

NWS FORM E-5

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

HSA OFFICE:
Grand Rapids, MI

REPORT FOR (MONTH & YEAR):
February 2008

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:
April 15, 2008

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

Summary

Flooding from water backing up behind ice jams occurred in the following locations:

- Grand River near Comstock Park, Michigan
- St. Joseph River near Burlington, Michigan
- Muskegon River near Bridgeton, Michigan
- White River in Lincoln Township, 6 miles WNW of White Cloud, Michigan

Flood warnings were issued for the Grand River near Comstock Park and the St. Joseph River near Burlington to handle the ice jam flooding. Flood Advisories were issued for minor ice jam flooding on the Muskegon River near Bridgeton and the White River in Lincoln Township.

Flood Conditions

Ice jams began to form on the Muskegon, White, and Grand Rivers at the end of January. A Flood Advisory for the Muskegon and White Rivers was issued on January 31st, to highlight the minor flooding of low lying areas along the Muskegon and White rivers due to the backwater from ice jams. A Flood Watch, highlighting the potential for flooding due to ice jams, was also issued on January 31st, for the Grand River from Robinson Township to Ada, Michigan, and was in effect for 7 days. A river Flood Warning was issued almost immediately after the Flood Watch for the Grand River at Comstock Park. The backwater from the ice jam caused the Grand River at Comstock Park to rise above flood stage a little over 6 hours after the warning was issued. Under normal conditions, lead times for flood warnings for the Grand River at Comstock Park are on the order of days. The ice jam resulted in the Grand River at Comstock Park cresting 3.85 feet above flood stage on February 3rd, with the river remaining above flood stage for almost 10 days. The Flood Advisory was cancelled on February 4th, and the Flood Watch was cancelled on February 6th when the river ice stabilized and water levels began to recede along the Muskegon, White and Grand Rivers. The Flood Warning for the Grand River at Comstock Park was cancelled on February 11th, when the river fell below flood stage.

On February 12th, a river Flood Warning was issued for minor flooding along the St. Joseph River near Burlington, Michigan. Once again, ice jams played a role in the high water for this area. The St. Joseph River near Burlington fluctuated around flood stage for several days before falling below flood stage on February 14th. The flood warning was cancelled on February 15th when the river ice stabilized and water levels began to recede along that stretch of the river.

On February 17th, a Flood Advisory was issued for our entire Hydrologic Service Area (HSA) to highlight the minor flood threat due to runoff from an inch of rain falling over a melting snowpack. Although area rivers and creeks rose significantly, most of the flooding occurred on area roads. The flooding of area roads was caused by poor drainage, which occurred because catch basins and drains were plugged up by snow, ice, and slush, and would not allow the water to drain away. A river Flood Warning was issued for minor flooding along the Grand River at Comstock Park, Michigan, on February 17th. The Grand River at Comstock Park rose above flood stage on February 18th, crested 0.90 feet above flood stage on February 22nd, and fell below flood stage on February 26th. For the month of February the Grand River at Comstock Park was above flood stage for a grand total of 18 days.

Flood Stage Report

Due to backwater from an ice jam, the Grand River in Comstock Park, Michigan, with a flood stage of 12 feet, went above flood stage at 10:41 PM on January 31st, crested at 14.85 feet at 11:30 PM on February 3rd, and fell back below flood stage on February 10th at 7:19 PM.

The Grand River in Comstock Park, Michigan, with a flood stage of 12 feet, once again went above flood stage at 9:25 PM on February 18th, crested at 12.90 feet at 5:34 PM on February 22nd, and fell back below flood stage on February 26th, at 7:10 AM.

Due to backwater from an ice jam, the St. Joseph River near Burlington, Michigan, with a flood stage of 6.5 feet, went above flood stage at 2:30 AM on February 12th, crested at 6.56 feet at 7:30 AM on February 12th, and fell back below flood stage on February 12th at 7:30 PM.

Due to backwater from an ice jam, the St. Joseph River near Burlington, Michigan, with a flood stage of 6.5 feet, once again went above flood stage at 9:00 PM on February 12th, crested at 6.76 feet at 11:00 AM on February 13th, and fell back below flood stage on February 13th at 5:00 PM.

Due to backwater from an ice jam, the St. Joseph River near Burlington, Michigan, with a flood stage of 6.5 feet, (for a third time) went above flood stage at 9:00 PM on February 13th, crested at 6.78 feet at 5:00 AM on February 14th, and fell back below flood stage on February 14th at 12:00 PM.

River Conditions

River levels by the end of February were near to above normal for our HSA. Significant ice cover had developed on area rivers by the end of the month. Ice jams impacted river levels on the Grand, Muskegon, St. Joseph, and White Rivers.

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	117
Whitehall	White	100
Evart	Muskegon	125
Mt. Pleasant	Chippewa	108
Lansing	Grand	140
Grand Rapids	Grand	140
East Lansing	Red Cedar	121
Hastings	Thornapple	110
Battle Creek	Battle Creek	114
Comstock	Kalamazoo	133

General Hydrologic Information

For the month of February, precipitation totals were above normal and temperatures averaged below normal for Grand Rapids, Lansing, and Muskegon, Michigan.

February precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 4.16, 2.67, and 4.64 inches, respectively. Precipitation totals for the month at these three sites were 2.62 inches above normal at Grand Rapids, 1.22 inches above normal at Lansing, and 3.06 inches above normal at Muskegon, Michigan. For the year, precipitation totals were above normal at Grand Rapids, Lansing, and Muskegon, Michigan. Yearly precipitation totals were 4.35 inches above normal for Grand Rapids, 2.42 inches above normal for Lansing, and 5.40 inches above normal for Muskegon, Michigan. Snowfall totals for the month at Grand Rapids, Lansing, and Muskegon were 41.6 (+29.4), 27.6 (+17.0), and 41.7 (+23.4) inches, respectively. At the end of the month the snow depth was 10 inches at Grand Rapids, and 6 inches at Lansing and 15 inches at Muskegon, Michigan.

Temperatures for the month of February were below normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of -2.7, -2.5 and -3.1 degrees Fahrenheit, respectively.

Frost depths ranged from 2 to 4 inches, and river ice coverage was significant across the Hydrologic Service Area.

Hydrologic Products issued this month:

2..... Hydrologic Outlooks (ARBESFGRR) were issued
13.... Flood Watches (ARBFFAGRR) were issued
4..... Flood Warnings (ARBFLWGRR) were issued
58.... Flood Statements (ARBFLSGRR) were issued
66.... Hydrologic Statements (ARBRVSGRR) were issued
29.... Hydrologic Summary's (ARBRVAGRR) were issued