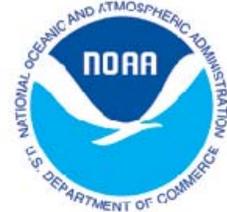




The Weather Nut



Spring/Summer 2009

A newsletter from the NWS office in Wakefield, VA "The Peanut Capital of the World"

Welcome to the inaugural issue of "The Weather Nut." This issue includes articles on recent climatology, rip current safety, staff changes, Skywarn sessions, a crossword puzzle, and much more! If you have any weather questions or would like to request an article on a specific topic, please send an e-mail to Sonia.Mark.Flechtner@noaa.gov. I hope you enjoy The Weather Nut!



A Note from the MIC:

Welcome to the first edition of the Weather Nut. The name of the Newsletter was chosen for both kinds of "nuts." We have staff here who are all nuts about the weather. Our office is also located in the heart of peanut growing country, with a plethora of excellent nut shops in the area. We know that some of you are also Weather Nuts.

We understand that perspective, and hope you enjoy the newsletter. I am excited about getting the newsletter back on track for our office. I think we have an interesting first edition, and look forward to sharing information and hearing your feedback.

We rely on weather nuts to help us with our daily mission. This newsletter has several articles that discuss how volunteers contribute to our mission. We have over 11,000 volunteers nationwide who record climate data as part of a network of Cooperative Observers. About 65 of these Cooperative Observers report daily values of maximum and minimum temperature and daily precipitation to our office. We also rely on our trained SKYWARN spotters for severe weather reports. These spotter reports enable us to issue more timely and accurate warnings for tornadoes, severe thunderstorms and flash floods.

(Continued [A Note from the MIC...](#))

Volunteers in the Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) work together to measure precipitation across the nation. These precipitation reports are valuable for a wide variety of reasons. We appreciate all of the volunteer help that we receive. There is no question that these volunteer efforts enhance our ability to provide better products and services to local communities, and the nation.

Our number one priority is to provide excellent service to our customers and partners. We have a dedicated, hard-working staff of 23 people to support a 24 hour a day, 365 days a year operation. We are here to serve you, with a goal to provide the best products and services that we can. If you have any questions or comments about our office, please contact me at 757-899-5730 or send an email to Anthony.Siebers@noaa.gov



34th Annual NWA Meeting in Norfolk This Year

By Jennifer McNatt, Lead Forecaster

The National Weather Association is holding its annual meeting at the Sheraton Waterside Hotel in Norfolk, VA this year from October 17th-22nd. Our office is very involved in the planning process for the meeting, along with surrounding offices and officers throughout the NWA organization.

This year's theme is "The Future is Now: New Technologies and Techniques to Support the Weather Enterprise and Society: 2010 and Beyond." The call for papers is out on the NWA website and abstracts are due by June 1st. For more information, go to <http://www.nwas.org/meetings/nwa2009/>.

If you have any questions, you can e-mail Jennifer McNatt, the program committee chair, at annualmeeting@nwas.org.

2009 Advanced Skywarn

By Chris Wamsley, General Forecaster

Severe weather season is not too far away. This is the second year in a row that the Wakefield office will offer Advanced SKYWARN Seminars to the public.

This year's show is NEW and encompasses more visuals while learning about how the radar works. What exactly is inside that giant white ball? As recommended by you, we will have a brief refresher of the basic SKYWARN, just in case it's been a while since the last time you had taken the beginners course. This will include severe weather safety and a new way to relay information to us. It will be jam packed with cool videos, from basic thunderstorms to the king of storms...Supercells (and everything in between). We have a real treat this year for you...a FIRST of its kind, an inside video look on how we actually issue our warnings. We also will discuss thunderstorms that form into S-shaped line segments (with new images), which most of our tornadoes in this region form from. At the end of the seminar we will go into an in-depth look in detail (with radar images), the major tornado outbreak that occurred on April 28th, 2008.



CoCoRaHS: Because Every Drop Counts!



By Mike Montefusco, General Forecaster

CoCoRaHS is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). **CoCoRaHS** stands for the *Community Collaborative Rain, Hail and Snow Network*. This network of precipitation observers is intended to provide rain, snow and hail observations from program volunteers of all ages. This data then serves to complement official National Weather Service reporting stations, which can be few and far between in some parts of our area.

