BioOne COMPLETE

Introduction: Global Change and the World's Mountains —Perth 2010

Authors: Price, Martin F., and Weingartner, Rolf

Source: Mountain Research and Development, 32(S1)

Published By: International Mountain Society

URL: https://doi.org/10.1659/MRD-JOURNAL-D-11-00119.S1

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://complete.bioone.org/journals/Mountain-Research-and-Development on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use

Mountain Research and Development (MRD)
An international, peer-reviewed open access journal
published by the International Mountain Society (IMS)
www.mrd-journal.org

Supplement Issue
Editorial

Introduction: Global Change and the World's Mountains—Perth 2010

Dear Readers,

From 26–30 September 2010, 450 people from 60 countries on 6 continents attended the international conference on "Global Change and the World's Mountains" in Perth, Scotland, organized by the Centre for Mountain Studies (CMS) at Perth College, University of the Highlands and Islands, together with the Mountain Research Initiative (MRI). This was probably the largest international mountain science conference ever held, and it truly was international because the majority of participants were not from the host country; there were more people from the United States and Switzerland than from the United Kingdom. This article introduces the conference, and is followed by articles that are a selection of the keynote presentations given at the conference. The volume concludes with 3 articles that review and provide a series of conclusions regarding the content and emphases of the conference and suggest future priorities.

The conference in 2010 was the second in a series in Perth; the first, held in 2005 as the Open Science Conference, concluded the 2-year Global Change and Mountain Regions (GLOCHAMORE) project, primarily funded by the European Commission's 6th Framework Programme for Research and Development. The project aimed to further understanding of the causes and impacts of global change in mountain regions through 5 product-oriented workshops and a final conference. The 2005 conference attracted 310 abstracts; the conference was attended by 210 people from 41 countries on 6 continents. All plenary presentations were recorded and webcast. The meeting led to the publication of a book of 197 extended abstracts (Price 2006) and of the GLOCHAMORE research strategy (Björnsen Gurung 2006), which has since been used as the basis for proposals to the European Commission and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Context and aims

The context of both conferences was similar. Mountain areas occupy 24% of the Earth's land surface; they are home to 12% of the global population, and another 14% of the population live in their immediate proximity. Globally, mountain areas are vital sources of water for agricultural, industrial, and domestic use. They include major centers of biodiversity, often coinciding with centers of cultural diversity where traditional ecological knowledge is maintained. In an increasingly urbanizing world, mountain areas are key locations for tourism and recreation. Mountain systems are particularly fragile, and they are subject to both natural and anthropogenic drivers of change. These range from volcanic and seismic events and flooding to global climate change and the loss of vegetation and soils because of inappropriate agricultural and forestry practices and extractive industries. Thus, many mountain ecosystems are moving along trajectories that couple high rates of environmental change with strong economic changes. The collective effect may be the irrecoverable alteration of the ability of these ecosystems to provide critical goods and services to both mountain and lowland people.

To understand these issues and processes, and to devise policy measures to address them, requires inter- and transdisciplinary research that leads to three types of knowledge (Proclim/CASS 1997):

- *Systems knowledge, to analyze how a system functions today, and how it may be altered by global change;*
- *Target knowledge, which includes values that show in which direction the system may develop: this knowledge is elaborated in extensive participatory stakeholder processes; and*
- *Transformation knowledge, which is based on systems and target knowledge and provides measures and options for changing the system in a certain direction and evaluates the consequences of these measures, thus providing the evidence basis for the political process of decision-making.*

Even though mountain research is quite active, as shown by the number of publications (Körner 2009), only a relatively small proportion of articles address transformation knowledge. Overall, a key challenge for the participants in the 2010 conference was to bring together these 3 types of knowledge to inform both their own research in mountain areas and long-term strategies for research, whether inter- or transdisciplinary or within individual disciplines.

