

Stormbuster

NATIONAL WEATHER SERVICE ALBANY, NY



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Meet a Meteorologist

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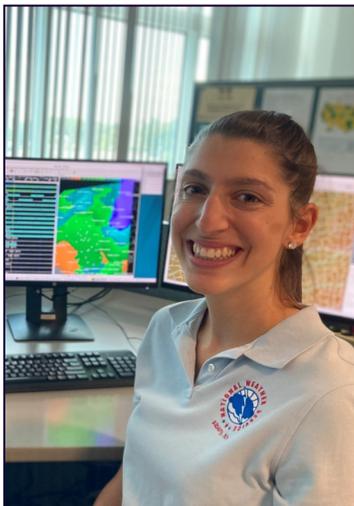
Welcome to “Meet a Meteorologist!” This is where you will get to know fun facts about one of our Meteorologists. In this edition, we introduce one of our Meteorologists, Christina Speciale, who comes to us from New Jersey.

When did you first become interested in Meteorology?

Three distinct weather experiences sparked my interest in meteorology. The first was in the summer of 1995 when a severe weather event occurred when my relatives from Italy were visiting and we were all at my grandparent's house in Staten Island, NY. Our relatives had never experienced severe thunderstorms before so this was truly an anomaly for them. My mom rushed all to the basement when a tornado warning was issued but our relatives did not understand why they needed to go to the basement and instead rushed outside. It took some time translating what a tornado warning meant in Italian but my parents eventually convinced them to head downstairs. The strong winds ended up blowing out my grandparent's kitchen window which had been stuck closed for many years. This demonstrated to me that Mother Nature was truly remarkable. The second event was the infamous Blizzard of 1996, which impacted the I-95 corridor. I distinctly remember being completely incredulous when the cars in my driveway were buried under nearly 3 feet of snow and witnessing how the world truly changes when it snows. The last event that solidified my interest in meteorology occurred in September 1999 when the heavy rains from Tropical Storm Floyd caused the Raritan River to reach major flood stage and resulted in terrible flooding not only across New Brunswick (home to my alma mater, Rutgers University) but also many neighboring towns.

Where did you go to college and where did you work before the NWS at Albany?

I attended Rutgers University, The State University of New Jersey. Before joining NWS Albany, I worked for the State Climatologist of New Jersey during the summer of 2011 where I first learned about 30 year climate normals and the importance of ground truth data from Cooperative Weather Stations and the CoCoRaHS network. Then, I was hired as an operational meteorologist for a private company in northern New Jersey where I worked for 5 years. This role taught me how many different industries rely upon weather data to make lifesaving and economic decisions. Our clients included professional sports teams and arenas, city and county officials, private landscape and snow removal companies and even colleges and universities. It was here where I was first exposed to forensic meteorology.



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What do you enjoy most about coming to NY (from NJ)?

I enjoy the easy access to numerous outdoor activities and having the opportunity to hike and relax along the beautiful lakes of Upstate NY and western New England. I also appreciate living in an area with far less traffic congestion. It's a world of difference not having to encounter high volume traffic during both the morning and evening rush hours or weekend traffic during the summer months when many often head to the Jersey Shore. It's also been wonderful exploring the unique towns across NY, MA, VT and CT. I also enjoy being within 3 hours of both Boston and Cape Cod which I had never visited before moving to Albany.

What will you miss the most about New Jersey?

Of course, I miss being close to my family and friends. I absolutely love the beach and New York City so I do miss having the opportunity to just hop in the car (or bus/train) and be at the beach or in the city within the hour. In addition, I miss not pumping my own gas. It may sound trivial to those who have pumped their own gas their entire life but it initially was a "culture shock" when I moved to NY.

What aspect of weather do you enjoy the most? Any favorite storms or historical weather events?

