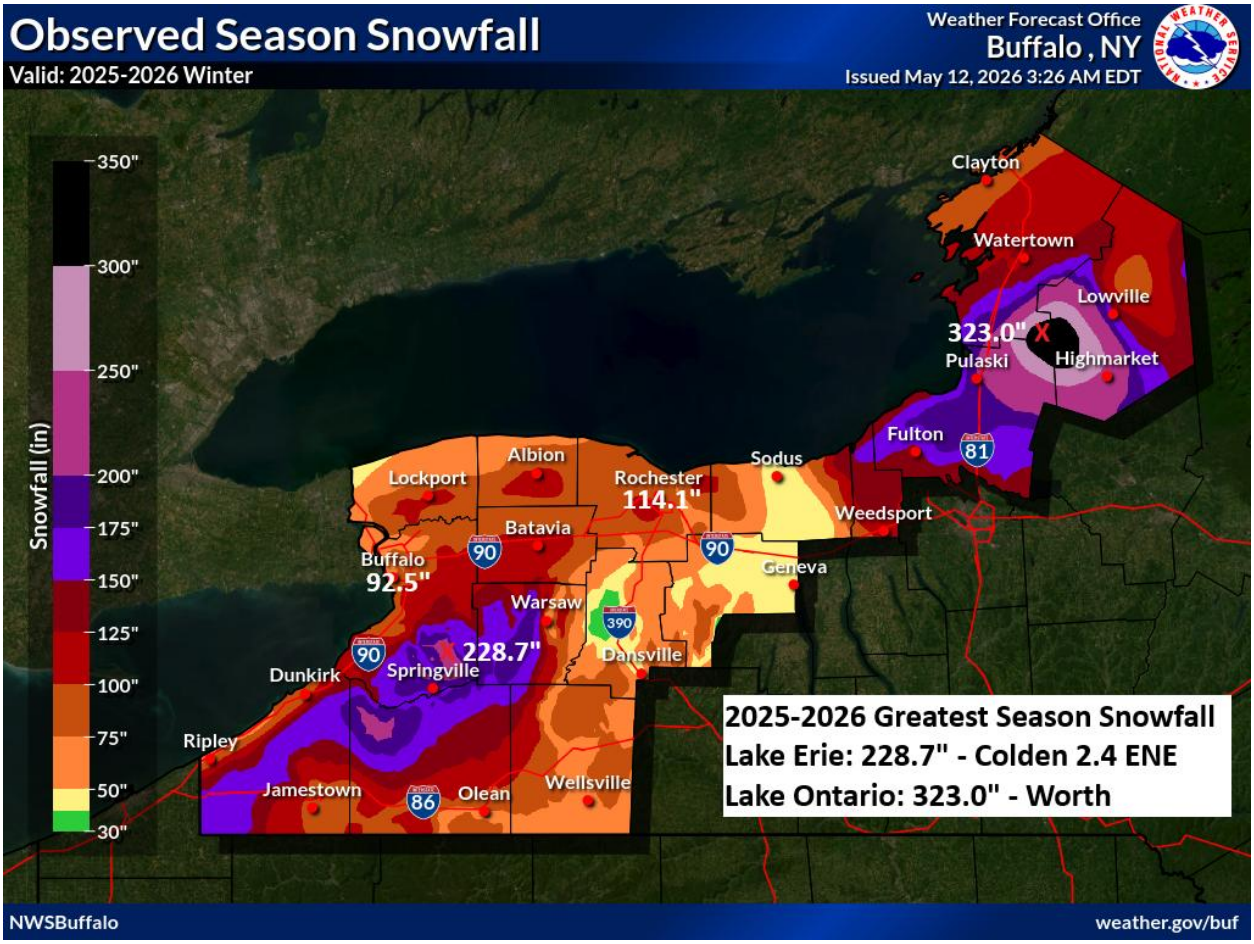
2025-2026 Winter Summary



Overview

The winter of 2025-2026 was the coldest winter in over a decade, with consistent cold and snow through the majority of the cold season. Temperatures were below normal four months in a row from November through February, with an above normal March ending the streak. The November through February stretch was the coldest since the 2014-2015 winter in Buffalo and Rochester, and coldest since 2002-2003 in Watertown. While the cold was very persistent, there were only a few short windows of extreme cold, most notably during the last week of January and for a three day stretch during the second week in February.

