

## **KLBB SUMMARY OF WEATHER COVERAGE – MARCH 2019**

KLBB Radio returned to the air on March 28, 2019 at 1220 Mhzs, rebroadcasting National Weather Service Radio KEC65 from its location in Chanhassen, Minnesota at a frequency of 162.550. KLBB AM operates from its offices in downtown Stillwater.

### **MARCH 2019**

March 28 – An unusually warm day for late march with a high of 50 and a low of 31. The warm-up follows two weeks of below-average temperatures earlier in the month with overnight readings as cold as 13-below F in Stillwater.

March 29 – The Minnesota Twins host their earliest home opener in team history with sunshine and temperatures in the low 50s. it was the tenth home opener in the history of Target Field. A deep drop in windchills is forecast for the weekend – with wind chills in the teens.

March 31 – March closes out with two straight days of air temperatures in the mid-30s F and very strong winds creating below-zero wind chills. The snow cover has disappeared in the Twin Cities area, thanks to temperatures in the previous week near 70 degrees. The snow season ends with precipitation totals that are 1.66 inches greater than normal.

## KLBB WEATHER SUMMARY FOR APRIL TO JUNE 2019

### APRIL 2019

April 1 – The National Weather Service reports March 2019 ended with above normal precipitation over most of the state thanks to a “significant rain and snow event on March 9-10”.

April 4 – Many rivers and streams across southern and central Minnesota are much above normal to high. The Mississippi River peaked between Fort Ripley and Minnesota City.

April 6 – Most of the frost is out of the ground for locations south of the Twin Cities.

April 10-12 – A three-day spring storm delivers heavy snow, sleet, freezing rain and thunderstorms. 4-8 inches of snow over the metro area and severe thunderstorm warnings in western Minnesota.

April 12 – High winds and hail cause mass power outages in much of western Minnesota.

April 12 – North St. Paul 9.8 inches of snow. Baldwin, WI 9.5 inches.

April 17 – Strong thunderstorms in Rice and Dakota Counties cause smaller rivers and streams to rise two feet or more in a single day.

### MAY 2019

May 7 – Almost all major Minnesota rivers and lakes are ice-free for the state fishing opener.

May 9 – Heavy snow in northern Minnesota. Heavy rain in the Twin Cities metro area. Some snow falls north of Stillwater, causing traffic accidents and spinouts.

May 9 – HydroClim Minnesota monthly report from the Department of Natural Resources finds April 2019 with below-normal temperatures and precipitation amounts well above historical medians. No drought areas in the state.

May 18 – Thunderstorm watches in the metro area with heavy rain in far southeastern Minnesota.

May 24 – First Minnesota tornadoes of the season in Norman and Mahnommen Counties with a possible sighting in Freeborn County. No building damage or injuries reported.

### JUNE 2019

June 4 – Thunderstorm warnings in the Stillwater area as strong storms cause wind gusts in excess of 100 mph west and south of the Twin Cities. 1-3 inches of rain in the metro area.

June 28 – Heavy thunderstorms just south of the Twin Cities with 3-5 inches of rain from Lake City to Rochester. Rain but no severe weather in the metro area.

## **KLBB SUMMARY OF WEATHER COVERAGE – JULY TO SEPTEMBER 2019**

### **JULY 2019**

July 9 – State climatological report for June shows 23 percent of Minnesota with “abnormally dry conditions”. The drought is mainly in northern Minnesota with south central and southeast Minnesota near historical records for rain.

July 15 – Heat and humidity give way to thunderstorms across Minnesota with the Twin Cities getting 2 to 4 inches of rain, much of which fell in 90 minutes and leading to flash flooding.

July 19 – Heat advisories and thunderstorm watches issued for the metro area. Damaging thunderstorms in Pine and Chisago Counties with hail braking windows. Heat index at Minneapolis-St. Paul International Airport reaches 115 F with New Richmond recording 105 F heat index.

July 20 – Severe thunderstorms continue in the Twin Cities area with a damaging storm in southern Minnesota classified as a “derecho” because of the combination of high temperatures, strong sustained winds and heavy rain.

July 26 – “Supercell” thunderstorms reported northwest of the Twin Cities with “grapefruit-sized” hail at Clear Lake in Sherburne County. 1.5 inches of rain in Ramsey County. Hail damage also reported in White Bear Lake and Stillwater.