I enjoy the opportunity to communicate and explain weather hazards to our decision makers. It's one thing to give our partners the forecasted snow amount but to provide the details they need to ensure their operations run smoothly including having sufficient staffing and appropriate resources allows us to fulfill the NWS mission. My most memorable weather events include the Blizzard of 1996, Tropical Storm Floyd and Irene, the October 2011 snowstorm, Hurricane Sandy, the June 2012 Derecho, and Blizzard of 2016. Working in Albany, some memorable events include the March 14, 2017 "Pi-Day" blizzard, the December 1-3, 2019 snowstorm and the October 7, 2020 derecho.

Do you have any hobbies? What do you like to do in your spare time?

I love to read, soak up the sun either at the beach or lake, try out a challenging hike and explore new cities. I also enjoy cooking and trying new family recipes.

What are you most excited about working for the National Weather Service?

I value the opportunity to work closely with state, county and city partners not only during weather events when they are making life saving decisions but also during meetings and tabletop exercises as they learn about weather hazard and preparedness strategies. I also enjoy the numerous opportunities we have to collaborate with the SUNY Albany professors and students, the NYS mesonet and neighboring NWS offices on research projects and case studies.

What are your career goals/hope to accomplish in the National Weather Service?

I hope to improve upon my communication skills and continue improving my ability to ascertain key signatures in the model or real-time weather data ahead of challenging and/or conditional weather events. I also hope to build stronger relationships with our public and private partners and to train our newly hired meteorologists.

- Christina Speciale, Meteorologist

Autumn/Winter Skywarn Safety Training Sessions

Your Albany National Weather Service, along with our state and county partners, are excited to announce our autumn/winter Skywarn Safety Training Sessions. To adhere with our health and safety guidelines, all sessions will be conducted virtually. These interactive sessions will teach you more about our Weather-Ready Nation initiative, how to measure snow and ice, ways to communicate your observations back to the forecast office and several unique case studies from recent notable high-impact winter weather events. To register for these free sessions, please visit <https://www.weather.gov/aly/skywarn> and select a date convenient for you. Additional classes will be added over the next several weeks so check back often. Announcements will also be made on social media through [Facebook](#) and [Twitter](#).



-Brian Montgomery, Lead Meteorologist



Climate Normals

New Climate Normals will be released next year for the period 1991-2020. Climate Normals are three-decade averages of climatological variables including temperature and precipitation and are produced once every 10 years. They are regularly used for placing recent climate conditions into a historical context.

NOAA's [National Centers for Environmental Information \(NCEI\)](#) has a responsibility to fulfill a mandate of Congress "... to establish and record the climatic conditions of the United States." This responsibility comes from a provision of the Organic Act of October 1, 1890, which established the Weather Bureau as a civilian agency.

NOAA's computation of Climate Normals is in accordance with the recommendation of the World Meteorological Organization (WMO), of which the United States is a member. The WMO mandates each member nation to compute 30-year averages of meteorological quantities at least every 30 years, however the WMO recommends a decadal update.

NCEI develops national and global datasets. They have procedures in place to deal with missing and suspect data values. Beyond weather and climate comparisons, Climate Normals are used in many ways including for the regulation of power companies, energy load forecasting, crop selection and planting times, construction planning, building design, and much more.

In 1951, the Federal Government moved all weather records to Asheville, North Carolina, where the archives at the U.S. Weather Bureau, Air Force, and Navy combined to form the National Weather Records Center (NWRC). Prior to this weather observations were in archives scattered across the country. In 1970, the NWRC changed its name to the National Climatic Center and in 1982 was renamed the National Climatic Data Center (NCDC).

In 2015 with the ever growing demand for environmental data and information, NCDC along with the National Geophysical Data Center and the National Oceanographic Data Center were merged into the NCEI to improve their ability to meet that demand.

NOAA's NCEI manages the [Regional Climate Center \(RCC\) Program](#) which provides climate services to six regions encompassing the United States.

- High Plains Regional Climate Center - Lincoln, Nebraska
- Midwestern Regional Climate Center - Champaign, Illinois
- Northeast Regional Climate Center - Ithaca, New York
- Southeast Regional Climate Center - Chapel Hill, North Carolina
- Southern Regional Climate Center - Baton Rouge, Louisiana
- Western Regional Climate Center - Reno, Nevada



Active Tornado Season Across Eastern New York and Western New England

(source(s): NOAA/NCEI Storm Data and NWS at Albany Public Information Statements)

The National Weather Service (NWS) at Albany forecast area includes east-central New York (NY) and western New England (southern Vermont, the Berkshires of western Massachusetts (MA), and Litchfield County in northwest Connecticut (CT)). A total of 13 tornadoes occurred between May 1st and August 31st this year in the NWS at Albany forecast area.

