"Documento original en mal estado"

Academy for Contemporary Problems. 1501 Neil Avenue, Columbus, OH 43201.
Natural disaster recovery planning for local public officials, by Claire B. Rubin. 1979. $2.00, prepaid.
20p.

Available from the Publications Department of the Academy for Contemporary Problems at the above address.

In the event of a natural disaster, state and local officials with general planning and management responsibilities usually do not possess enough information and training for effective recovery planning. This handbook describes local disaster recovery planning experiences, drawing special attention to proven planning tools and management techniques. Stressing the need for practical knowledge and training, the publication provides a synthesis of observations made and lessons learned from disaster recovery experience by both public officials and researchers. Specific examples are given which illustrate 1) the need for early attention to long-range recovery planning, 2) the need to perform recovery reconstruction in the context of comprehensive or master planning for the community, 3) the importance of public sector contact with private sector decision-makers, and 4) the complex intergovernmental relationships that can be expected to develop. Also discussed are policy issues that local officials usually confront after a disaster, including changes in land use, problems involved with reconstruction, and the revision of building codes.

Americus, Cathy, ed.
Building rehabilitation research & technology for the 1980s. Dubuque, Iowa and Toronto, Canada: Kendall/Hunt Publishing Co. 1980.

324p.

Reprinted in this volume are papers presented at a conference sponsored by the National Bureau of Standards' Center for Building Technology and the National Conference of States on Building Codes and Standards, Inc. In a period of skyrocketing construction costs, the rehabilitation and continued use of existing structures interests many groups other than those exclusively concerned with preserving historic buildings. Building codes must be dealt with in any case, and this document delineates the latest state-of-the-art of major innovations which are being successfully made across the Unites States in reducing a broad range of traditional technical, regulatory, legal, economic, and other barriers to adaptive reuse of our existing building stock. Although only four of the 28 contributions specifically treat seismic codes and considerations, a number of the remaining articles provide tangential information insofar as building code development and enforcement, energy conservation, the HUD Rehabilitation Guidelines Program, and legal implications and economic applications are concerned.

William A. Anderson, "Social Structure and the Role of the Military in Natural Disaster," Sociology and Social Research 53 (January, 1969): 242-253.

Military organizations often play an important role during natural disaster. Data drawn from the U.S., Italy, Chile, and El Salvador suggest that the involvement of the military in natural disaster is a function of the structure of military organizations, the structure of local communities, and the structure of societies.

Council of State Governments. Iron Works Pike, Lexington, Kentucky 40511.

Comprehensive emergency preparedness planning in state government. 1976. $3.00.

47p.

This report presents suggestions for increasing the effectiveness of emergency preparedness planning by state governments. It is concerned with comprehensive planning for the prevention of emergencies and disasters, response to emergencies when they occur, and long-range recovery. The nature and status of state planning, the nature and status of state preparedness planning, and the merging of preparedness planning into the state planning system are discussed. A "Suggested Outline for a Comprehensive Emergency Preparedness Plan" is included.

Council of State Governments. P.O. Box 11910, Iron Works Pike, Lexington, Kentucky 40578.

The states and natural hazards. 1979. $5.00.

99p. (RM-669)

This is the final publication from a project funded by the National Science Foundation that explores the role of state governments in coping with natural hazards. The report describes how mitigation programs and preparedness planning are best implemented and coordinated, and presents a review of tasks that can be accomplished most successfully by state governments. These tasks include the identification of various hazards within the state, the delegation of authority to local governments, and acting as a liaison with federal agencies whenever needed. A successful natural hazards program should recognize that 1) a multi-level network of shared responsibilities creates a complex administrative phenomenon which needs to be clearly delineated and thoroughly understood by all participating groups, 2) the program must be comprehensive, encompassing mitigation, response, and recovery functions, 3) maximum use should be made of executive powers at all governmental levels, and 4) the program should be funded adequately enough to allow it to operate on a continuous basis. A special section treats natural hazards common in the United States, and several appendices present reports dealing with earthquake prediction, warning, liability, and public policy.

Disasters: The International Journal of Disaster Studies and Practice.
Pergamon Press. Publishing, subscription, and advertising offices: Headington Hill Hall, Oxford OX3 OBW, and : Maxwell House, Fairview Park, Elmsford, New York 10523. Subscription rates given upon request.

