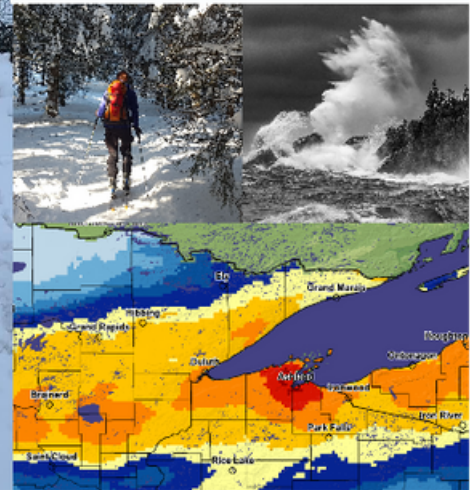


WEATHER READY NORTHLAND

December 2023

NWS Duluth, MN

Issue 11



Inside the Issue

WINTER STORM CRITERIA

This winter we will be using new snowfall criteria for what is a winter storm! More information on page 2

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Answer, page 3

JOIN COCORAHS!

Help us get the best rain and snow measurements around!
Here's how: page 3

Virtual Weather Talks with a Meteorologist

Teachers:

The NWS National School Outreach team is ready to teach and answer your weather questions!

- Private & Public Schools
 - Elementary Schools
 - Middle Schools
 - High Schools
- After School Programs
- Home School Groups
- Libraries
- Boy & Girl Scouts



Sign up: www.weather.gov/education/school-outreach



Topics include: Basic Weather - Severe Weather - Ask a Meteorologist - Climate Change - Space Weather - Hydrology - Spanish options available.



The NWS National School Outreach team is ready to teach and answer your weather questions through virtual interactions with meteorologists! We are happy to present to both Public and Private schools, After School and Home School Groups, Libraries and Scouts. All you need is a webcam, internet connection, and a microphone! For more information and to sign up, visit www.weather.gov/education/school-outreach



NEW! WINTER STORM WATCH/WARNING SNOW CRITERIA

Beginning this winter, the National Weather Service Duluth MN Forecast Office will be using new Winter Storm Watch/Warning Criteria for Heavy Snow across its County Warning Area of responsibility. This is part of a national effort to remove non-meteorological discontinuities across County Warning Areas and to better align watch/warning snowfall criteria to the local climatology of the region.

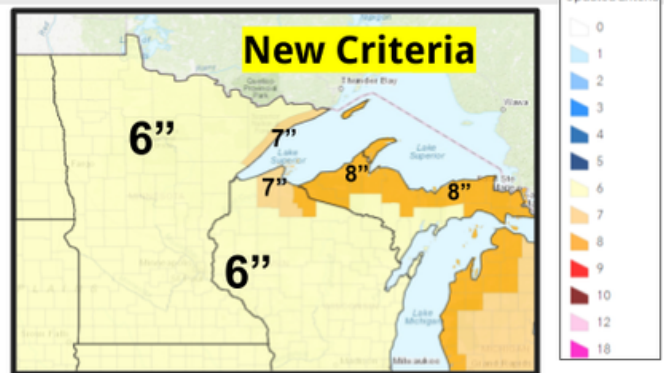
Visit https://www.weather.gov/wrn/winter_safety for useful winter safety information you can share!

Historically, the National Weather Service Duluth MN County Warning Area snowfall criteria was partitioned into different 12- hour and 24- hour criteria. The new criteria will no longer be dependent on the time-frame of the snowfall, allowing for a more event-driven approach to messaging. This new paradigm maintains and encourages the ability to issue or withhold watches and warnings in anticipation of expected impacts or lack thereof.

NEW Winter Storm Watch/Warning Snow Criteria

Minor Change to Snowfall Criteria effect immediately

Old Criteria	New Criteria
6"/12 hours 8"/24 hours	<p>6" in an "event" for: MOST of MN & WI except below</p> <p>7" in an "event" for: Southern Lake/North Shore Southern Cook/North Shore Bayfield County Ashland County</p> <p>8" in an "event" for: Iron County</p>



Event-Based Heavy Snow Watch/Warning Criteria
Map at <http://www.weather.gov/snow-criteria>

NWS Duluth research finds **this will not be a significant change in how often we issue Winter Storm Watches/Warnings** - this is just a slight adjustment to that better reflects snowfall climatology

What is an "event"? A flexible time period encompassing an entire storm, not to exceed 48 hours. (Determined by meteorologists on a storm-by-storm basis.)



National Weather Service
Duluth, MN

There will be no changes to the Winter Weather Advisory snowfall criteria, which is: snowfall of (3-5" in 12 hrs, or 5-7" in 24 hrs), freezing rain (<1/4 inch), or a combination of wind-driven snow, sleet, and/or freezing rain, or sleet accumulating <1/2 inch. These events are expected to cause a nuisance to daily life and travel around the region, but do not exceed warning criteria.

