



Sterling Reporter



Newsletter of NOAA's National Weather Service Baltimore/Washington Forecast Office

EMERGENCY MANAGER/MEDIA CONFERENCE – MARCH 28th & 29th

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Winter 2006/2007

2006 Mark Trail Award Recipient Dan Gropper!

James E. Lee, MIC, and Sarah Rogowski

Mr. Daniel Gropper has been awarded the 2006 Mark Trail Award for his instrumental involvement in many phases of the growth and development of new technology enhancing the utility of NOAA Weather Radio (NWR). As evidenced by the following examples, Mr. Gropper has been an extremely valuable resource in promoting the visibility and performance of NWR for many years.



Above: From left NWS Director, Brig. Gen. David L. Johnson (USAF Ret.), NOAA Administrator Vice Adm. Conrad C. Lautenbacher, Jr., (USN Ret.), Mark Trail creator, Jack Ellrod, and Mark Trail Award recipient Daniel Gropper.

The Mark Trail Award is named for the nationally syndicated comic strip character that serves as the campaign symbol for NOAA Weather Radio. In recent years, the comic strip's message has been that anyone listening to NOAA Weather Radio has instant access to life saving information from the National Weather Service.

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MIC's Corner

James E. Lee, Meteorologist-In-Charge

After a mild late fall and early winter, cold weather finally hit the region in late January. Our region experienced the coldest air mass since February 2004 during the last week of January. A major winter storm impacted the region February 13-14, with over 150,000 residents without power, and some schools closing for over 3 days.

Since the start of the New Year, I've had the opportunity to travel and meet over a dozen county-level emergency coordinators in the Commonwealth of Virginia. I have been very pleased to hear the appreciation given to me regarding the products and services our staff provides. The partnership between the local emergency managers and the National Weather Service is vital to the public's interest.

Last year, we focused on outreach to the general public, with our first public Open House in over 14 years. On March 28-29, we are hosting an Emergency Manager/Media Conference. This will give local emergency managers and broadcast meteorologists an opportunity to see our office and interact with our key operational program leaders.

Also, I want to highlight two people who have been providing volunteer service to our office over the past years. Dan Gropper was recently awarded the Mark Trail Award, given to him for his involvement in enhancing NOAA Weather Radio All-Hazards. Dan was also the first SkyWarn Amateur Radio Coordinator for this office. This brings me to Randy Sly, who is the current SkyWarn Amateur Radio Coordinator. Randy has worked tirelessly in his coordinator role at improving our office's ability to receive hazardous weather information through amateur radio. Through both of their volunteer efforts, they help the National Weather Service provide better forecasts and services to the region. These two individuals recognize bringing people together for the common good, and a willingness to serve a greater cause than themselves. Thanks to Dan and Randy!

If you have any questions or comments about the NWS Baltimore/Washington Weather Forecast Office, please email me at James.E.Lee@noaa.gov, or phone me 703-260-0107x222.

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2006 Mark Trail Award Recipient Dan Gropper

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In 1989, while leading the SKYWARN operations at the WFO, Mr. Gropper noticed that severe warnings were being issued on NWR, but were not being received by first responders in the emergency services community. Additionally, he noted that amateur radio groups participating in the SKYWARN network were not receiving severe warnings either. Mr. Gropper designed and built new equipment which integrated NWR into professional and amateur two-way communication equipment that would alert users without disrupting normal communications flow on their equipment. This equipment was so pioneering that it received both U.S. and Canadian patents.

To help support the American Red Cross during the 1996 Summer Olympics in Atlanta, Mr. Gropper specifically designed a mobile NWR receiver for the American Red Cross HumVee deployed for the Olympics. This NWR receiver was unique in that once-a-minute, it scanned multiple transmitters to find strongest signal having audio. This technology was also pioneering and received a U.S. Patent. In late August of that year, the Red Cross sent its disaster advance team from Atlanta to North Carolina in the HumVee to respond to the devastating effects of Hurricane Fran. The NWR receiver in the HumVee enabled the Red Cross advance team to keep abreast of the latest information on Hurricane Fran, in addition to receiving local warnings as they drove through the outer bands of the storm. Mr. Gropper's NWR helped the Red Cross in its response to this major natural disaster.

