

NWS FORM E-5

U.S. DEPARTMENT OF COMMERCE
NOAA, NATIONAL WEATHER SERVICE

HSA OFFICE:

Grand Rapids, MI

REPORT FOR (MONTH & YEAR):

January 2017

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:

February 2nd, 2017

TO: NATIONAL WEATHER SERVICE (W/OS31)
HYDROMETEOROLOGICAL INFO CENTER
1325 EAST-WEST HIGHWAY, RM 13468
SILVER SPRING, MD 20910

SIGNATURE:

Daniel K. Cobb, MIC
Mark Sekelsky, Lead Forecaster

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (WSOM E-41).

An X inside this box indicates that no significant flooding occurred within this Hydrologic Service Area.

Summary

Much of the region saw well above normal precipitation for the month of January. Considerable ice was in the rivers as well to start the month. After a thaw and rain, ice jams formed and resulted in minor flooding for the middle part of the month. High flows persisted to the beginning of February.

Flood Conditions

Tuesday, January 10th

At 11:24 AM EST, a flood watch was issued for the Grand River near Robinson Township. Flood stage is 13.3 feet. The 8:31 AM stage was 12.3 feet. An ice jam had developed. Rain and warmer temperatures were in the forecast which combined with the ice jam could possibly result in flooding. The river was forecasted to crest at 13.3 feet by Sunday evening.

Tuesday, January 10th

At 10:47 PM EST, the flood watch was continued for the Grand River near Robinson Township. Flood stage is 13.3 feet. The 5:00 PM stage was 12.3 feet. An ice jam had developed. Rain and warmer temperatures were in the forecast which combined with the ice jam could possibly result in flooding. The river was forecasted to near flood stage by Sunday evening.

Wednesday, January 11th

At 8:29 AM EST, a flood warning was issued for the Grand River near Comstock Park. Flood stage is 12.0 feet. The 8:20 AM stage was 11.9 feet. The combination of runoff and ice jams was forecasted to result in minor flooding. The river was forecasted to crest at 12.4 feet on Monday evening

Wednesday, January 11th

At 11:55 AM EST, the flood watch was continued for the Grand River near Robinson Township. Flood stage is 13.3 feet. The 11:45 AM stage was 12.5 feet. An ice jam had developed. Rain and warmer temperatures were in the forecast which combined with the ice jam could possibly result in flooding. The river was forecasted to crest at 13.3 feet by Sunday evening.

Wednesday, January 11th

At 12:01 PM EST, a flood warning was issued for the Looking Glass River near Eagle. Flood stage is 7.0 feet. The 10:45 AM stage was 5.5 feet. Minor flooding was forecasted with a crest near flood stage by Friday afternoon.

Wednesday, January 11th

At 12:05 PM EST, the flood warning was continued for the Grand River near Comstock Park. Flood stage is 12.0 feet. The noon stage was 11.95 feet. The combination of runoff and ice jams was forecasted to result in minor flooding. The river was forecasted to crest at 12.2 feet by Monday morning.

Wednesday, January 11th

At 10:25 PM EST, the flood watch was continued for the Grand River near Robinson Township. Flood stage is 13.3 feet. The 7:00 PM stage was 12.6 feet. An ice jam had developed. Rain and warmer temperatures were in the forecast which combined with the ice jam could possibly result in flooding. The river was forecasted to crest at 13.3 feet by Sunday evening.

Wednesday, January 11th

At 10:26 PM EST, a flood warning was cancelled for the Looking Glass River near Eagle. The river was no longer forecasted to reach the flood stage of 7.0 feet.

Thursday, January 12th

At 11:01 AM EST, a flood warning was issued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 9:45 AM stage was 13.1 feet. The combination of runoff and ice jams was forecasted to result in minor flooding. The river was forecasted to crest at 13.3 feet by Monday evening. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Thursday, January 12th

At 11:06 AM EST, the flood warning was continued for the Grand River near Comstock Park. Flood stage is 12.0 feet. The 6:13 AM stage was 12.2 feet. The combination of runoff and ice jams was forecasted to result in minor flooding. The river was forecasted to crest at 12.4 feet by Monday morning.

