

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

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

DATE:
December 13, 2013

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).

X

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

Summary

Several rivers exceeded bankfull during the month of November, minor urban street flooding occurred in Grand Rapids, Michigan on November 17th, and on November 28th an ice jam formed on the Muskegon River near Rogers Heights, Michigan. No significant flooding occurred with these events in our Hydrologic Service Area (HSA) during the month of November 2013.

Flood Conditions

Friday, November 15th

At 3:30 AM EST the Hydrologic section of the Area Forecast Discussion mentioned the possibility of localized flooding Sunday.

At 5:25 AM EST the Hazardous Weather Outlook mentioned the threat for heavy rain leading to flooding on Sunday.

Saturday, November 16th

At 3:16 AM EST the Hydrologic section of the Area Forecast Discussion mentioned the possibility of urban flooding Sunday.

At 5:25 AM EST the Hazardous Weather Outlook mentioned the threat for heavy rain leading to flooding on Sunday afternoon and evening.

Sunday, November 17th

At 10:58 AM EST river flood advisories were issued for Sycamore Creek near Holt, Michigan, and the Thornapple River near Hastings, Michigan. Forecast was for the rivers to exceed their banks but remain below flood stage.

At 4:07 PM EST an areal flood advisory was issued for Lake, Mason, Muskegon, Newaygo, and Oceana Counties until 10:00 PM EST. Doppler radar indicated heavy rainfall over the advisory area.

At 4:21 PM EST an areal flood advisory was issued for Mecosta and Osceola Counties until 10:30 PM EST. Doppler radar indicated heavy rainfall over the advisory area.

At 9:43 PM EST the areal flood advisory was issued for Lake, Mason, Muskegon, Newaygo, and Oceana Counties was extended till 8:00 AM EST Monday. Local dispatch reported widespread nuisance flooding of poor drainage areas. Radar estimated rainfall in

excess of 2 inches occurred over portions of the advisory area.

At 10:01 PM EST the areal flood advisory was cancelled for Osceola and Mecosta Counties.

Monday, November 18th

At 3:17 AM EST the areal flood advisory was cancelled for Muskegon, Oceana, Mason, Newaygo and Lake Counties.

At 10:00 PM EST a river flood advisory was issued for the White River near Whitehall, Michigan. The forecast called for the river to rise out of its banks Tuesday but remain below flood stage.

At 10:05 PM EST the river flood advisory was cancelled for the Thornapple River near Hastings, Michigan, when the river crested below bankfull. The river flood advisory for Sycamore Creek near Holt, Michigan continued.

Tuesday, November 19th

At 8:55 AM EST the river flood advisory for Sycamore Creek near Holt, Michigan, was cancelled when the creek had fallen back within its banks.

At 9:46 PM EST the river flood advisory for the White River near Whitehall, Michigan was cancelled when the river fell back within its banks.

Thursday, November 28th

At 10:32 AM EST a flood watch was issued for potential flooding from an ice jam on the Muskegon River near Rogers Heights, Michigan. Mecosta County Emergency Management reported an ice jam had formed on the Muskegon River above the Rogers Dam near 12 Mile Road and 183rd Avenue. Water levels were reported by local emergency management to be rising and in the back yards of several homes in the area. At the time of the report no roads or structures were being impacted by flooding. Residents in the area were encouraged to monitor river levels closely and report any flooding to emergency management.

At 7:18 PM EST the flood watch remained in effect for the Muskegon River near Rogers Heights, Michigan. Water levels were still rising slowly but no roads or houses were being impacted by flood waters. Cold temperatures were forecast into the weekend and the flood watch mentioned the increased risk for continued ice growth on the river and fluctuating river levels. Residents in the area were encouraged to monitor river levels closely and report any flooding to emergency management.

Friday, November 29th

At 4:20 PM EST the flood watch remained in effect for the Muskegon River near Rogers Heights, Michigan. Water levels were holding steady.

Saturday, November 30th

At 1:22 PM EST the flood watch was cancelled for the Muskegon River near Rogers Heights, Michigan. Local emergency management reported that water levels in the vicinity of the ice jam had receded back within banks.

