iText Bulletins

What are iText bulletins?

1. Bulletins created with a properties file, jython script and iText, an open source software – all included with a standard CWMS client.
2. A script retrieves data from the database and accesses the iText software. All fonts, borders, images, etc. are applied through iText.
3. Final product is a custom bulletin as a pdf file.

Why create bulletins with iText?

1. MRBWM, NWO, and NWK current bulletins are created with OpenOffice. OpenOffice will not be supported on T7s.
2. Over the last 2 years, due to intensive setup and configuration of Jasper Reports, not all critical bulletins have been created for the three offices.
    a. MRBWM and NWO personnel (Jessica, Scott, and John) recommended not pursuing Jasper Reports after completion of initial bulletin.
    b. Estimated 90 work hours to set up Report Delineation Language (RDL) manager and create initial Jasper Reports Bulletin. Estimated no decrease in work hours for 2nd Jasper Reports Bulletin.
3. Need a solution in place prior to installation of NWO T7s in fall 2018.

Pros and Cons of iText Bulletins

1. Pros
    a. ACE-IT is not involved
    b. No installation and setup of software required. All necessary components included in a standard CWMS client.
    c. Utilize CPC's existing web server, which is currently being used with MRBWM external website.
    d. Bulletins are customizable for each office (e.g. adding columns, various one-offs, etc.).
    e. Ad hoc bulletins (e.g. 2018 Missouri River Levee Bulletin, ~8-9 hours to create)
    f. Short time requirement from development to production, especially for similar bulletins.
        i. Initial reservoir bulletin required less than 60 work hours to get into production
        ii. Second reservoir bulletin required 12 hours to get into production
        iii. Third reservoir bulletin required 3 hours to get into production
    g. Flexibility to setup property files with more or less information depending on offices preference.
    h. Skills developed when creating bulletins can be applied to other aspects of Water Management.
2. Cons
    a. Need to learn or have prior knowledge of jython scripting.
        i. MRBWM, NWO, and NWK team members can assist in setting up a bulletin and teach other offices how to create their own bulletins.
    b. No standard template for bulletins.
        i. Modify bulletins to create new bulletins.

MRBWM, NWO, and NWK Bulletins in Production

MRBWM Reservoir Bulletin: http://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/MRBWM_Reservoir.pdf

NWO Reservoir Bulletin: http://www.nwd-mr.usace.army.mil/rcc/nwo/dailybull.pdf

NWK Reservoir Bulletin: http://www.nwd-mr.usace.army.mil/rcc/nwk/kcbull3.pdf

US Army Corps of Engineers®

Northwestern Division, Missouri River Basin Water Management
Mainstem and Tributary Reservoir Bulletin
Project Data Date/Time: 07-26-2018 24:00
Last Updated Date/Time: 07-27-2018 12:07

