

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

DATE:

July 11th, 2017

TO: NATIONAL WEATHER SERVICE (W/OS31)
HYDROMETEOROLOGICAL INFO CENTER
1325 EAST-WEST HIGHWAY, RM 13468
SILVER SPRING, MD 20910

SIGNATURE:

Daniel K. Cobb, MIC
Mark Sekelsky, Lead Forecaster

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

Major flooding occurred in the Hydrologic Service Area during the month of June. Several rounds of thunderstorms occurred but the most impactful event occurred on the night of the 22nd. This is when a band of thunderstorms stalled out over the Chippewa basin for much of the night. This resulted in rainfall amounts of 3 to 7 inches which pushed the forecast point at Mount Pleasant to within a foot of the record crest. Flooding was widespread with roughly 90 roads closed in Isabella County alone at the height of the flooding. A state disaster was declared. No injuries or deaths are known at this time.

Flood Conditions**Sunday, June 18th**

At 3:28 PM EDT, Area Forecast Discussion mentions the potential for occasional rounds of thunderstorms Wednesday and Thursday night with heavy rainfall being a concern considering the recent heavy rain.

Monday, June 19th

At 3:25 PM EDT, Area Forecast Discussion mentions that Thursday and Thursday night look rather active with the potential for heavy rainfall.

Tuesday, June 20th

At 3:25 PM EDT, Area Forecast Discussion mentions that heavy rain is likely for Thursday night.

Tuesday, June 20th

At 4:40 PM EDT, the Hazardous Weather Outlook mentions localized flooding is possible for Thursday.

Wednesday, June 21st

At 11:50 AM EDT, the Hazardous Weather Outlook mentions flooding rains are possible for Thursday into Thursday night.

At 1:10 PM EDT A Weather Message including slide was sent to all the Emergency Managers, Media and partners mentioning multiple rounds of storms and flooding rains

are possible Thursday into Thursday night.

At 3:10 PM EDT, Area Forecast Discussion mentions that over 2 inches of rain could fall Thursday morning into Thursday night. The discussion also highlights the impact of the antecedent conditions.

Thursday, June 22nd

At 12:50 PM EDT A Weather Message including slide was sent to all the Emergency Managers, Media and partners mentioning that repeated storms especially areas north of I-96 could produce rainfall amounts over 1 or 2 inches, cause water ponding on roadways.

At 7:56 PM EDT, the Hazardous Weather Outlook mentions several rounds of storms possible through the night with the potential for urban and small stream flooding

At 9:53 PM EDT, an areal flood watch was issued for most of the HSA including the Mount Pleasant, MI region valid until 6 am Friday.

At 11:01 PM an areal flood advisory was issued for much of Central Michigan including Mount Pleasant.

At 11:05 PM a river flood advisory was issue for the Chippewa River below Mount Pleasant, Michigan. The product mentions basin average rainfall amounts could exceed one inch and that close monitoring for the night will be needed as considerably more rain could fall. A crest of 6.2 feet is forecasted. Bankfull stage is 6.0 feet.

At 11:32 PM EDT, an areal flood warning was issued for Isabella, Mecosta and Northern Montcalm counties in Central Michigan valid until 5:30 AM Friday.

Friday, June 23rd

At 12:16 AM EDT, the areal flood warning remains in effect for Isabella, Mecosta and Northern Montcalm Counties in Central Michigan valid until 5:30 AM Friday.

At 12:36 AM EDT, a river flood warning was issued for the Chippewa River below Mount Pleasant, Michigan. Flood stage is 8.0 feet. The 12:15 AM stage was 4.6 feet. Minor flooding was forecasted through Sunday morning.

At 2:25 AM EDT, the areal flood warning remains in effect for Isabella, Mecosta and Northern Montcalm counties in Central Michigan valid until 5:30 AM Friday.

At 3:44 AM EDT, the areal flood warning was extended for Isabella, Mecosta and Northern Montcalm counties in Central Michigan valid until 11:30 AM Friday.

At 3:45 AM EDT, the areal flood watch was cancelled.

At 9:08 AM EDT, the areal flood warning was continued, mentioning multiple road closures. The emergency manager relayed that rivers and creeks were rising.