This journal, now in its fifth year of publication (1981), offers a variety of international disaster studies prepared by contributors from many nations. Both specific hazards and general disaster topics are discussed. The journal is not oriented towards civil defense or nuclear disasters/war. The organization which oversees publication of the journal is: The International Disaster Institute, 85 Marylebone High Street, London WIM 3DE. Back issues of all previously published volumes are available in the regular editions and as microfilm and microfiche.

Russell R. Dynes and E. L. Quarantelli, The Role of Local Civil Defense in Disaster Planning, Disaster Research Center Report Series No. 16 (1975).

Field studies in 12 American cities were made of the factors affecting the tasks, saliency and legitimacy of local civil defense organizations in disaster planning at the community level. Successful involvement in planning was associated with experience in community emergencies, acceptance and legitimization by the local governmental structure, pre-disaster relationships developed by the civil defense director, and the provision to the community of emergency relevant resources such as EOCs.

Emergency Planning Canada. Pearson Building. Ottawa, Ontario. K1A 0W6.
Emergency Planning Digest.

Published 6 times annually to provide current information and reference material on a broad range of subjects dealing with civil emergency planning.

Foster, Harold D.
Disaster planning: the preservation of life and property. New York/Berlin: Springer-Verlag. 1980. $29.80.
275p. (Springer Series on Environmental Management)

The concepts and mechanisms of comprehensive risk management are overviewed in the hope that more local authorities, institutions, and planners will accept the responsibilities for improving safety standards involving the protection of human lives and property. Most of the examples cited have been taken from the natural hazards and disasters area. Topics discussed include: strategies for achieving safety goals and objectives; the pros and cons of hazard microzonation; acceptable risk and the en-

forcement of unacceptable risk standards; mapping for single and multiple hazards, and for one or multiple purposes; achieving safety through structural design; techniques for predicting and preventing disasters; modeling and simulation methodology; and implementation of disaster warning systems. Also discussed is disaster preparedness and the recovery/reconstruction process. A safety index based on stress factors and a methodology for deciding the necessity of evacuation are introduced.

Griggs, Gary B. and John A. Gilchrist.
The earth and land use planning. North Scituate, Massachusetts: Duxbury Press. 1977. $13.95.
492p.

The authors' rationale for writing this textbook is to consider environmental geology as a focal point where both earth scientists and environmental planners can converge to solve important problems and make intelligent decisions involving land usage and planning. Separate chapters treat the problems associated with earthquakes and faulting, volcanic activity, landslides and mass movement, subsidence and collapse, surface hydrology and flooding, coastal processes and hazards, and the environmental impact of land use planning. Other chapters deal with planning for natural resource exploitation, groundwater, and waste disposal and treatment. The text introduces the technical jargon of physical geology as it is needed for the understanding of natural phenomena. Abundantly illustrated with diagrams and photographs.

Howard, Arthur D., Irwin Remson, et al.
Geology in environmental planning. New York, NY: McGraw-Hill, Inc. 1978. $17.50.
478p.

This is a thoughtfully conceived and well-written text intended for the general college undergraduate and the informed lay reader and as a primer for the urban planner. The recognition of natural hazards as a prime factor in land use planning is implicit throughout the text. Special chapters on "Environmental Law" and "Land-Use Planning and Geology" have been contributed by Thomas Hughes and George Mader, respectively. The concluding chapter, "Student Group Project on Environmental Land Planning", presents comprehensive land-use plans as conceived by non-technical students after assimilating the background provided by the text. Man-made hazards and adjustments are also considered. Profusely illustrated.

International Center for Emergency Preparedness. 1612 K Street, N.W., Washington, D.C. 20006.

Coping with natural disasters at the local level, by Ron Davis. 1977. $15.00.

71p.

Attention is focused on the role that local governments can play in natural hazard preparedness. The concern for local hazard awareness is underscored by a NOAA estimate that approximately 85% of cities and 95% of rural communities do not have natural hazard preparedness plans. The report reviews such important topics as "Building the Legal and Organizational Foundation for Effective Disaster Response," "Identifying Key Community Emergency Roles," "Public Awareness: Tapping the Citizen Component," and "The Federal Government's Involvement in Disaster Preparedness." The author suggests that immediately following a disaster, a community must be self-sufficient until outside help can arrive. After its arrival, local authorities must know where to apply that assistance. Also, local officials have numerous legal, financial , and technical tools available to them from various state and federal agencies. Local public information and training is one means of correcting a dependence on marginally trained personnel brought in to cope with an emergency situation.

