NY CoCoRaHS Newsletter

June 2023

Contents:

Did you know that your observations can help NWS forecasters issue warnings and validate weather conditions in your area? This third installment of the NY CoCoRaHS newsletter features information on how to do just that! In addition, we'll recap a not-so-snowy snow season (for many areas) in which snowboards gathered dust instead snow. If you'd like to provide feedback, be featured in our observer profile, or submit a photo for use in the newsletter, please email cocorahs@cornell.edu.

Thanks for reading!

- Samantha Borisoff, NYS Coordinator

Photo by NY-TM-38

Observer Recognition

We appreciate all of our volunteers! Consistent precipitation reports, even the zeros, are essential to the CoCoRaHS network and those who use its data. As a special thank you to those observers who report nearly every day, we have created the golden, silver, and bronze raindrop awards. This newsletter is highlighting observers who reported 99% (golden raindrop), 95% (silver raindrop), and 90% (bronze raindrop) of all days from January 1 through May 31.

Golden Raindrop

NY-AB-1
NY-AB-21
NY-AL-11
NY-BM-1
NY-BM-4
NY-BM-55
NY-CB-15
NY-CB-16
NY-CB-19
NY-CB-23
NY-CB-26
NY-CL-7
NY-CL-12
NY-CQ-5
NY-CQ-9
NY-CQ-22
NY-CQ-35
NY-CQ-42
NY-CR-1
NY-CR-3
NY-CT-22
NY-CY-5
NY-CY-34
NY-DL-25
NY-DL-32
NY-DT-10
NY-DT-12
NY-DT-24
NY-DT-29
NY-DT-32
NY-DT-34
NY-DT-35
NY-ER-50
NY-ER-56
NY-ER-59
NY-ER-102
NY-ER-122
NY-ER-135
NY-ER-158
NY-ER-166
NY-ER-177
NY-ER-189
NY-ER-194
NY-ER-219
NY-ES-5
NY-FK-7
NY-FL-7
NY-GN-20
NY-GN-23
NY-GR-6
NY-GR-14
NY-GR-15
NY-HM-8
NY-HM-10
NY-JF-30
NY-LW-3
NY-LW-12
NY-LW-13
NY-MD-10
NY-MD-16
NY-MD-22
NY-MG-1
NY-MG-3
NY-MG-5
NY-MR-15
NY-MR-65
NY-MR-89
NY-NG-2
NY-NG-12
NY-NG-27
NY-NG-30
NY-NS-42
NY-NS-66
NY-NS-70
NY-OD-2
NY-OD-21
NY-OD-23
NY-OD-43
NY-OD-66
NY-OD-67
NY-OG-10
NY-OG-52
NY-OG-71
NY-OG-79
NY-OL-5
NY-ON-15
NY-OR-4
NY-OR-17
NY-OR-18
NY-OS-1
NY-OS-15
NY-OS-38
NY-OT-11
NY-PT-2
NY-QN-33
NY-QN-39
NY-RC-1
NY-RL-8
NY-RN-1
NY-RN-13
NY-RN-15
NY-RN-20
NY-SC-27
NY-SF-44
NY-SF-73
NY-SF-77
NY-SF-84
NY-SF-85
NY-SF-92
NY-SF-100
NY-SF-103
NY-SF-114
NY-SF-123
NY-SF-127
NY-SF-138
NY-SL-6
NY-SR-4
NY-ST-3
NY-ST-30
NY-ST-41
NY-TG-15
NY-TG-28
NY-TG-31
NY-TM-4
NY-TM-23
NY-UL-20
NY-UL-29
NY-UL-31
NY-UL-34
NY-UL-37
NY-UL-38
NY-WC-6
NY-WC-18
NY-WC-22
NY-WN-6
NY-WN-18
NY-WR-17
NY-WR-21
NY-WY-10
NY-WY-11
NY-YT-8
NY-YT-12

