



Carolina SkyWatcher

National Weather Service, Newport/Morehead City, NC



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

Winter 2013-14 Preview

Fall 2013 Issue

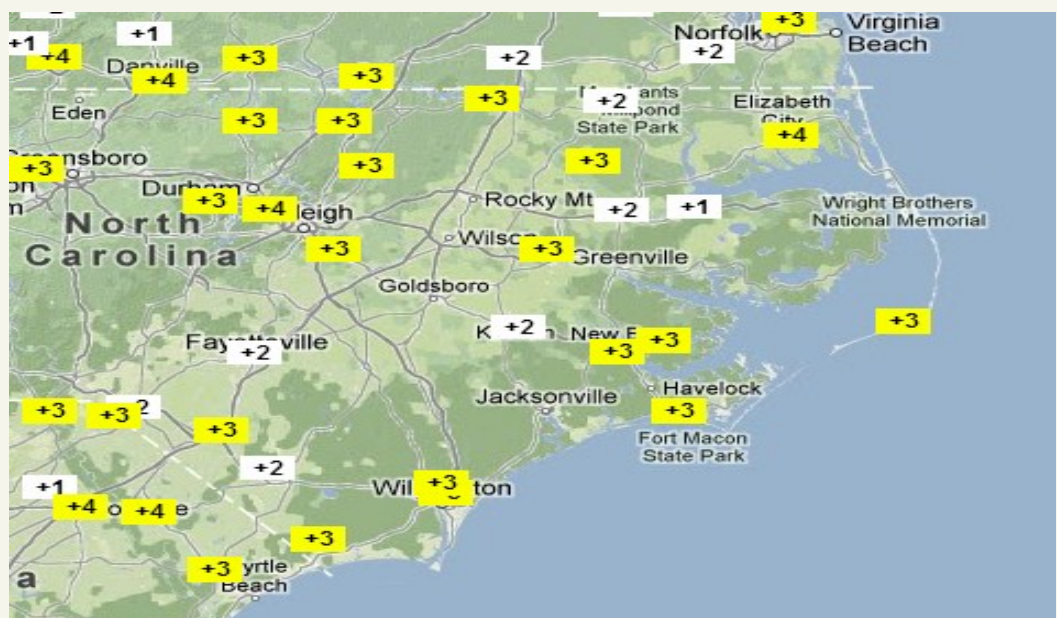
By Chris Collins, Meteorologist

As we start to see our first cool nights of the autumn season, we are reminded that winter is not far away. For the second consecutive winter season, very little snow or ice was recorded in eastern North Carolina. The lone event occurred when a fast-moving frontal system coupled with strong cold high pressure anchored over northern New England combined to bring a quick shot of wintry precipitation to eastern North Carolina during the late afternoon and evening hours of Friday January 25, 2013. As moisture increased ahead of the cold front and weak low pressure moved just south of the region, precipitation moved into eastern North Carolina and fell into the shallow cold air mass, producing sleet, snow and freezing rain from late afternoon into the evening hours. Light accumulations of up to one half inch of snow and up to one tenth of an inch of ice occurred over the central and northern portions of our region with some sleet reported as far south as Richlands and the Newport area. Severe icing on the Neuse River bridge at New Bern caused as many as 20 traffic accidents prompting the closing of the bridge during the evening.

It's too early to determine how active the winter of 2013-14 will be, but it is never too early to prepare for winter. Annual snowfall ranges from about 1.5 inches at Cape Hatteras to over 4 inches at Greenville. In March 1980, a crippling snowstorm produced as much as 2 feet of snow over eastern North Carolina, so major winter storms can and do occur in our area. Dozens of Americans die yearly due to exposure to cold. Vehicle accidents and fatalities and fires due to dangerous use of heaters make winter storms a major threat.

