questionnaire which was used in hour-long field interviews with respondents from a variety of economic and literary levels, and was extended to virtually every densely populated area of the world afflicted with natural disasters. It covered separately the problems concerning human perception of and adjustment to the threat of hurricanes, tornadoes, floods, earthquakes, freezes, drought, and other types of hazards capable of causing natural disasters of national or international importance. Despite the large number of investigators involved in the experiment, the reader gains the impression from the summary reports that the design of the questionnaires and the controls used in conducting the interviews were effective in obtaining a homogeneous block of data for analysis. The findings on human perception and adjustment to the threat of disaster varied less from nation to nation and from one type of hazard to another than from one economic and literacy level to another. This prompted the comment that informational materials designed to inform the public about hazard risks and the need for preparedness measures must be tailored to the particular literacy level where the information is needed most. The study points out that perhaps the greatest single pitfall in human adjustment to hazard threats is the tendency to over-generalize from too small a sample of events. It is suggested that this same tendency may lead to significant policy judgment errors, citing as an example the discrepancies which sometimes occur in computing the return period of floods—one instance being a case where the computation made with three highly regarded methods gave results that differed by a factor of three.

When nearly 50 authors are involved in the preparation of a text, a book is likely to suffer a lack of continuity and uniformity of presentation, and this one does. Nevertheless, the introductory, analytical, and concluding sections are lucidly and effectively written and carry through well the intended thrust of the book. The authors do not consider this experiment to be an end in itself, or that the book will serve as a handbook or final guide to public policy design for natural hazards, but rather regard it as a stepping stone toward influencing the basis for policy making as a foundation for further experiments and studies to that end. This reviewer considers that this objective has been achieved and that the material presented, provocative and sometimes controversial, will serve as a constructive catalyst, especially among those decision makers who have looked exclusively to technology for a means of coping with natural hazards.—*R. H. Simpson*

Analytical Methods in Planetary Boundary-Layer Modelling. By R. A. Brown, John Wiley and Sons, New York, 1974. 148 pages. $21.00. Hardbound.

This book discusses the analytic modeling of the dynamic flow in the neutral planetary boundary layer.

After an initial discussion of the general approach of the book and of the governing equations (Chapters 1, 2, and 3), the Ekman layer solution (Chapter 4), the classic dimensional theory for the neutral and stratified surface layer, and the matching of Ekman and surface layer profiles (Chapters 5 and 6) are presented. Chapters 7 and 8 discuss dynamic similarity methods and eddy viscosity theories for the planetary boundary layer. Chapter 9 examines briefly Ekman flow instability and Chapter 10 presents the secondary flow model developed by the author. To this point, the book is a concise development of the classic neutral boundary-layer theory, exemplified by similarity theory, eddy viscosity, and mixing length models, leading up to the author's work on secondary flow solutions to the Ekman layer. The chapters are very short (averaging 11 pages), and the flow of the presentation is hard to follow in places. Prior knowledge of results by the reader is sometimes assumed, and this reviewer thought that further discussion of the significance of results beyond their mathematical presentation would be valuable. With some work, a graduate student could follow the development, although in later chapters the author refers the reader more and more to the original literature; however, I think one is left wondering where this branch of planetary boundary-layer theory is going. The mathematical refinement only highlights the lack of any basic physical understanding of the turbulent transfer processes, which are typically represented by an eddy viscosity.

The last two chapters are very brief and make one aware of the limited scope of this book. Chapter 11 comments on thermal effects, but there is no discussion of the mixed layer models for the convective boundary layer which have developed rapidly in the last few years. The problem of the parameterization of the convective boundary layer for large-scale models is mentioned but not developed. The book excludes the whole area of direct simulation of atmospheric turbulence and boundary layer structure using the basic equations, since this is not in the realm of analytic methods. However, this approach promises to tell us something of the structure of the turbulence, and the interaction of thermal and dynamic transports. The last chapter reviews a few papers on non-stationary boundary layers, which is also an area of rapid development, but there is no discussion of the critical subject of modeling the equatorial boundary layer.

This book represents a rather classical approach to the neutral boundary-layer problem. It will serve as a guide to the student of the literature in this somewhat narrow area. A much wider synthesis is badly needed, however.—*Alan K. Betts*

Climatology: Fundamentals and Applications. By John R. Mather. McGraw-Hill Book Company, New York, 1974. 412 pages. $12.95. Hardbound.

This is written as an undergraduate-level text designed to approach the subject in terms of the important problems man faces in his interaction with the atmosphere. The author hopes to attract the interest of bright students who may be "turned off" by the classic approach to climatology, which describes basic weather elements with less regard for their impact on man's activities.

All of the basic meteorological concepts necessary for a scholarly introduction to the subject of climatology are included: 1) energy and hydrologic budgets; 2) geographical distribution of major climatic patterns; and 3) their association with plants and soils.

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