



Carolina SkyWatcher



National Weather Service, Newport/Morehead City, NC

<http://weather.gov/Newport> —> **Bookmark it!!**

Winter 2017-18 Edition



follow us on **twitter**



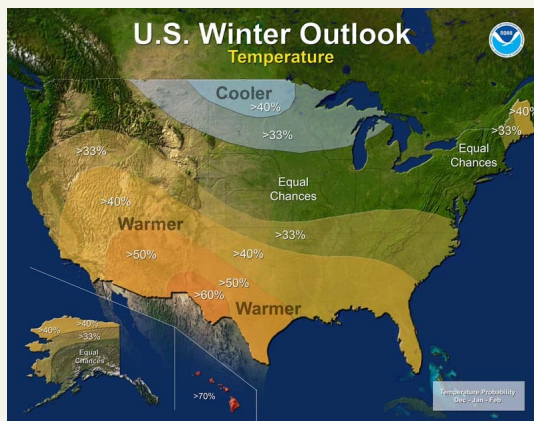
Winter Outlook 2017-2018

By Bel Melendez, Meteorologist

Many may wonder if the warm and dry pattern from most of Fall 2017 will continue into the winter. To put it simply, yes it will! The primary reason is La Niña. A La Niña occurs when the tropical Pacific Ocean waters become colder than normal off the western coast of South America. This will naturally cause a change in the weather patterns as the jet stream shifts farther north, therefore reducing the amount of moisture and winter storms across the southern United States. There is a high correlation between drought conditions and La Niña across the southern United States. As winter storms shift north of the Carolinas, it will result in less cloudiness and precipitation. Of course, we can not rule out a cold outbreak or significant snowstorm which can be influenced by the Polar Vortex and deep moisture (known in meteorology as the Arctic Oscillation and Madden Julian Oscillation). These factors are not predictable far enough into the future to be accounted for in the seasonal outlook.

CONTENTS

| | |
|---------------------------------------|-----|
| Winter Outlook 2017-2018 | 1 |
| Winter Skywarn Presentations | 2 |
| Winter Weather Summary 2016-17 | 3-4 |
| Probabilistic Snowfall Graphics | 5 |
| Winter Weather Product Simplification | 6 |
| Student Volunteer Program | 7 |
| Warm, Dry Fall | 8 |



Winter Outlook Temperatures and Precipitation, showing relatively warm and dry conditions.

Weather Spotter Program Expanding With New Classes

By Erik Heden, Warning Coordination Meteorologist

For the first time here at the Newport/Morehead City NWS office, we are offering spotter classes (SKYWARN) for winter weather. These classes go over winter hazards we may face in Eastern North Carolina along with winter preparedness. The main focus of the class is to teach spotters how to accurately measure snow and ice and how to report that information to us. While winter weather is not a guarantee every season, we usually see at least some snow or ice in our area, especially inland from the coast. Observations of snow are especially useful because we don't have many observers who report snowfall information to us in real time. Spotters can confirm exactly what is happening where they live.

The winter spotter class is only one of the new changes to the SKYWARN program here at the office. We are also expanding where we teach these classes. In addition to local classes, you can attend training via your computer either with scheduled online presentations or by viewing the training on YouTube (<https://www.youtube.com/NWSMoreheadCity>). We still plan on holding our traditional basic SKYWARN, which covers tornadoes, wind, and hail, this spring. Classes will run roughly from late March through early May. For a class schedule you can always visit our website www.weather.gov/mhx and look at the top new headlines or visit the SKYWARN page directly <http://www.weather.gov/mhx/MHXSkywarn>



