Mountains are among the regions most affected by climate change, with diverse impacts on their ecosystems and severe consequences for mountain communities, whose vulnerability and exposure to climate-induced hazards seem to be increasing significantly. From a climate justice perspective, there is an urgent need to support mountain people in enhancing their resilience, that is, their ability to cope with change (adaptability) and to develop new options (transformability). This requires a better understanding of how climate change affects mountain ecosystems and communities, as well as innovative institutional, collaborative, socioeconomic and other approaches to adapting to climate change in mountains.

Recognizing the specific challenges that mountain people face, the Intergovernmental Panel on Climate Change (IPCC) has included a cross-chapter paper on mountains in its 6th Assessment Report (AR6), which will be published in 2021. With this focus issue, Mountain Research and Development (MRD) pursues a double aim, in collaboration with the Mountain Research Initiative (MRI): on the one hand, the issue will present systematically assessed novel practices and well-researched insights into the implications of climate change. On the other, it will contribute to the AR6 assessment process and the cross-chapter paper on mountains. Synthesis papers comparing case studies within and across different mountain regions are of particular interest to the IPCC’s assessment effort; they are also crucial to inform development policies. MRD therefore seeks to encourage the mountain research and development communities to contribute to both efforts.

Manuscripts for this Focus Issue should address the following topics summarized from the IPCC Working Group II’s approved outline for the AR6. We consider these topics to be of particular relevance to mountain communities and mountain areas.

MountainDevelopment (transformation knowledge)

MountainDevelopment papers should be guided by questions such as ”What worked, for whom, and how, in the different contexts and places?” or “What factors or conditions were particularly useful for enhancing mountain communities’ resilience to climate change?”; they should address one of the following issues:

- **Changes in water resources:**
  Societal responses to changes in shared water resources and adaptation approaches that address changes in water availability, accessibility, and use.
  Adaptation approaches that contribute to achieving resilience in water systems and to assessing the outcomes of interventions.

- **Food, fiber, and other ecosystem products:**
  Adaptation approaches to climate change that focus on the sustainable production and use of food, fuel, fiber, and other ecosystem goods; and the outcomes of such approaches for mountain people and areas.

- **Built infrastructure:**
  Adaptation approaches for cities, settlements, and key infrastructure, and outcomes of these approaches for sustainable mountain development.

- **People’s wellbeing and equity:**
  Approaches for adaptation to climate change and their outcomes regarding poverty alleviation, people’s wellbeing, and resilience.
  Efforts strengthening poor people’s adaptive capacity and resilience.

- **Governance:**
  Decision-making and governance approaches for enhancing resilience and managing risks, including consideration of limits to risk management in the context of mountains.
Papers in this section should take an integrative and systemic perspective to analyze the following topics of the IPCC Working Group II’s approved outline, building on existing case studies and deriving new insights from comparisons:

- **Terrestrial ecosystems and their services:**
  Co-benefits and trade-offs of ecosystem-based adaptation approaches in mountains.
  Factors that influence the vulnerability and resilience of mountain ecosystems and that enable or hinder adaptation measures.
 Observed impacts of climate change and responses to them.

- **Food, fiber, and other ecosystem products:**
  Current and projected risks and opportunities for food and nutrition security in mountains, including a nexus approach that addresses interlinkages between food, energy, water, and health.
  Competition for different land uses due to climate change, including land tenure conflicts between formal and informal rights, and other trade-offs in the context of adaptation and mitigation risks.
  Current and projected risks for provisioning and cultural ecosystem services with consideration of ethics and identity issues.

- **Built infrastructure:**
  Assessing the outcomes (especially deficits) of risk-reducing infrastructures and services (including ecological and social ones) in mountain cities and settlements.

- **Wellbeing and health impacts:**
  Impacts of climate change on wellbeing and health, assessment of vulnerable populations and communities.
  Observed impacts and projected changes in migration, displacement, and trapped populations.

- **Poverty, livelihoods, and sustainable development:**
  Projected climate change risks under alternative development scenarios as differentiated by economic opportunity and shifting livelihoods.
  Observed and projected risks and losses, and corresponding challenges for equity and sustainable development.

**MountainAgenda (target knowledge)**

Papers should offer clearly structured agendas for policy or research based on either a comprehensive and/or systematic stakeholder consultation or a literature review. The proposed agendas can contribute to the third section of the IPCC AR6 focusing on “Sustainable development pathways” and address the following broad topic (or contributions to it) in a more specific way:

- Adaptation pathways and strategies that strengthen resilience, reduce inequalities, and improve climate-related human wellbeing in mountains.

**Submission and processing details**

- E-mail an extended abstract (max. 500 words) indicating a title, authorship, the main research question(s), the conceptual framework, your methodology, and the database or sampling strategy you intend to draw from for comparison, and send it to the MRD Editorial Office by 19 January 2018: mrd-journal@cde.unibe.ch
- The Editorial Team together with the Guest Editor will assess and select abstracts by 28 February 2018
- Submit your full paper by 15 August 2018
- Guidelines for authors are available at: [http://www.mrd-journal.org/submission_GAuthors.asp](http://www.mrd-journal.org/submission_GAuthors.asp)
- For more information on the journal, see: [http://www.mrd-journal.org](http://www.mrd-journal.org)
- As a not-for-profit open access journal, MRD charges authors a publication fee to offset part of its production costs: [http://www.mrd-journal.org/About_pubfee.asp](http://www.mrd-journal.org/About_pubfee.asp)

David Molden (ICIMOD), Thomas Breu (CDE), MRD Editorial Office
Carolina Adler (Guest Editor, Mountain Research Initiative MRI)
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