

Sterling Reporter



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

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Spring 2006

Open House 2006

Sarah Allen

The NWS Baltimore/Washington Forecast Office hosted an Open House on Saturday, April 29th and Saturday, April 30th. This was the first Open House in 16 years.

Members of our staff made presentations on severe and tropical weather, weather history, careers in meteorology, and weather observations. We invited several local government agencies and local experts to present information to the public. Guests were able to tour the office operations area and speak with many of our meteorologists.



Brian conducts an experiment



Calvin releases a weather balloon

Additional pictures from the Open House can be found at: <http://www.erh.noaa.gov/lwx/oh/>

We'd like to extend a special Thank You to all of our invited presenters and everyone who attended the Open House.

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|---------------------------------|------------------------|
| Maryland Emergency Management | Red Cross |
| Virginia Emergency Management | Chesapeake Bay Office |
| DC Emergency Management | Howard University |
| Alexandria Emergency Management | University of Maryland |
| Arlington Emergency Management | National Ocean Service |
| Fairfax Emergency Management | SKYWARN |
| Loudoun Emergency Management | FEMA Region III |
| NOAA Recreation and Welfare | Lions Club |
| Cooperative Observer Program | |

MIC's Corner

Jim Lee, Meteorologist-In-Charge

Last month, our Weather Forecast Office (WFO) opened our doors to the public for the first time in sixteen years with our Open House. Approximately 1,500 people attended the event, which by which all accounts was a tremendous success. These events don't happen by themselves, but require months of planning and hard work during the event. I want to take a moment and recognize our Open House Planning Team, led by Nikole Listemaa, who was joined by Howard Silverman, Sarah Allen, Jim Teklinski, Brandon Peloquin, Brian Guyer, and Steve Rogowski. This team put in about six months of planning effort, and was instrumental in making this a top-notch event. Thanks to the WFO Staff, SKYWARN volunteers, and our partners from the emergency management community who worked very hard over Open House weekend. We are already planning for our next Open House in Fall 2008.

Some of my time over the past few months has been in planning for our office move. If you are not aware, Dulles Airport is expanding their runway system, and one of the new runway's centerline will be right over our existing office facility. This requires us to move both the WFO and the KLWX WSR-88D radar. While we don't know exactly where our new office and radar will be, work is well underway to make this WFO the best facility in the country.

As schools wind down and summer approaches, our WFO staff has been preparing for severe weather season. Our office held our annual Severe Weather Workshop on April 17th, which gave us an opportunity to gather and train on the latest severe weather techniques, policy, and procedures. I was able to participate in severe weather conferences for the State of Maryland, Commonwealth of Virginia, and the District of Columbia over the past several weeks. These preparatory and planning activities are critical, so that when severe weather occurs, everyone knows how to respond.

On May 22nd, NOAA released its 2006 Atlantic Hurricane Outlook. The outlook calls for a very active season, with 13-16 named storms, 8-10 hurricanes, with 4-6 major hurricanes. Considerably warmer than normal sea surface temperatures, lower wind shear and reduced sea level pressure all indicate an above-normal hurricane season. People should easily remember Tropical Storm Isabel in September 2003 and the large number power outages that resulted from its winds, or Hurricane Ivan in September 2004, which spawned the greatest tornadic outbreak in Virginia's history. Tropical Storm Agnes in June 1972 caused 16 deaths in the D.C. metropolitan area, mainly from normally tranquil small streams and creeks

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A Busy Fire Season across the Region

Chris Strong

The few weeks before all of our trees and grasses sprout and bloom in springtime is a hazardous time for the fire fighters that control our region's brush fires and forest fires. Plants are generally still dry before they start soaking up the groundwater to start "greening up" for the summer. Also a lot of downed branches and trees from winter's storms are lying amongst the dead leaves and grass that cover the ground. The sun is getting stronger to warm and dry things out, and as we transition from the cold season to the warm season, spring's storms typically produce windy conditions.

All of these things combine to produce one of our two main fire seasons in this part of the country (the other being in the fall). This particular time in 2006 has been a particularly bad spring fire season, which is due to a few main factors.

First, was the total lack of significant rain. The last week of February and all of March had historically low amounts of rainfall – generally only a few hundredths of an inch for the entire five week period – four inches would be near normal. This allowed all of the things that burn to gradually get drier and drier.

