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This volume is one of the outcomes of the International Year of the Mountains (IYM), 2002, an initiative of the United Nations prompted by one of the lesser-known but highly mountainous countries of the world, Kyrgyzstan. Apart from focusing global attention on the importance and fragility of mountainous areas across the globe, an important part of the initiative was to stimulate research overtly recognizing the importance of multidisciplinary studies, in order to develop a better understanding of such environments and their sustainable future. What is presented here, therefore, is a 'state of knowledge overview', designed to take stock and provide the basis for future research agendas that have mountainous areas as their focus. The breadth and substance of this volume bears witness to how far such very laudable aims were achieved and is a tribute to what must have been a daunting, but successfully executed, editorial task by the three editors.

Bracketed between an introduction by T. Hofer that clearly puts the case for the IYM and the need for a sustainable approach to protect the unique characteristics of mountains, and a synthesis by the editors with A. Björnson and B. Messerli that takes each preceding section and points the way to future research, there are 61 separate contributions involving over 170 authors. These are arranged in five sections: paleoenvironmental changes, cryospheric changes, hydrological changes, ecological changes, and human dimensions. Owing to the sheer number of papers it is difficult to give a full flavour of the material covered, and it is inevitable that there is some variability in quality in what is contributed. Overall, however, the quality is high and the volume achieves the avowed objective to present as broad and up-to-date an overview as possible.

However, a few general points can be made. For individuals interested in a very specific theme, there will be little that is new, in that the aim is to summarize the current state of play, something of real value to those on the fringes of the discipline or from an allied area of research, but of less potential interest to specialists in the field. This is perhaps particularly true of some of the shorter papers which do what is asked and no more. They are of interest in themselves but are effectively making points well known in the field and already the basis for current research agendas. Nevertheless these overviews are by the key people working in the field and still have considerable merit in looking forward as well as back. Some papers are exceptions to a

relatively set pattern of a review of current findings leading to the identification of future research questions. In the paleoenvironment section, J. Gosse presents a lengthy account of recent developments in terrestrial cosmogenic nuclide (TCN) dating. He makes a plea for its use, a move away from reliance on 'low precision ages on broad events', as a basis for understanding past ice extent and volumes. This is a valuable reminder that some of the data we perhaps now take for granted should always be revisited as new techniques become available. Thus whilst more current and future monitoring of all environmental aspects is required in all mountain areas – a recurrent theme of the book – there is still an important place for understanding the longer-term character of mountain environments.

It would be very unfair to criticize this volume on the basis of any perceived shortcomings, whether related to specific research areas or particular contributions. What stands out is the remarkable scope of the material now available within the one very accessible volume, representing the commitment of such a large number of the contributing researchers. There is no overt geographical bias in the material, nor is there any real imbalance between the sections. Ironically, the cryosphere section is the shortest, but there are obvious overlaps with other sections, especially the part on hydrological changes. Although it is only in the final section that the integration of human and 'natural' systems is formally addressed, issues of integration and interdisciplinarity across the science/social-science divide are clearly at the heart of a lot of future research goals. The book is well produced, with few errors, and there is a good range of figures, some in colour.

There is a real feeling that the organizers of the IYM and those behind the volume have tapped into a research environment whose contributors are thoroughly immersed in their subject and recognize the importance of assessing future needs at a time of increasing climatic and human pressure. These concerns are explicitly voiced in many papers, reminding those not working in such environments of the important role of mountainous areas in the global system, not least in the way they act as 'water towers' for some of the world's poorest and thirstiest people. The editors and the politicians behind the IYM are to be congratulated on preparing such a science volume that will provide a very important contribution to future research in the changing climatic environment of the next few decades.

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