(inches)	(acre-feet)
Surcharge Pool:	1347.50	0.00	0	0.00	0
Flood Control Pool:	1347.50	6.57	82030	19.28	240660
Conservation Pool:	1339.00	12.44	155271	12.71	158630
Inactive Pool:	1296.00	0.27	3359	0.27	3359



Graphs of Measured and Calculated Lake Parameters:

Click on a thumbnail to receive the full-size graphic.



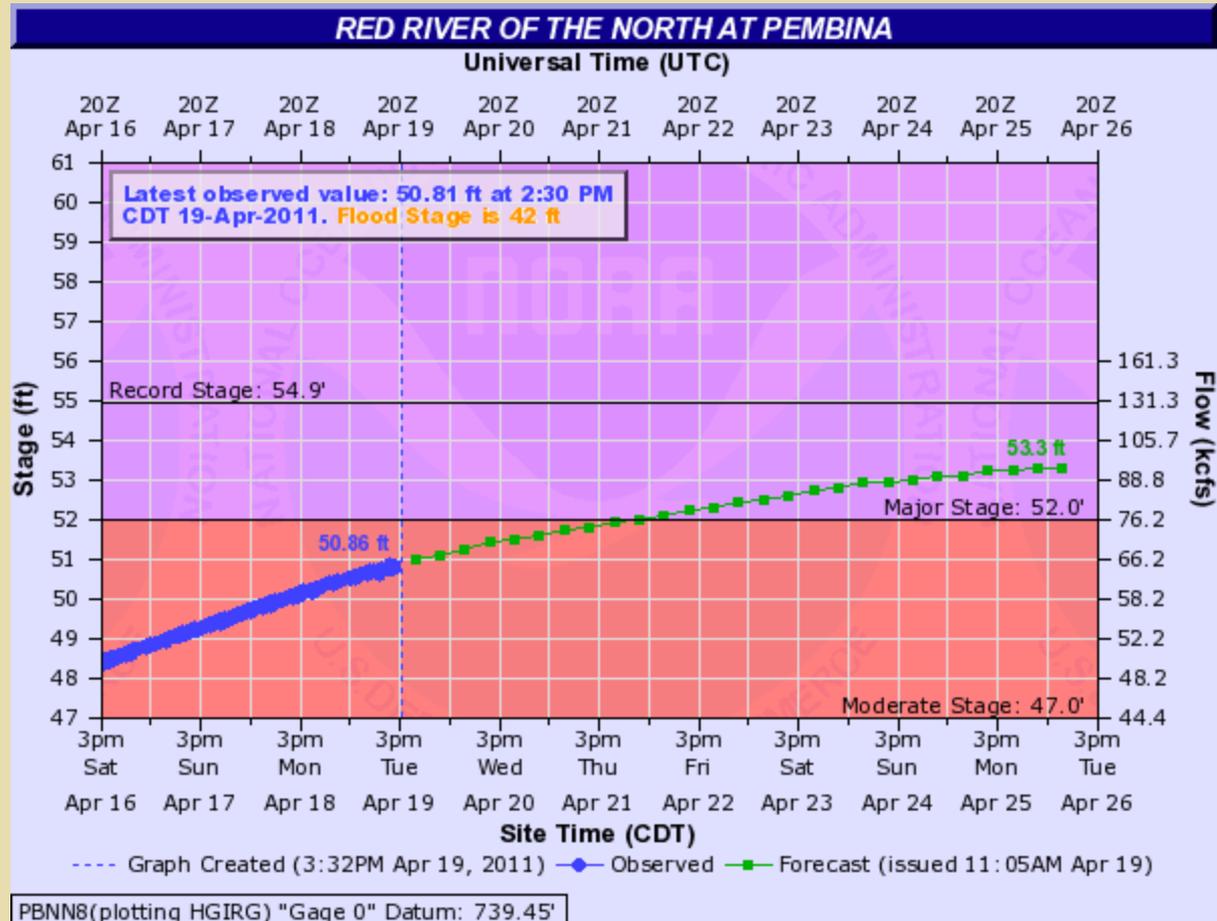
NWS Advanced Hydrologic Prediction Service