James Cook University of North Queensland, Department of Behavioural Sciences, Townsville, Q. 4811, Australia.

Planning for people in natural disasters, edited by Joan Innes Reid. 1979.

207p.

During 1977-78, the Department of Behavioural Sciences of James Cook University organized three regional seminars on the relation of natural disaster to the human community. Proceedings from the seminar, augmented by several additional research papers, comprise the thirty-odd selections in this volume. The papers represent a socially oriented, multi-disciplinary approach to the study of disasters with contributions from both the academic research community and the managerial and implementing sector. Problems of disaster planning are examined in the areas of regional emergency services, the physical environment, medical emergencies, disaster welfare, psychological services, communication networks, and local emergency authority. Because of the enormous displacement of people during the evacuation and resettlement of Darwin, G. Milne's paper entitled "Cyclone Tracy: Psychological and Social Consequences" should be of special interest. Other contributions include "The Media and Community Morale", by J. Oost, and "Australian Experience in Welfare Planning in Natural Disaster", by A. Quinnell.

Journal of Architectural Education 33 (Summer 1980), No. 4.

Issue devoted to "Disaster."

Back issues available at $4.00 a copy from the Association of Collegiate Schools of Architecture, Inc., 1735 New York Avenue, N.W., Washington, DC 20006.

This series of concise and informative articles provides the archi-

tecture student with relevant background material on natural hazards and the status of mitigative techniques for dealing with them. Planning and design for specific hazards is emphasized in approximately half the contributions while other articles examine general topics such as the regulatory system, risk analysis, disasters and urban systems, the teaching of hazards mitigation, and mitigation strategies. Of interest to planners is Stephen Tobriner's paper entitled "Earthquakes and Planning in the 17th and 18th Centuries." Three case studies concerned with city planning and reconstruction are discussed: in southeastern Sicily following the 1693 earthquakes; Lisbon, Portugal (earthquake of 1755); and Antigua, Guatemala (1773). Experts in various aspects of disaster planning and mitigation were recruited to address the current status of issues in public policy, urban planning, hazard dynamics, and response to disaster impact.

Ohio State University. Disaster Research Center.
An annotated bibliography on disaster and disaster planning, 2nd edition, by E. L. Quarantelli. 1976.
13p. (Miscellaneous report # 16)

First part of the bibliography contains annotations of publications done at the Disaster Research Center. The readings in the second part were selectively chosen from the general literature for their usefulness to disaster researchers. Most items are of relatively recent date.

E. L. Quarantelli and Russell R. Dynes (eds.), "Organizational and Group Behavior in Disasters," American Behavioral Scientist 13, no. 3 (January-February, 1970).

This special issue focuses on disaster as a social disruption within communities. The pattern of social disruption is closely related to the various characteristics of the disaster agent; these determine the nature of disaster tasks to which emergency organizations have to respond. The articles included in this issue are:

E. L. Quarantelli and Russell R. Dynes, "Editors' Introduction."
Thomas E. Drabek, "Methodology of Studying Disasters: Past Patterns and Future Possibilities."
Daniel Yutzy, "Priorities in Community Response."
Will C. Kennedy, "Police Departments: Organization and Tasks in Disaster."
George J. Warheit, "Fire Departments: Operations During Major Community Emergencies."
John R. Drouillette, "The Department of Public Works: Adaptation to Disaster Demands."
E. L. Quarantelli, "The Community General Hospital: Its Immediate Problems in Disasters."
David Adams, "The Red Cross: Organizational Sources of Operational Problems."

James L. Ross, "The Salvation Army: Emergency Operations."
William A. Anderson, "Military Organizations in Natural Disaster: Established and Emergent Norms."
Arnold R. Parr, "Organizational Response to Community Crises and Group Emergence."
Russell R. Dynes, "Organizational Involvement and Changes in Community Structure in Disaster."
Robert Roth, "Cross Cultural Perspectives on Disaster Response."
E. L. Quarantelli, "A Selected Annotated Bibliography of Social Science Studies on Disasters."

Texas Coastal and Marine Council. P.O. Box 13407, Austin, Texas 78711.
Hazard awareness guidebook: planning for what comes naturally, by Sally Davenport and Penny Waterstone. 1979.
41p.

Available from the Texas Coastal and Marine Council.

