

## Probabilistic Hydrologic Outlook

*Taken from the NWS Hydrologic Outlook*

**Red River, Main Stem - Dated: March 25, 2011; Valid 3/31/11-6/29/11**

Forecast Sites	Probability of Exceedance			Departure from Normal	Minor Flooding		Moderate Flooding		Major Flooding		Flood Stage of Record (ft)	Flood of Record (cfs)	Year	Chance of Exceedance					
	Minor Flooding	Moderate Flooding	Major Flooding		Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)				90% Stage (Ft)	90% Flow (cfs)	50% Stage (Ft)	50% Flow (cfs)	10% Stage (Ft)	10% Flow (cfs)
Wahpeton	>98%	>98%	>98%	+60%	10	3,240	12	4,810	14	6,600	19.42	12,800	1997	16.5	9,230	17.4	10,300	18.8	12,000
Fargo	>98%	>98%	>98%	+35%	18	4,060	25	8,860	30	12,100	40.65	29,800	2009	37.2	22,400	40.5	29,500	44.4	#N/A
Halstad	>98%	>98%	>98%	+76%	26	19,300	32	27,000	40	59,900	40.74	#N/A	1997	39.1	41,300	40.1	61,400	41.5	#N/A
Grand Forks	>98%	>98%	>98%	+44%	28	20,100	40	36,300	46	58,500	54.35	117,000	1997	49.5	79,900	51.9	97,300	55.4	127,000
Oslo**	>98%	>98%	>98%	+38%	26	18,450	30	22,700	36	58,982	38.17	93,483	2009	37.5	81,360	38.4	97,986	39.7	#N/A
Drayton	>98%	>98%	>98%	+60%	32	28,500	38	36,500	42	55,500	45.55	107,000	1997	43.1	68,600	44.2	84,200	45.7	110,000
Pembina**	>98%	>98%	>98%	+56%	42	31,650	47	39,817	52	89,133	54.94	138,424	1997	53.2	107,022	54	#####	55	139,636

**Red River Tributaries, North Dakota - Dated: March 25, 2011; Valid 3/31/11-6/29/11**

River	Forecast Sites	Probability of Exceedance			Departure from Normal	Minor Flooding		Moderate Flooding		Major Flooding		Flood Stage of Record (ft)	Flood of Record (cfs)	Year	Chance of Exceedance					
		Minor Flooding	Moderate Flooding	Major Flooding		Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)				90% Stage (ft)	90% Flow (cfs)	50% Stage (ft)	50% Flow (cfs)	10% Stage (ft)	10% Flow (cfs)
Sheyenne River	Valley City**	96%	93%	87%	+90%	15	3,666	16	4,041	17	4,421	20.52	5,955	2009	16.8	4,345	19.1	5,249	20.9	6,149
	Lisbon	>98%	96%	72%	+93%	15	3,890	17	4,910	19	6,230	22.79	9,190	2009	17.6	5,290	20.4	#N/A	24.6	#N/A
	Kindred	>98%	>98%	<1%	+85%	16	3,070	20	4,300	22	#N/A	22.33	#N/A	1997	21.2	5,970	21.2	5,970	21.2	5,970
	West Fargo Diversion	>98%	>98%	>98%	+80%	18	3,240	20	3,900	21	4,240	28.77	#N/A	1996	23.5	5,080	23.5	5,080	23.5	5,080
	Harwood**	>98%	>98%	>98%	+81%	84	5,350	86	6,000	91	9,300	92.02	#N/A	1997	92.1	#N/A	92.2	#N/A	92.4	#N/A
Wild Rice River	Abercrombie	>98%	>98%	>98%	+60%	10	1,930	12	2,370	18	4,460	27.69	13,900	2009	25.2	9,570	27	#N/A	29.2	#N/A
Maple River	Enderlin	>98%	>98%	56%	+80%	9.5	1,440	12	3,500	14	5,640	15.41	7,540	1975	12.9	4,380	14.2	5,890	15.1	7,090
	Mapleton - Datum 886.43	>98%	>98%	32%	+71%	905	#N/A	908	#N/A	910	#N/A	909.86	#N/A	2006	909.3	#N/A	909.8	#N/A	910.7	#N/A
Goose River	Hillsboro	>98%	93%	21%	+86%	10	4,330	15.4	10,600	16	12,300	16.76	14,700	1979	13.6	6,530	15	9,570	16.7	14,500
Forest River	Minto	95%	66%	<1%	+66%	6	2,170	7.8	4,500	11	13,700	11.8	#N/A	1948	7	3,170	8.4	5,740	10	10,100
Park River	Grafton	90%	58%	41%	+75%	12	2,585	16.2	4,116	14.5	3,482	20.13	5,758	1950	12.1	2,620	14.1	3,335	16.6	4,268
Pembina River	Walhalla	>98%	35%	<1%	+80%	11	5,170	14.8	12,400	18	#N/A	19.2	#N/A	1950	15.2	14,600	15.8	18,900	16.5	25,400
	Neché	>98%	>98%	>98%	+80%	18	4,770	21.6	11,800	21.5	11,200	24.51	#N/A	1997	21.6	11,800	21.8	13,200	22.2	16,400