The screenshot displays the NWS Advanced Hydrologic Prediction Service interface. At the top, the NOAA logo and the service name are visible. A navigation bar includes links for Home, News, Organization, and a search field. A main text block states: "Conditions are favorable for spring flooding over large sections of the United States, from the Northern Plains through the Midwest and eastward to New England. See the National Hydrologic Assessment for details." Below this, the "Weather Forecast Office Wichita, KS" is identified. The central feature is a map of the region, with tabs for "River Observations", "River Forecasts Within 48 Hours", "Precipitation", and "Download". The map shows various river gauges and flood status indicators. A "Map Legend" on the right side of the map defines the symbols and colors used: Hydrograph Available (square), Probability and Hydrograph Available (circle), Major Flooding (purple), Moderate Flooding (red), Minor Flooding (orange), Near Flood Stage (yellow), No Flooding (green), Observation More Than 24 Hours Old (grey), and Out of Service (grey). At the bottom of the map area, it shows "88 Total Gauges" and "Zero Locations in flood". The left sidebar contains navigation options for local weather forecasts, adjacent areas, national conditions, local conditions, warnings, and documentation. The bottom of the page features a "FLOODSMART.GOV" logo.

<http://water.weather.gov>

NWS Advanced Hydrologic Prediction Service

(Red River at ND/Canada Border)



NWS Advanced Hydrologic Prediction Service

Flood Categories (in feet)

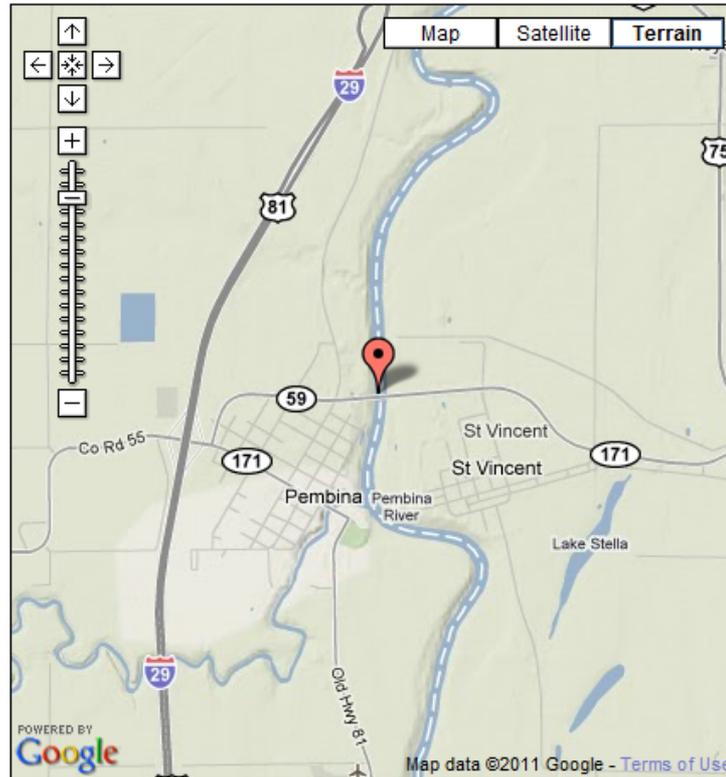
Major Flood Stage:	52
Moderate Flood Stage:	47
Flood Stage:	42
Action Stage:	35

Historical Crests

- (1) 54.94 ft on 04/26/1997
- (2) 52.71 ft on 04/15/2009
- (3) 51.50 ft on 04/26/1996

[Show More Historical Crests](#)

Low Water Records



Legend

Gauge Location

[Disclaimer](#)

Latitude/Longitude Disclaimer: The gauge location shown in the above map is the approximate location based on the latitude/longitude coordinates provided to the NWS by the gauge owner.