This publication, an outgrowth of a national Hazard Awareness Workshop held in March, 1979, in Corpus Christi, Texas, was compiled in order to help those who are currently involved in planning programs to improve the public awareness of threats stemming from natural hazards. The experience gained from many programs in hazard awareness, together with the results of recent research, is utilized to produce an outline of elements which need to be considered when putting together a hazard information program. A discussion of the ability of various forms of communication, both written and electronic, to reach certain audiences, plus suggestions for dealing with the mass media, provides a practical foundation for maximizing the distribution of relevant information. The material discussed in the text is summarized in convenient "do's" and "don'ts" lists. A sampling of these guidelines includes: 1) start a program with simple goals and realistic expectations, 2) make a message specific, and repeat and reinforce that message regularly, 3) use the best available natural hazards data, but let information specialists adapt the data for public use, and 4) use different types of media to reach different audiences.

United Nations. Office of the United Nations Disaster Relief Co-ordinator.
Guidelines for disaster prevention. 1976.
3v. (UNDRO/10/76/vol. I,II,III)

V.1-Pre-disaster physical planning of human settlements.
V.2-Building measures for minimizing the impact of disasters.
V.3-Management of settlements.

U.S. Dept. of Commerce. National Technical Information Service.
Disasters: effects and countermeasures. Volume 1: 1964-1975 (a bibliography with abstracts), by Mary E. Young. 1977.
189p.

Available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161, as NTIS/PS-77/1077/5GA. Paper copy: $28.00. Microfiche: $28.00.
Reports cited in the bibliography include emergency planning, communications and transportation systems, and damage recovery in disasters other than nuclear. Individual and organizational stress under emergency conditions, and the potential use of satellites to predict natural disasters are also included. (This updated bibliography contains 184 abstracts, none of which are new entries to the previous edition).

U.S. Dept. of Commerce. National Technical Information Service.
Disasters: effects and countermeasures. Volume 2: 1976-October, 1978 (a bibliography with abstracts), by Mary E. Young. 1978.
155p.

Available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161, as NTIS/PS-78/1196/1GA. Paper copy: $28.00. Microfiche: $28.00.
The annotation for Volume 2 is the same as for Volume 1. (This updated bibliography contains 148 abstracts, 18 of which are new entries to the previous edition).

U.S. Federal Emergency Management Agency.
Emergency Management. Subscriptions are free. 1981.

To receive Emergency Management, contact Cheri Steffeck or Sandy Farrell, Editors, Office of Public Affairs, Federal Emergency Management Agency (FEMA), Washington, DC 20472, or telephone (202) 634-1600.
In January, 1981, FEMA will initiate publication of a quarterly magazine designed to help officials in both government and the private sector to keep informed of programs and activities which can contribute to the improvement of emergency management. Besides covering material associated with natural hazards and natural disasters, the publication will also cover all aspects of nuclear and technological hazards, and other problems under the purview of FEMA, such as fire prevention and control and temporary housing. A special issue, released in late 1980, previewed the format and the types of information to be expected in subsequent issues. Contributions in the form of articles, news releases, news items, photographs, etc., are invited.

U. S. Dept. of Housing and Urban Development. Federal Disaster Assistance Administration.
Directory of disaster-related technology. GPO. 1975.
817p. (HUD report no. 401-FDAA)

The directory is a compendium of studies, investigations and research efforts undertaken since 1970 related to disaster preparedness, assistance, mitigation, and hazard reduction of natural disasters in the U.S. Information is arranged into eight sections with each of the 1,287 projects keyed to a unique reference number which provides quick access to all elements of information. An extensive bibliography on natural hazards is included.

U.S. Dept. of the Interior. Geological Survey.
"Nature to be commanded..." ---- Earth-Science maps applied to land and water management. Edited by G.D. Robinson and Andrew M. Spieker. 1978. $6.25.
97p. (U.S. Geological Survey Professional Paper 950)

Order from: U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, Virginia 22202.

This publication is intended to encourage the wider use of earth science information at all levels of urban planning and decisionmaking. It signals an expanding committment by the USGS to study and understand the earth-science aspects of the urban environment. In addition, it demonstrates the value of this information by showing how relevant maps have been used in making plans and decisions in a variety of urban settings. An introduction discussing the uses of topographic, geologic and hydrologic maps is followed by chapters describing the applications of earth-science information in six environmental zones. The areas examined are: 1) Central San Mateo County, California; 2) Tucson, Arizona; 3) Colorado's Front Range Urban Corridor; 4) New England; 5) Nassau County, Long Island, New York; 6) Fairfax County, Virginia. Profusely illustrated in color, it is written in non-technical language and is particularly directed at those involved in urban planning, design, management, and development.