July 28 – Four tornadoes strike Minnesota with a tornado running 7.6 miles from Sylvan Lake at Forest Lake through Chisago County. A private wedding venue at Spider Lake is destroyed. It is rated as an EF1 storm. A separate tornado is reported near Luck in Polk County with minor tree damage.

### **AUGUST 2019**

August 5 – Severe thunderstorms throughout the metro area with golf ball-sized hail in Wright County at midday and large hail reports in Anoka and Ramsey Counties. Washington County with heavy rain and thunderstorms.

August 7 – HydroClim report for July shows improvement in drought conditions for northern Minnesota with the southern half of the state receiving near record precipitation. July was the first month in 2019 where the preliminary statewide average temperature as above normal.

August 26 – Heavy rains over the north and east parts of the metro area. Two tornadoes were surveyed in Mille Lacs County with a possible water spout at Farm Island Lake in Aitkin County.

### **SEPTEMBER 2019**

September 2 – Large thunderstorms range from Rosemount, MN to Star Prairie, WI with heavy rain in Stillwater, Bayport and Hudson and downed trees and power lines.

September 6 – HydroClim Minnesota reports Stillwater was one of the wettest locations in Minnesota during August. State hydrologists say Stillwater had 7.96 inches of rain during the month, which is 3.15 inches above normal. Minor park and street flooding was reported in much of August along the St. Croix

River in downtown Stillwater. The Twin Cities finished with the 20<sup>th</sup> wettest summer (June-August) on record (1871-2019) with 15.48 inches of rain or 2.89 inches above normal.

September 7 – State climatologist Pete Boulay reports there was a record number of beach closures in Minneapolis in 2019 (a 16 year period during which records were kept). The blame was placed on heavy summer rains washing contaminants into Minneapolis lakes.

September 10 – 3 days of heavy rains cause road washouts and mud slides in an area from Bloomington to the Iowa border. A possible EF-1 tornado was also confirmed near Winona. Rainfall approached 10 inches in parts of southwestern Minnesota, 3 inches in central and southern Minnesota and greater than one inch over the majority of the state.

September 24 – Severe thunderstorm warnings for the Stillwater area. Tornadoes confirmed near Lake City, MN and Greenwood, WI.

September 25 – Doppler radar detects “quarter size” hail near Stillwater and Cottage Grove.

September 30 – Summer made a brief reappearance on the last day of September. High temperatures were in the mid to upper 80s across Minnesota with dew points in the low 70s. The Twin Cities airport had a high of 86 which was just short of the record of 87 for the date. Rochester broke its daily temperature record with a reading of 89 degrees. Strong thunderstorms appeared in the evening.

## **KLBB SUMMARY OF WEATHER COVERAGE – OCTOBER TO DECEMBER 2019**

October 3 – State hydrologists say precipitation for September was well above normal standards. There were no areas of drought in the state by the end of summer with 62 percent of the state's acreage having "adequate" levels of moisture.

October 12 – A crippling blizzard is reported in the Red River Valley of northwest Minnesota with snowfall totals approaching 3 feet and drifts of up to 5 feet were observed.

October 21 – A swirling storm brings heavy rainfall throughout Minnesota. Severe weather in northeast Minnesota with winds of more than 70 mph at Duluth and the water level in the Duluth harbor at an all-time record, closing access to the Park Point neighborhood near the Duluth Lift Bridge.

October 22 – 20 Minnesota climate stations reported more than two inches of rain during a strong, slow moving storm the previous day. Wind gusts of 40 to 60 mph led to a good deal of shoreline erosion along Lake Superior.

October 23 – The Twin Cities recorded its first frost of the season with the temperature dropping to 32 degrees and many other Minnesota cities reporting morning lows in the 20s.

### **NOVEMBER 2019**

November 4 – The states of Minnesota and Wisconsin launch their annual "winter hazard awareness week" public service campaigns.

November 7 – The state climatologist says there are "equal chances of above, normal and below normal precipitation" for November after a spring and summer well above the historical median for the state of Minnesota.

November 22 – The National Weather Service says historically, about one in three Thanksgivings have at least one inch of snow on the ground and it has snowed on 29 of the past Thanksgivings dating back to 1884.