There were two tornadoes that occurred in eastern NY this past May. One occurred in Saratoga County on May 15th and the other occurred in Warren County on May 29th. Both of the tornadoes were rated EF-1's from the NWS at Albany damage surveys. A total of 11 tornadoes occurred in August across eastern NY and western New England. Four tornadoes occurred on August 2nd impacting western New England. Three tornadoes occurred in Litchfield County in northwest CT, two EF-0's and 1 EF-1. Another tornado touched down in extreme southeast Berkshire County in western MA and was rated an EF-0. Less than a week later, an EF-1 tornado occurred in Argyle, Washington County in eastern NY with the majority of the damage from uprooted and snapped trees. A little more than two weeks later a pair of tornado events would impact the Albany forecast area with three tornadoes on each day. On August 27th a brief EF-1 tornado touchdown would occur in the eastern Catskills in Greene County. Two separate tornadoes would occur later that afternoon in Litchfield County, CT with two brief EF-0's. On August 29th, two EF-1 tornadoes would occur in the Greater Capital Region in southeast Saratoga and northern Rensselaer Counties. The northern Rensselaer County tornado impacted Schaghticoke into Valley Falls with damage to the roof of a home and destroying a shed behind the house, and also producing structural and roof damage to a school. Estimated winds from this high end EF-1 tornado would be 110 mph. In the late afternoon, a brief touchdown with another tornado (EF-0) that day would occur in Hartman, northern Saratoga County producing tree damage and some trees falling on a home. All the tornadoes this warm season would not result in any fatalities.

The Albany forecast area averages about three tornado events each year based on a tornado climatology mean period from 1950-2010. An analysis since 1980 shows that the 3 greatest seasons annually in the Albany County Warning Area (CWA) occurred in 1992, 2003 and this year (Fig. 1). In the past, multiple reports of the same tornado are entered separately in Storm Data which can cause a higher number (i.e. 2003) of total reports. The 2020 season consisted of all separate tornadoes (13). The peak month(s) for tornadoes since 1980 across eastern NY and western New England are usually in May and July (31 each), but August is steadily catching up with 3 last year and 11 this year with a total of 25 since 1980 (Fig. 2). The majority of the tornadoes in the NWS at Albany forecast area are EF-0 or EF-1 (~87%) since 1980 (Fig. 3). The operational Enhanced Fujita Scale is a set of wind estimates based on degree of damage. This tornadic damage scale was modified from the old Fujita Scale by a team of meteorologists and engineers, and was implemented on February 1, 2007. The EF scale ranges from 0 to 5, and has estimated 3-second wind gust ranges in miles per hour (mph). An EF-0 has winds of 65-85 mph, and an EF-1 has winds of 86-110 mph (Fig. 4 Valley Falls example on August 29th). An EF-2 has estimated 3-second wind gusts of 111-135 mph. Estimates of the damaging gusts are based on the subjective judgment of the survey team on 8 levels of damage to 28 structural and vegetative indicators. More information on the EF Scale, and the transition from the old Fujita Scale, can be found at the following website: <https://www.spc.noaa.gov/efscale/>.

Overall, the tornado season is one the greatest on record across eastern New York and western New England with 6 EF-0's and 7 EF-1's that occurred from May to August 2020. The Spring 2021 issue of Stormbuster will provide a more detailed analysis of this anomalous tornado season that was well above normal.