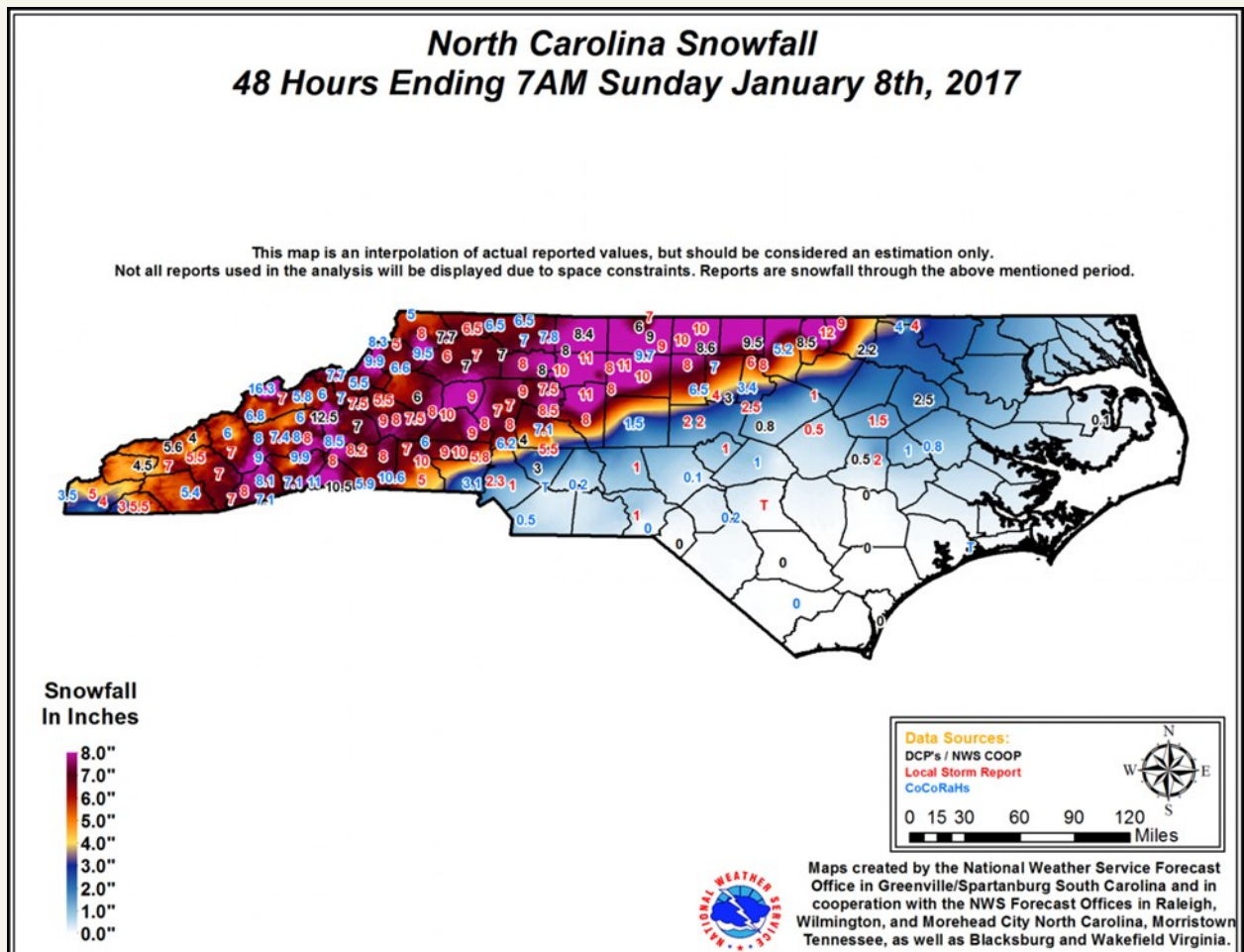
Winter Skywarn Class in Greenville, NC

Winter Weather Summary 2016-17

By Tom Lonka, Meteorologist

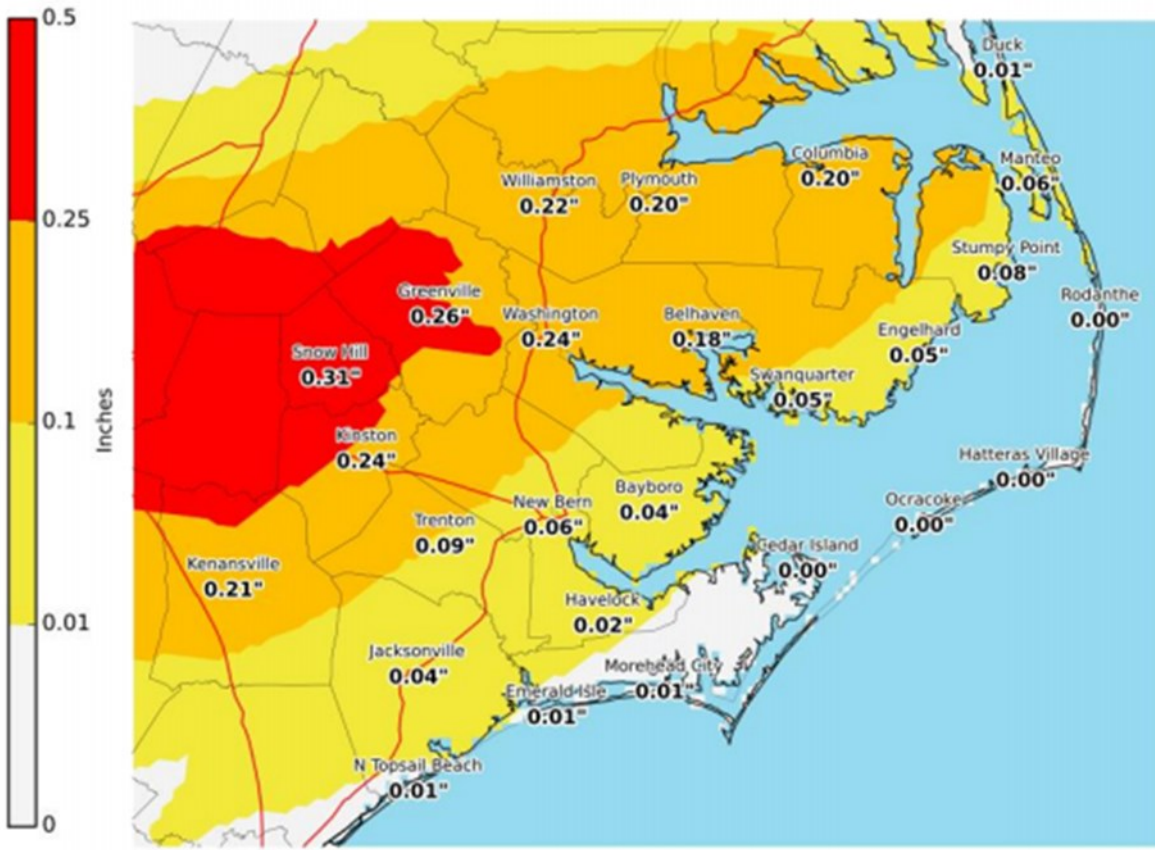
The winter of 2016-2017 was warmer and drier than normal, and thus fairly uneventful with respect to wintry weather. There was one exception, with a winter storm bringing a mixture of snow, sleet and freezing rain to portions of Eastern North Carolina on January 7, 2017. The majority of heavy accumulating snow however was relegated to the piedmont and mountains of North Carolina.

The combination of cold arctic air invading North Carolina and a low pressure system moving northeastward off the North Carolina coast produced a mixture of snow, sleet, and freezing rain for portions of Eastern North Carolina. The most significant impact was in the form of freezing rain, where over a quarter inch of icing was fairly widespread for portions of the Coastal Plain counties. There were numerous reports of traffic accidents, and several reports of trees and power lines downed due to the weight of the ice. In general, snow and sleet accumulations ranged from 1 to 3 inches, with some isolated reports of up to a half inch of freezing rain.



Snow totals ranged from 1 to 3 inches for the northern Coastal Plain.

