

Stormbuster

NATIONAL WEATHER SERVICE ALBANY, NY



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Fall 2021

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 staff members. In this edition, we introduce our new Observing Program Leader, Deanna Marks, who comes to us from Hawaii!

When did you first become interested in Meteorology?

Growing up, my interests were primarily science-based. I loved all things associated with nature and the outdoors. I can vividly remember my excitement building as I smelled the air ahead of a thunderstorm and watched with wide eyes as the sky turned shades of green or purple as storms would approach. I was so enamored with weather phenomena that I knew I had to learn more. I spent my high school years studying meteorology outside of class and entered the Air Force with “Weather” as my one and only career choice. I continued to cultivate my interest in meteorology while in the Air Force, branching out into space weather and tropical forecasting, and eventually waded into Hydrometeorology once I moved to Hawaii and witnessed the power and volatility of flash flooding.

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

My first exposure to the Meteorology career field was during my time in the Air Force, which is where I received my initial forecasting and observing training. My time in the Air Force was spent forecasting for aviation assets, providing impact-based data necessary for ground movements and Medevac missions in deployed locations, and supporting training missions across the western US. Shortly after separating from the Air Force, I entered the National Weather Service at the Data Collection Office in Hilo, Hawaii, where my primary focus was upper air data collection, maintaining the Cooperative Observer Program, community outreach, and providing Impact-Based Decision Support Services (IDSS) to core partners and Emergency Managers. While in Hawaii, I earned a bachelor’s degree in Environmental Science.

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

What I have enjoyed most about upstate New York is the geography of the area and the incredible hikes and natural wonders the area has to offer. Being an Ohio Valley native, I am excited to experience all four seasons again! I am looking forward to all the snow sports the Northeast has to offer and am eager to explore all the mountain ranges nearby.

Continued on Page 2

What will you miss the most about Hawaii?

Hawaii is such a unique place, rich with indigenous culture, a strong sense of community, wonderful people, and a stunning landscape. Living there for 12 years was life changing and I will forever be appreciative of my time there. I will miss all the varieties of year-round produce, traversing through rainforests, experiencing active lava flows, and wearing flip flops any time of the year!

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

Living in a tropical environment for the past 12 years, I have come to be very interested in forecasting and tracking tropical cyclones and heavy rainfall events. A significant and history-making weather event that has left a lasting impression on me is 2018's Hurricane Lane. After intensifying over warm waters with little to no wind shear, Hurricane Lane became a Category 5 hurricane with peak winds near 160 mph and was slated to pass just south of Big Island. With a last-minute turn to the north, Lane approached its west side, ceased forward movement, and over the course of three days, dropped nearly 60" of rain on parts of the island. One COOP observer recorded 56" of rain! After the first day of rain, the ground became so saturated that roads were impassable, multiple swift water rescues were conducted, and homes were washed off their foundations. The rainfall total landed Lane the top spot for the wettest tropical cyclone on record in the State of Hawaii.

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

In my spare time, I enjoy hiking with my dogs and taking them on adventures! I also like to travel and explore new places. A recent trip of mine that I thoroughly enjoyed was a visit to Banff National Park in Canada, where I hiked around the many bright blue, glacially fed lakes. I also enjoy celebrating holidays with family and friends, advocating for animal welfare, attempting to garden, stargazing, trying new restaurants, and sitting around a campfire with good company.

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

What excites me about working for the National Weather Service are the connections that can be fostered with the people of the community through outreach events, COOP visits, IDSS deployments, and educational opportunities. Cultivating these relationships is paramount to building trust and a solid rapport with the public, our core partners, and our local communities.

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

Data collection is integral to the success of forecasts, the accuracy of our watches, warnings and advisories, and keeping our partners and the public informed and safe. Because I hold this belief, I was thrilled when I was selected for the Observing Program Leader position at WFO Albany. My goal is to build a healthy COOP program across the region, ensuring a thorough, comprehensive climatological record, while keeping steady, accurate upper air data flowing to enhance the forecast process and aid in having a more complete understanding of what is happening within the atmosphere. My goal is to keep these programs operating at a high level by preserving the integrity of observations and getting data to those who need it in a timely and effective manner. I am looking forward to the future ahead at WFO Albany!

- Deanna Marks, Observing Program Leader

Autumn/Winter Skywarn Safety Training Sessions

The National Weather Service in Albany, 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 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](#).



