NORTHEASTERN STORM BUSTER

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FEATURES

DEPARTMENTS

COMMERCIAL MOBILE ALERT SYSTEM AND WIRELESS EMERGENCY ALERTS

Federal Emergency Management Agency (FEMA) information summarized by Steve DiRienzo

The Commercial Mobile Alert System (CMAS) is the systems interface to the Wireless Emergency Alerts (WEA) service that participating wireless carriers are now providing. CMAS is a partnership between FEMA, the Federal Communications Commission (FCC), and wireless carriers, to enhance public safety. Wireless carriers now send geographically targeted, text-like Wireless Emergency Alerts to the public.

WEAs will relay Presidential, AMBER, and Imminent Threat alerts (including some severe weather alerts) to mobile phones using cell broadcast technology that will not get backlogged during times of emergency, when wireless voice and data services are highly congested. CMAS/WEA is designed to complement the existing Emergency Alert System (EAS), which sends warnings to television and radio (including NOAA Weather Radio) via broadcast, cable and satellite pathways.

Most CMAS/WEA alerts will be issued by NOAA's National Weather Service (NWS). The NWS can send weather-related alerts to any region in the country. CMAS will be used by the NWS only for the most imminent and severe weather conditions. The following is a list of WEA messages originated by the NWS: Tsunami Warning; Tornado Warning; Flash Flood Warning; Hurricane Warning; Typhoon Warning; Extreme Wind Warning; Blizzard Warning; Ice Storm Warning, and; Dust Storm Warning. Imminent Threat alerts may also be issued by state and local officials.

As with all new cellular services, it will take time for upgrades in infrastructure, coverage and handset technology to allow CMAS/WEA alerts to reach all cellular customers. While not all handsets now on the market are capable of receiving WEAs, some phones may be upgradeable, and it is anticipated that most

commercially available phones will be WEA-capable by the end of 2014. Until then, it is possible for one person to receive WEAs while another person in the same area may not. Lists of CMAS/WEA-capable handsets are available from the individual wireless carriers. The boxes of devices capable of receiving WEAs are marked with the Wireless Emergency Alert logo:

Customers of participating wireless carriers with CMAS/WEA-capable phones will not need to sign up to receive the alerts, and should automatically receive WEAs in the event of an emergency, if they are located in, or travel to, the affected geographic area. Wireless customers are **not** charged for the delivery of Wireless Emergency Alerts. WEAs use a unique ring tone and vibration to signal that an alert has arrived. Alerts will automatically "pop up" on the mobile device screen but will not pre-empt calls in progress. Individuals will be able to opt out of Imminent Threats (including NWS alerts) and AMBER alerts, but not Presidential alerts.

Due to the 90 character limit, alerts will contain only basic information. In most cases, the alert will indicate only the type of event (e.g., tornado) and the time until the alert expires, and will include recommended action(s) to take. To get more specific information, the best thing to do is to check other sources, such as radio or television, to see if there is a corresponding Emergency Alert System (EAS) message with additional details and/or local news coverage of the event. Also, please remember that not all hazardous weather warnings will alert via WEA.

CMAS/WEA will not track an individual's location or personal data, as it uses SMS-CB, a one-way broadcast technology. This assures that authorities will not be able to collect any subscriber-related data, such as: who is in the targeted area; who has successfully received the emergency alert, and; who may have opted out.□

BUILDING A WEATHER-READY NATION

Brian Montgomery
Senior Meteorologist, NWS Albany

NOAA's National Weather Service's Weather-Ready Nation is about building community resilience in the face of increasing vulnerability to extreme weather and water events. Recent events like Hurricane Sandy, this winter's Nor'easters, and the upcoming severe weather season highlight how your National Weather Service assists decision-makers with protecting life and property. Our collaborative partnerships include: other government agencies and emergency managers; researchers; the media; the insurance industry; not-for-profit organizations; the private sector; the aviation industry; and others. However, a key element in all of this is you! So how can you become a force of nature?