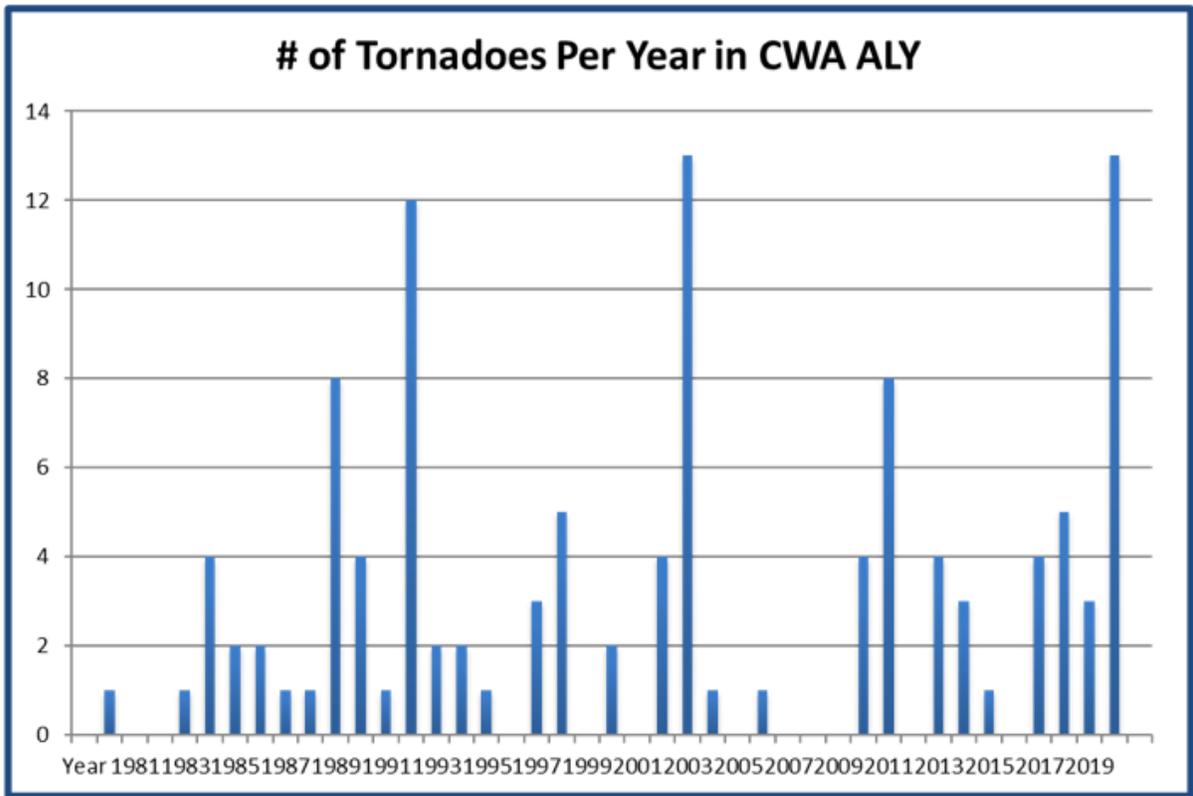


Figure 1: The number of tornadoes per year from 1980 to August 2020 in the NWS at Albany County Warning Area (CWA). A total of 116 tornadoes have occurred.

