

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 July in our Hydrologic Service Area (HSA). During the month of July, urban and small stream flood advisories were issued for Kent, Muskegon, Ottawa, Allegan, Eaton, Barry, Kalamazoo, Calhoun, and Van Buren Counties in Southwest Lower Michigan. During the advisories a few secondary roads and urban streets flooded for a short period and small creeks and streams had significant rises, but no significant property damage was reported.

Flood Conditions

On July 11th, urban and small stream flood advisories were issued for Muskegon, Kent and Ottawa Counties. Radar estimated that three to five inches of rain fell during a six hour period over the advisory area. On July 17th, urban and small stream flood advisories were issued for Kent, Ottawa, Allegan, Eaton, Barry, Kalamazoo, Calhoun, and Van Buren Counties when a line of thunderstorms over the advisory area produced two to three inches of rain over a three hour period. On July 27th, an urban and small stream flood advisory was issued for Kent, Ottawa, and Allegan Counties when thunderstorms over the advisory area produced two to three inches of rain over a two hour period. The rain events on the 11th, 17th and 27th resulted in a few urban streets and secondary roads flooded in low lying areas for a short period, and significant rises in small creeks and streams. The advisories were allowed to expire after the minor nuisance flooding subsided. No significant property damage was reported for these events.

On July 18th, a flash flood warning was issued for Van Buren County when thunderstorms, with rainfall rates in excess of an inch an hour, repeatedly moved over the area, and more thunderstorms were forecast to head into the warning area. The flash flood warning was cancelled a few hours later when the additional thunderstorms forecast to move into the warning area did not materialize. No significant flooding occurred during this event and the flash flood warning did not verify.

Flood Stage Report

No rivers exceeded flood stage during the month of July.

River Conditions

River levels across the Grand Rapids HSA by the end of July were above to near normal in Southwest Lower Michigan. Above normal precipitation during the month of July and significant rains near the end of the month resulted in higher than normal flows at the end of the month.

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	147
Evart	Muskegon	125
Mt. Pleasant	Chippewa	153
Lansing	Grand	134
Grand Rapids	Grand	176
East Lansing	Red Cedar	103
Hastings	Thornapple	125
Battle Creek	Battle Creek	101
New Richmond	Kalamazoo	96

General Hydrologic Information

July precipitation and temperatures were above normal across Southwest Lower Michigan.

July precipitation totals at first order stations across our HSA were above normal for Grand Rapids, Lansing, and Muskegon, Michigan. July precipitation totals at Grand Rapids, Lansing, and Muskegon, were 6.90, 4.05, and 4.08 inches, respectively. Precipitation for the month at these three sites were 3.34 inches above normal at Grand Rapids, 1.37 inches above normal at Lansing, and 1.76 inches 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 5.59 inches above normal for Grand Rapids, 3.24 inches above normal for Lansing, and 7.58 inches above normal for Muskegon, Michigan.

Temperatures for the month of July were above normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of +3.3, +3.4 and +3.1 degrees Fahrenheit, respectively.

Hydrologic Products issued this month:

- 1 Flash Flood Warning (ARBFFWGRR) was issued
- 1 Flash Flood Statement (ARBFFSGRR) was issued
- 13 Flood Statements (ARBFLSGRR) were issued
- 2 Hydrologic Statements (ARBRVSGRR) were issued
- 31 Daily River and Lake Summary's (ABRRVDGRR) were issued
- 31 Hydrologic Summary's were issued (RVA)