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

DATE: November 23, 2010

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Mark L. Walton, Service Hydrologist

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

No rivers exceeded flood stage during the month of October in our Hydrologic Service Area (HSA).

The Grand Rapids Weather Forecast Office continued to provide on-site weather support at the incident command post located in Marshall, Michigan, for the oil spill that occurred along the Kalamazoo River back in July. The North Central River Forecast Center also continued its daily river forecasts for specific points along the Kalamazoo River.

Urban and small stream flood advisories were issued for 5 out of 23 counties in our Hydrologic Service Area (HSA) during the month of October. Local officials reported only temporary water over roads during these advisories.

Flood Conditions

Sunday, October 24th
At 10:51 PM EDT, a flood advisory for urban and small streams was issued for portions of Allegan, Barry, Kalamazoo, Kent, and Van Buren Counties until 4:45 AM EDT Monday.

Monday, October 25th
At 2:15 AM EDT, the flood advisory for urban and small streams continued for portions of Allegan, Barry, Kalamazoo, Kent, and Van Buren Counties until 4:45 AM EDT. Rainfall amounts in excess of 2 inches were reported around South Haven, Michigan, and in the City of Allegan. Minor street flooding was reported in Allegan, Michigan.
At 4:40 AM EDT, a flood advisory for urban and small streams was issued for portions of Allegan, Barry, Kalamazoo, and Van Buren Counties until 10:30 AM EDT.
At 8:00 AM EDT the flood advisory for urban and small streams continued for portions of Allegan, Barry, Kalamazoo, and Van Buren Counties until 10:30 AM EDT.
At 8:34 AM EDT, the flood advisory for urban and small streams was cancelled for portions of Allegan, Barry, Kalamazoo, and Van Buren Counties.
Flood Stage Report

No rivers in Southwest Lower Michigan exceeded flood stage during the month of October.

River Conditions

River levels by the end of October were near to below normal across our HSA. The end of the month percentage of normal flow for selected rivers is listed below:

<table>
<thead>
<tr>
<th>Location</th>
<th>River</th>
<th>% of Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scottville</td>
<td>Pere Marquette</td>
<td>102</td>
</tr>
<tr>
<td>Whitehall</td>
<td>White</td>
<td>94</td>
</tr>
<tr>
<td>Evart</td>
<td>Muskegon</td>
<td>90</td>
</tr>
<tr>
<td>Mt. Pleasant</td>
<td>Chippewa</td>
<td>93</td>
</tr>
<tr>
<td>Lansing</td>
<td>Grand</td>
<td>104</td>
</tr>
<tr>
<td>Grand Rapids</td>
<td>Grand</td>
<td>117</td>
</tr>
<tr>
<td>East Lansing</td>
<td>Red Cedar</td>
<td>83</td>
</tr>
<tr>
<td>Hastings</td>
<td>Thornapple</td>
<td>92</td>
</tr>
<tr>
<td>Battle Creek</td>
<td>Battle Creek</td>
<td>91</td>
</tr>
<tr>
<td>New Richmond</td>
<td>Kalamazoo</td>
<td>124</td>
</tr>
</tbody>
</table>

General Hydrologic Information

October 2010 was warmer than normal, with precipitation near to below normal across the HSA.

October precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan were 2.61, 2.82, and 2.13 inches, respectively. Precipitation totals for the month at these three sites were 0.19 of an inch below normal at Grand Rapids, 0.53 of an inch above normal at Lansing, and 0.67 of an inch below normal at Muskegon, Michigan. Yearly precipitation totals were 0.20 of an inch above normal for Grand Rapids, 2.68 inches below normal for Lansing, and 0.35 inches above normal for Muskegon, Michigan.

Temperatures for the month of October were slightly above normal at Grand Rapids, Lansing, and Muskegon, Michigan, with average monthly departures of +3.6, +3.0 and +3.3 degrees Fahrenheit, respectively.

Hydrologic Products issued this month:

- 5 Areal Flood Advisories (ARBFLSGRR)
- 31 Hydrologic Statements (ARBRVSGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 31 Hydrologic Summaries (ARBRVAGRR)
- 31 Daily River and Lake Summaries (ARBRVDGRR)