Thursday, January 12th

At 11:12 AM EST, the flood watch was cancelled as it was upgraded to a warning for the Grand River near Robinson Township.

Thursday, January 12th

At 7:01 PM EST, the flood warning was cancelled for the Grand River near Comstock Park. Flood stage is 12.0 feet. The 6:30 PM stage was 10.6 feet. The combination of runoff and ice jams had resulted in minor flooding. The river was forecasted fall through the day.

Thursday, January 12th

At 7:01 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 4:30 PM stage was 13.2 feet. The combination of runoff and ice jams was forecasted to result in minor flooding. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Thursday, January 12th

At 7:01 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:00 PM stage was 13.4 feet. The river was forecasted to crest near 13.6 feet on Friday. The combination of runoff and ice jams was forecasted to result in minor flooding. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Friday, January 13th

At 11:53 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 9:40 AM stage was 13.6 feet. The river was forecasted to crest near 13.7 feet this evening. The combination of runoff and ice jams was forecasted to result in minor flooding. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Friday, January 13th

At 9:12 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 3:00 PM stage was 13.6 feet. The river was forecasted to rise to near 13.9 feet on Saturday with additional rises possible. The combination of runoff and ice jams was forecasted to result in minor flooding. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Saturday, January 14th

At 10:34 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 9:40 AM stage was 13.6 feet. The river was forecasted to rise to near 13.7 feet on Sunday with additional rises possible. The combination of runoff and ice jams was forecasted to result in minor flooding. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Saturday, January 14th

At 10:11 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 3:08 PM stage was 13.8 feet. The river was forecasted to rise to near 13.9 feet on Sunday with additional rises possible. The combination of runoff and ice jams was forecasted to result in minor flooding. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Sunday, January 15th

At 11:07 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 9:05 AM stage was 13.6 feet. The river was forecasted to fall below flood stage by Wednesday. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Sunday, January 15th

At 9:09 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 9:05 AM stage was 13.6 feet. The river was forecasted to rise to 13.8 feet on Monday. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Monday, January 16th

At 11:30 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:00 AM stage was 13.5 feet. The river was forecasted to remain nearly steady through the week. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Monday, January 16th

At 9:33 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:12 PM stage was 13.4 feet. The river was forecasted to rise to near 13.8 feet by Saturday. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Tuesday, January 17th

At 11:30 AM EST, a flood warning was issued for the Looking Glass River near Eagle. Flood stage is 7.0 feet. The 10:45 AM stage was 6.4 feet. Runoff from recent heavy rain was predicted to cause minor flooding. This river was forecasted to crest at 7.2 feet on Wednesday.

Tuesday, January 17th

At 11:43 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:00 AM stage was 13.3 feet. The river was forecasted to rise to near 13.4 feet by Wednesday, then fall slowly. Because of the ice jamming, rapid fluctuations in the water levels was mentioned.

Tuesday, January 17th

At 11:50 AM EST, the flood warning was cancelled for the Portage River near Vicksburg. Not enough rainfall fell to produce flooding.

Tuesday, January 17th

At 9:15 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 3:59 PM stage was 13.3 feet. The river was forecasted to rise to near 13.7 feet by Wednesday.

Tuesday, January 17th

At 9:15 PM EST, the flood warning was continued for the Looking Glass River near Eagle. Flood stage is 7.0 feet. The 8:45 PM stage was 6.5 feet. Runoff from recent heavy rain was predicted to cause minor flooding. This river was forecasted to crest at 7.1 feet on Wednesday.

Wednesday, January 18th

At 10:28 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:00 AM stage was 13.5 feet. The river was forecasted to rise to near 13.7 feet by this evening.

Wednesday, January 18th

At 11:02 AM EST, the flood warning was cancelled for the Looking Glass River near Eagle. Flood stage is 7.0 feet. The 9:45 AM stage was 5.8 feet. This river was forecasted to crest below flood stage at 6.6 feet on Friday.

Wednesday, January 18th

At 9:13 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:22 PM stage was 13.6 feet. The river was forecasted to rise to near 13.9 feet by Saturday Morning.

Thursday, January 19th

At 11:47 AM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 8:00 AM stage was 13.8 feet. The river was forecasted to rise to near 14.0 feet by Saturday Morning.