Mr. Gropper is a friend of NOAA's National Weather Service and NWR. He has voluntarily donated NWR Emergency Alert System (EAS) receivers to the Baltimore/Washington, Wakefield, Binghamton, Cleveland, and Charleston WFOs. This equipment can provide quick verification to the WFO that the NWR system is performing at the expected level, and help diagnose any problems with the system as they occur. Mr. Gropper has spent many volunteer hours monitoring NWR broadcasts around the country. On a number of occasions, Dan helped to track down radio interference from other commercial transmitters. He has helped the NWS improve the performance of many transmitters including the New York City, Boston, Norfolk, Baltimore, Los Angeles, and Manassas transmitters, all through volunteering his expertise and time. Mr. Gropper has also developed an automatic email system which emails each hazardous weather alert to NWS personnel at the Baltimore/Washington WFO to provide validation that the warnings were properly issued via NWR. In spite of all of his efforts, Mr. Gropper has never accepted a penny from the NWS.

In addition to working closely with the NWS, Mr. Gropper has also worked with the Federal Emergency Management Agency, the Federal Communications Commission (FCC), and the American Radio Relay League in promoting the interface of NWR into other communications systems. Mr. Gropper participated in the 2002 FCC EAS rule revision and many of his suggestions to improve NWR were adopted and are now part of the NWR system.

These examples are only a few of Mr. Gropper's accomplishments and contributions. He continues to be instrumental in the NWR Program and the National Weather Service's mission to protect life and property.

Congratulations Dan!

Major Ice Storm Pummels the Shenandoah National Park, November 22-23, 2006

James Brotherton

An early season ice storm crippled the Shenandoah National Park, which is located along the crest of the Blue Ridge Mountains in Central and Northern Virginia. Surrounding areas of the National Park, above 2000 feet, also were affected by this storm.

The Skyline Drive is an integral piece of this national park, being a major day and weekend trip destination for residents of the Eastern United States. The drive was built between 1931 and 1939 by the Civilian Conservation Corps.

A fast moving weather system developing in the Deep South spread rain quickly to the north into the region. The airmass over the Blue Ridge Mountains was very dry, allowing raindrops to supercool just before making contact with the surface, which was below freezing.



Severe tree damage was sustained due to a heavy accumulation of freezing rain. Treetops and branches snapped under the weight of accumulated ice. Many miles of Skyline Drive and nearby hiking trails were blocked with fallen trees and branches, with hazardous limbs hanging overhead if they weren't snapped. Pockets of ice accumulations ranged between one to two inches intermittently along the span of the Skyline Drive, which runs a length of 105 miles along the crest of the Blue Ridge. The drive, which was, was closed for several days to allow crews to begin cleaning up the damages. The Park staff even setup a hotline for people to receive updated information as to the status of the closed drive and the closed hiking trails.



Thanks to the Shenandoah National Park staff for sharing numerous photos with us of damages sustained by this storm. The two attached images show a common scene of wildly shredded limbs due to the ice storm along the drive.

SKYWARN Recognition Day 2006

Randy Sly, W4XJ

SKYWARN Amateur Radio Coordinator, Sterling WFO

Whenever severe weather threatens our County Warning Area (CWA), a network of 1200 amateur radio operators is activated to provide direct reporting of real-time observations to the Warning Coordination Meteorologist and forecasters.

To emphasize the importance of this communications network and celebrate the contribution of these "ham radio" operators, the National Weather Service (NWS) and Amateur Radio Relay League established *SKYWARN Recognition Day* (SRD) on the first Saturday of December from 0000 to 24000 UTC. Each year since 1999, Weather Forecast Offices (WFO) around the country, including Alaska and Hawaii, host special event stations manned by SKYWARN Amateur Radio Operators. These stations stay active for the twenty four hour period and try to make contact with as many other amateur radio stations as possible with an emphasis on contacting other forecast offices.

If you happened to stop by the Sterling WFO during SRD, you would notice several portable antennas installed on the grounds and the conference room filled with assorted transceivers, microphones, telegraph keys, antenna couplers, and other equipment capable of making contact with other ham radio stations around the state, around the nation, and around the world.

This year's local operation was quite unusual, beginning with an actual SKYWARN activation on Friday, December 1 due to severe weather and high winds. The weather forced the SKYWARN team to focus on the activation and halted the erection of special antennas for the event. Eventually, the severe weather incident was finished and the operators were able to start setting up their stations and antennas. We were on the air by 7:00pm Friday evening.



Above from left: Barry Barton, Randy Sly (SKYWARN Amateur Radio Coordinator), Virginia Legowik, (Assistant Amateur Radio Coordinator) operating one of our High Frequency (HF) stations.

