Several strong low pressure systems in March and April brought with them near-to-record-breaking cold temperatures as well as late season winter precipitation events. By contrast, May saw above-normal conditions for the majority of the basin.

In mid-April, a strong low pressure system created a mixture of hazardous weather conditions to southern Ontario. Multiple hours of freezing rain and ice pellets were reported leading to hazardous traveling conditions. Other locations saw more than 40 cm (16 in) of snowfall. Gusts of up to 90 km/h (56 mi/h) left more than 120,000 homes without power.

Several strong nor’easters brought late season snow and damaging winds to much of the eastern portion of the basin. Erie, PA experienced 91 cm (36 in) of snow for the month of March, breaking the previous record. Across the basin, anomalously cold conditions in April broke both daily and monthly records including the record for the coldest April on record for both Wisconsin and Michigan. In southern Ontario, most locations were in their top 5 coldest Aprils on record over the past 100 years. The below-normal April temperatures gave way to above-normal temperatures in May that broke records across the basin including Buffalo, NY which saw its warmest May on record.

### Great Lakes Water Levels

<table>
<thead>
<tr>
<th>Lake</th>
<th>End of May 2018</th>
<th>Change since March 1st</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compared to:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>2017</td>
</tr>
<tr>
<td>Sup.</td>
<td>+13 cm</td>
<td>-9 cm</td>
</tr>
<tr>
<td></td>
<td>+5.1 in</td>
<td>-3.5 in</td>
</tr>
<tr>
<td>Mich.-Huron</td>
<td>+46 cm</td>
<td>+12 cm</td>
</tr>
<tr>
<td></td>
<td>+18.1 in</td>
<td>+4.7 in</td>
</tr>
<tr>
<td>Erie</td>
<td>+57 cm</td>
<td>+4 cm</td>
</tr>
<tr>
<td></td>
<td>+22.4 in</td>
<td>+1.6 in</td>
</tr>
<tr>
<td>Ont.</td>
<td>+20 cm</td>
<td>-61 cm</td>
</tr>
<tr>
<td></td>
<td>+7.9 in</td>
<td>-24.0 in</td>
</tr>
</tbody>
</table>

All of the Great Lakes ended May with above normal levels for this time of year. After starting at near-record-high values, Lake Superior had relatively low water supplies over the past three months, ending May only 13 cm above normal. Lakes Michigan-Huron and Erie saw closer-to-normal water-level changes, leaving both lakes well-above-normal for the time of year. Lake Ontario saw a below-normal water-level rise since the beginning of March, leaving levels above average.
Regional Impacts – for March - May 2018

Seeding and emergence of many crops were delayed due to prolonged cold periods in March and April. This was a common theme across the agricultural industry as growing degree days stayed well behind normal conditions through April for most locations. Fortunately, above-normal temperatures in May allowed crop producers to make up for the delayed start.

Sporting events across the basin were affected by several large winter weather events in the early season. The Chicago Cubs were forced to postpone several early season games by up to three weeks due to snowcover. This tied a record for the most weather-related postponements through April. The Toronto Blue Jays home game against the Kansas City Royals was also postponed on April 16 due to ice accumulation causing damage to the roof of the stadium.

High water levels in Lake Erie broke seawalls just southwest of Detroit and flooded several neighborhoods. Grand Haven’s South Pier construction project was delayed once again as a result of high water levels in Lake Michigan. On April 13, several strong thunderstorms pushed across Lake Michigan and created a pair of meteotsunamis. The large surge of water impacted large sections of the eastern coastline of Lake Michigan. One gauge in Ludington reported a water level rise of 46 cm (1.51 ft). Several docks were damaged along the coast near Manistee, Michigan as a result.

Regional Outlook – for July - September 2018

Temperature and Precipitation
Both American and Canadian forecasters predict above-normal temperatures for most of the Great Lakes basin in the July through September timeframe. At the same time, precipitation has been predicted to have an equal chance of being above, near, or below normal for the entire basin.

Great Lakes Water Levels

Lakes Superior and Michigan-Huron levels are expected to rise over the beginning of the third quarter but by the end of September all lake levels are entering their seasonal fall decline with normal water supply conditions. Lakes Michigan-Huron and Erie levels are likely to stay well above average, even if very dry conditions are encountered. Lakes Superior and Ontario levels could drop below average if drier-than-normal conditions occur, but are expected to stay above average levels with normal water supplies.

Harmful Algal Bloom
The harmful algal bloom (HAB) season in the Great Lakes typically peaks in the late summer. NOAA issues a Lake Erie HAB seasonal forecast in early July. Because conditions in the lake can change quickly, a HAB Bulletin is posted and distributed twice weekly from July to October.

Partners
Midwestern Regional Climate Center
Environment and Climate Change Canada
Agriculture and Agri-Food Canada
Northeast Regional Climate Center
Great Lakes Region State Climatologists
NOAA
NCEI
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USDA Midwest Climate Hub

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