University of Colorado, Institute of Behavioral Science, Program on Technology, Environment, and Man, Boulder, 80309.
Land use management and regulation in hazardous areas: A research assessment, by Earl J. Baker and Gordon Feldman McPhee. 1975.
124p.

Available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161. Code number and price unknown at present.

Discusses the role of land use management in the reduction of natural hazard losses with regard to political, economic, and environmental considerations; legal aspects; social values and policies; interactions of adjustments; and local, state, and federal approaches. Research opportunities are assessed.

University of Colorado. Institute of Behavioral Science. Natural Hazards Research and Applications Information Center, IBS Bldg. #6, University of Colorado, Boulder, CO 80309.

Natural hazard response and planning in tropical Queensland, by John Oliver. 1978. $3.50.

63p. (Working Paper #33)

Concepts and findings developed by natural hazard studies, particularly in the United States, are examined to determine their applicability in tropical Queensland, Australia. The broad framework and methodologies of natural hazard research are basically the same in both countries. However, it is apparent that problems exist that are uniquely local which cannot be ignored when considering planning policy options. Long-term planning has received little attention in the area, and progress has been uneven in disaster planning and research. Many fields need further research, particularly with respect to the social problems and rehabilitation of disaster affected communities. It is essential that an integrative approach to hazard management be adopted.

White, Gilbert F. and J. Eugene Haas.

Assessment of Research on Natural Hazards. Cambridge, Massachusetts: The MIT Press. 1975. $26.50.

487.

An assessment of the current status of natural hazard research in the U.S. and recommendations for future research directions. It discusses topics that cut across hazard boundaries and the major hazards individually. Topics discussed include how the nation responds to natural hazards, acceptable levels of risk, the range of adjustment choices, how research results are applied, and how research payoffs can be estimated.

Wiggins, J.H., Company. 1650 South Pacific Coast Highway, Redondo Beach, CA 90277

Natural hazards: a public policy assessment, by William J. Petak, Arthur A. Atkisson and Paul H. Gleye. 1978. 516p.

Available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161, as PB-297 361/8GA. Paper copy: $26.00. Microfiche: $3.50.

A multi-disciplinary research team used risk analysis techniques to develop information to assist policy makers in identifying specific problems related to natural hazards, and in reaching solutions to those problems. The nine hazards that are examined are: earthquake, landslides, expansive soils, riverine flooding, storm surge, tsunami, tornadoes, hurricanes, and severe winds. The framework presented by the report includes: 1) estimates of annual natural hazards losses for the years 1970 and 2000, 2) specific strategies and technologies theoretically capable of reducing such losses, 3) an analysis of past and current public policies and administrative arrangements aimed at reducing natural hazard losses, 4) an assessment of contemporary social, technical, administrative, political, and economic constraints on public policies for mitigating the effects of natural hazards, and 5) policy options for the future management of natural hazard risk. Among the numerous recommendations, it is suggested that a detailed and extensive hazard mapping program be instituted by the federal government.

DISASTER SIMULATION

Borkan, Bradley and Howard Kunreuther.

Towards a community disaster model for policy analysis. Mass Emergencies 3 (1978), pps. 1-22.

This paper demonstrates how the decision-maker can determine how sensitive different policies are to two key variables: 1) the socio-economic and physical characteristics of the hazard-prone area, and 2) the severity of flooding. The model is extremely flexible, facilitating the extension or modification of existing routines. Its modular structure adapts to new policies or behavioral models of choice without forcing the programmer to redesign its entire structure. Although the model is not intended to provide direct answers as to which set of adjustments are the most desirable from the viewpoint of private and social costs, it can provide information to policy-makers which will help them to understand the positive and negative aspects of any policy.

Center for Planning and Research, Inc., Palo Alto, Calif.

Application of simulation training exercises to crisis relocation planning, by Robert A. Herker and Charlie C. Coleman. 1975.

134p.

Available form NTIS, Springfield, VA., 22161, as AD A020 835. $6.00-paper copy, $2.25-microfiche.

Scenarios for crisis relocation are developed for both nuclear confrontations and earthquake prediction situations and are designed to address the problem that while many communities do provide for some emergency needs such as shelter and medical aid, they do not have plans for specific courses of response and do not indicate key facilities. Methods of Incorporating relocation guidance materials and these scenarios into DCPA simulation training programs are presented.