The **CoCoRaHS** program The network originated with the Colorado Climate Center at Colorado State University in 1998, thanks in part to a round of deadly flash flooding in Fort Collins, CO a year prior. Flooding occurred due to heavy rainfall that was very localized in area and occurred in a short period of time. The outcome of this flooding demonstrated how rainfall totals can vary significantly over a small area. The initial goal of **CoCoRaHS** was to better expand rain gage distribution in Colorado. More than 10 years later, the program has expanded from this humble goal, with 39 states now a part of the **CoCoRaHS** network. Volunteers now provide measurement of snowfall, snow depth, moisture content of the snow, and hail size measurement. As a result of the overwhelming popularity of the **CoCoRaHS** program and thanks to a grant from NOAA, and the help of local NWS offices like NWS Wakefield, **CoCoRaHS** will continue to expand into 5 more states in 2009, to a total of 44 states in the **CoCoRaHS** network by 2010.

Data provided by **CoCoRaHS** observers in established areas, have been, and continue to be used by the following: National Weather Service and private meteorologists, hydrologists, emergency managers, city utilities (water supply, water conservation, storm water), insurance adjusters, USDA, engineers, scientists studying storms, mosquito control, ranchers and farmers, outdoor activities and recreation planners, teachers, and students. So, as this shows, **CoCoRaHS** is not a program just for one group of people. The data collected are used by many people for various purposes, and reports from your own backyard can become an important part of this nearly nationwide program.

NWS Wakefield is always looking for willing volunteers in Eastern Virginia and Northeastern North Carolina to take daily precipitation readings. The only spotter requirement is having a 4" rain gauge, available for a small fee at the **CoCoRaHS** website. Are you interested in joining **CoCoRaHS**? Contact Mike Montefusco, regional coordinator for **CoCoRaHS** at michael.montefusco@noaa.gov, or fill out an application at the **CoCoRaHS** website, www.cocorahs.org.