NWS Advanced Hydrologic Prediction Service

Flood Impacts

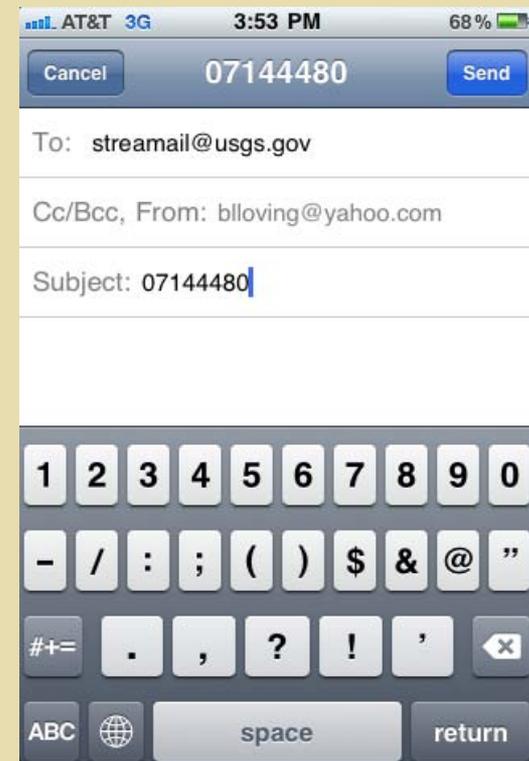
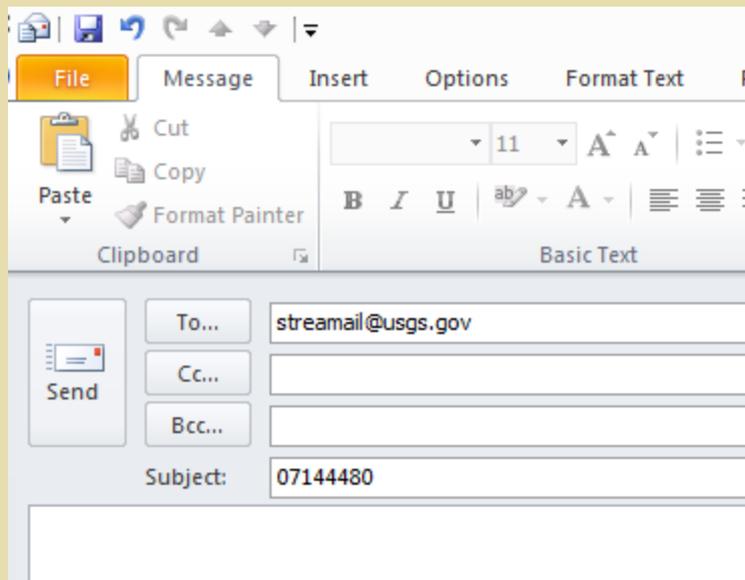
- 57.3 Top of the permanent levee project at Pembina.
- 53.6 MN-175 bridge approaches flood (MN DOT).
- 53 May need to evacuate South Pembina.
- 52 Major Flood Stage.
- 50 South end of Airport Road closes.
- 48 City Dike Patrol Starts.
- 47 Moderate Flood Stage.
- 46 General rural flooding.
- 45 Urban damage to Saint Vincent.
- 42 Flood Warning Stage...minor.
- 35 Forecast Service Stage.
- 29 Floodgate at main pumphouse is closed.