Snowfall was above average across the majority of the area, with only a few small areas in the western Finger Lakes and across the City of Buffalo and northern suburbs being slightly below average. Snowfall in the snowbelts east of Lake Erie and Lake Ontario was slightly lower than the winter of 2024-2025, but still above the long-term average. There were nine lake effect

snow events that reached or exceeded warning criteria (7 inches of snow), and frequent minor lake effect events. Passing systems brought frequent light, general snowfall to the region. The most notable large-scale system was a widespread snowstorm on 25 to 26 January which produced 8 to 16 inches of snow areawide.

A weak La Nina was in place across the equatorial Pacific Ocean during the winter of 2025-2026. The La Nina developed over the summer of 2025 and reached peak intensity during the fall and early winter before weakening by late winter. The La Nina remained relatively weak through its life cycle. Past research suggests that the probability of colder and snowier than normal winters increase the closer to neutral the El Nino-Southern Oscillation (ENSO) index is, and that proved to hold true this winter.

The behavior of the stratospheric polar vortex was categorized by frequent stretching, which began early in the cold season in November, with periodic stretches continuing through the winter and early spring. Changes in the stratospheric polar vortex influence the underlying troposphere and vice versa, with stretching events often delivering colder than average temperatures to the mid latitudes of North America. The Arctic Oscillation (AO) was negative through the heart of winter, which favors cold air moving from the polar regions to the mid latitudes of the northern hemisphere continents.

Much of the late fall through mid-winter was dominated by a coupled negative North Atlantic Oscillation (NAO) and positive Pacific North American (PNA) pattern, which strongly favors a persistent ridge over western North America and a trough over the eastern half of North America. This standing longwave pattern spanning the continent can be persistent in some winters, and that proved to be the case for the winter of 2025-2026 with the pattern locking in most of the time for several months and strongly favoring below average temperatures across the Great Lakes and New England. The PNA trended positive during late winter and the negative AO and NAO trended to near neutral during the second half of February and then positive during March. This fundamental change in the longwave pattern across North America and the rest of the northern hemisphere supported an early end to the winter, with mild weather and minimal snowfall on the whole from late February through March after the harsh early to mid-winter.

Overall, the winter of 2025-2026 was cold and snowy, with a notable stretch of cold and snow during the first half of December, and a long stretch of harsh winter cold and snow from mid-January through mid-February. The persistent cold and snow resulted in good conditions for outdoor winter sports that rely on snowpack, especially during January and February. The cold season did end on a mild note, with above average temperatures and well below average snowfall from late February through March.

Winter Statistics for Buffalo and Rochester

Temperature records 1871 - present (156 years)

Snow records 1884 - present (143 years)

Buffalo

Average Temperature: November – March: 30.2°F (1.4°F below normal)

Total Snowfall: 92.5” (2.9” below normal)

Rochester

Average Temperature: November – March: 30.3°F (2.1°F below normal)

Total Snowfall: 114.1” (12.1” above normal)

November

The month of November on the whole was cooler than normal, with the monthly average temperature running 1.5 to 2.5 degrees below average across the region. There was a lack of unseasonably warm days, with the monthly high temperature only reaching the mid to upper 50s in most areas. The monthly high temperature of 57 at Buffalo on the 7th and 15th of the month was the fifth coolest monthly high temperature for November on record. In Rochester, the high temperature of 59 on the 7th was the sixth coolest monthly high temperature for November on record. Precipitation and snowfall were not far from average overall, with a mix of slightly below and slightly above departures from normal across the region.

The cold season began on a mild note, with relatively mild weather for the first week of November. Temperatures were slightly above average much of the time through the first eight days of the month as a strong ridge over the southern half of the United States prevented any cold Canadian air from moving southward. While temperatures were mild, it was a windy period, with three days featuring wind gusts of over 40 mph east of Lake Erie and Lake Ontario. Lake effect rain fell on 1 November southeast of Lake Erie across the western Southern Tier, but this quickly ended as high pressure built into the eastern Great Lakes. A cluster of thunderstorms moved through the Rochester area and adjacent portions of Orleans, Monroe, and Ontario counties during the evening of 3 November with numerous reports of hail and

gusty winds that were strong enough to bring down a few tree limbs. Otherwise, a series of weak systems moving along the northern tier of the United States produced a few light rainfall events, but nothing significant.

