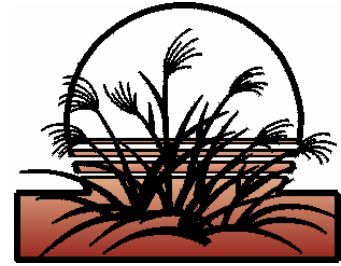




**NEWSLETTER
TWIN CITIES CHAPTER
AMERICAN METEOROLOGICAL
SOCIETY
March, 2006 Vol. 27 No. 6**



This is a Wednesday meeting!! Note the time below.

The March meeting of the Twin Cities Chapter of the AMS will be on Wednesday, March 15 at the Big City Tavern in Roseville on Snelling Avenue (west side), about a 1 mile north of Highway 36. We will begin with a dinner at 6:15 PM, followed by the speaker at around 7:30. Specific directions to the meeting can be found on page 4. AMS chapter members, interested acquaintances and potential members are invited to attend.



***Featured Speaker: Kyle Peterson
Topic: Winemaking in Minnesota***

Kyle Peterson, vice president of WineHaven Winery and Vineyard in Chisago City, will be speaking on the effect of weather on winemaking in Minnesota. His family founded WineHaven in 1995 after three generations of producing honey and fruit in Minnesota's St. Croix River Valley. Kyle believes that winemaking is not only an art, but also a science. Kyle studied winemaking at Cornell University and conducted research on new winemaking techniques to maximize the colors, aromas, and flavor components of wines produced from cold-climate varieties. This research has led to the winery's investment in state-of-the-art equipment to complement various time-honored techniques like barrel fermentation and aging.

Kyle, and his father, Kevin, form WineHaven's father-and-son winemaking team. Together, they have received more than 80 awards for winemaking excellence at top New York and California wine competitions, in addition to two "Best of Show" awards at the 2006 Twin Cities Food & Wine Experience.



Comments from our Chapter President: Rich Naistat - a sign of the times

Thanks to Doug Barr for presenting his views on global warming. It was food for thought. In addition, speaking of food, I really enjoyed the Steak and Ale ambiance.

What I forgot to mention at the last meeting was that elections are coming up, in May, I believe. Please send your nominations to the officers. When our by-laws are complete, we may end up with some term limits. I dreamed about running for a third term, but I understand I would need to put my signature on some document; alas, I am not very good at sign language. Perhaps, we could create a punster-officer position. I'm definitely available for that!

I will not be at the March meeting. Shelby will be presiding in my absence. I will be working midnights, ergo my absence. My advice to all who attend, "Beware the Ides of March."

By the time you read this, Jonathan Cohen will have judged a science fair. Karen Trammell and I will have judged one at MNSCU-Mankato. I hope all of you take advantages of science fair judging; it certainly gives us visibility.

At the March meeting, I'd like Lisa to give us a report on our Meet the Meteorologist Program (part of "The Magic School Bus Kicks up a Storm" exhibit) at the Minnesota Children's Museum later this spring. If you haven't volunteered yet and will not be at the March meeting, e-mail Lisa (Lisa.Schmit@noaa.gov) with the Saturday you will help out with the exhibit.

Minutes of the February meeting – Chris Bovitz

The February meeting of the Twin Cities American Meteorological Society was held on Tuesday, February 21, 2006, at the Steak and Ale restaurant in Bloomington, Minnesota. Our speaker was Doug Barr of Barr Engineering spoke about global warming versus warming the globe.

Doug said that the term "global warming" was mainly applied to a rise in surface air temperature over the landmasses. But, the phrase "warming the globe" was applicable more to the earth-atmosphere system.

The source of all heating of Earth is the Sun, and for most purposes, it is constant. The amount of solar energy received by Earth is in the form of shortwave radiation and can be described by the equation $E_S = \pi r^2 R_S (1 - \alpha)$. Earth gives off radiation according to (long wave) blackbody properties: $E_E = 4\pi r^2 \sigma \epsilon (T_E)^4$. The outbound radiation equals the inbound for an earth with a constant temperature. However, the key is how that energy is spread around the earth-atmosphere system. Doug opined that the earth system seeks a balance, so that $E_S = E_E$ is always maintained. And since E_S is constant, E_E must be constant, and therefore, T_e is constant.

