Water-Data Report 2011

05525000 IROQUOIS RIVER AT IROQUOIS, IL

Upper Illinois Basin
Iroquois Subbasin

LOCATION.--Lat 40°49′22″, long 87°34′53″ referenced to North American Datum of 1927, in NE ¼ SE ¼ sec.15, T.27 N., R.11 W., Iroquois County, IL, Hydrologic Unit 07120002, on left bank at upstream side of bridge on U.S. Highway 52 in Iroquois, 500 ft. upstream from a railroad bridge, 4.5 mi. downstream from the Indiana-Illinois State line, and at mile 50.4.

DRAINAGE AREA.--686 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.—
SURFACE-WATER DISCHARGE AND STAGE
DISCHARGE: October 1944 to current year.
STAGE: Water years 1994 to current year.
SURFACE-WATER QUALITY
CHEMICAL: Water years 1978-91 and 2009 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site FL 04.
SEDIMENT: October 1978 to September 1980, January 1993 to December 1995.

GAGE.-- Water-stage recorder, phone telemeter, and crest-stage gage. Datum of gage is 614.34 ft above NGVD of 1929 (614.12 ft NAVD 1988). Prior to Aug. 5, 1945, nonrecording gage at same site and datum.

REMARKS.--Discharge records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--
SURFACE-WATER DISCHARGE AND STAGE: Maximum discharge, 10,400 ft^3/s, June 13,1958, gage height, 26.31 ft; minimum, 5.2 ft^3/s, Sept. 13, 1964.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily, 2,280 mg/L, June 2, 1980; minimum daily, 3 mg/L, Dec. 23, 24, 27-31, 1978.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 12,200 tons, June 3, 1980; minimum daily, 0.45 ton, Dec. 28, 1978.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 05525000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/05525000.2011.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	41	45	78	472	e67	1,670	375	4,860	3,050	667	371	57
2	41	44	93	729	e66	1,680	367	4,420	2,780	908	229	55
3	40	45	92	745	e65	1,600	342	3,910	2,450	982	169	53
4	40	45	84	621	e68	1,450	340	3,350	2,110	1,020	161	52
5	39	45	e75	481	e72	1,810	343	2,790	2,210	976	151	51
6	39	47	e60	338	e75	2,320	325	2,280	2,240	845	130	50
7	39	52	e45	309	e74	2,460	302	1,840	2,020	673	117	48
8	39	54	e50	246	e72	2,420	300	1,480	1,720	534	124	48
9	39	51	e51	e190	e71	2,340	390	1,200	1,490	442	201	51
10	39	49	e53	e175	e70	2,330	657	995	1,770	373	495	56
11	40	48	e55	e160	e75	2,230	947	847	1,860	324	465	58
12	41	48	e55	e145	e85	2,090	1,210	743	1,770	288	293	56
13	41	49	e55	e130	e95	1,870	1,240	737	1,600	256	190	53
14	40	48	e60	e120	e110	1,610	1,180	778	1,380	226	148	50
15	39	47	e70	e115	e150	1,360	1,030	896	1,450	203	126	49
16	40	47	e75	e110	e250	1,220	865	1,000	2,000	187	115	49
17	41	47	e80	e105	e900	1,140	727	964	2,180	172	104	51
18	42	47	e85	e100	1,840	1,050	636	893	2,260	158	94	53
19	43	47	e90	e96	1,950	909	710	801	2,160	145	86	53
20	44	48	e92	e93	1,950	784	1,810	706	2,050	133	87	51
21	43	47	e95	e90	1,920	711	2,290	639	2,050	123	102	52
22	43	47	e92	e87	1,860	657	2,560	635	2,030	112	110	55
23	44	50	e89	e84	1,700	633	3,390	1,260	1,980	105	107	53
24	44	56	e86	e81	1,490	616	3,630	1,350	1,820	159	97	50
25	45	71	e83	e78	1,280	569	3,530	1,260	1,580	217	93	48
26	47	79	e80	e76	1,090	518	3,760	2,230	1,310	263	87	55
27	48	104	e80	e74	946	479	4,370	2,700	1,060	231	78	68
28	50	107	e80	e72	1,310	441	5,350	2,880	839	179	71	94
29	50	86	e85	e70	---	406	5,700	3,060	677	160	66	133
30	50	77	e100	e69	---	386	5,360	3,290	577	359	62	136
31	47	---	e150	e68	---	376	---	3,250	---	528	59	---
Total	1,318	1,677	2,418	6,329	19,701	40,135	54,036	58,044	54,473	11,948	4,788	1,788
Mean	42.5	55.9	78.0	204	704	1,295	1,801	1,872	1,816	385	154	59.6
Max	50	107	150	745	1,950	2,460	5,700	4,860	3,050	1,020	495	136
Min	39	44	45	68	65	376	300	635	577	105	59	48
Cfsm	0.06	0.08	0.11	0.30	1.03	1.89	2.63	2.73	2.65	0.56	0.23	0.09
In.	0.07	0.09	0.13	0.34	1.07	2.18	2.93	3.15	2.95	0.65	0.26	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	262	353	575	696	829	1,103	1,076	866	769	460	152	198
Max	2,556	1,878	1,794	3,030	2,534	3,462	3,116	1,956	3,496	4,336	608	2,020
(WY)	(1994)	(1986)	(1968)	(1950)	(2008)	(1982)	(1950)	(2002)	(1958)	(2003)	(2004)	(1993)
Min	10.6	18.0	16.9	20.6	27.7	94.8	249	141	53.7	23.4	11.4	11.7
(WY)	(1957)	(1957)	(1964)	(1945)	(1963)	(1957)	(1946)	(1958)	(1988)	(1988)	(1988)	(1964)