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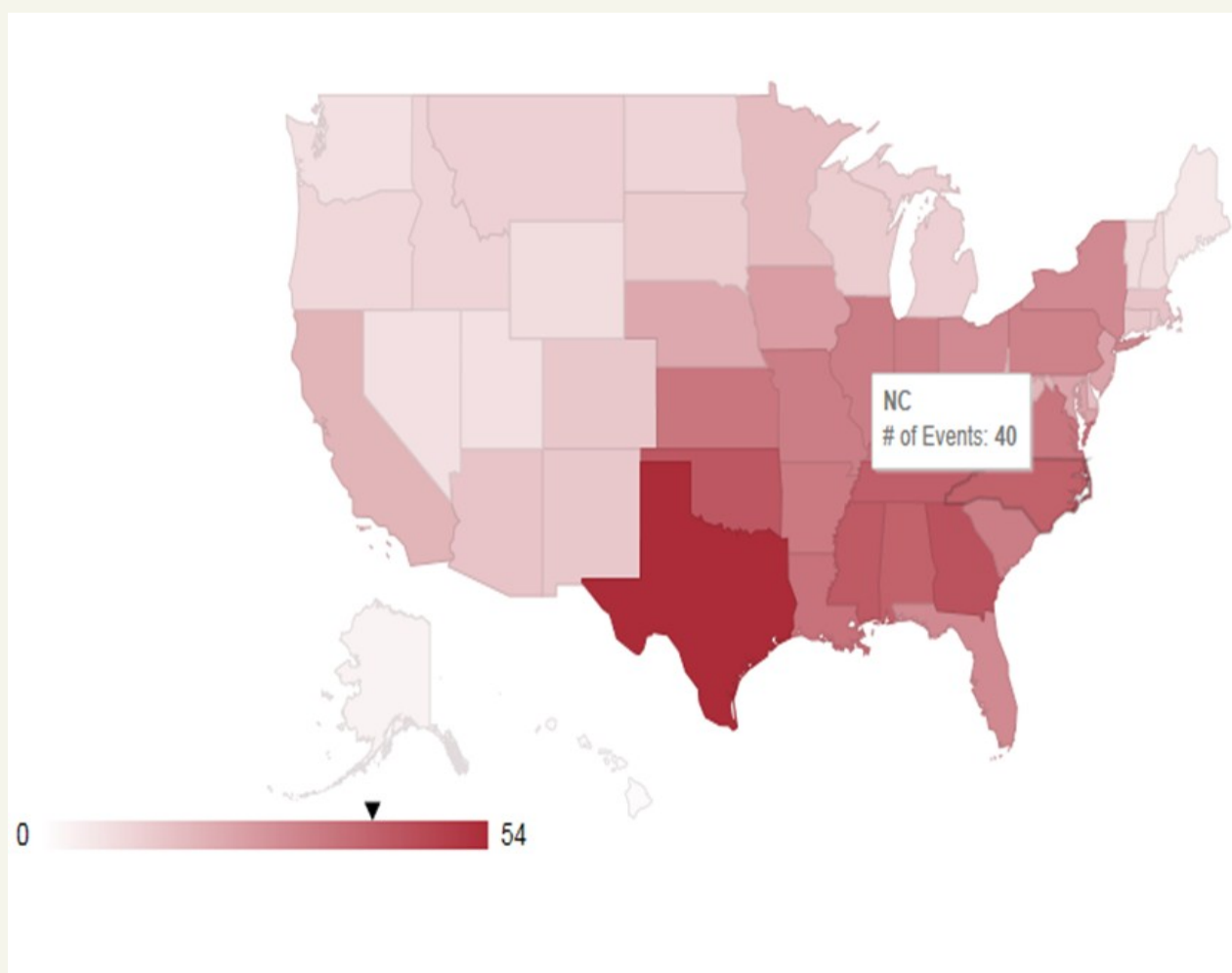


Seasonal temperature departures from Normal for Winter 2012-13.