November 27 – Heavy snow struck Minnesota on the last day of the Thanksgiving holiday weekend. Two day totals: 9.2 inches at the Twin Cities International Airport, 8.1 inches at the National Weather Service office in Chanhassen, 8.8 inches at Roseville, 6.1 inches at Woodbury and 5 inches at Stillwater.

November 28 – The temperature at Hudson rises to 38 degrees, allowing 2 Stillwater men to free up a small sailboat which had been frozen in the St. Croix River for a month. They were friends of the boat's owner who purchased the vessel in September but didn't know when he bought it that the sale did not include a trailer.

November 28 – Retired U of M extension climatologist Mark Seeley says 11 of Minnesota's long-term climate stations have already reported their wettest year on record. Rochester had 53.51 inches of precipitation for the first eleven months of the year. Minneapolis-St. Paul International Airport had 40.89 inches

### **DECEMBER 2019**

December 1 – Final reports from the Thanksgiving weekend snow storm: Snowfall accumulations of 8-16 inches were common across the northern half of Minnesota with Duluth reporting near-blizzard

conditions with high winds. The final total at Duluth was 21.7 inches of snow, making this the 7<sup>th</sup> largest two-day snowfall on record. Warmer temperatures in the Twin Cities lead to “packed slush” and difficult driving conditions on area roads and highways.

December 3 – Despite a return of freezing weather in the first few days of December, the Department of Natural Resources is warning that ice is still too thin to walk on on many central and southern Minnesota lakes.

December 20 – The state climatologist’s office says 2019 was a “banner year” for precipitation in Minnesota, with over 20 individual annual precipitation records set and the state turning in its wettest year on record. September and October rainfall was at least 50 percent greater than average over the vast majority of Minnesota. Many reporting states with over 50 years of observations did break their own annual precipitation records, topped by Rochester which broke its old record by more than 11 inches. The Twin Cities International Airport broke its own record set in 2016 with 44.17 inches of precipitation.

December 28 – Icy rain and sleet is followed by heavy snow in the Twin Cities and other parts of Minnesota. Metro Transit orders a system-wide suspension of service for the first time in 9 years. 13.5 inches of snow at Climax.

December 31 – The state climatologist’s office reports its “Top 5 Weather Events of 2019” – topped by the outbreak of arctic cold at the end of January which closed many Minnesota schools (including the University of Minnesota) for four days in a row and produced the coldest wind chills in the state since the 1980s. The official low in the Twin Cities on January 30 was -28. The air temperature in Cotton was -56.

Other “weather events” – record precipitation in many parts of the state, the 39 inches of snow received in the Twin Cities during the month of February, a winter “bomb cyclone” south of the Twin Cities on February 22-24 and extreme heat and big storms on July 19<sup>th</sup>.

## **KLBB SUMMARY OF WEATHER COVERAGE – JANUARY TO MARCH 2020**

### **JANUARY 2020**

January 3 – State climatologist office’s Twin Cities Snow and Cold Index for the 2019 winter season has 55 points and is placed in the “moderate” winter range. The index includes points for above and below normal temperatures and multi-inch snow totals. The last three months of 2018 had an index score of 157 and was categorized as a “severe” winter.

January 18 – Summaries of a severe winter storm striking Minnesota with wind gusts as high as 60 mph in the Red River Valley with up to 12 inches of snow at Crookston and Thief River Falls. The storm did not reach the Twin Cities.

January 31 – The Twin Cities ends a streak of ten consecutively cloudy days which is unusually long for the middle of winter. The Department of Natural Resources says January 2020 had less solar radiation than any January since records began at the University of Minnesota St. Paul Campus Climate Observatory in 1963.

### **FEBRUARY 2020**

February 6 -- HydroClim Minnesota reports snow depth readings are deeper than the median across most of Minnesota with the heaviest snow north of St. Cloud and the thinnest layers along the Iowa border. Soil frost depths under sod are very shallow for early February with soil temperatures at the University of Minnesota St. Paul Campus Climate Observatory staying near 32 degrees at a four inch depth through much of the winter.

February 9 – Heavy snow across Minnesota with 5.7 inches at Woodbury and North St. Paul...7.5 inches at Bloomington and 15.5 inches at Lake Crystal in Blue Earth County.

February 13 – Two days of a strong cold front lead to high temperatures of 1 above zero in the Twin Cities area with -48 at Fosston in northwest Minnesota and -40 in Isabella in northeast Minnesota.

