INTERAGENCY COORDINATION IN WATER SUPPLY FORECASTING: PROGRESS AND OPPORTUNITIES [1/]

662-79

By

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Introduction

Five months ago in accepting your invitation to address this meeting, I did not anticipate the dramatic changes and new issues that would develop in this general area of concern. The speed and magnitude of change have made preparation difficult. I've been vexed by the possibility that anything I say could be obsolete, improper, or incorrect at any point in time. Therefore, what I present to you today must be considered in a context of radical change and confusion as we assess opportunities and actions needed in the future.

Five months ago there was a lot of talk about reorganization of the executive agencies in the federal government--but no specific proposals had been presented by the President. Now we know of his desire to place the National Oceanic and Atmospheric Administration (NOAA) and the Forest Service (FS) into an expanded and renamed Department of Interior. The public and Congressional debate that will determine the fate of these two agencies is in progress. NOAA and FS are major cooperators in the water supply forecasting effort. We still don't know if they will retain their historic organizational and institutional setting or operate under some different arrangement in the future.

Similarly, five months ago only a few people were aware that the supporting data for the President's budget for fiscal year 1980 would contain the following statement pertaining to the "Snow Survey and Water Supply Forecasting" activity description of the SCS. It said: "In F.Y. 1980, a plan will be developed to accomplish a phased and orderly transfer of this activity to nonfederal control over a period of the three fiscal years 1980 through 1982."

Snow Surveys and Water Supply Forecasting in the Soil Conservation Service

Some of the first work in using the winter snowpack in water supply forecasting was done here in Nevada. Dr. James E. Church, Professor of Classics at the University of Nevada, Reno, established some snowcourses and did some initial work in forecasting. His work showed a lot of promise when drought struck the West in the early 1930s. The condition was so severe that the western governors appealed to Congress for help. Congress responded by providing funds and directing the Secretary of Agriculture to initiate a program of snow measurement that would report the amount of water expected to be available for irrigation use in the coming crop season.

When the Secretary received this mandate he approached first the Weather Bureau, which at the time was an agency in the Department, and then the Forest Service to serve as the administering agency. Neither wanted the program so it was assigned to the Bureau of Agricultural Engineering. Subsequent reorganizations within the Department abolished the Bureau of Agricultural Engineering and transferred the snow survey and water supply forecasting program to the Soil Conservation Service, where the program has been administered for approximately 30 years.

Activities of the Weather Bureau

Reorganization also brought changes to the Weather Bureau. A reorganization moved the agency to the Department of Commerce where it became the National Weather Service via legislative enactment. This series of actions resulted in more than just a name change. New social needs coupled with a rapid advance in hydrometeorology brought increasing demands for basic data and interpretive forecasts for such purposes as navigation, flood control,

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and prevention, water quality management, land use planning, municipal and industrial water, and energy. The National Weather Service (NWS) has acted to service these needs.

This increased and expanded activity resulted in a very close relationship with the SCS snow survey and water supply forecast effort. It was accentuated by corresponding changes in SCS programs. It was recognized that many of the nation's soil, water, and related resource problems could not be solved with programs directed to individual land units or ownerships. Some required attention and treatment on a hydrologic or community level. Increasing demands and competition brought a need for resource data and attendant planning beyond the confines of periodic drought or seasonal scarcity. The SCS mission was expanded to include watershed protection and flood prevention, rural economic development, and broad resource planning.

These changes created increased opportunities for cooperation and coordination. They also resulted in some conflicts and duplication of effort whenever communications were incomplete. Some rather testy situations were encountered. They involved several organizations and agencies who used hydrometeorological data. I do not intend to describe the situations that developed. It is sufficient to note that they existed, and to some degree they reduced the efficiency and effectiveness of the total effort. Actions were needed to remedy the situation, and several were attempted.

Progress in Cooperation and Coordination

A pioneering effort at cooperation and coordination was made by several agencies using hydrometeorological data in the Columbia River Basin of the Pacific Northwest. They organized a coordinating body of staff specialists into a water management group. This group undertook to identify each agency's data needs. Then they sought to resolve problems of overlap, duplication, and delivery of services.