NOAA/ NWS StormReady and Billion Dollar Weather Disasters

By John Cole, Warning Coordination Meteorologist

We live in the most severe weather-prone country on Earth. Each year, Americans cope with an average of 100,000 thunderstorms, 10,000 of which are severe; 5,000 floods; 1,000 tornadoes; and an average of 2 landfalling deadly hurricanes. And this on top of winter storms, intense summer heat, high winds, wild fires and other deadly weather impacts. We can make sure our communities are ready for the weather with the National Weather Service's **StormReady®** program. Some 90% of all presidentially declared disasters are weather related, leading to around 500 deaths per year and nearly \$14 billion in damage. The image below shows the billion dollar climate and weather disasters compiled by NOAA National Data Climate Center, NCDC, for the U.S from the period 1980 through 2012. NC ranks 6th in the nation. For more information on billion dollar climate and weather disasters visit the NCDC website at: <http://www.ncdc.noaa.gov/billions/>.

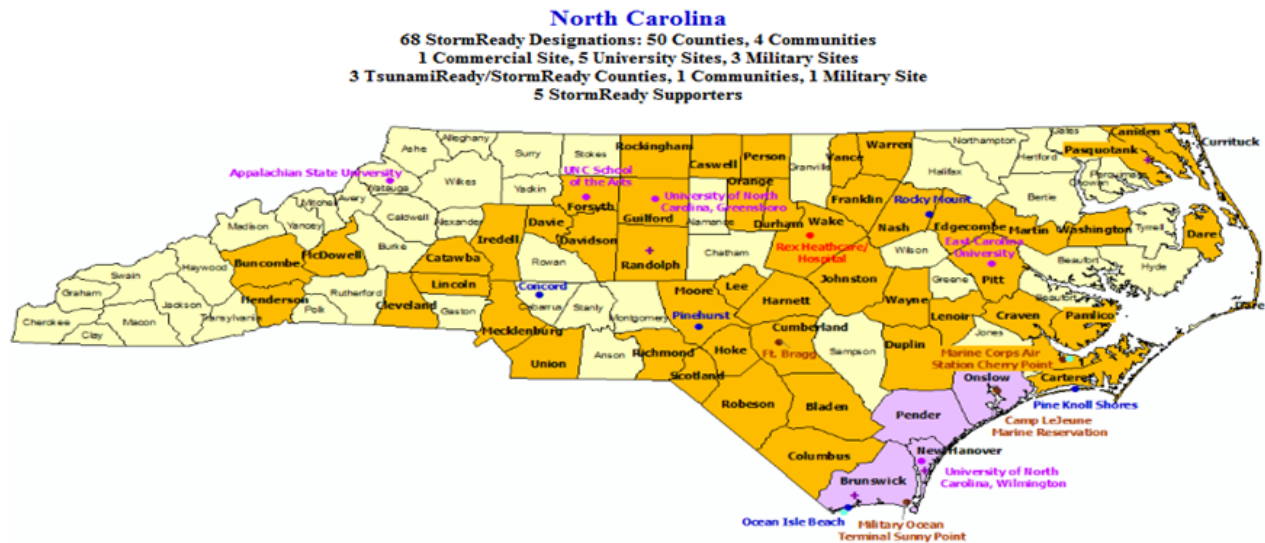


The U.S. Billion-dollar Weather/Climate Disaster report from NOAA NCDC provides readers with an aggregated loss perspective for major weather and climate events from 1980 to present. This report provides information such as economic loss, deaths and other impacts for numerous weather and climate disasters including: tropical cyclones, floods, droughts / heat waves, severe local storms (e.g., tornado, hail, straight-line wind damage), wildfires, crop freeze events and winter storms.