Thursday, January 19th

At 9:15 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 4:21 PM stage was 13.9 feet. The river was forecasted to rise to near 14.0 feet by Friday.

Friday, January 20th

At 9:15 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 4:21 PM stage was 13.9 feet. The river was forecasted to rise to near 14.0 feet by Friday. It was mentioned that ice in the river could cause fluctuations.

Friday, January 20th

At 12:33 PM EST, the flood warning was continued for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 11:35 AM stage was 13.4 feet. The river was forecasted to rise to near 13.7 feet by this afternoon.

Friday, January 20th

At 10:17 PM EST, the flood warning was cancelled for the Grand River at Robinson Township. Flood stage is 13.3 feet. The 9:32 PM stage was 12.7 feet. The river was forecasted to fall slowly through the weekend.

The following rivers exceeded bankfull during the month of January 2017:

- Kalamazoo River at New Richmond, Michigan (4 days above bankfull)
- Thornapple River above Hastings, Michigan (10 days above bankfull)
- Flat River near Smyrna, Michigan (5 days above bankfull)
- Pere Marquette River near Scottville, Michigan (5 days above bankfull)
- Grand River at Robinson Township, Michigan (10 days above bankfull)
- Grand River at Grand Rapids, Michigan (5 days above bankfull)
- Grand River at Portland, Michigan (1 day above bankfull)
- Grand River near Comstock Park, Michigan (4 days above bankfull)
- Grand River at Lowell, Michigan (estimated 16 days above bankfull)
- Grand River at Ionia, Michigan (23 days above bankfull)
- Sycamore Creek near Holt, Michigan (estimated 18 days above bankfull)
- Maple River at Maple Rapids, Michigan (27 days above bankfull)
- Looking Glass River near Eagle, Michigan (23 day above bankfull)

Flood Stage Report

Two forecast points exceeded flood stage in our HSA during the month of January 2017.

- The Grand River at Comstock Park, Michigan, crested at 12.20 feet.
- The Grand River at Robinson Township, Michigan, crested at 13.90 feet

See attached Flood Stage Report (NWS Form E-3) for more details.

River Conditions

The end of the January percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	Ice impacted
Whitehall	White	Ice impacted
Evert	Muskegon	Ice impacted
Mt. Pleasant	Chippewa	Ice impacted
Lansing	Grand	270
Grand Rapids	Grand	Ice impacted
East Lansing	Red Cedar	270
Hastings	Thornapple	250
Battle Creek	Battle Creek	255
Battle Creek	Kalamazoo	166