At 11:26 AM EDT, a river flood warning was issued for the Muskegon River near Croton, Little Muskegon River above Morely and the Pine River at Alma. Minor flooding was forecasted for these sites.

The flood warning for the Chippewa River below Mount Pleasant, Michigan was changed from minor to moderate severity. Moderate flooding begins at 11.0 feet. The forecasted crest was 11.4 feet by Saturday evening. The 10:15 AM stage was 9.5 feet.

At 11:28 AM EDT, the areal flood warning was extended for Isabella, Mecosta and Northern Montcalm counties in Central Michigan valid until 11:30 PM Friday.

At 12:03 PM EDT, the river flood warning for the Chippewa River below Mount Pleasant was continued. The 11:15 AM stage was 10.2 feet with moderate flooding forecasted and a new forecasted crest of 12.0 feet by 8 PM this afternoon.

At 2:20 PM EDT, the flood warning for the Chippewa River below Mount Pleasant, Michigan was changed from moderate to major severity. Major flooding begins at 13.0 feet. The forecasted crest was 13.5 feet by this evening. The 1:15 PM stage was 11.7

feet.

At 5:13 PM EDT, the flood warning was continued for the Muskegon River near Croton, Little Muskegon River above Morely and the Pine River at Alma. Minor flooding was forecasted for these sites.

For the Chippewa River below Mount Pleasant the 4:15 PM EDT stage was 13.5 feet. Major flooding was occurring. The new forecasted crest was 14.6 feet and is within a foot of the record crest.

At 5:56 PM EDT, the areal flood warning was continued for Isabella, Mecosta and Northern Montcalm counties in Central Michigan valid until 11:30 PM Friday. Ninety roads were closed due to high water due to the 3 to 7 inches of rain that fell.

At 9:36 PM EDT, the flood warning was cancelled for the Pine River at Alma. The flood warning was continued for the Chippewa River below Mount Pleasant. The 8:15 PM EDT stage was 14.5 feet. The forecasted crest was 14.8 feet which is just shy of the 15.58 foot record crest. Major flooding was occurring. The river is forecasted to fall below flood stage by Tuesday morning.

At 10:50 PM EDT, the flood warning was continued for the Muskegon River near Croton and the Little Muskegon River above Morely. Minor flooding was forecasted at both sites.

At 11:26 PM EDT, the flood warning for Isabella, Mecosta and Montcalm counties was allowed to expire.

Saturday, June 24th

At 11:00 AM EDT, the flood warnings were cancelled and downgraded to advisory's for the Muskegon River near Croton and the Little Muskegon River above Morely. The flood warning was continued for the Chippewa River below Mount Pleasant. The 10:15 AM EDT stage was 13.3 feet and falling.

At 10:11 PM the flood warning was continued for the Chippewa River below Mount Pleasant. The 9:15 PM stage was 12.0 feet and the water level was falling.

Sunday, June 25th

At 10:25 AM EDT, the flood warning was continued for the Chippewa River below Mount Pleasant. The 10:00 AM EDT stage was 11.2 feet and falling.

At 9:26 PM EDT, a flood warning was issued for the Pine River at Alma. The 9:00 PM stage was 7.8 feet. Flood stage was 8.0 feet. The river was forecasted to crest at minor levels.

At 9:31 PM EDT, the flood warning was continued for the Chippewa River below Mount Pleasant. The 8:15 PM EDT stage was 10.4 feet and falling.

Monday, June 26th

At 10:24 AM EDT, the flood warning was continued for the Chippewa River below

Mount Pleasant and Pine River at Alma. The 10:00 AM EDT stage at Mount Pleasant was 9.4 feet and falling. At Alma the 8:00 am stage was 8.8 feet and forecasted to fall slowly.

At 9:08 PM EDT, the flood warning was continued for the Chippewa River below Mount Pleasant. The 8:15 PM EDT stage was 8.6 feet and falling. At Alma the 8:00 am stage was 8.8 feet and forecasted to fall slowly.

Tuesday, June 27th

At 7:01 AM EDT, the flood warning was downgraded to an advisory for the Chippewa River below Mount Pleasant.