Skywarn Classes Scheduled for the First Part of the Year

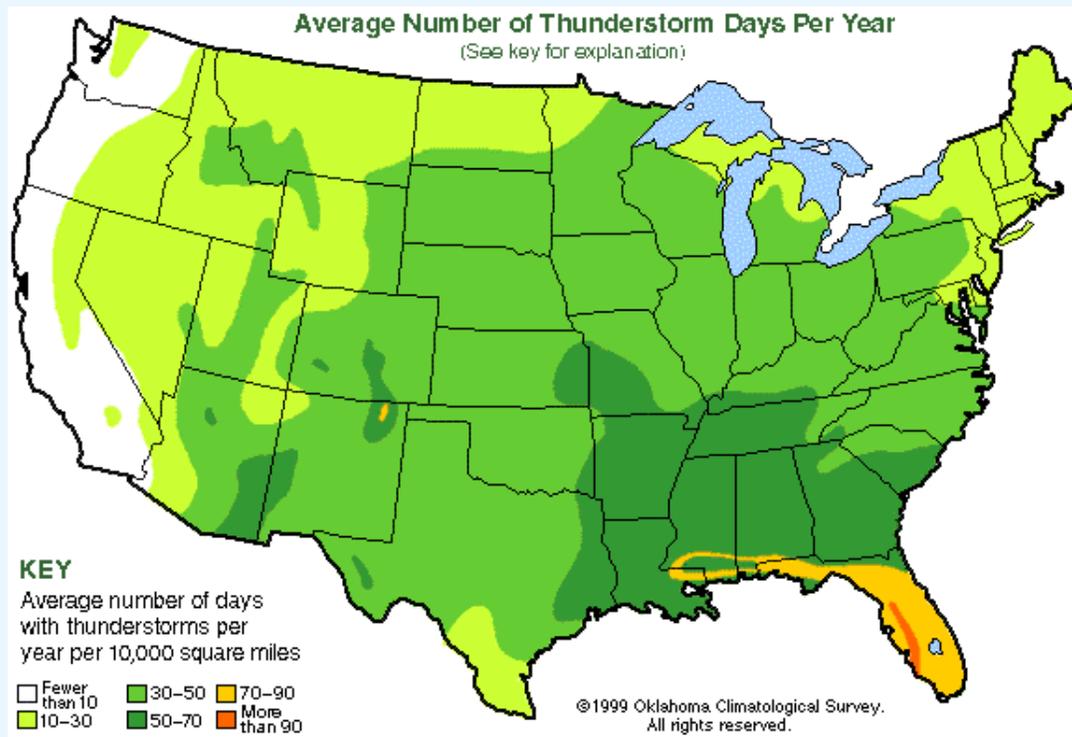
By Jennifer McNatt, Lead Forecaster

SKYWARN Classes throughout the area have been scheduled through June. Our schedule includes nine Basic SKYWARN classes, two Advanced SKYWARN at the office, two Advanced SKYWARN at outside locations, and two SKYWARN presentations for military personnel.

The SKYWARN program is open to anyone, and classes are free of charge. The training includes such topics as local climatology, National Weather Service operations, thunderstorm development, weather radar products, severe weather safety, and many other related topics.

If it's been a while since you've attended a class, we highly encourage you to sign up for one this year. We have updated our presentations and you are guaranteed to learn something new!

Go to our SKYWARN website <http://www.erh.noaa.gov/er/akq/spotterinfo/skywarn.htm> to find a class near you that fits into your schedule. Contact information is located next to each class, please sign up ahead of time with the appropriate contact.



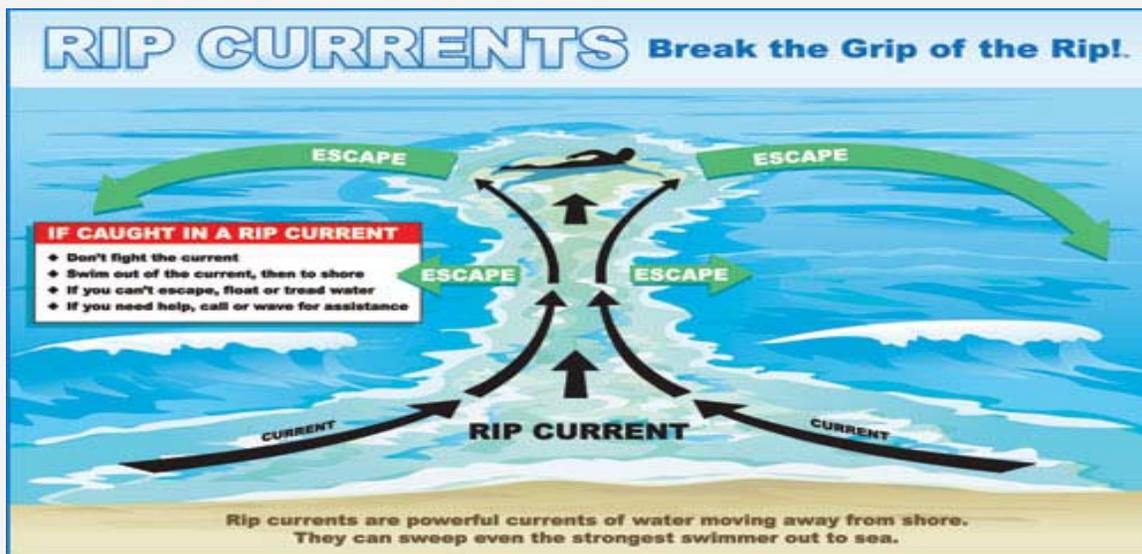
Rip Current Safety: Break the Grip of the Rip!

By Jeff Lewitsky, General Forecaster

What are rip currents? Rip currents are powerful, channeled currents of water flowing away from shore. They typically extend from the shoreline, through the surf zone, and past the line of breaking waves. Rip currents can occur at any beach with breaking waves, including the Great Lakes. Rip currents can be killers. The United States Lifesaving Association estimates that the annual number of deaths due to rip currents on our nation's beaches exceeds 100. Rip currents account for over 80% of rescues performed by surf beach lifeguards.