Second, was the number of weather days that combined strong winds with very dry air. This was due to a number of very dry air masses from the center of the continent that pushed cold fronts through the region without any rainfall of consequence. After the cold fronts came through, winds would increase dramatically out of the northwest pumping air with extraordinarily low humidity over the Eastern seaboard. Many days in March had afternoons where the relative humidity was below 20 percent, and in some cases relative humidity fell into the single digits - very dry air indeed!

If you combine all of these factors: the lack of rain, the extraordinarily dry air, and the windy conditions, all during the height of the fire season, you can expect big problems. And that was what we got. Brush fires were rampant across the region, many localities instituted burn bans, large fires were observed around Roanoke, near Harrisonburg, and even in National Forest Park in Prince William county 30 miles southwest of the District of Columbia. Even buildings were at risk. A fire that started in the brush under the deck of a Solomons Island, MD establishment, during one of the most extreme of our windy, dry days got quickly out of control and burned it to the ground. It narrowly avoided spreading to other buildings in the area and taking out a whole end of the community.

Now that the plants, grasses, and trees are beginning to "green-up" and as of this writing in mid-April, we have had our first two widespread rain events in several weeks, fire conditions are improving. However, April and May will play a large role in deciding whether the early stages of drought that began early this year are allowed to blossom into a full blown drought with continued high fire danger through the summer, or whether some needed rains can continue to return things towards normal.

What can you do? During times of high fire danger:

- Do not to throw cigarette butts out of your vehicle.
- Do not burn things in your yard.
- If you have any sort of outdoor fire, don't leave it until you have COMPLETELY extinguished it!
- If you see or smell smoke, or see a fire, report it to your local fire department.

(MIC's Corner Continued from Page 1)

becoming torrents of raging waters, catching residents off-guard.

Now is the time to plan and prepare for Hurricane Season 2006. Whether by damaging winds, tornadoes, or inland flooding, tropical systems pose a major threat to our region. The four basic steps to disaster preparedness are: get a kit, make a plan, listen for instructions and learn your evacuation routes.

1. Emergency Supply Kit

An emergency supply kit includes, among other things, essential items to last at least three days, such as water and non-perishable food, a battery-powered radio and extra batteries, flashlights, a first aid kit and medications.

2. Communication Plan

Making a communications plan involves discussing the hazards and threats for your area and what your family or employees would do during an actual emergency. Decide on a meeting place if your family cannot return home, designate an out-of-town friend or relative as a point-of-contact and plan for the specific needs of your household, such as an evacuation destination for pets or transportation for medical equipment.

3. Local Instructions

Before, during and after a disaster, it is critical that you listen for the most local, up-to-date information from the National Weather Service and emergency officials. Local media will convey instructions from local, state and federal government partners concerning evacuation orders, how to safely stay where you are and what to do when the emergency has passed.

4. Evacuation routes

Coastal residents should become familiar with their designated evacuation routes and know where they will go if ordered to evacuate.

Brian Guyer and Jim Lane Receive Promotions

Steve Rogowski

Brian, who started at the office as a Meteorological Intern in the Spring of 2004, has been promoted to a Forecaster at the



Brian Guyer at the Open House

Albuquerque, New Mexico Office. Brian earned his Bachelor's of Mathematics in the spring of 2001 at Texas Tech University and a Master's of Meteorology from the University of Maryland in 2004.

Jim Lane joined the office in January of 2005 as our Electronic System Analyst (ESA). Jim recently received a promotion to work at National Weather Service Headquarters in Silver Spring, MD.

Congratulations Brian and Jim, We'll Miss You Guys!

2006 Weather Thus Far

Brian Guyer

Warm and dry has been the story so far in 2006. January tied 1998 as the 7th warmest on record at DCA in the last 135 years. The average temperature for the month was 8.1° above normal and precipitation was normal. There were 8 days when the max temperature topped out in the 60's and only 8 nights when the low temperature dipped below freezing.

February 2006 turned out to be rather benign with temperatures returning to more seasonal levels and precipitation was once again normal. A well below average seasonal snowfall rebounded for a short period after 6 to as much as 23 inches of snow fell across the region. This was the only major snowstorm to affect the region. It was also the last time any decent precipitation fell across the region through the beginning of April.

March 2006 was the driest on record across the entire region. Only 0.05" of precipitation fell at DCA...0.07" at IAD...and 0.18" at BWI. These totals shattered previous records that went as far back as 1910. Much of the area became abnormally dry with a few locations across Southern Maryland and the Virginia piedmont experiencing moderate drought conditions. The North Atlantic Oscillation was variable through the month of March so it is hard to make a clear connection to the record dryness.