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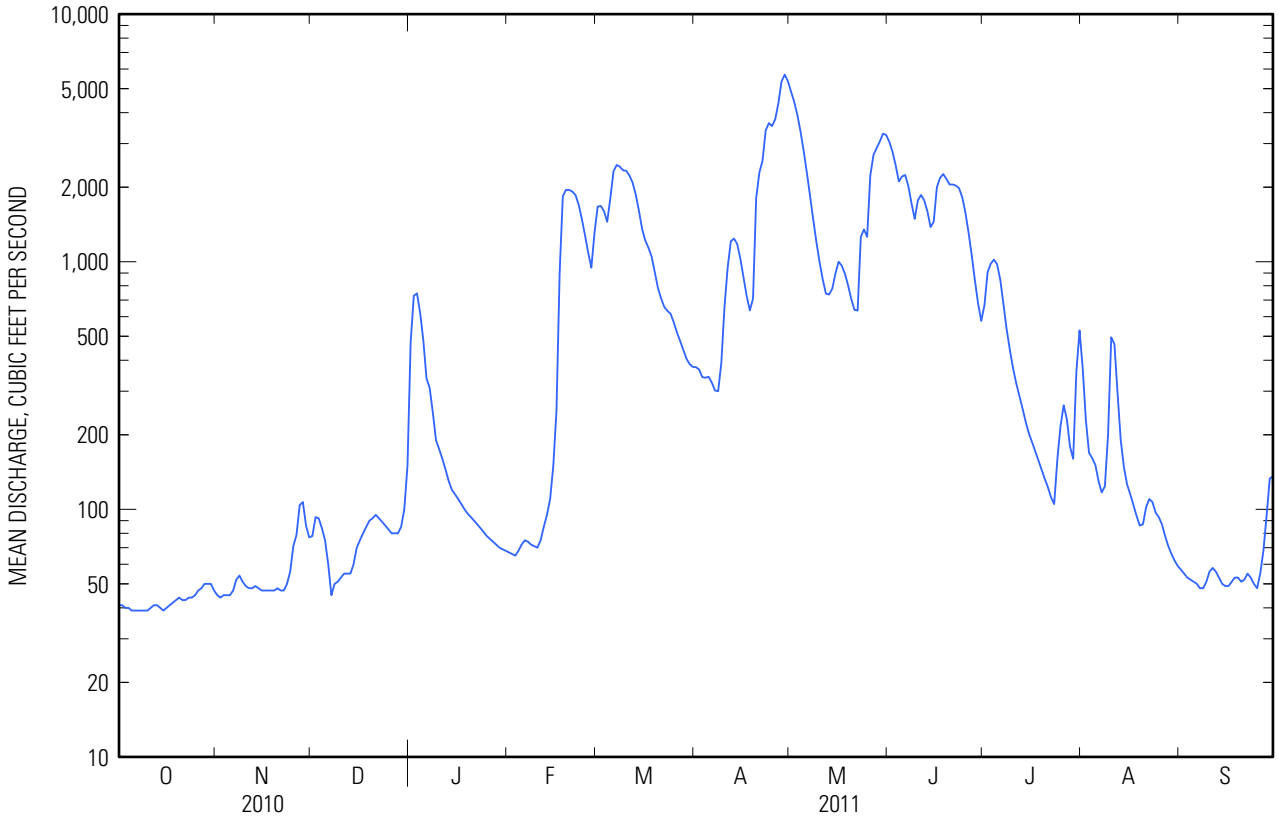
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1945 - 2011	
Annual total	196,975		256,655			
Annual mean	540		703		610	
Highest annual mean					1,323	1993
Lowest annual mean					121	1964
Highest daily mean	3,320	Jun 25	5,700	Apr 29	10,200	Jun 14, 1958
Lowest daily mean	39	A	39	A	5.5	Sep 13, 1964
Annual seven-day minimum	39	Oct 4	39	Oct 4	6.6	Sep 8, 1964
Maximum peak flow			5,790	Apr 29	10,400	Jun 13, 1958
Maximum peak stage			21.83	Apr 29	26.31	Jun 13, 1958
Instantaneous low flow			38	Oct 8-10	5.2	Sep 13, 1964
Annual runoff (cfsm)	0.787		1.03		0.889	
Annual runoff (inches)	10.68		13.92		12.08	
10 percent exceeds	1,450		2,130		1,660	
50 percent exceeds	270		150		280	
90 percent exceeds	44		47		36	

[A] Several days.