The National Weather Service in Wakefield issues rip current forecasts as part of the daily surf zone forecast product (SRF), which is issued twice a day, at 5am EDT and again at 5pm EDT, between Memorial Day and Labor Day. Our office coordinates our surf zone forecasts with the following three major lifesaving organizations in our county warning area: the Ocean City Beach Patrol, the Virginia Beach Lifesaving Service, and Corolla Ocean Rescue. Our forecasters work together with these lifesaving partners in order to raise awareness about the dangers of rip currents. Research is also being conducted in order to develop and improve the ability to predict the occurrence and strength of rip currents. The goal of the awareness campaign and research is to reduce the number of rip current related fatalities.

Each day the marine forecaster will assess the threat based on meteorological conditions such as wind speed and direction, the magnitude, period and direction of waves and swell. Once the threat is assessed, the forecaster will issue a statement describing the threat level for that day. A three-tiered structure of low, moderate, high is used to describe the rip current risk. This outlook is communicated to lifeguards, emergency management, media and the general public. If you're headed to the beach this spring and summer be sure to read our latest surf zone forecast, and once you arrive at the beach, always heed the advice and directions of the lifeguards.



Robert Messer Transfers to WFO Birmingham

By Sonia Mark Flechtner, General Forecaster

In early March 2009, one of our Electronics Technicians, Robert Messer, left our office for a position at WFO Birmingham. Robert has worked at our office for the last 2 and half years and will be sorely missed!

Robert began his career in the USAF where he received his electronics training, and attained the rank of SSgt. He subsequently worked for 4 different companies over the next 10 years as a technician, field representative, and finally as Site Manager of the Ft. Rucker Alabama weather radar. In 1993 he joined the National Weather Service as an ASOS Technician in Omaha Ne. In 1995 he was promoted to the Radar Technician for North Platte, NB, where he was the only ET on site during the modernization spin up. He later transferred WFO Blacksburg, VA where he worked for 7 years before coming to Wakefield in 2007. Robert has received several awards for his work performance while with the NWS.



Welcome our new Intern, Andy McLaurin!

By Andy McLaurin, Meteorologist Intern

Hello, I'm Andy McLaurin, the new Meteorologist Intern here at WFO Wakefield and I would like to take a minute to introduce myself. I am originally from Louisiana, and I lived in almost every region of the state. My interest in weather began at a very young age. Every time I went to see my grandparents, I would always ask them to put it on The Weather Channel and then spend hours watching it. I even had my grandparents record it, so I could watch it after I had returned home, regardless of how old the forecasts were. From that point, my interest grew, and I chose meteorology as the career path I wanted to pursue. I received my Bachelors in Atmospheric Science from the University of Louisiana at Monroe in 2004.

(Continued Welcome our New Intern, Andy McLaurin...)

My first job in weather was in Lafayette, LA where I issued marine forecasts for petroleum companies with interests in the Gulf of Mexico and South China Sea. I started my career with the National Weather Service as a Meteorological Technician in Cold Bay, Alaska. After being blown around by the strong Aleutian lows, I took a position as a Meteorologist Intern at WFO Juneau. Now, I will be making my way to the Mid Atlantic this spring and look forward to beginning my new position at WFO Wakefield. When I'm not at the office, I enjoy a variety of interests including: golfing, collecting sports cards, NASCAR, train watching, and photography.



Drought and Severity of Droughts as Defined by the NOAA NWS

By Keith Lynch, Service Hydrologist

Droughts are among the most damaging of all natural hazards, with annual economic losses for the U.S. often in the billions of dollars. Droughts differ from most other hazards because of their gradual onset and accumulation of impacts over months, seasons, and years. Droughts can devastate crops, pastures, and ecosystems while severe heat waves that often accompany summer droughts can increase demands for energy and water resources, heighten wildfire risks, and contribute to large numbers of fatalities.

How is Drought Defined?

Drought is defined by a prolonged deficiency in precipitation and runoff, usually over a season, several years or longer, that leads to water shortages having adverse impacts on vegetation, animals, energy production, commerce and people. Temperature increase can also result in reductions in water supply, especially in snowmelt driven systems, due to evaporation, sublimation and water uptake by heat stressed vegetation. Droughts occur in virtually all climate zones.

(Continued Drought and Severity of Droughts...)