-Tom Wasula, Lead Meteorologist

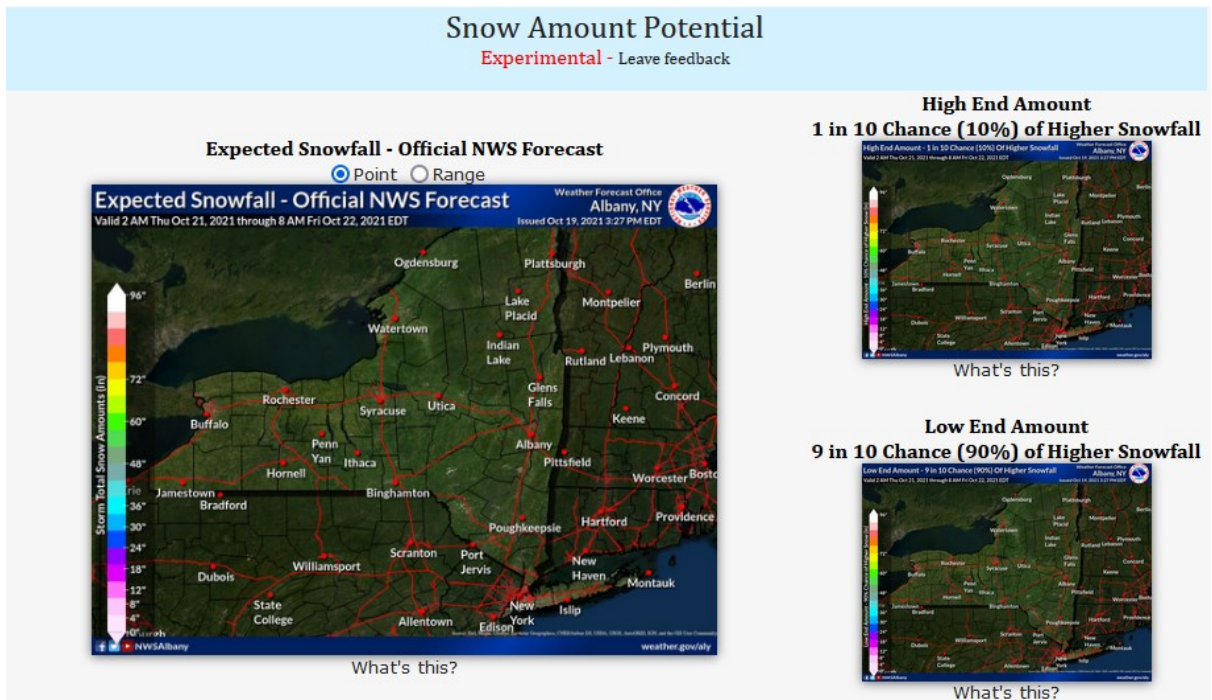


Winter Weather Page Update

The National Weather Service in Albany, NY will reveal a suite of new products at weather.gov/aly/winter. Some provide official forecast information such as the **Probabilistic Snowfall Graphics**, while others, such as the **Winter Storm Severity Index (WSSI)**, should only be used in conjunction with official products or are experimental only this winter such as the **Winter Storm Outlook (WSO)**.

Probabilistic Snowfall Graphics— www.weather.gov/aly/winter

When winter weather threatens, check out our **Probabilistic Snowfall Graphics**. The purpose of these graphics is to provide you with a *range of snowfall possibilities*. Not only will you receive the latest snowfall forecast, but you also will learn the reasonable maximum and minimum potential snowfall forecasts so you can prepare more effectively for a storm.



Expected Snowfall - Official NWS Forecast

This **snowfall amount is determined by NWS forecasters to be the most likely outcome based on evaluation of data from computer models, satellite, radar, and other observations.**

High End Amount - 1 in 10 Chance (10%) of Higher Snowfall

Depicts a **reasonable upper-end or maximum snowfall amount** for the time period shown on the graphic, based on many computer model simulations of possible snowfall totals. This higher amount is an unlikely scenario, with only a 1 in 10, or **10% chance that more snow will fall**, and a 9 in 10, or **90% chance that less snow will fall**. This number can help serve as an upper-end or reasonable maximum scenario for planning purposes.

