



SPOTTER NEWSLETTER

Fall 2020



SKYWARN

Upcoming Dates

- October 28 – Winter Spotter Webinar
- November 8-14 – Michigan Winter Hazards Awareness Week
- December 5-6 – Skywarn Recognition Day

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Hello and Happy Fall from all of us at the NWS Detroit/Pontiac office! We thank you for all your help this past spring and summer. While this year has been on the quiet side of severe weather averages, we still received over 150 severe weather reports which helped us issue timely and accurate warnings.

It's that time of year again when the days are quickly becoming shorter, the leaves are falling, and the air has taken on that all-too-familiar chill. To the joy (or dismay) of many, snow will soon be falling once again!

This issue contains a review of the 2020 severe weather season and summer climate, info on our upcoming winter spotter webinar, winter spotter reminders, articles on NOAA's 50th birthday and the newly-operational Winter Storm Severity Index (WSSI), plus more!

SE Michigan Severe Stats:

Stat	2020 (through Oct. 21)	Average (2008-2019)
Warnings Issued	68	97
Severe Reports Received	152	189
Severe Weather Detection Rate	87%	82%
Average Lead Time	25.8 min	25.9 min
Tornadoes	0	5

Onsted, June 10
(Ryan Harriott)



Midland, April 7
(Lisa Stanick)



Notable Events this Season:

Date	Warnings Issued	Severe Reports Received	Web Summary
4/7/20*	13	26	Link
6/10/20*	17	55	Link
7/19/20	8	22	Link
8/28/20	6	10	Link