We had two goals for this year's SRD. First, we wanted to try and make contact with ham radio operators in as many counties in our CWA as possible. This would give us a good idea of how effective we can be in direct communications from the forecast office. Our efforts were stifled, however, due to weather and mechanical problems with a communications van we were going to use for this exercise. Being ingenious communicators, the team executed "Plan B" and placed operators in cars in the WFO parking lot, utilizing their mobile transceivers to contact other amateurs in Virginia, West Virginia, Maryland, and Pennsylvania.

Our second goal was to contact as many other forecast offices as possible. This year 106 WFO's registered that they would be on the air during SRD, with others joining in at the last minute. During the 24-hour period, we made contact with 48 offices. Our grand total was 264 contacts in 40 different states and several foreign countries.

SKYWARN Recognition Day 2006

Continued...

This year David Manning, Warning Coordination Meteorologist (WCM), made his debut as an SRD operator, having received his license just two weeks prior to the event. Chris Strong, the Assistant WCM, is also a licensed ham radio operator and participated. This was truly an event that attracted both young and old. Some of our licensed operators were as young as 11 years old while others were retired men and women who were veterans of many years of activity.



Above from left: David Manning, Warning Coordination Meteorologist, and Chris Strong, Assistant WCM, operating one of our HF stations.

We utilized voice communications, Morse code, and digital modes, to make contact with other stations. We also used two quite new systems, "Automatic Position Reporting System (APRS) which uses amateur radio in combination with the global positioning satellite system and "Echolink," which use ham radio in combination with internet communications.

If you are interested in knowing more about Amateur Radio activity in our region or find out more about the SKYWARN Amateur Radio Program please feel free to contact me at w4xj@arrl.net. To learn more about this great hobby and public service as well as receive licensing information, you can go to <http://www.emergency-radio.org/> and <http://www.hello-radio.org/>.

How SKYWARN Began

Randy Sly, W4XJ

SKYWARN Amateur Radio Coordinator, Sterling WFO

It was early Palm Sunday morning, April 11, 1965. An outbreak of 78 tornadoes ripped through six Midwestern states leaving behind a wake of destruction with 271 fatalities and over 3,000 injuries. In evaluating the emergency responses for the "Palm Sunday Tornado Outbreak," the survey team, appointed by the Chief of the Weather Bureau, found serious inadequacies in early warning, communications, storm spotting, and radar coverage. From these observations, NADWARN (National Disaster Warning System) was born. One phase of this program grew into what we now call SKYWARN, which is a coordinated network of trained volunteer spotters working with the National Weather Service during specific times of severe weather. While SKYWARN Spotters do not need to be amateur radio operators, the majority of volunteers still come from the ranks of ham radio. SKYWARN is primarily focused on tornado preparedness; its portfolio of activations is much larger and can include flooding, winter storms, severe thunderstorms, and hurricanes.

More information regarding the SKYWARN program can be found on the NWS Baltimore/Washington Forecast Office website: <http://www.erh.noaa.gov/lwx/skywarn/skywarn.htm>.

November 2006 – January 2007 Climate

Brian LaSorsa

Temperatures for the period of November and December were well above average while precipitation fluctuated from well above average in November to below average in December.

For Reagan National, the temperature averaged at 50.7 degrees for the month of November, making it tied for the 22nd warmest month on record since 1871. However, the weather pattern was progressive and this allowed for a few coastal storms to move through the area, bringing plenty of rainfall. Precipitation topped off at 5.16 inches making it the 13th wettest month on record and even the holiday of Thanksgiving was spent with the umbrella. Thankfully, there was a lack of cold air during the whole month, or else we would have been dealing with plenty of snow with these coastal storms. Despite this month going down as a warm month, there were no records broken. As for Baltimore/Washington International, it was also a warm and wet month. The average temperature was 49.6 degrees, making it tied for the 22nd warmest on record and 6.25 inches of rain fell, making it the 9th wettest month on record.

The month of December for both Reagan National and Baltimore/Washington International was also very warm. The big difference was that it turned out much drier thanks to a large area of high pressure over the Southeastern United States. This kept most storm systems well to our north and west. For Reagan National, December will go down as tied for the 10th warmest and 20th driest. For Baltimore/Washington International, December turned out to be the 13th warmest and the 24th driest on record. The Christmas holiday turned out wet. A couple record highs were broken during the month of December at both Reagan National and Baltimore/Washington International. At Reagan National, the temperature on the 1st soared to 75 degrees breaking the old record of 71 set in 2001. Also, on the 18th, the temperatures peaked out at 74 degrees breaking the old record of 72 set in 1984. The temperature peaked out at 75 degrees on the 1st breaking the old record of 73 set in 2001 at Baltimore/Washington International. For the 18th, it soared to 72 degrees breaking the old record of 69 set in 1984.

