

AASC Annual Meeting, July 25-28, 1999, Charleston, SC

Tom Karl, Director of NCDC, talked about a reorganization of NCDC. A new 'data access unit' and a 'data archaeology unit' have been created. He highlighted the creation of a 'Climate Reference Network' which would be composed of 250 'primary' and 250 'backup' stations. Punched paper precipitation recorders (Fisher-Porter) would be replaced and would supply real-time data. Other aspects of the Cooperative Station network are also being planned. A 'Data Rescue Program' for which equipment, siting, quality control, and maintenance are being discussed was described. A proposal for a 'Three Tiered Climate Services' system that would involve NCDC, the regional climate centers, and the SCs was introduced. He highlighted the need for business rules for all of those partners. Finally, Tom noted that Bob Lefler will be [is] the new Cooperative Program Manager.

Steve Doty, SC and RCC liaison, indicated that 580,000 [mainframe computer] tapes were to be migrated to non-mainframe formats. He also told of several new CDROMs available, including North American Upper Air data, NCDC serial pubs, and international station data. A new U.S. climate atlas, to replace the old 'sunburst' edition, should be available by spring 2000. New normals will be prepared and offered via web page interactive access. Heating and cooling degree day normals will be calculated using the Thom method. Steve also mentioned the 'Data Rescue Program' for pre-1948 data which would also capture data from climate record books (1st order stations). NCDC is forming digital images of all forms and pubs. Finally, a new student exchange program has been started. To qualify, students must be a sophomore or greater and work on a project of interest to all parties. Up to \$3000 per year and housing at UNC are available.

Neal Lott, NCDC, talked about the process of bringing all NCDC data online. The online data, over 100 gigabytes now but over 1 terraByte eventually, is managed within Oracle running on a Unix platform.

RCC ACTIVITIES

Dick Reinhart (Western RCC) talked about a reorganization at DRI into the 'Integrated Science for Environmental Programs'. They also will move into new and better office space.

Ken Hubbard (High Plains RCC) talked about a continuing micro climate study of the conditions within and around temperature instrument shelters.

Kevin Robbins (Southern RCC) talked about the continuing effort to develop the Universal Climate Access Network (UCAN).

Steve Hilberg (Midwest RCC) talked about the current pre-1891 data keying effort within the SC offices.

Warren Knapp (Northeast RCC) also talked about their involvement in the UCAN development effort. They also recently held a regional meeting of the member SCs.

Mike Helfert (Southeast RCC) talked about the deployment of Web Cirrus by Amanda Clark. He also talked of a study of radar derived precipitation versus raingage data and under-reporting problems.

F. Adnan Akyuz (Missouri SC): Working on USGS endangered species and climate project (including study of prairie fringed orchids in Pipestone NP).

Roger Pilke, Sr. (Colorado SC): Discussed land use change and other factors in the climate change problem. He found a 10 C variation in land surface temperature correlates well with irrigation patterns. He also found that surface vegetation variations made differences in cloud development; e.g. a thin cloud line versus tornadic thunderstorms based on surface conditions. (see July MWR for article on GIS based landscapes combined with meteorology models).

Dave Mannarado (NWS Acting COOP Program Manager) announced that he would become assistant to the new COOP Program Manager, Bob Lefler, when he started on August 2. He mentioned that a snow measurement methods video is being produced by Colorado. Dave also described a \$9.4 million budget for Fisher-Porter (rain gage) and MMTS (temperature) modernization. That fund does NOT include communication upgrades. Another change is the streamlining of B-44 (station metadata) processing; it will be all electronic in a year or so and will be available on the internet. Mike Asmus (NWS Southern Region) interjected that in the future site descriptions for the temperature instrument will be made in addition to the current site description (based on the precipitation instrument).

Bruce Baker talked about the formation of the 'Climate Reference Station Network'. The program is a recognition that the existing climate monitoring system is deteriorating. The National Research Council recommended that the United States does NOT have an adequate climate observation system. Bruce outlined 10 climate monitoring principles which would/will guide the development of the network. The network will be made up of 250 automated stations which will transmit their data in real-time. A DOE selection program uses station histories to create candidate station lists. Richard Heim will inform SCs about these lists via a web server.