*Brief summary included on following pages

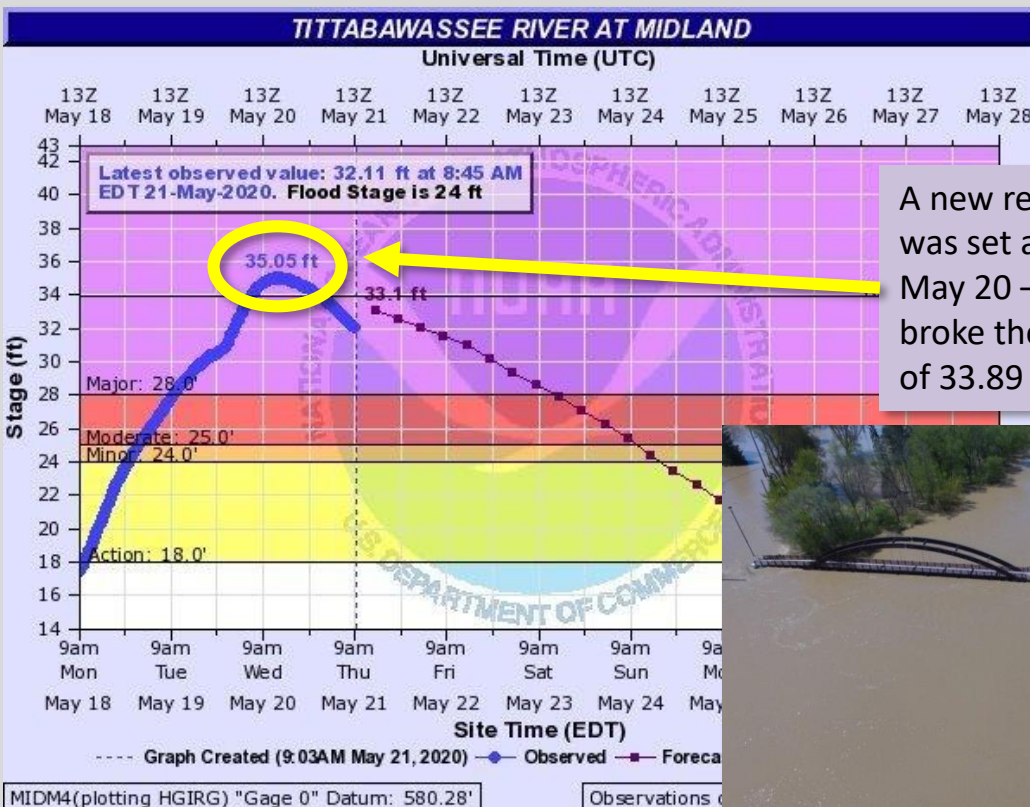


A stalled low pressure system caused a prolonged period of heavy rainfall across the area, particularly Mid-Michigan, in May. Locations in Bay, Midland, and Saginaw Counties received 4 to 5 inches of rain in 48 hours, while areas just to the north received up to 8 inches. This resulted in the catastrophic failures of the Edenville and Sanford Dams along the Tittabawassee River, which led to historic flash flooding in the communities of Edenville, Sanford, and Midland. Approximately 10,000 people were evacuated and the floods caused over \$200 million in damage.



Edenville Dam Failure
(Midland Daily News)

[Link to Web Story](#)



A new record flood stage was set at Midland on May 20 – **35.05 ft**. This broke the previous record of 33.89 ft from 1986.

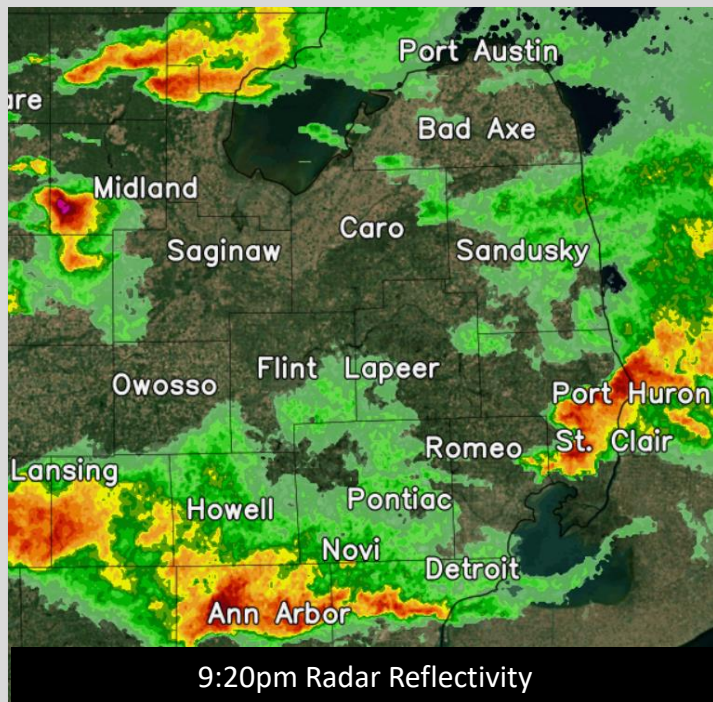
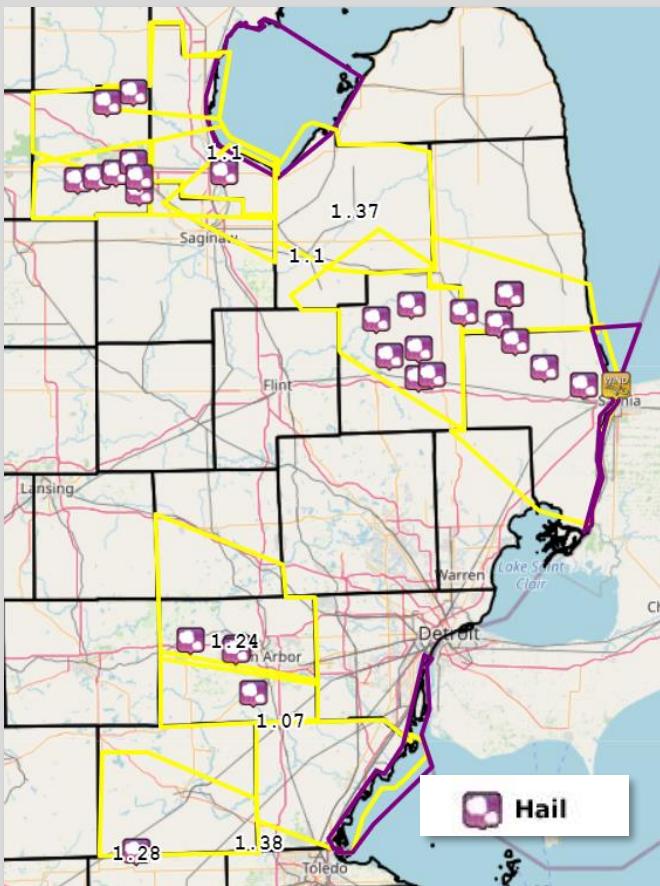