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft)		Cumulative Storage (ac-ft)		Elev	Daily Elev	Storage	Inflow	Release	MP	FC	FC
	MP	FC	MP	FC	(ft)	Change (ft)	(ac-ft)	(cfs)	(cfs)	(%)	(ac-ft)	(%)
MRR - Missouri River Mainstem Projects												
Fort Peck Dam	2234.0	2250.0	14,788,340	18,462,840	2246.45	-0.10	17,605,000	8,000	17,300	100.0	2,816,660	76.7
Garrison Dam	1837.5	1854.0	17,744,640	23,451,300	1851.45	-0.17	22,514,000	35,000	54,900	100.0	4,769,360	83.6
Oahe Dam	1607.5	1620.0	18,667,635	22,982,900	1617.14	0.08	21,921,000	62,000	49,300	100.0	3,253,365	75.4
Big Bend Dam	1420.0	1423.0	1,631,474	1,810,414	1420.89	-0.15	1,683,000	45,000	48,100	100.0	51,526	28.8
Fort Randall Dam	1350.0	1375.0	3,000,732	5,293,473	1359.05	-0.09	3,765,000	54,000	55,100	100.0	764,268	33.3
Gavins Point Dam	1204.5	1210.0	295,406	428,033	1206.27	-0.06	335,000	56,000	56,000	100.0	39,594	29.9
System Totals	--	--	56,128,227	72,428,960	--	--	67,823,000	--	--	100.0	11,694,773	71.7
NWO - USBR Section 7 Projects												
Tiber Dam	2993.0	3012.5	925,648	1,328,723	2994.97	-0.10	962,120	652	1,504	100.0	36,472	9.0
Clark Canyon Dam	5546.1	5560.4	174,367	253,443	5546.37	-0.20	175,760	253	748	100.0	1,393	1.8
Canyon Ferry Dam	3797.0	3800.0	1,891,888	1,992,977	3796.25	-0.17	1,866,945	2,001	5,178	98.7	0	0.0
Boysen Dam	4725.0	4732.2	741,594	892,226	4724.14	-0.06	724,878	1,188	1,868	97.7	0	0.0
Buffalo Bill Dam*	5393.5	--	646,565	--	5391.21	-0.05	628,192	2,016	2,205	97.2	--	--
Yellowtail Dam	3640.0	3657.0	1,020,573	1,278,896	3640.98	-0.14	1,033,089	3,552	4,794	100.0	12,516	4.8
Jamestown Dam	1431.0	1454.0	30,488	220,990	1431.11	-0.01	30,752	5	5	100.0	264	0.1
Heart Butte Dam	2064.5	2094.5	67,142	214,169	2063.09	-0.01	62,576	0	0	93.2	0	0.0
Keyhole Dam	4099.3	4111.5	188,671	329,134	4096.31	-0.01	162,026	-170	0	85.9	0	0.0
Pactola Dam	4580.2	4621.5	55,975	99,038	4579.57	-0.04	55,434	132	153	99.0	0	0.0
Shadehill Dam	2272.0	2302.0	120,172	350,176	2271.53	-0.05	117,829	-100	0	98.1	0	0.0
Glendo Dam	4635.0	4653.0	492,022	763,039	4621.33	-0.98	347,943	M	M	70.7	0	0.0
NWO - USACE Tributary Projects												
Bowman-Haley Dam	2754.8	2777.0	17,469	89,207	2752.20	-0.04	13,363	-23	10	76.5	0	0.0
Pipestem Dam	1442.5	1496.3	8,354	143,394	1448.35	-0.06	14,293	36	74	100.0	5,939	4.4
Chatfield Dam	5432.0	5500.0	27,076	233,061	5430.74	-0.07	25,340	55	104	93.6	0	0.0
Cherry Creek Dam	5550.0	5598.0	12,558	91,852	5550.03	0.00	12,584	34	33	100.0	26	0.0
Bear Creek Dam	5558.0	5635.5	1,824	30,338	5557.92	0.12	1,816	31	24	99.6	0	0.0
Papillion Creek Dam 11	1121.0	1142.0	3,015	16,588	1121.52	-0.03	3,194	6	12	100.0	179	1.3
Papillion Creek Dam 16	1104.0	1121.0	1,141	4,673	1104.27	-0.03	1,175	1	3	100.0	34	1.0
Papillion Creek Dam 18	1110.0	1128.2	2,781	10,257	1110.29	-0.04	2,855	0	5	100.0	74	1.0
