REVIEWS

THE HUMAN IMPACT: MAN'S ROLE IN ENVIRONMENTAL CHANGE. Gondie, Andrew, 1981. Basil Blackwell Publisher, Oxford, England, 316 p. (£6.50 in paperback, £15.00 Library edition).

The book is presented in 8 chapters — an introduction develops a thumbnail sketch of the progression of human technology, from the hunter-gatherer, through cultivator, keeper, and metal worker, to industrial, urban people. There follow 6 chapters covering the human impacts on (1) Vegetation, (2) Animals, (3) Soil, (4) Water, (5) Landscapes, and (6) Climate and atmosphere. The brief concluding chapter emphasizes the importance of non- and pre-industrial people in the human impact, the proliferation of impacts, and the reversibility of change. There is an extensive modern reference list and a comprehensive index.

The text is readable and well presented; but not well edited, and it contains too many typographical errors. The author's verbose style would benefit from heavy editing. For example, from page 38, the sentence "The results of detailed investigations of the reported regression rates for tropical moist forests in thirteen selected countries representing about 18% of the world total area for these forests (Table 2.5) indicate that the annual regression rate for these countries is greater than 2 million hectares (or 1.2% of their tropical moist forest areas)" could be said in about half the space "In thirteen countries representing about 18% of the total area of tropical moist forests (Table 2.5), the annual loss of forest area is greater than 20,000 km^2 (or 1.2%)". On other pages "rows" appears as "crop-row manner", "deflation" as "aeolian deflation processes", and "trampling" as "treading activities". About a quarter of the text could have been edited out.

The tables and figures all are well laid out and legible, but some of the plates are of too high contrast to be useful in my copy. At least one plate, plate 17 showing a great moa about to be speared by Sir Peter Buck, is not referred to in the text. The moas are excellent examples of the human impact on animals, but plate 17 is the only reference to them, and there is no specific mention of the Polynesians' role in their extinction, along with that of scores of other species of animals. The topic of the role of prehistoric peoples in animal extinction is well covered however.

The New Zealand reader generally will be disappointed by the paucity of New Zealand examples in the text (there are only five). Has the landscape of New Zealand really been transformed by deforestation? The other examples are the episode of major extinction 900 years ago, the formation of plaggen soils — the so-called Maori soils, the spread of wild peaches, and the impact of trail-bikes, although in this latter example New Zealand is not mentioned.

Nearly half of the 540 references are dated after 1974, largely reflecting the rise of the "environmental" lobby. There are however five that are pre-1900, indicating that awareness of human impacts is not new. Over 200 of the references are books rather than original refereed

sources in scientific papers. Too many reference citations are incomplete, one lists only author, year, and title, with no publisher or page listing.

The index is not well prepared. For example, the entry for New Zealand has an error in pagination (page 96 is listed instead of page 98) and at least three errors of omission (New Zealand also is mentioned on pages 55, 87 and 119).

On the whole, I enjoyed reading "The Human Impact" and recommend it. However, much is propaganda for environmentalists, and original sources of information should be checked carefully to identify fact from opinion and surmise. Nevertheless, the major evolutionary advances of humans over their fellow creatures surely includes their ability to adapt their environment to suit their immediate needs.

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WORLD GLACIER INVENTORY. Proceedings of the Workshop at Riederalp, Switzerland, 17-22 September 1978, organised by the Temporary Technical Secretariat for the World Glacier Inventory. International Association of Hydrological Sciences (IAHS-AISH) Publication No. 126, published March 1980. (Price $39.00). Available only from Office of the Treasurer, IAHS ,2000 Florida Avenue NW, Washington, DC 20009, USA.

The world glacier inventory may give the impression of a cold tabulation of the world's glaciers and their properties. Such a tabulation of glaciers is only a small, albeit basic, part of the inventory. The glacier inventory is in fact basically a tool for monitoring climate and climate change. Glacier-climate relationships are derived from the statistical analysis of regional changes in climate and the resulting changes in glacier dimensions. The world glacier inventory is designed to be repeated at selected times in the future to assess spatial and temporal changes. Meanwhile, the data contained in the inventory allows many practical applications. Areas and volumes provide a ready assessment of water resources held as permanent snow and ice. It provides the basic information required to compute snow and ice melt contributions to runoff, and in New Zealand, correctly maps this category in our land use inventory. Current New Zealand maps and land use inventories over-estimate our areas of permanent snow and ice by as much as two times, as compilations have been made from aerial photographs containing significant remnants of winter snow. Analysis of end-of-summer snowline elevations provides a detailed pattern of spatial variations of our alpine climate. The inventory may be extended back in time to include historic anecdotes and ice fluctuations, and be extended further back to include glacial histories. The study of glacial history is one of the most informative tools for assessing the climate changes which have been responsible for our present mountain flora and geomorphology.

The International Workshop on the World Glacier Inventory was held in the Aletsch Ecological Centre, a magnificent mansion sited at the timberline above the Aletsch Glacier, Riederlap, Switzerland. The

meeting, held over 17-22 September 1978, was organised by the Temporary Technical Secretariat of the International Commission on Snow and Ice. Some 51 participants from 19 countries took part in the sessions and evening discussions. The published volume of proceedings contains all but one of the papers presented at the Workshop and most of the numerous discussion contributions. Apart from the basic techniques of glacier inventory data compilation the Workshop covered many other topics which included specific inventory difficulties with Greenland and Antarctica, rock glaciers, surging glaciers, at what size or state of debris cover is a glacier not a glacier; the problem of glacier fluctuations causing an uneven data base; data handling and organisation; analysis of national, regional and global glacier inventories for practical purposes and in particular for monitoring climate change.

For those who have an interest in snow and ice, climate change or runoff from permanent snow and ice, this volume outlines the state of the art where these fields involve present glaciers. The varied geographical coverage should appeal to anyone interested in glaciated areas whether it be the Antarctic Ice Sheet, the perennial snow patches of the Sierra Nevada, the glaciers of East Africa, Turkey, Bolivia or the Peoples Republic of China. Techniques of future glacial studies are given coverage in papers on the currently fast developing school of satellite imagery.

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