Silver Raindrop

NY-AB-23
NY-AB-32
NY-AB-47
NY-AB-66
NY-BM-52
NY-BM-56
NY-CB-24
NY-CM-24
NY-CQ-39
NY-CT-25
NY-CY-8
NY-CY-26
NY-CY-35
NY-DL-28
NY-DL-34
NY-DT-8
NY-DT-37
NY-ER-57
NY-ER-63
NY-ER-75
NY-ER-138
NY-ER-178
NY-ER-208
NY-ES-6
NY-ES-11
NY-GN-6
NY-GN-13
NY-HM-1
NY-HM-9
NY-HR-18
NY-KN-25
NY-LV-8
NY-MR-50
NY-MR-90
NY-NG-55
NY-NS-34
NY-NS-65
NY-OD-60
NY-OG-12
NY-OG-46
NY-ON-17
NY-OR-21
NY-SC-2
NY-SC-17
NY-SF-2
NY-SF-7
NY-SF-16
NY-SF-110
NY-SF-148
NY-SR-16
NY-SR-29
NY-ST-33
NY-TM-18
NY-TM-42
NY-UL-39
NY-WC-34
NY-WC-37

Bronze Raindrop

NY-AB-10
NY-AL-2
NY-BM-7
NY-BM-14
NY-BM-21
NY-BM-24
NY-CQ-41
NY-CY-2
NY-CY-14
NY-DT-23
NY-ER-39
NY-ER-54
NY-ER-151
NY-ER-211
NY-ER-242
NY-ER-255
NY-GR-7
NY-HR-16
NY-HR-23
NY-MR-21
NY-MR-23
NY-MR-55
NY-MR-84
NY-NG-32
NY-NG-47
NY-OG-70
NY-OG-80
NY-RC-16
NY-RL-11
NY-RN-23
NY-SC-16
NY-SC-30
NY-SF-34
NY-SF-62
NY-SF-79
NY-SF-80
NY-SF-89
NY-SR-59
NY-ST-10
NY-SY-1
NY-SY-11
NY-TM-5
NY-TM-45
NY-TM-47
NY-UL-16
NY-UL-19
NY-WC-20
NY-WC-35
NY-WR-10

Observer Profile: NY-SF-80

For this publication, we are highlighting Chris and Caryn DeVivo from Long Island (LI). Chris and Caryn are true environmental heroes, both born and raised on Long Island. They live on the East End, South Shore of LI, where they raised three children. They met at SUNY Oneonta, have been married 38 years, and are truly soulmates. They are both passionate about keeping Long Island beautiful.

Caryn is a conference/event manager at Atlantis Banquets & Events at Long Island Aquarium. Chris is Director of Quality Control for a pharmaceutical company. Chris enjoys photographing local wildlife; some of his favorite seasonal subjects are hummingbirds, bald eagles, osprey and other various hawks, humpback whales, harbor seals, and snowy owls. Chris also enjoys saltwater fishing. They love LI's ocean beaches and all they have to offer through all four calendar seasons. They regularly enjoy weekend beach walks with their Golden Retriever, Bailey, always with a clean-up bucket in tow, to help keep the local Pikes Beach trash free. Caryn also collects driftwood and washed up lumber along the shoreline, then up-cycles/repurposes the wood into various crafts and weathered signs for family and friends.

Chris and Caryn have a strong environmental consciousness and, in their words, view everyday as Earth Day. "We look for ways to reduce waste, always in search of new biodegradable consumer products, try very hard not to use single use throw away items, and we do NOT purchase plastic water bottles. We recycle and reuse as much as possible and compost organics in our yard for Chris' summer vegetable garden."