Papillion Creek Dam 20	1095.8	1113.1	2,309	8,512	1095.74	-0.19	2,288	-12	11	99.1	0	0.0
NWK - Tributary Projects												
Bonny Dam	3672.0	3710.0	41,340	170,160	3638.00	0.00	0	5	4	-0.0	0	0.0
Trenton Dam (Swanson Lake)	2752.0	2773.0	112,285	246,291	2741.46	-0.05	66,905	35	124	59.6	0	0.0
Enders Dam	3112.3	3127.0	42,929	72,958	3082.79	-0.03	9,199	5	3	21.4	0	0.0
Red Willow Dam (Hugh Butler L)	2581.8	2604.9	36,231	85,093	2569.06	0.03	18,873	20	2	52.1	0	0.0
Medicine Cr Dam (Harry Strunk L)	2366.1	2386.2	34,654	87,378	2364.55	-0.08	31,944	20	121	92.2	0	0.0
Norton Dam (Keith Sebelius Lake)	2304.3	2331.4	34,509	133,740	2292.78	-0.01	14,905	40	1	43.2	0	0.0
Harlan County Dam	1945.7	1973.5	314,111	814,111	1938.91	-0.09	230,029	90	416	73.2	0	0.0
Lovewell Dam	1582.6	1595.3	35,714	86,172	1581.15	0.00	31,514	10	115	88.2	0	0.0
Milford Dam	1144.4	1176.2	373,152	1,131,026	1144.04	-0.12	367,611	135	1,000	98.5	0	0.0
NWK - Lower Kansas River Basin												
Cedar Bluff Dam	2144.0	2166.0	172,451	364,342	2121.11	0.01	61,440	40	0	35.6	0	0.0
Kanopolis Dam	1463.0	1508.0	48,378	413,521	1467.12	-0.05	61,083	100	159	100.0	12,705	3.5
Wilson Dam	1516.0	1554.0	236,188	766,340	1516.82	-0.05	243,515	85	250	100.0	7,327	1.4
Kirwin Dam	1729.2	1757.3	98,190	313,365	1729.89	-0.07	101,517	125	135	100.0	3,327	1.5
Webster Dam	1892.4	1923.7	76,202	259,603	1893.24	-0.07	79,192	50	150	100.0	2,990	1.6
Glen Elder Dam (Waconda Lake)	1455.6	1488.3	219,420	942,406	1455.50	-0.01	218,162	270	201	99.4	0	0.0
Tuttle Creek Dam	1075.0	1136.0	257,014	2,141,326	1076.65	-1.06	275,468	725	7,000	100.0	18,454	1.0
Perry Dam	891.5	920.6	200,004	715,524	889.33	-0.03	178,467	10	25	89.2	0	0.0
Clinton Dam	875.5	903.4	118,699	411,195	874.41	-0.02	111,006	4	21	93.5	0	0.0
NWK - Metro-Kansas City Area												
Blue Springs Dam	802.0	820.3	10,888	26,557	801.40	0.01	10,450	5	0	96.0	0	0.0
Longview Dam	891.0	909.0	22,134	46,944	891.30	0.06	22,418	4	16	100.0	284	1.1
Smithville Dam	864.2	876.2	141,772	243,570	861.63	-0.03	124,211	2	8	87.6	0	0.0
NWK - Chariton River Basin												
Rathbun Dam	904.0	926.0	221,966	571,421	904.80	-0.04	229,893	3	13	100.0	7,927	2.3
Long Branch Dam	791.0	801.0	34,189	64,516	789.45	-0.04	30,595	5	7	89.5	0	0.0
NWK - Osage River Basin												
Pomona Dam	974.0	1003.0	55,514	239,456	971.46	-0.04	46,128	5	15	83.1	0	0.0
Melvern Dam	1036.0	1057.0	149,630	358,635	1033.55	-0.05	133,658	5	20	89.3	0	0.0
Hillsdale Dam	917.0	931.0	77,415	163,919	915.56	-0.03	70,727	5	24	91.4	0	0.0
Pomme de Terre Dam	839.0	874.0	237,356	644,177	839.31	-0.03	239,803	10	100	100.0	2,447	0.6
Stockton Dam	867.0	892.0	874,887	1,650,953	865.44	-0.09	837,119	215	1,243	95.7	0	0.0
Harry S Truman Dam	706.0	739.6	1,181,754	5,189,985	705.57	-0.07	1,157,416	1,400	2,955	97.9	0	0.0
Bagnell Dam (Lake of the Ozarks)**	660.0	--	1,926,823	--	659.33	0.10	1,888,283	3,763	1,036	98.0	--	--

