



Missed Winter

Twin Cities

- Contained in this presentation are the MANY ways we can show just how unprecedented the winter of 2023-2024. It rewrote the record book for warmth in numerous ways!





Average Temperature Ranking

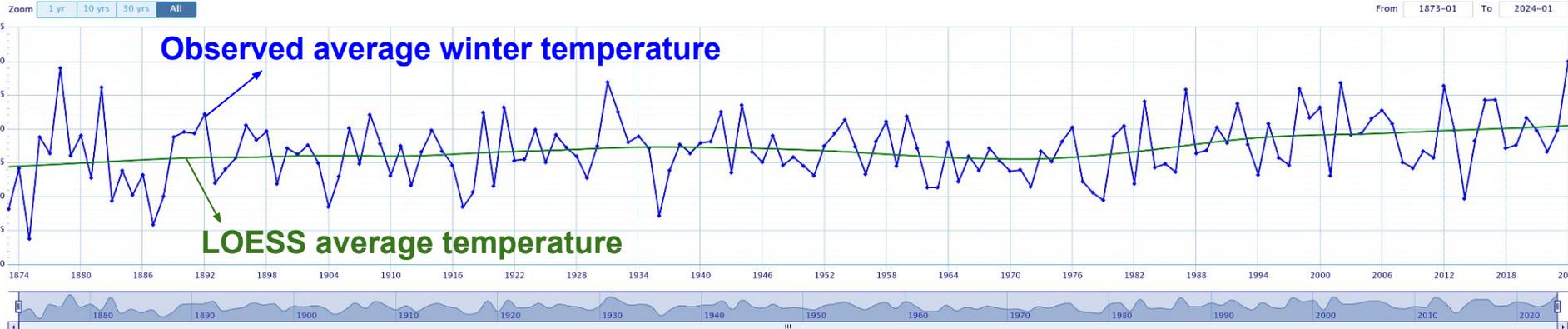
Temperature Records go back to 1872-1873

- We easily topped the winter of 1877-1878 (also a strong El Niño winter) for the warmest average temperature observed over the December through February period
- Green line (Local Regression Curve) is a running mean for the average (or normal) winter temperature
 - Current average is 20.4 degrees

Rank	Season	Mean Avg Temperature
1	2023-2024	29.9
2	1877-1878	29.0
3	1930-1931	26.9
4	2001-2002	26.8
5	2011-2012	26.3
6	1881-1882	26.1
7	1997-1998	25.9
8	1986-1987	25.8
9	2016-2017	24.3
10	2015-2016	24.2

Mean Avg Temperature - Minneapolis-St Paul Area, MN (ThreadEx)

Use navigation tools above and below chart to change displayed range



Powered by ACIS



Monthly Average Temperature Ranking

Temperature Records go back to 1872-1873

December

Rank	Year	Mean Avg Temperature
1	2023	34.3
2	1877	33.8
3	1913	30.5
4	2015	30.2
5	1959	30.1
-	1891	30.1
7	1931	30.0
8	1923	29.9
9	2006	29.1
10	1881	29.0

December 2023 was the warmest on record going back to December 1872

January

Rank	Year	Mean Avg Temperature
1	2006	28.6
2	1944	26.5
3	1990	26.2
4	1931	25.9
-	1880	25.9
6	2002	24.6
7	2012	23.3
8	1933	23.1
9	1898	23.0
10	1958	22.4

12 2024 22.1

A stretch of below normal temperatures from the 12th through the 21st kept January 2024 out of the top 10 warmest.

February

Rank	Year	Mean Avg Temperature
1	2024	33.3
2	1998	31.9
-	1931	31.9
-	1877	31.9
5	1954	31.7
6	1987	31.6
7	1878	31.5
8	2017	31.2
9	1882	30.4
10	2002	28.3

February 2024 was the warmest on record going back to February 1873



Number of 50 Degree or Warmer Daily Highs

Temperature Records go back to 1872-1873

- We more than doubled the previous record for number of days in December through February that saw highs hit 50 or higher
- Green line (Local Regression Curve) is a running average (or normal) of the number of 50 degree highs typically seen in the winter
 - The current average is 3 days

Rank	Season	Number of Days Max Temperature \geq 50
1	2023-2024	18
2	1980-1981	8
3	1999-2000	7
-	1939-1940	7
-	1930-1931	7
-	1881-1882	7
7	2016-2017	6
-	1998-1999	6
-	1941-1942	6
-	1929-1930	6

Number of Days Max Temperature \geq 50 – Dec through Feb – Minneapolis–St Paul Area, MN (ThreadEx)