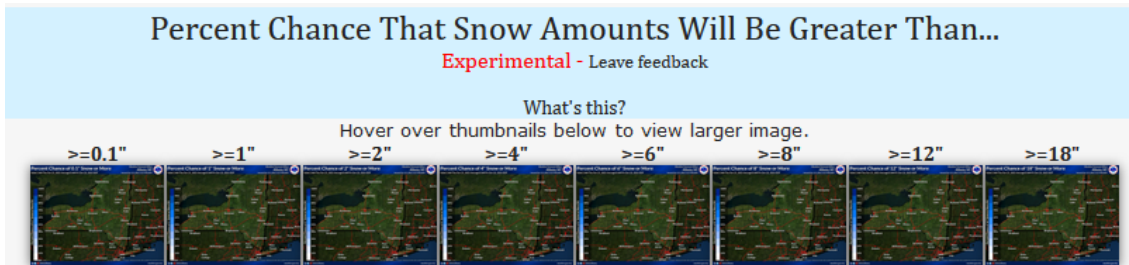
Low End Amount - 9 in 10 Chance (90%) of Higher Snowfall

Depicts a **reasonable lower-end or minimum snowfall amount** for the time period shown on the graphic, based on many computer model simulations of possible snowfall totals. This lower amount is an unlikely scenario with a 9 in 10, or **90% chance that more snow will fall**, and only a 1 in 10, or **10% chance that less snow will fall**. This number can help serve as a lower-end or reasonable minimum scenario for planning purposes.

The greater the difference between the “High End” and “Low End” amounts, the greater uncertainty there is in the snowfall forecast.

Continued on Page 4

To dive deeper into the snowfall forecast, you can view a series of maps showing the *probability/likelihood that snowfall will equal or exceed specific amounts*.



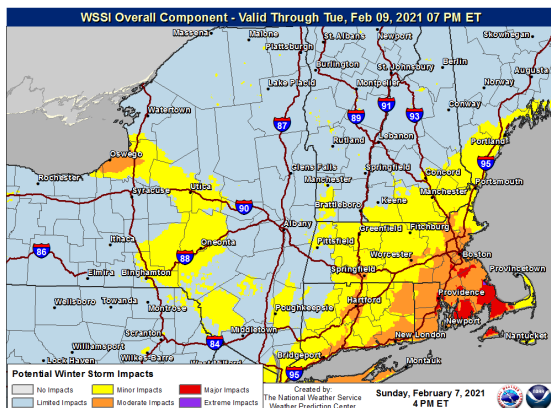
You can also view these probabilities by location as well as the Expected Snowfall - Official NWS Forecast and the “High End” (reasonable maximum) and “Low End” (reasonable minimum) snowfall amounts.

Snowfall Totals by Location											
Experimental - Leave feedback 05/30/2021 0800AM to 05/31/2021 0800AM What's this?											
County: All											
Location	Snow Amount Potential			Chance of Seeing More Snow Than							
	Low End Snowfall	Expected Snowfall	High End Snowfall	>=0.1"	>=1"	>=2"	>=4"	>=6"	>=8"	>=12"	>=18"
Albany, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Altamont, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Amsterdam, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Atwell, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Ballston Spa, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Bennington, VT	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Brattleboro, VT	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Catskill, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Chatham, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Cobleskill, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Delanson, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Glens Falls, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Gloversville, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Great Barrington, MA	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Hoosick Falls, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Hudson Falls, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Hudson, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Hunter, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Ilion, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Jacksonville, VT	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Kingston, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Northville, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Oakville, CT	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Pawling, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Pittsfield, MA	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Poughkeepsie, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Saratoga Springs, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Schenectady, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Speculator, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Sundown/Ellenville, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Torrington, CT	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Troy, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Warrensburg, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%
Whitehall, NY	0	0	0	0%	0%	0%	0%	0%	0%	0%	0%

From the winter weather page, you also access the Winter Storm Severity Index and the Experimental Winter Storm Outlook.

Winter Storm Severity Index (WSSI) - www.wpc.ncep.noaa.gov/wwd/wssi/wssi.php

WSSI is a tool from the National Weather Service that *forecasts the potential impacts of winter storms*. It does not depict official warnings and should always be used in context with official NWS forecasts and warnings.