StormReady and Billion Dollar Weather Disasters (Continued)

StormReady, a program started in 1999 in Tulsa, OK, helps arm America's communities with the communication and safety skills needed to save lives and property--before and during the event. StormReady helps community leaders and emergency managers strengthen local safety programs. StormReady communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. No community is storm proof, but StormReady can help communities save lives. Below are the StormReady and TsunamiReady locations across NC. For more information on StormReady refer to the national web site at:

<http://www.stormready.noaa.gov/>



Gold Shading: StormReady County Purple Shading: TsunamiReady County			Blue Dot: StormReady/TsunamiReady Community
<ul style="list-style-type: none"> Bladen Brunswick Buncombe Camden Carteret Caswell Catawba Cleveland Columbus Craven Cumberland Currick Dare Davidson Davie Duplin Durham Edgecombe Forsyth 	<ul style="list-style-type: none"> Franklin Guilford Harnett Henderson Hoke Iredell Johnston Lee Lenoir Lincoln Martin McDowell Mecklenburg Moore Nash New Hanover Onslow County 	<ul style="list-style-type: none"> Orange Pamlico Pasquotank Pender Person Pitt Randolph Richmond Robeson Rockingham Scotland Union Vance Wake Warren Washington Wayne 	<ul style="list-style-type: none"> Concord Ocean Isle Beach Pine Knolls Shores Pinehurst Rocky Mount
			Red Dot: StormReady Commercial Site
			<ul style="list-style-type: none"> Rex Healthcare/Hospital
			Purple Dot: StormReady University
			<ul style="list-style-type: none"> Appalachian State University East Carolina University UNC Greensboro UNC School of the Arts UNC Wilmington
			TsunamiReady/StormReady Military Sites
			<ul style="list-style-type: none"> Camp Lejeune Military Reservation Fort Bragg Marine Corps Air Station Cherry Point Military Ocean Terminal Sunny Point
Purple Plus: StormReady Supporter			

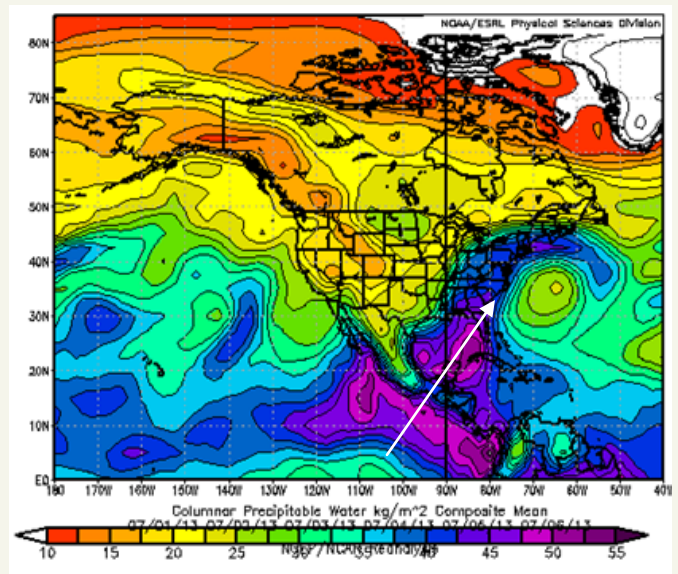
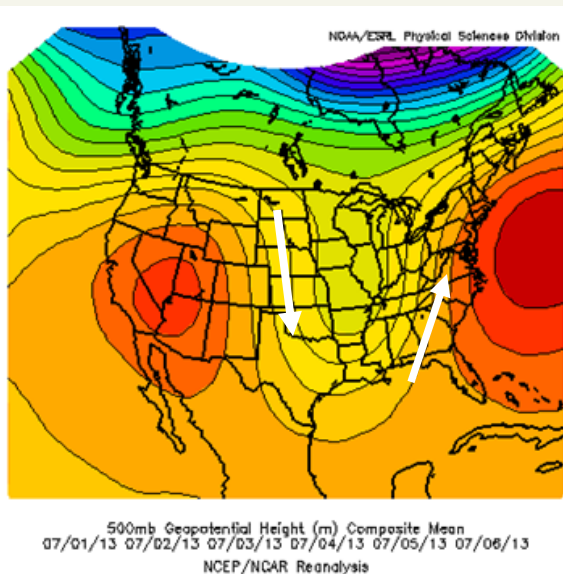
Currently, 10 of 15 counties in the NWS Newport/Morehead City forecast area are Storm-Ready. There are two military reservations, one University, and one community. Camp Lejeune and Onslow county are TsunamiReady. Red Stars indicate StormReady designations within our county warning area.

