

Long-Range Missouri River Outlook

- Crest projections as of 05/29/2011
 - Updates will be posted at this link:
<http://www.nwo.usace.army.mil/html/op-e/flood.html>
- Forecast ranges take into account
 1. Normal summer precipitation
 2. Planned Gavin's Point releases of 150,000 cfs by mid-June.

Gavins Point Release of 150 kcfs

5/29/2011 18:36

Missouri River @	Flood Stage	w/ Incremental Flows	
		Likely Range of Flows with	
Sioux City	30	170 kcfs	200 kcfs
	Stage	35	37
Decatur	35	175 kcfs	205 kcfs
	Stage	40	42
Blair	26.5	175 kcfs	205 kcfs
	Stage	30	32
Omaha	29	175 kcfs	210 kcfs
	Stage	34	36
Nebraska City	18	200 kcfs	250 kcfs
	Stage	above 26'	
Brownville	33	205 kcfs	270 kcfs
	Stage	above 43'	
Rulo	17	210 kcfs	290 kcfs
	Stage	above 25.5'	
St. Joseph	17	215 kcfs	320 kcfs
	Stage	27	32
Atchison	22	215 kcfs	320 kcfs
	Stage	30	34
Leavenworth	20	215 kcfs	320 kcfs
	Stage	27	33
Kansas City	32	220 kcfs	350 kcfs
	Stage	30	39
Sibley	22	220 kcfs	350 kcfs
	Stage	28	33
Napoleon	17	220 kcfs	350 kcfs
	Stage	25	29
Waverly	20	230 kcfs	370 kcfs
	Stage	27	31
Miami	18	235 kcfs	370 kcfs

	Stage	26	30
Glasgow	25	250 kcfs	410 kcfs
	Stage	32	37
Boonville	21	260 kcfs	420 kcfs
	Stage	27	33
Jefferson City	23	260 kcfs	430 kcfs
	Stage	27	35
Chamois	17	290 kcfs	450 kcfs
	Stage	24	29
Gasconade	22	300 kcfs	470 kcfs
	Stage	30	35
Hermann	21	300 kcfs	470 kcfs
	Stage	27	33
Washington	20	300 kcfs	470 kcfs
	Stage	23	32
St. Charles	25	300 kcfs	470 kcfs
	Stage	28	37

Note: Stages are based on rating curves as of: #####

v:\Public\Flood_2011> Below Gavins - Stages at 150kcfs GAPT Release-FINAL.xlsx



US Army Corps
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Kansas City District

Missouri River Extended Forecast Probable Federal Levee Status - June 2011

Report Produced: 5/30/11 5:55 PM
Gage Reading: USACE NWD RCC, 29 May

Lower	Higher	Freeboard Status
19	9	>5ft
4	5	2-5ft
0	6	<2ft
0	3	Overtopped
23	23	Total Status Reported
23	23	Total Levees

Levee	Est. Freeboard (ft)		Est. Stage (ft)			OT Stage
	Lower Forecast Stage	Higher Forecast Stage	Gage	Lower Forecast Stage	Higher Forecast Stage	
MRLS 512-513-R (Richardson County D.D. No. 7) N	4.5	4.5	Rulo*	26	26	30.5
MRLS 500-R	5.0	OT	St Joe	27	32	32.0
MRLS 497-L	6.0	<2.0	St Joe	27	32	33.0
MRLS 488-L (Holt County District No. 7)	5.0	OT	St Joe	27	32	32.0
MRLS 482-R	9.0	4.0	St Joe	27	32	36.0
MRLS 476-L	9.5	4.5	St Joe	27	32	36.5
MRLS 471-460-R	5.5	<2.0	St Joe	27	32	32.5
MRLS 455-L	7.0	<2.0	St Joe	27	32	34.0
MRLS 448-443-L	10.5	5.5	St Joe	27	32	37.5
MRLS 440-R	9.0	5.0	Atchison	30	34	39.0
MRLS 408-L	7.0	<2.0	Leavenworth	27	33	34.0
MRLS 400-L	7.0	<2.0	Leavenworth	27	33	34.0
MRLS 385-L	23.5	14.5	KCMO	30	39	53.5
Fairfax - Jersey Creek	22.5	13.5	KCMO	30	39	52.5
North Kansas City Airport Unit	21.0	12.0	KCMO	30	39	51.0
North Kansas City Lower Unit	22.5	13.5	KCMO	30	39	52.5
CID, Missouri	21.5	12.5	KCMO	30	39	51.5
East Bottoms Unit	22.5	13.5	KCMO	30	39	52.5
Birmingham Unit	22.0	13.0	KCMO	30	39	52.0
MRLS 351-R, Section 1	20.5	11.5	KCMO	30	39	50.5
MRLS 246-L	4.5	OT	Glasgow	32	37	36.5
Lower Chariton River Levee District	5.5	<2.0	Glasgow	32	37	37.5
New Haven	11.0	5.0	Hermann	27	33	38.0

*Fairfax -
Leavenworth -
Riverbank*

* Due to the uncertainty in the rating curve at Rulo for higher stages, an estimate of the higher forecast freeboard was not computed.
Note: Probable range of levee freeboard based on latest extended stage predictions for the duration of the flood event; based on 150,000 cfs release from Gavins Point Dam & June-July rainfall patterns from 2007-2010. Overtopping (OT) stages are estimated by comparing computed water surface profile elevations between gages with surveyed top of levee elevations. OT stages are the best estimates with available data.