Use navigation tools above and below chart to change displayed range





Number of 32 Degree or Colder Daily Highs

Temperature Records go back to 1872-1873

- This was one record the winter of 1877-1878 wasn't able to hold on to!
- Record for most sub-freezing highs is 83 in 1886-87 and 1874-75
- Green line (Local Regression Curve) is a running average (or normal) of the number of 50 degree highs typically seen in the winter
 - The current average is 55 days

Rank	Season	Number of Days Max Temperature <= 32
1	1877-1878	23
2	2023-2024	27
3	1881-1882	29
4	1986-1987	36
5	1943-1944	37
6	2001-2002	38
7	2011-2012	39
-	1991-1992	39
9	1918-1919	40
10	1953-1954	41

Number of Days Max Temperature <= 32 – Dec through Feb – Minneapolis–St Paul Area, MN (ThreadEx)

Use navigation tools above and below chart to change displayed range



Observed # of days with a high of 32 or less

LOESS average # of days with a high of 32 or less



Warmest Observed Winter High Temperature

Temperature Records go back to 1872-1873

- The warmest high this past winter of 65 came on February 26th
 - This is also the warmest temperature on record in February
- The high of 68 occurred on December 1, 1998
- Green line (Local Regression Curve) is a running average (or normal) of the warmest observed temperature during winter
 - The current average is 54 degrees

Rank	Season	Highest Max Temperature
1	1998-1999	68
2	2023-2024	65
3	1895-1896	64
4	2016-2017	63
-	2001-2002	63
-	1982-1983	63
-	1939-1940	63
-	1920-1921	63
9	1962-1963	62
10	1999-2000	61

Highest Max Temperature - Dec through Feb - Minneapolis-St Paul Area, MN (ThreadEx)

Use navigation tools above and below chart to change displayed range





Number of Days with Lows at or Below 0° F

Temperature Records go back to 1872-1873

- All of the sub-zero lows this winter occurred between January 13th and 20th
- Record for most sub-zero lows in a winter is 58 days in 1874-75
- Green line (Local Regression Curve) is a running average (or normal) count of the number of winter days with lows at or below zero degrees fahrenheit
 - The current average is 19 days

Rank	Season	Number of Days Min Temperature <= 0
1	2001-2002	1
2	2011-2012	4
-	1877-1878	4
4	1930-1931	5
5	2023-2024	6
-	2005-2006	6
7	1986-1987	7
8	1982-1983	8
9	1997-1998	9
10	1920-1921	10

Number of Days Min Temperature <= 0 - Dec through Feb - Minneapolis-St Paul Area, MN (ThreadEx)

Use navigation tools above and below chart to change displayed range





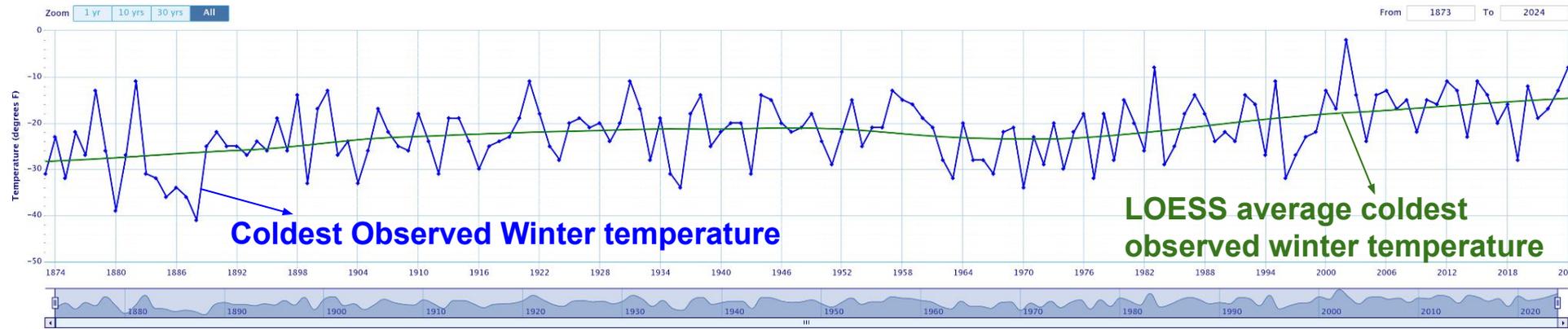
Coldest Observed Winter Low Temperature

Temperature Records go back to 1872-1873

- The coldest low this past winter of -8 was observed on January 14th & 15th
- The coldest ever observed low was -41 on January 21, 1888
- Green line (Local Regression Curve) is a running average (or normal) of the coldest observed temperature during winter
 - The current average is -15 degrees