\*These sites are National Weather Service forecast sites, these sites are not USGS stream gage sites.

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## Probabilistic Hydrologic Outlook

*Taken from the NWS Hydrologic Outlook*

**Mouse (Souris) River - Dated: March 25, 2011; Valid 3/29/11-6/29/11**

River	Forecast Sites	Probability of Exceedance			Departure From Normal	Minor Flooding		Moderate Flooding		Major Flooding		Flood of Record	Flood of Record Flow (cfs)	Year	Chance of Exceedance					
		Minor Flooding	Moderate Flooding	Major Flooding		Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)				Stage (ft)	Flow (cfs)	Stage (ft)	Flow (cfs)	Stage (ft)	Flow (cfs)
<b>Des Lacs River</b>	Foxholm	90%	77%	67%	+86%	16	1,710	18	2,260	19	2,550	21.23	4,260	1979	16.2	1,770	20.1	3,210	21.8	#N/A
<b>Mouse River</b>	Sherwood	>98%	>98%	4%	+67%	18	2,110	20	2,550	25	7,660	25.15	8,230	1976	23	3,750	23.7	4,390	24.4	5,730
	Foxholm	>98%	>98%	88%	+52%	10	910	13	1,650	15	3,660	17.17	7,980	1976	15	3,660	16.2	5,730	17.3	#N/A
	Minot	>98%	93%	19%	+84%	14	2,310	17	3,530	22	7,040	21.9	6,870	1904	17.5	3,750	20.8	5,570	23.7	#N/A
	Minot Broadway Bridge*	82%	62%	13%	+78%	1549		1551		1555		1558		1881	1547.9		1551.7		1557.2	
	Logan*	>98%	>98%	6%	+72%	34		36		38		38.28		1976	37		37.6		37.9	
	Sawyer*	>98%	>98%	41%	+81%	22		24		26		26.17		1976	25.2		25.8		26.3	
	Velva*	>98%	14%	-	+78%	1505		1510		1515		1509.9		1976	1508.5		1509.3		1510.3	
	Towner*	>98%	>98%	>98%	+35%	52		54		56		56.7		1976	56.5		56.6		56.8	
	Bantry	>98%	>98%	96%	+40%	11	1,090	12	1,690	14	6,520	14.59	9,340	1976	14.6	9,400	14.9	11,200	15.4	14,800
Westhope	>98%	>98%	>98%	+59%	10	1,950	14	5,050	16	7,040	19.16	10,800	1976	18.5	9,920	19	10,600	20.3	12,300	
<b>Willow Creek</b>	Willow City	>98%	>98%	96%	+61%	10	351	14	1,760	16	4,020	16.76	#N/A	1969	16.5	4,840	17.1	#N/A	18.2	#N/A
<b>Wintering River</b>	Karlsruhe	>98%	95%	-	+91%	7	515	9	1,740	10	3,630	13.37	#N/A	1995	9.2	2,030	9.4	2,360	9.6	2,730

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## Probabilistic Hydrologic Outlook

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**Missouri River - Dated: March 25, 2011; Valid 3/28/11-6/29/11**