The following rivers exceeded bankfull, but remained below flood stage, in our HSA during the month of November 2013:

- Pere Marquette River near Scottville, Michigan (2 days above bankfull)
- White River near Whitehall, Michigan (2 days above bankfull)
- Sycamore Creek near Holt, Michigan (2 days above bankfull)
- Muskegon River near Rogers Heights, Michigan (2 days above bankfull)

Flood Stage Report

No rivers exceeded flood stage in our HSA during the month of November 2013.

River Conditions

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	116
Whitehall	White	112
Evart	Muskegon	138
Mt. Pleasant	Chippewa	106
Lansing	Grand	66
Grand Rapids	Grand	100
East Lansing	Red Cedar	103
Hastings	Thornapple	95
Battle Creek	Battle Creek	97
Battle Creek	Kalamazoo	91

General Hydrologic Information

November 2013 had temperatures colder than normal and precipitation near normal for Southwest Lower Michigan. November precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 3.75, 2.13, and 3.39 inches, respectively (Figure 1).

Precipitation totals for the month at these three sites were 0.24 of an inch above normal at Grand Rapids, 0.65 of an inch below normal at Lansing, and 0.03 of an inch above normal at Muskegon, Michigan (Figure 2). Yearly precipitation totals were 7.01 inches above normal for Grand Rapids, 9.68 inches above normal for Lansing, and 10.12 inches above normal for Muskegon, Michigan.

Snowfall for the month of November at Grand Rapids, Lansing, and Muskegon, Michigan were 2.2, 0.7, and 8.9 inches respectively.

Temperatures for the month of November were below normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of -2.3, -2.9 and -0.9 degrees Fahrenheit, respectively.