Rank	Season	Lowest Min Temperature
1	2001-2002	-2
2	2023-2024	-8
-	1982-1983	-8
4	2014-2015	-11
-	2011-2012	-11
-	1994-1995	-11
-	1930-1931	-11
-	1920-1921	-11
-	1881-1882	-11
10	2019-2020	-12

Lowest Min Temperature - Dec through Feb - Minneapolis-St Paul Area, MN (ThreadEx)
 Use navigation tools above and below chart to change displayed range



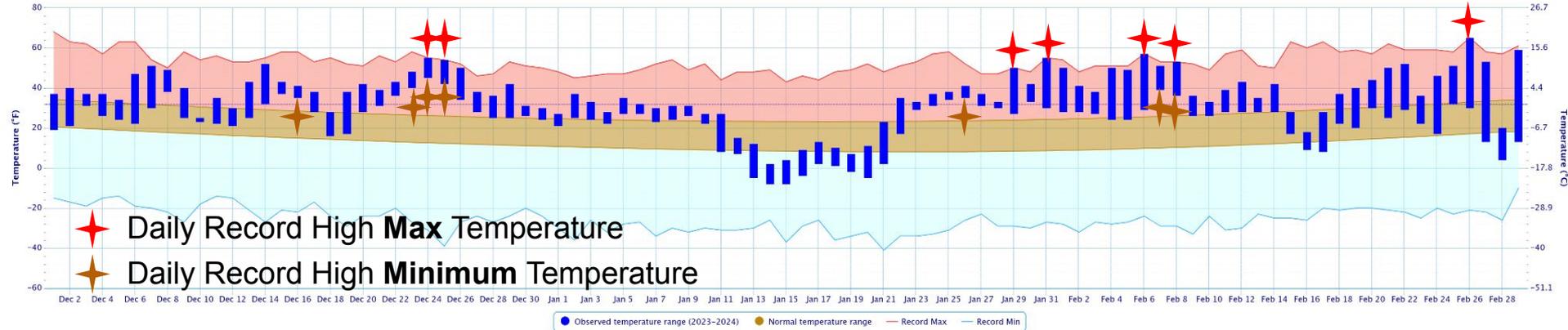


Daily Record Temperatures Set this Past Winter

Temperature Records go back to 1872-1873

Daily Temperature Data - Minneapolis-St Paul Area, MN (ThreadEx)

Period of Record - 1872-10-01 to 2024-02-29. Normals period: 1991-2020. Click and drag to zoom chart.



New Daily Record Max Highs Set (7)

- 55 - December 24th
- 54 - December 25th
- 50 - January 29th
- 55 - January 31st
- 57 - February 6th
- 53 - February 8th
- 65 - February 26th (warmest high on record for February)

New Daily Record High Minimums Set (7)

- 35 - December 16th
- 40 - December 23rd
- 45 - December 24th
- 42 - December 25th
- 35 - January 26th
- 39 - February 7th
- 36 - February 8th



Number of Days with Snow Depth Less Than 1" (Dec-Feb ONLY)

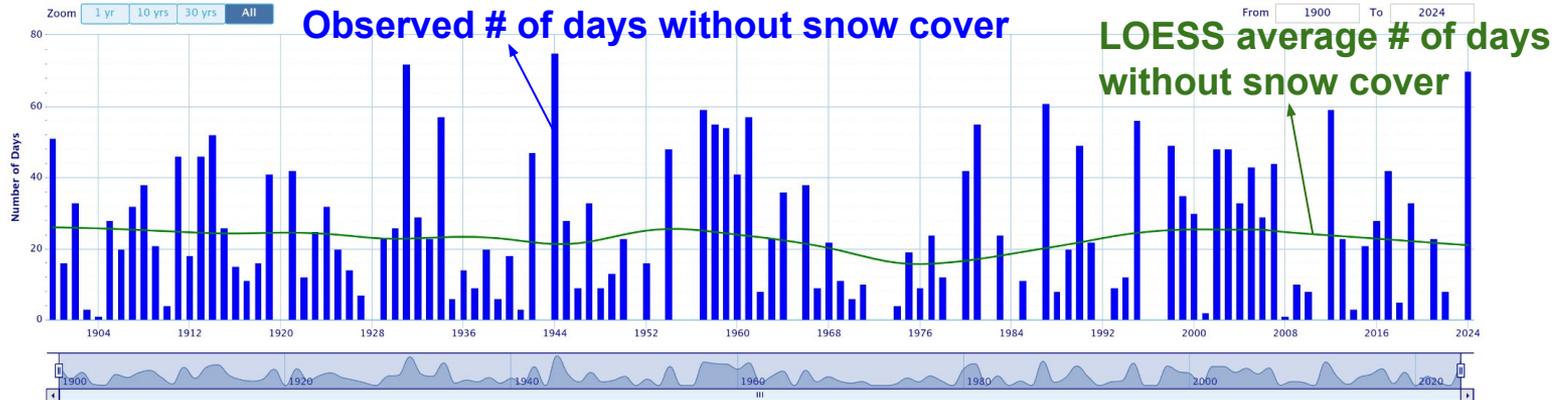
Winter snow depth records go back to 1899-1900

