

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

REPORT FOR (MONTH & YEAR):
February 2011

DATE:

April 1, 2011

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

SIGNATURE:
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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 inside this box indicates that no significant flooding occurred within this Hydrologic Service Area.

Summary

Minor flooding due to an ice jam occurred on the Grand River at Comstock Park, Michigan. No other rivers exceeded flood stage during the month of February in our Hydrologic Service Area (HSA).

Flood Conditions

Thursday, February 17th

At 4:36 AM EST the hazardous weather outlook indicated that rapid snow melt due to mild temperatures would create ponding of water in low lying areas and nuisance flooding. It also mentioned the threat for ice jams to develop.

At 12:17 PM EST a Probabilistic Hydrologic Outlook on the potential for spring flooding was issued and indicated we were near normal to slightly below normal for spring flooding.

Friday, February 18th

At 1:35 PM EST river flood advisories were issued for the following rivers:

- Grand River at Ionia, Michigan
- Looking Glass River near Eagle, Michigan
- Portage River near Vicksburg, Michigan

At 10:02 PM EST a river flood advisory was issued for the Chippewa River near Mt. Pleasant, Michigan and continued for:

- Grand River at Ionia, Michigan
- Looking Glass River near Eagle, Michigan
- Portage River near Vicksburg, Michigan

Saturday, February 19th

At 9:01 AM EST a river flood advisory continued for:

- Portage River near Vicksburg, Michigan

At 10:48 AM EST the river flood advisory was cancelled for the Looking Glass River near Eagle, Michigan, and continued for the Grand River at Ionia, Michigan. A river flood advisory was also issued for the Thornapple River near Hastings, Michigan.

At 4:53 PM EST the river flood advisory was cancelled for the Chippewa River near Mt. Pleasant, Michigan.

At 9:37 PM EST the river flood advisory continues for the Grand River at Ionia, Michigan.

At 9:50 PM EST the river flood advisory for the Thornapple River near Hastings, Michigan was cancelled.

At 10:18 PM EST the river flood advisory continued for the Portage River near Vicksburg, Michigan.

Sunday, February 20th

At 9:58 AM EST the river flood advisory for the Portage River near Vicksburg, Michigan was cancelled.

At 9:53 PM EST the river flood advisory for the Grand River at Ionia, Michigan was cancelled.

Monday, February 21st

At 10:36 AM EST a flood warning for the Grand River at Comstock Park was issued until 10:30 AM EST Tuesday. An ice jam had formed downstream near the North Park Bridge and was causing water to back up and flood Comstock Park, Michigan.

At 1:50 PM EST a flood statement was issued indicating the flood warning for the Grand River at Comstock Park, Michigan continued until 10:30 AM EST Tuesday.

At 8:43 PM EST a flood statement was issued indicating the flood warning for the Grand River at Comstock Park, Michigan remains in effect until 10:30 AM EST Tuesday.

Tuesday, February 22nd

At 10:11 AM EST the flood warning for the Grand River at Comstock Park was extended until 10:30 AM EST Thursday. Minor flooding along the Grand River at Comstock Park was occurring due to backwater from an ice jam located downstream.

At 2:51 PM EST a river flood advisory was issued for the St. Joseph River at Burlington, Michigan.

At 8:51 PM EST a river flood advisory was issued for the Grand River at Comstock Park, Michigan.

At 9:13 PM EST the flood warning for the Grand River at Comstock Park, Michigan was cancelled when the backwater from the ice jam downstream allowed river levels to drop below flood stage.

At 10:48 PM EST the river flood advisory continued for the St. Joseph River at Burlington, Michigan.

Wednesday, February 23rd

At 8:19 AM EST a river flood advisory was issued for the Looking Glass River near Eagle, Michigan.

At 8:55 AM EST the river flood advisory for the Grand River at Comstock Park, Michigan was cancelled when the river fell back within its banks.

At 11:33 AM EST the river flood advisory continued for the St. Joseph River at Burlington, Michigan.

At 2:09 PM EST river flood advisories continue for:

- Looking Glass River near Eagle, Michigan
- St. Joseph River at Burlington, Michigan

At 7:55 PM EST the river flood advisory was cancelled for the Looking Glass River near Eagle, Michigan, and the river flood advisory continued for the St. Joseph River at Burlington, Michigan.

Thursday, February 24th

At 9:23 AM EST a river flood advisory was issued for the Looking Glass River near Eagle, Michigan.

At 10:43 AM EST the river flood advisory was cancelled for the St. Joseph River at Burlington, Michigan.

At 9:59 PM EST the river flood advisory was cancelled for the Looking Glass River near Eagle, Michigan.

Sunday, February 27th

At 12:05 PM EST river flood advisories were issued for the following rivers:

- Sycamore Creek near Holt, Michigan
- Portage River near Vicksburg, Michigan
- St. Joseph River at Burlington, Michigan

At 10:52 PM EST river flood advisories continued for the following rivers:

- Sycamore Creek near Holt, Michigan
- Portage River near Vicksburg, Michigan
- St. Joseph River at Burlington, Michigan

Monday, February 28th

At 9:55 AM EST the river flood advisory was cancelled for Sycamore Creek near Holt, Michigan.