Specifically, the aims of the conference were to bring together leading scientists and others working in, and concerned with, mountain areas around the world to:

- *Present, evaluate, and synthesize progress in our understanding of global change in mountain regions since 2005;*
- *Evaluate progress with regard to the implementation and impacts of the GLOCHAMORE Research Strategy;*
- *Work proactively on a global agenda for research and action relating to global change and mountain regions, taking into consideration global assessment and policy processes, such as those relating to the conventions on climate change and biodiversity signed at the Rio Earth Summit in 1992, as well as the consideration of mountains at the United Nations Conference on Sustainable Development in 2012.*

 © 2012 by the authors
Downloaded From: https://complete.bioone.org/journals/Mountain-Research-and-Development on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use

In addition, the conference was designed to contribute to, and inform the future direction of, 2 global initiatives:

1. *The MRI: a global change scientific program that (a) develops strategies for detecting signals of global environmental change in mountain environments; (b) defines the consequences of global environmental change for mountain regions as well as lowland systems dependent on mountain resources; and (c) designs proposals toward sustainable land, water, and resource management for mountain regions at local to regional scales;*
2. *The UNESCO Chair in Sustainable Mountain Development, located at the CMS, specifically its objectives to (a) facilitate the further development and implementation of the GLOCHAMORE Research Strategy; and (b) organize and contribute to international meetings that facilitate understanding of, and action toward, sustainable mountain development, taking global change into consideration; and to publish the outcomes.*

A further goal of the conference was to provide opportunities for presentation and further development of activities within other global and regional programs and initiatives either by focusing specifically on mountain themes or with a mountain component.

Process

A key to the success of the conference was that key experts working on a wide range of themes, within both the natural and social sciences, agreed to organize sessions that related to their interests. Thus, prospective participants could submit their abstracts for consideration within 28 global themes, of concern to scientists from a wide range of social and natural science disciplines; and 4 regional themes, one relating to a specific initiative (the Western Mountain Initiative: see westernmountains.org), the others relating to global change in the European Alps, the American Cordillera, and the Asian mountains. In total, 610 abstracts were submitted, which required considerable work by the session organizers to select the best presentations; one had to review 128 abstracts! Eventually, 314 papers were presented in 42 parallel sessions over 3 afternoons, as well as a further 96 as posters. Extended abstracts of all of these papers were prepared as a compact disk for all delegates and remain available for download (CMS 2010).

Complementing the parallel sessions, the morning sessions were devoted to plenary presentations and discussions. The plenary speakers were internationally recognized experts from a wide range of disciplines and countries around the world. They were invited to give plenary presentations, with a focus on interdisciplinary research in mountain areas, taking as broad a geographical overview as possible, preferably global, on their specific topic, and to focus on new insights and knowledge gained since 2005. Various plenary speakers took up this challenge to different extents, as can be seen from the articles in this volume. Although all plenary speakers were invited to contribute to this special issue of Mountain Research and Development, *not all were able to do so. However, all their presentations, together with all other oral presentations at the conference, remain available at http://mri.scnatweb.ch/mri-events/perth-ii-global-change-and-the-worlds-mountains-perth-uk. The final morning session was devoted to the process described in the synthesis article by Björnsen Gurung (2012) and concluded with Bruno Messerli's (2012) overview of the past, present, and possible future of mountain research.*

In addition, to achieve the goal of fostering global and regional programs and initiatives, the conference was preceded by 2 smaller events—organized by the Global Observation Research Initiative in Alpine Environments (GLORIA) and the Mountain Invasion Research Network (MIREN)—and specific thematic sessions and lunch-time sessions took place during the conference. After the conference, the MRI organized a full-day session with invited people to discuss and adjust its agenda for future activities.

Overall, the conference provided exceptional opportunities for interdisciplinary knowledge exchange and social interactions. A wide range of disciplines were represented; as in 2005, more participants were from the natural than the social sciences (see Björnsen Gurung et al 2012). On the last day, many participants expressed the wish for a further conference in 2015; resources permitting, it is anticipated that this will take place.

