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Probabilistic Hydrologic Outlook
National Weather Service Eastern North Dakota/Grand Forks ND
0305 PM CST Thu Jan 26 2017

...25% RISK OF DEVILS LAKE RISING ABOVE RECORD LAKE LEVEL...

...DEVILS LAKE OUTLOOK FOR FLOOD POTENTIAL...

Devils and Stump Lakes
Long-Range Probabilistic Outlook

* This Outlook covers the period from...
January 22, 2017 to September 30, 2017.

* There is a 25% chance of Devils Lake rising above the current record of 1454.3 feet and a 50% chance of the lake rising 3.3 feet to 1453.6 feet sometime in late spring or early summer.

* A wet year, including the fall, precluded Devils and Stump Lakes from dropping with Lake elevations hovering closely around 1450.0 feet. Fall precipitation was roughly 150% of normal with wet soils before snow season. Wintertime precipitation was 150 to 300% of normal, with 3.5 to 4.5 inches of equivalent water held in the snowpack. This ranks in the top 90% of years between 1949 and 2011 that are used in the model simulations. On the date used in this outlook, 1997 and 2009 Snow Water Equivalents ranked above this year's.

* This is the best estimate at this time applying 60 plus years of past weather to current lake conditions. These estimates will be recomputed at least monthly and the numbers will change as hydrologic conditions of the Devils Lake basin change.

The National Weather Service is providing long-range probabilistic hydrologic outlooks for Devils and Stump lakes between January and September. They will not be provided between October and December.

The AHPS graphics associated with this outlook will be on the web no later than 10:30 AM this Friday under the experimental long-range flood risk tab at...

water.weather.gov/ahps2/index.php?wfo=fgf

Depending on the season, the high or low water probabilities may be omitted due to their applicability to the hydrologic situation. Refer to the scheduling section farther on in this message.

. Chances of Devils and Stump Lakes rising above given lake levels...

The probability of exceeding a given lake level is the percentage of maximum lake level rises that are above that level for all the years that were run through the model using the precipitation and temperatures for those years during the valid period of the outlook.

Interpretation Aid...There is a 50 percent chance that Devils Lake will rise above 1453.6 feet during the valid period and only a 5 percent chance that it will rise above 1455.1 feet.

Probabilities for exceeding listed lake levels

FROM JANUARY 22, 2017 TO SEPTEMBER 30, 2017

LOCATION	95%	90%	75%	50%	25%	10%	05%
Devils Lake.....							
CREEL BAY	1452.7	1452.9	1453.3	1453.6	1454.3	1454.8	1455.1
Stump Lake.....							
EAST STUMP LAKE	1452.7	1452.9	1453.3	1453.6	1454.3	1454.8	1455.1

. Current and previous record high lake levels...

- * The current height of Devils Lake at Creel Bay is 1450.3 feet
- * The current height of Stump Lake near Lakota is 1450.3 feet

- * The most recent USGS provisional record daily average height for Devils Lake at the Creel Bay gage:

...1454.30 feet on June 27 of 2011

- * Previous records:

...1452.05 feet on June 27 of 2010

...1450.93 feet on June 27 of 2009

...1449.20 feet on May 9 of 2006

...1449.18 feet on June 17 of 2004

...1449.17 feet on August 2 of 2005

- * For more high water marks...see the USGS flood tracking charts at:

waterwatch.usgs.gov/index.php?m=floods&r=nd&w=map

. Outlook Schedule...

- Between January and May, only the high water exceedances will be provided with valid periods ending at the end of September.
- Special Spring Flood and Water Management Outlooks will be issued in late February and, two weeks later, in early March.
- For June and July, both high-water and low-water exceedances will be provided.
- For August and September, only the low-water exceedances will be provided with valid periods ending at the end of November.
- No probability of exceedance/non-exceedance information will be given from October through December, since lake freeze-up

levels will be given in the fall outlooks previously issued.

. Additional Information...

Wind and Wave forecasts for Devils and Stump lakes are available for a seven day period when the lakes are sufficiently ice-free at:

www.weather.gov/fgf/lake_info

The long-range probabilistic outlook is based on high and low lake levels that were calculated for the valid period using multiple scenarios of temperature and precipitation from 1949 to 2012 and current conditions of the lake, snowcover (in winter), and soil moisture.

A YouTube video on "How to Interpret River Outlook Products" is at:

www.youtube.com/watch?v=pSoEgvsnpv4

By providing the complete range of lake level probabilities, the amount of risk associated with long-range planning decisions can be determined. These probabilistic outlooks are part of Noah's National Weather Service's Advanced Hydrologic Prediction Services (AHPS).

This outlook is also presented as probability graphs of lake height for the full period as well as weekly probabilities. The outlook graphics and explanations that help in interpreting these outlooks are available from...the NWS Grand Forks AHPS web page at:

water.weather.gov/ahps2/index.php?/wfo=fgf

When available (see schedule above) the AHPS graphics for monthly outlooks should be available by mid-morning or early afternoon. Monthly probabilistic outlooks are issued on the Friday of the week following the first Thursday after the 15th of the month. Special spring flood and water management outlooks are issued on Thursday afternoons in late February and then again, two weeks later in early

March to coincide with the spring snow melt. Due to the lake freeze-up will not be issued from October through December.

If you have any questions, contact the NWS at 701-772-0720

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