MP = Multipurpose FC = Flood Control -- = N/A Data M = Missing Data *Project is not a Section 7 Project **Project is not a Corps Project

Data for NWK projects are 0600 values except for Stockton, Harry S Truman, and Bagnell. Those projects are 2400 values. Bagnell Dam is owned and operated by Ameren UE of Saint Louis MO.

All Corps and USBR tributary project elevations are reported in NGVD29 except for Cherry Creek and Pipestem Dams, which are in local project datums.

US Army Corps of Engineers®

Northwestern Division, Omaha District

Mainstem and Tributary Reservoir Bulletin

Project Data Date/Time: 07-26-2018 24:00

Last Updated Date/Time: 07-27-2018 12:05

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft)		Cumulative Stor (ac-ft)		Elev (ft)	Daily Elev Change (ft)	Storage (ac-ft)	Inflow (cfs)	Release (cfs)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC								
Missouri River Mainstem Projects												
Fort Peck Dam	2234.0	2250.0	14,788,340	18,462,840	2246.45	-0.10	17,605,000	8,000	17,300	100.0	2,816,660	76.7
Garrison Dam	1837.5	1854.0	17,744,640	23,451,300	1851.45	-0.17	22,514,000	35,000	54,900	100.0	4,769,360	83.6
Oahe Dam	1607.5	1620.0	18,667,635	22,982,900	1617.14	0.08	21,921,000	62,000	49,300	100.0	3,253,365	75.4
Big Bend Dam	1420.0	1423.0	1,631,474	1,810,414	1420.89	-0.15	1,683,000	45,000	48,100	100.0	51,526	28.8
Fort Randall Dam	1350.0	1375.0	3,000,732	5,293,473	1359.05	-0.09	3,765,000	54,000	55,100	100.0	764,268	33.3
Gavins Point Dam	1204.5	1210.0	295,406	428,033	1206.27	-0.06	335,000	56,000	56,000	100.0	39,594	29.9
System Totals	--	--	56,128,227	72,428,960	--	--	67,823,000	--	--	100.0	11,694,773	71.7
USBR Section 7 Projects												
Tiber Dam	2993.0	3012.5	925,648	1,328,723	2994.97	-0.10	962,120	652	1,504	100.0	36,472	9.0
Clark Canyon Dam	5546.1	5560.4	174,367	253,443	5546.37	-0.20	175,760	253	748	100.0	1,393	1.8
Canyon Ferry Dam	3797.0	3800.0	1,891,888	1,992,977	3796.25	-0.17	1,866,945	2,001	5,178	98.7	0	0.0
Boysen Dam	4725.0	4732.2	741,594	892,226	4724.14	-0.06	724,878	1,188	1,868	97.7	0	0.0
Buffalo Bill Dam*	5393.5	--	646,565	--	5391.21	-0.05	628,192	2,016	2,205	97.2	--	--
Yellowtail Dam	3640.0	3657.0	1,020,573	1,278,896	3640.98	-0.14	1,033,089	3,552	4,794	100.0	12,516	4.8
Jamestown Dam	1431.0	1454.0	30,488	220,990	1431.11	-0.01	30,752	5	5	100.0	264	0.1
