NEWSLETTER

National Weather Association

No. 09 – 5 May 2009

VORTEX2 Begins

A collaborative nationwide project exploring the origins, structure and evolution of tornadoes will occur from May 10 through June 13 in the central United States. The project, Verification of Rotation in Tornadoes EXperiment2 (VORTEX2 or V2), is the largest and most ambitious attempt to study tornadoes in history and will involve more than 50 scientists and 40 research vehicles, including 10 mobile radars.

"Data collected from V2 will help researchers understand how tornadoes form and how the large-scale environment of thunderstorms is related to tornado formation," according to Louis Wicker, research meteorologist with National Oceanic and Atmospheric Administration (NOAA) National Severe Storms Laboratory and V2 co-principal investigator.

Scientists will sample the environment of supercell thunderstorms — violent thunderstorms capable of producing damaging winds, large hail and tornadoes — that form over more than 900 miles of the central Great Plains. Areas of focus include southern South Dakota, western Iowa, eastern Colorado, Nebraska, Kansas, the Texas panhandle and western Oklahoma. The V2 Operations Center will be at the National Weather Center in Norman, Okla.

Preliminary results from V2 are scheduled for presentation at Penn State University during fall 2009. At that time, organizers will begin planning details of the

See VORTEX page 7

President's Message: Looking Back a Decade

May 3rd marked the 10-year anniversary of the historic tornado outbreak across Oklahoma and southern Kansas. An F5 tornado ravaged the southern portion of the Oklahoma City metro area killing 36 people, and an F4 tornado killed six people in the southern parts of Wichita, Kan. Extreme winds in excess of 300 mph were measured with the F5 tornado by a portable Doppler radar.

This event set a new standard for how the National Weather Service (NWS) Forecast Offices and the broadcast media manage significant tornado outbreaks. The NWS in Norman did a remarkable job handling this event under extreme circumstances and workload. They even took what was then a very bold move and issued the first ever "tornado emergency" for the Oklahoma City area as the F5 tornado was approaching. NWS Norman's performance became a benchmark for other offices to achieve in later events. Media coverage was nothing short of amazing. The long-track F5 tornado was captured live on the air and it was continuously monitored by news reporters, storm spotters and the NWS for several hours as it grew to monstrous proportions. Because of the actions of both the NWS and the media on that day,

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Inside This Edition

Emerging Technologies in the Field to Improve Information in Support of Operations and Research

Albert E. Pietrycha, Scott F. Blair, Tyler J. Allison, Derek R. Deroche and Robert V. Fritchie recently published an Electronic Journal of Operational Meteorology (EJOM) paper this spring titled, "*Emerging Technologies in the Field to Improve Information in Support of Operations and Research.*"

They discuss three prominent emerging technologies: the Spotter Network, the Mobile Rapid Environmental Sampling System and Live Chase Cam. They detail how these tools provide real-time applications for severe weather reporting, dissemination of data collected *in situ*, field coordination, mesoanalysis, warning decision making and quicker dissemination of relevant information to the public. A future vision of the further development and integration of these technologies is also discussed.

It is also worth mention that on April 7, 2009, related to this paper, Albert Pietrycha (NWS Goodland, Kan.) was the recipient of the 2008 NOAA Bronze Medal Award — the highest honorary recognition given by the NOAA administrator — for integrating the Spotter Network into National Weather Service operations for use in tracking the location of mobile storm spotters during critical weather events.

Read the Pietrycha et al., 2009 article at:
www.nwas.org/ej/2009/2009.php

PRESIDENT from front

many lives were undoubtedly saved.

I'd like to take some time to share my personal perspective on the outbreak and tie it in to where we are today. I was the evening shift Lead Forecaster at the Storm Prediction Center (SPC) on May 3, 1999, and ended up issuing all the watches from the start of the outbreak to the finish. Given the magnitude of this event, one might expect it to have been a relatively easy situation to diagnose. However, nothing could have been further from the truth. Although the afternoon Day 1 Convective Outlook included a High Risk for severe thunderstorms, there were numerous questions about the convective scale details concerning initiation, coverage, mode and location of subsequent severe storms. On some days coming into work at the SPC, I had things figured out relatively quickly — but on this particular day there was a lot of uncertainty. Much arose from the numerical models handling of the environmental conditions and the resultant convective precipitation fields. Back then we relied heavily on the Eta and RUC models, and output from both models did not provide me with any degree of confidence about where, when and even if something big was about to happen. The RUC showed little if any thunderstorm development that evening, and the Eta forecasts had big precipitation blobs in the wrong areas. Factoring in a thick cirrus canopy and subtle forcing mechanisms in the observed data, it took some spin up time for me to understand that a tornado outbreak was about to unfold in central Oklahoma and into southern Kansas. In reality, this is not that unusual as there is often uncertainty about the convective-scale details, even on days with higher end convective potential. This was the subject of a presentation by Jeff Evans of SPC at last years NWA meeting in Louisville that looked at the Super Tuesday Outbreak of 2008. The presentation slides and abstract are available at under Session 12 at: www.nwas.org/meetings/nwa2008/.

