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CLIMATE SERVICE PARTNERSHIP ACTIVITIES AT NOAA'S NATIONAL CLIMATIC DATA CENTER

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1. INTRODUCTION

Climate is an important factor in agriculture, commerce, industry, and transportation. It affects many human activities such as farming, fuel consumption, structural design, building site location, trade, analysis of market fluctuations, and utilization of other natural resources. The National Oceanic and Atmospheric Administration's (NOAA's) National Climatic Data Center (NCDC) is responsible for fulfilling the mandate of Congress "...to establish and record the climatic conditions of the United States." This responsibility stems from a provision of the Organic Act of October 1, 1890, which established the Weather Bureau as a civilian agency (15 U.S.C. 311).

Congress broadened government responsibility for climate information through the National Climate Program Act of 1978 (Public Law 95-367). The law established "…a National Climate Program for research, collection, analysis, forecasting, modeling, and dissemination of data concerning climate and its variations, and for the assessment of the impact on human activities for climatic changes." The law emphasizes the need for *understanding* of climate information as well as the *provision* of climate services. Needed capacity for climate servicing, particularly at the regional-scale, led to the establishment of Regional Climate Centers (RCCs) during the 1980s. Along with RCCs, State Climate Offices (SCOs), academia, government agencies, and private sector interests presently work collaboratively to deliver climate services.

In order to assure maximum accessibility to high-quality climate information, NOAA's NCDC continues to broaden its partnerships with other climate information stewards. This paper outlines these vital partnerships in climate services, and presents a partnership cycle for leveraging them to benefit the user community.

2. DEFINING CLIMATE SERVICES

In contrast to weather services, with a tight focus on near-term observations and forecasts, climate services can be defined in a multitude of ways, depending on the provider and intended user. Climate services can refer to statistical summaries of past events, model-based forecasts for forthcoming seasons or decades, or impacts of anthropogenic activities. In 1999, the Board of Atmospheric Sciences and Climate (BASC), defined climate services as follows (NRC, 2001)

> **"The timely production and delivery of useful climate data, information, and knowledge to decision makers."**

In synch with the BASC definition, the NCDC has long served as the authority for providing climate information to users. NOAA's NCDC is the sole federal organization authorized to certify the veracity of climate data for users. However, with continued growth in user requests and a sharp increase in the need for both near real-time and value-added climate information, effective climate servicing requires the leveraging of many partners.

3. LEVERAGING PARTNERSHIPS

In recent years, the infrastructure for climate services partnerships has been markedly strengthened. In 1997, the RCCs became formally affiliated with NOAA's NCDC. In 2000, NOAA's National Weather Service (NWS) established the Climate Services Division (CDS) in the Office of Climate, Water, and Weather Services (OCWWS) (NOAA, 2003b). In the same year, the American Association of State Climatologists (AASC) formalized a certification program for State Climate Offices (the AASC Recognized State Climate Office (ARSCO)) (AASC, 2000). These steps were taken to improve coordination between government agencies focused on climate services, and to assure better consistency in the delivery of climate services to the public. Indeed, the ARSCO certification program was explicitly established to "…maximize the efficiency and effectiveness of the partners, minimize duplication of services, and streamline climate information delivery." (AASC, 2000)

NOAA's Strategic Plan makes clear the need for leveraging with partners for efficient climate services:

> "To enable society to better respond to changing climate conditions, NOAA, **working with national and international partners**, will employ an end-to-end system comprised of integrated observations of key atmospheric, oceanic, and

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terrestrial variables; a scientific understanding of past climate variations and present atmospheric, oceanic, and land-surface processes that influence climate; application of this improved understanding to create more reliable climate predictions on all time scales; and **service delivery methods that continuously assess and respond to user needs with the most reliable information possible**" (NOAA, 2003a; emphases mine)

NOAA's NCDC has leveraged with the RCCs, State Climate Offices, and NOAA's NWS to deliver climate services as shown in the 'Partnership Cycle' in Figure 1. Through observation and other field practices that are sympathetic to the long-term need for high-quality climate data, as articulated by NWS's Climate Services Division, data and information are passed to the NCDC and RCCs and SCOs. Data quality control and value-added products and services are provided to the user community. All partners share in research and assessment activities, and requirements for refined field practices and other product development concepts are vetted through NOAA's NWS. While this partnership cycle is presently evolving, it represents a general framework for future collaboration between the government partners.

Private sector input is also highly valued by the NCDC and its climate services partners. NOAA continuously solicits comments from its customer base, holds user conferences for feedback (the most recent for NOAA's Satellites and Information Data Centers in 2003), and works closely with contract partners to accomplish critical missions related to climate services. For example, the NCDC has had a fruitful collaboration with the Information Management Corporation in data rescue activities through the Climate Database Modernization Program.

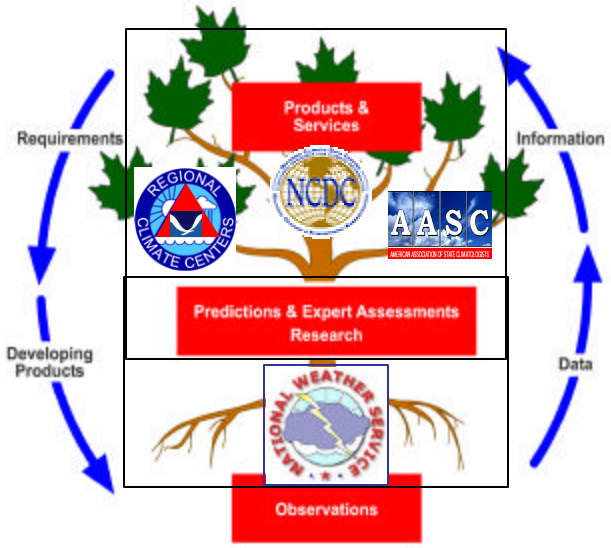

Figure 1. NCDC Climate Services Partnership Cycle

4. ACKNOWLEDGMENTS

The author thanks colleagues at the NCDC for their insight. The input of State Climatologists, RCC staff, and staff from NOAA's NWS, Climate Services Division is also appreciated.

5. REFERENCES

AASC, 2000: Defining the Role of the AASC Recognized State Climate Office in the National Climate Services Partnership. AASC, Asheville, NC.

NOAA, 2003a: New Priorities for the 21st Century: NOAA's Strategic Plan for FY 2003-2008. NOAA, Washington

NOAA, 2003b: National Weather Service Regional and Local Climate Services: Implementation Plan. NOAA, Washington

National Research Council (NRC), 2001: A Climate Services Vision: First Steps Toward the Future. National Academy Press, Washington.