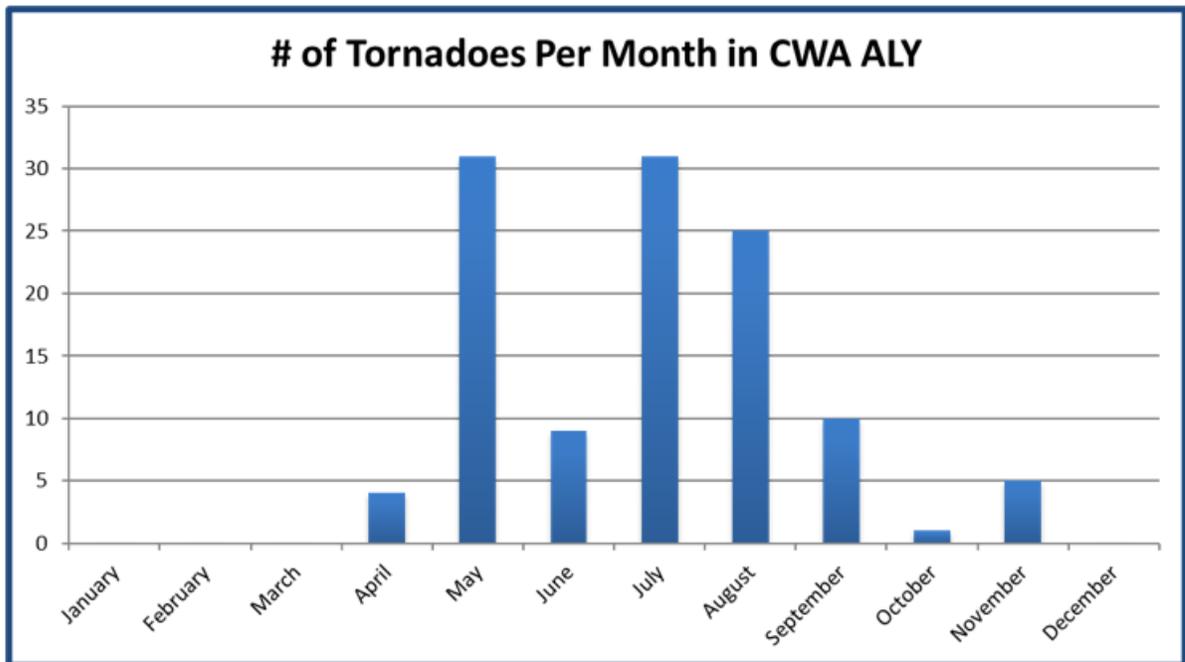


Figure 2: The number of tornadoes by month from 1980 to August 2020 in the CWA of the NWS at Albany which is across eastern NY and western New England. A total of 116 tornadoes have occurred with maxima's in the late spring and summer. May and July have the most tornadoes, though a steady increase has occurred in August the past few years.