At 10:41 AM EDT, the flood warning was downgraded to an advisory for the Pine River at Alma.

The following rivers exceeded bankfull during the month of June 2017:

- Little Muskegon River near Morley, Michigan (3 days above bankfull)
- Muskegon River at Croton, Michigan (3 days above bankfull)
- Chippewa River near Mount Pleasant, Michigan (6 days above bankfull)
- Pine River at Alma, Michigan (3 days above bankfull)
- Muskegon River at Evart, Michigan (1 day above bankfull)

Flood Stage Report

Two forecast points exceeded flood stage in our HSA during the month of June 2017. See the NWS Form E-3 “Flood Stage Report” for additional information.

River Conditions

The end of the June percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	165
Whitehall	White	265
Ewart	Muskegon	191
Mt. Pleasant	Chippewa	413
Lansing	Grand	67
Grand Rapids	Grand	164
East Lansing	Red Cedar	92
Hastings	Thornapple	114
Battle Creek	Battle Creek	74
Battle Creek	Kalamazoo	91

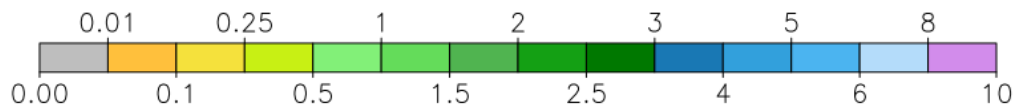
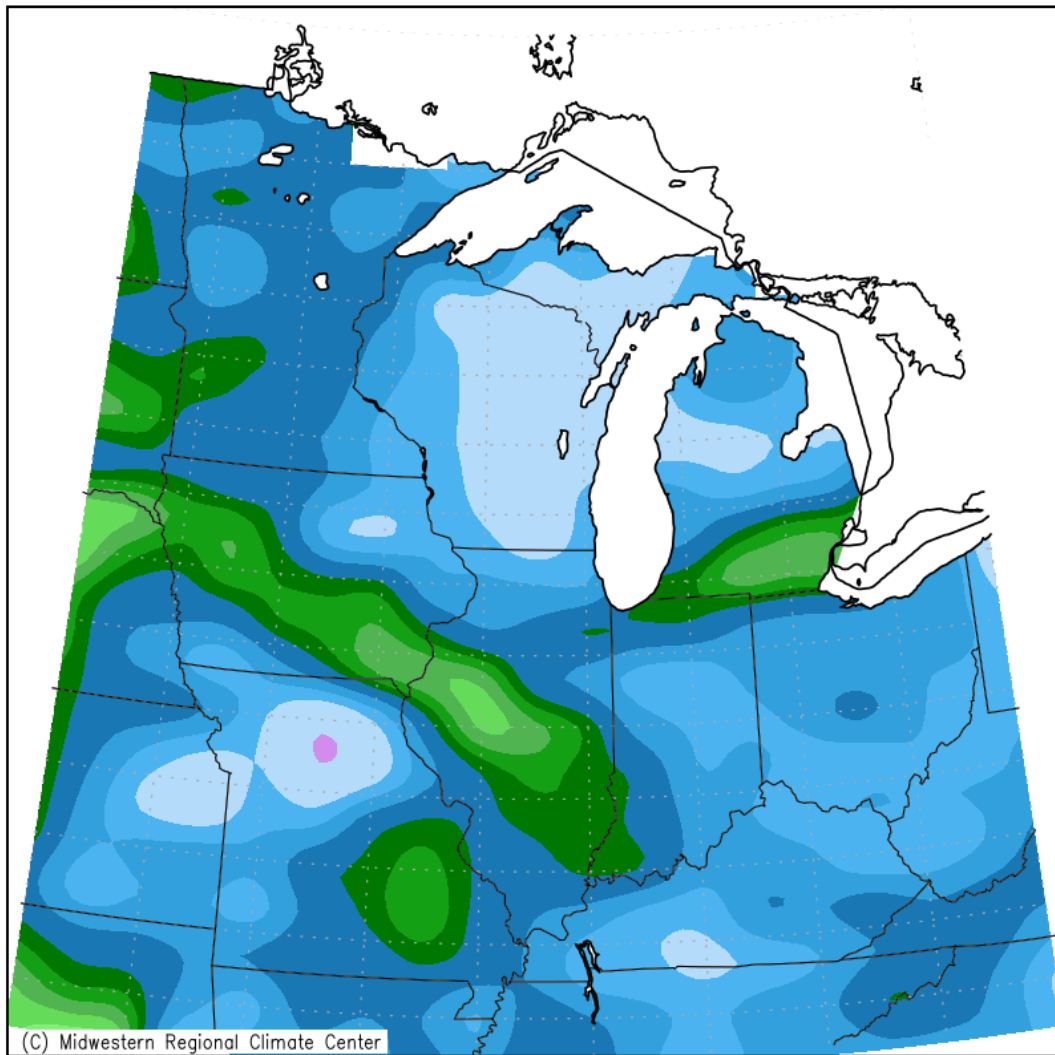
General Hydrologic Information

