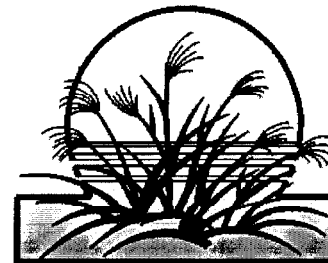




**NEWSLETTER
TWIN CITIES CHAPTER
AMERICAN METEOROLOGICAL
SOCIETY
April 2002 Vol. 23 No. 7**



The April meeting of the Twin Cities Chapter of the AMS will be at 7pm Thursday, April 18 at the University of St. Thomas in St. Paul. Specific directions to the meeting can be found on page 2. AMS chapter members, interested acquaintances and potential members are invited to attend.



Featured speaker: Dr. George Sell

"In search of El Niño"

Professor George Sell is an internationally known mathematician and a member of the Mathematics Department at the University of Minnesota, Twin Cities. He received his Ph.D. from the University of Michigan and holds an Honorary Doctorate from St. Petersburg University. Prior to his appointment at the University of Minnesota, Dr. Sell was the B. Pierce Instructor of Mathematics at Harvard University. Dr. Sell is co-founder of the Institute for Mathematics and its Applications (IMA) at the University at Minnesota, Twin Cities. Dr. Sell has written or edited 8 books and has published over 120 papers.

The El Niño event is a recurrent, but non-periodic, warming of the eastern Pacific Ocean. Up until now, it has not been possible to predict the next occurrence of El Niño, except for a few months in advance. Dr. Sell's presentation will describe a new paradigm for the oceanic flows. It is believed that the mathematical modeling described can lead to good long-range predictions of El Niño events. This is a timely topic, because the IMA is sponsoring lectures, workshops and symposiums this year with the theme of Mathematics in the Geosciences. Join us for this interesting presentation.

Member of the month

Our featured chapter member this month is Ed Ross. His youth was spent in Nebraska, Iowa and Colorado. Summers were spent on relative's farms in Nebraska where Ed gained a good appreciation for the importance of weather. Near the end of high school his Guard Squadron was activated and he spent a couple of years as a Radar Operator in an Aircraft Control and Warning Squadron. With the GI bill Ed got a degree in Geology and planned to work in the oil patch but in '58 there was plenty of oil so he went to work for Minnesota Conservation Division of Waters. During this time he got a pilot's license. Learning about weather was a requirement and seemed essential to staying alive. From the air Ed observed the '65 Minnesota River and the '69 Red River floods. While at the Conservation Department an assignment led to use of paleo-climatology, which is a continuing interest. From '65 to '67 he was with The Michigan Department of Health in their Ground Water Quality Control Program, then back to Minnesota in Federal/State Water Resources Planning and finished his career with the Minnesota Department of Health Ground Water Quality Control Program. Ed used his weather knowledge to select a site and design a passive solar house, where he and his wife Mary live on a hobby farm in Wisconsin.

Chapter notes-by Ron Trenda

People attribute many types of weather to El Niño. We can learn more about predicting El Niño events at our April 18 meeting. Our May meeting will be at 7pm on May 16 at the NWS office in Chanhassen. The meeting will include a demo of some new severe weather warning event software that is now part of AWIPS, and we will also see a fantastic video on the F5 Oklahoma City tornado of May 1999. Hope you can make it to these final two meetings of the season!

Comments from Chapter President Dean Braatz

At the April meeting a slate of officers for 2002-2003 will be presented for approval by the membership. The current officers wish to thank everyone for their support during this past year.

The last Science Fair for the year will be the 2002 Minnesota Academy of Science State Fair to be held on Saturday, April 13, 2002 at the downtown Hyatt Regency Hotel. Dean Braatz and Joan Haley are planning to represent the local AMS Chapter as judges for this event.

Excerpts from Jonathan Cohen's report on the Science Fair that he judged recently in the Twin Cities:

The best presentation was "Are you a victim of El Niño" by Megan Leith, grade 7, Chanhassen, a student at Minnetonka Middle School West in Excelsior.

Megan's abstract read as follows: "I tested to see what effect the El Niño current has on the temperature and precipitation levels in Minnesota. To assess the affects of El Niño, I first gathered information on what years in the 20th century were El Niño years and which years were non-El Niño years. I then found the temperature and precipitation of one El Niño year and one non-El Niño year per decade and compared them for the Twin Cities. I found that the difference between El Niño years and non El Niño years is not statistically significant."