February 21 – Temperatures moderated in Minnesota after Valentine’s Day but were followed by arctic-like conditions. Low temperatures from -32 to -40 were recorded in St. Louis and Lake Counties. The National Weather Service expects the Twin Cities have seen the last subzero temperature readings until next winter.

### **MARCH 2020**

March 5 – The state climatologist’s office says Minnesota had only one significant “snow event” in February which is on average historically the driest month of the year. The preliminary average precipitation total for the state was .43 inches or .26 inches below normal.

March 6 – Heavy snow early in February lingered through the end of the month in northern Minnesota but in the Twin Cities and southern Minnesota there were patches of bare ground.

March 6 – Weather writer Mark Seeley says March has begun “gentle as a lamb” with 70 percent of the state’s climate station reporting daytime high temperatures in the low 40s with the Twin Cities enjoying 50 degree days.

March 13 – The state hydrologist says the danger of spring flooding in southern and southeast Minnesota has dropped because of small doses of precipitation and above normal temperatures. The flood forecasts had called for a high risk of spring flooding along the state's major rivers.

March 28 – A low pressure system crosses Minnesota with heavy rain and the first thunderstorms of the season dumping a couple inches of rain in the Twin Cities area. The rain turns to snow in northeastern Minnesota with 13 inches of snow at Isabella, 6.2 inches at Duluth and 4 inches in St. Cloud.



## **KLBB SUMMARY OF WEATHER COVERAGE – APRIL TO JUNE 2020**

### **APRIL 2020**

April 2 – A mixture of weather across Minnesota: southern and eastern Minnesota enjoy highs in the 60s with a snowstorm in western Minnesota creating dangerous driving conditions in the Red River Valley through Crookston.

April 7 – Warm and humid weather in the Twin Cities over the weekend with temperatures in the 70s (first 70 degree days since last October 9<sup>th</sup>). The higher dew points trigger thunderstorms along the eastern border of the state with thunderstorms in Rochester and light snow in Duluth. 5 inches of snow at Grand Marais.

April 10 – The state climatologist says the ice is out on almost all lakes in central and southern Minnesota, which is about two weeks earlier than in 2019. It appears also that river levels have peaked for the season on the Mississippi and Red Rivers without any significant flooding.

April 12 – A nasty Easter Sunday with up to 10 inches of snowfall in southeastern Minnesota. Minneapolis-St. Paul International Airport had its most ever snow for an Easter Sunday at 6.6 inches. Two consecutive cold fronts kept the snowfall from melting for a few days. It was just 15 degrees at MSP airport on April 15<sup>th</sup>.

April 19 – The National Weather Service commemorates the 200<sup>th</sup> anniversary of the first government-recorded tornado in Minnesota. An 1820 report by soldiers on Cantonment New Hope (later to become Fort Snelling) says the tornado blew off the shingles from the barracks. There were no reported injuries.

April 24 – University of Minnesota Extension says the Twin Cities had 51.5 inches of snow for the winter season. Isabella along the north shore of Lake Superior had 133 inches of snow with portions of the Red River Valley in northeastern Minnesota reporting 50 to 60 inches, well above normal. Wheaton in Traverse County in far west-central Minnesota had less than 25 inches of snowfall.

### **MAY 2020**

May 7 – The National Weather Service says Minneapolis-St. Paul International Airport set a new low dew point record with a reading of just 5 and associated relative humidity of just 14 percent.

May 8 – Weather historian Mark Seeley says relative humidity and dew point readings have been near record low levels across the state. Combined with winds that have ranged from 20 to 30 mph, the landscape has dried out rapidly and Red Flag Warnings for fire danger have been reported.

May 9 – Minnesota's fishing opener is marked with 1 to 2 inches of snow in north central Minnesota with some of the snow intense enough to stop fishermen and send them back to the docks. Morning temperatures in St. Louis County were as low as 14 F. International Falls set a new daily low temperature at 18 degrees. Frost damage is being reported by University of Minnesota Extension in alfalfa fields across the state.

May 17 – 2.47 inches of rain at Minneapolis-St. Paul International Airport was a record total for the date. Many official NWS cooperative observers from the Twin Cities to the Iowa border reported two-day rainfall totals of 2.5 to 4 inches. The rains prevented much of southern Minnesota from sliding further into abnormally dry conditions.