The month of June featured variable conditions for the region. Hydrologic impacts were driven by the swath of 1500 to 200 percent of normal rainfall that fell across the Pere Marquette, Muskegon and Chippewa River basins. Further south, for the Kalamazoo basin only about half of the normal rainfall fell.

June precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 4.88, 3.75, and 3.64 inches, respectively (Figure 1). Monthly departures were 1.11, 0.30 and 1.09 inches respectively. Yearly departures were 4.12, 5.79, and 3.30 inches for Grand Rapids, Lansing and Muskegon respectively. Percent of mean precipitation for June 2017 is shown in Figure 2.

Temperatures for the month of June were above normal at Grand Rapids, Lansing and Muskegon. The average monthly temperature departures for Grand Rapids, Lansing and Muskegon were, 1.1, 3.5 and 1.7 degrees Fahrenheit respectively.

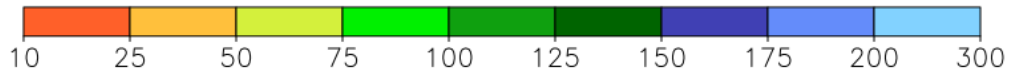
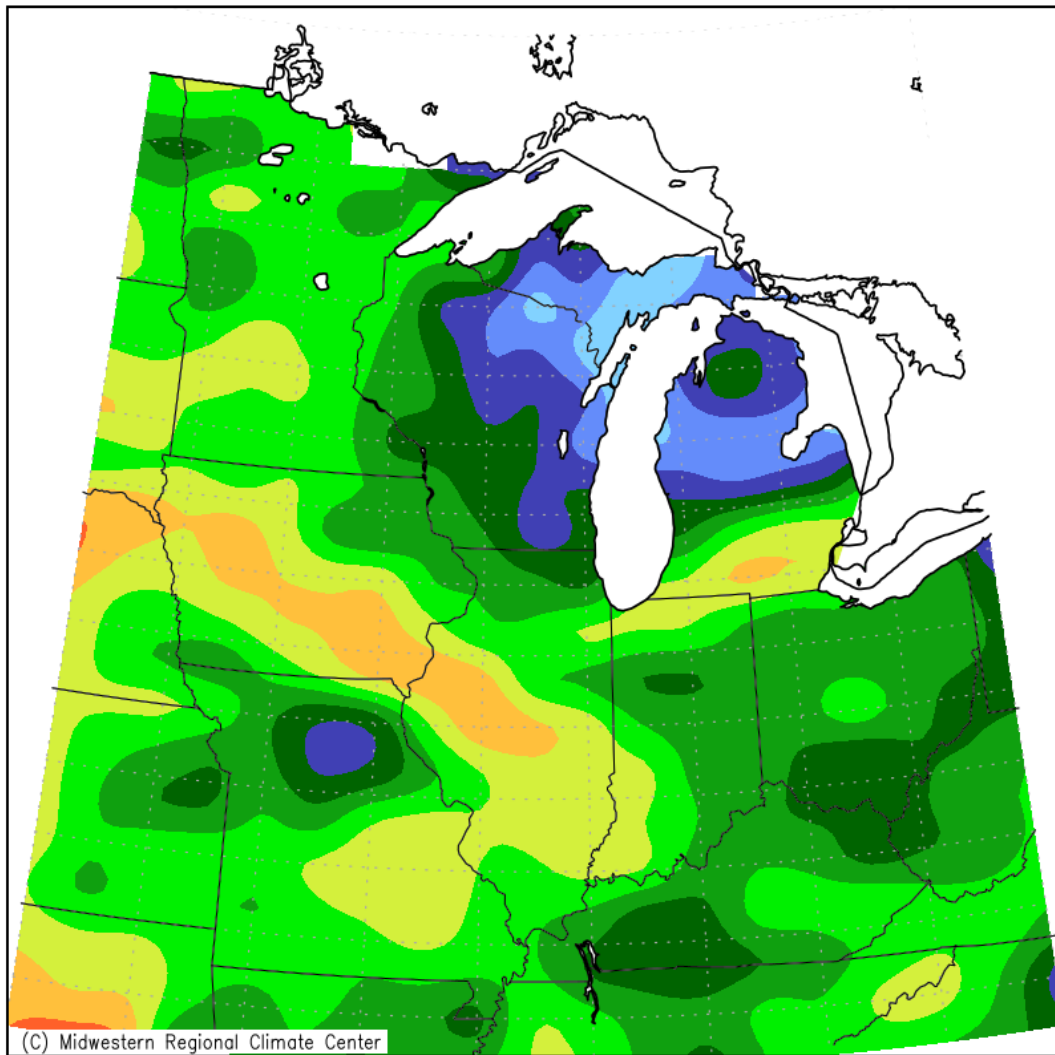
Accumulated Precipitation (in)
June 1, 2017 to June 30, 2017



Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

Figure 1. June Monthly Precipitation Totals

Accumulated Precipitation: Percent of Mean
June 1, 2017 to June 30, 2017



Midwestern Regional Climate Center
Illinois State Water Survey, Prairie Research Institute
University of Illinois at Urbana-Champaign

Figure 2. June Percent of Mean of Accumulated Precipitation

Hydrologic Products issued this month:

- 30 Hydrologic Summaries (ARBRVAGRR)
- 1 Probabilistic Hydrologic Outlook (ARBESFGRR)
- 4 Areal Flood Warnings (ARBFLWGRR)
- 3 River Flood Warnings(ARBFLWGRR)
- 2 Areal Flood Watch (ARBFFAGRR)
- 30 Daily River and Lake Summary (ARBRVDGRR)
- 2 Hydrologic Statements (ARBRVSGRR)
- 6 River Flood Warning Statements (ARBFLSGRR)
- 15 River Flood Advisory Statements (ARBFLSGRR)
- 15 Areal Flood Advisory Statements (ARBFLSGRR)

Isabella County, Mt. Pleasant communities begin flood recovery efforts

By Sean Bradley, Sbradley@digitalfirstmedia.com, [@MorningSunSean](https://twitter.com/MorningSunSean) on Twitter

Saturday, June 24, 2017



The floor in Lisa Cox's basement-level apartment is still wet, while items such as furniture are turned over and piled up to avoid the getting. Cox, a resident of Woodside Apartments in Mt. Pleasant, is taking shelter at the Red Cross center at Mt. Pleasant High School. A sufferer of Lupus, Cox now worries about mold in her apartment as a result of flooding that occurred Thursday night into Friday, causing "It just poured in because the windows weren't properly secured," Cox said. "It poured in like you're pouring the ocean in." The flooding was caused by heavy rainfall overnight Thursday into Friday; a state Department of Environmental Quality report indicated 5 Late Friday, the State of Michigan [declared a state of disaster](#) for both Isabella and Midland counties, which is also experiencing flooding. Mt. Pleasant police chief Paul Lauria said Saturday the amount of flood damage is being assessed, both in dollars and in types of damage.

"Our efforts, now, are focused on damage assessment," Lauria said.

A damage assessment plan is being created and will be released to the public once it is complete.

In the city, the West Broadway Street bridge is closed as a precaution, he said.

"(It's) due to water coming up to the bottom of the structure of the bridge," Lauria said.

Additionally, he said the city's wastewater and water treatment plants are operating normally.