Potential Winter Storm Impacts	
No Impacts	Impacts not expected.
Limited Impacts	Rarely a direct threat to life and property. Typically results in little inconveniences.
Minor Impacts	Rarely a direct threat to life and property. Typically results in an inconvenience to daily life.
Moderate Impacts	Often threatening to life and property, some damage unavoidable. Typically results in disruptions to daily life.
Major Impacts	Extensive property damage likely, life saving actions needed. Will likely result in major disruptions to daily life.
Extreme Impacts	Extensive and widespread severe property damage, life saving actions will be needed. Results in extreme disruptions to daily life.



The WSSI is measured by analyzing the potential impacts of:

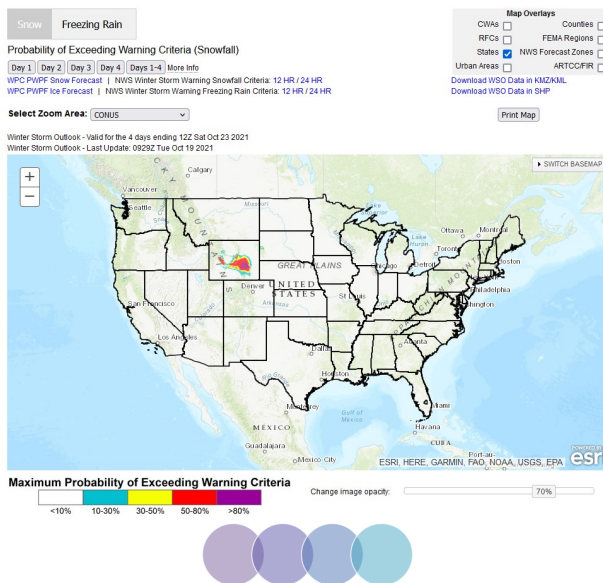
- **Snow amount:** impacts due to the total amount of snow or the accumulation rate.
- **Snow load:** infrastructure impacts due to the weight of the snow.
- **Ice accumulation:** infrastructure impacts due to the effects and severity of ice and wind.
- **Flash freeze:** potential for quick-forming ice from rapid temperature drops during or after precipitation.
- **Blowing snow:** disruption due to blowing and drifting snow.
- **Ground blizzards:** travel-related impacts of strong winds interacting with pre-existing snow.

The WSSI allows the user to make informed decisions based on the potential for significant weather-related impacts.

Experimental Winter Storm Outlook (WSO) — www.wpc.ncep.noaa.gov/wwd/wso

The WSO indicates the *probability of exceeding winter storm warning criteria for snow and ice/freezing rain.*

- The product is intended to serve as an enhancement to decision support services being provided to National Weather Service core partners in emergency management, broadcast media, and transportation categories, as well as the general public.
- It is based on a combination of Weather Prediction Center Probabilistic Winter Precipitation Forecasts and local National Weather Service snow and ice accumulation warning criteria.
- The WSO acts as an aid to assist NWS Winter Storm Watch/Warning decision making as well as an early alert to hazardous winter weather conditions.
- It's experimental and does not depict official warnings, and should always be used in context with official NWS forecasts and warnings.



- Ingrid Amberger, Lead Meteorologist

A New Home for the National Weather Service, Albany, NY



ETEC Building— Image courtesy of UAlbany Dr. President Havidan Rodriguex (Twitter @HavidanUAlbany)

The National Weather Service (NWS) in Albany, NY has a new home! In September 2021, the staff moved to the brand new ETEC (Emerging Technology and Entrepreneur Complex) building on the Harriman Campus in Albany, NY. The 245,000 square foot facility offers NWS Albany meteorologists a unique opportunity to work under the same roof as the SUNY Albany Atmospheric Science Department, Atmospheric Science Research Center, the New York State Mesonet and the College of Emergency

Preparedness, Homeland Security and Cybersecurity. NWS Albany and the SUNY Albany Atmospheric Science Department have worked side by side for years between CSTAR research and undergraduate internships and the co-location in ETEC will only enhance their close relationship. In addition, the facility is directly across the street from New York State Division of Homeland Security and Emergency Services (DHSES) and the New York State Police. The close proximity to all of these sectors will promote interdisciplinary collaboration and growth for both the NWS Albany staff and its partners.