Their daughter and son-in-law will soon become first time LI home owners. Chris and Caryn not only report for CoCoRaHS every day, but are great recruiters. They plan a CoCoRaHS rain gauge as part of their daughter's housewarming gift! Proudly, their philosophy is to be "part of the solution!" Caryn and Chris delight in the fact that they are team observers for CoCoRaHS. Their rain gauge is conveniently located in the backyard; each morning, Chris reads the gauge while outside with Bailey and relays the information to Caryn to record the measurement (even when zero) diligently into the CoCoRaHS app. As they say, "It's that simple!" Their first observation was September 2, 2016, and they have reported 2,226 observations since. What a feat! "We are proud to play our small part within the large CoCoRaHS community."

What is simple, Caryn and Chris, is to give you a heart-felt THANK YOU on behalf of CoCoRaHS and the entire weather and climate community of New York. You are certainly a part of the solution. - Tim Morrin (NY-SF-2), Southern NY Co-Coordinator

Empowering Communities: NWS Flood Inundation Mapping in Central/Eastern NY and CoCoRaHS Observers' Crucial Role in Flood Verification

by Jim Brewster, NWS Binghamton

In recent decades, Central and Eastern New York have experienced their fair share of devastating floods, leaving communities vulnerable and underscoring the need for accurate flood forecasting and effective emergency response. The NWS has responded to this challenge by developing the **Flood Inundation Mapping (FIM)** program, which utilizes advanced modeling techniques, real-time data, and partnerships with local stakeholders to generate accurate flood inundation maps.

As this initiative rolls out in Central and Eastern New York, it is essential to highlight the vital role played by CoCoRaHS observers in verifying flood data. Together, we will empower communities with the knowledge and resources needed to effectively respond to natural disasters. By 2026, all of New York will have access to real-time flood inundation mapping services for all streams and rivers throughout the state. However, during the initial phase of the FIM rollout on October 1 of this year, the NWS has focused on covering most of Central and Eastern New York as part of the first 10% of the nation to receive these map services. This region was carefully selected based on historical flood patterns and the severity of previous flood events. By concentrating their efforts in this specific region, the NWS aims to provide targeted flood forecasts and invaluable resources to aid emergency management personnel and residents in making informed decisions.

One of the cornerstones of this new NWS FIM program is the involvement of CoCoRaHS observers, who already play a pivotal role in flood verification. CoCoRaHS observers, currently collecting precipitation data across the region, may be asked to report local flood impacts after a future flood disaster. Accurate flood verification is crucial for ensuring the effectiveness of flood forecasting models and enabling timely response measures. By comparing the flood forecasts generated by the NWS with the real-time observations of CoCoRaHS observers, flood extent discrepancies can be identified and addressed promptly. This verification process will help to refine these mapping models, enhancing their accuracy and reliability over time. The collaboration between the NWS FIM program and CoCoRaHS observers is expected to represent a significant advancement in flood forecasting and emergency preparedness in Central and Eastern New York. By combining the expertise of the NWS with the dedication of citizen scientists, communities will continue to gain access to reliable flood inundation maps, enabling them to better understand their flood risks and make informed decisions to protect lives and property. As we continue to face the challenges of a changing climate, this partnership serves as a shining example of how collaboration and grassroots involvement can make a real difference in safeguarding lives and properties against the destructive power of floods.