However, he advised against any contact with the Chippewa River, which experienced a sanitary sewer overflow from 1-8 p.m. Friday, the DEQ report indicated.

Isabella County Central Dispatch confirmed a report that the bridge at M-20 between Meridian and Nottawa roads is closed and washed out, with water over the road.

It also indicated [17 roads are still closed](#); on Friday, the county indicated there were, at most, [90 roads closed](#).

Lauria said there are no roads under water in the city.

Victoria Jackson, a Mt. Pleasant resident, is also staying with the Red Cross while her nearby apartment becomes livable again. She and her children lost brand new furniture, clothes

"As it rose, it started coming through the windows and the floors," said Jackson, who also had her children with her. "We were out pushing cars (through the water)."

But she feels reassured by the help of the Red Cross, which is providing basic needs such as shelter, food and medical help as well.

The shelter manager and Red Cross volunteer Shawn Scott-Fitzgerald said that as of Saturday morning, there were 12 people registered to stay at the shelter.

"We're trying to provide as much care and comfort as we can. Whether it's big or small, to every person that's being effected, it's devastating," Scott-Fitzgerald said.

The shelter will remain open as needed and will provide a notice up to 24 hours in advance of it closing.

Rain fell - heavily at times - on Saturday, but the National Weather Service in Grand Rapids indicates there is no chance of more flooding on the level the counties already experienced.

"The stuff we're getting now is small-scale stuff," said meteorologist Ernie Ostuno.

The National Weather Service issued a [flood advisory](#) until 6 p.m. Saturday, while a flood warning continues for the Chippewa River until Tuesday morning.

Through all of the chaos the flooding has caused, Isabella County Central Dispatch reported no one has been hurt by the flooding.

Lauria commented on the nature of the disaster.

"My experience is dealing with incidents that may impact a portion of the city, but when you're talking about a storm that blankets the city and county, it's overwhelming," he said.

However, Lauria said a saving grace has been the coordination of recovery efforts by various city, county and state agencies. "

"The coordination has been truly great," he said.

Flood Waters Continue to Impact Mt. Pleasant Area

Posted: Jun 24, 2017 7:41 PM EST
Updated: Jun 24, 2017 7:42 PM EST

By Charles Lupo, Producer/Photojournalist CONNECT



The flood waters are starting to recede in Isabella County, but a massive cleanup effort remains and dozens of roads remain closed.

Saturday afternoon we learned M-20 between Nottowa and Meridian roads is now closed due to water covering the road.

And more concerns over E. Coli in the flooded waters covering areas of the city is rising.

As flood waters recede around Mount Pleasant, people living in the area continued to survey the damage, including in the flooded Island Park.

"From what I see it's just going to be a little flood water damage maybe some sticks and twigs. I'm not going to walk through this river you don't know what is in these rivers," said Ric Woods who came out to see the damage.

It's also been a busy 48 hours for plumbers like Steve Sandel.

"We have been installing sub pumps back up sub pumps relegating water heaters and making sure everything is dry. The biggest this is to get your basements dry before mold starts growing," said Sandel.

City officials urged everyone to stay out of the water around the Chippewa River after untreated sewage began to seep into it.

"We have multiple places where sewage backing up into people's homes and we had to cap of some lines so we could pump the water out. Stay out of the waters because of the E. Coli until it's deemed safe," noted Sandel.

The water treatment plant was able to contain the untreated sewage but not until after it entered the flood waters. Sandel says days of work remain for the hundreds of people impacted around Isabella County.

"Everyone's toilets went into the river so I learned years ago not to swim in the river," noted Woods.

The river will be tested for E. Coli next week after the water has receded to see if it's safe to be in.

Heavy Rain Causes Flooding, Road Closures In Isabella, Midland County

Posted: Jun 23, 2017 4:40 AM EST
Updated: Jun 23, 2017 11:49 AM EST

By Cody Boyer, Reporter [CONNECT](#)

Heavy Rain Causes Flooding Across Central Michigan

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Several roads are closed in Isabella and Midland counties after a strong band of storms moved across the state.

Mount Pleasant is one of the places hit hard by the storm, with flooding reported on Bellows Street.

Pictures sent to us by viewers show water covering the parking lot, sidewalk and curb.