1. **Become a Skywarn® Spotter.**
   We will be conducting free seminars this spring, including webinar sessions on how to become a key element in the warning decision process. You can also take the online COMET Skywarn® Spotter Training available at: https://www.meted.ucar.edu/training_course.php?id=23

2. **Form a disaster plan.**
   Preparing, planning and staying informed are the keys to developing your disaster plan. You can get tips and recommendations on how to do this by visiting: http://www.ready.gov, or by contacting your local emergency management official.

3. **Share your information with family and friends.**
   Technology now affords many convenient ways for you to stay in touch. Your National Weather Service is available on Facebook, Twitter, via email, on NOAA Weather Radio All Hazards, and on our web page. Another wonderful and free resource is your smart-phone device. Wireless Emergency Alerts ingest NWS warning information and send you shortened alerts of the hazards impacting your location. Please read http://www.nws.noaa.gov/com/weatherreadynation/wea.html for additional information, including which devices are configured to receive this information.

   By sharing information, you are being a force of nature!

Your National Weather Service is available to you if you have any additional questions. Feel free to contact us at: http://www.weather.gov/aly/contacts□

METEOROLOGY AND ALBANY FIRE WEATHER

Ian Lee
Meteorologist, NWS Albany

As we exit the winter doldrums and enter the beginning of spring and warmer weather, the transition shifts from snow and mixed precipitation to severe weather and thunderstorms. One aspect of the season that is often overlooked, however, is fire weather. Fires can occur especially when there is a combination of dry atmospheric conditions, dry fuels and persistent winds. The NWS Albany Fire Weather program locally employs specific criteria to determine heightened potential for fire danger (Table 1). A combination of these criteria can trigger the issuance of a Red Flag Warning (RFW). A red flag event involves a combination of a critical fire weather pattern and significantly dry fuels.

There are two phases to the fire weather season: cured/transition (Pre Green-Up) and green (Green-Up). These phases are differentiated by the amount of moisture available, the transition from one to the other in Albany's forecast area occurring at some point in the spring. Pre Green-Up is characterized by dry leaves and branches, and Green-Up, by increased vegetative moisture due to leaf-out. Fire potential in the NWS Albany forecast area is highest during the Pre Green-Up stage, with the lack of fuel moisture coupled with antecedent dry conditions promoting rapid fire growth and spread.

The large-scale weather setup for fire danger is an area of dry high pressure across the region over the course of several days. Low pressure systems must also interact with these areas of high pressure to generate gusty winds which, when coupled with dry conditions, enhance the potential for fire.

Although a large-scale weather pattern such as an area of dry high pressure can promote widespread dry fuels and red flag conditions, local boundary layer effects can also significantly influence fire potential. The local topography of the NWS Albany forecast area also plays a crucial role. Locations that are sheltered from gusty winds are less likely to experience fires than locations located in more open areas. Downsloping of winds also plays a key role in our fire potential. Downsloping refers to winds that descend from an area of higher elevation to that of lower elevation…typically down a mountain slope. As this air descends, it compresses, warms and dries, helping to increase fire potential, particularly if gusty winds and dryness are already present. Thus, it is important to understand local weather influences in addition to the large-scale weather pattern when determining the potential for fires in the NWS Albany forecast area.

The NWS Albany fire weather season typically runs from mid-March to early June, with April being the climatological peak for increased fire potential. Since 2006, NWS Albany has issued 15 RFWs, with 2011 being the most active year in the last decade, when 7 RFWs were issued. This year, the NWS Albany fire weather season began March 15, coinciding exactly with the start of the New York State Department of Environmental Conservation's burn ban.