Significant Weather and Hail Reports

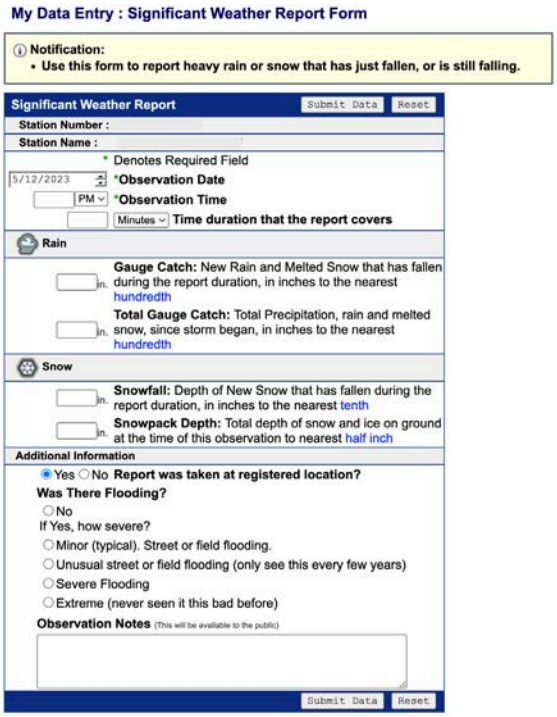
by Samantha Borisoff, NYS Coordinator

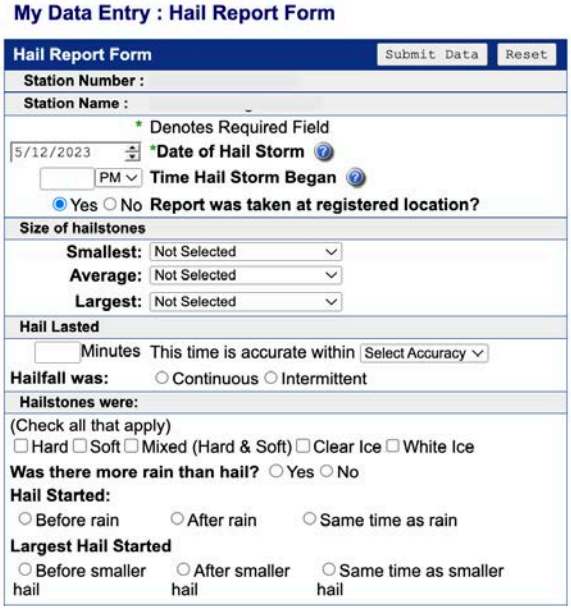
Three inches of snow fell in the past hour and it's piling up fast.

Your gauge caught over two inches of rain in the past two hours, causing a nearby stream to quickly rise.

Quarter-sized hail just pelted your house.

These are just a few examples of notable weather events that can be reported via the CoCoRaHS website. For heavy snow or rain, use the Significant Weather Report, and for hail, fill out the Hail Report. Links to both reports can be found on the left-side menu after you've logged into the CoCoRaHS website.



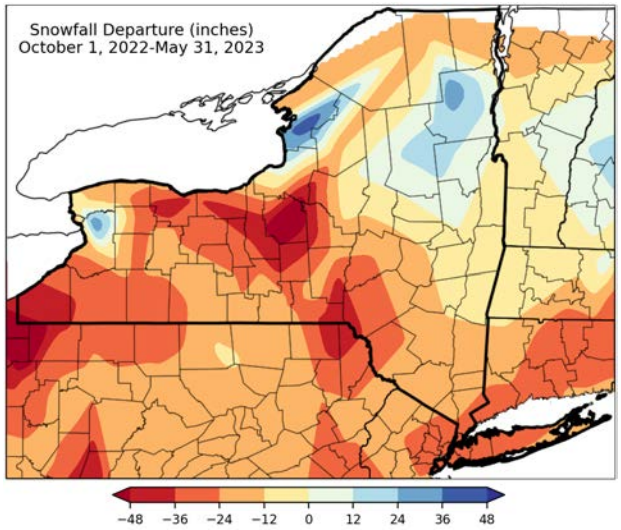


These reports can be submitted while an event is occurring and are directly transmitted to your local National Weather Service (NWS) office. During a rapidly-developing situation, these reports could help NWS issue warnings, such as a Flash Flood Warning or a Severe Thunderstorm Warning. These reports also help verify weather conditions in an area.

A meteorologist at the New York NWS office sums up how incredibly useful the Significant Weather and Hail reports are, "Because we furnish a forecast for seemingly every point in the US, people think we know what's going on at every point in the US, too. Click on a map and a forecast pops up, so we should know what's going on there, too, right? But, that's not the case. We do have multiple networks of observations that we can look at, but there are gaps and CoCoRaHS observers help fill those gaps. From sending snow reports that verify Winter Storm Warning criteria to reporting large hail greater than an inch in diameter, these vital reports come into the office where we pass it along to the warning forecaster so they get a clear picture of what's falling out of a storm, and then out to the public via Local Storm Reports and/or Public Information Statements, helping us to fulfill our mission of saving lives, property, and enhancing the national economy".