About This Location

Latitude: 48.973889° N, Longitude: 97.238333° W, Horizontal Datum: NAD83/WGS84

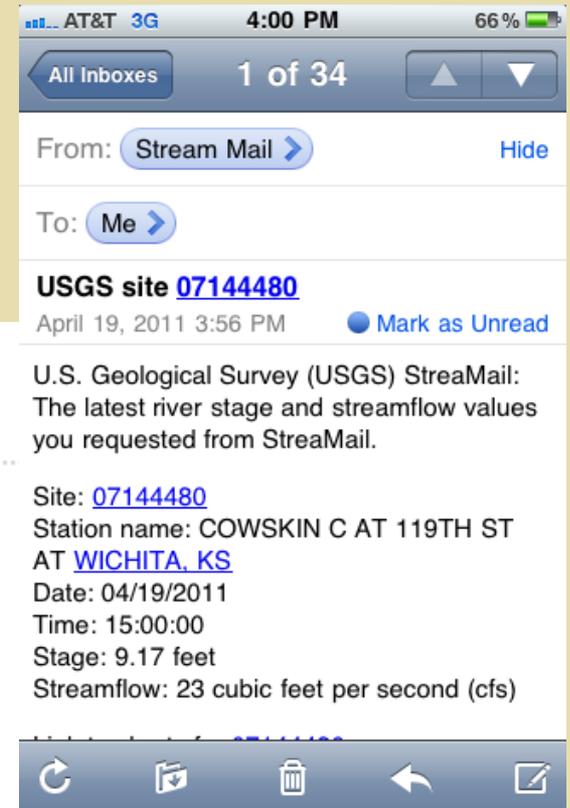
USGS StreamMail - Email

- Send an email to streammail@usgs.gov
- In the "Subject" line put a USGS station number (ex 07144480)



USGS StreaMail - Email

streamail@usgs.gov



USGS site 07144480

From: "streamail@usgs.gov" <streamail@usgs.gov> [Add to Contacts](#)
To: bloving@yahoo.com

U.S. Geological Survey (USGS) StreaMail:

The latest river stage and streamflow values you requested from StreaMail.

Site: 07144480

Station name: COWSKIN C AT 119TH ST AT WICHITA, KS

Date: 04/19/2011

Time: 15:00:00

Stage: 9.17 feet

Streamflow: 23 cubic feet per second (cfs)

Link to charts for 07144480:

Stage: http://waterwatch.usgs.gov/wwapps/zchart.php?i=nwis2&vt=uv&cd=00065&site_no=07144480

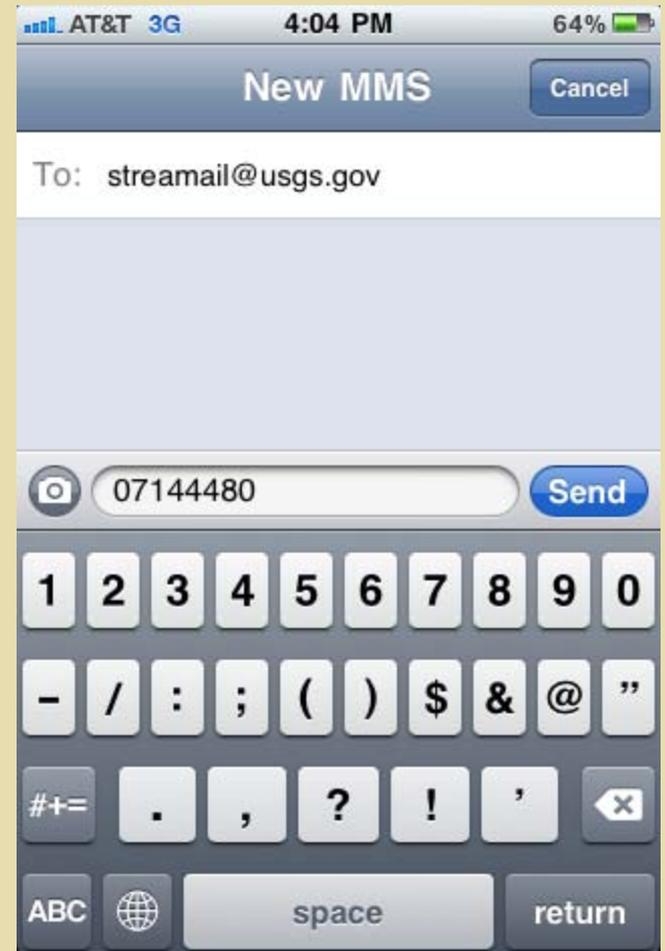
Streamflow: http://waterwatch.usgs.gov/wwapps/zchart.php?i=nwis2&vt=uv&cd=00060&site_no=07144480

The U.S. Geological Survey's (USGS) StreaMail system allows you to request, by email, the most recent USGS river stage and streamflow data for streams in the United States. To use the system, send an email to "streamail@usgs.gov" and in the "Subject" line, put in a USGS station (site) number. An email will be sent back to you with the most recent stream stage and flow.