Criteria	Pre Green-Up	Green-Up
Wind	Gusts over 25 mph for two or more consecutive hours	Gusts over 25 mph for two or more consecutive hours
Relative Humidity	Less than 30% for two or more consecutive hours	Less than 30% for two or more consecutive hours
Rainfall	Less than ¼ inch during previous 5 or more days	Less than ¼ inch during previous 8 or more days
Fuels	None	Keetch Byram Drought Index (KBDI) above 300

Table 1. NWS Albany criteria for RFW issuance.□

WINTER 2012-13: SLIGHTLY MILD TEMPS; SHORT ON SNOW

Evan L. Heller
Climatologist, NWS Albany

The climatological winter of 2012-13 was rather dry insofar as snow goes (Table 1). The 30.6" inches received was just over 13 inches short of normal. Precipitation, overall, was much closer… meaning that more rain than snow was received compared to what's normal. No one month stood out very far over any other as far as the snow amounts go. December received the most…just over 13 inches…with February a close second with just over 11 inches. The greatest calendar day snowfall was 4.9", on December 27th, though the greatest calendar day rainfall was 0.79", on February 27th, which was during a mixed-precipitation event. The 3.6" of snow that fell that day happened to be the only daily snowfall record set during the 3-month period, breaking the 19th-century record that stood for the date (Table 3c). Major snowfall events of 7 and 8 inches, respectively, occurred in Albany on December 26-27 and February 8-9 (Tables 3a and 3c). There were no Top 10 snowfall records. Seasonal precipitation at Albany totaled 7.18" (Table 1), with no day recording an inch or more (Table 2a). Precipitation fell on 79% of the 91 days, and it was measureable on 39% of the days.

Winter temperatures averaged nearly 3 degrees above normal. January 30th was the warmest date, with a mean temperature of 47.5° (Table 1). January 23rd was the coldest date, with a mean of only 4.5°. The only daily temperature records for the season were for maximum and high mean temperature, both on January 30th, plus a tie for high minimum temperature on January 12th (Table 3b). The coldest reading for the season was -5°, and this occurred on both January 3rd and February 10th, while the warmest reading was 56°, on both December 4th and January 5th (Table 1). The lowest high temperature occurred the day after Christmas, and it was 26°. The highest low occurred on January 30th, and it was 39°. The only Top 10 record of note was for Warmest Mean December (Table 3a). The 26.7° mean placed it on the list at number 10. Other records for the season included four for Daily Maximum Wind Speed (Tables 3a and 3b). There were no records for the season on the whole. It was a generally cloudy season (Tables 4a-c). Thirty-eight days fell under the category of cloudy while only 7 days were clear.

STATS

	DEC	JAN	FEB	SEASON
Avg. High/Dep. From Norm.	40.0°/+4.2°	34.1°/+3.5°	34.3°/-0.3°	36.1°/+2.5°
Avg. Low/Dep. From Norm.	26.7°/+5.5°	16.8°/+2.3°	19.4°/+2.1°	21.0°/+3.3°
Mean/ Dep. From Norm.	33.3°/+4.8°	25.5°/+2.9°	26.8°/+0.9°	28.5°/+2.9°
High Daily Mean/date	44.5°/10th	47.5°/30th	39.5°/15th	
Low Daily Mean/date	21.5°/26th	4.5°/23rd	11.5°/10th	
Highest reading/date	56°/4th	56°/5th	48°/15th	
Lowest reading/date	18°/26th & 30th	-5°/3rd	-5/10th	
Lowest Max reading/date	25°/26th	10°/23rd	25°/17th & 21st	
Highest Min reading/date	38°/10th	39°/30th	34°/28th	
Ttl. Precip./Dep. Fm. Norm.	4.05"/+1.12"	1.46"/-1.13"	1.67"/-0.53"	7.18"/-0.54"
Ttl. Snowfall/Dep. Fm.Norm.	13.3"/-0.4"	6.2"/-11.4"	11.1/-1.3"	30.6"/-13.1"
Maximum Precip./date	0.67"/18th	0.39"/31st	0.79"/27th	
Maximum Snowfall/date	4.9"/27th	3.1"/16th	4.3"/8th	