of Tornadoes By Intensity in CWA ALY

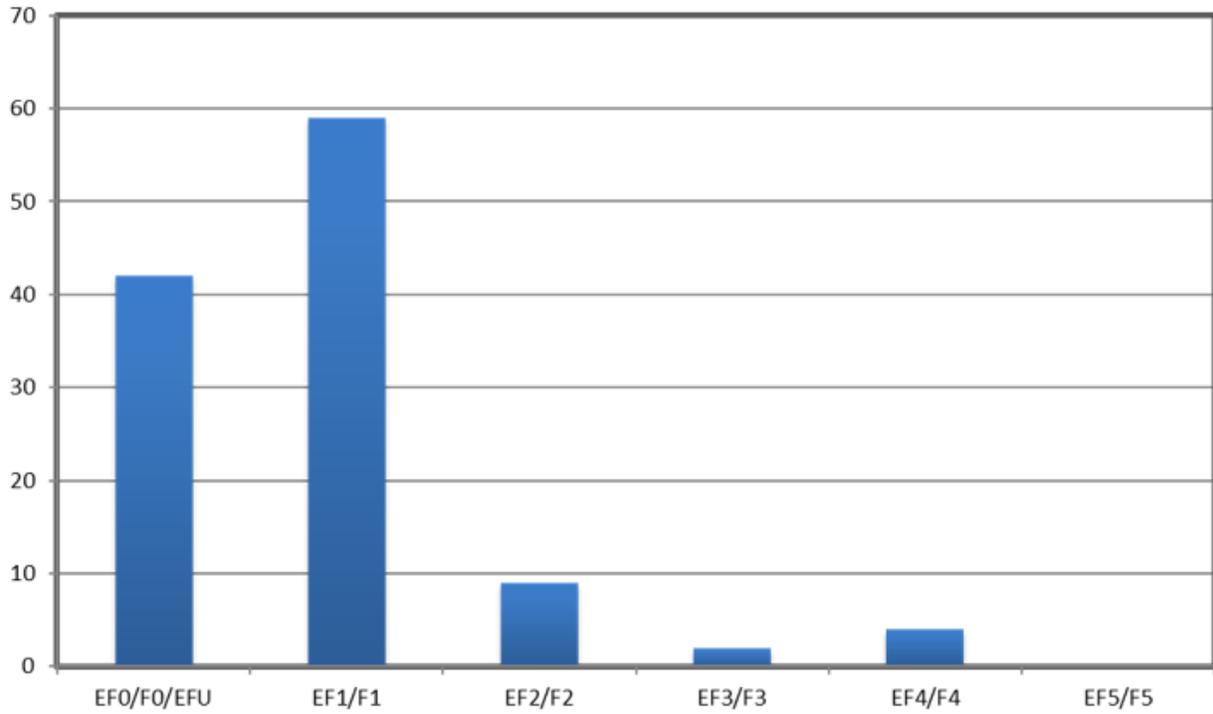


Figure 3: The # of tornadoes by intensity from 1980 to August 2020 in the CWA at Albany. 100 of 116 tornadoes are EF-0 (65-85 mph) or EF-1 (86-110 mph).



Figure 4: Damage along Powder Mills Road in Valley Falls, NY from the confirmed August 29th, 2020 tornado. Photo taken by Tim Stockwell.



- Thomas Wasula, Lead Meteorologist

Educational Outreach in a Virtual Environment

As the 2020-21 school year has started, it does look and feel different for many of us. For our educators, your National Weather Service meteorologists and hydrologists are available to offer virtual school presentations. Types of presentations include weather basics, severe weather and a session of “Ask a Meteorologist” where your students can ask us a variety of questions. Set up is simple, through Google Meet, Skype, Zoom* and can include multiple classrooms. Equipment needed, which you likely already have in your classrooms, are a webcam... internet access and microphone. More information and registration are available at <https://www.weather.gov/aly/outreachrequest>

*Due to NOAA Policy, we may only join Zoom sessions and not host nor originate.



- Brian Montgomery, Lead Meteorologist

Stay Safe this Winter!

Winter storms can bring snow, sleet, and freezing rain across the entire United States and its territories. Even Hawaii gets snow in its Big Island, and major cities as far south as Atlanta and Dallas have been paralyzed by snow and ice. Blizzards occur when strong wind causes blowing snow and whiteout conditions, making roads impassable. Thousands of people are injured or killed every year in traffic accidents related to slippery roads from winter storms. According to the Department of Transportation, there are approximately 1.2 million weather-related vehicle crashes every year - leading to, on average, nearly 6,000 fatalities and over 445,000 injuries. It’s clear we could all use a little refresher when it comes to navigating those slick roads this winter.

Know your Risk, Take Action, Be a Force of Nature!

Source: NOAA NWS Weather-Ready Nation Winter Safety Campaign



Building a Weather-Ready Nation



To learn more about summer safety, visit https://www.weather.gov/wrn/winter_safety

- Jennifer Vogt, Meteorologist

Educational Resources for Teachers

Need help while kids are at home with you? Check out our lessons, games, and videos to keep them engaged in science. Click on the link or thumbnail below to get things started.

Note: These activities can be completed at home, but please be sure to follow the latest social-distancing and other health safety guidelines from the Centers for Disease Control and Prevention and your local health authorities.

- [National Weather Service \(NWS\) Education](#)
- [JetStream - NWS Online School for Weather](#)
- [NOAA Wise Cloud Chart](#)
- [NHC Hurricanes at Home Webinars](#)
- [NWS Seasonal Safety Campaigns](#)
- [Faces of the NWS](#)
- [Weather Safety Materials for Individuals with Intellectual Disabilities](#)
- [Citizen Science](#)
- [NWS Social Media](#)
- [NOAA Education Resource Collections](#)
- [NOAA Data in the Classroom](#)
- [NOAA's Science on a Sphere](#)
- [NOAA SciJinks](#)
- [Severe Weather 101](#)
- [COMET MetEd](#)
- [Teaching Climate](#)
- [The Global Learning and Observations to Benefit the Environment \(GLOBE\) Program](#)
- [NOAA Games](#)
- [National Severe Storms Laboratory \(NSSL\) HotSeat](#)
- [National Hurricane Center \(NHC\) Create-a-Cane](#)
- [Weather 101s](#)
- [Smithsonian's Weather Lab](#)