May 26 – Tornado touchdowns were reported in Freeborn and Dakota Counties and strong winds damaged trees in Houston and Goodhue Counties.

May 31 – The state climatologist reports most climate stations in central and northern Minnesota reported less than normal precipitation for the month. Portions of Washington and Dakota Counties accumulated over six inches of rainfall.

## JUNE 2020

June 2 – The first truly summer-like air mass over Minnesota gave way to the first widespread severe weather event of the year, as thunderstorms with hail, strong winds, heavy rain and isolated tornadoes pelted central and especially southern Minnesota. The NWS cooperative observer in Milan in Chippewa County reported a high of 98 F, breaking a record set in 1940. St. Cloud had 93 and the Twin Cities airport recorded a high of 91. A weak cold front pushed into the state later in the day, triggering hail and thunderstorms from Pope and Stearns Counties through the Twin Cities into Winona County.

June 5 – The state climatologist says seasonal precipitation (April 1 through June 2) shows that the majority of the state has below to much below average precipitation. There are pockets of above normal precipitation in the southeast. Melrose had just .83 inches of rain during the period, the eighth lowest amount of rain since records began in 1885.

June 8 – Scorching hot weather across the mid-section of Minnesota with 96F at the Twin Cities. A low pressure system in Manitoba triggers “supercell” storms in northern Minnesota and an EF-1 tornado in Lake of the Woods County.

June 12 – Weather historian Mark Seeley says the average temperature for the first ten days of June was 5 to 9 degrees above normal and the warmest since 1959 across Minnesota. In the Twin Cities, only 1959 and 1933 were warmer with weather records dating back to 1873. So far in June, over 80 new daily high maximum and minimum temperature records were set in Minnesota with Sabin, Artichoke Lake, Milan and Morris all hitting 100 degrees in the first week of June.

June 17 – The National Weather Service commemorates the 10<sup>th</sup> anniversary of a powerful storm system which triggered at least 48 tornados in Minnesota. 3 people were killed. 15 of the tornadoes were rated EF-2 or greater with estimated wind speeds exceeding 110 mph and 3 rated EF-4 (165 mph or more). It was the greatest number of tornadoes in a single day in Minnesota.

June 19 – Excessive moisture continues in the far northwest and in the southeast but drier than normal conditions elsewhere in Minnesota. High winds continue in much of the state with 17 consecutive days at Minneapolis-St. Paul International Airport with wind gusts of 30 mph or greater. For the first half of the month of June, the average high temperature at MSP was 80 degrees (plus or minus 8 degrees from the standard deviation).

June 29 – A two day storm started in Nebraska and sitting over Minnesota dumps 5 to 8 inches of rain in an area from the southern Twin Cities through Hastings to Northfield. Woodbury had 4.8 inches of rain. Stillwater had 3.5 inches. Mudslides were reported on roads in valleys south of the Twin Cities. 8.22 inches of rain at Baldwin, WI and 6.95 inches at River Falls, WI prompted home evacuations and street flooding.

## **KLBB SUMMARY OF WEATHER COVERAGE – JULY TO SEPTEMBER 2020**

### **JULY 2020**

July 1 – Weather historian Mark Seeley says on a statewide basis, this past June was the warmest since 1995 and either the 7<sup>th</sup> or 8<sup>th</sup> warmest in state history back to 1895 with a mean monthly temperature near 68F. In Minnesota, 75 daily maximum temperature records were tied or set in June along with 66 records tied or broken for warm overnight minimum temperatures. 37 new daily rainfall records were also set.

July 1 – The warmer than normal pattern of June carried over into the start of July, coupled with 70F dew point readings. Many areas of the state reported daytime highs that were in the upper 80sF to low 90sF. Thunderstorms ripped through parts of western Minnesota with flood warnings along the Red River Valley.

July 7 – Possibly in response to complaints about the hot weather, the National Weather Service commemorates the summer of 1936, when the Twin Cities had high temperatures above 90 degrees F for 14 straight days, including 8 days with high temperatures at or above 100 degrees F. That's more 100-degree days than the Twin Cities recorded for all of the 1990s, 2000s and 2010s combined.