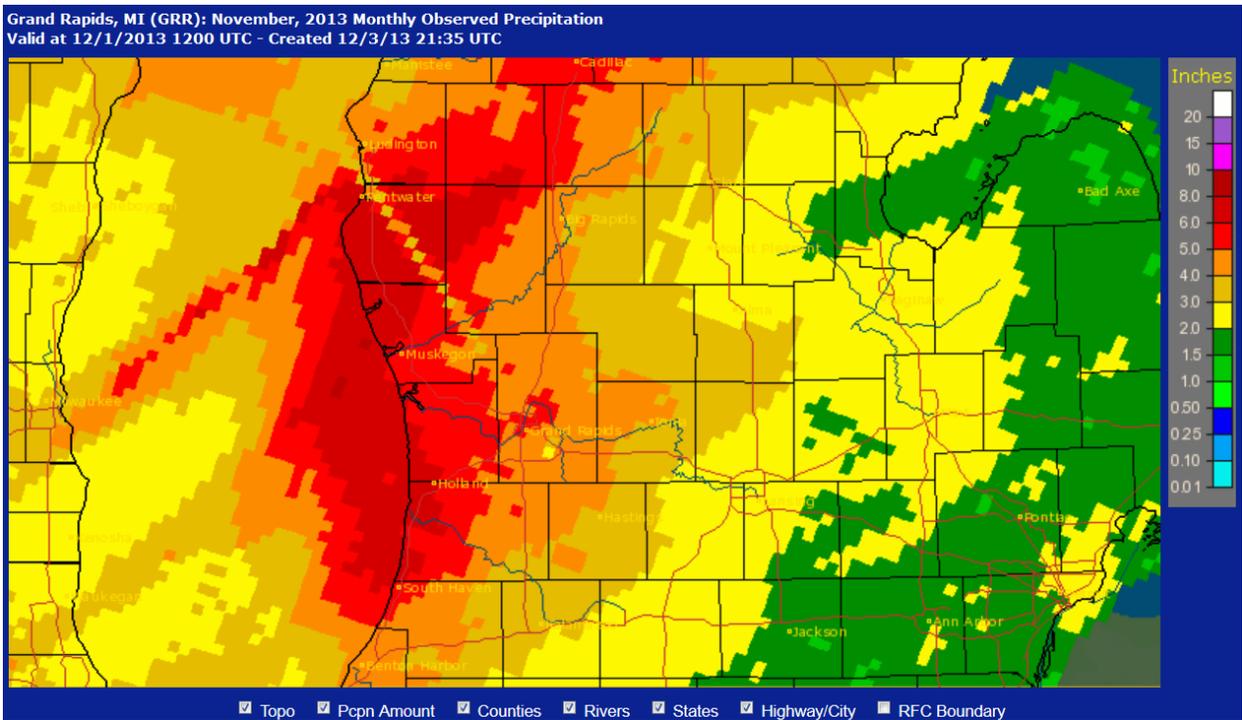


Figure 1. November Monthly Precipitation Totals

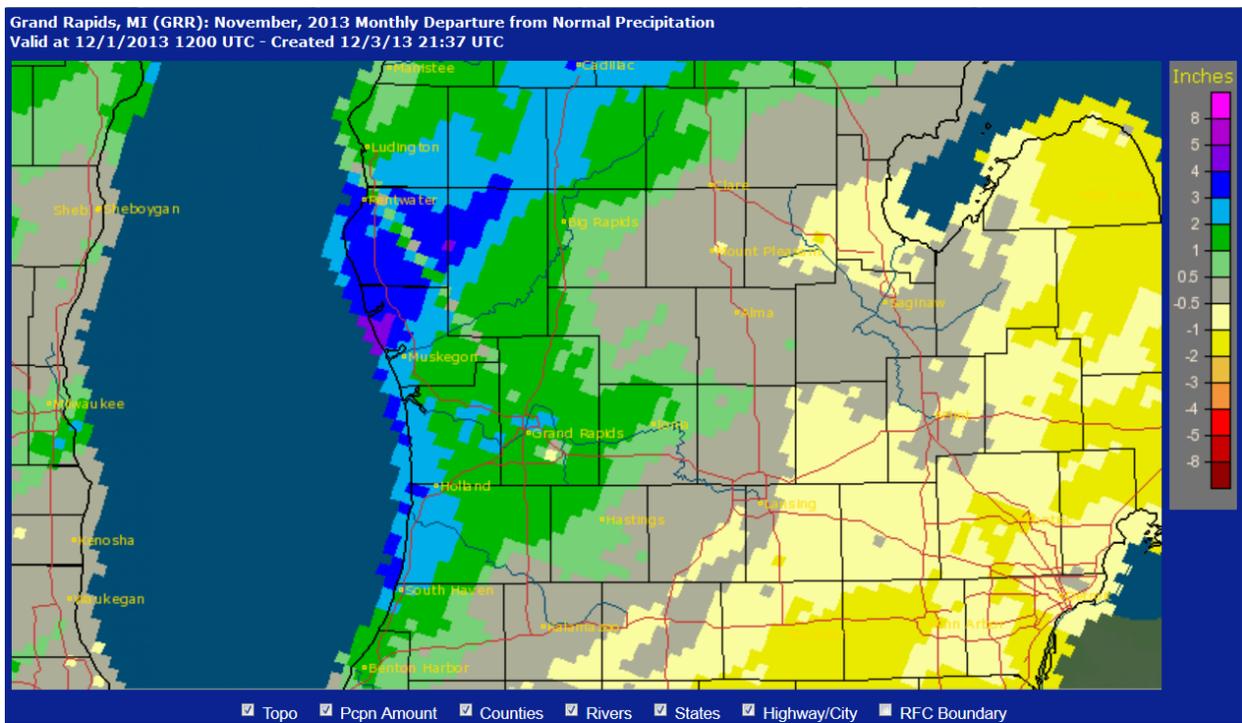


Figure 2. November Monthly Departure from Normal Precipitation Totals

Hydrologic Products issued this month:

- 4 Areal Flood Watches (ARBFFAGRR)
- 5 Areal Flood Advisories (ABRFLSGRR)
- 11 River Flood Advisories (ARBFLSGRR)
- 2 Hydrologic Statements (ARBRVSGRR)
- 1 Hydrologic Outlook (ARBESFGRR)
- 30 Hydrologic Summaries (ARBRVAGRR)
- 30 Daily River and Lake Summaries (ARBRVDGRR)