- Through February 29th, there has only been 14.3" of snow, the second lowest season total on record, though this number may increase in March and April
- There have been 20 winters where every day had at least 1" of snow on the ground, the most recent being 2022-2023
- Green line (Local Regression Curve) is a running average (or normal) count of the number of winter days with no snow cover
 - The current average is 21 days

Rank	Season	Number of Days Snow Depth < 1
1	1943-1944	75
2	1930-1931	72
3	2023-2024	70
4	1986-1987	61
5	2011-2012	59
-	1956-1957	59
7	1960-1961	57
-	1933-1934	57
9	1994-1995	56
10	1980-1981	55

Number of Days Snow Depth < 1 - Dec through Feb - Minneapolis-St Paul Area, MN (ThreadEx)

Use navigation tools above and below chart to change displayed range



Powered by ACS



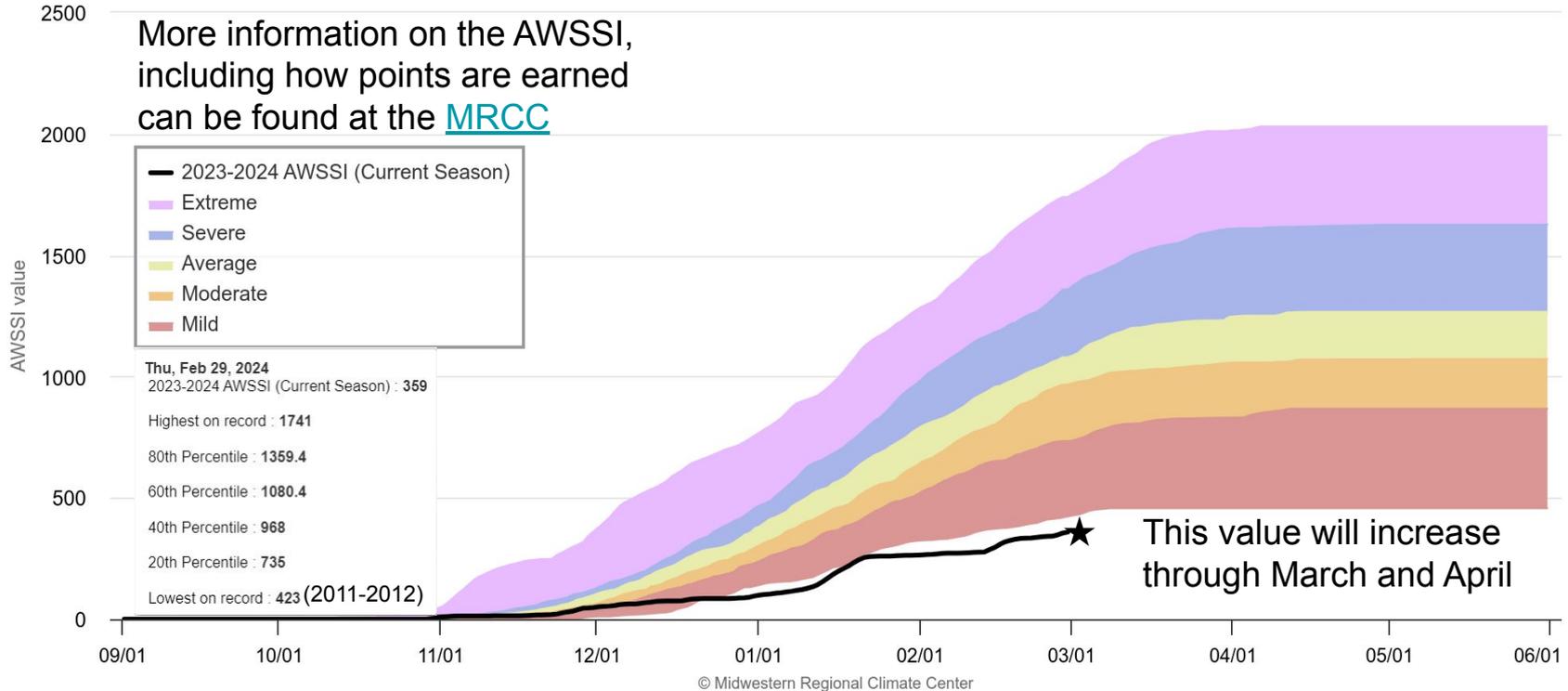