Martin F. Price[1] and Rolf Weingartner[2]*

[1]Director and Chairholder, UNESCO Chair in Sustainable Mountain Development, Centre for Mountain Studies, Perth College, University of the Highlands and Islands, Crieff Road, Perth PH1 2NX, UK
** Corresponding author: martin.price@perth.uhi.ac.uk*

[2]Director of the Institute of Geography, University of Bern, Chair of Mountain Research Initiative and member of the Oeschger Centre for Climate Change Research, Hallerstrasse 12, CH-3012 Bern, Switzerland
rolf.weingartner@giub.unibe.ch

Open access article: please credit the authors and the full source.

Downloaded From: https://complete.bioone.org/journals/Mountain-Research-and-Development on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use

ACKNOWLEDGMENTS

A large international conference requires significant resources. In this case, essential financial resources were provided by the Swiss Agency for Development and Cooperation, the Austrian Academy of Sciences, the Austrian Federal Ministry of Science and Research, the Man and Biosphere Programme of UNESCO, Perth and Kinross Council, the Scottish Government, the British Council, and the United Kingdom National Commission for UNESCO. The human resources committed to the conference were also significant. As well as the time spent by the session organizers to review abstracts and chair their sessions, the staff and students of the CMS as well as Greg Greenwood, Executive Director of the MRI and his staff worked very hard to make the conference a success. Finally, the contribution of the participants should be recognized. Given the number of people participating in the conference, over 6 active days (including preparation time), it can be estimated that it represented the equivalent of 17 person-years of work, further proving the value of this conference.

REFERENCES

Björnsen Gurung A, editor. 2006. *GLOCHAMORE (Global Change and Mountain Regions) Research Strategy*. Zurich, Switzerland: Mountain Research Initiative. Available at: http://mri.scnatweb.ch/glochamore/print-version-of-the-glochamore-research-strategy; accessed on 30 November 2011.
Björnsen Gurung A, Wymann von Dach S, Price MF, Aspinall R, Balsiger J, Baron JS, Sharma E, Greenwood G, Kohler T. 2012. Global change and the world's mountains—Research needs and emerging themes for sustainable development. *Mountain Research and Development* 32(Suppl):S47–S54.
CMS [Centre for Mountain Studies]. 2010. *Extended Abstracts—Global Change and the World's Mountains Perth, Scotland, UK. 27–30 September 2010*. Perth, United Kingdom: Centre for Mountain Studies. http://www.perth.ac.uk/specialistcentres/cms/Conferences/Perth2010/Documents/extendedabstracts.pdf; accessed on 30 November 2011.
GLORIA [Global Observation Research Initiative in Alpine Environments]. http://www.gloria.ac.at; accessed on 30 November 2011.
Körner C. 2009. Global statistics of "mountain" and "alpine" research. *Mountain Research and Development* 29(1):97–102.
Messerli B. 2012. Global change and the world's mountains: Where are we coming from, and where are we going to? *Mountain Research and Development* 32(Suppl):S55–S63.
MIREN [Mountain Invasion Research Network]. http://www.miren.ethz.ch/; accessed on 30 November 2011.
Price MF, editor. 2006. *Global Change in Mountain Regions*. Duncow, United Kingdom: Sapiens.
ProClim/CASS [Forum for Climate and Global Change/Conference of the Swiss Scientific Academies]. 1997. *Research on Sustainability and Global Change: Visions in Science Policy by Swiss Researchers*. Bern, Switzerland: ProClim-, Forum für Klima und Global Change, and Schweizerische Akademie der Naturwissenschaften SANW. http://proclimweb.scnat.ch/portal/ressources/1122.pdf; accessed in November 2011.

 http://dx.doi.org/10.1659/MRD-JOURNAL-D-11-00119.S1

Downloaded From: https://complete.bioone.org/journals/Mountain-Research-and-Development on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use

This supplement issue was produced with the support of the Swiss Agency for Development and Cooperation (SDC), which was also one of the principal sponsors of the international conference "Global Change and the World's Mountains," held in Perth, Scotland, UK, on 26–30 September 2010.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

The conference was also supported by:















The conference was organized by:







http://dx.doi.org/10.1659/MRD-JOURNAL-D-11-00119.S1

Downloaded From: https://complete.bioone.org/journals/Mountain-Research-and-Development on 28 Mar 2024
Terms of Use: https://complete.bioone.org/terms-of-use