The Columbia River Water Management Group made some progress. They were successful in developing and implementing a multiagency agreement that identified the role and function of each agency in the collection, use, and dissemination of resource data. SCS was a participant in this group but was unwilling to sign the agreement for a very fundamental reason. The agreement in effect divided the snow survey and water supply forecasting function among the several agencies. Snow survey and water supply forecast functions were assigned each agency on the basis of primary interest, need, and available resources.

SCS objected and did not become a signer of the Columbia River Water Management agreement. It felt that this multiagency approach was an ineffective and inefficient way to organize and carry out the program. SCS contended it had been assigned responsibility as the lead agency for this program and that the cooperation and coordination effort should recognize and support this assignment. This position was not acceptable to the other agencies and they proceeded to implement their plan.

There are weaknesses in each of these positions. Multiagency involvement in this highly specialized activity that was being influenced by rapid advances in technology would result in overlap and duplication of effort. Despite the position taken by SCS, the agency has been unable to obtain the resources needed to install all the sites, gather, and report all the data needed by the other agencies. Thus snow surveys and water supply forecasting continue to be disbursed among seven agencies in the Columbia Basin. The advent of automated data collection with the attendant requirements for site development and communication clearance suggests that this question should continue to be explored. The present condition was noted and criticized in a recent review of the SCS snow survey and water supply forecasting activities by the General Accounting Office. Perhaps some accommodations can be made in the future.

Meanwhile some encouraging progress toward improved coordination and cooperation has been made by SCS and NWS. They continue to meet periodically to assess the situation, resolve issues, and provide guidance to their employees. This has resulted in significant progress and improvement in the agencies' efforts toward more effective coordination. Until the 1977 forecast season, SCS and NWS prepared and issued forecasts for the same location at 260 forecast points in the West. This not only resulted in duplication of effort but also created confusion among the users and interest groups. This was a knotty problem whenever the separate forecasts happened to be significantly different. Agreement was reached to

eliminate this duplication and proceed to a single joint agency forecast for each of these 260 points. An interagency task force was assigned to develop criteria and a suggested schedule for implementing this action.

Some problem sites were easily resolved and assigned. Others were more difficult and needed significant attention to develop a procedure that was mutually acceptable. The original schedule suggested that all duplicate forecasts be eliminated before the 1981 forecast season. The atmosphere of cooperation that developed via this intensive effort exceeded our expectations. We are proud to report that it now appears this goal will be achieved 1 year early--for the 1980 forecast season. Then the agencies will proceed toward a single cooperative Westwide Water Supply Outlook Report, which will be another major step toward more effective use of resources and better service to the public.

Some significant benefits will accrue to the two agencies beyond improving a somewhat tarnished image. For example, SCS agreed to provide leadership in preparing the forecast for about two-thirds of the common interest points. It was felt this would free up some additional resources in NWS to do research and technology development that would bring major benefits in the future. NWS will expend more effort in perfecting models for developing forecasts via automatic data processing. NWS will also give increased emphasis to developing their Extended Streamflow Prediction model for application to more forecast points in the West. This is turn will provide SCS a valuable new tool for achieving its water conservation objective. Therefore both agencies and the public will realize immediate and long-term benefits from this intense effort at cooperation and coordination of activities. Similar but less dramatic examples could be cited for other activities and among other agencies. However, this is sufficient to demonstrate that a lot of coordination has been taking place. Each successful step brings a new emphasis and leads to continuing progress. A lot of opportunities and issues remain that should and will be addressed.

Potential for Future Cooperation and Coordination

The Presidential initiatives discussed at the beginning have brought a new focus on the kinds of coordinated and cooperative issues to be addressed in the future. One rationale behind the proposal to shift snow surveys and water supply forecasts from SCS to nonfederal organizations is that the activity is highly cost effective and the principal users and beneficiaries are easily identified. This poses major philosophical and policy issues. Should federal activities be limited to those that have low or negative benefit-cost ratios? Likewise, is it inappropriate to provide data and services to relatively narrow or minor sectors of society? The prevailing attitude toward these and related questions will affect a number of popular and worthwhile programs for many federal agencies. The record to date reflects actions of expediency to achieve some relatively narrow goals with little or no effort to systematically evaluate and address the broader question. Many wonder if such action should proceed by Executive initiative followed by Congressional and clientele reaction through the political process. Perhaps there is a need for closer communications in addressing the fundamental questions and developing unified goals for long-range planning and action.