Of course Mother Nature did not cooperate either, with other severe storms developing from deep south Texas to South Dakota. These storms required SPC forecasters to focus attention throughout a large portion of the Plains states, including Oklahoma and Kansas. When it was all over, tornado watches were issued prior to all the significant tornadoes. However, to this day I am troubled by what I would consider a very average performance on my part.

Today the odds of being surprised by the overall magnitude of significant tornado outbreak have diminished somewhat compared to 10 years ago due to improvements in observational data and numerical weather prediction, including data assimilation methods. Models have become increasingly sophisticated with finer resolutions. SPC forecasters now have access to a plethora of new data including simulated model reflectivity forecasts from a variety of convection-allowing models. Other simulated storm-scale features such as updraft strength and helicity are useful tools to help forecasters understand the potential severe storm threats. The availability of this data still can be a double-edged sword at times because it can be conflicting and sometimes inaccurate, but overall, the tools available to the severe weather forecaster today are much more advanced then they were 10 years ago.

This is just the beginning of the future of severe weather forecasting. In the future, severe convective warnings may have 1-2 hours of lead time as our data assimilation and modeling efforts continue to improve. We need to continue to push the envelope of the science and technology because, as this historic event and others after it have shown, we still have a long way to go to mitigate the loss of life in these great disasters.

President's Note: I would like to thank Steve Weiss, Science and Operations Officer at the Storm Prediction Center and NWA Past President for making valuable contributions to this article.

The Service Assessment for the Oklahoma/Southern Kansas Tornado Outbreak of May 3, 1999, from the National Weather Service discusses in detail the outbreak discussed in the President's message is at:

www.nws.noaa.gov/om/assessments/ok-ks/report7.pdf

Mike Vescio, President

NWS fire weather forecaster's personnel experience in Australia

NOAA's National Weather Service and Australia's counterpart, the Bureau of Meteorology (BOM) have been participating in fire weather forecaster exchanges since 2006. The exchange works out well since the Australian fire season tends to occur opposite the American season.

Around 20 American forecasters have traveled to Australia to help since that initial exchange in 2006. NWA member Brent Wachter, a fire weather and incident meteorologist based out of the Albuquerque office, was one of several forecasters who helped the Australians during the 2008/2009 fire season. He worked in Melbourne, Victoria, during a five-week period from early January to early February. He had been stationed in the Melbourne office during the initial 2006 exchange and was familiar with their various fire weather products and services. One new twist since 2006 was the use of the NWS based Graphical Forecast Editor (GFE). This system had initially been deployed in Victoria starting November 2008 (Fig 1).

Fig. 2 Kevin Parkyn, BOM meteorologist preparing products at the ECC.

Brent's American predecessor, Larry Van Bussum, had worked a five week stint prior to Brent arriving on Jan. 7. During Larry's work period, weather conditions were fairly wet and cool across Victoria. This initiated a heavy growth of grass. Prior to December, Victoria's weather was dry. The combination of heavy grass growth in December and a previous dry winter were long-term affects that set up Victoria's fire season.

Weather became hot and dry when Brent took over duties from Larry. These conditions remained that way during his full work assignment. Brent recalls, "It seemed that each week fire weather conditions became more critical."

During the middle portion of his work assignment, Brent spent two weeks working at the Emergency Coordination Center (ECC). The ECC (Fig. 2) was the hub for Victoria's emergency services operations. This included fires, public safety, infrastructure protection and several other emergency functions. Brent's work included preparing multi day fire weather graphical and audio forecasts. These products were posted to the emergency services Web site each morning. His work also included several formal (see Fig. 3) and informal briefings and he worked closely with fire personnel during critical planning periods.