A strong cold front moved through the eastern Great Lakes on 9 November with a period of rain. This front ushered in an unseasonably cold airmass, and set the stage for the first accumulating snow across the region from 9 November through 12 November. Periods of lake effect snow fell across the region over the 4-day period, with light to moderate accumulations in the most persistent bands. 10 November was unusually cold for so early in the season, with Buffalo, Rochester, and Watertown all tying or setting new record cold daily high temperatures for the date. The high temperature of 29 at Buffalo was the firth earliest occurrence of the high temperature remaining below 30 degrees on record.

The early season cold stretch ended on 13 November. The next two weeks of the month featured relatively benign weather, with temperatures alternating between slightly above and slightly below average through 25 November. There were several minor rainfall events through the period but nothing significant.

The weather took a wintry turn for the last few days of the month. A strong cold front moved through the eastern Great Lakes during the evening of 25 November, just before the Thanksgiving holiday. Strong winds developed along and behind the cold front as strong low pressure passed by just north of the region. Peak wind gusts of 40 to 55 mph were common across the region, with gusts exceeding 60 mph in some areas near and northeast of Lake Erie. The strong winds resulted in some wind damage along with scattered power outages.

Colder air pouring into the eastern Great Lakes set the stage for a multi-day lake effect snow storm from 26 to 29 November. Lake effect rain transitioned to lake effect snow and graupel by late evening on 26 November, initially on southwest flow northeast of Lake Erie and Lake Ontario through the morning hours of Thanksgiving Day. Temperatures remained marginally cold for snow through the first day of the event, resulting in heavy, wet snow accumulations with the greater amounts inland from the lakeshores. There was a significant amount of thunder and lightning during the early stages of this event. Winds become more west-northwest from 28 to 29 November, with deeper synoptic scale moisture and colder air aloft producing the first major lake effect snow storm of the season east and southeast of the lakes.

Temperatures remained marginal for accumulations across the lower elevations close to the lakeshores through the event, with the greatest accumulations falling well inland. Storm total accumulations reached 1 to 2 feet across the higher terrain east of Lake Erie, and 6 to 12 inches across the Tug Hill Plateau and also southeast of Lake Ontario across portions of northern

Cayuga and southern Oswego counties. The Buffalo and Rochester areas escaped with only an inch or two of accumulation.

December

The first month of meteorological winter was cold and active, with the monthly average temperature running 3 to 5 degrees below average across the region. This was the first December since 2017 with below average temperatures. The constant feed of cold Canadian air across the still warm Great Lakes produced frequent snowfalls, especially through the first half of the month and again on the last few days of the month. Precipitation and snowfall were above average for most of the region.

Persistent cold dominated the first half of the month, with every day featuring below average temperatures from 1 to 16 December. The longwave pattern across North America was locked in through the first half of the month, with a ridge near the west coast and a deep longwave trough centered over central and eastern Canada, allowing for a constant feed of cold Canadian air into the Great Lakes and New England. The coldest air of the stretch crossed the region on 8 and 9 December, when Watertown set two new record daily low temperatures on consecutive days.

The persistent longwave trough over eastern Canada allowed for numerous Alberta Clippers to cross the Great Lakes, with each system producing frequent minor snowfall and also delivering a fresh batch of cold air, supporting frequent lake effect snow. The lake effect snow events through the first 10 days of the month were relatively minor and dominated by northwest flow, producing light to locally moderate accumulations at times southeast of Lake Erie and Lake Ontario. There was snow on the ground every day through the first half of the month, a rarity during a time of year when average high temperatures are still in the upper 30s to lower 40s.