If you need help, contact Howard Perlman (hperlman@usgs.gov)

USGS StreamMail - Text

- Send an SMS text message to streamail@usgs.gov
- In the message simply put a USGS station number (ex 07144480)



USGS StreamMail - Text

- Output is very simple:
 - Time (local, 24-hour)
 - Stage (in feet)
 - Flow (in cfs)



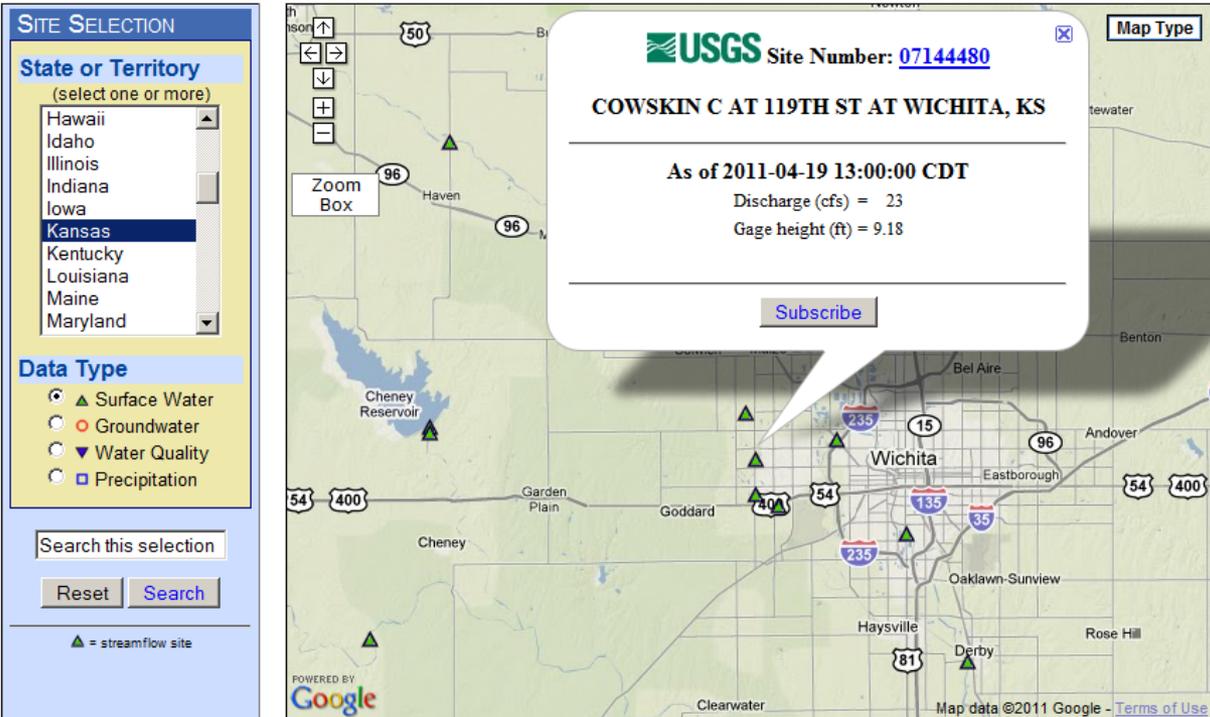
USGS Water Alert

USGS WaterAlert

The U.S. Geological Survey WaterAlert service sends e-mail or text messages when [certain parameters](#) measured by a USGS data-collection station exceed user-definable thresholds. The development and maintenance of the WaterAlert system is supported by USGS and its data-collection partners, including numerous federal, state, and local agencies.

Real-time data from USGS gages are transmitted via satellite or other telemetry to USGS offices at various intervals; in most cases, once every 1 or 4 hours. Emergency transmissions, such as during floods, may be more frequent. *Notifications will be based on the data received at these site-dependent intervals.*

Instructions



SITE SELECTION

State or Territory
(select one or more)

- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas**
- Kentucky
- Louisiana
- Maine
- Maryland

Data Type

- Surface Water
- Groundwater
- Water Quality
- Precipitation

Search this selection

Reset Search

▲ = streamflow site

USGS Site Number: [07144480](#)

COWSKIN C AT 119TH ST AT WICHITA, KS

As of 2011-04-19 13:00:00 CDT

Discharge (cfs) = 23
Gage height (ft) = 9.18

[Subscribe](#)

Map Type

Cheney Reservoir

Wichita

Map data ©2011 Google - [Terms of Use](#)

* References to non-U.S. Department of the Interior (DOI) products do not constitute an endorsement by the DOI. By viewing the Google Maps API on this web site the user agrees to these [Terms of Service set forth by Google](#).