Both weeks that he spent at the ECC were extra busy with three fire weather events the first week followed by the worst heat wave Victoria had ever experienced the second week. During this heat wave, Melbourne reached 43°C (109°F) or higher three days in a row with a total of four days in a row of 40°C (104°F) degree plus heat. Several people died in the Melbourne area due to the heat wave and some large fires broke out, but a strong public education campaign on heat wave dangers and steps the public could take to protect themselves, plus planning by the ECC of a heat wave dangers and steps people could take to protect themselves thus they prevented even more fatalities. Brent reported that the ECC was on top of the situation by pre-planning for human service needs during the heat wave for a variety of situations. Besides public education another example was that they took extra precautions to make sure enough buses were available to move people in case the trains went down.

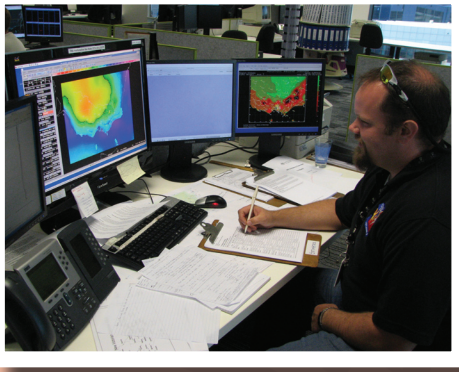


Fig. 1. Larry Van Bussum, working the fire desk at BOM Victoria office Jan. 8, 2009.

The heat wave also provided the short-term set up for Australia's worst natural disaster in modern history. On Feb. 7, over 200 people died during a historic fire storm event. Brent was working the fire weather desk at Victoria's BOM office on that day and recalled, "We all knew this was going to be a significant fire weather event, but unfortunately a few hundred fires broke out and around 20 fires became large and destructive." Melbourne broke its all time maximum temperature record with 46.4°C (116°F). The searing heat was coupled with very strong winds ahead and behind a pre-frontal trough, single digit humidities and very deep mixing. To top it off, several hundred lightning strikes developed within some of the largest fires as pyrocumulus clouds raised well into the atmosphere. The radar forecaster at one point observed echoes to 50,000 feet. Fire conditions were so extreme that it was reported that firebrands spotted 20 km (12 miles) from the main fire front and some fires moved at 1 km (0.62 miles) per minute. Eyewitness accounts also mention fireballs dropping from the sky.

Fig. 3 Brent briefing emergency service personnel at the ECC.

Brent relates, "It was the worst fire weather conditions I had ever studied or observed and needless to say, it was a busy day on the fire weather desk."

Brent and many of the other American forecasters who served Australia are home now with experiences that they will always remember.

34th NWA Annual Meeting: The Facts to Know!

The National Weather Association's 34th Annual Meeting will be held at the *Sheraton Waterside Hotel*, on the waterfront in downtown Norfolk, Va,, from October 18-22, 2009.

2009 NWA Annual Meeting Theme

The Future is Now: New Technologies and Techniques to Support the Weather Enterprise and Society: 2010 and Beyond.

Abstract Submissions:

The deadline for submission of abstracts is **June 1, 2009**. Abstracts should be sent via the online form on the NWA Web site at: *www.nwas.org/2009abstracts.html*. If you are unable to submit your abstract via the online form, please contact the NWA office at (919) 845-1546 or by e-mail: exdir@nwas.org for other arrangements.

Annual Meeting Hotel Information

The Sheraton Norfolk Waterside Hotel: www.sheraton.com/norfolk
NWA room rates: Deluxe guest rooms - $94 per night (single), $139 per night (double)
Reserve a room by phone by calling (888)627-8042. Make sure to request the National Weather Association 2009 group rate.

This year's schedule includes some exciting opportunities. Some of the highlights follow:

Sunday, Oct. 18th:

Broadcast Meteorology Workshop will include special presentations and other activities appropriate for the continuing education of weathercasters however is open to all. **DVD Swap in the evening** – bring a DVD of a recent weathercast for discussion.

Second NWA Student Session will provide guidance for students regarding how to best prepare themselves to enter the workplace. Includes a large student poster session and networking opportunities with broadcasters and other NWA members. Evening resume/DVD critique session included!

Corporate Exhibits Open

Mon. – Thurs., Oct. 19 – 22:

General Sessions will consist of both oral and poster sessions targeting the meeting theme, "The Future is Now: New Technologies and Techniques to Support the Weather Enterprise and Society: 2010 and Beyond." The annual Awards Luncheon will be held on Wed., Oct. 21.

