

Cumulative flood elevations for Devils Lake for 2011–30, based on USGS stochastic model runs made Sept. 13, 2010.

Year	Cumulative exceedance probability, in percent						
	90	50	20	10	5	2	1
2011	1,451.7	1,452.5	1,453.5	1,454.3	1,455.1	1,456.0	1,456.6
2012	1,451.7	1,452.7	1,454.2	1,455.5	1,456.6	1,457.8	1,459.0
2013	1,451.8	1,452.8	1,454.6	1,456.0	1,457.3	1,459.0	1,460.0
2014	1,451.8	1,452.9	1,454.8	1,456.4	1,457.8	1,459.6	1,460.4
2015	1,451.8	1,453.0	1,455.0	1,456.7	1,458.1	1,459.9	1,460.8
2016	1,451.8	1,453.0	1,455.2	1,456.8	1,458.4	1,460.0	1,460.9
2017	1,451.8	1,453.1	1,455.3	1,456.9	1,458.6	1,460.2	1,461.0
2018	1,451.8	1,453.1	1,455.4	1,457.1	1,458.7	1,460.3	1,461.0
2019	1,451.8	1,453.2	1,455.5	1,457.1	1,458.9	1,460.3	1,461.0
2020	1,451.8	1,453.2	1,455.6	1,457.2	1,459.0	1,460.5	1,461.1
2025	1,451.8	1,453.3	1,455.8	1,457.5	1,459.3	1,460.7	1,461.2
2030	1,451.8	1,453.4	1,455.9	1,457.8	1,459.5	1,460.8	1,461.3

Initial conditions for model runs:

Lake level on Sept. 1, 2010: 1,451.5

Estimated inflow to the lake, Sept. 2010: 9,400 acre-feet

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 – Assumptions regarding State outlet:

- 1) Outlet capacity 250 cubic feet per second
- 2) Operating constraints: 600 cfs channel capacity and 750 mg/L sulfate concentration in the upper Sheyenne River, 450 mg/L sulfate concentration for outflow from Lake Ashtabula.
- 3) Operating window April 1 to November 30

U.S. Geological Survey
North Dakota Water Science Center