The advent of technology for collecting and transmitting data via automated rather than manual procedures brings a vast new array of opportunities and issues. These systems normally require major capital investments at the start-up stage. Is it wise and responsible management to allow these systems to proliferate to where the process is redundant and activities are duplicated where the individual programs or systems interface? Each user has its own special needs. Can a single program or system be designed to satisfy all the needs of each user, or will the public be better served by more purpose oriented systems?

Increased cooperation between agencies often will affect their operations in the future. Some actions can be anticipated and planned. Others are less recognizable. Usually the recognition comes incrementally.

If NWS proceeds with the development of computer models for generating water supply forecasts as anticipated, it will bring significant opportunities for change in SCS program activities. We will become less active in preparing forecasts in the future and will have the option of redirecting more effort toward water management and conservation. This is a relatively easy option for managers to accept. It is much more difficult for the technician to accept this change from the status quo. Another opportunity becomes increasingly attractive as we evaluate the results of cooperation between SCS and NWS. It is quite possible

that this will lead toward more and more sharing of data, clientele, and resources. Already it is apparent that there would be some benefits if the water supply forecast staffs of the two agencies were located together rather than being housed with their individual agencies.

Now that SNOTEL has become operational, SCS faces another set of policy questions and issues. We can produce real-time data well beyond the operational needs for our program. Other agencies need these data on nonprogrammed schedules. We are attempting to devise ways for supplying these data in a responsive manner and still not disrupt our own operations. We might permit direct access. If so, we must determine the mode and conditions that will be mutually acceptable. We must decide if the data will be validated and verified before release or if access to raw data will be allowed. We can enhance the data-gathering capability of our network.

We assume this will take place incrementally through cooperative agreements. However, this poses some sticky questions. A limited number and types of data-gathering improvements can be accommodated at relatively little cost or disruption to the primary system. However, some limiting constraint eventually is encountered that induces a significant increase in equipment or operating costs. We haven't yet decided how these issues will be resolved. There are other related issues to be resolved. For example, who will procure, install, and maintain equipment added to the basic system? How will increased costs be identified, shared, and distributed among interested users? Who will determine priorities and how will they be established? We've found ourselves caught up in a whole series of considerations brought on by the advent of SNOTEL and the system's capacity to service other user needs. This gives us some sense of the many questions that must be resolved if users of hydrometeorological data are to improve their effectiveness through increased cooperation and coordination of their efforts. These questions will multiply as competition for funds and related resources intensifies along with pressures to streamline and coordinate the operations of governmental agencies. This is a frustrating and challenging prospect. Resolution will require the most intelligent and dedicated leaders available who place service to the public above individual or agency desires or wishes.

In summary, some new but overriding public concerns have suddenly come forth that add to and complicate the need and process for increased cooperation and coordination of governmental activity. The data-gathering and water supply forecasting functions in federal agencies have evolved in the absence of firm and explicit guidelines for addressing the various public needs. The pressure is for more, better, and timely data. Use of these data is expanding dramatically. Responding to these new demands is further complicated by a rapid advance in technology. A lot of cooperation and coordination has taken place in the past, but these have not resolved some of the fundamental questions. Finally, the public's demand for better control of federal spending coupled with the promise of new technology presents a vast array of opportunities and challenges to be considered, acted on, and resolved. This is just one more indicator of the complex society we serve and the need for qualified leadership and commitment to the best possible service to the public. The progress we have experienced is encouraging and a credit to those responsible. However, it is too soon to say, "Well done thou good and faithful servant." Instead we must continue and redouble our efforts with the objective that some future convocation such as this can say that we learned from the past and that, more important, we actively participated in better utilizing our skills and resources and thereby helped government to improve as a servant "of the people, by the people, and for the people."