

RE: Letter of Agreement PR 44904

International Conference on 'Global Change and the World's Mountains'

Final Report

The international conference on 'Global Change and the World's Mountains' was organized by the Centre for Mountain Studies (CMS) at Perth College UHI, UK, in association with the Mountain Research Initiative (MRI). It comprised: five field trips on Sunday 26 September 2010; and plenary, parallel, and lunchtime sessions from the morning of Monday 27 September until lunchtime on Thursday 30 September 2010. Following the submission of 610 abstracts, the conference was attended by 450 people from 60 countries on five continents.

Conference aims

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

- present, evaluate and synthesise 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 Inter-Governmental Panel on Climate Change, the UN Framework Convention on Climate Change and the Convention on Biological Diversity, as well as the consideration of mountains in the Rio+20 process and by the UN Commission on Sustainable Development in 2012.

The conference specifically informed the future direction of two global initiatives:

1. the UNESCO Chair in Sustainable Mountain Development, located at the CMS, specifically its objectives to:

- facilitate the further development and implementation of the GLOCHAMORE Research Strategy;
- organise and contribute to international meetings that facilitate understanding of, and action towards, sustainable mountain development, taking global change into consideration; and to publish the outcomes;

2. the MRI: a global change scientific program that

- detects signals of global environmental change in mountain environments,
- defines the consequences of global environmental change for mountain regions as well as lowland systems dependent on mountain resources, and
- informs sustainable land, water, and resource management for mountain regions at local to regional scales;

In addition, the conference provided opportunities for presentation and further development of activities within other global and regional programmes/initiatives (either focussing specifically on mountain themes) or with a mountain component. In particular, a three-day pre-meeting brought together 80 scientists from five continents for a meeting of the Global Observation Research Initiative in Alpine Environments (GLORIA); other initiatives (e.g., the South Eastern European Mountain Research Network, SEEMORE; the Mountain Invasive Research Network,

MIREN) organized lunchtime sessions. Finally, the conference was followed by a one-day strategy session organized by the MRI, which focused particularly on future research activities and means to ensure a high profile for mountain issues in the Rio+20 process and other global assessment and policy processes.

Plenary sessions

The conference was opened by Roseanna Cunningham MSP, Minister for Environment in The Scottish Government. Speakers in the subsequent morning plenary sessions were as follows:

- Richard Aspinall (Macaulay Institute, UK): Finding the high ground in global change research
- David Barkin (Universidad Autónoma Metropolitana, Mexico): Economic globalisation in mountain regions
- Bernard Debarbieux (University of Geneva, Switzerland) and Martin Price (Perth College UHI, UK): Mountains as global common goods?
- Katharine Dickinson (University of Otago, New Zealand): Retaining mountain biodiversity: facing the challenges
- Adrienne Gret-Regamey (ETH Zurich, Switzerland): Mountain ecosystem services: who cares?
- Patrick Hostert (Humboldt University, Germany): The Fall of the Iron Curtain - a major driver of land-use changes in mountains
- Toshio Koike (University of Tokyo, Japan): The role of mountains in atmospheric circulation
- Paul Mayewski (University of Maine, USA): Changes in climate and in glacier extent over the last several hundred years based on ice cores in Asia, South America, Yukon Territory, Antarctica and Greenland
- Harry Measure (Harry Measure Associates, Canada): Planning and development considerations to achieve mountain resort sustainability
- Bruno Messerli (University of Bern, Switzerland): Global Concerns in a time of Global Change: Where are we coming from, where are we going to?
- Peter Messerli (University of Bern, Switzerland): Slow mountains: Bridging the gap between contextuality and globalised agendas in mountain development
- Eduard Mueller (University for International Cooperation, Costa Rica): Challenges of global change for Mountain Biosphere Reserves and World Heritage Sites
- Masayoshi Nakawo (National Institutes for the Humanities, Tokyo, Japan): Change in water availability for the last 2000 years in arid central Eurasia -is it a consequence of climate change or human activities?
- Anne Nolin (Oregon State University, USA): Water connects all: Mountain hydrology in a watershed context

The final plenary session considered emerging themes for global research and sustainable mountain development, with presentations in relation to the ecological, socio-economic, and integrative perspectives.

Parallel sessions

The conference included 42 two-hour parallel sessions (14 on each afternoon), on the following global themes (where there was more than one session in a theme, the number of sessions is indicated in brackets):

- Progress in multiproxy climatic reconstructions in the mountains
- High-elevation climate

- Changes in climate along altitudinal transects
- Changes in the mountain cryosphere (2)
- Impacts of climate change on mountain ecosystems (4)
- Effects of climatic change on natural disturbance regimes
- Changes in mountain biodiversity (3)
- Plant invasions in mountains (2)
- Integrated mountain observing systems
- Changes in aquatic mountain ecosystems
- Changes in mountain soils
- Changes in and responses to mountain hazards
- Past, present and future land use in mountain regions (3)
- Impacts of global change on mountain hydrology (3)
- Integrated water resource management in mountain regions (2)
- Adaptations of mountain communities to changing hydrologies
- Resilience and adaptation of socio-ecological mountain systems to global change
- Mountain Biosphere Reserves as learning sites for research, adaptation, and mitigation in the context of global change
- Amenity-based mountain change and development in an era of increased global uncertainty
- Tourism and resort development
- The consequences of economic and cultural globalization
- Demographic changes in mountain regions
- Urban-rural linkages in and around mountain areas
- Knowledge systems and mountain sustainability concerns
- Mountain biocultural diversity: social scientific approaches to change
- Global change and the potential of regional analysis for mountain policy support; with a focus on land use dynamics, poverty, and food security

and the following regional themes:

- The Western Mountain Initiative
- Global change in the Americas Cordillera
- Monitoring of global change in the Asian mountains
- Global change in the Alps: Impacts and adaptation

Over 300 presentations were made in these sessions.

Conference outcomes

It was widely agreed that the conference achieved its aims and provided outstanding opportunities for knowledge exchange and social networking among scientists from a very wide range of social and natural science disciplines. There was therefore widespread demand for a further such conference in 2015; this will take place, resources permitting.

Specific outcomes include:

- a CD including extended abstracts of all 421 presentations in plenary (11), parallel (314) and poster (96) sessions, distributed to all participants and the conference and available on request from the CMS;
- availability of all presentations in plenary and parallel sessions (voice + powerpoint) on the MRI website at <http://mri.scnatweb.ch/events/mri-events/global-change-and-the-world-s-mountains-perth-uk.html>

- catalogue of research summaries containing information on participants' research activities and future plans on the MRI website at <http://mri.scnatweb.ch/events/mri-events/global-change-and-the-world-s-mountains-perth-uk.html>
- the conference website
<http://www.perth.ac.uk/specialistcentres/cms/Conferences/Perth2010/Pages/default.aspx> which also includes links to many other websites and the conference programme

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