Here's another example from NWS Burlington: "I wanted to express our appreciation for your CoCoRaHS storm report from yesterday's storm near the International Border which helps us verify severe thunderstorm warnings. We also got information from the Vermont State Police that a tree was down on a power line on Beebe Road."

Seasonal Snowfall



Most of New York saw below-normal seasonal (October–May) snowfall. The largest deficits of more than 48 inches were in parts of central and western New York, with Rochester 51.6 inches below normal (eighth least snowy season) and Syracuse 62.2 inches below normal (11th least snowy season). This season was the least snowy on record at Central Park (since 1870) and among the five least snowy for Islip, Kennedy Airport, and LaGuardia Airport, all with deficits of around 24 inches. The largest snowstorm for most areas was a mid-March nor'easter that gave Syracuse, Albany, and Ithaca their snowiest day of the season (6.0 inches or more). However, locally heavy seasonal snowfall occurred in the Adirondacks and near Buffalo, which had its fifth snowiest season with a surplus of 38.2 inches (driven by historic lake-effect snowfall events in November and December).

NWS New York: CoCoRaHS Helps New Yorkers Track Elusive Snow by Tim Morrin

Snowless December days in Brooklyn, NY. Courtesy of Ramesh Laungani (top) and Natalie Umphlett (bottom)

As the calendar flipped to 2023, even the most preoccupied New Yorkers were wondering where all the snow was. Hardly a flake had fluttered through Times Square by January 1st. To say the snow was late is an understatement. Typically, by the time the ball drops on the New Years, about 5 to 6 inches of snow has already fallen. This year, instead of counting inches, observer groups like CoCoRaHS, were counting flakes. National Weather Service meteorologists started to crack open dusty climate record books as each day edged closer to a new record latest measurable snowfall in New York City. As each day ended without at least a tenth of an inch of snow, it was getting closer to the record—January 29, 1972. A 50-year-old record was on the line and, along with NWS weather watchers, CoCoRaHS observers were standing by, snow rulers in hand.

CoCoRaHS (Community Collaborative Rain, Hail, and Snow), is a 25-year-old network of volunteer precipitation observers. It's a community of dedicated weather observers, who become highly trained on how to measure and report precipitation. This includes snow. The program has become so impressively robust, that NWS climatologists deem their reports official. So, when the climate day was in the books on January 29th, and neither a flake nor pellet of ice was reported by CoCoRaHS observers, NWS meteorologists were confident that a new record was established. Thanks to the efforts of the dedicated CoCoRaHS observers in the NYC area, the new record was stamped with high confidence.

Seasonal Snowfall

NWS Buffalo: Lack of Snow by David Thomas

Two lake effect snow events during the winter of 2022–23 to the northeast of Lakes Erie and Ontario will be ranked among the most epic lake effect snow events of all time in western and north central New York's history. The November 17–20 event featured state record challenging snow south of Buffalo and more than four feet falling east of Lake Ontario. The December 23–27 event featured long-lasting blizzard conditions for the metro areas of Buffalo and Watertown.

Below-normal snowpack in western New York in early March 2023. Courtesy of Dan Kelly

However, for the remainder of winter and outside of these northeast lake snow belts the winter was anything but severe. In fact, many would say "what winter?" Through the Genesee Valley, Finger Lakes, and even southeast of Lake Ontario, snowfall as measured by cooperative observers and CoCoRaHS observers was minor. Oswego, NY, had its second least snowfall for the season as the 47.0 inches of snow trailed only the winter of 1906–07 (45.6 inches). Records here date back to 1891. Rochester, NY, had its 8th least snowiest season, and though not as long a period (1969) Geneva, NY, had its 2nd least amount of seasonal snow (24.8 inches), trailing only the winter of 2015–16 (21.2 inches). Even locations in the Southern Tier, which traditionally receive an abundance of lake effect snow, had a top 5 to top 10 least snowiest season on record. Jamestown, NY, was more than 40 inches below their normal of 98.4 inches and Angelica, NY, was close to 3.0 feet of snow below normal.

