

Cumulative flood elevations for Devils Lake for 2010–19, based on USGS stochastic model runs made December 22, 2009

Year	Cumulative exceedance probability, in percent						
	90	50	20	10	5	2	1
2010	1,450.2	1,450.9	1,452.0	1,453.0	1,454.0	1,455.4	1,456.2
2011	1,450.2	1,451.2	1,452.8	1,454.1	1,455.4	1,457.3	1,458.3
2012	1,450.2	1,451.3	1,453.3	1,454.8	1,456.3	1,458.1	1,459.6
2013	1,450.3	1,451.4	1,453.6	1,455.2	1,456.9	1,458.8	1,460.1
2014	1,450.3	1,451.5	1,453.8	1,455.6	1,457.3	1,459.4	1,460.5
2015	1,450.3	1,451.6	1,454.1	1,455.8	1,457.6	1,459.7	1,460.6
2016	1,450.3	1,451.7	1,454.3	1,456.1	1,457.8	1,459.9	1,460.9
2017	1,450.3	1,451.8	1,454.4	1,456.4	1,458.1	1,460.0	1,461.0
2018	1,450.3	1,451.8	1,454.5	1,456.5	1,458.4	1,460.2	1,461.2
2019	1,450.3	1,451.9	1,454.6	1,456.7	1,458.5	1,460.4	1,461.3

Initial conditions for model runs:

Lake level on Oct. 1, 2009: 1,450.1

Estimated inflow to the lake, September 2009: 10,225 acre-feet

Estimated precipitation on the lake, Oct. 1 to Dec. 22, 2009: 1.74 inches

Based on Devils Lake stochastic simulation model described in USGS Scientific Investigations Report 2008–5011, “Climate Simulation and Flood Risk Analysis for 2008–40 for Devils Lake, North Dakota.”

NOTE – Recent changes in model assumptions:

1) Tolna Coulee outlet elevation lowered from 1,459.0 to 1,458.0

2) Operating constraints for Devils Lake emergency outlet changed to 750 mg/L sulfate concentration in the Sheyenne River, 450 mg/L sulfate concentration for outflow from Lake Ashtabula

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