The Madden-Julian Oscillation (MJO)

By Belkys Melendez, Meteorologist

North Carolina has been under the influence of either El Niño or La Niña, since 2009. Finally, global patterns have become neutral or in a normal state; without the influence of either El Niño or La Niña. This means we do not have cool temperatures with above normal rainfall, which is a result of El Niño, nor do we have above normal temperatures with a lack of rain, a direct result of La Niña. So why did we have so much rain this summer? Good Question. Just because there is no El Niño or La Niña this year does not mean that other types of climate variability cannot influence the weather pattern. This year, North Carolina has been influenced by the Madden Julian Oscillation; for short it's called MJO.

So, what is the Madden-Julian Oscillation (MJO)? *“The Madden-Julian Oscillation (MJO) is a tropical disturbance that propagates eastward around the global tropics with a cycle on the order of 30-60 days. The MJO has wide ranging impacts on the patterns of tropical and extra-tropical precipitation, atmospheric circulation, and surface temperature around the global tropics and subtropics.”* (NOAA / NWS / NCEP Climate Prediction Center. “Madden Julian Oscillation Impacts”) Overall, the MJO tends to be most active during the absence of El Niño and La Niña, and is often absent during moderate-to-strong El Niño and La Niña events. The MJO has influenced both precipitation and surface temperature patterns across the United States. During the beginning of July 2013, North Carolina was affected by a very weak MJO located near Central America. At the time North Carolina had a trough located to the west with High Pressure off the coast. This allowed moisture to stream from Central America and up the East Coast of the US, bringing above normal precipitation to the Carolinas and flooding along the East Coast. Not only can the MJO affect the weather patterns of the US, but it also can influence or increase tropical cyclone activity across both the Pacific and Atlantic basins during summer. For additional information about the MJO, go to <http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/mjo.shtml>.



The figure on the left depicts the upper level trough digging down into the Gulf of Mexico transporting the enormous amount of moisture from Gulf of Mexico/Central America to the East Coast. The figure on the right shows the deep moisture moving across the southeastern United States into the Mid-Atlantic Region.

June 2013 is the Fifth Warmest Worldwide

By Chris Collins, Meteorologist

According to NOAA scientists, the globally averaged temperature for June 2013 tied with 2006 as the fifth warmest June since record keeping began in 1880. The average temperature for the contiguous U.S. during June was 70.4°F, 2.0°F above the 20th century average. The Lower 48 had its 15th warmest and 13th wettest June on record. The western United States and the East Coast were warmer than average, while much of the central and southeastern United States had near-average temperatures.

Nationally, June averaged a precipitation total of 3.43 inches, which was 0.54 inch above the 20th century average. Drought continued to impact the West and parts of the Central and Southern Plains, and wildfires charred over 1.2 million acres nationwide.

Over eastern North Carolina, no counties were designated at any level of drought as rainfall was generally well distributed and frequent. Temperatures in the month of June were generally 1 to 3 degrees above normal. The warmest temperatures recorded during the month was 98 degrees at New Bern on June 13th. During a brief cool spell during the middle of June, low temperatures fell into the lower to middle 50s with a chilly 52 degrees observed at Newport on June 15.