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Missouri River Extended Forecast Probable Non-Federal Levee Status - June 2011

Report Produced: 5/30/11 5:55 PM
Gage Reading: USACE NWD RCC, 29 May

31	0 >5ft
44	8 2-5ft
9	29 <2ft
11	58 Overtopped
95	95 Total Status Reported
	133 Total Levees

Levee	Est. Freeboard (ft)		Gage	Est. Stage		OT Stage
	Lower Forecast Stage	Higher Forecast Stage		Lower Forecast Stage	Higher Forecast Stage	
Union Township Levee District	OT	OT	Rulo	26	26	24.5
Little Tarkio Drainage District No. 1	OT	OT	Rulo	26	26	25.0
Drainage District No. 1 of Holt County			Rulo	26	26	N/A
Drainage District No. 1 of Holt County			Rulo	26	26	N/A
Drainage District No. 4 of Holt County			Rulo	26	26	N/A
Holt County Levee District No. 10, Hinkle Levee	OT	OT	Rulo	26	26	24.5
Holt County Levee District No. 9	OT	OT	Rulo	26	26	25.0
Canon Drainage District of Holt County	OT	OT	Rulo	26	26	26.0
Henry Pohl Levee	OT	OT	St Joe	27	32	25.0
Bon Ton Levee			St Joe	27	32	N/A
Rushville-Sugar Lake	OT	OT	Atchison	30	34	27.0
Platte County Drainage District No. 1 Section 1	OT	OT	Atchison	30	34	27.0
Bean Lake Levee Association	OT	OT	Atchison	30	34	27.0
Grape-Bollin-Schwartz Levee Association	OT	OT	Atchison	30	34	30.0
Kansas Department of Corrections	OT	OT	Leavenworth	27	33	24.0
Wolcott Drainage District Section 1	8.0	OT	KCMO	30	39	38.0
Wolcott Drainage District Section 2	8.0	OT	KCMO	30	39	38.0
Wolcott Drainage District Section 3	8.0	OT	KCMO	30	39	38.0
Riverside-Quindaro Bend Levee District	7.0	OT	KCMO	30	39	37.0
Isenhour Levee	9.0	OT	KCMO	30	39	39.0
Levasy	10.0	<2.0	KCMO	30	39	40.0
Pomeroy Bend Levee District			KCMO	30	39	N/A
Robertson Levee	11.0	<2.0	KCMO	30	39	41.0
Bruening Levee			Sibley	28	33	N/A
Tri-County of Ray, Clay, Jackson, MO	4.0	OT	Sibley	28	33	32.0
Egypt Levee & Drainage District	6.0	<2.0	Sibley	28	33	34.0
Fortmeyer Levee (Levasy System)	<2.0	OT	Napoleon	25	29	27.0
Levasy (Fortmeyer) Levee	<2.0	OT	Napoleon	25	29	27.0
MO Valley D&L Dist of Ray Co. MO, Section 1	7.0	3.0	Napoleon	25	29	32.0
MO Valley D&L Dist of Ray Co. MO, Section 2	7.0	3.0	Napoleon	25	29	32.0
MO Valley D&L Dist of Ray Co. MO, Section 3	7.0	3.0	Napoleon	25	29	32.0
Ray-Lafayette Levee Dist No. 1	4.5	<2.0	Napoleon	25	29	29.5
Henrietta Crooked River			Napoleon	25	29	N/A
Henrietta-Crooked River L & D Dist, Sec 1	4.5	<2.0	Napoleon	25	29	29.5
Henrietta-Crooked River L & D Dist, Sec 2	5.0	<2.0	Waverly	27	31	32.0
Ray County Levee & Drainage District No. 2	5.0	<2.0	Waverly	27	31	32.0
Miles Point Drainage District	5.0	<2.0	Waverly	27	31	32.0
Cherry Valley Levee District	5.0	<2.0	Waverly	27	31	32.0
Baltimore Bend Levee	5.0	<2.0	Waverly	27	31	32.0
Belcher-Lozier Levee District	5.0	<2.0	Waverly	27	31	32.0
Hodge Bottoms Levee District	3.0	OT	Waverly	27	31	30.0
Sugartree Bottom Levee District	2.5	OT	Waverly	27	31	29.5
Saline-Lafayette Drainage District	3.0	OT	Waverly	27	31	30.0
Wakenda Levee District No. 1	5.0	<2.0	Waverly	27	31	32.0
Sambo Slough Levee District	5.0	<2.0	Waverly	27	31	32.0
Cole Lake Drainage District No. 2	3.0	OT	Waverly	27	31	30.0
Malta Bend Levee District	3.0	OT	Waverly	27	31	30.0
Root Levee District	5.0	<2.0	Waverly	27	31	32.0
Farmers D & L.D.	5.0	<2.0	Waverly	27	31	32.0
Teteseau Bend Levee District	5.0	<2.0	Waverly	27	31	32.0
Mi-De Levee District	5.5	<2.0	Miami	26	30	31.5
DeWitt D&L District of Carroll Co., Section 1	<2.0	OT	Miami	26	30	27.0
Dewitt D&L District of Carroll Co., Section 2	<2.0	OT	Miami	26	30	27.0

