

NWS FORM E-5

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

HSA OFFICE:

Grand Rapids, MI

REPORT FOR (MONTH & YEAR):

August 2015

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:

September 14, 2015

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).

X

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

Summary

Typical of August rainfall events were largely convective in nature featuring highly variable rainfall amounts for the NWS Grand Rapids HSA. Generally though, near normal rainfall fell over the HSA resulting in water levels at the months end, close to normal. The most impactful event occurred on the 10th when thunderstorms produced 3 to 4 inches of rain in a short period of time over the city of Lansing. As for the forecast points, none exceeded flood stage.

Flood Conditions

Monday, August 10th

At 12:11 PM EDT, a flood advisory was issued for northwest Ingham County due to thunderstorms with heavy rain. This included the city of Lansing. Flooding of low lying and poor drainage locations occurred with some roads closed.

Monday, August 10th

At 10:10 PM EDT, the flood advisory was cancelled for northwest Ingham County. The rain had ended and water levels receded.

Monday, August 10th

At 2:26 PM EDT, a flood advisory was issued for the Looking Glass River near Eagle. The advisory was in effect until Tuesday afternoon. Thunderstorms produced 3 to 4 inches of rain over parts of the basin which will cause a rapid rise on the river.

Monday, August 10th

At 9:30 PM, the flood advisory remained in effect for the Looking Glass River near Eagle. The river had crested above bankfull. The advisory was in effect until Tuesday Afternoon.

Tuesday, August 11th

At 5:35 AM EDT, a flood advisory was issued for Sycamore Creek at Holt. The river was forecasted to exceed bankfull Tuesday morning. The advisory was in effect until Wednesday morning. The river was expected to crest Tuesday afternoon.

Tuesday, August 11th

At 7:36 AM EDT, the flood advisory was cancelled for the Looking Glass River near Eagle. The river had fallen below bankfull level.

Tuesday, August 11th

At 7:55 AM EDT, a flood advisory was issued for the Grand River at Ionia. The advisory was in effect until Thursday morning. The river was forecasted to crest above bankfull on Wednesday afternoon.

Tuesday, August 11th

At 11:10 AM EDT, the flood advisory was continued for the Grand River at Ionia. The flood advisory for the Sycamore Creek near Holt was cancelled.

Tuesday, August 11th

At 8:58 PM EDT the flood advisory for the Grand River at Ionia was cancelled. The river had crested and fallen to within bankfull levels.

Friday, August 14th

At 4:06 PM EDT a flood advisory was issued for Northwest Montcalm County. Thunderstorms with very heavy rain were tracking through the advisory area. Hourly rainfall amounts of 1 to 2 inches were forecasted.

Friday, August 14th

At 5:01 PM EDT a flood advisory was issued for Southeast Osceola County. Rainfall amounts of over 2 inches in the past hour were estimated to have fallen.

Friday, August 14th

At 10:40 PM EDT the flood advisory for Southeast Osceola County was cancelled. The rain had ended and water levels receded.

Monday, August 17th

At 4:49 PM EDT a flood advisory was issued for Western Kalamazoo and Eastern Van Buren Counties. Heavy rain had produced 1 to 2 inches of rain. Another 1 to 2 inches could fall before the rain ends.

Monday, August 17th

At 8:14 PM EDT the flood advisory was continued for Western Kalamazoo and Eastern Van Buren Counties. Radar estimated that 2 to 4 inches of rain had fallen over the advisory area.

Monday, August 17th

At 10:25 PM EDT the flood advisory that was in effect for parts of Kalamazoo and Van Buren Counties was cancelled.

The following rivers exceeded bankfull during the month of August 2015:

- Looking Glass River at Eagle, Michigan (2 days above bankfull)
- Grand River at Ionia, Michigan (1 days above bankfull)

Flood Stage Report

No gage exceeded flood stage in August thus no NWS Form E-3 “Flood Stage Report” was sent.

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	108
Whitehall	White	105
Ewart	Muskegon	107
Mt. Pleasant	Chippewa	111
Lansing	Grand	138
Grand Rapids	Grand	143
East Lansing	Red Cedar	189
Hastings	Thornapple	152
Battle Creek	Battle Creek	211
Battle Creek	Kalamazoo	107

