

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

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 flooding occurred within this Hydrologic Service Area.

Summary

No significant flooding occurred in the Grand Rapids Hydrologic Service Area (HSA) during the month of December.

Flood Conditions

None

River Conditions

Significant river ice formed in early December and impact discharge/stage relationships for the Muskegon and Grand Rivers in Southwest Lower Michigan. By the end of the month, a warm spell with above freezing temperatures resulted in most of the rivers in Southwest Lower Michigan being ice free. River levels across the Grand Rapids HSA by the end of December were above to near normal, and ice free. All rivers remained below flood stage during the month of December

General Hydrologic Information

The first three weeks of December were unseasonable cold and snowy across Southwest Lower Michigan.

December precipitation totals at first order stations across our HSA were below normal for Grand Rapids and Lansing and above normal for Muskegon, Michigan. December precipitation totals at Grand Rapids, Lansing, and Muskegon, were 2.43, 1.91, and 2.94 inches, respectively. Precipitation for the month at these three sites were 0.27 of an inch below normal at Grand Rapids, 0.26 of an inch below normal at Lansing, and 0.30 of an inch above normal at Muskegon, Michigan. At the end of December, the yearly precipitation totals were 0.60 of an inch below normal at Grand Rapids, 3.23 inches below normal at Muskegon and 0.78 of an inch above normal at Lansing, Michigan.

Snowfall totals for the month of December were above normal for Grand Rapids (+10.1") Lansing (+7.6") and Muskegon (+2.9"). December snowfall totals at Grand Rapids,

Lansing, and Muskegon were 28.9, 20.8, and 32.2 inches, respectively. A warm up into the upper 30's near the end of the month depleted the snowpack we had across our HSA.

Temperatures for the month of December were below normal at Grand Rapids, Lansing, and Muskegon, with average monthly departures of -1.8, -1.5, and -1.6 degrees Fahrenheit, respectively. At Grand Rapids the soil temperatures at the end of the month were 34 degrees near the surface and 42 degrees Fahrenheit at a depth of 60 inches. Frost depth was 0 inches at WFO GRR at the end of the month.

Hydrologic Products issued this month:

1 Hydrologic Outlook (ARBESFGRR) was issued
31 Hydrologic Summaries were issued (RVA)