At 10:18 AM EST river flood advisories continued for the following rivers:

- Portage River near Vicksburg, Michigan
- St. Joseph River at Burlington, Michigan

Flood Stage Report

Only one river in Southwest Lower Michigan exceeded flood stage during the month of February. The flooding was the result of an ice jam.

The Grand River at Comstock Park, Michigan, with at flood stage of 12.0 feet, rose above flood stage around Noon on February 21st, crested at 12.3 feet at 5:07 PM EST on February 21st, and fell back below flood stage around 10 AM EST on February 22nd.

The following rivers exceeded bankfull during the month of February:

- Grand River at Ionia, Michigan
- Looking Glass River near Eagle, Michigan
- Portage River near Vicksburg, Michigan
- Chippewa River near Mt. Pleasant, Michigan
- St. Joseph River near Burlington, Michigan
- Grand River at Comstock Park, Michigan

River Conditions

River levels by the end of February were near to below normal across our HSA. The end of the month percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	111
Whitehall	White	83
Evert	Muskegon	100
Alma	Pine	101
Lansing	Grand	91
Grand Rapids	Grand	105
East Lansing	Red Cedar	93
Hastings	Thornapple	91
Battle Creek	Battle Creek	87
New Richmond	Kalamazoo	109

General Hydrologic Information

February 2011 had near normal temperatures and above normal precipitation.

February precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan were 2.96, 2.36, and 2.67 inches, respectively. Precipitation totals for the month at these three sites were 1.42 inches above normal at Grand Rapids, 0.91 of an inch above normal at Lansing, and 1.09 inches above normal at Muskegon, Michigan.

Snowfall totals for February at Grand Rapids, Lansing, and Muskegon, Michigan were 38.2, 29.1, and 36.4 inches, respectively. Snowfall totals for the month at these three sites were 26 inches above normal at Grand Rapids, 18.5 inches above normal at Lansing, and 18.1 inches above normal at Muskegon, Michigan. Snow depths at Grand Rapids, Lansing, and Muskegon, Michigan at the end of the month were 7.0, 5.0 and 9.0 inches, respectively (Figure 1). Snow water equivalent of the snowpack ranged from one to three inches, with the higher amounts closest to the lake.

Temperatures for the month of February were near normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of +0.6, +0.4 and +0.9 degrees Fahrenheit, respectively.

Frost depths across the HSA were three inches or less.

Snow Depth

2011-02-28 06

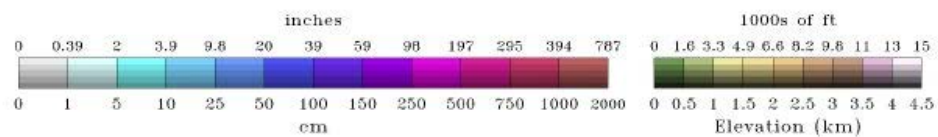
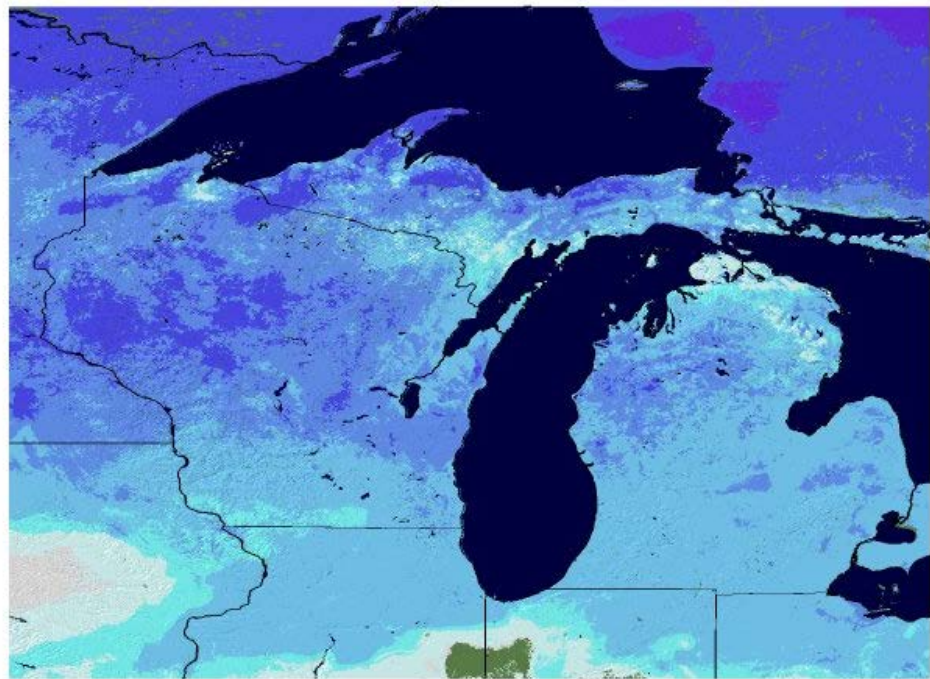


Figure 1. Snow depth at the end of February 2011.

Hydrologic Products issued this month:

- 2 Flood Warnings (ARBFLWGRR)
- 3 Flood Statements (ARBFLSGRR)
- 25 River Flood Advisories (ARBFLSGRR)
- 43 Hydrologic Statements (ARBRVSGRR)
- 3 Probabilistic Hydrologic Outlooks (ARBESFGRR)
- 28 Hydrologic Summaries (ARBRVAGRR)