05525000 IROQUOIS RIVER AT IROQUOIS, IL—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.01	4.09	4.63	7.69	5.30	12.61	6.89	20.74	16.63	8.49	6.85	4.24
2	4.01	4.08	4.82	9.15	5.25	12.65	6.84	19.82	15.91	9.67	5.93	4.21
3	3.99	4.08	4.81	9.24	5.09	12.38	6.70	18.69	15.02	10.0	5.45	4.18
4	3.98	4.09	4.71	8.57	4.99	11.84	6.68	17.37	14.01	10.16	5.38	4.16
5	3.97	4.09	4.65	7.74	5.02	13.04	6.70	15.94	14.31	9.97	5.28	4.13
6	3.97	4.12	4.57	6.90	5.14	14.65	6.59	14.53	14.40	9.38	5.07	4.11
7	3.97	4.22	4.50	6.72	5.28	15.05	6.44	13.16	13.74	8.54	4.94	4.09
8	3.96	4.25	4.46	6.28	5.40	14.94	6.43	11.93	12.76	7.78	5.01	4.08
9	3.96	4.21	4.45	5.99	5.45	14.69	6.96	10.89	12.00	7.25	5.49	4.12
10	3.96	4.16	4.37	5.86	5.40	14.66	8.45	10.05	12.95	6.87	7.56	4.22
11	3.98	4.14	4.36	5.84	5.32	14.39	9.83	9.39	13.25	6.58	7.46	4.26
12	4.00	4.15	4.47	5.74	5.27	13.95	10.93	8.89	12.93	6.35	6.46	4.22
13	4.00	4.16	4.71	5.64	5.28	13.26	11.07	8.87	12.37	6.13	5.71	4.16
14	3.99	4.14	5.15	5.58	5.37	12.39	10.81	9.06	11.59	5.92	5.34	4.11
15	3.96	4.13	5.36	5.57	5.75	11.50	10.19	9.61	11.83	5.74	5.13	4.09
16	3.98	4.12	5.22	5.59	6.65	10.96	9.48	10.08	13.69	5.61	5.01	4.10
17	4.01	4.13	5.16	5.54	10.04	10.67	8.82	9.92	14.23	5.48	4.88	4.13
18	4.03	4.12	5.17	5.52	13.19	10.28	8.35	9.60	14.45	5.35	4.76	4.17
19	4.06	4.14	5.12	5.62	13.52	9.67	8.70	9.18	14.18	5.23	4.66	4.16
20	4.08	4.14	5.05	5.70	13.51	9.09	13.02	8.71	13.82	5.11	4.67	4.13
21	4.06	4.12	5.03	5.59	13.42	8.74	14.54	8.36	13.85	5.00	4.86	4.15
22	4.05	4.13	5.01	5.37	13.24	8.46	15.32	8.34	13.79	4.88	4.95	4.20
23	4.07	4.18	5.00	5.25	12.70	8.33	17.47	11.11	13.62	4.81	4.91	4.17
24	4.08	4.29	5.02	5.21	11.99	8.24	18.04	11.46	13.11	5.35	4.80	4.11
25	4.08	4.52	5.03	5.19	11.22	7.98	17.82	11.14	12.30	5.85	4.75	4.07
26	4.12	4.64	5.04	5.21	10.44	7.69	18.34	14.34	11.32	6.19	4.68	4.20
27	4.15	4.97	5.06	5.28	9.84	7.46	19.71	15.72	10.32	5.95	4.56	4.41
28	4.18	5.00	5.06	5.33	11.28	7.25	21.34	16.18	9.35	5.53	4.45	4.76
29	4.18	4.74	5.03	5.34	---	7.06	21.73	16.65	8.56	5.37	4.38	5.20
30	4.18	4.62	5.02	5.35	---	6.94	21.40	17.22	8.03	6.75	4.32	5.22
31	4.13	---	5.52	5.34	---	6.90	---	17.13	---	7.75	4.27	---
Mean	4.04	4.27	4.89	6.09	8.23	10.89	11.85	12.71	12.94	6.74	5.22	4.25
Max	4.18	5.00	5.52	9.24	13.52	15.05	21.73	20.74	16.63	10.16	7.56	5.22
Min	3.96	4.08	4.36	5.19	4.99	6.90	6.43	8.34	8.03	4.81	4.27	4.07