Heart Butte Dam	2064.5	2094.5	67,142	214,169	2063.09	-0.01	62,576	0	0	93.2	0	0.0
Keyhole Dam	4099.3	4111.5	188,671	329,134	4096.31	-0.01	162,026	-170	0	85.9	0	0.0
Pactola Dam	4580.2	4621.5	55,975	99,038	4579.57	-0.04	55,434	132	153	99.0	0	0.0
Shadehill Dam	2272.0	2302.0	120,172	350,176	2271.53	-0.05	117,829	-100	0	98.1	0	0.0
Glendo Dam	4635.0	4653.0	492,022	763,039	4621.33	-0.98	347,943	M	M	70.7	0	0.0
Corps Tributary Projects												
Bowman-Haley Dam	2754.8	2777.0	17,469	89,207	2752.20	-0.04	13,363	-23	10	76.5	0	0.0
Pipestem Dam	1442.5	1496.3	8,354	143,394	1448.35	-0.06	14,293	36	74	100.0	5,939	4.4
Chatfield Dam	5432.0	5500.0	27,076	233,061	5430.74	-0.07	25,340	55	104	93.6	0	0.0
Cherry Creek Dam	5550.0	5598.0	12,558	91,852	5550.03	0.00	12,584	34	33	100.0	26	0.0
Bear Creek Dam	5558.0	5635.5	1,824	30,338	5557.92	0.12	1,816	31	24	99.6	0	0.0
Papillion Creek Dam 11	1121.0	1142.0	3,015	16,588	1121.52	-0.03	3,194	6	12	100.0	179	1.3
Papillion Creek Dam 16	1104.0	1121.0	1,141	4,673	1104.27	-0.03	1,175	1	3	100.0	34	1.0
Papillion Creek Dam 18	1110.0	1128.2	2,781	10,257	1110.29	-0.04	2,855	0	5	100.0	74	1.0
Papillion Creek Dam 20	1095.8	1113.1	2,309	8,512	1095.74	-0.19	2,288	-12	11	99.1	0	0.0
Cottonwood Springs Dam	3875.0	3936.0	662	8,414	3854.90	0.00	119	0	0	18.0	0	0.0
Cold Brook Dam	3585.0	3651.4	520	7,231	3585.10	-0.01	524	0	0	100.0	4	0.1
Lake Audubon at Garrison Dam	1847.0	--	336,869	--	1846.70	-0.02	INFLOW AND OUTFLOW NOT CALCULATED					
Lake Pocasse at Oahe Dam	1617.0	--	10,999	--	POOL ELEVATION READ MONTHLY BY PROJECT OFFICE							
Salt Creek Dam 2	1335.0	1350.0	1,100	4,957	1333.88	-0.01	927	0	0	84.3	0	0.0
Salt Creek Dam 4	1307.4	1322.5	2,532	9,666	1306.61	-0.02	2,294	-4	0	90.6	0	0.0
Salt Creek Dam 8	1287.8	1302.0	1,780	8,375	1287.86	-0.03	1,795	-4	0	100.0	15	0.2
Salt Creek Dam 9	1271.1	1285.0	1,451	5,864	1265.15	-0.05	521	-3	0	35.9	0	0.0
Salt Creek Dam 10	1244.9	1262.0	1,629	7,468	1245.09	-0.01	1,670	0	1	100.0	41	0.7
Salt Creek Dam 12	1232.9	1252.0	1,808	9,415	POOL IS DRAWN DOWN FOR LAKE REHABILITATION							
Salt Creek Dam 13	1341.0	1355.0	2,161	7,189	1340.65	-0.03	2,080	5	8	96.3	0	0.0
Salt Creek Dam 14	1244.3	1263.5	7,500	27,597	1243.70	-0.00	7,071	-2	0	94.3	0	0.0
Salt Creek Dam 17	1242.4	1266.0	808	6,628	1242.62	0.02	835	3	2	100.0	27	0.5
Salt Creek Dam 18	1284.0	1311.0	25,088	96,759	1284.22	-0.01	25,502	-5	8	100.0	414	0.6