Teacher's Summit Organized by the Education Committee, this seminar will provide meteorological training for numerous local area teachers. Will be held Wed. afternoon, Oct. 21.

First Annual "Bowling for Scholarships" Tues. evening, Oct. 20, the NWA will reserve an entire bowling alley for meeting attendees. Unlimited bowling and a meal will be provided for $40/person. Proceeds over costs will go to support the NWA scholarship program.

Calling future weather pros: Learn from the industry's best!

Students are invited to participate in the 2nd NWA Student Session during the Annual Meeting (see above for details). Students who attend the Oct. 18 event will learn about a "career wake-up call", how to improve their job interview skills and resumes, and advice on finding a mentor. A panel discussions with professionals from a number of atmospheric science fields will also help advise those interested in a future in weather.

Submit an abstract for the student poster session or the Annual Meeting in general by June 1. The NWA Weather Analysis and Forecasting Committee will evaluate student presentations and present monetary awards to the best in undergraduate and graduate student categories.

Undergraduates may submit an original paper on the study and use of satellite remote sensing data in weather analysis and forecasting to be considered for the MetSat Award, a national award that includes a cash prize and an invitation to present the paper at a national meeting (www.nwas.org/committees/rs/).

Learn more about all of these opportunities at www.nwas.org.

Student comments from last year's session:

"The student session was great!

Well organized with great talks!

Student session was a great idea!

Great presentations and opportunities to interact with peers!

My expectations of the meeting were exceeded due to the student sessions!

Exciting and great student involvement!

Great interacting with other students!

Networking and meeting other students best feature of the meeting!"

34th NWA Annual Meeting: pre-register Now!

Why Pre-register? The pre-registration fee includes a pre-print volume with program and abstracts. For the period of days registered, it also includes admission to all oral presentations, poster sessions and exhibit sessions plus coffee/refreshment breaks. Full registration includes the Wednesday Awards Luncheon.

Pre-registration Fees *(through Oct. 9):*

Sun., Oct. 18: Broadcast Workshop and DVD Swap (8 a.m.–11 p.m.)
- $100 NWA members and presenters
- $50 member students and retired members
- $140 for non-members
- $95 for non-member students and retired

Sun., Oct. 18: Student Seminar and Resume/DVD critique night session (1 p.m.–11 p.m.)
- $35 NWA student members and presenters
- $50 for non-member students

General Sessions/Activities Mon.–Thurs.; Oct. 19 - 22
- $240 NWA members and presenters
- $125 member students and retired members
- $280 for non-members
- $175 for non-member students and retired

Special One-Day Rates for period Oct. 19–22
- $95 NWA members and presenters
- $50 students and retired members
- $120 for non-members
- $90 for non-member students and retired

Special All events, Sun.–Thurs.
- $330 NWA members
- $410 for non-members

Special Student and Retired, All events, Sun.–Thurs.
- $145 NWA members
- $215 for non-members

Pre-Register On-Line by credit card (MC or Visa):

- Attending Broadcast Workshop and/or most of the General Session register at: www.nwa-registration.org/register.shtml
- Attending Broadcast Workshop and/or only a day or two of the General Session register at: www.nwa-registration.org/registerbyday.shtml

Pre-Register by Mail:
Mail this form with full payment of fees by Oct. 9, 2009 to: NWA Meeting, 228 West Millbrook Road, Raleigh NC 27609-4304 USA. Make payment to "NWA" in U.S. funds by a U.S. bank check, money order or government/ institution purchase order.

Name (for nametag): _____

Employer, School or other Affiliation (for nametag): _____

City/State (for nametag): _____

Telephone number: _____

E-mail address: _____

Arrival Date at meeting: _____

Departure Date from meeting: _____

Preregistration fees: $ _____

Number of extra Luncheon tickets ($30 each): $ _____

First annual "Bowling for Scholarships", Tues., Oct. 20 ($40): $ _____

Total Funds enclosed: $ _____

Please Circle ALL following phrases that apply to you:

NWA member | NWA local chapter member | Non-member | Student
Retired | Session Chair | Presenter
Program committee member | Local Arrangements committee member
Bringing a DVD to the DVD Swap | Attending DVD Swap without a DVD
Student with broadcast DVD for critique at Sunday Resume/DVD session

If a non-member joins, they will immediately be eligible for the member rates

Glancing Back in NWA's History

December 1976 — First Annual Meeting was held at Andrews Air Force Base in Maryland.

It was a two-day event with 65 in attendance. Two of the speakers were Sol Hirsch and Fran Holt.