Center for Planning and Research, Inc. Palo Alto, CA.

Natural disaster scenario generator, final report, by John Baca, et al. 1975.

46p.

Available form NTIS, Springfield, VA., 22161, as AD-A020 834. $4.00-paper copy, $2.25-microfiche.

A computer system previously developed for generating nuclear damage scenarios (Dial-A-Scenario) is revised to produce natural hazard scenarios. The user is allowed to design the desired scenario by selecting the type of diaster and the maximum hazard level, and by specifying unique problems.

Day, John C. and Weisz, Reuben N.

A linear programming model for use in guiding urban floodplain management. Water Resources Research 12, no. 3 (June 1976), pp. 349-359.

Comprehensive floodplain management combines land development policies and flood control works. Any floodplain management plan must balance the economic advantages of each method. This paper presents a linear programming model designed to analyze the economic impact of each method and determine optimal aggregate benefits possible.

Friedman, Don G., "Computer Simulation of the Earthquake Hazard." In: Geologic Hazards and Public Problems: Conference Proceedings, edited by Robert A. Olson and Mildred M. Wallace. Office of Emergency Preparedness, Region Seven, Santa Rosa, California, 1969, 153-181. See also Friedman, D. G. and T. S. Roy, Computer Simulation of the Earthquake Hazard, Research Department Report, the Travelers Insurance Company, Hartford, Connecticut, May, 1969, 52pp.

Describes and tests a simulation of earthquake damage risk for use in establishing a workable earthquake insurance program.

Institute for Water Resources, A Computer Simulation Model for Flood Plain Development Part 1: Land Use Planning and Benefit Evaluation by INTASA, N. V. Arvanitidis, project manager. U. S. Army Corps of Engineers, February 1972, 84pp. Available from National Technical Information Service, Department of Commerce, Springfield, Virginia 22141.

University of Colorado, Institute of Behavioral Science, Program on Technology, Environment, and Man, Boulder, 80309.

Computer simulation in natural hazard assessment, by Don G. Friedman. 1975. 192p.

Available from NTIS, 5285 Port Royal Road, Springfield, Virginia 22161, as PB 261 755. Paper copy: $7.75. Microfiche: $3.50.

A loss potential index is used to measure the present level and future trend of natural hazard losses in the U.S. In the analysis, 4 factors interact to determine this index: natural hazard generator, local conditions, population-at-risk, and vulnerability. Results of some applications to a number of natural hazards are given with an extended discussion of earthquakes and hurricanes. Problems and opportunities of the methodology are discussed.

University of Colorado. Institute of Behavioral Science. Natural Hazards Research and Applications Information Center, IBS Bldg. #6, University of Colorado, Boulder, CO 80309.

An interactive modeling system for disaster policy analysis, by Howard Kunreuther, John Lepore, Louis Miller, Joseph Vinso, John Wilson, Bradley Borkan, Brogan Duffy and Norman Katz. 1978. $8.00.

137p. (Monograph No. 26)

This monograph is the result of an interdisciplinary project at the University of Pennsylvania under the auspices of the National Science Foundation. It introduces a system for studying the relative benefits and costs of alternative hazard mitigation and recovery programs. The interactive computer-based modeling system differs from existing systems in having the capability to deal with sets of individual homeowners and businesses. Users are able to construct representations of hazard-prone communities and examine impacts of mitigation and recovery programs on residents of a community as well as on local, state, and federal agencies. The interactive system is designed with the user in mind, is very flexible and is relatively easy to extend or modify.

Utah State University. Utah Water Research Laboratory and the Institute for Social Science Research on Natural Resources, Logan, Utah 84322.

Mathematical modeling of a sociological and hydrologic decision system, by Wade H. Andrews, J. Paul Riley and Malcolm B. Masteller. 1978. $2.50.

184p. (UWRL Report P-78-04); (ISSR Research Monograph #7)

The general goal of this study was to develop a functional model of the sociological and related structural hydrologic elements in flood-control decision-making. Conceptual system models were developed for both the hydrologic and the sociological systems. Results indicate that the social model was an initial successful effort to portray decision-making in water resources planning. Continued research should improve the model, and subsequent analyses should improve the planning process by including a greater number of significant variables for consideration in the final decision procedure. Also, these analyses should provide better public participation and predictions that are more likely to be effective, acceptable, and more quickly implemented into flood control plans.