Midland, MI
(WNEM)



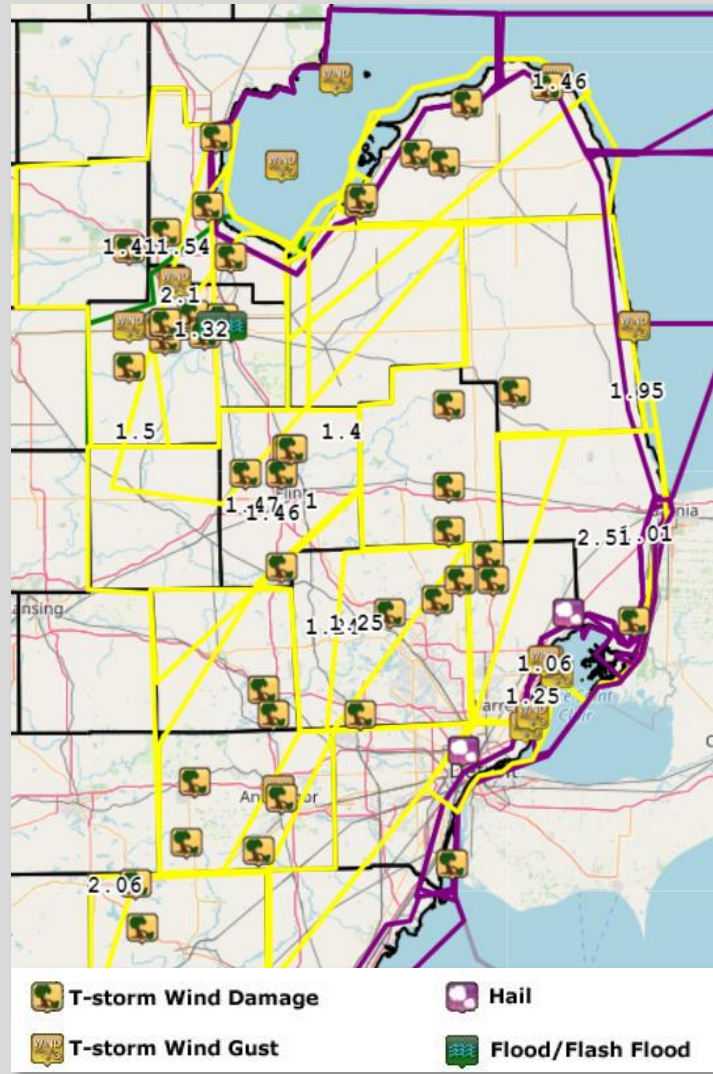
April 7 Severe Summary

In the first severe weather event of the season, a warm front brought a very unstable air mass into the area. Strong upper level dynamics moved in during the afternoon and evening and helped lead to scattered severe storms across the region. There were two areas hit particularly hard during the event. The first stretched from the Tri-Cities southeast into southern portions of the Thumb. The second occurred mainly across a stretch that included Livingston, Washtenaw, Lenawee, Monroe, and Wayne Counties. At times, some thunderstorms exhibited rotation although there were no confirmed reports of funnel clouds or tornadoes. The main severe weather report was large hail, with some locations seeing hail up to 2 inches. Many other locations saw dime to quarter size hail.



June 10 Severe Summary

The remnants of Tropical Storm Cristobal ushered a very warm and humid air mass from the Gulf of Mexico to Michigan on June 9. On June 10, a strong upper level system swept across the region and numerous severe storms developed. A bowing segment rapidly moved through the Saginaw Valley and caused widespread wind damage early in the afternoon. Numerous other areas reported wind damage as storms tracked through over the next few hours. Impacts included over 450,000 customers losing power due to downed trees and wires, flooding of I-75 in Saginaw due to training storms, and severe hail in a few areas including downtown Detroit.