MP = Multipurpose FC = Flood Control -- = N/A Data M = Missing Data *Buffalo Bill is not a Section 7 Project

All Corps and USBR tributary project elevations are reported in NGVD29 except for Cherry Creek and Pipestem Dams, which are in local project datums.

US Army Corps of Engineers®

Northwestern Division, Kansas City District

Lower Missouri River Basin Reservoir Bulletin

Project Data Date/Time: 07-27-2018 06:00

Last Updated Date/Time: 07-27-2018 12:11

Project	Project Information				Current Data						Occupied Storage		
	Elevations (ft)		Net Storage (ac-ft)		Elev (ft)	Daily Elev Change (ft)	Storage (ac-ft)	Inflow (cfs)	Release (cfs)	Precip (in)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC									
Republican River Basin													
Bonny Dam	3672.00	3710.00	41,340	128,820	3638.00	0.00	0	5	4	3.10	-0.0	0	0.0
Trenton Dam (Swanson Lake)	2752.00	2773.00	112,285	134,006	2741.46	-0.05	66,905	35	124	0.00	59.6	0	0.0
Enders Dam	3112.30	3127.00	42,929	30,029	3082.79	-0.03	9,199	5	3	0.00	21.4	0	0.0
Red Willow Dam (Hugh Butler L)	2581.80	2604.90	36,231	48,862	2569.06	0.03	18,873	20	2	0.00	52.1	0	0.0
Medicine Cr Dam (Harry Strunk L)	2366.10	2386.20	34,654	52,724	2364.55	-0.08	31,944	20	121	0.00	92.2	0	0.0
Norton Dam (Keith Sebelius Lake)	2304.30	2331.40	34,509	99,231	2292.78	-0.01	14,905	40	1	0.39	43.2	0	0.0
Harlan County Dam	1945.73	1973.50	314,111	500,000	1938.91	-0.09	230,029	90	416	0.14	73.2	0	0.0
Lovewell Dam	1582.60	1595.30	35,714	50,458	1581.15	0.00	31,514	10	115	0.00	88.2	0	0.0
Milford Dam	1144.40	1176.20	373,152	757,874	1144.04	-0.12	367,611	135	1,000	0.00	98.5	0	0.0
Smoky Hill River Basin													
Cedar Bluff Dam	2144.00	2166.00	172,451	191,891	2121.11	0.01	61,440	40	0	0.05	35.6	0	0.0
Kanopolis Dam	1463.00	1508.00	48,378	365,143	1467.12	-0.05	61,083	100	159	0.00	100.0	12,705	3.5
Wilson Dam	1516.00	1554.00	236,188	530,152	1516.82	-0.05	243,515	85	250	0.12	100.0	7,327	1.4
Webster Dam	1892.45	1923.70	76,202	183,401	1893.24	-0.07	79,192	50	150	0.06	100.0	2,990	1.6
Kirwin Dam	1729.25	1757.30	98,190	215,175	1729.89	-0.07	101,517	125	135	0.00	100.0	3,327	1.5
Glen Elder Dam (Waconda Lake)	1455.60	1488.30	219,420	722,986	1455.50	-0.01	218,162	270	201	0.00	99.4	0	0.0
Lower Kansas River Basin													
Tuttle Creek Dam	1075.00	1136.00	257,014	1,884,312	1076.65	-1.06	275,468	725	7,000	0.00	100.0	18,454	1.0
Perry Dam	891.50	920.60	200,004	515,520	889.33	-0.03	178,467	10	25	0.35	89.2	0	0.0
Clinton Dam	875.50	903.40	118,699	292,496	874.41	-0.02	111,006	4	21	0.00	93.5	0	0.0
Platte River Basin													
Smithville Dam	864.20	876.20	141,772	101,798	861.63	-0.03	124,211	2	8	0.00	87.6	0	0.0
Little Blue River Basin													
Longview Dam	891.00	909.00	22,134	24,810	891.30	0.06	22,418	4	16	0.00	100.0	284	1.1
Blue Springs Dam	802.00	820.30	10,888	15,669	801.40	0.01	10,450	5	0	0.00	96.0	0	0.0
Chariton and Little Chariton River Basin													
Rathbun Dam	904.00	926.00	221,966	349,455	904.80	-0.04	229,893	3	13	0.00	100.0	7,927	2.3
Long Branch Dam	791.00	801.00	34,189	30,327	789.45	-0.04	30,595	5	7	0.00	89.5	0	0.0
Osage-Marais Des Cygnes River Basin													
Melvern Dam	1036.00	1057.00	149,630	209,005	1033.55	-0.05	133,658	5	20	0.00	89.3	0	0.0
Pomona Dam	974.00	1003.00	55,514	183,942	971.46	-0.04	46,128	5	15	0.00	83.1	0	0.0
Hillsdale Dam	917.00	931.00	77,415	86,504	915.56	-0.03	70,727	5	24	0.00	91.4	0	0.0
Stockton Dam	867.00	892.00	874,887	776,066	865.44	-0.09	837,119	215	1,243	0.03	95.7	0	0.0
Pomme de Terre Dam	839.00	874.00	237,356	406,821	839.31	-0.03	239,803	10	100	0.00	100.0	2,447	0.6
Harry S Truman Dam	706.02	739.60	1,181,754	4,008,231	705.57	-0.07	1,157,416	1,400	2,955	0.00	97.9	0	0.0
Bagnell Dam (Lake of the Ozarks)*	660.00	--	1,926,823	--	659.33	0.10	1,888,283	3,763	1,036	0.00	98.0	--	--

MP = Multipurpose FC = Flood Control -- = N/A Data M = Missing Data *Bagnell Dam is owned and operated by Ameren UE of Saint Louis MO.

Data for Stockton, Harry S Truman, and Bagnell are 2400 values.

All Corps and USBR tributary project elevations are reported in NGVD29.

US Army Corps of Engineers®

Northwestern Division, Missouri River Basin Water Management
Daily River Bulletin
Project Data Date/Time: 07-26-2018 24:00
Last Updated Date/Time: 07-27-2018 13:07