Because droughts can have profound societal and environmental impacts, several definitions of drought have been found useful. These include meteorological drought, which is defined by the magnitude of precipitation departures below long-term average values for a season or longer; agricultural drought, which is defined as the soil moisture deficit that impacts crops, pastures, and rangelands; and hydrological drought, which is defined by significant impacts on water supplies. NOAA provides information on all three types of droughts in its U.S. drought products.

How is Drought Severity Defined?

Drought severity is defined by the frequency, magnitude and duration of reductions in precipitation and runoff that result in water supply shortages and for meeting human and environmental needs. Three important categories are:

- *Moderate drought* is associated with some crop damage and scattered water shortages.
- *Severe drought* is characterized by serious crop and pasture losses, water shortages and water use restrictions.
- *Extreme drought* causes major crop and pasture losses and widespread water shortages.

For any given part of the US, moderate droughts have been experienced on average once every 5-10 years, severe droughts once every 10-20 years, and extreme droughts once every 20-50 years.

Cooperative Corner

By Rick Curry, Observing Program Leader

I am sorry to say that I was notified yesterday of the passing of our observer in Palmyra, Virginia. Mr. P. E. Welch died after complications from open heart surgery, he was the Palmyra observer since 1987. Mr. Welch passed on February 25th with his funeral on March 1st.

In this article, I would like to discuss the two electronic methods used to send in your monthly reports, WxCoder III and IVRocs. Many of you already use one of the programs and I would encourage others to try one of the programs. Either program has the benefit of getting your data to us in a near real time manner.

WxCoder III is a computer based program that allows you to bookmark a website on your computer and enter data each day in less than a minute.

Highlights of the new system:

- Improved quality control of observations as you enter them, minimizing errors.
- In the near future it will eliminate the need to send in the paper observation forms each month.

(Continued Cooperative Corner...)

- Interfaces with the IV-ROCS telephone system for backup purposes. If you are going to be out of town and don't want to have your backup observers logging into your account (or if your Internet connection is down), IV-ROCS would be used to relay the observations, and the data would be imported into WXCODER for you.

The second system is IVRocs which allows you to enter data via telephone. You enter data by following voice prompts. A telephone with a hands free option is recommended.

If you are interested in either program please contact me at Richard.Curry@noaa.gov or call 757-899-2415.

Winter 2008-2009 Climate Summary

By Lyle Alexander, Meteorologist Intern

Winter in the Mid-Atlantic States had a typical variety of warm and cold spells with below normal snowfall and some record setting cold snaps. Beyond the usual December to February meteorological winter, the month of March brought the first heavy snowfall in several years over northern and western portions of our area.

A cold front stalled over North Carolina on Saturday February 28th. Several bands of precipitation moved across southern portions of the mid -Atlantic States for three days. Each one got progressively colder and snow developed over central Virginia on Sunday afternoon. This changeover spread to the coast by the morning of Monday March 2nd. The result was a band of 6 to 10 inches of snow that extended from southwest to northeast across central Virginia with lesser amounts to the east. The Hampton Roads area had less than 2 inches. Strong winds on Monday provided the opportunity for blowing and drifting making for quite a wintry scene.

Following the snow came some frigid temperatures. Daytime temperatures on Monday and Tuesday March 2nd and 3rd were below freezing across the area. Low temperatures on Wednesday the 4th set all time record lows for March at Richmond with 10 degrees and at Salisbury with 1 degree.

Prior to the March event, snow was hard to come by with significant winter systems either passing north or south of the area. A few light snow events will be discussed.

Residents of southeast Virginia and northeast North Carolina woke up to a cover of light snow on November 21st, some areas receiving 1 to 2 inches. A half inch of snow at Elizabeth City was their heaviest snowfall of the winter. Another dusting of snow occurred in central Virginia north and west of Richmond on the evening of December 6th.

One to two inches of the white stuff covered portions of the Virginia/North Carolina border area on the morning of Jan 20th, when North Carolina received much heavier amounts. A week later, on the 27th, a low pressure system crossed the area and brought mixed precipitation to northern portions of the area, generally north of Richmond across the northern neck to the eastern shore. An inch and a half of snow was reported at Salisbury. Another similar event similar to Jan 20th occurred February 3rd, this one bringing up to an inch to areas west of I-95 in central and southern Virginia.