April 2006 was warmer than normal and precipitation was only slightly above normal. It ended up the 11th warmest April on record with the highest temperature of 83° on the 15th. A few rainfall events with greater than one half of an inch relaxed concerns of worsening drought conditions across the area.

For the first four months of 2006 the average temperature across the Washington area was 47.4°, making it the 7th warmest year in the last 135 years. 8.86" of precipitation makes this the 14th driest year on record. The last time the first four months were this warm in the Washington area was 1974 and the next driest 1976.

Spring Community Outreach

Sarah Allen

James Brotherton and John Darnley met with Orange County officials on March 9th. This visit aimed to improve upon the exiting relationship between our office and the county during hazardous weather events.

John Darnley went to Annapolis, MD, on March 11th to participate in a training day for area sailing clubs. The S.O.S. Sailing Club sponsored the event. John conducted a class called "Weather on the Bay." For those who were not able to attend his morning class, he set up a table and provided several Marine Weather Brochures to over 200 sailors from across the area.



Sarah Allen and Casey Quell at the Loudoun County Science Fair

Chris Strong, Sarah Allen and Casey Quell served as judges for the Loudoun County Science Fair on March 16th. High school students from across the county shared their research within the Earth and Physical Sciences, with several projects dedicated to the Tsunami in eastern Asia in December 2004 and most recently Hurricane Katrina this past summer.

Nikole Listemaa conducted an office tour for a 6th grade Girl Scout Troop from Ashburn, VA, on March 18th.

Sarah Allen conducted a tour for Boy Scout Troop 895 from Falls Church, VA, on March 29th. The 15 scouts ranged from 7th grade to 11th grade.



Boy Scout Troop 895

On April 18th, the Washington DC Chapter of the American Meteorological Society (AMS) brought the 2006 DataStreme Atmosphere Class to visit our office. DataStreme Atmosphere is a major pre-college teacher enhancement initiative of the AMS and supported by NOAA. Its main goal is the training of Weather Education Resource Teachers who will promote the teaching of science, mathematics and technology using weather as a vehicle, across the K-12 curriculum in their home school districts. This year's group consisted of eight science teachers from Loudoun County.

December 2005, January-February 2006 Storm Summaries James Brotherton

For a complete report of storm events for your specific location, and around the country, please use our online interactive database located at:

<http://www4.ncdc.noaa.gov/cgi-win/wwwcgi.dll?wwEvent~Storms>

December Events:

A significant winter storm impacted the region on the 5th and 6th when a low pressure system developed off the North Carolina coast and helped pull Atlantic moisture into the region. The heaviest snowfall totals of up to seven inches occurred within a swath from the Piedmont of Northern Virginia, including the Stafford, Orange, and Fredericksburg areas, east to Lower Southern Maryland, including the St. Mary's City and Point Lookout areas.

Another significant winter storm occurred on the 9th, which brought an area of heavy snowfall as well as heavy accumulations of ice. This storm was supported by a strong area of low pressure off the Carolina coast, along with a strong upper level disturbance moving from the Ohio Valley to the Mid Atlantic. The heaviest snow totals occurred across the Eastern Panhandle of West Virginia, and the Highlands of Western Maryland and Central Virginia. Significant ice accumulations occurred across the Central and Northern Shenandoah Valley, where ice accumulations ranged between two-tenths to one-half inch.



Snow and Ice accumulation, December 9, 2005 Harpers Ferry, WV

A major winter storm occurred on the 15th and 16th. A strong low pressure system tracked from the Gulf Coast to the Delmarva Peninsula by the morning of Friday, December 16. Warm air was drawn north by the storm to meet cold air already in place. This set the stage for a major ice storm event across the Shenandoah Valley, where ice accumulations were up to one inch in areas. The storm also produced storm total snowfall of over one foot in portions of the Appalachians, such as along the Allegheny Front in Western Maryland and the Eastern Panhandle of West Virginia. Snow and ice totals were not as significant in the Washington and Baltimore metro areas, except for the western suburbs of Baltimore, and the far northwest suburbs of Washington, such as Westminster and Frederick, MD.

January Events:

Dense fog occurred across the region on the mornings of the 12th and 13th.