July 8 – Heat advisories and storm warnings across Minnesota. Tornadoes were reported in Grant, Otter Tail and Crow Wing County. A 30 year old man was killed by a storm near Dalton. Wind turbine blades were bent by 70 mph winds in Wilkin County and ten recreational vehicles were overturned at a private campground.

July 9 – Senior Climatologist Kenny Blumenfeld of the Department of Natural Resources says the Twin Cities has had 98 straight hours with a 70 F dew point so far this month. Last year, July produced only 111 such hours for the entire month.

July 10 – Weather historian Mark Seeley says the hot temperatures of the July 4<sup>th</sup> weekend have persisted through the first 8 days of July. Most climate stations are reporting an average July temperature so far that ranges from 5 to 8 degrees F above normal. This is the warmest start to July since 2012 and among the ten warmest historically on a statewide basis.

July 11 – Scattered but intense thunderstorms cause wind and hail damage across southern and central Minnesota. The Twin Cities had sunny skies.

July 18 – Two small tornadoes in Washington County. Both were EF-1 storms. One ran from Woodbury to Afton with no damage reported. The other was from Hastings to southwest of River Falls, WI. A few farm outbuildings were damaged along with trees on the bluff on the Wisconsin side of the St. Croix River.

July 28 – A moisture-heavy air mass unloaded torrential rains for a period of 6-12 hours through the Twin Cities to southern Minnesota. Stillwater had nearly 2 inches of rain. Mahtomedi 2.15 inches. Forest Lake and Lakeland 1.15 inches. Flood warnings were issued in southern Minnesota with the Mankato area getting nearly 8 inches of rain. Winthrop in Sibley County had an unofficial report of 11.5 inches of rain.

July 31 – The state climatologist’s office reports July 2020 was both the 14<sup>th</sup> warmest and 14<sup>th</sup> wettest July in Minnesota history dating back to 1895. There were 25 daily high maximum temperature records tied or broken. Hallock in extreme Northwestern Minnesota reported one of the highest Heat Index values in history at 107F on July 25<sup>th</sup>. Across the state climate network, 38 daily rainfall records were either tied or broken.

#### AUGUST 2020

August 7 – University of Minnesota Extension reports cooler than normal temperatures for the first week of the month after hotter than normal consecutive months of June and July. In portions of St. Louis and Koochching Counties, temperatures were in the mid to upper 30s.

August 9 – Multiple, long-lasting, large hail-producing thunderstorms bombard the Twin Cities Metropolitan Area and neighboring counties with hail, gusty winds, intense rainfall and non-stop lightning and thunder. Storms lasted 2 to 3 hours and hardly moved. Ping-pong ball to tennis ball-sized hail reported in Hennepin and Wright Counties. Washington County got less than an inch of rain but saw significant lightning.

August 10 – The weekend was one of the busiest of the summer so far for the NOAA Storm Prediction Center because of widespread severe weather reports with a “derecho” storm in southwest Minnesota, a tornado report from near Thief River Falls and 48 reports of large hail from 15 different counties.

August 15 – More stormy weather: several small tornadoes in McLeod and Todd Counties with little damage and no injuries. Grand Rapids had over 4 inches of rain and St. Cloud just over 3 inches of rain. A wind gust of 64 mph was reported at the Twin Cities International Airport.

August 28 – Weather historian Mark Seeley says August wrapped up meteorological summer as the third consecutive warmer than normal month. The June-August period in 2020 will rank among the 5 warmest historically for the state of Minnesota. With a wetter than normal August, the meteorological summer will end up among the 20 wettest historically back to 1895 with a statewide average rainfall of 13 inches. But Caledonia in southeast Minnesota had just 0.37 inches of rain which will be their driest August in history.

#### SEPTEMBER 2020

September 4 – The state climatologist says on a statewide basis, this was one of the top 4 warmest summers in history (since 1895, averaging nearly 3 degrees F above normal for all three months combined). Within the climate station network of Minnesota, 135 daily maximum temperature records were set or tied. With a statewide average rainfall of about 13.75 inches for June-August, the summer of 2020 will rank as the 17<sup>th</sup> wettest in state history (back to 1895).

September 11 – The state climatologist says the passage of strong cold front on Labor Day not only brought widespread rainfall to many areas but it produced a dramatic drop in temperatures as well, accompanied by strong winds. Over 100 climate stations set records for cold daytime maximum temperature. Temperatures dropped below the freezing point in parts of north central Minnesota.

