

Chapter 13

Drought Mitigation in the United States: Progress by State Government

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INTRODUCTION

Drought has been a recurrent feature of the American landscape in recent years, resulting in significant impacts in many economic sectors, including agriculture, transportation, energy, recreation, and health; it has also had adverse environmental consequences. For example, the economic impacts of the 1976-77 and 1988 droughts have been estimated at nearly \$35 billion and \$40 billion, respectively (NOAA, 1982; Riebsame et al., 1990). Other drought years, such as 1980, 1983, 1986, and 1989-91, resulted in significant losses as well. The present and future impacts of the current (1992) drought in the western states and in portions of the east are likely to be substantial and long-lasting. Almost without exception, the occurrence of widespread severe drought in the United States has illustrated the low level of drought preparedness that has existed in federal and state governments. Assessment and response programs that were implemented during the 1970s have been characterized as largely ineffective, poorly coordinated within and between levels of government, and untimely (GAO, 1979; Wilhite et al., 1986). Although state government has made considerable progress in drought preparedness, the verdict is still out on whether the federal government's response to the 1988-89 drought had improved significantly over previous response efforts. Riebsame et al. (1990) suggests only a moderate improvement in efficiency. The lessons of past response efforts in the United States strongly suggest that a "risk management" or proactive approach to drought management would be a more effective mitigation tool than the "crisis management" or reactive approach heretofore practiced.

The primary purpose of this chapter is to discuss the growth in state drought contingency plans (DCPs) in the United States and to document their effectiveness as a mitigation and response tool during recent periods of water shortage. The chapter also presents a rationale for drought planning and the principal components or elements of existing state plans. Recognizing that drought is the primary but not the only stimulus for drought plan development in most political settings, we also speculate on other factors that have fostered the increased interest of state governments in drought planning. The chapter concludes by proposing some directions for state and federal

drought planning efforts in the United States. The underlying assumption is that the growth of state drought contingency planning efforts in the United States has implications for the international scientific and policy community. As interest in drought preparedness increases worldwide, the lessons learned in the United States and other countries with an extensive history in drought response may assist policy makers in understanding the social, economic, environmental, and political forces that influence the planning process.

RATIONALE FOR DROUGHT PREPAREDNESS

The reasons behind the development of a DCP by state government in the United States have been addressed elsewhere (Wilhite, 1991a; see also Chapter 6). Simply stated, sharply focused contingency plans, prepared in advance, can assist government and others in the early identification of drought and its likely impacts; improve the efficiency of resource (fiscal, human, and natural) allocation; lessen personal hardship; and, ultimately, reduce drought-related impacts, the need for government-sponsored assistance programs, and long-term vulnerability to climate-induced periods of water shortage. In the absence of a plan, communication within and between agencies and levels of government is often poorly developed, which in turn leads to untimely or inappropriate decisions (Wilhite et al., 1986). Drought contingency plans improve the coordination and efficiency of assessment and response actions of the wide range of state agencies with responsibilities for water and also improve the linkages and working relationships with the myriad of federal agencies that are represented in each state. In the long term, contingency plans can reduce societal vulnerability to periods of water shortage and the need for drought assistance from the federal government.

Drought planning has been defined as actions taken by individual citizens, industry, government, and others in advance of drought for the purpose of mitigating some of the impacts and conflicts associated with its occurrence (Wilhite et al., 1986; Wilhite, 1991a). To be successful, drought planning must be integrated between the national and state levels of government, involving existing regional (multistate) organizations as well as the private sector where applicable. Examples of regional organizations in the United States that have been active in drought planning include the Great Lakes Commission, Western States Water Council, and Delaware River Basin Commission.

STATE DROUGHT CONTINGENCY PLANS: TRENDS AND CHARACTERISTICS

Progress by states in the development of DCPs in recent years has been extraordinary. During the widespread and severe drought of 1976-77, for example, no state had