Some neighborhoods in Mount Pleasant are seeing water as high as car windows.

We have also gotten reports of many homes and businesses suffering water damage.

Scott Schmiere's detailing company is one of them.

"When we get hard rains like we've had, it does puddle up like this. But this is the worst that I've seen it in a short period of time," said Scott, E&S Detailing.



The DPW and emergency manager are meeting at city hall, going over what to do next and organizing relief efforts.

Stay with us throughout the day. We will keep you updated both on air and online as the situation continues.

Isabella County Central Dispatch says several roads are closed including portions of M-20, Baseline, Mission and Blanchard.



MDOT says US-127 is closed NB at I-20 Exit 143 due to flooding.

Several roads are closed in Midland County, including several in the city of Midland.

For a complete list of Midland County road closures, [click here](#).

For a complete list of Isabella County road closures, [click here](#).

Drivers are being advised to stay off the water covered roads in both Isabella and Midland county.

To view the Consumers Energy Outage map, [click here](#).

To view the Great Lakes Energy Outage map, [click here](#).

Isabella Emergency Management, FEMA assessing flood damage

Officials, volunteers going door-to-door

By Susan Field, sfield@michigannewspapers.com, [@sfield_msun](https://twitter.com/sfield_msun) on Twitter

Sunday, June 25, 2017



As Isabella County residents cope with flooded basements and other issues arising from Thursday night's heavy rainfall, federal officials are helping emergency management officials in assessing the damage.

Isabella County Emergency Management and certified assessors from the Federal Emergency Management Agency on Sunday started going door-to-door to conduct a preliminary assessment of storm damage in areas believed to have been impacted by the flooding. County Administrator Margaret McAvoy said in a media release issued Sunday.

Assessors wearing identifiable vests are providing the service in cooperation with the county's disaster response.

Collecting the preliminary information is necessary to fulfill the requirements of the state's declaration of emergency, McAvoy said.

It will help state officials determine if assistance will be granted after roughly 5 to 7 inches of rain fell Thursday night and Friday morning in Isabella and Midland counties.

If officials determine that assistance is available to residents or property owners through the state, more information will be provided to guide resident with storm damage about the process and procedures involved, McAvoy said.

Residents and owners of damaged properties are urged to call 989-779-1452 if they do not get a visit from a volunteer or assessor on Sunday.

In addition to FEMA officials and emergency management assessing damage, Isabella County Central Dispatch sent a recorded telephone message to residents Sunday afternoon, warning of the dangers of hiring unlicensed contractors to repair any damages.

"Unscrupulous, unlicensed contractors often prey on victims of natural disasters," according to the message, which was also posted on the dispatch Facebook page. "Residents should work with their insurance company when hiring contractors.

"Residents should ask for proof of Michigan licensure and insurance for prospective contractors."

As emergency crews were at work in Isabella County, State Rep. Roger Hauck, R-Mt. Pleasant, U.S. Rep. John Moolenaar, R-Midland, Michigan Attorney General Bill Schuette and other state and county officials on Sunday asked Gov. Rick Snyder to request an emergency declaration from FEMA for both counties.

Following Midland and Isabella Counties declaring emergencies on Friday, a state disaster was declared, allowing state dollars to assist in clean-up efforts. However, mid-Michigan leaders are concerned that the cost and scope of the damage may require additional federal assistance, according to a media release issued Sunday afternoon by Schuette.

"I urge the governor to ask for federal assistance so Midland and Isabella Counties and the surrounding region will have access to federal resources to recover and cleanup in response to this flooding," said Moolenaar.

Schuette is concerned that state funding will not be sufficient for repairing the damages.

"Hundreds of homes, businesses, farms, roads and bridges have been heavily damaged from the raging flood waters, and federal assistance is needed to help families throughout Midland and Isabella Counties recover," said Schuette. "We all encourage Governor Snyder to work with FEMA to ensure we have the resources to cleanup and rebuild damaged homes, businesses and infrastructure."

Consumers Energy has been also working with officials in Isabella and Midland counties to disconnect natural gas service to more than 100 customers and electricity to 60 customers since Friday morning.

Gas and electricity were disconnected for safety reasons and to prevent damage.