Cold, northwest flow periods were lacking this winter, a direction that would favor lake snows in the Southern Tier and south of Lake Ontario. Also many of the synoptic snow events this season featured a mix of rain, sleet, freezing rain, and snow. It was not until early March that the first notable synoptic storm to feature just snow occurred. This event brought 6 to 12 inches of snow to Western New York. In fact, this event along with several other smaller events in March helped many of our locations from the Southern Tier to the Genesee Valley and Finger Lakes to southeast of Lake Ontario to have their snowiest month of this winter season. Of course, with the higher sun angle and the early spring warmth of March, this snow did not stick around long.

The two significant lake effect snow events carried the headlines this winter and deservedly so, but the lack of snow elsewhere is also newsworthy. Thankfully, precipitation in these snow drought areas was near normal for the winter season, keeping streams and creeks running at normal flows into the spring.

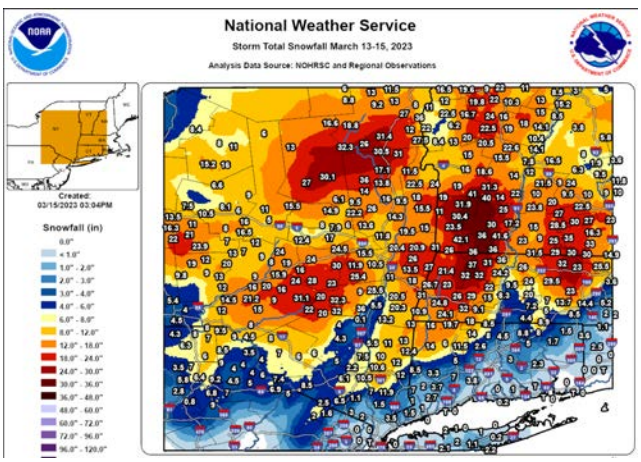
Seasonal Snowfall

NWS Albany: Winter Storm Spotlight "Pi" Day Snowstorm by Brett Rathbun

A low pressure system developed off the Carolina Coast on March 13, slowly tracked northward up the East Coast into March 14, then moved eastward out to sea on March 15. Light precipitation started on March 13 associated with a weak disturbance from the west. Thermal profiles led to mainly light rain showers in the valleys and snow or a rain/snow mix across the higher elevations. By the evening and overnight hours on March 13 into March 14, all precipitation changed over to snow and began to fall moderate to heavy at times as the coastal low approached, near the coast of Long Island and New England. Snow continued to fall throughout the daytime hours on March 14. The heaviest snow during this time occurred across parts of Warren, Hamilton, Fulton, Montgomery, Schoharie, Greene, and Ulster counties as a pivoting snow band set up across these areas much of the day. Snowfall rates of 1 to 2 inches per hour likely occurred within this band. Elsewhere, light to occasionally moderate snow fell, though additional accumulations were limited in some valley areas as the high sun angle and reduced intensity of the snowfall melted most falling snowflakes once they reached the surface and also slowly compacted the newly fallen snow. By early evening on March 14, the pivoting snow band shifted back eastward into the Hudson Valley. Northerly winds down the Hudson Valley and northwesterly winds down the Mohawk Valley resulted in an enhancement of this band over the region (Mohawk–Hudson Valley Convergence) bringing snowfall rates of around 1 inch per hour once again. This, combined with the lowering sun angle and sun setting, brought additional light accumulations with roads becoming snow covered and/or slushy/slippery toward the end of the evening commute. From the late evening into the overnight hours, snow begin to gradually taper off in most areas with just some lingering light to moderate snow showers and flurries across some higher elevation areas through the morning hours on March 15 before ending.