The month of January began like the month of December ended - warm. For Reagan National, the average temperature through the 16th was 48.7 degrees, making this the 2nd warmest period on record. For Baltimore/Washington International, the average temperature was 46.7 degrees, making this the fourth warmest on record. However, things quickly changed for the latter half of the month as a northwest flow from Canada finally took over for the first time this winter. This brought noticeably cooler conditions with the average temperatures for both airports plummeting. At Reagan National, the second half of the month averaged only at 32.2 degrees, and for Baltimore/Washington International, the average temperature was 30.2 degrees. This was tied for the 34th coldest on record. There was not much in the way of snowfall, but both airports did record their first measurable snowfall for the season on the 21st as a weak storm system passed to the south.

2007 Emergency Manager/Media Conference

David Manning, Warning Coordination Meteorologist

NWS Baltimore/Washington is in the final planning stages of a conference for the emergency services and broadcast meteorologist communities within our forecast area. This conference will be an opportunity for the decision makers, planners, and communicators across our area to learn more about products and services of the National Weather Service. When storms approach, the decision-making process that emergency managers must go through is made easier by the strong partnership between the National Weather Service and the emergency management community at the local, state and regional level. The message is often communicated to the public by our partners in broadcast meteorology. We plan to have the conference from March 28th-29th at the NTSB Training Facility in Ashburn, VA, close to our office. Participants will have the opportunity to see presentations, interact with our forecast staff, and tour the forecast office. Registration is requested by March 7th, so don't delay and register today at <http://weather.gov/washington/em2007>. You will also find a detailed conference agenda at this website.

Steve Zubrick Completes Leadership Course

Steve Zubrick, Science and Operations Office

On Sept 22, 2006, Steve Zubrick, Science and Operations Officer at WFO-Sterling, graduated from the Department of Commerce's "Executive Leadership Development Program" (ELDP). The ELDP was conceived by Commerce to address the Department's challenge in developing capable individuals for its human capital and succession planning in the executive ranks. ELDP focused on developing executive leadership abilities in a number of areas.



Steve Zubrick (left) receiving his plaque at the ELDP graduation. He is pictured with Eddie Ribas (right), NOAA's Director for Human Resources Management.

Steve was chosen as one of 35 ELDP participants out of nearly 160 applicants from within the Department. ELDP activities were spread out over a two year period and included such activities like attending single day and week-long executive training workshops and forums, mentoring, and completing a 4 month development assignment outside Sterling. Steve spent his 4 months working in downtown DC in NOAA's Budget Office and assisted in preparing NOAA's FY08 budget submission. Steve looks forward to using his new leadership skills in his efforts at Sterling, and in any future capacity with the Department.

Congratulations Steve!

October – December 2006 Storm Data

James Brotherton

A strong cold front moved across the region on October 4th, producing one severe thunderstorm in Allegany County, MD, where power lines were downed in the town of Barton.

On the 6th, a coastal low helped produce heavy rainfall near 6 inches in Southern Augusta County, where several roads were closed during the evening and overnight.

A fast moving cold front caused gusty winds up to 45 mph on the 20th, downing limbs and power lines in Frederick County, MD.

On the 28th, a large low pressure system moved across the Mid Atlantic. A very strong pressure gradient generated winds of around 50 mph across much of the forecast area. While not quite as strong as the winds we experience with typical severe thunderstorms, the combination of wet grounds from recent rain and the extended nature of the wind produced numerous downed trees and power lines and subsequent power outages across the region. Roughly 3000 customers were without power in the District, 4800 customers in Montgomery County, MD, and 20,000 utility customers across the Northern Virginia suburbs in Loudoun, Prince William, Fairfax, and Arlington Counties. A few outages also occurred in the Eastern Panhandle of West Virginia. As the storm approached the Chesapeake Bay, water was channeled up the Bay and Tidal Potomac due to the wind fetch across the waters. Subsequently, tide levels ran about 2 to 2.5 feet above the predicted values. Moderate coastal flooding occurred in Annapolis as a result, with about a foot of water covering Dock Street downtown. Flood waters extended as far inland as Randall Street. No serious injuries or damages were reported.