Late on the 13th and continuing on the 14th, a coastal low pressure system deepened off the Mid Atlantic, and a strong cold front passed through the area. These systems caused damaging winds across much of the area. Damaging thunderstorm wind gusts as high as 70 knots (about 80 mph) occurred after midnight on the 13th, across a large portion of Central and Northern Virginia. The thunderstorms also produced warning criteria winds of 34 knots or greater on the Tidal Potomac and Maryland Chesapeake Bay. Then, in the afternoon of the 14th, high winds occurred due to the strengthening low pressure and a cold front, even though thunderstorms were not associated with the winds. Estimated gusts of 50-60 mph occurred across a large portion of the area, causing widespread power outages across the Shenandoah Valley, the Highlands, and the Washington and Baltimore regions. As the storm departed during the morning of the 15th, significant negative tidal departures caused significant damage to boats in the Chesapeake Bay near Annapolis, MD.

Dense fog occurred during the morning of the 24th across Western Maryland.

Scattered thunderstorms brought warning level winds to the Tidal Potomac and Maryland Chesapeake Bay during the evening of the 24th. When all was said and done there were a total of eight marine thunderstorm wind events, with gusts as high as 55 knots.

Heavy snowfall occurred on the 25th across the Highlands of Western Maryland and Eastern West Virginia due to a prolonged "upslope" wind, where moisture from the great Lakes is transported to the Appalachians and causes heavy snow to occur.

HISTORIC WINTER STORM OF FEBRUARY 11-12, 2006:

The combination of an intense coastal low pressure system and strong upper level energy produced a memorable winter storm across the Mid Atlantic. The NWS Sterling County Warning Area (CWA) had just one type of precipitation with this event: snow, and a lot of it! Accumulations ranged from around six inches in the Central Shenandoah Valley, the District of Columbia, and Lower Southern Maryland, to *nearly two feet* of storm total snowfall in portions of Howard and Southern Carroll Counties in Maryland. The heaviest snows occurred during the pre-dawn hours of February 12, when a phenomenon known as banded snow occurred most intensely. The heaviest snow totals also occurred in conjunction with available atmospheric instability, helping to generate another weather phenomenon called *thundersnow*. Thundersnow events are quite rare, and occur coincidentally with snow accumulation rates of 2 to 4 inches per hour. Due to the large area impacted by this historic storm, travel and regional commerce were severely impacted. Significant delays occurred along the entire Mid Atlantic and New England passenger rail lines. All three hub airports in the Washington/Baltimore area experienced significant delays due to the storm. Widespread power outages occurred during and after the storm due to downed trees and powerlines. Regional utility companies reported up to 300,000 people without power due to the impact of the storm. Portions of Anne Arundel County, MD were particularly hard hit with over 100 roads closed due to the storm. Luckily, the storm occurred over the weekend, and the impact surely would have been even more severe if it had occurred during the workweek.

COOP Awards

Trina Heiser

Cumberland, MD State Police receive Special Service Award from the National Weather Service

Cumberland Maryland, - The Maryland State Police was recognized by the National Weather Service (NWS) of Sterling, Virginia, for nearly 60 years of service as the official NWS Cooperative Weather Observer for Cumberland, Maryland. Trooper David Frank received a Special Service award and letter of recognition, on behalf of Lieutenant Mark Gibbons. Communication Supervisor, Richard Goldswortly, also, received a Special Service award and letter of recognition, for his several years working as the "Weather Observer Focal Point". Trina Heiser, a hydro met technician at the Sterling, NWS presented the award to both Richard Goldswortly and Trooper David Frank at the State Police Barrack "C" in Cumberland Maryland.



Trooper David Frank and Communication Supervisor, Richard Goldswortly

National Weather Service Honors Hazel Artz

NOAA's National Weather Service, Weather Observer, Hazel Artz, and her late husband, Marion received a special service award on Saturday, March 25th for their 28 years as weather observers.



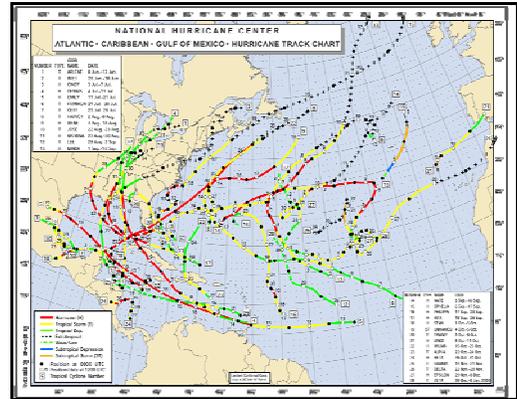
Hazel Artz receives her award

Weather observations have been taken at Woodstock, VA since 1889 beginning with Herbert Miley.