REMOTE SENSING OF MT. REDOUBT VOLCANIC ERUPTIONS

Mt. Redoubt Volcano in Southeast Alaska erupted violently on the evening of March 22, 2009, sending clouds of ash and gases billowing up to 50,000 feet or more. The volcano continued its unrest for the next several weeks, with a total of 19 eruptions ending with the April 4 event, the most explosive in the series. Remote sensing played a major role in tracking the ash and sulfur clouds, which caused major disruptions in air traffic in Alaska and Western Canada. There were hundreds of flight cancellations at Anchorage's Ted Stevens International Airport. Significant ash fall was also reported in many communities in Southeast Alaska resulting in respiratory problems and a major cleanup effort.

Extensive cloud cover and the eclipse period for GOES-11 (loss of images due to the satellite being in the Earth's shadow) prevented optimum coverage of the initial eruption. However, color-enhanced GOES-11 Infrared imagery at 0730 UTC (11:30 PM ADT 22 March 2009) just before eclipse clearly showed the first eruption cloud as it overshot the meteorological clouds (Figure 1), reaching well into the stratosphere.

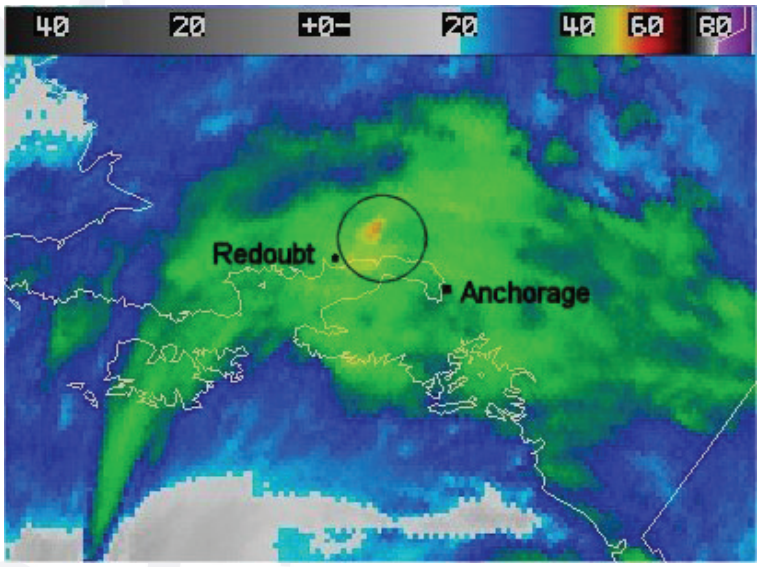


Figure 1: GOES-11 IR color-enhanced image at 0730 UTC 23 March 2009 shows the cloud (circled) from the first eruption of Mt. Redoubt Volcano drifting just to the west of Anchorage. (Source: UW-CIMSS)

There were three subsequent eruptions through the day on March 23. All were seen by the WSR-88D radar in Anchorage. Figure 2 shows a high reflectivity cloud (>40 dBZ) over the mountain at 1001 UTC (2:01 AM ADT) following one of the explosions.

This series of Mt. Redoubt eruptions also emitted copious quantities of sulfur dioxide (SO_2) gas into the upper Troposphere and lower Stratosphere. These gaseous clouds mixed with ash drifted east and then southeast into Western Canada and the Continental United States. There are several instruments on polar-orbiting spacecraft that are capable of tracking and measuring the concentration of these SO_2 clouds using either backscattered solar reflectance or absorbed infrared energy.

ONLINE RESOURCES

For image products, advisories, webcams, photos and additional information:

AVO (USGS): www.avo.alaska.edu/activity/Redoubt.php

Smithsonian Global Volcanism: www.volcano.si.edu

Volcanic Ash Advisory Centers (NESDIS/SSD): www.ssd.noaa.gov/VAAC/

NOAA/NESDIS CStAR: www.star.nesdis.noaa.gov/smcd/opdb/aviation/volc.html

Swiss Educational site: www.swisseduc.ch/stromboli/perm/alaska/

The Ozone Monitoring Instrument (OMI) on the NASA Aura spacecraft is one such instrument. An OMI image obtained at 1807 UTC 24 March 2009 (Figure 3) shows the extent of the SO_2 plumes along with their concentrations, measured in Dobson Units (DU). One DU is equivalent to a depth of .01 mm of a gas throughout the atmospheric column. OMI can detect SO_2, as well as ozone, because SO_2 also backscatters solar energy strongly in portions of the Ultraviolet (UV) and visible parts of the spectrum observed by this instrument (.280-.500 μm). In large concentrations, SO_2 can contribute to cooling of the earth's atmosphere such as that which occurred after the eruption of Mt. Pinatubo in the Philippines in 1991. Other instruments that employ solar backscattering to observe SO_2 or volcanic aerosols include the Global Ozone Monitoring Experiment (GOME), and the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite (CALIPSO).