STATION	Miles above Missouri R Mouth (1960)	Elev Datum (ft msl)	Flood Stage (feet)	Gage Reading (feet)	24-Hr Change (feet)	Estimated Discharge In / Out (cfs)	Actual Stor / Gen (KAF/Mwh)	24-Hr Precip (in)	Air Temp (deg F) Hi	Lo
Missouri River Mainstem Projects as of Midnight										
Fort Peck Dam	1771.6	--	--	2246.4	-0.1	8,000 / 17,300	17,605 / 3,919	0.00	79	49
Garrison Dam	1389.9	--	--	1851.4	-0.2	35,000 / 54,900	22,514 / 12,839	0.00	70	54
Oahe Dam	1072.3	--	--	1617.1	0.1	62,000 / 49,300	21,921 / 15,434	0.00	74	61
Big Bend Dam	987.4	--	--	1420.9	-0.2	45,000 / 48,100	1,683 / 5,273	0.00	77	61
Fort Randall Dam	880.0	--	--	1359.0	-0.1	54,000 / 55,100	3,765 / 5,890	0.00	77	64
Gavins Point Dam	811.1	--	--	1206.3	-0.1	56,000 / 56,000	335 / 2,580	0.00	77	63
System Totals	--	--	--	--		System Storage Storage Change Daily Generation	67,823 KAF -51 KAF 45,935 Mwh	--	--	--
Selected Tributary Reservoirs as of Midnight										
Canyon Ferry Dam	2252.8	--	--	3796.2	-0.2	2,001 / 5,178	1,866 / --	--	--	--
Harry S Truman Dam	175.1	--	--	705.6	-0.1	1,400 / 2,955	1,157 / 218	0.00	--	--
Bagnell Dam (Lake of the Ozarks)	81.7	--	--	659.3	0.1	3,763 / 1,036	1,888 / --	0.00	--	--
Selected River Gaging Stations as of 6:00 a.m.										
Yellowstone River										
Corwin Spgs, MT	2113.0	5079.1	11.0	4.1	-0.1	5,005	--	--	--	--
Livingston, MT	2063.0	4542.5	9.5	4.0	-0.1	5,933	--	0.00	87	48
Billings, MT	1928.0	--	13.5	5.0	-0.1	9,632	--	0.00	79	56
Miles City, MT	1763.0	2330.2	13.0	5.3	-0.1	14,648	--	0.04	80	58
Sidney, MT	1612.0	1881.3	19.0	6.7	-0.1	15,128	--	--	--	--
Missouri River										
Virgelle, MT	2033.0	2507.5	17.0	4.3	0.3	8,790	--	--	--	--
Wolf Point, MT	2033.0	1958.6	19.0	15.5	-0.1	20,043	--	0.00	78	55
Culbertson, MT	1621.0	1883.4	19.0	7.5	-0.0	18,986	--	--	--	--
Williston, ND	1553.0	1830.2	22.0	22.5	-0.2	--	--	0.00	74	44
Bismarck, ND	1315.0	1618.3	14.5	12.7	-0.1	55,753	--	0.00	73	50
Pierre, SD	1067.0	1414.3	13.0	11.6	0.1	--	--	0.00	78	50
Yankton, SD	806.0	1139.7	20.0	15.6	0.1	57,820	--	0.00	76	53
James River										
Scotland, SD	33.0	1168.5	13.0	5.5	-0.1	627	--	--	--	--
Missouri River										
Ponca, NE	751.0	1080.0	20.0	16.8	-0.1	--	--	--	--	--
Big Sioux River										
Akron, IA	54.0	1118.9	16.0	15.1	-0.1	6,347	--	--	--	--
Missouri River										
Sioux City, IA	732.0	1057.0	30.0	21.1	-0.1	65,417	--	0.00	80	51
Decatur, NE	691.0	1010.0	35.0	28.7	0.2	67,203	--	--	--	--
Blair, NE	648.0	977.3	26.5	22.5	-0.0	--	--	--	--	--
Omaha, NE	616.0	948.2	29.0	23.8	-0.1	72,030	--	0.00	85	57
Platte River										
Louisville, NE	17.0	1007.1	9.0	3.8	0.0	9,399	--	--	--	--
Missouri River										
Plattsmouth, NE	592.0	928.3	26.0	23.8	-0.1	--	--	--	--	--
Nebr City, NE	563.0	905.4	18.0	17.3	M	80,319	--	--	--	--
Brownville, NE	535.0	860.0	33.0	33.3	-0.2	85,440	--	--	--	--
Rulo, NE	498.0	837.2	17.0	16.7	-0.2	82,182	--	--	--	--
St Joseph, MO	448.0	788.2	17.0	15.5	-0.2	82,995	--	0.00	87	61
Kansas River										
Wamego, KS	127.0	950.8	19.0	7.5	-0.0	8,346	--	--	--	--
Lecompton, KS	65.0	821.8	17.0	5.6	-0.0	8,738	--	--	--	--
DeSoto, KS	30.0	753.8	26.0	8.0	0.0	8,266	--	--	--	--
Missouri River										
Kansas City, MO	366.0	706.4	32.0	18.2	-0.1	93,493	--	0.06	82	66
Napoleon, MO	329.0	680.2	17.0	14.6	-0.1	94,042	--	--	--	--
Waverly, MO	293.0	646.0	20.0	17.8	-0.1	96,270	--	--	--	--
Grand River										
Sumner, MO	41.0	--	26.0	6.4	-0.1	196	--	--	--	--
Missouri River										
Glasgow, MO	226.0	586.1	25.0	18.4	-0.2	96,864	--	--	--	--
Boonville, MO	197.0	565.4	21.0	14.3	-0.2	97,122	--	--	--	--
Jeff City, MO	144.0	520.1	75.5	13.3	-0.2	--	--	--	--	--
Osage River										
St. Thomas, MO	35.0	525.7	23.0	3.7	0.9	2,435	--	--	--	--
Gasconade River										
Rich Fountain, MO	53.0	--	20.0	3.1	-0.0	813	--	--	--	--
Missouri River										
Hermann, MO	98.0	481.6	21.0	12.7	0.2	107,533	--	--	--	--
St. Charles, MO	28.0	413.7	25.0	16.2	-0.1	105,552	--	0.00	86	60
Mississippi River										
St. Louis, MO	1144.0	--	30.0	16.2	-0.1	262,636	--	0.00	88	65

