SHI Yafeng, *ed. in chief*. 2008. *Concise glacier inventory of China*. Shanghai, Shanghai Popular Science Press, 205pp. ISBN 978-7-5427-3117-3, softback. 210 yuan.

Professor Shi, 90 years young this year, is the father of glaciology in China. He has done much to develop modern snow and ice science in China, to nourish it as an intellectual activity and as a basis for development, and to create ties of understanding with like-minded scientists in the rest of the world. This book is a statement of the breadth and support of Chinese glacier research at the present, as well as a source of information for use by the global glaciological community. Its publication contributes to the other accolades commemorating Shi's birthday.

The word 'inventory' is used in the sense of a quantitative description of each and every glacier (although those with surface area <0.02 km^2 were only counted, not described). This results in a prodigious number of data, which are published in Chinese in 12 volumes and 22 issues. In addition, the Glacier Inventory of China Program lists a digital version of these data and other products promoting the use of these data for use in the fields of glaciology, hydrology, climate change, paleoclimatology and so forth.

The book under review is a concise summary of the results of this huge project, with colored maps and photos, tables and text. It begins with a chapter (by Shi Yafeng) on the background and aims of the program, then a chapter (Wong Zhongtai and Zhu Guocai) on data sources and how thickness and volume were determined. Abundant radio-echo sounding results compare well with borehole soundings, but, for most of the glaciers, power-law scaling is used to determine volume. It is not clear how area and thickness scaling are used to calculate regional ice volumes; different formulae are used depending on the average glacier area in each region, and the exponents are somewhat lower than those commonly used. The statistical validity of these regression coefficients is not given. The next two chapters (Liu Chaohai) discuss the physical setting and characteristics of the glaciers, and the river systems used to order the glacier data. Most of the great river systems in Asia head in these glacierized mountains; these water resources affect an enormous population.

Readers interested in the statistical nature of glacier size distributions will find figures and tables showing the distributions of numbers of glaciers, cumulative area and cumulative volume in area-bins (here called area grades) arranged in a geometric progression. These results (46 377 glaciers!) clearly document the large number of small glaciers (peaking at about 0.25 km^2), but most of the area and especially volume is made up of the large ice masses, reflecting the ice-thickness/area relation.

Similar statistics and much additional information follow in two chapters on individual drainages/mountain systems, one (by Ding Liangfu, Wang Zongtai, Yang Hui'an and Jiao Keqin) on the interior drainages, and one (Liu Chaohai, Wang Zongtai and Pu Jianchen) on the external river drainages. These chapters present the specific data needed to put particular glacier results in context, and to facilitate inter-region comparisons.

The natural regulatory function of glaciers on runoff is the focus of the next chapter (Ye Baisheng). Regional and provincial differences in the fraction of runoff provided by glaciers are tabulated and explained; one surprise to this reviewer is the number of hydrometeorological stations positioned below glaciers in western China, and therefore the number of data available. The time progression of runoff due to various warming rates is modeled, and the time-to-peak runoff is given as a function of glacier size; this is a particularly interesting contribution.

A chapter on glacier changes (Liu Shiyin and Ding Yongjian) shows the loss of ice area and volume since the last Ice Age for selected areas. However, almost no real data on dates and timing are presented. A final chapter on applications (Wang Zongtai) serves as a brief summary of the usefulness of this inventory.

I have only two aspects that I found disappointing: first, a lack of information on data accuracy, and second, no URL or other guide to the data in digital format. So many data are presented that it would be difficult to give specific error limits, but some general statement would certainly not be out of order. This should also include the degree of confidence in calculated values, such as ice volume and predicted runoff timing. At least some of the Chinese digital data are contained in the Global Land Ice Measurements from Space (GLIMS) dataset, but the reader of this book will want to know specifically what datasets are available, and how they can be accessed.

This book should attract attention. The color photographs are excellent, the maps (planimetric, shaded relief or satellite images) are useful, the tables are clearly presented, and the text (English), although not perfect, is very understandable. The glaciers themselves occur in interesting and highly diverse settings, from dry deserts and altitudes of more than 8000 m to tropical rainforests at latitudes as low as 27° N. Completion of this comprehensive description of the glaciers of China, spearheaded by Professor Shi Yafeng and his group, is a monumental achievement. I am very glad that the results of this effort are now made visible and useful to the global community. We thank Professor Shi, and wish him well!

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