

## **American Meteorological Society (AMS) - St. Louis Chapter Meeting**

Thursday, February 19<sup>th</sup>, 2009

Location: Bevo Mill Restaurant, St. Louis, MO

Call-to-Order: 8:00 pm

Members in Attendance: 37

Board Members in Attendance:

Dr. Charles Graves – President

Ron Przybylinski – Vice President

Allison Wreath – Treasurer

Benjamin Sipprell – Secretary

Lou Hull – Membership

Chad Gravelle – Webmaster

### **Introductions** - Dr. Charles Graves

Introductions and welcome to the AMS February Meeting

Thanks given to Bevo Mill

### **Treasurer's Report** – Allison Wreath

Savings ... \$461.09 (\$0.39 cents/mo interest)

Checking ... \$901.02

Treasurer Notes:

Membership dues will be \$10/yr (students \$5/year) up to September 2009

Allison will continue to work on the tax free incentives

### **Old Business**

Ron reminded the organization concerning efforts to keep the costs down for meals

The Board, during a January 2009 meeting, approved a change in dues to \$20 starting in fall 2009 for all members

Students will remain at \$5

The Board also approved that non-members will be charged an additional \$5 for meals

The hope is that this will offset the costs of the meals

This will also incur more incentive to becoming a member

### **New Business**

Next Meeting

Set for March 19<sup>th</sup>, 2009

Speaker will be Paul Strivaka (College of DuPage)

His talk will focus on stormchasing

The talk will take place in Fairview Heights, IL at Lotawatta Creek Restaurant

Also at the March meeting we will discuss the procedures for those who may want to take over officer positions within the Greater St. Louis AMS Chapter

Conferences

Missouri Academy of Sciences on April 24<sup>th</sup> and 25<sup>th</sup>

Will take place in Maryville, MO

SLU will have roughly 7 to 8 people presenting with 10 in attendance

John Gagan, Mark Zinger, and Pat Market from Mizzou will be there as well

## Potential Future Talks

Chris Higgins on his experiences in Afghanistan during the month of April

### **Talk** – Dr. Steve Weiss

#### Introductions

Raised in Chicago-land, Dr. Weiss became a severe storms forecaster in Kansas City, MO

This was after several summers working within the Weather Bureau

During this time Dr. Weiss forecasted for much of the Great Lakes region

Forecasted for 32 terminals and worked with tele-type machines

Upon completing graduate school began work in the Weather Bureau at the Detroit office

Shortly thereafter Dr. Weiss moved to Kansas City, MO to join SELS

Dr. Weiss has had six years between severe convection and aviation forecasting

He has worked 28 years as a shift forecaster, and the last 7 years as a science officer

#### Dr. Steve Weiss

Focus of talk is upon gaining a sense of where we got to where we are presently

Who was interested in severe forecasting before Dr. Steve Weiss?

Talk will be upon a National Center perspective, not local

An in-depth review of severe forecasting influenced by attitudes, perceptions, reactions and responses to catastrophic events

1870: NWS begins

Shortly after Cleveland Abbe (founding editor of MWR) who began issuing daily weather synopsis and predictions for the Great Lakes, Atlantic and Gulf Coasts

1872: Signal Corps took observations and issued forecasts to benefit agriculture and commerce

Late 1870's:

John Finley, commonly thought of first tornado forecaster

Within a few years to effectively research tornadoes

Worked in climatology and developed surface patterns associated with tornadoes as well as parameter evaluation (temp., dewpoint, wind, etc.)

Noted we don't have observations of tornadoes and thus established network of tornado reporters in Great Lakes and Plains region

Finley created a climatology of tornadoes from 1760 - 1885

1884: Feb 19th, 1884: Finley's enigma case study

Began experimental tornado forecasts of simplistic possibilities

Late 1880s:

Series of embezzlement scandals end tornado forecasts

Finley ordered to discontinue

It was believed that harm done by such prediction would be greater than that done by the tornado itself

1887: Finley reassigned

1890's: Weather services transferred to Agricultural Department and Weather Bureau founded

Willis Moore named USWB Chief who was a fierce critic of tornado spotters & statistics  
Disagreements evolved between Finley and cohorts