The new building features multiple rooms and spaces that will foster collaboration between NWS forecasters and its partners all housed under the ETEC roof. This includes a weather observation deck, a weather map room, auditoriums/lecture halls, classrooms, a cafe and the “collaboratorium” on its third floor which features open work areas as well as private pods where anyone in the building can meet and work together.

The new NWS Albany office (front door to the new office pictured left) within the ETEC building also includes new upgrades that benefit the

forecasters and staff. This includes an operations area with eight AWIPS (Advanced Weather Interactive Processing System) work stations where forecasters will continue to operate 24/7/365, a brand new conference room, new private offices for program managers and supervisors, and a new training room. The new operations area also features multiple windows that face west, northwest, north and east which allow forecasters to observe incoming weather. In the coming months, a new upper air BILS (Balloon Inflation Launch Shelter) will be installed for NWS forecasters to launch weather balloons from the roof.

Sometime in the near future, the NWS Albany forecasters hope to resume tours and in-person conferences and workshops where the staff can invite partners, school groups and weather spotters to visit our new space and utilize the various conference room spaces and advanced audio visual technology within the ETEC building.



Image to the right is the “*Collaboratorium* .” This open space provides UAlbany students and faculty as well as private and public agencies within ETEC to work collaboratively. Not only are there plenty of circle tables and movable dry erase boards available but there are also private pods which can be used for meetings or for anyone who needs some quiet space to work. WiFi is available throughout the building, making it easy to use laptops or other electronic devices in this space. Lastly, there are beautiful views outside this third floor space of the Helderbergs and Castskills. No reservations are required to occupy this space, facilitating “on the fly” meetings or opportunities for groups to work together.

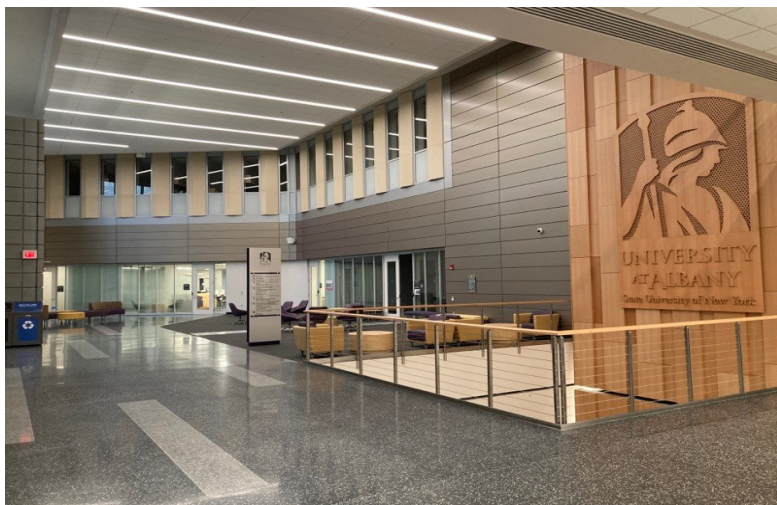


Image to the left is the main lobby entrance to ETEC. The “*Science on the Sphere*”, UAlbany Innovation Center and the Small Business Development Center can all be accessed from this first floor lobby. In addition, elevators here can take students, faculty and others within the building to the 5th floor which houses the weather observation deck, a room with ceilings to floor windows designed to allow for unobstructed views of incoming weather phenomenon. The elevators also provide access to the UAlbany Atmospheric Science’s map room on the 3rd floor.

Image to the right is the other side of the first floor which offers access to the building’s main auditorium that houses 200 seats with a catering kitchen available across the hall. In addition, the open space within the lobby can also act as a meeting space with special designed wall paneling to improve acoustics. A structure in the back can even display presentations.



La Niña Winter 2021-22

La Niña is the ocean-atmospheric phenomenon that can impact global weather. In mid-October, the National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Center (CPC) announced that La Niña conditions had developed. East to central equatorial Pacific sea surface temperatures are cooler than normal and they have met the operational climatic definition of La Niña in the November to February timeframe. In fact, CPC has given an 87% chance La Niña conditions will continue through meteorological winter in December 2021-February 2022. La Niña is typically defined as the anomalous cooling of the ocean waters off the coast of Peru and Ecuador. It can have a significant impact on weather around the world.