(Continued Winter 2008-2009 Climate Summary...)

While the end of 2008 brought above normal precipitation to the area, the New Year started quite dry. Precipitation was around 4 to 6 inches below normal by the end of February over most of the area.

Temperatures during the December through February period averaged close to normal with a typical distribution of cold and mild spells. On January 17th, a low of 4 at Richmond was the coldest since 2000. Also on the same morning, Salisbury dropped to minus 2. It has not been colder there since 1987, December was above normal in all areas while January was found to be colder than average.

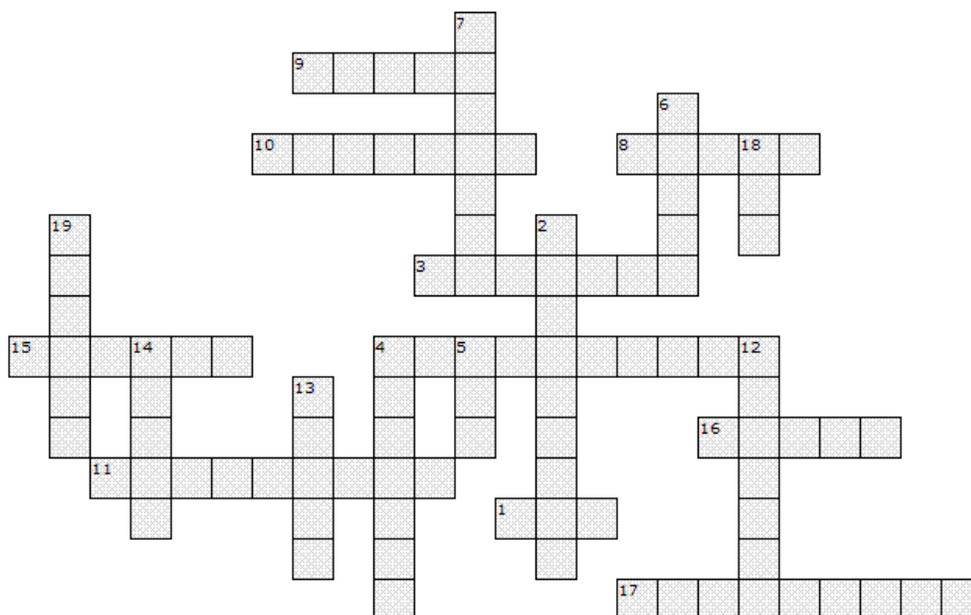
STATION	PRECIPITATION		
	Dec-Feb Precipitation	Departure	Nov-Mar Snowfall
Richmond, VA	6.30	-3.35	6.6
Norfolk, VA	6.91	-3.39	0.5
Salisbury, MD	5.26	-6.11	5.5
Elizabeth City, NC	4.34	-6.40	0.8

STATION	Dec-Feb TEMPERATURES			
	Avg. High	Avg. Low	Average	Departure From normal
Richmond, VA	50.9	30.4	40.7	+1.8
Norfolk, VA	51.9	34.2	43.1	+0.9
Salisbury, MD	47.8	26.4	37.1	-0.7
Elizabeth City, NC	53.9	33.4	43.7	-0.5

Crossword Puzzle



The Nutty Crossword



Across:

1. How many million volts are in a single lightning bolt?
3. Abnormally dry weather
4. _____ are tornadoes which form over warm water. They can move onshore and cause damage to coastal areas.
8. It may cover the ground on a cool morning.
9. A _____ is issued when conditions are favorable for severe weather
10. Winds of 40-45 mph are _____ of downing small trees, branches and isolated power outages.
11. Causes an average of 80 fatalities and 300 injuries each year.
15. Flying _____ can be deadly when it consists of sheet metal roofing, boards, and shards of broken glass.
16. Turn around don't _____.
17. A meteorological instrument that measures atmospheric pressure, used to predict weather changes.