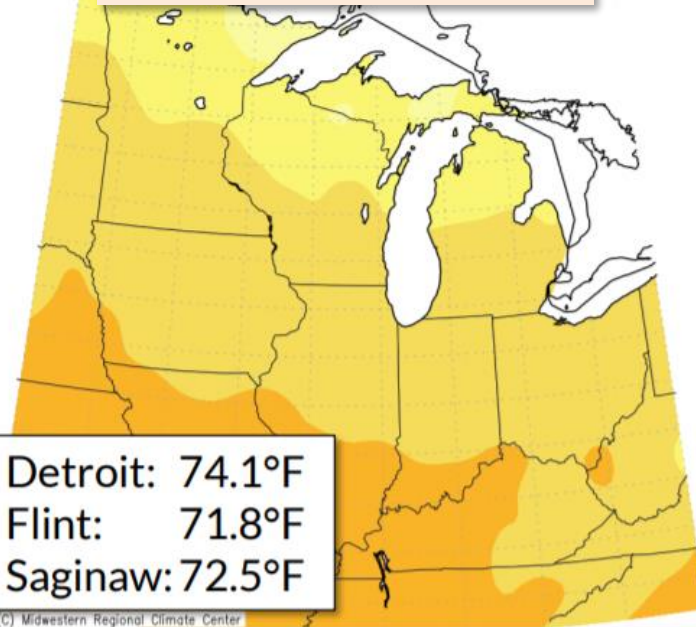
A wind gust of 69 mph was measured at MBS Airport in Freeland!



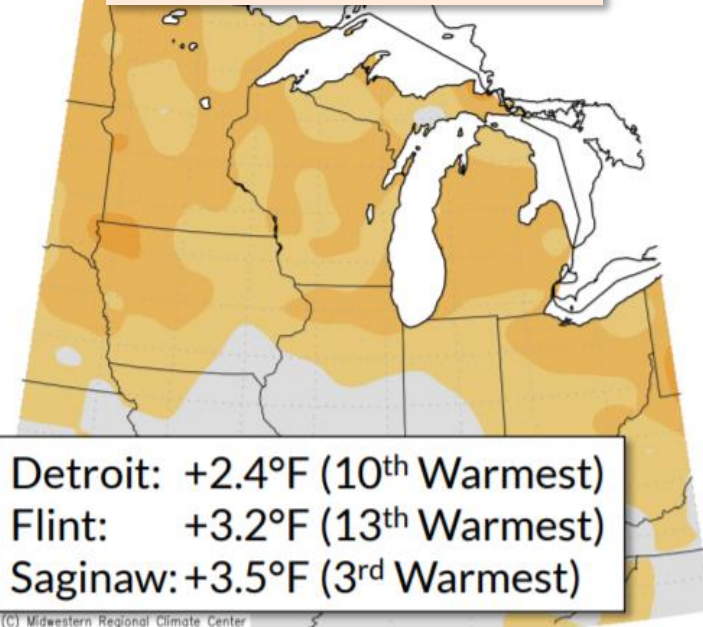
Chelsea, MI
(Bill Rapai)



Average Temperature



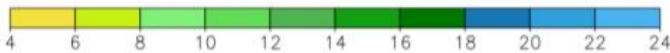
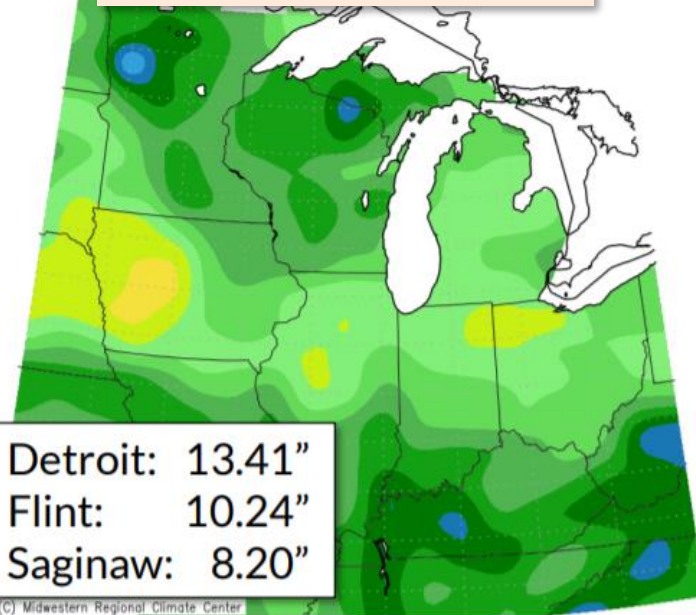
Departure from Normal



