

## Weather Information

Weather information is critical to winter maintenance operations. Following the weather forecast and pavement temperature trends will help prepare you for winter events.

### Precipitation Type and Wind

Our maintenance strategies will depend on the type of precipitation we expect and the wind associated with it. Most notably, our use of anti-icing tactics is taken out of play when a rain precedes a snow event or when strong winds accompany the snow. This is only one example of changing tactics based on weather prediction.

### Pavement Temperature

Air temperature is what you see when you check the day's weather and is generally the same for all of your maintenance sites.

Pavement temperature will vary within an area depending on sunlight, shading, pavement materials and other factors. Pavement temperature will determine what amount and type of material should be applied. As pavement temperatures drop into extreme cold, deicers are removed from our tool kit and alternate strategies such as mechanical methods and abrasives should be employed.

***Pavement temperature is more important than air temperature.***

Pavement temperature can be measured with a no-contact, infrared temperature sensor. These devices can be hand-held or mounted to the side-view mirror on a truck. Hand-held sensors can be purchased for about \$50. Always calibrate a hand-held sensor by leaving it outside for 10 minutes before using. Never use a hand-held sensor while driving. Mirror-mounted sensors are at least 10 times more expensive, but they are less likely to get lost than a hand-held sensor and provide a continual data stream.

***Test your hand-held sensors by aiming at a glass of ice water- it should read 32°F***



Photo credit: Angie Dahl, Epic  
*Hand-held temperature sensor*



Photo credit: Bryan Johnson, Madison Streets Dept.  
*Mirror-mounted temperature sensor*

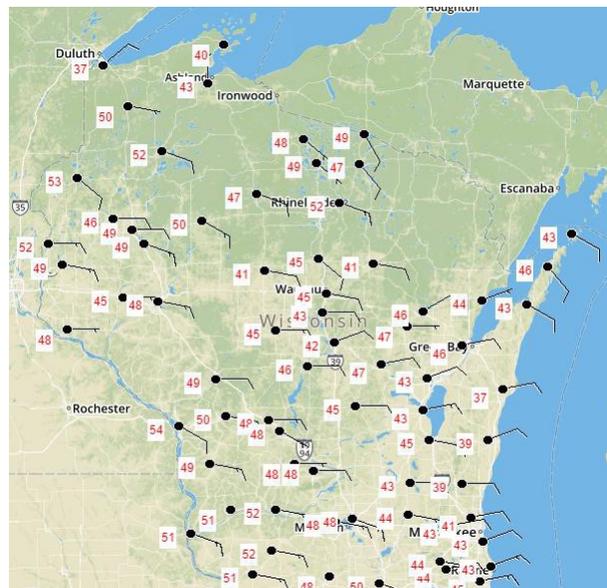
Road Weather Information Systems (RWIS) are available in many states. RWIS collects accurate and up-to-date road weather information. This information generates a forecast that includes pavement temperature, precipitation probability, snow rate and accumulation and other information. The RWIS site for Wisconsin is currently unavailable but is expected to be accessible winter 2019.

Dane 418 [USH 12/14, N jct. USH 14 to W jct. USH 18/151]  
 USH 12/14 - N jct. USH 14 to W jct. USH 18/151

Time (GMT-0600)	Temp	Precip Prob (%)	Snow Rate (in/hr)	Snow Accum (in)	Roadway		Wind		Precipitation		Vis Obsr	Time (GM)
					Pavement Temp	Snow Rate	Wind Speed (mph)	Wind Chill (°F)	Precip Prob (%)	Snow Rate (in/hr)		
on 9am	17	0	0.00	0.00	72	0.00	6	12	0.00	0.00	1.17	Mon 9am
on 10am	19	0	0.00	0.00	55	0.00	10	10	0.00	0.00	2.00	Mon 10am
on 11am	20	0	0.00	0.00	30	0.00	13	7	0.00	0.00	2.00	Mon 11am
on 12pm	19	0	0.00	0.00	10	0.00	16	4	0.00	0.00	2.00	Mon 12pm
on 1pm	19	0	0.00	0.00	5	0.00	17	3	0.00	0.00	2.50	Mon 1pm
on 2pm	19	0	0.00	0.00	0	0.00	17	1	0.00	0.00	5.00	Mon 2pm
on 3pm	17	0	0.00	0.00	5	0.00	16	-1	0.00	0.00	5.00	Mon 3pm
on 4pm	15	0	0.00	0.00	5	0.00	17	-4	0.00	0.00	5.00	Mon 4pm
on 5pm	12	0	0.00	0.00	5	0.00	14	-6	0.00	0.00	5.00	Mon 5pm
on 6pm	10	0	0.00	0.00	5	0.00	14	-9	0.00	0.00	5.83	Mon 6pm
on 7pm	8	0	0.00	0.00	5	0.00	12	-10	0.00	0.00	10.00	Mon 7pm
on 8pm	6	0	0.00	0.00	5	0.00	10	-11	0.00	0.00	10.00	Mon 8pm
on 9pm	4	0	0.00	0.00	5	0.00	8	-12	0.00	0.00	10.00	Mon 9pm
on 10pm	3	0	0.00	0.00	5	0.00	6	-13	0.00	0.00	10.00	Mon 10pm
on 11pm	1	0	0.00	0.00	5	0.00	6	-15	0.00	0.00	10.00	Mon 11pm
on 12am	2	0	0.00	0.00	5	0.00	8	-17	0.00	0.00	10.00	Tue 12am
on 1am	1	0	0.00	0.00	8	0.00	10	-18	0.00	0.00	10.00	Tue 1am
on 2am	0	0	0.00	0.00	5	0.00	11	-20	0.00	0.00	10.00	Tue 2am

Example of an hourly forecast generated by RWIS. Information, the new Wisconsin site may look different

MesoWest Data from the University of Utah is a good resource for weather information at a glance. As of July 2019, it did not show pavement temperature.



Example of a MesoWest temperature map