La Niña events typically occur every few years. The last La Niña prior to this one occurred in 2020-2021. That La Niña was considered moderate in strength. The last strong La Niña was in 2010-2011. The current La Niña has been labeled a weak event, as forecasters are watching for possible strengthening to a moderate event. The present La Niña has qualified as a weak one, since over the past 5 consecutive overlapping 3-months seasons with an index of three month running mean sea surface temperatures calculated over a latitude-longitude box (5°N-5°S and 120-170°W) in the central Pacific was found to be 0.5°C cooler than normal. El Niño conditions occur, if this index is 0.5°C warmer than normal over a 5 consecutive overlapping 3-month season stretch. In La Niña, the trade winds are usually very strong with the anomalously warm water in the western Pacific warm pool near Southeast Asia, Indonesia and Australia locked into place. Conditions are wetter than normal across Indonesia and northern Australia in the Northern Hemisphere winter. Rainfall is also above normal over the Amazon basin and southeastern Africa. Below average rainfall usually occurs over the eastern half of the equatorial Pacific and eastern equatorial Africa. Drought conditions occur over the southwest United States, while above normal precipitation occurs over the Pacific Northwest and Tennessee Valley region. These precipitation anomalies have occurred this cool season. They can be correlated to the jet stream configuration in the cool season during La Niña. The Northern Pacific jet stream or polar jet shifts poleward and is weaker than average over the central Pacific and southwest United States. Winter precipitation is highly variable over the Northeast in La Niña events. Some winters have yielded seasonal snow totals well above normal, while others have been well below normal.

Past moderate to strong La Niña's have shown an increased frequency in Atlantic hurricane activity, while curtailing Eastern Pacific hurricane events. It is too early to tell whether the current weak La Niña will affect the 2022 Atlantic hurricane season. It should be noted that the last strong La Niña of 2010-2011 produced an above normal Atlantic tropical cyclone season in 2011 which included Hurricane Irene that impacted the Northeast.

NOAA's Climate Prediction Center in mid-October has declared the current La Niña conditions over the tropical Pacific will last through the upcoming 2021-22 Winter. Above normal temperatures are expected over the Deep Southeast and most of the Sunbelt states northward along the East Coast into the Northeast (Figure 1). Below normal precipitation is forecasted over the same timeframe over the Desert Southwest and the lower Middle Atlantic States, including a large portion of the Southeast and Florida (Figure 2). Above normal precipitation is forecast for the Ohio Valley and the central and eastern Great Lakes region into parts of western and northern New York. The Pacific Northwest and portions of the northern Rockies are also projected to have above normal precipitation. The majority of the Northeast has an equal chance of precipitation being above normal, below normal or near normal during the Winter. We will have to see how the 2021-22 Winter pans out for the Northeast.

For more information and further interest please view the following web-sites.

Websites:

<http://www.cpc.ncep.noaa.gov/>

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/cold_impacts.shtml

<http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml>

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

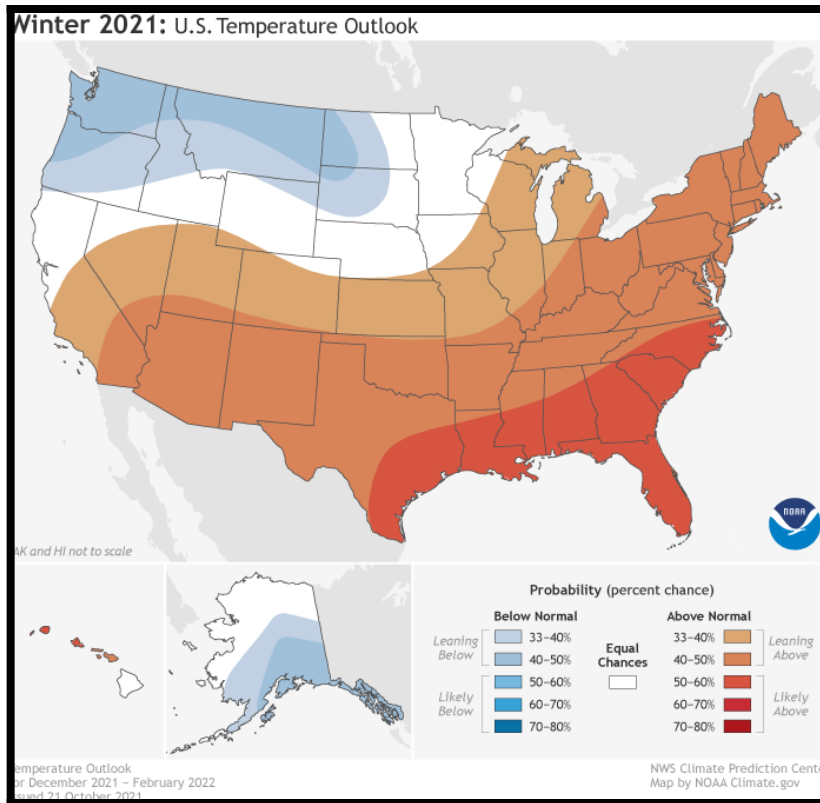


Figure 1: CPC Winter 2021-22 (Dec-Jan-Feb): U.S. Temperature Outlook

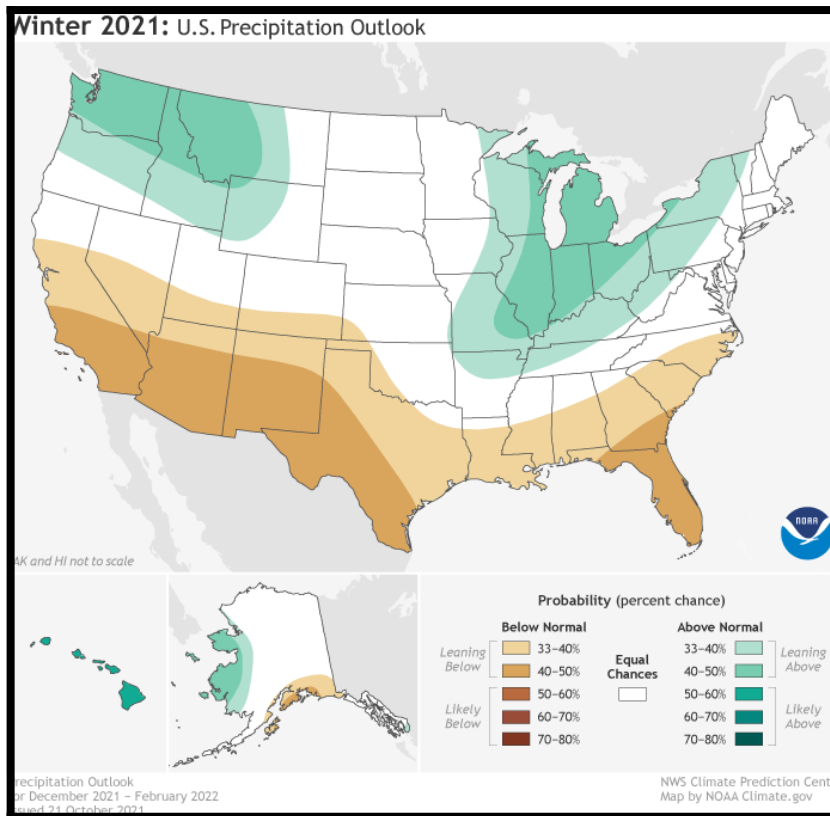


Figure 2: CPC Winter 2021-22 (Dec-Jan-Feb): U.S. Precipitation Outlook

Word Search

Winter Weather

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

Freezing Rain

Flash Freeze

Blowing Snow

Bombogenesis

Blizzard

Wind Chill

Ice Jam

Snow Squall

Sleet

Frost

Rime

Snow Flake

Noreaster

Flurries

Windy



Word Scramble

Winter Storms

ECISLGNECOY

SNWO NADB

LZBDAZRI

NOWS UASLLQ

WOBGNIL NWOS

WIDN CILLSH

RIULSRFE



Word Search Answer Key

Winter Weather

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

Freezing Rain

Flash Freeze

Blowing Snow

Bombogenesis

Blizzard

Wind Chill

Ice Jam

Snow Squall

Sleet

Frost

Rime

Snow Flake

Noreaster

Flurries

Windy



Word Scramble Answer Key

Winter Storms

ECISLGNCOY

CYCLOGENESIS

SNWO NADB

SNOW BAND

LZBDAZRI

BLIZZARD

NOWS UASLLQ

SNOW SQUALL

WOBGNIL NWOS

BLOWING SNOW

WIDN CILLSH

WIND CHILLS

RIULSRFE

FLURRIES

- Thomas Wasula, Lead Meteorologist

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