

In the Shadow of Melting Glaciers: Climate Change and Andean

Society (review)

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➡ For additional information about this article https://muse.jhu.edu/article/470644 reference to original sources of information. It goes without saying that this kind of evidence represents both a lack of the authors' academic preparation as well as an inefficient work conducted by the editors. A complete peer-review process cannot be avoided in any academic production that is published and exposed to the scrutiny of the academic world. Unfortunately, there is still a misinterpretation among so many geographers in Latin American countries of what academic quality is considered as standard around the world. In this regard, this work produced by scholars in the region, with the exception of the excellent chapter written by the authors on Mexico, could not be placed at the same level of similar books on Latin America published abroad.

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In the Shadow of Melting Glaciers: Climate Change and Andean Society, Mark Carey. Oxford University Press, 2010. xi + 273 pp., maps, photos, notes, appendix, bibliog., and index. \$24.95 paper (ISBN: 978-0-19-539607-2).

Relatively few historians have paid much attention to the risks to settlements and population clusters in the high Andes from their most valuable water reservoirs, the glacial tongues that embrace so many of their formerly sacred peaks. Droughts, occasional floods, and the more regular and cyclical climatic effects are much better known than the spectacular and deadly effects of massive glacier melting. Mark Carey takes such devastating episodes as the focus of his elegant and comprehensive survey of such events in northern Peru during the latter half of the twentieth century. The book opens with a set of key questions that relate scientific issues to reactions of the local population who after all have been adapting to the risks of their environments for several millennia. How do different people think about climate change? How do they feel, respond, and recover when glaciers rapidly disappear and melt water produces floods that wipe away whole towns, and kill thousands of people? Equally significant, how have external experts, called in to assess conditions and risks, and plan for possible solutions, fared when meeting the knowledge of the locals? Have, what the author calls "disaster economics", been beneficial to the various communities involved?

The story begins with a return to the horrors of the Huaraz disaster of 1941 (the *Martyred City* of Oliver-Smith, 1986) as recounted by selected personal testimonies. Not just the immediate local effects of the disaster that killed most of the wealth urbanites in the Santa valley, but the resultant sudden national imagery of Peruvians risking here-to-fore unknown/unappreciated disasters. This disaster led to the establishment of a Lakes Commission, that was to be the guide to applying science and engineering to flood risks. Chapters three and four examine the accomplishments of the Commission including its glacial lake inventory and classification system, as well as the following economic ventures and infrastructures that followed: roads, hydropower plants and tourism. The modernization of the state in the 1940s and '50s included disaster recovery under the direction of foreign agencies. Yet Carey makes clear that only some recommendations were accepted by the affected locals; macro and micropolitics became embroiled.

While glacial-melt floods marked the forties and fifties, the next two decades witnessed their ice counterparts—the massive avalanches that equally brought death and destruction to thousands. The state response—hazard zoning—fell on many local deaf ears. One's tourism could be 'zoned out' as could the sale of chalets in picturesque locations. Residential relocation was the last option for the vast majority; if a disaster had occurred then it was 'unlikely to happen again', at least in the same locality.

Chapter six expands on the role of the state hydroelectric agency that at one and the same time attempted to prevent disasters, promote glacier research, and benefit financially from the generation of electricity from ponded water sources. Glaciers as 'vanishing water towers' (p. 147) began to generate interests far beyond their high altitude locations. Just as the "Ice Maiden" represented Inca observance of sacredness to their supplies of the essential liquid, so too agriculturalists now began to recognize the potential limitations on their irrigation sources. Now the threat was not from advancing glaciers but rather from their retreating pattern. Questions began to be asked: was there something systemically generating such retreats and avalanches? Such questions were amplified and diffused internationally by the presence of US climbers and mountaineers. Newspaper articles were the key media outlets, relatively slow in these days of twittering from the actual disaster sites, but powerful nevertheless with their photographic imagery. Yet another phase was initiated in the nineties under the neoliberal policies of President Fujimori. The US conglomerate Duke Energy took over the recently-privatized Northern Peru Company and competition began for any water sources from which they could derive profitable energy. Electroperú's Glaciology and Hydrological Resources Unit was now cancelled as a means of reducing public spending. It had to await the arrival of the Toledo government to be re-established, in the meantime the nervous residents of the Cordillera Blanca took their environmental issues to Lima in street protests and a multimedia campaign.

Early 2003 witnessed damage to Lake Palcacocha's dam, and the threat of yet another major flood of Huaraz. The source of the damage was a series of waves generated by a major landslide that had entered the lake. To make matters much worse, NASA then released data from its ASTER satellite monitoring program, announcing that a major crack had appeared in Cupi glacier, high above the lake. Concern now turned to panic for some 60,000 people. The story now involved a whole new range of players, not just the locals who might be affected, but Lima politicians, international agencies, both technical, environmental, and others concerned with social justice. The dynamics of the physical environment had been effectively transferred to the socio-economic and political.

While one can enjoy the qualitative accounts provided by the author, and the book is a very good introduction to the hazards of ice in the Andes, one may note the lack of any qualitative assessments of overall mortality from the various floods, avalanches, etc. Nor is the instability factor of earthquakes in this Andean zone mentioned as a significant hazard. The two quantitative maps provided are very rudimentary with no relevant physical parameters included, and the front matter lacks a list of figures. The cover image is also not the one listed on the back cover of the book, another annoying editorial oversight.

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