

Asheville AMS  
Minutes of Meeting  
6 December 2006

1. The fourth meeting for 2006-07 of the American Meteorological Society (AMS), Asheville chapter was held on Wednesday night, December 6, 2006, in Laurel Forum on the University of North Carolina – Asheville (UNCA) campus. It was called to order by the President, Maj Paul Roelle. There were 29 persons in attendance.
2. The Asheville AMS chapter had decided to present a monthly award at our meetings to an organization or person who promoted healthy environmental programs. The first award was presented to Asheville Students for a Healthy Environment (ASHE), a local student group at the University of North Carolina at Asheville (UNCA). They had increased recycling awareness and energy conservation within the dormitories on the UNCA campus. Mills Hall dormitory was the winner and was presented an AMS certificate by the local chapter President.
3. The secretary, Mr John Gray, read the minutes for the previous meeting. There were no additions or corrections. The treasurer's report was also presented by Mr Gary Swanson, with no corrections. Mr Bruce Burleson then talked about the upcoming western North Carolina science fair later in the winter, with preliminary plans progressing for the chapter. Maj Roelle stated the next meeting would be held in February at the Folk Arts Center on the Blue Ridge Parkway. The speaker will be Mr Thomas C. Peterson on climate change. This will be the first of three presentations to the local AMS about changes in the climate. The local club will notify the local colleges, schools, and the press to advertise this series. The meeting was then adjourned by the President for the evening's presentation.
4. The night's speaker, Mr Grant Goodge, was then introduced by Maj Roelle. He presented a slide show of his many fabulous winter weather pictures taken over the years. He lives at 4,320 feet on Flat Top Mountain to the southeast of Asheville and has a private pilot's license. With these unique vantage points, many of the slides were spectacular. This was in addition to his "valley-level" shots, for which he has a keen photographer's eye.
5. Mr Goodge showed pictures of the French Broad River, which runs through Asheville, frozen over during the 1970's and 1980's. He said the temperature had gotten down to -17 degrees in Asheville, -26 degrees at his mountain residence, and -34 (NC state record) on top of Mt Mitchell, approximately 20 miles northeast of Asheville and at 6684 feet elevation. Such extreme temperatures occurred more frequently during the 20th century than in the last decade.
6. Grant also showed some shots of heavy snow that had come across the mountains from Tennessee. As he explained, this type of snow can be very fickle, depending on the exact wind direction and moisture content. The French Broad River runs to the north – northwest through the Appalachian Mountains into Tennessee. The narrow gap can, on

occasion, allow enough moisture through to produce heavy snows from Marshall toward Weaverville, north of Asheville. Sometimes the heavy snow band will be only a few miles wide. Other snows from the northwest can be very heavy in some valleys and mountains, with other areas receiving scant, or no, snow. One such event in February 1985, for which he had pictures, actually advected moisture picked up with a due northerly wind over Lake Michigan and with a slight cyclonic curvature had advected heavy snow into western North Carolina through the French Broad River gap in the mountains. Wolf Laurel, a ski area near the Tennessee border and north of Asheville, picked up 3 ½ feet of snow, while about 15 miles SE, the town of Weaverville only had 10 inches and another 12 miles SE the town of Black Mountain only had a Trace. Another northwest snow event in April 1987 grounded a British Airways super-sonic airliner (Concorde) at the Asheville airport for two days. Strong northwesterly flow, associated with upslope conditions, dropped 40 to 60 inches of snow in the Smoky Mountains, 35 inches at Mt Mitchell, and 15 inches at the Airport.

7. Mr Goodge also had pictures of the “Storm of the Century” in Asheville in March of 1993. His personal weather instrumentation on Flat Top Mountain registered continuous 50-60 mph of wind with gusts to 102 mph and 26 inches of snow. The Asheville airport had 64 mph of wind.

8. Also shown were the effects of super cooled cloud water droplets, common in the mountain terrain in western North Carolina. Mr Goodge stated these water droplets are often around 20 to 31 degrees F, and freeze more quickly on tree limbs and towers as the temperature decreases. He had pictures of ice buildup several inches thick, often with devastating effect to the trees and other unsecured solid objects. This tremendous weight will accrue without any precipitation falling.

9. He also showed pictures of freezing rain. In January 1983, 5 inches of freezing rain fell on some of the local mountains. After this storm 15-inch ice chunks fell off some of the secured solid objects. The momentum was so great that the chunks had buried themselves into the ground.

10. Mr Goodge then showed some “artistic” pictures produced by winter’s vagarious events. He showed many pictures of frost forming dendritic and floral shapes on windows and metallic surfaces. He had pictures of hoar frost coating delicate grasses and weeds against the clear blue sky. One of Grant’s specialties in weather pictures include sun dogs, sun pillars, and airplane contrails in the winter sky. He showed one picture of ice crystals falling out of a contrail created cloud, and some pictures of the winter nighttime aurora, a rare event this far south.

11. He showed some pictures of the after effects of lightning strikes in the local area. In one dramatic case the lightning had struck a tree, run through a car, melting the mirror, and then into the nearby house. It had blown off the flashing, passed through a wall, popping several nails out of the drywall and moving the kitchen stove several feet from the wall and blowing the ceiling fixtures off the ceiling. It then split several walls and shot several of the electrical outlets across the rooms and caused some of the ceiling to

collapse. It blew the service panel out of the wall and burnt out the electrical system. The lightning caused several of the kitchen cabinet drawers to blow out with their contents strewn across the kitchen. Even with the tremendous damage to the house, it did not cause a fire or hurt any of the sleeping residents in the house. Incredible!

12. As a conclusion to his pictures he showed some “warmer season” illustrations. He had a picture of a mini-tornado that had latest only a few minutes around Black Mountain, 10 miles east of Asheville. While it probably wasn’t a real tornado since it fed off of a stratus deck below and cumulus congestus above, it had a very similar appearance.

13. Questions and answers followed the presentation.

John D. Gray  
Secretary, Asheville AMS