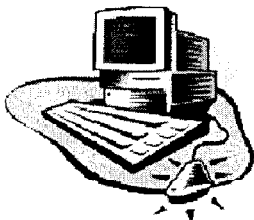
Jonathan notes that he pointed out to Megan that El Niño cases do not follow calendar years so that could have skewed the data she had gathered. He reports that Megan was pretty knowledgeable and had a good statistical analysis for her presentation. She had collected a fair amount of data.

Another award went to Mara Sunday, an 8th grader from Holy Trinity School in South St. Paul. Her presentation was entitled "Effects of Temperature & Wind on Evaporation".

She used three different sponges per test under different conditions. First she used a heat lamp, second was using different water temperatures, and for the third condition she used a fan at different speeds. She weighed the sponges every 5 minutes for 30 min to see the weight loss. It turned out, as you would suspect, that the higher wind speed caused the biggest weight loss.

A third award went to Alex Nelson, 6th grade, for "What Makes Predicting Weather So Unpredictable". He printed out forecasts from Wx.com and local sites and did a bit of comparison with actual temperatures.

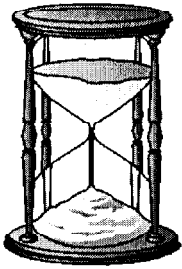
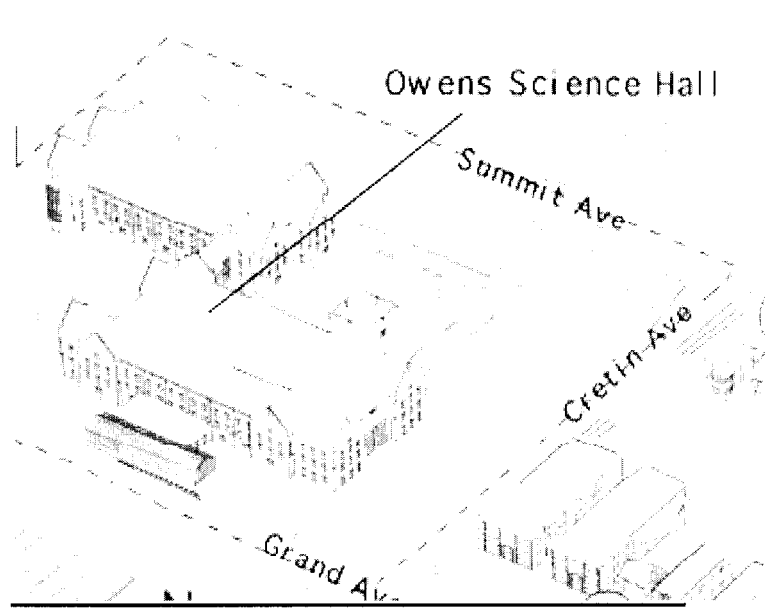
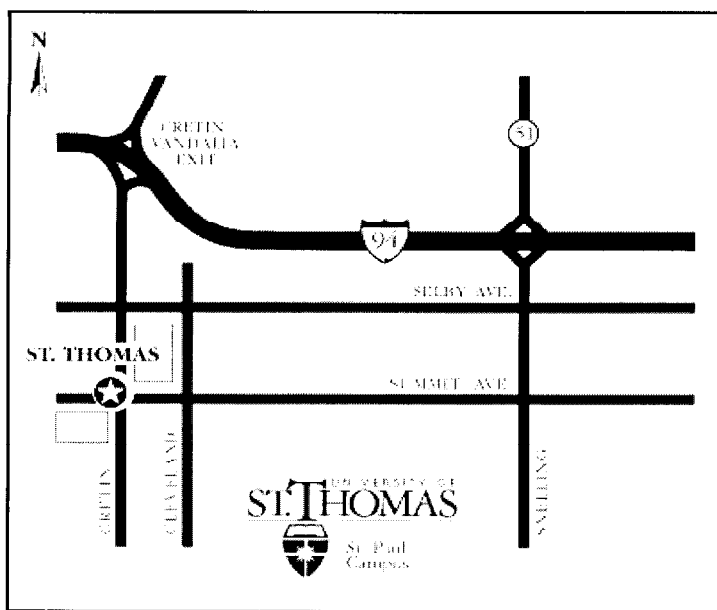
AMS on the WWW