Temperatures

New Bern



Mean Temp: 78.4°
1.2° Above Normal
Highest: 98°/13th
Lowest: 59°/15th

Cape Hatteras



Mean Temp: 78.1°
2.9° Above Normal
Highest: 87°/21st
Lowest: 58°/15th

Beaufort



Mean Temp: 77.2°
1.6° Above Normal
Highest: 86°/13th
Lowest: 58°/15th

Newport (Unofficial)



Mean Temp: 75.8°
0.3° Below Normal
Highest: 87°/21st
Lowest: 52°/15th

June 2013 Rainfall Totals

New Bern

Actual: 8.21"
Normal: 4.59"

Cape Hatteras

Actual: 6.36"
Normal: 4.03"

Beaufort

Actual: 4.22"
Normal: 4.64"

Newport (Unofficial)

Actual: 5.78"
Normal: 4.87"

NWS Webpages to get a new look

By Chris Collins, Meteorologist



The National Weather Service (NWS) will gradually begin to transfer to a new website in the upcoming months. This change is necessary to help NWS websites run more reliably and allow staff to quickly update content. Sites will be mirrored on servers located in other regions. If one server goes down, the others can take over and keep sites running. You will notice significant differences in the front page of the website, but every effort is being made to keep the content the same. The same products that are found in the side menu of the old webpage will be found in the drop-down menu along the middle of the new page. There will also be a sitemap at the bottom of the page containing all links from the new webpage. Here are examples of the old and new website front pages:

The screenshot shows the old NWS website front page for the Newport/Morehead City, NC forecast office. The page has a blue header with the NOAA logo and the office name. Below the header is a navigation bar with links for Home, News, and Organization. The main content area is divided into several sections:

- Local forecast by "City, St" or zip code:** A search box with "City, St" and a "Go" button.
- Find us on Facebook** and **Follow us on Twitter** links.
- Weather Hazards:** A list of links including Graphical Hazardous Weather Outlook, Rip Currents, National Hazards, National Hurricane Center, Storm Prediction Center, Storm Reports, Submit Local Storm Reports, and Storm Reports.
- Current Conditions:** A list of links including NC Observations, Mesonet, Buoy Observations, Other Marine Reports, Satellite Images, Rivers & Lakes, AHPs, Hydrology, nowCOAST, UV Index, and Air Quality.
- Radar Imagery:** Links for Local and Nationwide.
- Forecasts:** Links for Tropical Weather, Activity Planner, Gridded Images, Text Forecasts, Area Forecast, Matrices, and Point Forecast.
- Top News of the Day:** A section titled "August 31 marks the 20th Anniversary of Hurricane Emily. Click here for more details."
- Point and Click Forecast Map(Description):** A section titled "Quick Glimpse at the Weather" for Newport/Morehead City, NC. It includes a map of the region with labels for Rocky Mount, Edenton, Williamston, Columbia, Greenville, Goldsboro, Kinston, New Bern, Swansboro, Jacksonville, and Morehead City. A legend indicates "Read watches, warnings & advisories" and "Small Craft Advisory Hazardous Weather Outlook".
- Synopsis for Eastern North Carolina:** A text box stating "Low pressure will move northeast along a stalled front along the coast tonight. The front will remain over the area into the beginning of the week. High pressure will build in by Tuesday and remain through the week. ...See Full Discussion".
- Text Products, Activity Planner, Quick Forecast, and Graphical Forecast Map:** Four sections showing different types of weather data and forecasts.
- Hourly Weather Graph:** A section showing a graph of hourly weather data.
- Select a Text Product:** A dropdown menu with a "Go" button and a "Popup" button.

The old NWS website front page.

NWS Webpages to get a new look (Continued)



NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Local forecast by "City, St" or ZIP code

[Location Help](#)

News Headlines

- [The Summer 2013 edition of our Carolina Skywatcher Newsletter is now online!](#)
- [Here's a complete list of all landfalling tropical systems to hit our area since 1851.](#)
- [Click here for all of our Social Media Feeds](#)
- [August 31 Marks the 20th Anniversary of Hurricane Emily. Click here for more details!](#)

Customize Your Weather.gov

Enter Your City, ST or ZIP Code

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NWS Forecast Office Newport/Morehead City, NC Newport/Morehead, NC
Weather Forecast Office

[Weather.gov > Newport/Morehead, NC](#)

[Current Hazards](#)
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Click on the map below to zoom in.