A deep low pressure system moved from the Tennessee Valley to the Eastern Great Lakes on November 16, sweeping a strong cold front across the Mid Atlantic. This system generated a large area of moderate to heavy rainfall during the day, then a ribbon of thunderstorms producing additional heavy rainfall during the evening in conjunction with the cold frontal passage. A few of the thunderstorms reached severe limits and caused areas of wind damage. Rainfall amounts topped 4 to 5 inches in localized spots within a short amount of time. Extensive flash flooding associated with this event occurred in portions of the Washington-Baltimore Metropolitan corridor. In Montgomery County, MD, flash flooding occurred between Germantown and Silver Spring. Police reported more than a dozen motorists stranded by flood waters in Potomac, Bethesda, Gaithersburg, and Germantown, where several swift water rescues were performed. In The District, several roads were flooded in the Georgetown area, including the area around Sibley Hospital. In Prince George's County, a portion of the Capital Beltway was shut down near Andrews Air Force Base. In the Baltimore suburbs, Jones Falls flooded out a section of Interstate 83, and Gunpowder River flooded out several roads, as well as the Gunpowder Falls State Park. Several major roadways were closed in Anne Arundel County due to flash flooding as well, including the Baltimore-Annapolis Blvd. Severe thunderstorm wind damage occurred across several different areas, including Montgomery and Carroll Counties in Central Maryland, and the City of Harrisonburg, Rockingham and Spotsylvania Counties in Northern Virginia.

A strong cold front blew across the Mid Atlantic on December 1st, producing strong winds across much of the area. The winds persisted from about late morning until early evening in many areas. Scattered power outages from downed trees and power lines occurred in portions of Eastern West Virginia, Northern Virginia, and much of Maryland.

Several upslope snow events occurred in December, mainly affecting locations along and west of the Allegheny Front in Western Maryland, Eastern West Virginia, and West-Central Virginia. Most of these events produced only light to moderate snowfall, generally between 1 to 3 inches, on the 7th to 8th, and again on the 26th to 27th.

November 2006 – January 2007 Outreach of Note

Sarah Rogowski

On November 11th, Steve Zubrick, Science and Operations Officer, met with members of the "Catalina 34-Fleet 12" Sailing Club in Stevensville, MD, to discuss our local Marine Weather Program.

On the 21st, Luis Rosa conducted an office tour for a University of Maryland Graduate Student interested in pursuing a career in Meteorology.

On the 28th, Sarah Rogowski conducted an office tour for members of the Fall 2006 DC-AMS DataStreame Class. The Washington DC chapter of the American Meteorological Society (AMS) conducts classes each year for local science teachers. The next day, Nikole Listemaa conducted an office tour for a Criminal Justice student from the University of Maryland and discussed how weather affects law enforcement.

On December 5th and 7th, Sarah Rogowski visited with 4th grade students at Greenbriar West Elementary School in Fairfax, VA, and The Ambleside School in Herndon, VA, to discuss hazardous weather as well as weather observations.

On the 20th, Sarah Rogowski participated in the Loudoun County Job-for-a-Day Program. Two high school students shadowed Sarah for a day to learn more about the operational aspect of meteorology as well as various careers possible within the field. The next day, Sarah visited with a group of girl scouts in Eldersburg, MD, as part of the Weather Badge Requirements. She discussed hazardous weather and weather safety.

On January 4th, Sarah Rogowski, Brian LaSorsa and Jackie Hale conducted an office tour for a group of boy scouts as part of their Weather Badge Requirements.

On the 11th, Sarah Rogowski and Brandon Peloquin visited with the 2nd grade students of EL Hayes Public Charter School in NW Washington DC. Later that day, they visited with the 2nd grade at the Torah Institute of Baltimore. Sarah and Brandon discussed weather observations and types of winter weather. Also on the 11th, David Manning, Warning Coordination Meteorologist, and Richard Hitchens, Senior Service Hydrologist, visited members of the Baltimore County Emergency Management Agency.

On the 17th, Chris Strong conducted an office tour for 2 high school students as part of their school science project. They were also able to observe a balloon release with Brian LaSorsa.

On the 19th, Steve Rogowski and Brian LaSorsa conducted an office tour for a Graduate Student from University of Maryland – Baltimore County. They went through the process of a weather balloon release as well as different aspects of collecting and analyzing weather data.

