
Albert Weiss (ed.), 245 Chase Hall, Univ. of Nebraska, Lincoln, NE 68583-07280. 1989. $30 in North America, $35 elsewhere. (Checks in U.S. currency payable to Univ. of Nebraska.)

These proceedings are recommended for individuals who work in the general area of climate and agriculture. Participants and speakers of this conference include a wide spectrum of experts representing university teaching, research, and extension; governmental agencies; and private industry in disciplines including economics, sociology, climatology and meteorology, plant pathology, animal science, agronomy, entomology, agricultural engineering, etc.

The contents of these proceedings are presented in 5 major groupings: (i) review, (ii) meteorological services for agriculture, (iii) future directions, (iv) economic strategies and decisionmaking, and (v) understanding and evaluating methods of dissemination. Some groupings include summaries, making the proceedings very readable and sure to contain papers of interest to many. The preface and opening remarks by editor Albert Weiss set the stage for the following papers.

The fabric of this book is woven around the theme of using computers and weather data to aid agricultural management and research decisionmaking. Section one presents four papers describing modeling efforts in remote sensing, plant, animal, and crop disease. Excellent examples of the use of these modeling principles or concepts are given here.

Weather data is an important input to most, if not all, agricultural models; therefore, section two includes five papers dealing with meteorological services provided by university, commercial, and governmental sources. The concept and operational practice of regional climate centers is described in the first paper and relates to meeting both service and research needs. This paper concludes with some challenging questions on meeting the needs of both service and research. In the second paper in this section, commercial providers of weather information make provocative recommendations concerning a division of labor between federal and commercial services to provide potential users with the best information.

The third paper in this section details the actual climate-weather information requests made to one of the regional climate centers for 1 yr and the problems and successes associated with meeting these requests.

The fourth paper reports the successful method by which the USDA met governmental requests for information on the drought of 1988. The last paper details methods used by the Canadian Wheat Board to meet requests for global crop prospects. Again, problems, successes, and limitations are reported, and constructive suggestions are presented.

The third section is the longest and includes seven papers dealing with future directions. The topics cover decisionmaking using computer models and expert systems in the agricultural setting. The scenario for the future is presented in an excellent manner in the first paper. Sound words of wisdom are given to individuals working with various aspects of computer and decision management models. The second, third, and fourth papers detail real-world use and development of models for crops, insects, and animals. The second ends with a statement central to these issues—“Natural resources such as weather can and must be used to fine tune and optimize our management of biological systems.”

The next two papers interestingly portray the basics and philosophy of expert systems in this context. Readers may want to see how their own qualifications as an expert compare with the 10 psychological characteristics of experts listed. The last paper (very timely) deals with the integration of crop models with expert systems and data bases for decisionmaking. This paper gives good background and discusses types of decisionmaking. The development and use of a decision support system for agrotechnology transfer is given.

The fourth section contains papers discussing economic risk using biophysical models. Concern over aquifer depletion is an example of this marriage of crop models with risk analyses. The second paper presents aspects of model use, development, and validation. Areas for improvement of crop models are suggested. The author concludes that “The potential for future technical and economic research using biophysical models is great. Much depends on our ability and willingness to learn the language and terminology of our colleagues in other disciplines.” Another paper delves into the nature of interdisciplinary modeling research, the value of information (climate), and factors affecting this value. The last paper describes creating a successful model based upon first-hand experience. This model is used by many producers across diverse locations. The crux of this paper is to get the model down to the farm level. The authors recommend that the extension system increase its commitment to technology and increase its cooperation into joint ventures with consultants, computer developers, commercial agribusiness, and the producer.

The emphasis in the last section is on the dissemination of information to producers. Numerous examples of many dissemination products are discussed and evaluated for user acceptance and technical requirement. The last paper interestingly delves into the social aspects of providing good information to an anxious public.—RICHARD E. CARLSON, 3007 Agronomy Hall, Iowa State University, Ames, IA 50010.