<http://water.usgs.gov/wateralert/>

USGS Water Alert



USGS WaterAlert Subscription Form - Mozilla Firefox

http://water.usgs.gov/wateralert/subscribe.html?site_no=07144480&agency_cd=USGS&site_nm=COWSKIN C AT 119TH ST AT WICHITA, KS

USGS science for a changing world

USGS Home
Contact USGS
Search USGS

USGS WaterAlert [version 1.1]

Subscription Form

Site Info:

Site Number:	07144480
Site Name:	COWSKIN C AT 119TH ST AT WICHITA, KS
Agency:	USGS
Transaction ID:	mD28b

Send Notification To: [about this...](#)

My email address

My mobile phone

Notification Frequency: [about this...](#)

Hourly

Daily

Streamflow Parameter: [about this...](#) Recent value:

Discharge (cfs) 23

Gage height (ft) 9.18 ([NWS flood stage = 18](#))

Threshold Condition: [about this...](#)

Greater than (>)

Less than (<)

Outside a range (< or >)

Inside a range (> and <)

Real-time value is greater than: ft

I have read and acknowledge the [Provisional Data Statement](#) and [Disclaimer](#).

Done

Kansas Streamflow Statistics

<http://ks.water.usgs.gov/studies/strmstats>

Kansas Water Science Center



Kansas Streamflow Statistics

Map Controls:
(Goto County Map)
Choose County

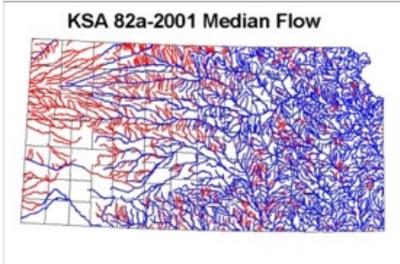
Select Data:

- KSA82a - 2001
Criteria:
- Flow Duration:
- Flood Frequency:
- Basin Characteristics:

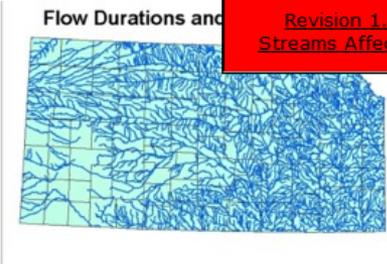
Informational Links:

- KSA 82a-2001 Report
SIR 2004-5032
- Stream Statistics Report
SIR 2004-5033
- Flood Frequency Report
WRIR 00-4079
- Stream Statistics GIS
(Download ArcMap Files)
- Stream Statistics Data
(Download Excel File)
- Abstracts