General Hydrologic Information

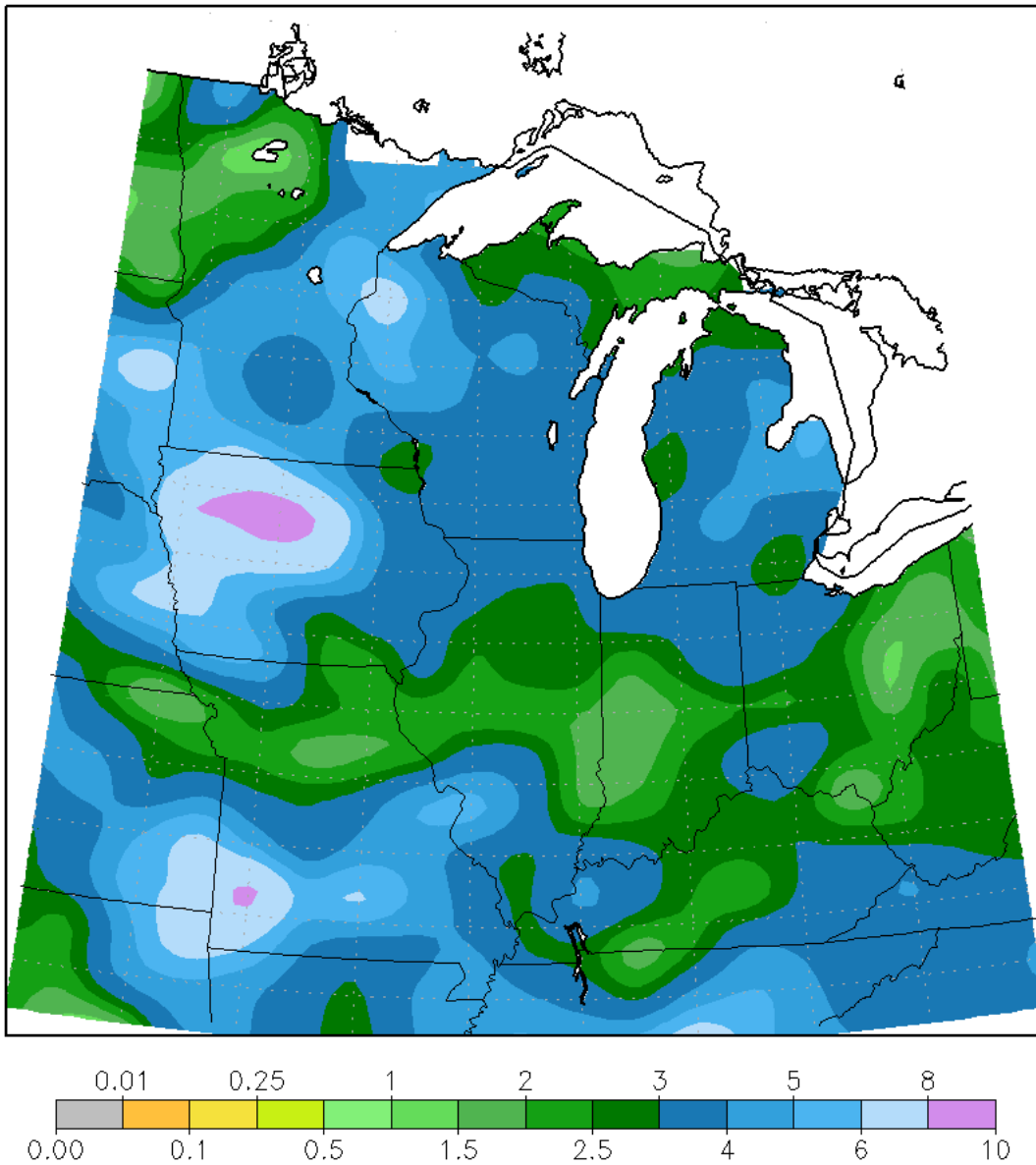
Rainfall due to thunderstorms varied significantly by location during the month of August. Lansing recorded its third wettest August with 6.82 inches. Records go back to 1863. Lansing also recorded its wettest August day with 3.77 inches on August 10, breaking the old record of 3.39 set on August 27 2013. August 10 2015 was the 6th wettest calendar day on record at Lansing. This torrential downpour caused moderate street flooding with poor drainage locations and low spots experiencing flooding. In some cases, the water levels reached rooftops on cars.

August precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 3.75, 6.82, and 2.35 inches, respectively (Figure 1). Precipitation departures for the month at these three sites were 0.16 of an inch above normal at Grand Rapids, 3.59 inches above normal at Lansing, and 1.04 inches below normal at Muskegon. Percent of mean precipitation for August 2015 is shown in Figure 2. Yearly precipitation departures were

3.08 inches below normal for Grand Rapids, 5.24 inches above normal for Lansing, and 2.55 inches above normal for Muskegon.

Temperatures for the month of August were below normal at Grand Rapids, Lansing, and Muskegon. The average monthly temperature departures were, 1.2, 0.3, and 0.1 degrees Fahrenheit respectively.