Thanks again to Kurt Scholz and Doug Dokken of The University of St. Thomas for maintaining the web page for our local AMS chapter. Chapter information and links to climatological and meteorological information can be found there. E-mail Kurt or Doug with your comments about the web site. The web address for the Twin Cities is: http://byte.stthomas.edu/www/math_http/weather/tcametsoc.html

The April meeting will be held at 7pm, on Thursday, April 18 at the University of St. Thomas, St. Paul. The meeting will be held in the 3M auditorium (OWS150) in Owens Science Hall.

Directions: Take Interstate Highway 94 to the **Cretin** Avenue exit. Then go south on Cretin for about one mile to **Summit** Avenue. **Owens Science Hall** is located at the southwest corner of Summit and Cretin Avenues (see maps on page 3). You might find parking on the south side of Summit Avenue, or go to parking lot "N", which is south of the building. Either Kurt Scholz or Doug Dokken will be there to give you a parking pass. You can enter Owens Science Hall under the arches that connect the two science buildings or through the door at the southwest corner of the east wing.



Twin Cities Weather History— by Tom St. Martin

In what the St. Paul Dispatch characterized as a “kaleidoscopic” season, a record warm April was followed, in 1915, by a mid-May snowfall and an extremely cool, cloudy and damp summer. St. Paul temperatures averaged nearly 56 F during April 1915, a value nearly 4 F higher than the average for the month that followed. Although near normal temperatures prevailed during the first part of May 1915, cold weather came to stay after mid-month. The cold swept into the area on 15 May, bringing snow flurries to Crookston, “ice and snow” to Fergus Falls and “wet snow” to Moorhead on 16 May. The St. Paul station recorded a maximum temperature of 49 F on 16 May and an inch of wet snow during the night of 17 May. This was followed by a damaging frost (29 F) on the morning of 18 May and a string of chilly days, several of which produced maxima in the 40's F. Although May 1915 was not notably wet (3.88 inches), precipitation was recorded on 23 days (including twenty days with measurable amounts) and cloudy and windy conditions persisted during much of the month. Cool, damp and often windy conditions continued through June (62 F) and July (67 F) 1915, culminating in an exceptionally chilly period at the beginning of August (with a maximum temperature of only 53 F recorded on 3 August). June, like May, was cool and windy with rain on eighteen days (but totaling only 3.58 inches). Maxima in the 50s and 60s F were recorded on fourteen days. Daily minimum temperatures included 38 F on 9 June and 44 F on the morning of 17 June. St. Paul station observers recorded only three clear days during the entire month with only 50 percent of possible sunshine. Such an unusual combination of cold and clouds soon raised concerns among the state's agricultural interests. The 12 June 1915 St. Paul Dispatch noted, for example, that the Minnesota corn crop was “badly in need of sun and warm weather”...“Low temperatures and dull skies have retarded the corn in its early stages of growth...agricultural experts agree, however, that the injury is not yet irreparable...”. July, like June, was cloudy, producing only three clear days and 55 percent of possible sunshine. Rain fell on 21 days, producing a total of 4.53 inches. Daily maxima ranged from a high of 88 F on 13 July to a low of 63 F on 4 July. Although August 1915, unlike the months that preceded it, was relatively sunny (with 68 percent of possible sunshine recorded at the St. Paul station), the cold rains which accompanied the cold weather at the beginning of the month posed a serious threat to maturing crops -- particularly in Iowa and Wisconsin. According to the 3 August St. Paul Dispatch, “...temperatures ranging from 40 to 50 degrees” had been accompanied by a “slow rain” lasting from 24 to 36 hours in various parts of the state. Corn was reported as “under water in some areas” with harvesting delayed by what was described as a “material handicap”. The newspaper also noted that crew members on the steamer Lakeland reported “snow flurries” over parts of Lake Superior on 2 August. Late August was relatively rain free but cool weather persisted. Although the growth of corn was said to have been retarded by August’s cool weather, 1915’s Upper Midwest crop yield appears, on the whole, to have been quite good. The 11 August 1915 St. Paul Dispatch reported that the corn had been “saved” by “ripening warmth”, noting further that “farmers had despaired of a good yield but indications now look encouraging.”