September 15 – Smoke from the wildfires over California, Oregon and Washington spread over Minnesota and was the thickest from September 13 to 15, keeping high temperatures a few to several

degrees below forecast values. Skies which were predominantly cloud-free were covered with spectacular orange and red hues close to sunrise and sunset.

September 18 – Multiple frost areas are reported in the northern third of Minnesota. It's causing a rapid color change for leaf-watchers according to the Department of Natural Resources.

September 24 – The warmest temperatures of the month happened over the weekend with over 85 climate stations reporting daytime highs in the 80sF. Minneapolis-St. Paul International Airport had its warmest reading of the month on the 23<sup>rd</sup> with a high of 84 degrees.

## OCTOBER

October 14 – Many Minnesota communities saw snow for the first time this autumn season. Portions of Itasca, Beltrami and St. Louis Counties reported snow flurries on the 13<sup>th</sup> and the Twin Cities had snow showers on the 14<sup>th</sup>. The first Winter Weather Advisory for northern Minnesota was posted for the weekend with 1-4 inches of accumulating snow predicted.

October 16 -- Heavy rainfall overnight with over a hundred of the state's climate stations reported a rainfall between 1-2 inches. Portions of Washington, Dakota, Rice, Nicollet, Blue Earth, Pine and Kandiyohi Counties received over two inches. Several long-term climate stations reported new record daily rainfall amounts, including Hastings at 1.9 inches.

October 16 – The state climatologist's office reports the stretch of October 11-16 was one of the windier stretches in October with consecutive days of peak gusts of 40 mph or more.

October 20 – A swath of heavy snow over southern and central Minnesota with widespread accumulations of 6 to 9 inches and breaking numerous early season snowfall records in the process. The Twin Cities International Airport recorded the rare (for October) condition of "heavy snow" at two separate hourly observations. Snow accumulation was seen on grassy surfaces and highways, leading to slippery slushy and icy driving conditions. The weight of the snow knocked out power in parts of the eastern Twin Cities area. The Twin Cities airport recorded 7.9 inches, making this the second largest October snowfall on record (behind 8.2 inches on October 31, 1991 at the beginning of the famous Halloween Blizzard). Stillwater recorded 6.5 inches of snow. Woodbury 7.1 and St. Paul Park had 7.5 inches.

October 22 – Another winter storm socks portions of the Midwest, including Minnesota and Wisconsin. Occasional sleet, snow and rain squalls with lightning reported in southern Minnesota. Beardsley, MN had 10.7 inches of snow.

October 23 – University Extension weather historian Mark Seeley says October 18-22 will be noted in the history books of Minnesota as one of the coldest and snowiest 5-day periods in October. Temperatures were 12 to 18 degrees F below normal. Several new daily snowfall records were set at climate stations during the storm including 7.9 inches at Minneapolis-St. Paul International Airport.

October 31 – The state climatologist says a dramatic turn towards below-normal temperatures in the second half of October led to multiple accumulating snowfall events that broke a slew of monthly records for October. Of Minnesota's five long-term "first order" observing stations, St. Cloud and the Twin Cities broke their October monthly snowfall records (7.8 and 9.3 inches respectively). Records also

fell at over three dozen other stations with at least 30 years of record, including two of the University of Minnesota's marquee observing sites at Lambert and Waseca.

October 31 – University Extension says based on the average month temperature, MSP reported the 9<sup>th</sup> coldest October in history while on a statewide basis it was the 6<sup>th</sup> coldest October in history and the coldest since 2002.

## NOVEMBER

November 3 – After two weeks of winter weather, the Twin Cities enjoys a snow-melting return to summer. Temperatures soared into the 70sF across the state, right up to the Canadian border. 80 degree temperatures were reported in parts of western and southwest Minnesota. A slew of new high temperature records were set at just about all of the major weather stations in Minnesota. The Twin Cities had a high of 75 F which was matched at Duluth. International Falls had two days with record temperatures of 74 degrees.

November 7 – Minnesota's 2020 firearm deer hunting opener was marked with slightly below normal temperatures in the 20s in the northern part of the state with 30s and 40s in central Minnesota. There was little to no snow cover.

November 9 – Despite the rapid snowmelt in the past week, no flooding is expected in the St. Croix River Valley but the water level at the Stillwater Lift Bridge is expected to rise slightly in the next week. Temperatures were in the 60s and 70s over most of Minnesota and western Wisconsin.