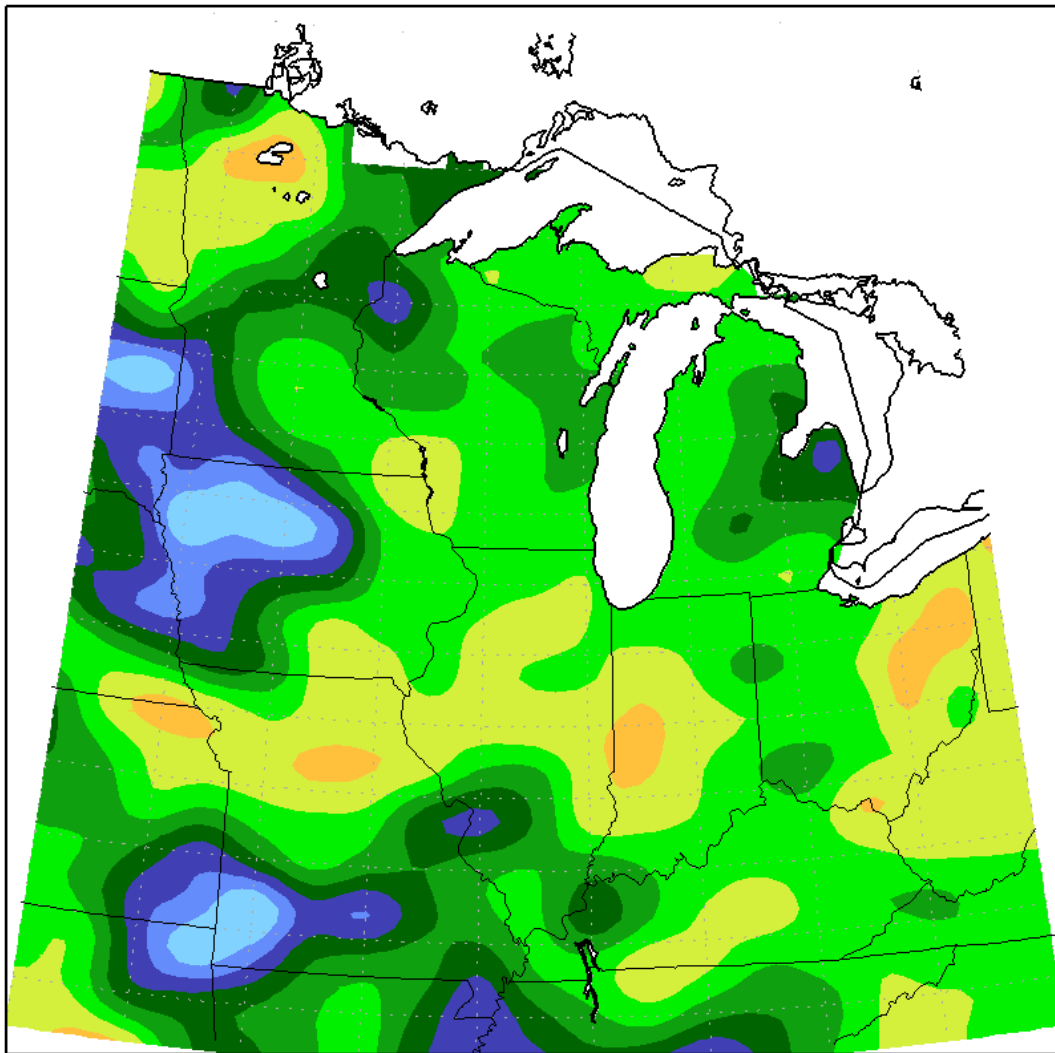
Accumulated Precipitation (in)
August 1, 2015 to August 31, 2015



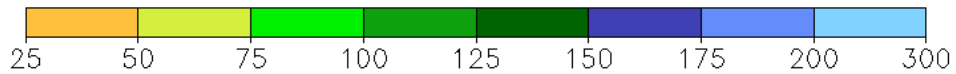
Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana–Champaign

Figure 1. August Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean
August 1, 2015 to August 31, 2015



Mean period is 1981-2010.



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Figure 2. August Percent of Mean of Accumulated Precipitation

Hydrologic Products issued this month:

- 1 Hydrologic Outlook (ARBESFGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)
- 31 Daily River and Lake Summaries (ARBRVDGRR)
- 8 Areal Flood Advisory Statements (ARBFLSGRR)
- 7 River Flood Advisory Statements (ARBFLSGRR)
- 3 Hydrologic Statements (ARBRVSGRR)

News Articles and Related Documentation

None