

**MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS**

TO: NATIONAL WEATHER SERVICE (W/OS31)  
HYDROMETEOROLOGICAL INFO CENTER  
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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 September in our Hydrologic Service Area (HSA). During the month of September, urban and small stream flood advisories were issued for Calhoun, Kent, Jackson, Muskegon, Montcalm, Gratiot, Ionia, Clinton, and Ottawa Counties in Southwest Lower Michigan. During the advisories a few urban and secondary roads flooded for a short period, and small creeks and streams had significant rises, but no significant property damage was reported.

**Flood Conditions**

On September 5<sup>th</sup>, an urban and small stream flood advisory was issued for Calhoun County. Radar estimated that two inches of rain fell during a one hour period over the advisory area. Runoff from the heavy rain resulted in temporary flooding of a few secondary roads and significant rises in streams and creeks in the advisory area. On September 9<sup>th</sup>, an urban and small stream flood advisory was issued for Kent County when a line of thunderstorms over the advisory area produced two inches of rain over a two hour period. This heavy rain event resulted in a minor street flooding, and significant rises in small creeks and streams. On September 13<sup>th</sup>, an urban and small stream flood advisory was issued for Jackson County. Radar estimated that two to three inches of rain fell during a six hour period over the advisory area. Runoff from the heavy rain event resulted in temporary flooding of a few secondary roads and significant rises in streams and creeks in the advisory area. On September 23<sup>rd</sup>, urban and small stream flood advisories were issued for Muskegon, Montcalm, Gratiot, Kent, Ionia, Clinton, and Ottawa Counties as a line of thunderstorms producing heavy rain moved over the advisory area. Radar estimated that several inches of rain fell during a two hour period over the advisory area, but no reports of flooding were received. The advisories were cancelled or allowed to expire after the minor nuisance flooding subsided. No significant property damage was reported for these events.

**Flood Stage Report**

No rivers exceeded flood stage during the month of September.

## **River Conditions**

River levels across the Grand Rapids HSA by the end of September were near to above normal in Southwest Lower Michigan. Rainfall during the latter part of the month resulted in higher than normal flows at the end of the month for most of the rivers located in Southwest Lower Michigan.

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	125
Ewart	Muskegon	112
Mt. Pleasant	Chippewa	132
Lansing	Grand	112
Grand Rapids	Grand	136
East Lansing	Red Cedar	141
Hastings	Thornapple	73
Battle Creek	Battle Creek	82
New Richmond	Kalamazoo	108

## **General Hydrologic Information**

Temperatures were below normal and precipitation near to above normal for September across Southwest Lower Michigan.

September precipitation totals at first order stations across our HSA were near to above normal for Grand Rapids, Lansing, and Muskegon, Michigan. September precipitation totals at Grand Rapids, Lansing, and Muskegon, were 5.38, 3.07, and 3.70 inches, respectively. Precipitation for the month at these three sites were 1.10 inches above normal at Grand Rapids, 0.41 of an inch below normal at Lansing, and 0.18 of an inch above normal at Muskegon, Michigan. For the year, precipitation totals were still above normal at Grand Rapids, Lansing, and Muskegon, Michigan. Yearly precipitation totals were 4.53 inches above normal for Grand Rapids, 2.78 inches above normal for Lansing, and 5.23 inches above normal for Muskegon, Michigan.

Temperatures for the month of September were below normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of -1.2, -1.4 and -0.8 degrees Fahrenheit, respectively.

## **Hydrologic Products issued this month:**

- 1 Hydrologic Outlook (ARBESFGRR) was issued
- 2 Hydrologic Statements (ARBRVSGRR) were issued
- 5 Flood Statements (ARBFLSGRR) were issued
- 30 Daily River and Lake Summary's (ABRRVDGRR) were issued
- 30 Hydrologic Summary's were issued (RVA)