The pattern become somewhat more favorable for heavier lake effect snow towards the end of the extended cold period, with three separate lake effect snow storms in rapid succession from 11 through 16 December. These lake effect storms collectively dropped significant accumulations over the nearly week-long period across the typical snowbelts east of Lake Erie and Lake Ontario. The most significant storm was 13 to 14 December. The event started as a burst of lake enhanced snow along a strong cold front during the early morning hours of 13 December, producing several inches of accumulation east of Lake Erie and Lake Ontario in a short period of time. The initial southwest flow quickly became west to west-northwest later on 13 December through the 14th, with heavy snow falling in the typical snowbelts east of the lakes. This storm produced 1 to 2 feet of accumulation across the Chautauqua Ridge and Boston

Hills east of Lake Erie, and 8 to 16 inches of accumulation across the Tug Hill Plateau and portions of Oswego County east of Lake Ontario.

The longwave pattern changed across North America during the third week of the month, with the deep trough and associated cold air retreating northward into Canada, allowing mild Pacific flow to spread east across the United States. The pattern change had staying power, with mild weather dominating the eastern Great Lakes most of the time from 17 through 28 December. Most days during this stretch featured above freezing high temperatures, gradually melting the snowpack and resulting in a green Christmas holiday in most areas.

The pattern become more active again at the end of the month. A warm and moisture laden airmass moved into the area on 28 December, producing widespread heavy rainfall with 1.0" to 1.5" of rain across the region. This swelled area rivers and creeks to near bankful. A strong cold front plowed through the eastern Great Lakes early on 29 December, with strong winds gusting in the 50 to 65 mph range across the region. The Buffalo Airport recorded a gust to 79 mph, with several other recording stations in the Buffalo area exceeding 70 mph. The strong winds produced a notable seiche on Lake Erie of almost 8 feet, with the relatively low static lake level on Lake Erie helping to keep lakeshore flooding and damage very minor.

The cold pattern became re-established across the Great Lakes and New England following this strong cold front, with a western United States ridge allowing a deep trough to carve out over the northeast. Below average temperatures and heavy lake effect snow returned for the final two days of the month. A persistent closed low took up residence for nearly a week north of Lake Ontario, setting the stage for a classic long lasting, heavy lake effect snow storm east of Lake Erie and Lake Ontario.

Broad areas of lake enhanced snow developed behind the cold front on 29 December across much of the region. More concentrated bands of lake effect snow developed later in the day northeast of the lakes near Buffalo off Lake Erie, and across Watertown off Lake Ontario. A secondary cold front then captured these bands of snow and pushed them rapidly southward late in the day on the 29th. A northwest flow then produced relatively light and disorganized lake effect snow southeast of Lake Erie and Lake Ontario through 30 December, with light accumulations and minor impacts. A deep mid-level trough and associated surface low then crossed the eastern Great Lakes on the final day of 2025. Boundary layer flow became more westerly, and combined with improved moisture to allow lake effect snow to intensify east of both lakes. A broad area of lake enhanced snow developed later in the day as the low-pressure system crossed the region. Embedded bands of lake enhanced snow become heavy within this broad area of snow during the afternoon and evening. Off Lake Erie, the heaviest snow focused from the Buffalo Southtowns across Genesee County all the way to the west side of Rochester with 3 to 5 inch per hour snowfall rates at times. Off Lake Ontario, the heavy snow focused

across Oswego County through the first half of the day on 31 December with 3 to 5 inch per hour snowfall rates. The area of heavy snow then moved north across the Tug Hill Plateau to Watertown and Fort Drum, eventually moving all the way north to the Thousand Islands by evening.