[Watches, Warnings & Advisories](#)

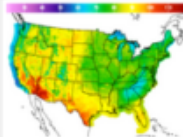
[Small Craft Advisory](#)

[Hazardous Weather Outlook](#)

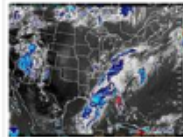
Last Map Update: Sat, Aug. 17, 2013 at 8:07:21 pm EDT




[National Weather Map](#)




[Graphical Forecasts](#)






[Satellite](#)



[Radar](#)



[Day One Severe Outlook](#)

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The new NWS website front page.

The link to the original webpage continues to be <http://www.erh.noaa.gov/mhx> and it should remain active for at least a few more months. The new webpage can be found at <http://weather.gov/newport> and is now being frequently updated, as we gradually phase out the old webpage. If you have any questions regarding the website changes in the National Weather Service, please contact our office.

Weather Folklore

By Chris Collins, Meteorologist

Weather has fascinated people for ages and because of that interest, folklore was developed to help understand and forecast weather. Until the twentieth century, everyone took these bits of weather wisdom in all seriousness, for life depended on the folklore's predictions. There are many weather sayings and weather folklore that still survive today. Probably the most famous bit of weather folklore includes the groundhog and the yearly Groundhog Day on February 2. According to folklore, if it is cloudy when a groundhog emerges from its burrow on this day, then spring will come early; if it is sunny, the groundhog will supposedly see its shadow and retreat back into its burrow, and the winter weather will continue for six more weeks. Another popular animal forecaster is the Woolly Bear Caterpillar (commonly known as the Woolly Worm). According to legend, the wider the middle brown section is (i.e., the more brown segments there are), the milder the coming winter will be. In addition to groundhogs and woolly worms, squirrels provide weather folklore. If squirrels are more active than usual, it's considered an indication that a severe winter is on its way. During the autumn and winter season, a squirrel's main task is gathering nuts and seeds for its storehouse, so if its efforts have noticeably increased, it could only mean he's preparing for the worst. The old saying goes *"Squirrels gathering nuts in a flurry, will cause snow to gather in a hurry."*

The sky itself can also provide clues to what the atmosphere has in store and has been used in weather folklore for generations. One of the most famous quotes is *"Red sky at night, sailor's delight., Red sky at morning, sailor take warning"*. The rhyme is a rule of thumb for weather forecasting, dating back over 2,000 years, based on the reddish glow of the morning or evening sky, caused by haze or clouds related to storms in the region. Due to the rotation of the Earth, storm systems travel from west to east in the mid-latitudes. A reddish sunrise, caused by particles suspended in the air, often fore-shadows an approaching storm, which will be arriving from the West, within the day. Conversely, a reddish sunset often indicates that a storm system is on the west side (same side as the sunset), traveling away from the viewer. Another common bit of folklore goes like this *"Halo around the sun or moon, Rain or snow soon."* Halos are caused by sunlight and moonlight refracting off of ice crystals in cirrus clouds (the cloud type that precedes an approaching warm front). Seeing high level moisture is a good sign that moisture will soon also be moving in at increasingly lower levels. There are literally thousands of weather sayings and folklore that have been passed down through the generations.

While weather folklore is fun to study, for a more scientific approach to the long-term forecast, go to the Climate Prediction Center's website at <http://www.cpc.ncep.noaa.gov>.



The woolly bear caterpillar and the groundhog are a big part of modern weather folklore.



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Wind Chill Chart

		Temperature (°F)																	
Wind (mph)	Calm	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

To report adverse weather conditions 24/7, please call us at: 1-800-889-6889