Winter Weather Summary 2016-17 (Continued)



National Weather Service
Newport/Morehead City North Carolina
01/07/2017 04:16 AM EST

Follow Us:   
weather.gov/mhx/winter

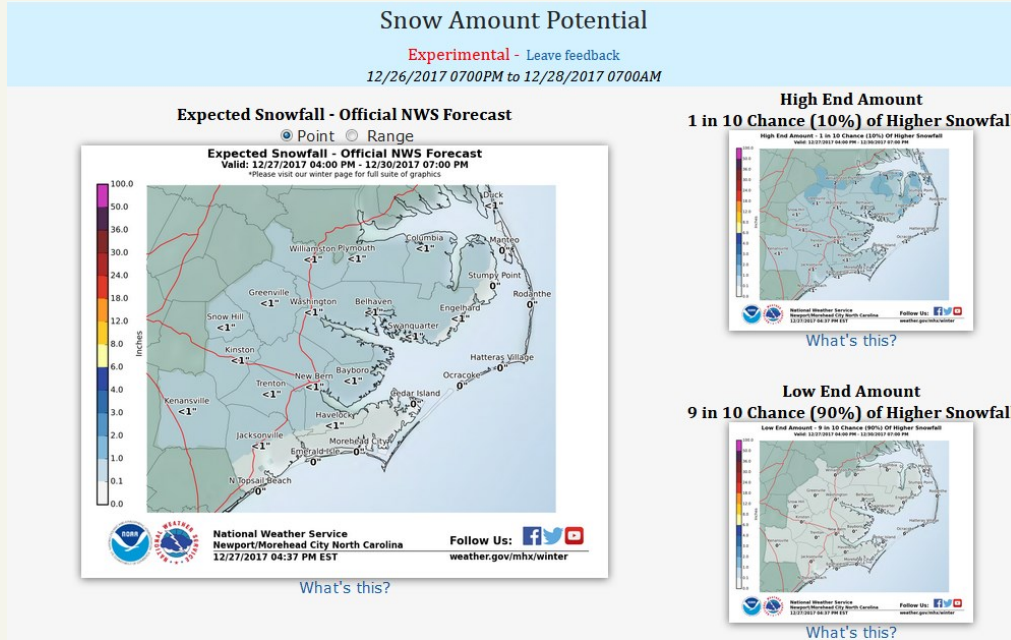
Freezing rain accretion of over two tenths of an inch occurred across the northern and western portions of Eastern NC.



Probabilistic Snowfall Graphics

By Bob Frederick, Meteorologist

This winter, the NWS in Newport/Morehead City has started issuing web based experimental probabilistic snowfall graphics. The purpose of these graphics is to provide customers and partners a range of snowfall possibilities, better communicate forecast uncertainties and enhance Decision Support Services (DSS) during winter weather events. These graphics will show the minimum, most likely and maximum expected snowfall during an event. Here is an example of what the graphics will look like:



In addition to the graphics, county based tables will provide snowfall probability information for various locations. These tables will look like:

Snowfall Totals by Location
Experimental - Leave feedback
12/26/2017 0700PM to 12/28/2017 0700AM
What's this?

County:

| 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" |
| Atlantic Beach, NC | 0 | 0 | <1 | 28% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Atlantic, NC | 0 | 0 | <1 | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Beaufort, NC | 0 | 0 | <1 | 31% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Bogue Inlet Pier, NC | 0 | 0 | <1 | 25% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Bogue, NC | 0 | 0 | <1 | 28% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Broad Creek, NC | 0 | 0 | <1 | 28% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Cape Carteret, NC | 0 | 0 | <1 | 28% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Cape Lookout Lighthouse, NC | 0 | 0 | <1 | 8% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Cape Lookout, NC | 0 | 0 | <1 | 8% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Cedar Island, NC | 0 | 0 | <1 | 33% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Cedar Point, NC | 0 | 0 | <1 | 28% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Davis, NC | 0 | 0 | <1 | 8% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Emerald Isle, NC | 0 | 0 | <1 | 25% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Gloucester, NC | 0 | 0 | <1 | 33% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Harkers Island, NC | 0 | 0 | <1 | 33% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Harlowe, NC | 0 | 0 | <1 | 34% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Indian Beach, NC | 0 | 0 | <1 | 28% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Kuhns, NC | 0 | 0 | <1 | 25% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Marshallberg, NC | 0 | 0 | <1 | 22% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Merrimon, NC | 0 | 0 | <1 | 35% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

These graphics were operational as of early December.