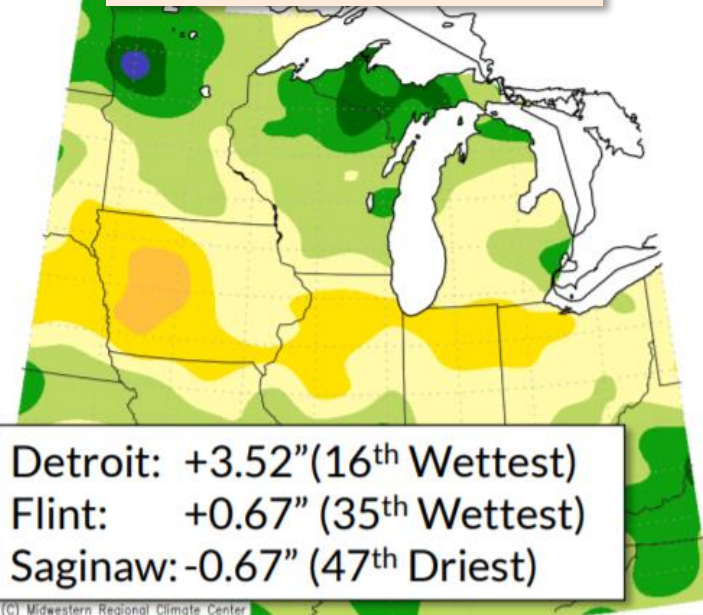
Mean period is 1981-2010.



Total Precipitation



Percent of Mean



Mean period is 1981-2010.



Maps courtesy Midwestern Regional Climate Center

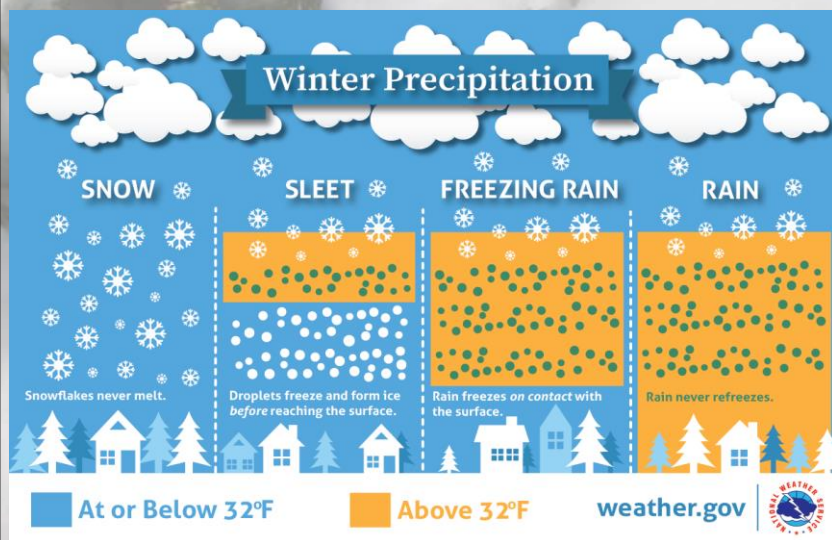
[Link to Web Summary](#)

A virtual winter spotter training course will be held on
Wednesday, October 28, 2020
7:00 – 8:30 pm

Pre-registration is required

Topics Covered:

- Review of last year's winter weather
- Outlook for the coming winter
- Severe winter weather such as:
 - Snow,
 - Freezing rain
 - Snow squalls
 - High winds
 - Flooding
 - And more!
- Winter spotter reporting guidelines
- Winter weather safety information.