KSA 82a-2001 Median Flow

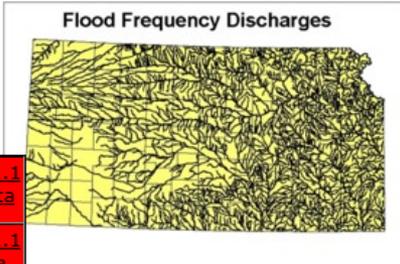


Flow Durations and

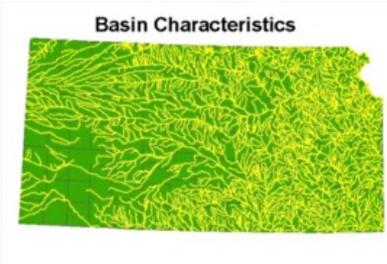


**Revision 1.1
Streams Affected**

Flood Frequency Discharges



Basin Characteristics



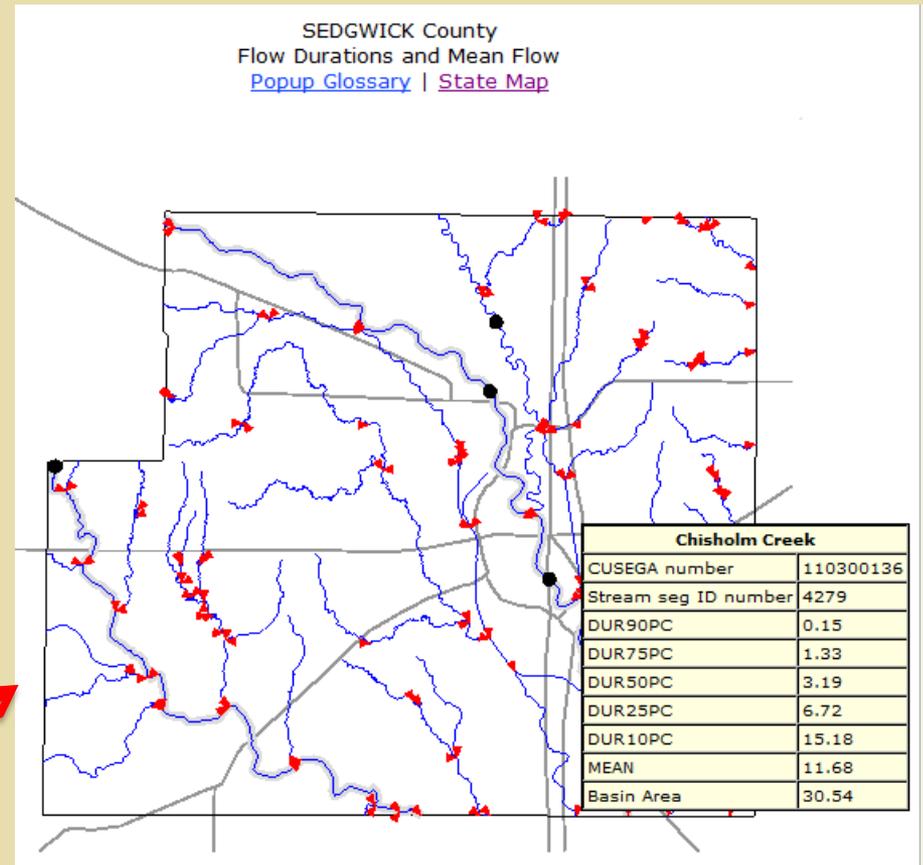
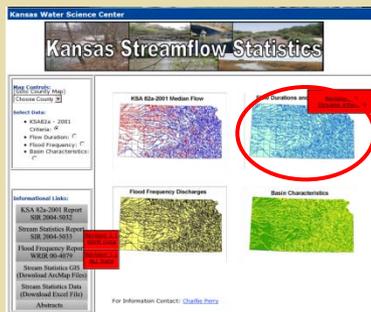
**Revision 1.1
KDHE Data**

**Revision 1.1
ALL Data**

For Information Contact: [Charlie Perry](#)

Kansas Streamflow Statistics

- For USGS gage points, or any other stream segment
- ‘Mouse Over’ for data
- Data types:
 - Flow Duration



Kansas Streamflow Statistics

- Data types:
 - Flood Frequencies

Kansas Water Science Center

Kansas Streamflow Statistics

Map Controls:
(Go to County Map)
[Choose County]