On the 23rd, Sarah Rogowski and Brian LaSorsa visited with the 4th grade at Forest Grove Elementary School in Sterling, VA to discuss weather observations and how to create a forecast. Also on the 23rd, Brandon Peloquin and John Darnley conducted an office tour for the Rockville Sail and Power Squadron. Brandon discussed general NWS Operations and the Local Marine Program and solicited feedback on marine products and services. John also went through a weather balloon release with the group.

NWS Spring Related Product Criteria

Severe Weather Outlook: Issued as a Hazardous Weather Outlook (HWO), this outlook provides the expected timing, extent and potential hazards posed by forecasted thunderstorms, 3-7 days before the expected event.

Severe Thunderstorm Watch: Issued for an area that appears favorable to receive at least 6 reports of severe thunderstorms (hail>0.74" in diameter and/or winds >57 mph) within the next 2-6 hours in collaboration with the Storm Prediction Center in Norman, Oklahoma. A Typical watch covers about 8,000 square miles.

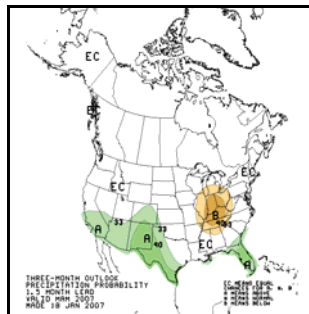
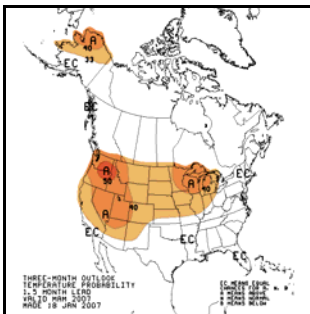
Severe Thunderstorm Warning – A thunderstorm is currently or will likely imminently produce hail>0.74" in diameter and/or winds >57 mph. These warnings are usually issued for a county for 30 to 60 minutes.

Tornado Watch – Issued for an area that appears favorable for at least 2 tornadoes, or any tornado F2 or greater within the next 2-6 hours in collaboration with the Storm Prediction Center in Norman, Oklahoma. A Typical watch covers about 8,000 square miles.

Tornado Warning – A thunderstorm is currently or will likely produce a tornado. Hail>0.74" in diameter and/or winds >57 mph may also occur. These warnings are usually issued for a county for 15 to 45 minutes.

March-April-May Outlook

NOAA's National Weather Service Climate Prediction Center created these March-April-May temperature and precipitation outlooks during mid January. 'EC' means Equal Chance, 'A' stands for Above Normal, while 'B' is Below Normal. These are probabilistic forecasts; the forecast probability anomaly is the difference between the actual forecast probability of the verifying observation falling in a given category and its climatological value.



Climate Prediction Center outlooks, discussions and explanations are available at:
<http://www.cpc.noaa.gov/products/predictions/90day/>

Upcoming SKYWARN Classes

For more information check out the SKYWARN website:
<http://www.erh.noaa.gov/er/lwx/skywarn/classes.html>. The class schedule is updated as needed.

ATTENTION ALL SKYWARN SPOTTERS: Please email Sarah Rogowski (Sarah.Rogowski@noaa.gov) if any contact information has changed.

BASICS I SKYWARN CLASS

This class is essential for becoming a SKYWARN Spotter. It is a 3-hour class that covers the basics of how SKYWARN and the National Weather Service operate, what you need to report and how, and how to spot severe thunderstorms and tornadoes.

This class is a pre-requisite for all other classes.

BASICS II SKYWARN CLASS

This class is an optional sequel to the Basics I class. It is 2 1/2 hours long. It is good for spotters who need a refresher or feel they want additional information and training. It reviews the basic spotting techniques and covers more information about thunderstorms and Doppler radar.

You must have taken Basics 1 to attend this class.

WINTER STORM CLASS

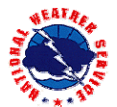
This is an optional 2 1/2 hour class that is occasionally offered seasonally (November - January). Its focus is on the Mid-Atlantic snow storms and nor'easters. It looks at the frequency and history of the storms, how they form and the difficulties in forecasting them, how to be prepared, how to measure snow and ice, and how SKYWARN operates during a winter event.

You must have taken Basics I to attend this class.



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National Weather Service
44087 Weather Service Rd.
Sterling, VA 20166
703-260-0107

Editor:

Sarah Rogowski

Sarah.Rogowski@noaa.gov