JP2.4 NATIONAL WEATHER SERVICE CLIMATE RECORD STEWARDSHIP ACTIVITIES

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1. INTRODUCTION

The National Weather Service (NWS) Headquarters (NWSH) Climate Services Division (CSD) sets requirements for climate data observations and works to ensure the integrity of the National Oceanic and Atmospheric Administration's (NOAA) climate record. This responsibility includes evaluating climate data issues, validating deficiencies, considering options and recommending solutions, and identifying resources needed to implement solutions.

Issues are aggressively collected, evaluated, validated and prioritized for corrective action. Many issues cross-cut NOAA organizations and are of concern to federal and external partners. Evaluation and corrective action require broad coordination with all parties.

2. ACCOMPLISHMENTS

During 2004, CSD led or participated in several activities that had major positive impacts on the nation=s climate record. Development of climate data training for NWS field staff continues to be a major effort. Data continuity principles were taught via live teletraining. Nearly 500 NWS field staff completed the one and one-half hour tutorial. As a result, NOAA's observing systems will now be managed in accordance with the A*Ten Principles of Climate Monitoring* (Karl, et al 1996).@ Additionally, a second course entitled "*Factors Affecting the Integrity of the Climate Record*" was developed and made available.

Another critical development was the funding of paid snowfall observers at 275 Local Climatological Data (LCD) sites. Without this program, snowfall records at the frequently cited nation's major airports would have ceased.

Two well-received NOAA data workshops were organized and conducted by CSD in Kansas City, Missouri, in June, 2004. The "*Snowfall Network Observations Worksho*p" discussed the state of snowfall observations and ongoing efforts to improve the quality, quantity, and availability of observations by trained observers. Customer needs were also collected to evaluate the effectiveness of products and services and consider modifications. The second conference, 'NOAA Data Users' Forum: Surface Weather & Climate Observations and Data," discussed issues, plans, and new developments related to in-situ surface weather/climate observations. Customer feedback was also solicited at this meeting.

During FY 2005, CSD continues to make progress. CSD met with the National Park Service in December 2004 to explore creation of a partnership within the context of Cooperative Observer Program (COOP) modernization (now called National Environmental Real-Time Observation Network, or NERON). Efforts to explore this exciting opportunity to include hundreds of new climate-quality, real-time reporting observing stations in many of the nation's national parks, monuments, historic sites, etc. continue.

With respect to data policy, two significant changes were implemented. First, NWS field staff will NOT estimate missing airport LCD data in near real time. Instead, this effort will be left to NOAA's National Climatic Data Center (NCDC). NCDC has access to more robust complementary data (radar, surrounding stations, etc.) sets to help in estimating missing data.

Secondly, NWS field staff were given authority to change bogus LCD data to "missing". In this case, although the raw data is saved for archiving (as it always is), the responsible field site staff can enter an "M" for dissemination. A good example of a situation where such authority could be invoked is when the airport rain gauge underreports the liquid equivalent of wind-driven snowfall.

CSD continues to champion the development of stronger partnerships with NCDC, the Regional Climate Centers, and the American Association of State Climatologists. A more robust end-to-end climate data management and delivery system is being implemented which includes greatly reduced editing of observations that, for whatever reason, may be questionable, but not necessarily "bad".

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In the interest of improving climate data services, nationwide, CSD contributed funding in support of Regional Climate Center development of a new, software package called xmACIS. xmACIS provides NWS offices with access to the most comprehensive real-time climate data set ever available for the U.S. A subset of xmACIS functionality, which will be accessible to the public, is in a prototype stage now.

3. FUTURE PRIORITIES

Despite the progress, much work remains. Additional data related issues that will receive attention in FY 05 and beyond include:

- activate the third and fourth tutorials that complete PCU-6.

- support efforts to ensure that data continuity tests are planned and conducted for all in-situ surface system instrumentation changes (also upper air) and that the data are provided to NCDC for evaluation.

- support Cooperative Observer Program modernization activities.

- evaluate options NWS staff can take that allow NCDC to make final LCD data available more quickly.

- evaluate options to change snowfall reporting formats to better support customer needs.

- evaluate policy changes that improve station data continuity and climate record (extremes, etc.) inquiries.