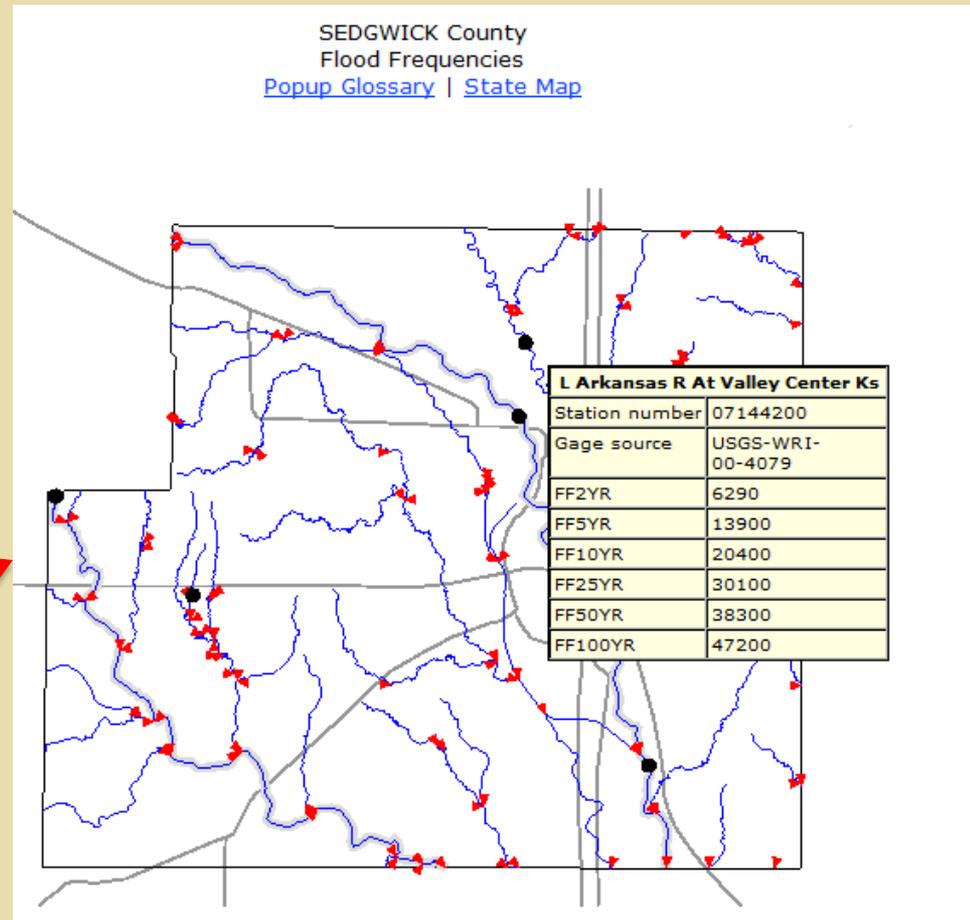
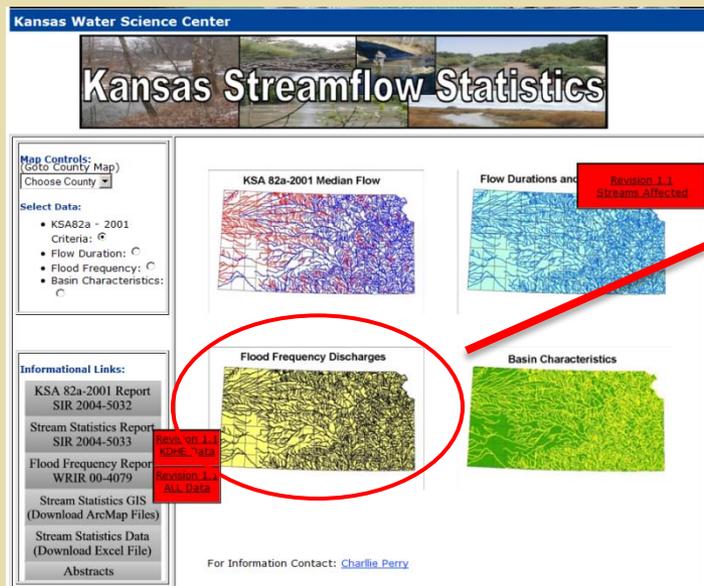
Select Data:

- KSA82a - 2001
- Criteria:
- Flow Duration:
- Flood Frequency:
- Basin Characteristics:

Informational Links:

- KSA 82a-2001 Report SIR 2004-5032
- Stream Statistics Report SIR 2004-5033
- Flood Frequency Report WRIR 00-4079
- Stream Statistics GIS (Download ArcMap Files)
- Stream Statistics Data (Download Excel File)
- Abstracts

For Information Contact: [Charlie Perry](#)





Questions?

Brian Loving USGS

785-832-3516

bloving@usgs.gov

- <http://waterdata.usgs.gov/nwis/rt>
- <http://ga2.er.usgs.gov/kswater/>
- <http://waterwatch.usgs.gov/>
- <http://water.weather.gov>
- <http://ks.water.usgs.gov/studies/strmstats/>

