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

The month started off with some flooding still ongoing from February’s major event. Fortunately March featured well below normal precipitation. In addition…little or no snowpack exists to add runoff as temperatures warmed seasonally. As a result…the water levels largely receded in all rivers. Below normal conditions were observed by the end of the month.

Flood Conditions

Wednesday, February 28th
At 840 PM the flood warning was continued for the following rivers:
Grand River At Jackson affecting Jackson County
Grand River At Robinson Township affecting Ottawa County
Maple River At Maple Rapids affecting Clinton County
Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County
St Joseph River At Burlington affecting Calhoun County

Thursday, March 1st
At 1211 PM the flood warning was cancelled for the following river:
Maple River at Maple Rapids
And was continued for the following rivers:
Grand River At Jackson affecting Jackson County
Grand River At Robinson Township affecting Ottawa County
Grand River Near Comstock Park affecting Kent County
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County
St Joseph River At Burlington affecting Calhoun County
Thursday, March 1st
At 834 PM the flood warning was cancelled for the following rivers:
- Grand River at Jackson
- St Joseph River at Burlington
And was continued for the following rivers:
- Grand River At Robinson Township affecting Ottawa County
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County

Friday, March 2nd
At 1116 AM the flood warning was continued for the following rivers:
- Grand River At Robinson Township affecting Ottawa County
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County

Friday, March 2nd
At 849 PM the flood warning was continued for the following rivers:
- Grand River At Robinson Township affecting Ottawa County
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County

Saturday, March 3rd
At 1100 AM the flood warning was continued for the following rivers:
- Grand River At Robinson Township affecting Ottawa County
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County

Saturday, March 3rd
At 100 PM the flood warning was cancelled for the following rivers:
- Grand River At Robinson Township affecting Ottawa County

Saturday, March 3rd
At 813 PM the flood warning was continued for the following rivers:
- Grand River Near Comstock Park affecting Kent County
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County

Sunday, March 4th
At 1050 AM the flood warning was cancelled for the following rivers:
- Grand River Near Comstock Park affecting Kent County
And was continued for the following rivers:
- Looking Glass River Near Eagle affecting Clinton County
- Portage River Near Vicksburg affecting Kalamazoo County
Sunday, March 4th
At 7:43 PM the flood warning was continued for the following rivers:
Looking Glass River Near Eagle affecting Clinton County
Portage River Near Vicksburg affecting Kalamazoo County

Monday, March 4th
At 7:20 AM the flood warning was cancelled for the following rivers:
Looking Glass River Near Eagle affecting Clinton County
And was continued for the following rivers:
Portage River Near Vicksburg affecting Kalamazoo County

The flood warning continued for the Portage River Near Vicksburg until March 25, when it was cancelled at 5:00 PM.

************************************************************************
The following rivers exceeded bankfull during the month of March 2018:
- Looking Glass River near Eagle, Michigan (15 days above bankfull)
- Flat River at Smyrna, Michigan (1 days above bankfull)
- Thornapple River above Hastings, Michigan (5 days above bankfull)
- Thornapple River near Caledonia, Michigan (1 days above bankfull)
- Grand River at Ionia, Michigan (13 days above bankfull)
- Grand River at Jackson, Michigan (4 days above bankfull)
- Grand River at Ada, Michigan (2 days above bankfull)
- Grand River near Comstock Park, Michigan (5 days above bankfull)
- Grand River at Grand Rapids, Michigan (5 days above bankfull)
- Grand River at Robinson Township, Michigan (4 days above bankfull)
- Kalamazoo River near New Richmond, Michigan (6 days above bankfull)
- Kalamazoo River at Comstock, Michigan (3 days above bankfull)
- Portage River near Vicksburg, Michigan (26 days above bankfull)
- St. Joseph River at Burlington, Michigan (5 days above bankfull)

**Flood Stage Report**

5 forecast points exceeded flood stage in our HSA during the month of March 2018. A NWS Form E-3 “Flood Stage Report” was issued.
River Conditions

The end of the March 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>81</td>
</tr>
<tr>
<td>Whitehall</td>
<td>White</td>
<td>82</td>
</tr>
<tr>
<td>Evart</td>
<td>Muskegon</td>
<td>72</td>
</tr>
<tr>
<td>Mt. Pleasant</td>
<td>Chippewa</td>
<td>69</td>
</tr>
<tr>
<td>Lansing</td>
<td>Grand</td>
<td>78</td>
</tr>
<tr>
<td>Grand Rapids</td>
<td>Grand</td>
<td>69</td>
</tr>
<tr>
<td>East Lansing</td>
<td>Red Cedar</td>
<td>71</td>
</tr>
<tr>
<td>Hastings</td>
<td>Thornapple</td>
<td>59</td>
</tr>
<tr>
<td>Battle Creek</td>
<td>Battle Creek</td>
<td>84</td>
</tr>
<tr>
<td>Battle Creek</td>
<td>Kalamazoo</td>
<td>95</td>
</tr>
</tbody>
</table>

General Hydrologic Information

The month of March featured well below normal precipitation and temperatures. Little or no snowmelt occurred due to the lack of snowpack. The river levels largely receded through the month.

March precipitation for Grand Rapids, Lansing, and Muskegon, Michigan, was 1.16, 1.29, and 1.30 inches, respectively (Figure 1). Monthly departures were -1.21, -0.77 and -0.95 inches respectively. Yearly departures were 1.96, 2.72, and 2.13 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for March 2018 is shown in Figure 2.

Snowfall was below normal for the month of March at Grand Rapids, Lansing, and Muskegon, Michigan with 4.9 inches (3.4 inches below normal), 5.3 inches (1.7 inches below normal), and 6.1 (2.9 inches below normal), respectively.

Temperatures for the month of March were below normal at Grand Rapids, Lansing and Muskegon. The average monthly temperature departures for these sites were 1.3, 2.0 and 1.0 degrees Fahrenheit respectively.
Figure 1. March 2018 Monthly Precipitation Totals
Figure 2. March 2018 Percent of Mean of Accumulated Precipitation
Hydrologic Products issued this month:

31 Hydrologic Summaries (ARBRVAGRR)
  1 Probabilistic Hydrologic Outlook (ARBESFGRR)
21 Hydrologic Statements (ARBRVSGRR)
50 River Flood Warning Statements (ARBFLSGRR)

News Articles and Related Documentation

None