So if the premise of global warming is a temperature increase near Earth's surface, then it must be cooling somewhere else. Doug suspected that cooling would be in the middle to upper troposphere. This would have the effect of increasing the mean atmospheric lapse rate. Also, warmer temperatures would allow more water vapor. These two factors would cause more frequent and more intense storms due to the greater availability of fuel and the greater atmospheric instability.

But what can humans change (if anything)? Referring back to the E_S equation, we can't affect albedo much, which depends greatly on clouds, snow and ice, and land use (but this is of negligible relative influence. But Doug had an "a ha!" moment and realized that there is another source of energy.

The burning of fossil fuels is releasing energy, which was stored a long time ago. The mining of these fuels is creating heat, the use of these fuels to generate electricity is creating heat, and the use of electricity creates heat to the tune of 1.2×10^{13} W. He calculated this would cause a rise in temperature of 0.006 °C.

So, he remains firm in his hypothesis that energy in equals energy out, and that any increase in temperature of the Earth-atmosphere system is compensated by an increase in longwave radiation, thus cooling the system.

After Doug's presentation, we the business portion of the meeting ensued, and much of it revolved around future events. Doug Dokken and Kurt Scholz would not be available to bring their tornado simulator to the Science days at the Science Museum of Minnesota, and there were no volunteers to fill the void. Lisa Schmit, coordinator of the "Meet a Meteorologist" portion of the "The Magic School Bus Kicks up a Storm" exhibit at the Minnesota Children's Museum, said that the March slots were full, but we still needed people for April. Interested people could send an e-mail to meetamet@twincitiesams.org.

And on that, Chris Bovitz said that we have a new web site: twincitiesams.org. Along with that are a number of new e-mail addresses for the officers and various committees.

Rich Naistat – president@twincitiesams.org

Shelby Winiecki – vicepresident@twincitiesams.org

Chris Bovitz – sectreas@twincitiesams.org

Kurt Scholz – newsletter@twincitiesams.org

Kevin Huyck – speakers@twincitiesams.org (speaker committee)

Other e-mail addresses are mentioned elsewhere in this report.

Chris also mentioned his desire to reconstruct the chapter's constitution and by-laws, which seem to have evaporated sometime in the last few years. A committee was set up for that, and ideas and suggestions can be sent to reconstitution@twincitiesams.org.

Future meetings were then discussed. The next meeting will be on Wednesday, March 15 in either Roseville or Stillwater. Kyle Peterson from WineHaven Vineyards will discuss how weather affects the growing of wine grapes. This meeting will be at another restaurant, one that will allow Mr. Peterson to bring in wine for our tasting. Our April meeting will be on Tuesday the 11th at the meteorology department of St. Cloud State University. We will be an audience for students to practice giving their presentations before the college's Science Colloquium the following week. We have scheduled another meeting in April, on Friday the 28th, where we will bring in Tim Samaras. Plans are still fluid, which will solidify soon (we hope). Jonathan Cohen reported on his investigation of having dinner and/or meeting at the Cordon Bleu Cooking School in Inver Grove Heights. He will get more information about this, but it looks like we will do this. It will occur at the May meeting.

Editor's notes



Our April meeting, scheduled for Tuesday April 11, will at St. Cloud State University. Greg Nastrum and Tony Hansen will be the hosts and some of their seniors will give us some presentations of their research.