Source: NOAA NWS @ <https://www.weather.gov/learning>

- Jennifer Vogt, Meteorologist



Word Search

Winter Weather

S N O W F L A K E V B M G J S T J T Q K
 M L D P I G X O E S L E E T G L G F T T
 Y R Q F J E O M M Q H U P E N N U R F O
 Y J L I Z V Y R Z F B B C Q Y O U B E F
 F H W O H D A I W T H H T X U R U F I F
 R A W X O Q B B V D B L U S T E R Y U H
 O B Q I P A M K W K D G L B T A S J C U
 S C L I P N X I C E J A M S D S A H O G
 T F L U R R I E S Y V X A N P T E P L B
 J A D D W I N D C H I L L O R E R U D U
 D C Y C L O G E N E S I S W V R V E Q N
 T P J Q A T R Z L G M K G S G O N T M V
 C A W A K X D M I X S L J T H O Y D T U
 G U S T Y D Y K B C X P A O S Q U A L L
 F Z Q H O Y R P L H E D Q R Y G Y R T B
 R Y R B W R G S S J G S B M I C W F J C
 W N Y D S T I K R F L Q T V J T Y U D T
 C L I P P E R F J N U Z Z O N B U J D J
 L R B L I Z Z A R D I G B N R F X D D L
 C F K U G C W X S D D G G C B M U A I G

Cyclogenesis

Snow storm

Wind Chill

Snow flake

Noreaster

Flurries

Blizzard

Ice Storm

Clipper

Blustery

Ice Jam

Squall

Gusty

Sleet

Frost

Cold



Word Scramble

Winter Weather

- IEC ROTSM _____
- DLBZRIAZ _____
- NWOS UALQSL _____
- OWSN OSERWHS _____
- EGMBOSESBOIN _____
- YDNWI _____
- LSEET _____
- RFEENIZG NIRA _____
- EAKL CEFTFE _____
- IWDN LCLIH _____



Word Search Answer Key

Winter Weather

S N O W F L A K E V B M G J S T J T Q K
 M L D P I G X O E S L E E T G L G F T T
 Y R Q F J E O M M Q H U P E N N U R F O
 Y J L I Z V Y R Z F B B C Q Y O U B E F
 F H W O H D A I W T H H T X U R U F I F
 R A W X O Q B B V D B L U S T E R Y U H
 O B Q I P A M K W K D G L B T A S J C U
 S C L I P N X I C E J A M S D S A H O G
 T F L U R R I E S Y V X A N P T E P L B
 J A D D W I N D C H I L L O R E R U D U
 D C Y C L O G E N E S I S W V R V E Q N
 T P J Q A T R Z L G M K G S G O N T M V
 C A W A K X D M I X S L J T H O Y D T U
 G U S T Y D Y K B C X P A O S Q U A L L
 F Z Q H O Y R P L H E D Q R Y G Y R T B
 R Y R B W R G S S J G S B M I C W F J C
 W N Y D S T I K R F L Q T V J T Y U D T
 C L I P P E R F J N U Z Z O N B U J D J
 L R B L I Z Z A R D I G B N R F X D D L
 C F K U G C W X S D D G G C B M U A I G

Cyclogenesis

Snow storm

Wind Chill

Snow flake

Noreaster

Flurries

Blizzard

Ice Storm

Clipper

Blustery

Ice Jam

Squall

Gusty

Sleet

Frost

Cold



Word Scramble Answer Key

Winter Weather

IEC ROTSM	ICE STORM _____
DLBZRIAZ	BLIZZARD _____
NWOS UALQSL	SNOW SQUALL _____
OWSN OSERWHS	SNOW SHOWERS _____
EGMBOSESBOIN	BOMBOGENESIS _____
YDNWI	WINDY _____
LSEET	SLEET _____
RFEENIZG NIRA	FREEZING RAIN _____
EAKL CEFTFE	LAKE EFFECT _____
IWDN LCLIH	WIND CHILL _____

- Thomas Wasula, Lead Meteorologist

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