January

There were four significant lake effect snow events this month, with the first occurring the opening hours of the month in a carry-over from December. Strong zonal flow across the border of the United States and Canada through mid-month kept arctic chill well to our north. From the 5th through the 15th the air temperature rose to at or above the freezing mark for much of our region. A cold front crossed Western New York on the 9th, with gusty southeast winds ahead of the front, then very strong winds along and behind the front. Winds gusted to 59 mph during the afternoon hours at the Buffalo and Dunkirk airports, with gusts in the 40-mph range across the Genesee Valley and east of Lake Ontario. Additionally, the first severe thunderstorm warnings of the year were issued on the 9th for strong damaging winds that occurred to the south and east of Buffalo. Another low pressure system passed to the northwest of Buffalo on the 12th and 13th that brought gusty winds into the 50 mph range. Starting mid-month, a burgeoning ridge of high pressure extended to Alaska and towards the Arctic Circle, opening the door for polar airmasses to settle southward across the Prairies of Canada and the Great Lakes region. Deep troughing over the Great Lakes allowed for long duration lake effect snow bands to oscillate downwind of the lakes. The start of the arctic plunge occurred on the 19th with the passage of a strong cold front, producing snow squalls and winds howling to 59 mph at the Buffalo airport and 51 mph at the Rochester airport. A heavy band of lake effect snow across Grand Island and Niagara County during the morning hours of the 19th was swept quickly southward across the Buffalo Metro area midday by the cold front, residing across the Buffalo Southtowns, Ski Country and the western Southern Tier the afternoon hours of the 19th through the 20th before lifting back northward across the northern Niagara Frontier during the evening hours of the 20th and early morning hours of the 21st. During the afternoon hours of the 20th the snowband became particularly intense with near zero visibility across the Dunkirk area, including the NYS Thruway which was closed for a period of time owing to many accidents under the snowband. In total of two and a half feet of snow accumulated across southern Erie County with a foot of snow across the Buffalo Southtowns, and a foot across Grand Island and Niagara County. East of Lake Ontario, a foot of snow accumulated near Watertown from the 19th to 21st, with a solid three feet of snow accumulating on the central Tug Hill. Bitter cold on the 19th through the morning hours of the 20th brought wind chill values below zero across all of Western New York, including -13F at the Buffalo Airport and colder than -20F for the

Southern Tier. Extreme cold remained west of the North Country, with wind chills here only in the single digits below zero.

A clipper system passed across Western New York on the 21st and 22nd with several inches of snow, but a narrow opening of water on Lake Erie helped a lake effect snowband to form across southern Erie and Wyoming counties with a foot of snow falling on the 22nd into the 23rd. This was the third lake effect event for the month. Another polar airmass dropped across Western New York on Friday night the 23rd into the morning hours of the 24th. Wind chill values reached well below zero, including -20F at the Buffalo airport, and -25F to -30F well inland. Air temperatures east of Lake Ontario dipped to a staggering -20F to -40F degrees on the morning of the 24th. On Sunday morning the 25th a synoptic snowstorm unfolded across the region with 8 to 16 inches of snow falling regionwide. This system brought areas outside the main lake snow belts the snowiest day of the winter season, with 6.7 inches of snow on the 25th for Buffalo, and also a daily record snow total to Rochester with 8.3 inches of snow accumulating. Behind this system the 4th and final lake effect snow event of the month unfolded. While snow amounts off Lake Ontario totaled a few feet, a half a foot of snow fell across portions of Erie County from the 27th to the 29th. On a northwest flow lake effect snow continued south of Lake Ontario on the 29th through the 31st. Upwards to a foot of snow fell along the immediate Lake Ontario shoreline, with multi-banded structure snowbands providing several coatings of snow through the end of the month. Farther east, upwards of two and a half feet of snow fell on the final days of the month southeast of Lake Ontario. This event pushed the snow depth on the southern Tug Hill to four and a half feet, the maximum depth for the winter season. On the 29th, a heavier band of snow with reduced visibility caused a 60-car pile-up on the New York State Thruway near Batavia. The snow at the end of January combined with very cold temperatures kept roads snow covered the final week of January.

February

February started in the throes of a very cold stretch, with all three of our climate stations on a 9-day streak of sub-20 degree days. These streaks are all a top 10 longest in recorded history for our three climate stations of Buffalo, Rochester and Watertown. An arctic front crossed the region on the 3rd, with snow squalls across Western New York to the southeastern shoreline of Lake Ontario during the afternoon rush hour. An arctic airmass then followed with extreme cold the weekend of the 6th through the 8th with wind chill readings double digits below zero. Light snow and flurries continued through the 8th before a mix of sun and clouds occurred on the 9th. Beginning on the 9th, the upper air pattern began to change, with the deep longwave trough of cold air retreating to Canada, and a zonal flow of Pacific air over a suppressed western ridge reached the Lower Great Lakes. Before this pattern changed, on the morning hours of the 10th Watertown set its second longest streak of days (19 days) with a temperature in the single

