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Review of *Drought and Natural Resources Management in the United States: Impacts and Implications of the 1987-89 Drought* by William E. Riebsame, Stanley A Changnon, Jr., and Thomas R. Karl

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Drought and Natural Resources Management in the United States: Impacts and Implications of the 1987-89 Drought. William E. Riebsame, Stanley A. Changnon, Jr., and Thomas R. Karl. Boulder, CO: Westview Press, 1991. xvi + 174 pp. Figures, tables, references, and index. \$20.00 paper (ISBN 0-8133-802-X).

This effort by Riebsame, Changnon, and Karl is a well-written, well-organized examination of the 1987-89 drought from both a scientific and sociological perspective. Through their investigation of society's and government's handling of this drought event, the authors make a strong case that "despite a decade of growing interest in the social and economic impacts of climate fluctuations . . . the nation remains ill-prepared to cope with unusual climate conditions."

In the first chapter, Riebsame et al. briefly present how past droughts have impacted the U.S. and how society/government has typically managed (or mismanaged) those past drought events. They also present their goals in writing this book. Next, the authors look at the 1987-89 drought from a climatological perspective. This is accomplished in several ways; percent of the contiguous U.S. in severe or extreme drought (as defined by the Palmer Hydrological Drought Index), percent of normal precipitation during specific periods of time over climatic divisions, and direct comparisons of this drought to the 1930's and 1950's drought. Due to the sheer number of figures presented in this chapter, the reader must constantly flip back and forth to find the figures referred to in the text. This became annoying after a short time.

Chapter 3 is split in two sections, the severe drought conditions of 1988 and the continuing impacts in 1989. Here, the authors show just how vulnerable the US is to drought no matter how well we think we've insulated ourselves from its impacts. A very good discussion of the drought's impact across social and economic sectors (e.g., environment, human health, agriculture, transportation, power generation, commerce and industry, and water resources) is presented. Of particular interest is the discussion on drought "winners" and "losers."

Chapters 4, 5, 6, and 7 present excellent case studies describing the impact of the drought on barge traffic and river flow on the Mississippi River, dryland agriculture in North Dakota, water supply problems in Atlanta, Georgia, and ecosystem management relating to the Yellowstone fires, respectively. Each chapter provides a brief background on how the drought impacted each of these sectors, how resource management or government responded to these impacts, and what are some of the implications for future.

The final chapter highlights some of the drought response problems that occurred with the 1987-89 drought. In the case of past droughts, and again with this drought, these problems led to some ineffective, poorly coordinated, and untimely responses being made. Finally, the authors provide a list of seven recommendations for improving drought management capabilities.

This book should be required reading for all governmental resource managers and decision makers. In addition, from an instructor's perspective, this book provides excellent material for a seminar class on drought and natural resources management. Such a class would be appropriate for students with varied backgrounds and interests including agronomists, climatologists, sociologists, political scientists, engineers, and others. All could learn valuable lessons from the successful responses and glaring errors made by decision makers during the 1987-89 drought. **Steven J. Meyer**, *Department of Agricultural Meteorology, University of Nebraska-Lincoln*.