The arrows in the OMI image show the direction of movement of the SO_2 plumes. The presence of SO_2 in satellite data was occasionally confirmed by reports from pilots in commercial jet aircraft when they encountered brown haze and the smell of sulfur in the cockpit. SO_2 combines with moisture in clouds to form sulfuric acid (H_2SO_4), which is corrosive to aircraft, and contributes to acid rain. *(Text continued next page)*

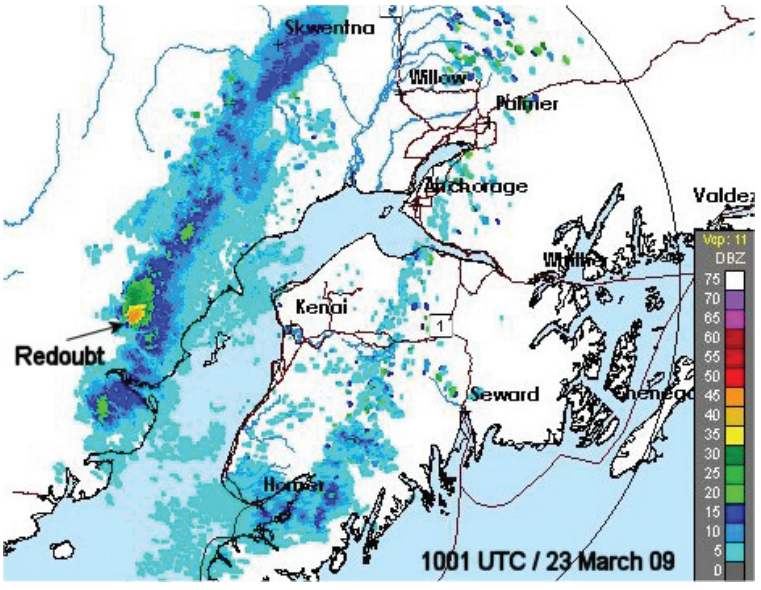


Figure 2: WSR-88D radar image from Anchorage at 1001 UTC 23 March 2009. The high reflectivity (>40 dBZ) over Mt. Redoubt identifies the fourth eruption on this night. (Source: NWS Anchorage)

Certain infrared (IR) channels are also sensitive to the presence of ash or SO_2. Instruments such as the Advanced Very High Resolution Radiometer (AVHRR), the Atmospheric Infrared Sounder (AIRS), and even the GOES Sounder can be used in volcano monitoring.

As of April 11, 2009, the growth of the lava dome within Mt. Redoubt continued according to the Alaska Volcano Observatory (AVO). Thus it is anticipated that further explosive eruptions could occur for several months. Satellite IR observations will be monitored for any thermal anomalies within the crater that may be precursors for future eruptions.

Gary Ellrod
NWA Remote Sensing Committee

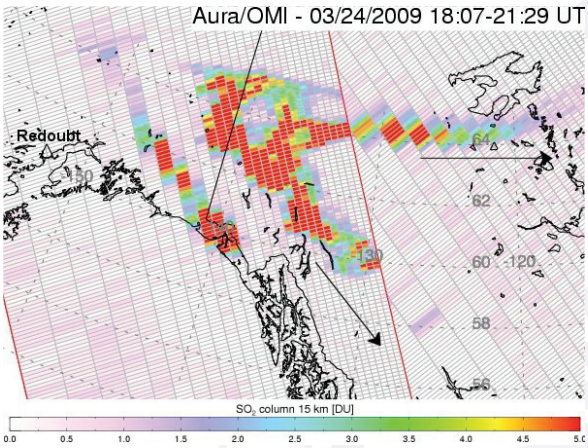


Figure 3: OMI image from the Aura spacecraft at 1807 UTC 24 March 2009 showing the extent and concentration of SO2 plumes from Mt. Redoubt eruptions (Dobson Unit scale at bottom indicates SO2 concentration for a 15-20 km altitude range) (Source: Simon Carn, Michigan Tech University)

Professional Development Opportunities in 2009

23rd AMS Conference on Weather Analysis and Forecasting/19th AMS Conference on Numerical Weather Prediction: June 1 – 5
These will be held in Omaha, Neb.. They are jointly sponsored by the American Meteorological Society and the National Weather Association, and organized by the AMS Committee on Weather Analysis and Forecasting with assistance from the NWA Committee on Weather Analysis and Forecasting.