Webinar Registration Steps:

1. Register for the webinar via the link listed below.
2. You will receive a confirmation email. Use the link in this email to join the webinar a few minutes before 7pm on October 28.

Registration link and additional info:

weather.gov/dtx/SkywarnWebinar



Reporting Methods:



1-800-808-0006

Reports ONLY – answered 24/7



NWSDetroit *

*



@NWSDetroit *

#miwx

*



nwslidtx@noaa.gov *

*

There are many forecast challenges involved with winter storms. Snowfall amounts and precipitation types can vary drastically over short distances! Timely and accurate reports from our spotters are vital to our operations and help ensure that our forecast is on track.

*** Send photos!**

Snow – nearest tenth of an inch (e.g. 3.4")

- When the first inch has fallen, then each additional two inches
- Storm total snowfall
- 12-hour snowfall amounts around 8am and 8pm



Flooding

- Any flooding that covers roads, impedes traffic, or threatens property
- Ice jams/blockages



Rain – nearest hundredth of an inch (e.g. 1.78")

- Amounts of one inch or greater over 24 hours



Dense Fog

- Visibility of a quarter mile or less
- When fog is impacting travel



Ice – nearest tenth of an inch (e.g. 0.2")

- Any freezing rain or sleet
- Ice that is having impacts on travel, damaging trees, and/or downing power lines



High Winds

- Wind gusts of 40 mph or greater
- Any damage caused by strong winds (trees, roofs, siding, etc.)



La Niña is ongoing heading into this winter and is forecast to continue into the spring. This pattern favors a storm track across the northern portion of the country, thus the Great Lakes region will have a higher chance to see above normal precipitation this winter.

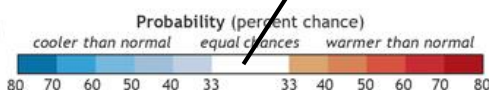
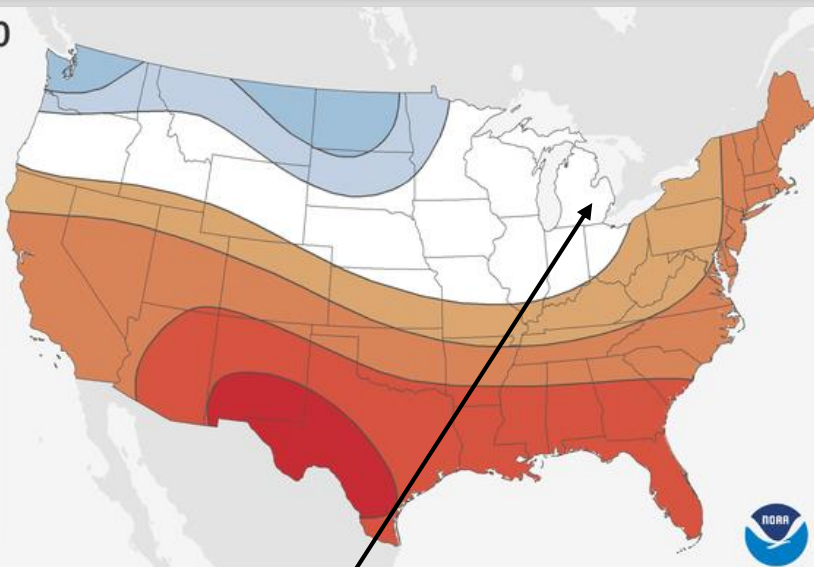
[Read more in the article on Climate.gov](#)