Table 1

NORMALS, OBSERVED DAYS & DATES

NORMALS & OBS. DAYS	DEC	JAN	FEB	SEASON
NORMALS				
High	35.8°	30.6°	34.6°	33.6°
Low	21.2°	14.5°	17.3°	17.7°
Mean	28.5°	22.6°	25.9°	25.6°
Precipitation	2.93"	2.59"	2.20"	7.72"
Snow	13.7"	17.6"	12.4"	43.7"
OBS TEMP. DAYS				
High 90° or above	0	0	0	0/90
Low 70° or above	0	0	0	0/90
High 32° or below	6	12	13	31/90
Low 32° or below	24	27	26	77/90
Low 0° or below	0	3	1	4/90
OBS. PRECIP DAYS				
Days T+	26	24	21	71/90/79%
Days 0.01"+	17	9	9	35/90/39%
Days 0.10"+	11	6	3	20/90/22%
Days 0.25"+	7	2	3	12/90/13%
Days 0.50"+	3	0	1	6/90/4%
Days 1.00"+	0	0	0	0/90/0%

Table 2a

NOTABLE TEMP, PRECIP & SNOW DATES	DEC	JAN	FEB
1.00"+ value/date	-	-	-

Table 2b

RECORDS

ELEMENT	DECEMBER	
Top Ten Warmest Mean Min. Decembers Value/Rank | Rmks	26.7°/#10	-
Daily Max. Wind Speed Value/Dir./Date | Prev. Rec./Dir./Year	45 mph/W/21st	45 mph/NW/2008 (tie)
Daily Max. Wind Speed Value/Dir./Date | Prev. Rec./Dir./Year	44 mph/NW/22nd	44 mph/W/2008 (tie)
Major Snow Event (6.5+") Amount/Date(s) | Remarks	7.8"/26th-27th	-

Table 3a

ELEMENT	JANUARY	
Daily Maximum Temperature Value/Date | Previous Record/Year	56°/30th	54°/1974
Daily High Mean Temperature Value/Date | Previous Record/Year	47.5°/30th	47.0°/2006
Daily High Min. Temperature Value/Date | Previous Record/Year	36°/12th	36°/1928 (tie)
Zero Degree Value/Date	-5°/3rd	
Zero Degree Value/Date	-1°/23rd	
Zero Degree Value/Date	-4°/24th	
Daily Max. Wind Speed Value/Dir./Date | Prev. Rec./Dir./Year	45 mph/NW/10th	44 mph/W/2005
Daily Max. Wind Speed Value/Dir./Date | Prev. Rec./Dir./Year	52 mph/W/31st	43 mph/NW/1991

Table 3b

ELEMENT	FEBRUARY	
Zero Degree Value/Date	-5°/10th	
Daily Maximum Snowfall Value/Date | Previous Record/Year	3.6"/27th	3.0"/1891
Major Snow Event (6.5+") Amount/Date(s) | Remarks	6.7"/8th-9th	-

Table 3c

ELEMENT	WINTER	
none	-	-

Table 3d

MISCELLANEOUS
DECEMBER

Avg. wind speed/Dep. Fm. Norm.	7.5 mph/-1.1 mph
Peak wind/direction/date	45 mph/W/21st
Windiest day avg. value/date	16.4 mph/30th
Calmest day avg. value/date	0.6 mph/13th
# Clear days	1
# Partly Cloudy days	13
# Cloudy days	17
Dense fog dates (code 2)	26th, 27th & 29th
Thunder dates (code 3)	none
Sleet dates (code 4)	7th, 16th, 17th & 27th
Hail dates (code 5)	none
Freezing rain dates (code 6)	17th

Table 4a

JANUARY

Avg. wind speed/Dep. Fm. Norm.	7.9 mph/-0.9 mph
Peak wind/direction/date	52 mph/WNW/31st
Windiest day avg. value/date	16.2 mph/31st
Calmest day avg. value/date	2.0 mph/8th & 16th
# Clear days	4
# Partly Cloudy days	16
# Cloudy days	11
Dense fog dates (code 2)	12th, 13th & 28th
Thunder dates (code 3)	none
Sleet dates (code 4)	20th, 28th & 29th
Hail dates (code 5)	none
Freezing rain dates (code 6)	28th & 29th

Table 4b

FEBRUARY

Avg. wind speed/Dep. Fm. Norm.	7.8 mph/-1.4 mph
Peak wind/direction/date	48 mph/NW/17th
Windiest day avg. value/date	17.5 mph/17th
Calmest day avg. value/date	0.5 mph/10th
# Clear days	2
# Partly Cloudy days	16
# Cloudy days	10
Dense fog dates (code 2)	27th
Thunder dates (code 3)	none
Sleet dates (code 4)	11th, 23rd & 27th
Hail dates (code 5)	none
Freezing rain dates (code 6)	11th & 24th

Table 4c□

COOP CORNER

Timothy E. Scrom
Observing Program Leader

WeatherCoder III – The new Superform

We recommend that all observers start using the New SUPERFORM.