	Calendar Year 2010	Water Year 2011
Mean	7.39	7.67
Max	18.06	21.73
Min	3.96	3.96

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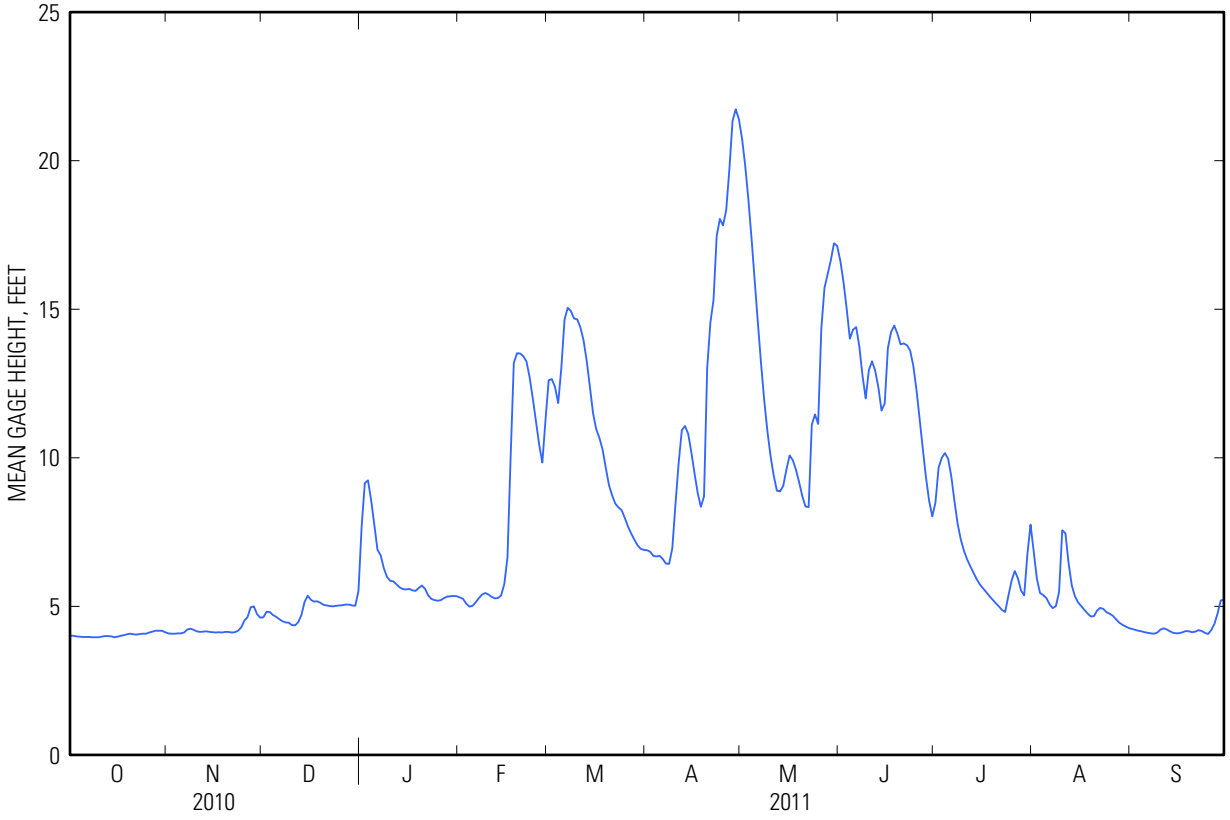

05525000 IROQUOIS RIVER AT IROQUOIS, IL—Continued

WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[%, percent; MF, membrane filter; NTRU, nephelometric turbidity ratio unit; col/100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter]

Date	Sample start time	Temperature, air, °C (00020)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Fecal coliform, M-FC MF (0.45 micron) method, water, col/100 mL (31616)
11-01-2010	**0815**	5.0	9.5	80	8.2	723	7.8	16	--
12-09-2010	**1140**	.0	16.6	114	7.6	780	.2	3.8	--
01-26-2011	**0920**	5.0	16.0	110	8.2	845	.0	3.4	--
03-02-2011	**1100**	4.5	15.2	114	8.1	552	3.4	39	--
04-12-2011	**0820**	7.5	9.2	89	7.8	592	13.8	40	--
05-18-2011	**0945**	15.5	10.7	102	8.0	597	12.7	22	400
07-06-2011	**0820**	26.0	6.6	78	7.7	597	24.1	36	202
08-10-2011	**0800**	19.5	14.1	171	8.2	591	25.1	24	430
09-20-2011	**0800**	11.5	7.0	72	8.1	731	16.6	52	93