digits or lower, trailing only the record of 22 days in 1961. A warm front lifted across Western New York on the morning of the 10th with light snow. Behind this front, temperatures rose quickly with a pleasant few hours in the afternoon reaching the mid-40s across Western New York before a cold front brought winter's chill back for the evening hours. A cold northwest flow on the 11th of the month brought numerous bands of light to moderate lake effect snow across Western New York, with these snow showers lingering into the 12th. Surface high pressure settled across Western New York during the afternoon of the 13th and through the 14th, which maintained a dry and quiet Valentine's Day for Buffalo. Temperatures began to increase on the 15th and 16th into the 40s, which combined with an increase in moisture with dewpoints rising above the freezing mark, resulting in areas of dense fog forming over a snow-covered ground and near the ice-covered Lake Erie shoreline. The fog was persistent through the evening and overnight hours of the 16th-17th and again on the 17th-18th. On the 18th, a warm front pushed into Western New York with light freezing rain to the north of the front, with icing primarily along the southern Lake Ontario shoreline, and just a light glaze at the Buffalo airport. South of the airport several thunderstorms developed, bringing flashes of lightning south of Buffalo, with several storms bringing dime to quarter size hail across southern Erie County and the western Southern Tier. Widespread black ice formed during the morning hours of the 19th as temperatures quickly dropped below freezing, with a sheet of ice forming from recent snowmelt and precipitation on many parking lots, sidewalks, bridges and untreated roads. Nickel and dime snow events continued through much of the end of the month. Though not directly affected by a powerful nor'easter that slammed the I-95 corridor on the 22nd, lake enhanced snow of a few inches fell from the northerly flow to the west of the nor'easter across Western New York. Deeper moisture brought a foot of snow to the Chautauqua Ridge the 22nd through the 23rd. Above normal temperatures on the final two days of the month ablated the snowpack, leaving the ground with just snow plowed piles by the final hours of the month across lower elevations, though a foot or so of snow remained in the hills of southwest New York State, and up to four feet of snow remained on the ground on the Tug Hill.

March

The start of meteorological spring saw a pattern change, where prolonged cold stretches flipped to prolonged mild stretches, with cold stretches limited to just a few days. This promoted more liquid precipitation events for the month, limiting snow accumulation. But first, a flow of cold air continued from the winter months into the first few days of March, with below freezing temperatures on the first two days of the month for much of the region. A warming trend started on the 3rd, and culminated on the 7th when the thermometer hit 72 degrees at Buffalo, 73 in Rochester and 63 in Watertown. This was the first 70 degree reading of the year for Buffalo and Rochester, occurring several weeks earlier than normal. Ending the warmth was a

strong cold front later on the 7th, one that bore showers and a few Southern Tier severe thunderstorms that brought down trees. Several rounds of showers and thunderstorms on the 11th through the daylight hours totaled over an inch of rainfall at the Buffalo airport. The 11th through the 16th also featured a windy period for the month, with 5 of the 6 dates featuring gusts over 50 mph in parts of the Eastern Great Lakes region. Temperatures on the 16th soared to the lower 60s by early afternoon hours before a strong cold front passed through, with winter's chill following along with several inches of snow. Additional waves of rain from passing storm systems increased March precipitation to a top 10 wettest month on record. These events occurred on the 20th, 22nd, 26th and lastly late on the 30th and the 31st of the month when a widespread two to three inches of rain flooded parts of WNY. Area creeks swelled with the Buffalo creeks, Tonawanda Creek, and creeks of the Genesee Valley and the Salmon River all reaching minor to moderate flooding. This brought numerous road closures across the region. The rain combined with the mild month diminished the snow depth on the Tug Hill from around 4 feet at the beginning of the month to just over a foot by month's end. Additionally, on the final day of the month a severe thunderstorm passed from Lake Erie inland with large hail and damaging wind gusts across southern Erie and northern Cattaraugus counties, and later spawned an EF-1 tornado near Machias. This was the first March tornado in New York State since 1976.

April

April continued March's pattern, one that featured mild temperatures as well as a wet pattern. Several bouts of colder air did bring minor snow accumulations to our region, these being from April 5th to the 7th as well as the 19th through the 20th. The 20th also brought the last measurable snow for Rochester and was the last day of measurable snow for much of our region.