River	Forecast Sites	Probability of Exceedance			Departure From Normal	Minor Flooding		Moderate Flooding		Major Flooding		Flood Stage of Record (ft)	Flood of Record Flow (cfs)	Year	Chance of Exceedance					
		Minor Flooding	Moderate Flooding	Major Flooding		Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)	Stage Height (ft)	Flow (cfs)				90% Stage (ft)	90% Flow (cfs)	50% Stage (ft)	50% Flow (cfs)	10% Stage (ft)	10% Flow (cfs)
Little Muddy River	Williston	>98%	93%	18%	NA	10	2,180	12	5,600	14	#N/A	13.57	#N/A	1960	12.1	5,970	13	#N/A	14.5	#N/A
Little Missouri River	Marmarth	18%	-	-	+15%	18.0	29,300	23.0	#N/A	30	#N/A	23.4	#N/A	1952	6.5	2,510	11.1	8,450	19.3	34,900
	Medora	40%	19%	3%	+29%	15.0	16,400	18.0	#N/A	20	#N/A	20.5	#N/A	1947	10.1	5,800	13.6	12,700	19.2	#N/A
	Watford City	3%	-	-	NA	20.0	#N/A	24.0	#N/A	30	#N/A	24	#N/A	1947	9.5	9,980	11.8	15,500	18.4	#N/A
Spring Creek	Zap	86%	55%	32%	+61%	14.0	2,490	18.0	4,400	20	5,540	20.7	5,970	1972	13.5	2,280	18.3	4,560	22.4	#N/A
Knife River	Manning	76%	5%	-	+63%	15.0	1,670	17.0	6,120	20	#N/A	17.63	9,410	2003	13.8	1,200	15.6	2,220	16.7	4,940
	Hazen 1S	95%	85%	43%	+68%	21.0	7,030	24.0	10,600	25	16,000	27.01	34,300	1966	23.4	9,080	24.9	15,400	26.1	25,000
Heart River	Mandan 3W	26%	4%	3%	+20%	17.0	14,500	23.0	27,500	28	#N/A	25.75	35,500	1952	13	8,820	15.1	11,400	20.2	20,800
Apple Creek	Menoken 6W	96%	92%	32%	+39%	15.0	1,340	16.0	2,190	17	6,000	17.46	#N/A	1979	16	2,190	16.6	3,970	18.1	#N/A
James River	Grace City 3W	97%	94%	81%	+90%	12.0	3,370	14.0	5,360	15	6,240	17.45	8,630	2009	14.4	5,710	17.6	8,780	19.9	#N/A
	Lamoure	90%	38%	6%	+80%	14.0	3,880	16.0	7,530	18	#N/A	17.38	11,500	2009	13.9	3,800	15.3	5,920	17.2	10,900
	Ludden 5SW	>98%	>98%	21%	NA	12.0		14.0		17		17.86		1997	15.9		16.5		17.4	
Pipestem Creek	Pingree 3W	>98%	78%	3%	NA	9.0	700	11.0	2,720	13	8,540	11.86	4,620	2009	10.5	1,930	11.6	3,960	12	5,000
Cannonball River	Regent	-	-	-	NA	22.0	#N/A	24.0	#N/A	26	#N/A	26.1	#N/A	1950	13.5	3,730	14	4,060	16.2	5,680
	Breien	>98%	4%	-	NA	10.0	4,860	20.0	27,000	23	53,900	22.3	44,800	1950	15.1	13,600	15.6	14,700	18.3	21,400
Cedar Creek	Raleigh 19S	13%	4%	-	+10%	12.0	7,730	14.0	11,300	16	15,600	18	20,600	1950	9.8	4,620	10.2	5,120	12.4	8,390
Beaver Creek	Linton	>98%	88%	41%	NA	9.0	1,300	11.0	2,410	13	3,870	17.28	#N/A	2009	10.8	2,290	12.5	3,450	16.4	8,570

**Devils Lake - Dated: March 25, 2011; Valid 3/24/11-9/29/11**

Forecast Site	90%		50%		10%		Flood Stage of Record (ft)	Capacity (Ac-Ft)	Year
	Stage Height (ft)	Capacity (Ac-Ft)	Stage Height (ft)	Capacity (Ac-Ft)	Stage Height (ft)	Capacity (Ac-Ft)			
Creel Bay	1454.2	3,535,326	1454.8	3,612,138	1455.9	3,854,604	1452.1	3,162,111	2010
Stump Lake	1454.2	3,535,326	1454.8	3,612,138	1455.9	3,854,604	1452.1	3,162,111	2010

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