Blizzard Warnings are entirely different, and have an additional wind and visibility component. Blizzard conditions must meet the following criteria: Sustained wind or frequent gusts greater than or equal to 35 mph, accompanied by falling and/or blowing snow to frequently reduce visibility to less than 1/4 mile for three or more hours.

For more information on winter weather warnings, watches and advisories, visit <https://www.weather.gov/safety/winter-ww>

For any questions, please contact: Joseph Moore, Warning Coordination Meteorologist
joseph.moore@noaa.gov, 218-729-6483 x726



To join, visit <https://www.cocorahs.org>

JOIN COCORAHS!

CoCoRaHS (the Community Collaborative Rain, Hail, and Snow network) is a non-profit network of volunteer rain, hail, and snow observers. Many report precipitation daily, some report occasionally. Anyone can participate and must use a “standard” four-inch diameter rain gauge.

The number 1 reason to join? Your reports are used every single day by NOAA/NWS (us), state DNR, agriculture, researchers, climatologists, engineers, the insurance industry, and many, many more! The observations help us verify our forecasts, calibrate radar rainfall estimates, forecast flash flood and river floods, and understand local effects including effects of terrain and lakes. Visit <https://cocorahs.org> for more information.



HOW MUCH RAIN OR SNOW HAS FALLEN?

How are rain and snow measured? Here at the NWS, Rain and melted snow are measured with a Standard Rain Gauge! A Standard Rain Gauge is 8 inches in diameter, and has a funnel into a 2.5" diameter tube to give us a volume ratio of 10 to 1. So, when you see us measuring rainfall, the amount appears magnified compared to the amount we are reporting in any photos we may share. We use a special stick with this gauge, and we can get accurate measurements to the nearest hundredth of an inch. This gauge is used



An NWS Rain Gauge

at NWS weather offices everywhere in the United States, so it can measure up to 20" of rain between measurements! Most rain gauges that you can buy at garden centers and home improvement stores do not have this magnification factor, making it harder to get accurate measurements to the hundredth of an inch. One exception is the CoCoRaHS recommended rain gauge, which has an inner funnel like the one the NWS uses, just in a smaller size. When snow falls, we remove

A CoCoRaHS rain gauge



the plastic inner tube and funnel to avoid having them break in the cold weather so the snow falls directly into the big metal can. We bring the can and the snow that fell into it indoors, melt the snow, and measure it to get the liquid equivalent of the snow. At the same time, we measure the snow depth that has fallen, of both the new snowfall, and the existing snow depth. In preparation for winter, we put out snow boards. Snow boards are white boards that we clear off each time it snows so we can get the new snowfall amounts. For snow depth, we measure the snow in areas

where blowing and drifting are minimized. Then, we choose several different locations to measure the snow depth, and then average those values. Here at NWS Duluth, we have several locations around the office “yard” where we measure snowfall and snow depth.



Measuring snowfall

WEATHER READY NATION AMBASSADORS

The National Weather Service office in Duluth, Minnesota is calling on community organizations and agencies to become Weather-Ready Nation (WRN) Ambassadors. WRN Ambassadors help in spreading WRN messages and building community resilience to extreme weather.

This goal requires more than just the National Weather Service. It requires the entire community, its government, organizations and businesses to provide information for better decision making, and innovative partnerships across all segments of society. Everyone should be involved in the effort to move people and society, toward heeding warnings, taking action, and influencing their circles of family, friends, and social network to act appropriately.

As a WRN Ambassador, you will serve as a leader in your community. You will inspire others to be better informed and prepared, helping to minimize or even avoid the impacts of these natural disasters.

To officially be recognized as a WRN Ambassador, an organization must commit to:

- Promoting Weather-Ready Nation messages and themes to their stakeholders;
- Engaging with National Weather Service Duluth personnel on potential collaboration opportunities;
- Sharing their success stories of preparedness and resiliency;
- Serving as an example by educating employees on workplace preparedness.

Together, we will inform and empower communities, businesses, and people to make pre-event decisions that can be life-saving and prevent or limit devastating economic losses. We are a nation of many communities, and it is only through connected communities that we will achieve this goal.

To become a WRN Ambassador, visit <https://www.weather.gov/wrn/amb-tou>

For more information, contact our Liaisons!



Welcome to NEW Ambassadors

Itasca County

St. Croix Chippewa Indians of Wisconsin

REM Wisconsin Hasani Program

United States Forest Service, Northern Research Station,
Grand Rapids Office

Congressman Pete Stauber

Minnesota DNR Law Enforcement Aviation

Weather-Ready Nation Ambassador Liaisons:
Linda Engebretson - linda.engebretson@noaa.gov
Woodrow Unruh - woodrow.unruh@noaa.gov