The superform allows either the observer or supporting WFO the opportunity to view an entire month's worth of information from a single screen, and to enter individual days, blocks of days, or an entire month, with the current day empty and awaiting data. The superform can display more information than a B-91. What the form looks like depends on the WFO and observer agreed-upon reporting parameters. These stations can include soil temperature. Quality control/assurance features remain active with the superform as it has for the daily and monthly entry formats.

Access is via "WxCoder >> Home >> Field Office Admin >> Superform.

The form opens quickly but does take a short time to load the COOP station list. Once loaded, the drop-down menu defaults to your first station, in alphabetical order. Your option is to use either the drop-down or the "Next" button. Stations load quickly and you can see the observer's station status at a glance.

Features:

1. Click under a column, and a box opens for each individual weather parameter.
2. For new data entries, a red triangle displays in the upper left corner of a box before saving.
3. Double-click "Remarks", and a separate window opens. Click "Save" to store input.
4. When loading data from mail-in-stations, enter by day, use "arrow/Tab" keys.
5. To move to the next day, simply use the down arrow key to enter the data.
6. "Save Changes" provides the same QC capabilities used in the current WC3.
7. "Closeout" function works as expected—be certain before using this function.

NWS field offices manage their COOP observers primarily through the Field Office Admin feature. All Observers have between the first and the 15th of the following month to review and close out their forms. Once this is done, the staff here in the office have until the 25th of the month to also review and verify the accuracy of the form. On the 26th of the month, your data is automatically transmitted to the National Climatic Data Center in Asheville NC, where your data is again reviewed, and then made part of the official climate record for the United States.□

From the Editor's Desk

It seems like it's been a very long winter. As I write this, we are only hours away from the Vernal Equinox, but we are just getting over an early-week winter storm, and there isn't much warm weather on the

near horizon. All of our articles have a spring theme. Our WCM introduces us to the Commercial Mobile Alert System. Other staff members provide us with information on Weather-Ready Nation and Albany's Fire Weather program, and of course, yours truly provides you with the seasonal climate wrap-up. It's difficult to picture Passover and Easter being right on our doorstep what with all the snow on the ground. But before you know it, spring weather will be here. That's usually how it happens in this neck of the woods. Hope you enjoy it when it finally arrives.□

WCM Words

Steve DiRienzo
Warning Coordination Meteorologist, NWS Albany

Part of the mission of the National Weather Service is to help protect life and property by issuing various weather alerts (watches, warnings and advisories). This edition of StormBuster contains an article about wireless carriers participating directly in transmitting certain weather alerts, and another article about using alerts to help protect life and property.

There are a variety of ways to receive weather alerts. If you are one of the people who are never out of reach from your smart phone, you may want to investigate smart phone applications that alert you to impending severe weather (weather apps).

While the NWS cannot recommend any particular app, we can tell you that there are smart phone applications that will alert you to severe weather, warn you when lightning is nearby, keep you up-to-date on the latest hurricane positions, and bring you the latest river levels. You may have to search around a little bit to find apps that work for you, but there are many very useful apps to help you avoid dangerous weather. Have fun searching, and good luck finding the perfect weather app!

Here at the National Weather Service, we strive to be the source of unbiased, reliable and consistent weather information. We're here to answer your weather and water questions 24 hours a day, 7 days a week. If you have concerns, please call us. If you have comments on StormBuster, or any of the operations of the National Weather Service, please let me know at Stephen.Dirienzo@noaa.gov.□