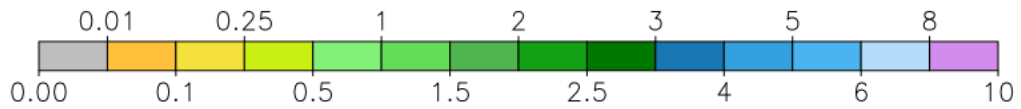
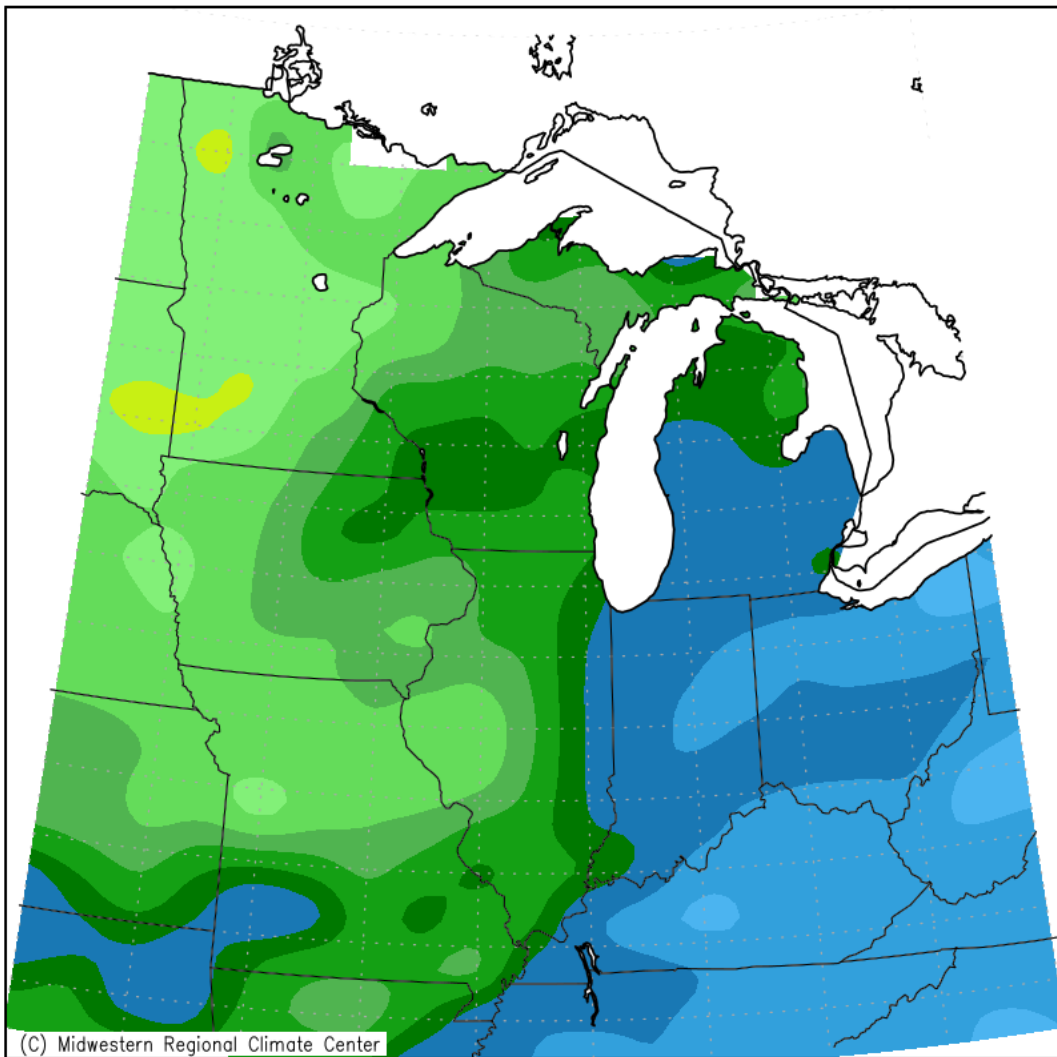
General Hydrologic Information

Well above normal precipitation fell during the month of January. Much of it was in the form of rain with temperatures ending up above normal as well. The heaviest precipitation fell in the upper reaches of the rivers. Thus the runoff routed through the entire basins of the rivers in the Hydrologic Service Area.

January precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 3.51, 3.65, and 3.03 inches, respectively (Figure 1). Monthly departures were 1.42 inches, 2.00 inches, and 1.00 inches respectively. Percent of mean precipitation for January 2017 is shown in Figure 2.

Temperatures for the month of January were warmer than normal at Grand Rapids, Lansing, and Muskegon. The average monthly temperature departures were, 4.6, 5.6, and 4.3 degrees Fahrenheit respectively.