Winter 2020

U.S. Temperature Outlook



AK and HI not to scale



NWS Climate Prediction Center
Map by NOAA Climate.gov

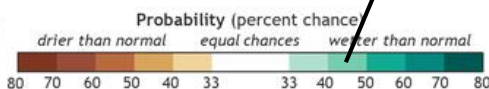
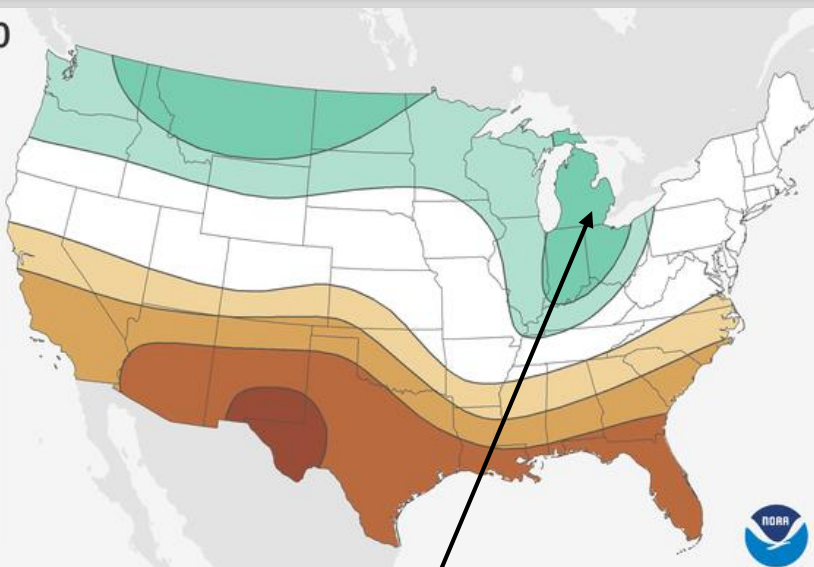
Southeast Michigan has **equal chances** of seeing above normal, below normal, or near normal temperatures this winter.

Winter 2020

U.S. Precipitation Outlook



AK and HI not to scale



NWS Climate Prediction Center
Map by NOAA Climate.gov

Southeast Michigan has a **40-50% chance** of seeing above normal precipitation this winter. Note: this is not a snowfall outlook.



“Sneaky” Winter Hazards

The winter season brings many weather events that can “sneak” up on you. These are weather hazards that can cause big impacts and make travel difficult without making big news.



flash freeze
Wet roads can freeze quickly at night or when there is a rapid drop in temperature behind a cold front.

safety tips

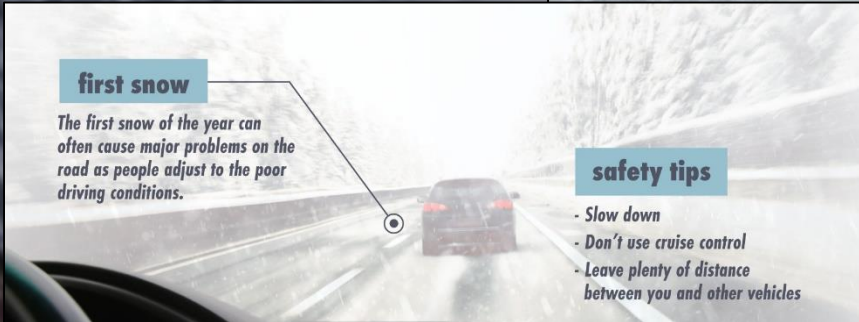
- Slow down
- Don't use cruise control
- Leave plenty of distance between you and other vehicles



freezing drizzle
The fine layer of ice that forms during freezing drizzle may be hard to notice on the road, but it is one of winter's most dangerous types of weather.

safety tips

- Slow down
- Don't use cruise control
- Leave plenty of distance between you and other vehicles



first snow
The first snow of the year can often cause major problems on the road as people adjust to the poor driving conditions.

safety tips

- Slow down
- Don't use cruise control
- Leave plenty of distance between you and other vehicles



rain with a temperature near freezing
Ice can form on roads and lead to dangerous travel when the air temperature or road temperature drops below freezing.

safety tips

- Slow down
- Don't use cruise control
- Leave plenty of distance between you and other vehicles



snow squalls
There is a long history of deadly traffic accidents associated with these intense snow events that are accompanied by strong winds and a quick reduction in visibility.

safety tips

- Avoid or delay motor travel until the squall passes
- Reduce your speed, turn on your headlights and hazard lights, and try to exit the road





Link to the website

www.cocorahs.org

CoCoRaHS

CoCoRaHS stands for the Community Collaborative Rain Hail and Snow Network. This program is separate from the National Weather Service spotter network. The program is a national program and the precipitation reports are shared among the National Weather Service and other government agencies, the media, and educational institutions. Participants in this program report their 24-hour rain and/or snow reports every morning around 7 am on a website.