Another Busy Tropical Season in 2006?

Steve Rogowski

2005 was the busiest Atlantic Hurricane Season on record. 15 hurricanes and 12 other tropical storms were recorded in the Atlantic. Five were so devastating, their names were retired.



2005 Tropical System Tracks

On average, there are only 6 Atlantic hurricanes each year. Two of these typically reach Category 3 or higher sometime during its lifespan. Typically, the first named storm occurs around July 11, and the first hurricane develops in mid August.

In April, a forecast team at Colorado State University of Philip J. Klotzbach and William M. Gray released a 2006 Atlantic Hurricane forecast of 9 hurricanes, 5 of which are expected to reach Category 3 or higher at some point during their lifespan. They are forecasting a 64% chance of a Category 3 or higher storm making landfall along the East Coast of the United States; a 31% chance is typical.

In May, NOAA released its official forecast for the 2006 Atlantic Tropical Season. NOAA's forecast is for 13-16 tropical storms. 8-10 hurricanes and 4-6 major hurricanes.

NWS Sterling Heat Related Product Criteria

Heat Advisory: Heat indices between 100 and 105 degrees currently occurring or forecasted to occur during the current day.

Excessive Heat Watch: Issued 24 to 48 hours prior to the following forecasted conditions: Heat indices greater than 105 degrees for 3 hours during two or more consecutive days and minimum temperatures 80 degrees or above **OR** heat indices greater than 115 degrees for any duration.

Excessive Heat Warning: Same criteria as Excessive Heat Watch, when currently occurring or forecasted to occur during the current day.

Brandon Peloquin Named January Eastern Region Employee of the Month

Steve Rogowski

Brandon was appointed Marine Program Leader for the Baltimore / Washington forecast office in early 2005. Since that time, the Marine Program has seen a great revitalization.

Operating on customer feedback, Brandon worked with neighboring offices and our Information Technology Officer Steve Listemaa, to correct a low wave bias that was being generated by wind forecasts across the tidal Potomac River and Chesapeake Bay. This has led to more accurate wave forecasts produced from our office.



Brandon Peloquin

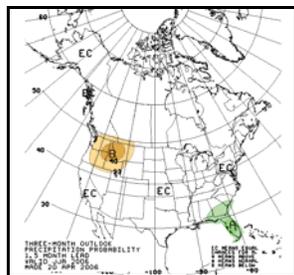
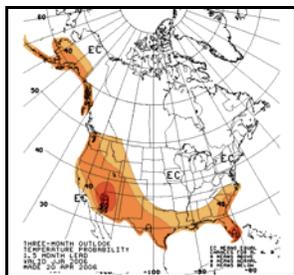
Brandon has also led the way in improving documentation of the Marine Program; creating a program manual used by forecasters on a daily basis.

Also during his short time as Marine Program Leader, Brandon organized a Marine Users Committee. This committee, which includes a diverse group of mariners across the region, is a resource for the office to receive feedback on our products and services.

Congratulations Brandon!

June-July-August Outlook

NOAA's National Weather Service Climate Prediction Center created these June-July-August temperature and precipitation outlooks during late April. '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

Sarah Allen

SKYWARN is a national network of volunteer severe weather spotters. The spotters are trained by local National Weather Service Forecast Offices on how to spot severe thunderstorms, tornadoes, hail and flooding. Some spotters report rainfall, snowfall and ice accumulation.

SKYWARN Spotters are one of our most important sources of real time information during hazardous weather. They provide valuable information that assists in both warning decision making as well as contribute to the effectiveness of our warnings.

Over the past several months, an office team was established to re-organize and re-vitalize the local network of Spotters. We called over **3000** of the over **5000** registered spotters to update contact information. We have also greatly increased the number and frequency of offered classes across our forecast area. Two SKYWARN Basics I classes that trained nearly **100** new Spotters were conducted at our Open House on April 29th and 30th.

Classes are offered as a way to educate the general public about weather. A schedule of classes, as well as contact information for each class, is posted on our website.

<http://www.erh.noaa.gov/lwx/skywarn/classes.html>

Please report all hazardous weather and storm damage to the National Weather Service.

(703) 260-0107 x 2 (800) 253-7091 LWX-report@noaa.gov



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