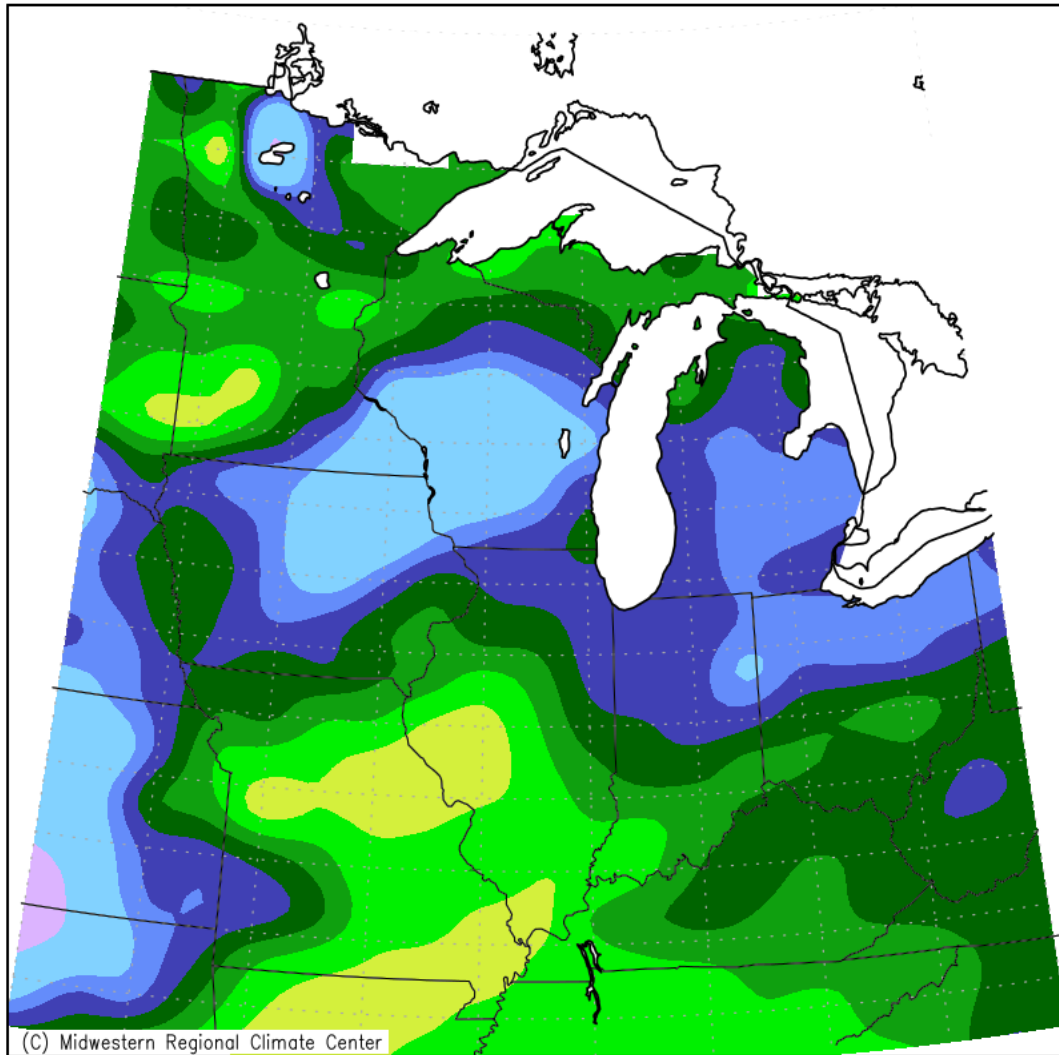
Accumulated Precipitation (in)
January 1, 2017 to January 31, 2017



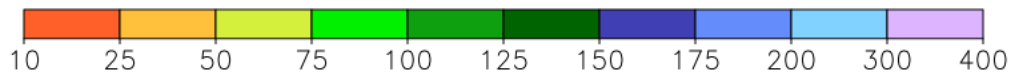
Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

Figure 1. January Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean
January 1, 2017 to January 31, 2017



Mean period is 1981–2010.



Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana–Champaign

Figure 2. January Percent of Mean of Accumulated Precipitation

Snow Depth

2017-02-02 06 UTC

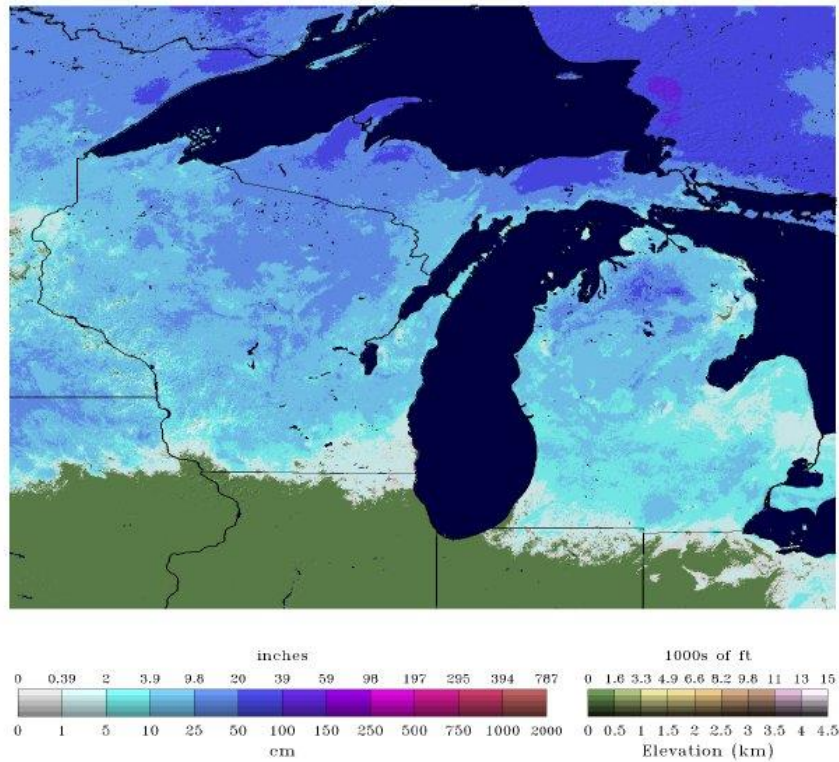


Figure 1. Snow Depth at the end of January

Hydrologic Products issued this month:

- 31 Hydrologic Summaries (ARBRVAGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 70 River Flood Advisory Statements (ARBFLSGRR)
- 5 River Flood Watches (ARBFFAGRR)
- 5 Flood Warnings (ARBFLWGRR)
- 22 Flood Warning Statements (ARBFLSGRR)
- 28 Hydrologic Statements (ARBRVSGRR)

News Articles and Related Documentation

NWS warns of flooding as ice jam clogs Grand River

Sarah Hurwitz Published: January 12, 2017, 6:15 pm Updated: January 12, 2017, 11:45 pm

GRAND RAPIDS, Mich. (WOOD) — As parts of West Michigan prepare for rising waters, the flooding has already started in some areas.

Some of the roads near 4 Mile Road and Coit Avenue NE in Grand Rapids were closed Thursday because of several inches of water over the roads. The flooding also surrounded a couple of homes. Other residents in Alpine Township were also dealing with flooding.

In downtown Grand Rapids Thursday, ice clogged the Grand River, spilling onto the walkway under the pedestrian bridge. An angler at the Sixth Street bridge said he never saw an ice jam like this one in his 18 years fishing downtown.

Photos: Grand River ice jam in Grand Rapids



The Jan. 12, 2017 ice jam in downtown Grand Rapids(Photo Sue Thompson via Facebook)



The Jan. 12, 2017 ice jam in downtown Grand Rapids(Photo Sue Thompson via Facebook)

The [National Weather Service issued flood warnings](#) for some areas because of ice jams in the Grand River, recent rain and melting snow. But the warnings didn't worry some residents.

"This is nothing," said Grand Rapids resident Katelin Pell.

Pell lives in an area that floods almost every year, but she says this time is different.

"I guess like the worst thing that happens is it takes away the yard at the end of the yard, because of the ice jams. But it doesn't flood, it hasn't flooded in the winter time since I was like 10 years old," Pell said.

The National Weather Service shared a similar sentiment, but warned conditions can change quickly.

"The river flooding that we have going on right now is typical you know for what we see. But with the rises that are routing down some of the streams, it may become, you know, a little bit more concerning," said Bob Dukesherer, senior forecaster for the National Weather Service.

Dukesherer expects the Grand River to rise within the next few days by up to a foot in Comstock Park, and as much as three feet in Ionia County.

In Robinson Township, the Grand River is expected to rise to at or near flood stage by Friday, with the possibility of rising waters next week.

The Grand River in Comstock Park was just above 13 feet Thursday.

"Ice jams, they can release really quickly depending on, you know, if we warm up or we get a lot of flow coming downstream it can blow an ice jam out, and then you can almost get a wall of water," Dukesherer said.

But Pell says she'll believe it when she sees it.

“It won’t get up to our house, there’s no way,” she said.

The National Weather Service monitors river levels daily.