The CoCoRaHS website has several resources for training on how get started a measure winter precipitation.

Training Materials

“In Depth” Snow Measuring

<https://cocorahs.org/media/docs/measuringSnow2.1.pdf>

Measuring Ice Accretion

https://www.cocorahs.org/media/docs/Training_IceAccretion.pdf

Animated Training Video Shorts

<https://www.youtube.com/playlist?list=PL86DC4C330F518387>

More [online training slide shows](#).



Who Uses CoCoRaHS data?

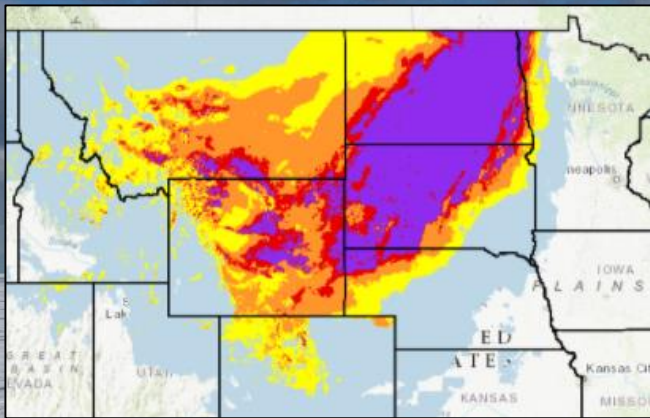
- Weather Forecasters
- Hydrologists
- Water Management
- Researchers
- Agriculture
- Climatologists
- Engineering
- Recreation
- Insurance Industries
- ...and many others!



WSSI Scale

Potential Winter Storm Impacts

No Impacts Impacts not expected.
Limited Impacts Rarely a direct threat to life and property. Typically results in little inconveniences.
Minor Impacts Rarely a direct threat to life and property. Typically results in an inconvenience to daily life.
Moderate Impacts Often threatening to life and property, some damage unavoidable. Typically results in disruptions to daily life.
Major Impacts Extensive property damage likely, life saving actions needed. Will likely result in major disruptions to daily life.
Extreme Impacts Extensive and widespread severe property damage, life saving actions will be needed. Results in extreme disruptions to daily life.



On September 29, 2020, NWS transitioned its experimental [Winter Storm Severity Index \(WSSI\)](#) for 116 Weather Forecast Offices (WFOs) across the contiguous United States to operational status. The WSSI provides NWS forecasters, partners, and the public with an indication of the severity of winter weather hazards and the potential for related societal impacts. The index uses official forecasts for several meteorological variables from the National Digital Forecast Database (NDFD) and combines them with climatological information and non-meteorological variables (e.g., land use). These variables are used in a series of algorithms related to specific characteristics of winter weather. The WSSI does not depict official warnings and should always be used in context with official NWS forecasts and warnings. The WSSI will be updated every 2 hours at approximately 0100 Coordinated Universal Time (UTC), 0300 UTC, 0500 UTC, etc. No communication system changes are required to view this web-based information. Additional information is provided in the [Product Description Document \(PDD\)](#).

It is NOAA's 50th Birthday!



NOAA's National Weather Service protects lives and livelihoods by remaining at the forefront of weather science, providing forecasts, giving information to decision makers and preparing communities for weather, water, and climate-related events. Our forecasts and warnings help everyone become a part of a [Weather-Ready Nation](#). This year marks the 150th Anniversary of the National Weather Service and the 50th for the National Oceanic and Atmospheric Administration. Enjoy this [story map](#), which celebrates our heritage of science and service and shows how it shaped some of our recent achievements.





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