November 10 – Heavy rain is followed by sleet and snow throughout southern, central and northeastern Minnesota. Some areas north of the Twin Cities got up to 10 inches of snow. Snow was much lighter through the St. Croix Valley into western Wisconsin but roads were very icy and there were reports of some power outages as ice-laden lines fell in strong winds. The metro area's official snow tally was 5.5 inches at Minneapolis-St. Paul International Airport.

November 12 – Another day of strong winds and below normal wind chills (mid-teens F).

November 14 – Light drizzle but warmer temperatures are in the forecast.

November 19 – Snow has officially disappeared in the Twin Cities metro area with two days of temperatures in the upper 40s to lower 50s. Light snow covers the rest of the state except for heavier totals in northeast Minnesota.

November 26 – Thanksgiving Day weather is mild throughout Minnesota and Wisconsin with temperatures in the low 40s, sunshine and light wind. No weather-related travel troubles in the Midwest.

November 30 – November snowfall for the Twin Cities was 8.8 inches which was 0.8 inches less than normal. Since July 1, we have had 18.1 inches of snow, which is 9.5 inches above average. Temperatures this month are nearly 5 degrees F above average.

## DECEMBER

December 4 – Predictions of above-normal temperatures for the week ahead. The Minnesota state climatologist office says 11 of the warmest Decembers in state history (back to 1895) have occurred since the year 2015 which averaged nearly 12 degrees F warmer than normal.

December 8 – Twin Cities high temperature was 50 degrees F. Not a daily record but daily temperature records were broken in Caledonia (55), Rochester and Walker (52), Litchfield, Long Prairie and Two Harbors (50) and Brainerd (49).

December 11 – Except for the northeastern most three counties (St. Louis, Lake and Cook) the Minnesota landscape is snow-free. There was some light snow in St. Croix County, Wisconsin yesterday but it melted by morning.

December 13 – Sticking snow in the Twin Cities and western Wisconsin causes a large number of traffic crashes.

December 20 – Forecasts call for a “White Christmas” with the possibility of severe winter weather (8-10 inches of snow and near-blizzard winds) throughout Minnesota and Wisconsin.

December 22 – High temperature of 50 degrees F in New Richmond, WI. 40s in the Twin Cities.

December 23 – Severe winter weather arrives as expected in the Midwest with Blizzard Warnings posted west of the Twin Cities and Winter Weather Advisories and Storm Warnings issued for the Twin Cities and western Wisconsin.

December 24 – National Weather Service records 8.8 inches of snow at Minneapolis-St. Paul International Airport. Temperatures dropped from the 40s across Minnesota and western Wisconsin into the teens and rain changed to sleet and then, snow causing dangerous driving conditions in the evening rush hour. The NWS issued its first Blizzard Warning for Minneapolis and St. Paul since the “Halloween Blizzard of 1991” and just the third time in its history (1918). East Bethel and Coon Rapids each reported 9.5 inches of snow with the state’s biggest snowfall at Wrenshall, with 12.3 inches and a non-official observer reporting 13 inches near Holyoke. Wind gusts of over 55 mph were reported throughout the two states.

December 29 – Icy snow causes Winter Storm Warnings in the Twin Cities and hundreds of crashes on highways across Minnesota.

December 30 – The National Weather Service reports its top five weather events of 2020: #5 – the Easter Sunday storm on April 12 with 6.6 inches of snow in the Twin Cities and accumulations of up to 10 inches elsewhere. #4 – Minnesota’s first known direct encounter with a Tropical Cyclone with a huge tropical depression bringing thunderstorms to Minnesota on June 9. #3 – Minnesota’s only fatal tornado of 2020 on July 8 which killed a man in Otter Tail County. It ended a ten year streak without an EF-3 or stronger tornado, the longest such stretch in state recorded history. #2 – The October 20<sup>th</sup> snow storm with a record 7.9 inches of snow in the Twin Cities and 7 inches at St. Cloud with power outages in Washington County caused by ice formation on electric wires. #1 – Historic warmth from November 3<sup>rd</sup> to the 9<sup>th</sup> with temperatures as high as 84 degrees F at Granite Falls and more 70 and 80 degree highs in any other November on record.