Inland Impacts of Tropical Cyclones Conference: June 10 – 12
Hosted by the Metro Atlanta NWA/AMS Chapter, it will be held at the Westin Peachtree Plaza in Atlanta, Ga. Oral presentations are solicited around the broad theme of the inland impacts of tropical cyclones. For further information visit www.ametsoc.org/chapters/atlanta/iitc.htm or contact program chair Trisha Palmer (trisha.palmer@noaa.gov).

34th NWA Annual Meeting: Oct. 17 – 22
See pages 4 and 5 or www.nwas.org/meetings/nwa2009 for details.

6th GOES Users' Conference: Nov. 3 – 5
"Bringing Environmental Benefits to a Society of Users" will be at the Monona Terrace Convention Center in Madison, Wis. Organized by NOAA with support from CIMSS at the University of Wisconsin-Madison, the conference will be held at the Monona Terrace Convention Center in Madison. See http://cimss.ssec.wisc.edu/goes_r/meetings/guc2009 for more. Conference co-chairs are Dick Reynolds (410) 268-5360 or email: Dick.Reynolds@noaa.gov; and James Gurka, NOAA/NESDIS email: james.gurka@noaa.gov.

VORTEX from front

second phase of V2 scheduled for May 1 - June 15, 2010.

V2 is a $10.5 million program funded by NOAA and the National Science Foundation, 10 universities and three non-profit organizations.

The original VORTEX program, operated in the central Great Plains during 1994 and 1995, documented the entire life cycle of a tornado for the first time in history. Recent improvements in National Weather Service severe weather warning statistics may be partly due to the application of VORTEX findings. V2 will build on the progress made during VORTEX and further improve tornado warnings and short-term severe weather forecasts.

An important finding from the original VORTEX experiment was that the factors responsible for causing tornadoes happen on smaller time and space scales than scientists had thought," said Stephan Nelson, NSF program director for physical and dynamic meteorology. "New advances will allow for a more detailed sampling of a storm's wind, temperature and moisture environment and lead to a better understanding of why tornadoes form—and how they can be more accurately predicted."

Scientists and students throughout the United States, Canada and Australia that will work with the V2 program include the Center for Severe Weather Research, Rasmussen Systems, NOAA National Severe Storms Laboratory, OU/NOAA Cooperative Institute for Mesoscale Meteorological Studies, NSF-sponsored National Centers for Atmospheric Research, Penn State University, University of Oklahoma, Texas Tech University, Lyndon State College, University of Colorado, Purdue University, North Carolina State University, University of Illinois, University of Massachusetts, University of Nebraska, Environment Canada, and the Australian Bureau of Meteorology.