Winter Weather Product Headline Simplification

By Bob Frederick, Meteorologist

Based on research projects and surveys of the public and partners, the National Weather Service (NWS) will streamline its Winter Weather products this year. The number of winter weather headlines has been reduced to:

Winter Weather Advisory
 Winter Storm Watch
 Winter Storm Warning
 Blizzard Warning
 Ice Storm Warning

The text of all the winter weather advisories, watches and warnings will be shortened and have a standard format that will include, What... , Where..., When..., Additional Details...

Winter weather is just the start as changes to Flood, Marine, Wind and Extreme Temperatures will occur during the next year.



For more information hazard simplification please see:

<http://www.weather.gov/hazardsimplification/>

SAME SERVICE...SIMPLER PACKAGE
WINTER WEATHER

| | | |
|--|--|--|
| | Winter Storm Watch | ...for potentially significant weather, including heavy snow, ice, sleet, blowing snow |
| | Winter Weather Advisory | ...when snow, blowing snow, ice or sleet is expected, but is expected to cause relatively minor inconveniences |
| | Winter Storm Warning Blizzard Warning Ice Storm Warning | ...when snow or sleet, blowing snow or ice accumulation is expected to cause significant impact to life or property |

National Weather Service Hazard Simplification

The NWS MHX Summer Volunteer Program

By Casey Dail, Meteorologist

Are you a student interested in a career with the National Weather Service or in the field of meteorology? If so, our student volunteer program may be right for you. Our program is designed to provide students with an opportunity to learn about the science of weather forecasting, along with education about other NOAA agencies. This is done through several approaches including computer based learning, research, and job shadowing.

The student volunteer program, though not a paying position, has many benefits for college or graduate students and recent graduates. Competition for positions within NOAA's National Weather Service (NWS) has increased in recent years, and it has proven beneficial for recent college graduates to have prior forecasting operational experience when they apply for positions within the NWS. Because of resource restraints, only a few students are selected to the student volunteer program through a competitive application process. Selected students may also be able to gain college credit for their time spent here at the NWS. Students will be required to complete a research project during their time at the office. The research can cover a range of topics from specific forecasting challenges to significant event reviews. Several of our previous volunteers have gone onto graduate school, jobs within the National Weather Service as well as private sector positions in the meteorology field.

The volunteer program is open to current undergraduate or graduate level students:

Majoring in meteorology or other related sciences

Available to volunteer for at least 120 hours between late May and early August

In good academic standing

The 2018 application will become available by early January on the NWS MHX website (<http://www.weather.gov/mhx/StudentInterns>). If you have questions or are interested in meteorology and would like to learn more about the program please contact Casey.Dail@noaa.gov (252-223-5122).

Unusually Warm and Dry October/November

By Chris Collins, Meteorologist

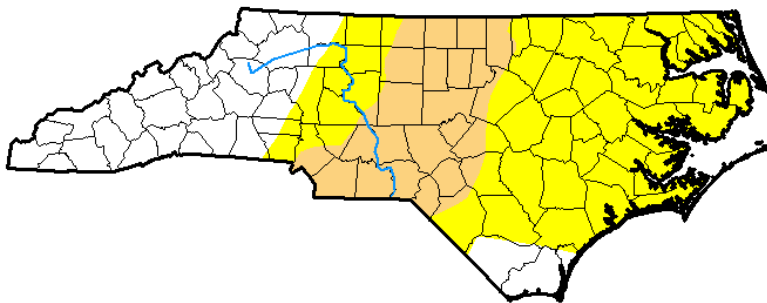
October 2017 was quite warm, with above normal temperatures over all of eastern North Carolina as a persistent upper-level ridge lingered across the eastern United States. Warmest temperatures during the month across the eastern North Carolina included 90 degrees in Greenville, 87 at Cape Hatteras and 84 degrees at Beaufort. While temperatures in November were closer to normal, eastern North Carolina experienced one of the driest Novembers in recent history. Most of the region received less than 2 inches of rainfall during November, with New Bern only receiving 0.42 inches. As a result, much of eastern North Carolina is classified as Abnormally Dry in the [Drought Monitor](#). With an expected La Niña pattern setting up for the winter, which typically favors warm, dry conditions, the drought conditions could potentially worsen by the Spring, leading to greater fire danger.

