

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

REPORT FOR (MONTH & YEAR):
August 2009

DATE:
September 22, 2009

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

No significant flooding occurred during the month of August.

Flood Conditions

Thursday, August 6th

At 3:42 PM EDT, a hydrologic outlook was issued for our Hydrologic Service Area (HSA) highlighting the "Potential for Heavy Rain this Weekend".

Friday, August 7th

The 4:00 PM EDT hydrology section of the Area Forecast Discussion (AFD) highlighted a concern that most of the area would see 1 to 2 inches of rainfall from Friday evening through Saturday morning. The warm front just south of the area was expected to become active Friday night and result in numerous areas of showers and storms through Saturday morning. Some of these would contain heavy downpours...and local areas could see over 2 inches of rainfall. The AFD mentioned that if we get too much too quick, some advisories may be needed at some point.

Saturday, August 8th

A warm front moved into the area early Saturday and resulted in widespread rainfall amounts, of a half to inch and a half, over our more Northern counties. Late Saturday, thunderstorms with very heavy rain moved into the area. Additional thunderstorm development occurred out over Lake Michigan and then moved into the area, resulting in storms with heavy rain persisting over the same area for several hours. By this time, 1 to 2 inches of rain had already fallen and additional rainfall amounts of 1 to 3 inches were possible in area.

At 11:56 PM EDT, a flood advisory was issued for Muskegon, Newaygo, and Oceana counties, effective until 11:45 AM EDT Sunday.

Sunday, August 9th

Early Sunday morning, thunderstorms with very heavy rain continued to move into the area.

At 12:59 AM EDT, a flood advisory was issued for Gratiot, Montcalm, Clinton, Ionia, and Kent counties, effective until 1:00 PM EDT.

At 6:44 AM EDT, the flood advisory was cancelled for Muskegon, Newaygo, and Oceana counties when no significant flooding was reported.

At 6:45 AM EDT, the flood advisory was cancelled for Gratiot, Montcalm, Clinton, Ionia, and Kent counties when no significant flooding was reported.

Monday, August 10th

Early Monday morning, more thunderstorms with very heavy rain moved over areas already hit hard from rain over the weekend.

At 1:37 AM EDT, a flood advisory was issued for Clinton, Eaton, Ingham, Ionia, Allegan, Barry, Kent, and Ottawa counties, effective until 9:30 AM EDT.

At 7:32 AM EDT, the flood advisory was cancelled for Eaton, Ingham and Clinton counties when no significant flooding was reported. The flood advisory continued for Ottawa, Barry, Allegan, Ionia, and Kent counties. Local law enforcement reported a few roads with water over them in Ottawa, Allegan, Kent, and Barry counties.

At 8:39 AM EDT, the flood advisory was cancelled for Ottawa, Barry, Allegan, Ionia and Kent counties after flooding on area roads had subsided. No significant damages were reported with this flooding.

Thursday, August 27th

At 3:54 PM EDT, a flood watch was issued for the Southern two thirds of our HSA with the headline "Heavy Rain and Flooding will be Possible Friday Morning and Afternoon".

At 10:30 PM EDT, the flood watch was updated with the latest forecast information.

Friday, August 28th

At 4:11 AM EDT, the flood watch was updated with the latest forecast information.

At 10:14 AM EDT, the flood watch was cancelled when the threat for heavy rain diminished and the forecast called for only the possibility of light to moderate rain.

Flood Stage Report

No river forecast points exceeded flood stage during the month of August.

River Conditions

River levels were near to above normal across our HSA at the end of August. Significant rainfall (over an inch) occurred near the end of the month over the Southern tier of counties in our HSA and resulted in higher than normal flows on Area 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>
Whitehall	White	116
Ewart	Muskegon	116
Mt. Pleasant	Chippewa	144
Lansing	Grand	200
Grand Rapids	Grand	175
East Lansing	Red Cedar	300
Hastings	Thornapple	280
Battle Creek	Battle Creek	270
Comstock	Kalamazoo	234

General Hydrologic Information

August 2009 will be remembered for slightly below normal temperatures and above normal precipitation over our HSA. August precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 4.74, 6.44, and 5.04 inches, respectively. Precipitation totals for the month at these three sites were 0.96 of an inch above normal at Grand Rapids, 2.98 inches above normal at Lansing, and 1.27 inches above normal at Muskegon, Michigan. Yearly precipitation totals were 5.18 inches above normal for Grand Rapids, 9.90 inches above normal for Lansing, and 3.97 inches above normal for Muskegon, Michigan.

Temperatures for the month of August were slightly below normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of -0.4, -0.2 and -0.7 degrees Fahrenheit, respectively.

Hydrologic Products issued this month:

- 4 Flood Watches (ARBFFAGRR)
- 2 Hydrologic Outlooks (ARBESFGRR)
- 8 Areal Flood Advisories (ABRFLSGRR)
- 4 Hydrologic Statements (ARBRVSGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)
- 31 Daily River and Lake Summaries (ARBRVDGRR)