Dark ages of tornado forecasting evolved as USWB held it unwise to mention tornadoes in forecasts

- 1905: Weather Bureau regulations prohibited forecasting of tornadoes  
The lack of forecasting led to lack of research (into 1934)  
Deadly outbreaks continue to occur through this time period
- WWII: Renewed interest in thunderstorms and tornadoes  
Spotter networks driven by economic and safety needs  
Military needed to alert bases/munitions plants about approaching thunderstorms  
Networks expanded to nearly 200 by early 1945 around military bases  
Not everyone pleased, e.g., Wichita Chamber of Commerce in 1948
- March 25, 1948:  
Fawbush and Miller (USAF) issued first modern tornado forecast  
Base commander needed to avoid repeat of major storm damage to Tinker AFB  
Success! Fawbush and Miller assigned to issue USAF tornado forecasts  
Media and public became aware and criticized the Weather Bureau for lack of civilian  
tornado forecasts  
Weather Bureau aware of public discontent, but would not allow tornado forecasting for  
the inability to pinpoint tornadoes
- Up to 1952:  
Public, media and congress pressured Weather Bureau to begin issuing tornado forecasts  
This even before techniques, policy and staffing had been finalized
- March 17, 1952:  
Weather Bureau issues first tornado forecaster ... it did not verify
- March 21, 1952  
Second forecast ... it verifies  
28 tornadoes with 204 killed in AK and TN
- 1953: Developed Severe Local Storms Center (SELS)  
Young forecasters and no preconceived ideas or new ways of thinking  
Initially SELS under a great deal of pressure to prove itself  
Most people did not like idea of tornado forecasts to be issued  
By mid-June, SELS under a lot of criticism and not much support from local offices  
Initial supervisor, Ken Barnett, spent time answering criticism and supporting  
forecasters
- 1954: SELS moved to Kansas City under Don House as supervisor  
Focal point for all severe weather information was housed in Kansas City where there  
was better communications and located in a region frequented by tornadoes  
Research forecasters were added ... Fred Bates for example  
House rejuvenated the attitude of SELS  
He provided drive and insistence; interesting research was generated
- 1956: First forecasting guide issued  
Rift between operational forecasters and research meteorologists continued from first  
forecasting guide  
Researchers moved to Norman to start NSSP/NSSL in 1960s
- 1965: House leaves SELS and is replaced by Allen Pearson after Palm Sunday outbreak  
New focus on communications, public awareness, reduced emphasis on research  
Pearson integrated warning system on national level  
Forecasting, warning, communications and responses are of equal importance ...  
Communication key, if not there, ineffective system

1970's: Within SELS severe weather forecasting during much of time consisted of application of physically based concepts developed in 1950s (low level moisture, instability, strong winds aloft, low level boundaries, large scale ascent)  
April 3<sup>rd</sup> outbreak ... impetus to identify weaknesses and chart improvements ...  
Development of SELS techniques development unit (TDU)  
Renewed emphasis on use/development of scientific based forecasting methods

1980's: TDU leaves SELS and the support focus changed from forecasting to technology  
Workstations enhanced application of traditional forecasting procedures  
Revolutionized short term severe weather forecasting using integrated datasets and derived fields  
Resulted in more accurate timing/placement of watches  
Changed watch process from pure forecasting to hybrid nowcasting/forecasting

1990's: SELS participated in forecasting activities for several field experiments in 1980s to 1990s  
SELS renamed SPC as part of 1995 reorganization of NMC into NCEP

1997: SPC moved to NSSL building in Norman  
"To take advantage of concentration of federal and academic meteorological expertise and activity emerging in Norman" (McPherson 1994)

Into 2000's:  
Hazardous Weather test-bed developed  
Close working relationship between operational and research meteorologists has fostered  
Increased appreciation of researchers to meteorologist ... research to operations excelled  
National Weather Center built to encompass all branches and opened summer/fall 2006  
Houses all major weather entities, NOAA, OU School of Meteorology

Summary:

Severe weather forecasting not viewed until 1950s as necessary ... concern of making people panic  
Improvements from integration of science, research, technology  
Right people, right place, right time ... common views on needs

*Meeting Adjourned: 9:36 pm*