Steve Doty, Richard Reinhart, and George Taylor introduced a proposed '3 Tiered Climate System' involving NCDC, the RCCs, and SCs to the membership for consideration (a printed description was sent to SCs a few months earlier). The elements of the proposal which essentially define an SC were based largely on a 1978 AASC Report which defined SC Offices. Much discussion ensued. The idea of 'tiers' was challenged and may be replaced by 'nodes' or 'pillars' to reflect a more independent relationship between partners.

Jim O'Brien (Florida SC): Described el-Nino research as more relevant than 'climate change'. (see www.coaps.fsu.edu/climate_center)

David Phillips (Environment Canada): Indicated some recovery from draconian cutbacks of a few years back. He said that their 'Top 10 Weather Stories of the Past Year' is a very popular product. He also described the 1997-98 ice storm which lasted 90-100 hours and dumped as much as 100 mm of precipitation.

Greg (NRCS, Oregon): Indicated that weather generator models available from ARCS-NRCS include the GEM model and a storm model generator. He talked some about the NRCS serially complete data set.

BUSINESS MEETING

OLD BUSINESS

The membership voted to change the term of the Secretary-Treasurer to 2 years (instead of 1) and voted to have the term start on the January 1 following the annual meeting (instead of immediately).

NEW BUSINESS

The site of next year's meeting was voted to be Logan, Utah on July 31-August 2. A discussion indicated a desire to start to plan for meetings 2 years in advance. So, 2 recommendations for the 2001 meeting were made: Anchorage, AK or Omaha, NE. A committee was formed to consider SC 'business rules' under the 'Three Tier System'. A committee was also formed to oversee the Climate Research Network formation. Pete Boulay and others were recommended as new associate members. The president-elect was chosen by the membership to be Jim Angel (IL SC). Mary Knapp announced that because of new programs in her office during the next year, she would not be able to properly assume the duties of president. The membership then voted to 'continue' George Taylor as the president for another year.

Andy Horowitz reported on activities of the Climate Extremes Committee. The committee examined unofficial records of Mt. Baker during the 1998-99 season that indicated that more than 1100 inches (a possible new world record) had fallen. Records compare favorably with [more or less] nearby Mount Ranier. A decision is imminent.

Tom McKee (Colorado SC emeritus): Described ASOS measurements in comparison with the universal precipitation gage.

Jim Zandlo (Minnesota SC): talked about a warming bias that is introduced to the average temperature of Minnesota HCN stations by a process designed to homogenize the data.

Greg Schuler (Missouri, Dynamic Predictables): Described long range forecasts.

Murray Johnston (representative of Eastern region governor representative): Talked about the makeup and influence of the 'Drought Policy Commission'.

Sethu Raman (North Carolina SC): Gave an overview of NC programs. They have named their new automated observation network ECONet (Environmental Climate Observations) to avoid misunderstandings about the meaning of 'mesonet'.

UCAN was described by its developers. A user of UCAN does not need to know where the data is and uses a standard web browser as the primary interface. NCDC metadata is taking up much effort in developing the UCAN system.

Glen Conner (Kentucky SC): Described some new and one time funding sources for Kentucky. He introduced Mace Bentley as a new (non-student) addition to his office.

Breakout groups on 7 topics of concern to SCs spent time discussing. Reports were made back to the entire assemblage.

The breakout group on 'funding' reported that various types of funding were discussed. Also mentioned were the rationals for funding as well as the process to procure funding.

Al Dutcher (Nebraska SC): Talked about a double mass analysis wherein the difference of observed values between 2 stations is used to identify periods of homogeneous observing conditions. He pointed out that maximum temperature could be used to find the time of time-of-observation changes.

Don Jensen (Utah SC): Talked about crop modeling activities.

Jan Curtis reported on the breakout group 'handling and tracking requests' and operations details. Some offices track requests using forms. Some have submitted data directly to court as a 'friend of the court (instead of to just one side or to both sides independently). Requests for certification are generally referred to NCDC. NCDC in its SRS system has forecasts, etc. back to the 1980s. Lightning data, mostly current, is commonly available on the internet.