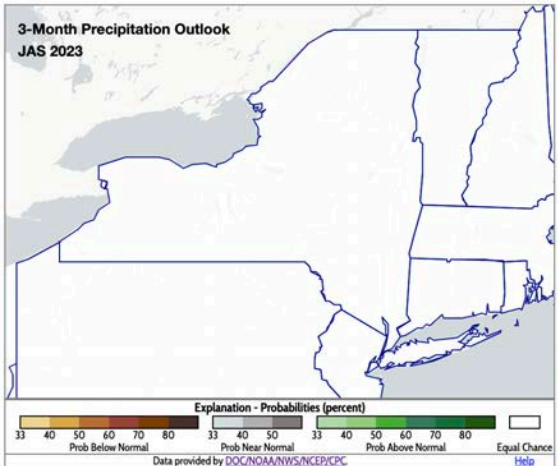
Snowfall totals varied greatly based on location and elevation due to differences in the snow-to-liquid ratios (lower in the valleys and higher in the higher elevations). Most higher elevation areas received between 15 and 30 inches of snow. Portions of the southeastern Adirondacks and eastern Catskills received over 30 inches. Valley locations received mostly 7 to 15 inches. A few areas across the western Mohawk Valley and the mid-Hudson Valley received less than 6 inches of snow as they were missed by the heavier snow bands. Liquid equivalent precipitation equaled 1.00 to 2.50 inches.

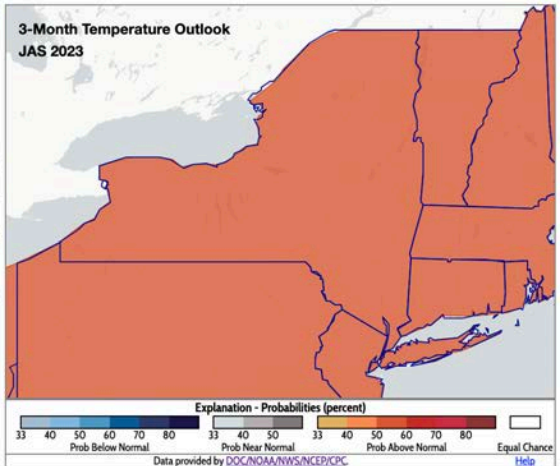
This was a heavy, wet snow for most areas and the weight and amount of the snow led to numerous downed trees and power lines resulting in widespread power outages. According to National Grid, approximately 141,000 customers lost power in New York with most of these outages occurring within our county warning area. Some locations were without power for at least 1 or 2 days. Several warming stations opened to assist those without power. This event led to the closing of many school districts and resulted in the issuance of chain up laws and bans of empty tractor trailers and/or tandems on some area interstates. Several jurisdictions issued a State of Emergency as a result of the storm.



Outlooks

by Samantha Borisoff





NOAA's Climate Prediction Center favors above-normal temperatures for all of New York. Normal average temperatures for the period include 60.8°F in Lake Placid, 65.4°F in Binghamton, 67.5°F in Watertown, 68.5°F in Buffalo, 69.3°F in Albany, and 74.3°F in New York City. Equal chances of below-, near-, or above-normal precipitation were predicted for New York for July–September. Normal precipitation for the period includes 10.05 inches in Rochester, 10.56 inches in Buffalo, 10.94 inches in Syracuse, 11.10 inches in Islip, and 11.16 inches in Watertown.

NOAA forecasters call for a near-normal Atlantic hurricane season, with "a likely range of 12–17 named storms, of which 5–9 could become hurricanes, including 1–4 major hurricanes." This is due to competing factors such as expected El Niño conditions, which typically suppress Atlantic hurricane activity, and above-normal sea surface temperatures, which are favorable for hurricane development. The season runs from June 1–November 30, peaking from mid-August to late October.

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