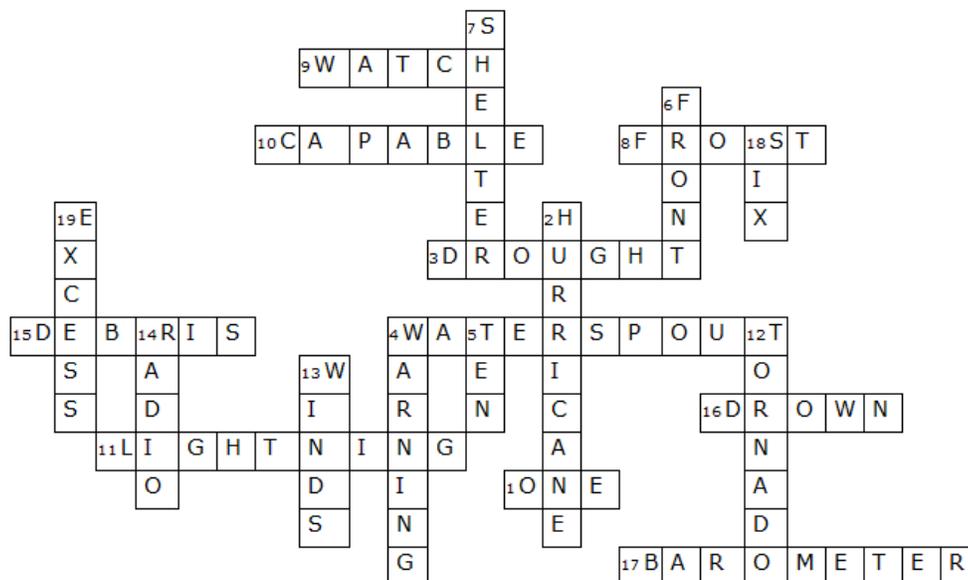
Down:

2. A tropical cyclone
4. The National Weather Service issues a _____ when dangerous weather is imminent or occurring.
5. Lightning can strike _____ miles away from rain in a thunderstorm.
6. The boundary between two different air masses
7. Seek _____ in a basement or small interior room in the center of a building (such as a closet, bathroom, or hallway) when a tornado warning is issued.
12. Straight line thunderstorms winds can exceed 100 mph, while the most common _____ winds generally aren't this strong.
13. Thunderstorm _____ can exceed 100 mph.
14. Monitor NOAA Weather _____ for the latest forecasts and warnings from your local National Weather Service office.
18. It only takes _____ inches of fast moving water flood water to knock an adult off of their feet.
19. Damaging winds in _____ of 57 mph is considered severe

Crossword Puzzle Answer Key



The Nutty Crossword ANSWER KEY



Across:

1. How many million volts are in a single lightning bolt? (ONE)
3. Abnormally dry weather (DROUGHT)
4. _____ are tornadoes which form over warm water. They can move onshore and cause damage to coastal areas. (WATERSPOUT)
8. It may cover the ground on a cool morning. (FROST)
9. A _____ is issued when conditions are favorable for severe weather (WATCH)
10. Winds of 40-45 mph are _____ of downing small trees, branches and isolated power outages. (CAPABLE)
11. Causes an average of 80 fatalities and 300 injuries each year. (LIGHTNING)
15. Flying _____ can be deadly when it consists of sheet metal roofing, boards, and shards of broken glass. (DEBRIS)
16. Turn around don't _____. (DROWN)
17. A meteorological instrument that measures atmospheric pressure, used to predict weather changes. (BAROMETER)

Down:

2. A tropical cyclone (HURRICANE)
4. The National Weather Service issues a _____ when dangerous weather is imminent or occurring. (WARNING)
5. Lightning can strike _____ miles away from rain in a thunderstorm. (TEN)
6. The boundary between two different air masses (FRONT)
7. Seek _____ in a basement or small interior room in the center of a building (such as a closet, bathroom, or hallway) when a tornado warning is issued. (SHELTER)
12. Straight line thunderstorms winds can exceed 100 mph, while the most common _____ winds generally aren't this strong. (TORNADO)
13. Thunderstorm _____ can exceed 100 mph. (WINDS)
14. Monitor NOAA Weather _____ for the latest forecasts and warnings from your local National Weather Service office. (RADIO)
18. It only takes _____ inches of fast moving water flood water to knock an adult off of their feet. (SIX)
19. Damaging winds in _____ of 57 mph is considered severe (EXCESS)

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Wakefield Weather Web Page

www.erh.noaa.gov/akq