Accumulated Winter Severity Index (AWSSI)

Covers winters from 1949-1950 to present

2023-2024 AWSSI: "MN - Minneapolis-St Paul"

Season: 2023-10-30 to 2024-02-29, 123 days



Click and drag to zoom



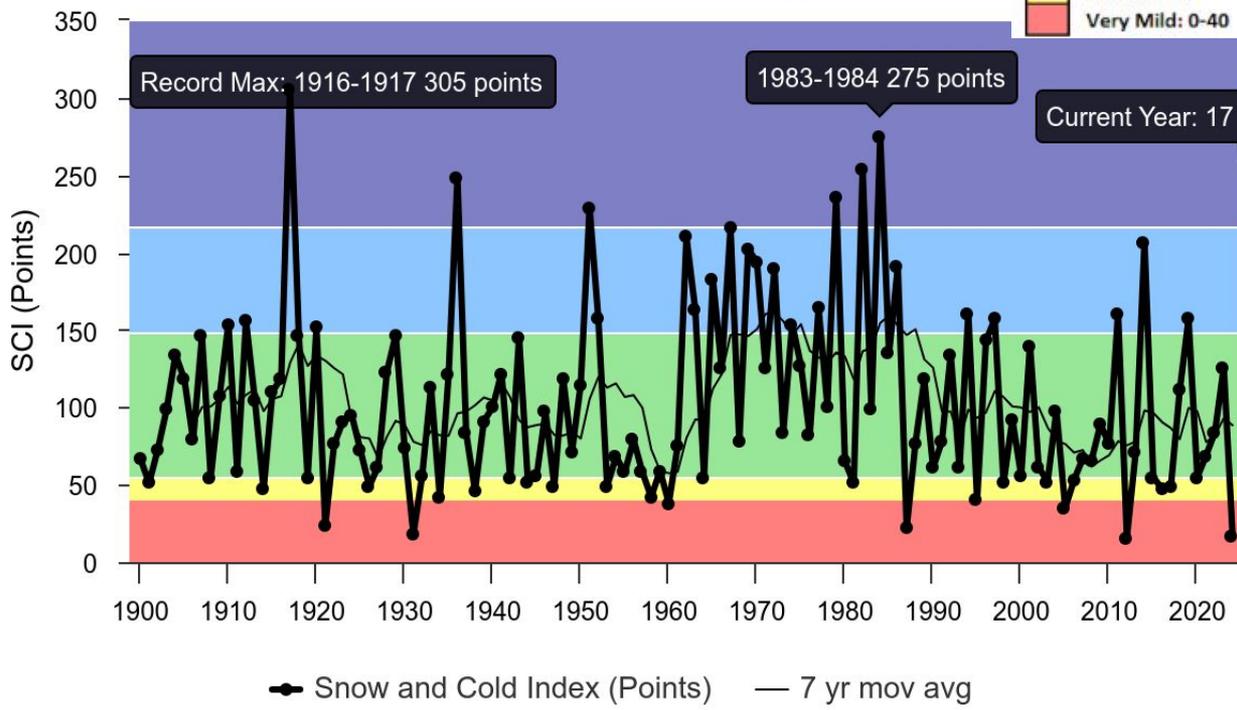


Twin Cities Snow and Cold Index

Covers winters from 1899-1900 to present

Color Legend	
Very Severe: 217+	Very Severe: 217+
Severe: 149-216	Severe: 149-216
Moderate: 55-148	Moderate: 55-148
Mild: 41-54	Mild: 41-54
Very Mild: 0-40	Very Mild: 0-40

Twin Cities Snow and Cold Index Minnesota DNR State Climatology Office



More information on the Twin Cities Snow and Cold Index, including how points are earned can be found at the [MN State Climatologist Office](#)

Lowest winter score was 16 in 2011-2012

This value may increase in March and April

Highcharts.com