Glen Conner reported on 'media interactions'. Recurrent products by season, e.g. white Christmas chances, are popular. Nothing is 'off the record'. Radio is a good forum. Make use of internal 'public relations' personnel.

Jim Zandlo reported on 'getting the word out'. As recorded by Ken Hubbard: Climatologists performing service often face questions on what is the most effective means of getting information to the public. Some information is time sensitive and requires immediate release while other information is associated with longer term goals, like the education of the public with respect to the proper use of climate data

and information. The information that is to be conveyed may be data reports and summaries which result from monitoring of weather (including coop and special networks), reports on anomalies and impacts (floods, heat waves, droughts, storm data), results of research/other educational materials, and climate projections. Mechanisms include newsletters, press releases, web releases, special briefings, oral presentations, teleconference, fact sheets, and recordings/hotlines. There are trade-offs on cost and effort required to effectively utilize these mechanisms so it is advisable to have a general work plan which summarizes how information will be released to the public during normal conditions and how much time will be spent in preparation and delivery of data and information. The plan should be flexible in order to allow individuals to embrace emerging communications technologies such as desktop conferencing etc. As data archives become distributed on the Internet, it may be an advantage for climatologists to utilize the UCAN data archive which features comprehensive near-real time data. Federal, state, and local governments have organized to deal with selected climate anomalies (eg. drought). It is critical therefore to coordinate any climate press releases with appropriate agencies. This requires that climatologists study the role played by state agencies, the NWS, other federal agencies, university faculty, extension service, NCAR, etc. and participate in any coordination or advisory efforts that are organized.

In the breakout 'how to speak (deal) with legislators and other important people' it was pointed out that county government magazines can provide many insights into issues of importance at a local level. Other 'managers' news magazines may also be useful.

The breakout 'where should we be going?' asked whether the AASC should be expanded to include other 'service' climatologists. It was suggested that perhaps a special session of service/applied climatology could be included in the annual American Meteorological Society annual meeting. An AASC mission statement committee was formed.

George Taylor will gather notes from all breakout session recorders and provide the information to the membership.

The meeting was adjourned.

Questions/issues from AASC meeting

Will plans for the Climate Reference Network include funds to improve the history information (metadata) for the selected stations?

! A DOE selection program uses station histories to create candidate stations list for the Climate Reference Station network! [given potential lack of proper info this is NOT necessarily a good thing]

Why not use the actual normal CDF instead of the 'rational method' that Thom offers as a 'simplification' for new normals of HDD and CDD? Also, will MCC COOP data with extensive additional error checking be used in normal calculations?

There should be a short e-mail list of SC *offices* which is fully *public* and a comprehensive list of all SCs and other which are *private by default* but could be public if the individual so desires.

One of the intentions (in my limited view) of the scope of SC operations described in the 1978 AASC report was to emphasize the need for adequate financial support. At the time federal funds for as yet unspecified programs were being bantered about. The Climate Program Act [?] authorized up to \$10 million for climate programs but an allocation has never materialized.

TOB assessment technique: look for actual occurrence of double counting of maxs/mins to infer that an ob was being taken in the afternoon/morning. (ala NERCC)

Top 10 weather events of last year and of last century would be a popular item on our web page.

May want to use a 'double mass' technique (ala Al Dutcher) to identify endpoints of homogeneous periods.

NCDC (SRS system) has forecasts, etc. back to the 1980s.

Jim,

I read your paper, and it sounds interesting, although I must admit I had a bit of difficulty in understanding exactly what you did in some instances. To better understand what is going on with the homogenization procedure it would be helpful to focus on the ten-nearest neighbors since these were used in the process of adjusting for station moves. I'd like to have Dave Easterling work with you to address some of your concerns, which I share. We might be able to arrange for some funds to help your work with us on this problem. Please call Dave or send me an e-mail and perhaps we can identify a small project to be funded next fiscal year.

Thanks
Tom Karl

P.S. Have you looked at the confidence intervals of the adjustments? I know this won't help if we have bad station history, but it might be interesting.