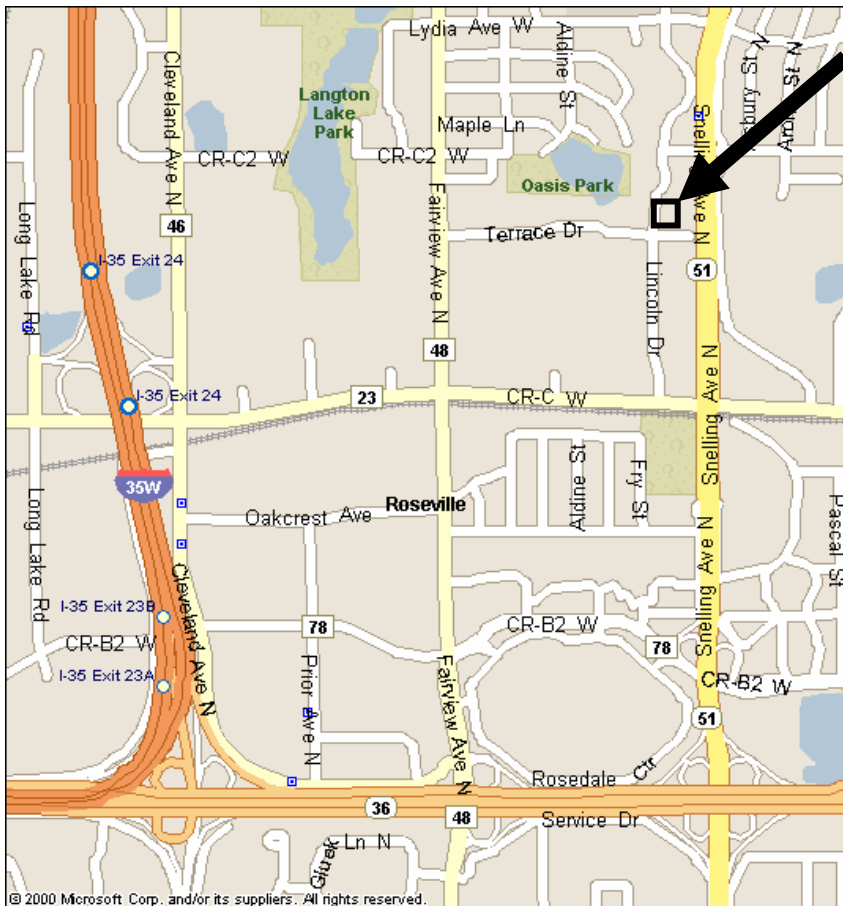
Greg Nastrum will give a colloquium talk “Scales of turbulence in the free atmosphere” at the University of St. Thomas on Wednesday, March 28 at 3:00 pm in the 3M auditorium of the University of St. Thomas. Greg is well-known for his research in this area. Send me an email, k9scholz@stthomas.edu, if you would like to attend. I can probably provide you with some parking permits.

Abstract:

Turbulent flow is characterized by irregular fluctuations that may occur on a wide range of scales. Small-scale turbulence is familiar to all people and causes smoke to mix and causes airplanes to bounce. Other scales of turbulence are less familiar, and in the atmosphere the size range is limited on the large end by the size of the planet and on the small end by the effects of viscosity, that is, from thousands of km to a fraction of a meter. This talk will emphasize the methods used to observe fluctuations in the free atmosphere, above the planetary boundary layer, with discussion of the historical development of our understanding of motions at the mesoscale, that is, from a few hundred km to a few km. The continuing controversy regarding the interpretation of these motions as turbulence or as waves will be discussed.

Reminder: The February meeting will begin with a dinner at 6:15, followed by the main speaker at 7:30. The meeting will be held on Wednesday, March 15 at the Big City Tavern in Roseville on Snelling Avenue (west side), about a 1 mile north of Highway 36

Big City Tavern has a great selection, varying in price from \$10 to \$20. The restaurant is just north of Hwy. 36 on Snelling Ave. – see the map below. Cocktails and conversation begin at 6:15, please plan on placing your order by 6:35. Our speaker and the wine tasting will begin at 7:30.



Please contact Shelby at 651.296.5259 or vicepresident@twincitiesams.org by Tuesday, March 14th if you will be attending. This is just to get a general idea, so please join us for drinks, dinner, the speaker or all three regardless of whether you've called ahead!

Big City Tavern, 2801 Snelling Ave. North
 Roseville, MN 55113 (651)287.9100
www.bigcitytavern.biz

Directions: From Highway 36, take the Snelling Avenue North exit, go north on Snelling for about a mile. Turn left (signal light) on Co.Rd.C2. Turn left again at the "T" on Lincoln Drive. Turn left after about 100 yards into the parking lot. Big City tavern is located on the west side of Snelling, just north of Midway Ford.

From I35, take the County Road C east exit. Go about a mile and turn north (left) on Snelling Avenue. Go north on Snelling for about a half mile. Turn left (signal light) on Co.Rd.C2. Turn left again at the "T" on Lincoln Drive. Turn left after about 100 yards into the parking lot.

Twin Cities Chapter AMS
 c/o Kurt Scholz
 3233 Snelling Ave. North
 Arden Hills MN 55112-3644