VORTEX 2009–2010

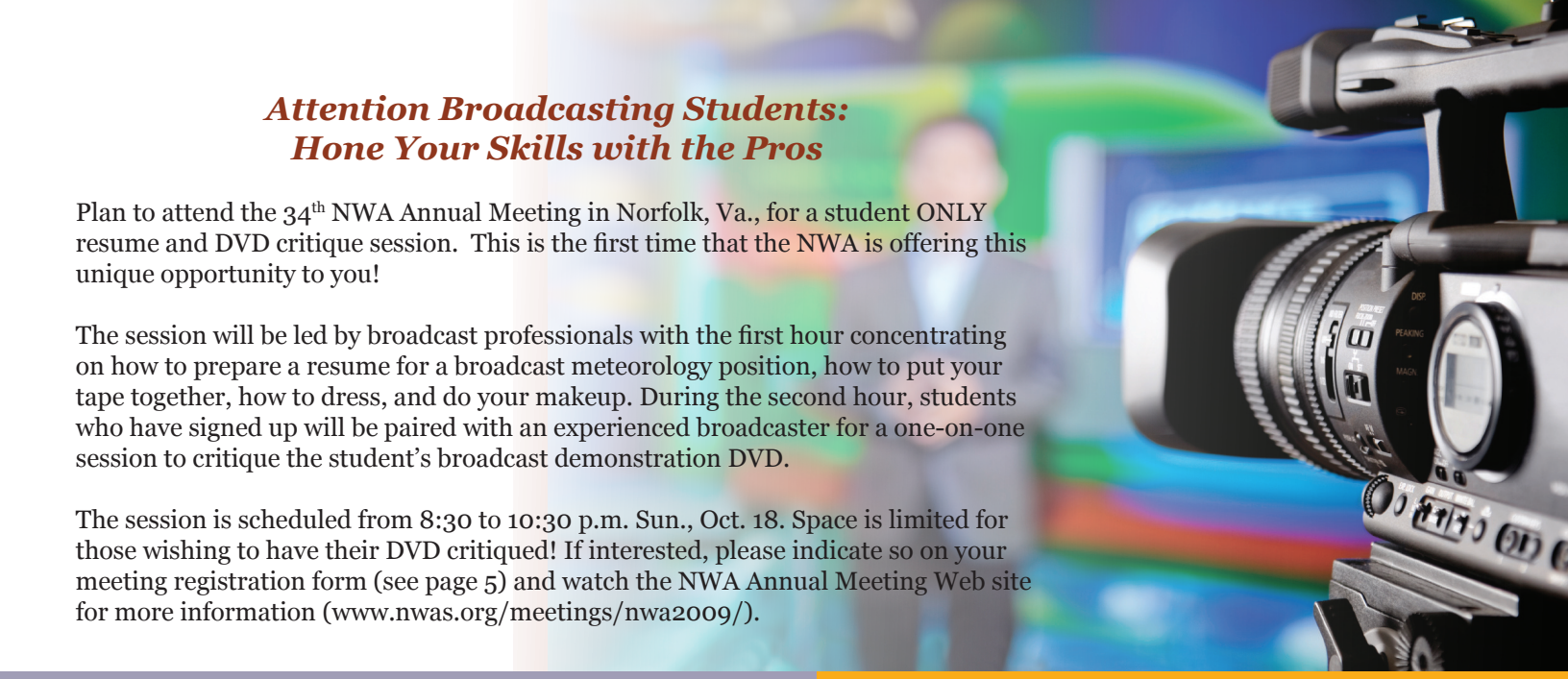
For a complete list of participating scientists, and to learn more about the experiment, visit the V2 Web site:

www.nssl.noaa.gov/projects/vortex2/

and the official project Web site:

www.vortex2.org

Attention Broadcasting Students: Hone Your Skills with the Pros



Plan to attend the 34th NWA Annual Meeting in Norfolk, Va., for a student ONLY resume and DVD critique session. This is the first time that the NWA is offering this unique opportunity to you!

The session will be led by broadcast professionals with the first hour concentrating on how to prepare a resume for a broadcast meteorology position, how to put your tape together, how to dress, and do your makeup. During the second hour, students who have signed up will be paired with an experienced broadcaster for a one-on-one session to critique the student's broadcast demonstration DVD.

The session is scheduled from 8:30 to 10:30 p.m. Sun., Oct. 18. Space is limited for those wishing to have their DVD critiqued! If interested, please indicate so on your meeting registration form (see page 5) and watch the NWA Annual Meeting Web site for more information (www.nwas.org/meetings/nwa2009/).

Dates 2 Remember

June 1: Deadline for October Annual Meeting abstracts

June 1-5: 23rd AMS Conference on Weather Analysis and Forecasting/19th AMS Conference on Numerical Weather Prediction. Co-sponsored by the NWA. Omaha, Neb.

June 10-12: NWA/AMS Inland Impacts of Tropical Cyclones Conference. Atlanta, Ga.

July 1: Deadline for NWA Annual Award nominations

Oct. 17-22: 34th NWA Annual Meeting. Norfolk, Va.

Nov. 3-5: 6th GOES Users' Conference. Madison, Wis.

See page 7 or www.nwas.org/events.php for details on these and additional Professional Development Opportunities!

NWA Newsletter (ISSN 0271-1044)

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Submit newsletter items directly to the NWA office or to nwanewsletter@nwas.org. Material received by the 25th will be considered for the next month's issue.

Members receive the Newsletter and *National Weather Digest* as part of their regular, student or corporate membership privileges. Newsletter subscriptions are available for $18 per year plus extra shipping costs outside U.S. Single copies are $1.50. **Please send address, phone number, email and affiliation changes to assist@nwas.org.**

Supporting and promoting excellence in operational meteorology and related activities since 1975.

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