U.S. Drought Monitor North Carolina

December 12, 2017

(Released Thursday, Dec. 14, 2017)

Valid 7 a.m. EST



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Jessica Blunden
NCEI/NOAA



<http://droughtmonitor.unl.edu/>

Drought Monitor for North Carolina as of mid December.



National Weather Service

530 Roberts Road
Newport, NC 28570

Phone: 252-223-5122
 Fax: 252-223-3673
 Website: <http://weather.gov/Newport>
 Twitter: @NWSMoreheadCity
 Facebook: [/www.facebook.com/NWSMoreheadCity](http://www.facebook.com/NWSMoreheadCity)

follow us on
twitter



Wind Chill Chart

| | | Temperature (°F) | | | | | | | | | | | | | | | | | |
|------------|-----|------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
| Wind (mph) | Cal | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
| | 5 | 36 | 31 | 25 | 19 | 13 | 7 | 1 | -5 | -11 | -16 | -22 | -28 | -34 | -40 | -46 | -52 | -57 | -63 |
| | 10 | 34 | 27 | 21 | 15 | 9 | 3 | -4 | -10 | -16 | -22 | -28 | -35 | -41 | -47 | -53 | -59 | -66 | -72 |
| | 15 | 32 | 25 | 19 | 13 | 6 | 0 | -7 | -13 | -19 | -26 | -32 | -39 | -45 | -51 | -58 | -64 | -71 | -77 |
| | 20 | 30 | 24 | 17 | 11 | 4 | -2 | -9 | -15 | -22 | -29 | -35 | -42 | -48 | -55 | -61 | -68 | -74 | -81 |
| | 25 | 29 | 23 | 16 | 9 | 3 | -4 | -11 | -17 | -24 | -31 | -37 | -44 | -51 | -58 | -64 | -71 | -78 | -84 |
| | 30 | 28 | 22 | 15 | 8 | 1 | -5 | -12 | -19 | -26 | -33 | -39 | -46 | -53 | -60 | -67 | -73 | -80 | -87 |
| | 35 | 28 | 21 | 14 | 7 | 0 | -7 | -14 | -21 | -27 | -34 | -41 | -48 | -55 | -62 | -69 | -76 | -82 | -89 |
| | 40 | 27 | 20 | 13 | 6 | -1 | -8 | -15 | -22 | -29 | -36 | -43 | -50 | -57 | -64 | -71 | -78 | -84 | -91 |
| | 45 | 26 | 19 | 12 | 5 | -2 | -9 | -16 | -23 | -30 | -37 | -44 | -51 | -58 | -65 | -72 | -79 | -86 | -93 |
| | 50 | 26 | 19 | 12 | 4 | -3 | -10 | -17 | -24 | -31 | -38 | -45 | -52 | -60 | -67 | -74 | -81 | -88 | -95 |
| 55 | 25 | 18 | 11 | 4 | -3 | -11 | -18 | -25 | -32 | -39 | -46 | -54 | -61 | -68 | -75 | -82 | -89 | -97 | |
| 60 | 25 | 17 | 10 | 3 | -4 | -11 | -19 | -26 | -33 | -40 | -48 | -55 | -62 | -69 | -76 | -84 | -91 | -98 | |

Frostbite Times 30 minutes 10 minutes 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01