Historical Crests for Missouri River at Atchison

- (1) 31.63 ft on 07/26/1993
- (2) 29.83 ft on 06/25/2010
- (3) 29.50 ft on 04/23/1952
- (4) 29.15 ft on 05/08/2007
- (5) 28.85 ft on 06/13/2008
- (6) 27.50 ft on 10/13/1973
- (7) 26.80 ft on 06/24/1996
- (8) 26.60 ft on 05/28/1996
- (9) 26.60 ft on 03/06/1949
- (10) 26.40 ft on 04/29/1881
- (11) 26.15 ft on 06/16/1998
- (12) 26.10 ft on 06/19/1967
- (13) 25.70 ft on 05/14/1995
- (14) 25.37 ft on 05/31/2004
- (15) 25.20 ft on 07/07/1947
- (16) 25.05 ft on 06/29/1999
- (17) 25.00 ft on 05/22/1999
- (18) 25.00 ft on 07/21/1996
- (19) 25.00 ft on 06/04/1951
- (20) 24.90 ft on 04/07/1960
- (21) 24.76 ft on 03/25/2010
- (22) 24.50 ft on 05/28/1995
- (23) 24.20 ft on 06/20/1944
- (24) 24.20 ft on 07/07/1951
- (25) 24.20 ft on 05/10/1996
- (26) 24.20 ft on 04/17/1999
- (27) 24.00 ft on 05/24/1995
- (28) 24.00 ft on 01/25/1974
- (29) 24.00 ft on 06/02/1903
- (30) 23.90 ft on 04/28/1999
- (31) 23.80 ft on 05/03/1951
- (32) 23.80 ft on 05/07/2001
- (33) 23.80 ft on 04/02/1973
- (34) 23.80 ft on 06/17/1908
- (35) 23.78 ft on 05/26/2004
- (36) 23.70 ft on 04/11/1997
- (37) 23.60 ft on 06/19/1943
- (38) 23.54 ft on 08/06/2010
- (39) 23.40 ft on 05/31/2008
- (40) 23.40 ft on 08/09/1996
- (41) 23.35 ft on 10/16/2007
- (42) 23.30 ft on 06/30/1965
- (43) 23.30 ft on 09/28/1973
- (44) 23.30 ft on 05/01/1950
- (45) 23.30 ft on 07/11/1909
- (46) 23.14 ft on 03/12/2010
- (47) 23.10 ft on 06/26/1997
- (48) 23.10 ft on 04/21/1944
- (49) 23.10 ft on 05/18/1999
- (50) 23.10 ft on 04/17/1949
- (51) 23.07 ft on 05/25/2007
- (52) 22.90 ft on 06/22/1964
- (53) 22.80 ft on 06/06/1996
- (54) 22.70 ft on 06/28/1953
- (55) 22.70 ft on 07/20/1907
- (56) 22.70 ft on 06/21/1951
- (57) 22.70 ft on 01/31/1952
- (58) 22.70 ft on 05/11/1950
- (59) 22.60 ft on 03/31/1998
- (60) 22.60 ft on 04/13/1881
- (61) 22.60 ft on 04/18/1943
- (62) 22.60 ft on 06/18/1964
- (63) 22.50 ft on 06/10/1917
- (64) 22.50 ft on 09/14/1972
- (65) 22.50 ft on 11/17/1996
- (66) 22.50 ft on 08/09/1999

Historical Crests for Missouri River at Leavenworth

- (1) 35.34 ft on 07/28/1993
- (2) 26.82 ft on 05/09/2007
- (3) 25.65 ft on 06/13/2008
- (4) 25.50 ft on 06/25/2010
- (5) 24.20 ft on 06/26/1996
- (6) 23.90 ft on 05/28/1996
- (7) 23.90 ft on 05/14/1995
- (8) 23.80 ft on 06/16/1998
- (9) 23.40 ft on 05/28/1995
- (10) 22.82 ft on 06/29/1999
- (11) 22.70 ft on 05/24/1995
- (12) 22.70 ft on 04/28/1999
- (13) 22.65 ft on 05/22/1999
- (14) 22.05 ft on 04/16/1999
- (15) 22.00 ft on 07/21/1996
- (16) 21.90 ft on 07/06/2010
- (17) 21.80 ft on 04/11/1997
- (18) 21.10 ft on 05/10/1996
- (19) 21.00 ft on 06/06/1996
- (20) 20.95 ft on 05/07/2001
- (21) 20.65 ft on 03/25/2010
- (22) 20.60 ft on 05/18/1999
- (23) 20.00 ft on 08/09/1996
- (24) 20.00 ft on 06/26/1997