US Army Corps of Engineers®

Northwestern Division, Omaha District

Missouri River Federal Levee Bulletin

Project Data Date/Time: 06-28-2018 07:00

Last Updated Date/Time: 07-06-2018 15:02

Stream Gage	River Mile	Stage (feet)	24-Hr Change (feet)	Peak Fcst Stage (feet)	Date & Time Peak Stage (CDT)	Levee Name	Freeboard (feet)	Percent Loading	Fcst Freeboard (feet)	Fcst Percent Loading
Missouri River Levees near Williston, ND										
Missouri R at Williston, ND	1553	25.7	-0.1	--	--	Williston Levee	6.3	37.0	--	--
Missouri River Levees near Omaha, NE										
Missouri R at Omaha, NE	616	28.6	0.9	31.2	28Jun2018, 07:00	Omaha Levee D/S 275	9.4	0.0	6.8	24.6
						Omaha Flood Wall	12.4	0.0	9.8	18.4
						Council Bluffs Ind Levee	8.2	0.0	5.6	28.3
						Council Bluffs Fed Levee	11.6	0.0	9.0	19.7
						L627	9.4	0.0	6.8	24.6
						L624	9.4	0.0	6.8	24.6
						L611-614	9.4	0.0	6.8	24.6
						R616	8.0	0.0	5.4	29.1
						R613	8.2	0.0	5.6	28.3
Missouri River Levees near Nebraska City, NE										
Missouri R at Nebr City, NE	563	22.5	1.4	22.9	28Jun2018, 13:00	L601	6.5	40.9	6.1	44.2
						L594	7.5	37.5	7.1	40.5
						L575	4.5	50.0	4.1	54.0
						R573	5.7	44.1	5.3	47.6
						R562	6.2	42.1	5.8	45.4
Missouri River Levees near Brownville, NE										
Missouri R at Brownville, NE	535	37.4	1.3	--	--	R548	6.5	40.4	--	--
						L550	6.3	41.1	--	--
						L536	6.5	40.4	--	--
Missouri River Levees near Rulo, NE										
Missouri River at Rulo, NE	498	19.7	1.0	23.2	29Jun2018, 07:00	R520	10.3	20.8	6.8	47.5

Freeboard/Overtopping estimates may not include all low areas. Overtopping could occur at stages 1-2 feet below estimated value.

-- = N/A Data M = Missing Data Fcst based on NWS 24 days of QPF

NWS Flood Categories
Action
Minor
Moderate
Major

Levee Freeboard/Loading
> 5 ft / 0-25%
2-5 ft / 25-75%
< 2 ft / 75-100%
Overtop / > 100%
Breached