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The Swiss-Austrian Alliance for Mountain Research

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MountainPlatform

The Swiss-Austrian Alliance for Mountain Research

Conclusions from the 2013 Mittersill Meeting

Swiss Academies of Arts and Sciences

ICAS
Interacademic Commission for Alpine Studies

Switzerland and Austria are committed to addressing sustainable mountain development in Europe through a joint effort. In June 2013, more than 140 researchers as well as representatives of the 2 countries' funding ministries participated in the "Mountain Days" event in Mittersill, Austria, thereby marking the official launch of the Swiss-Austrian Alliance. The resulting Mittersill Commitment Paper highlights 8 research areas and calls for international cooperation between mountain researchers, institutions, and governments.

Shared research strengths and interests

Switzerland and Austria have so much in common that bilateral research cooperation appears to be a matter of course. Both are mountain countries with stable economies, strong tourism sectors, and large infrastructure investments in difficult topographical terrain. Both have a long tradition of mountain research and rank highly in terms of scientific mountain publications (Körner 2009). Each country hosts a scientific journal—*Mountain Research and Development* in Bern and *eco.mont* in Innsbruck—and numerous international scientific networks working on mountain issues. Despite these common strengths and interests, Switzerland and Austria until recently did not maintain a tradition of bilateral collaboration in mountain research.

Leveraging Swiss and Austrian expertise

With the signature in fall 2011 of a memorandum of understanding establishing the Swiss-Austrian Alliance for the promotion of basic and applied research to support sustainable development in the mountain regions of Europe (CH-AT Alliance), the Swiss State Secretariat for Education, Research and Innovation and the Austrian Federal Ministry for Science and Research declared their intention to strengthen and expand bilateral activities in scientific research on mountain regions.

For the next several years, the Mountain Research Initiative (MRI) and the Institute for Interdisciplinary Mountain Research (IGF) at the Austrian Academy of Sciences will administer the Alliance in collaboration with the Swiss Interacademic Commission for Alpine Studies (ICAS). The Alliance is not viewed as a new network, but rather as a joint effort to strengthen and develop bilateral activities in the field of mountain research. Its objectives reach beyond the Swiss and Austrian mountain ranges:

1. Strengthening and development of bilateral activities in the field of mountain research
2. Maintenance and expansion of the role of European research activities on sustainable development of mountain areas in the international context
3. Promotion of scientific networks between universities and other research institutions in European mountain research, and coordination of thematic scientific activities
4. Closer coordination of research and practice
5. Overall social innovation and synergy through regional, transnational, interdisciplinary, and transdisciplinary research efforts.

2013 Swiss-Austrian Mountain Days

The Mountain Days 2013 in Mittersill, Austria, marked the official launch of the CH-AT Alliance. The meeting aimed to promote information exchange about ongoing and planned research activities, foster existing contacts, set up new thematic networks, and identify themes for mountain research to champion at the national, Alpine, and European levels. More than 70 proposals for thematic sessions were clustered into 22 sessions with 1 or 2 organizers each.

The Mittersill Commitment Paper: a signpost for future research

The topics discussed in Mittersill have been categorized into 8 thematic fields relevant for future research and development in the Alps:

1. In *climate change* research, established databases like the World Glacier Inventory and the Historical Instrumental Climatological Surface Time Series of the Greater Alpine Region (HISTALP), as well as the European Meteorological Network (EUMETNET), which facilitates data exchange, need further support and development. In addition, a large number of archive samples could improve the reconstruction of past climate conditions and thereby enhance future climate simulations.

   The flora of mountain summits can relate *vegetation change* to changing climate, especially where inventories more than 100 years old are available. Two projects active in this field, the Austrian project Global Observation Research Initiative in Alpine Environments (GLORIA), with a focus on monitoring, and the Swiss project "Summit flora," which collects data on mountain summits where old data are already

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FIGURE 1 Water is a key resource in the European Alps. (Photos by Oliver Bender)



available, will develop joint research projects and may install monitoring plots at high mountain sites and platforms of the Long Term Ecological Research Network (LTER).

2. *Alpine watersheds* are crucial sources of water for households, industry, tourism, agriculture, and the energy sector (Figure 1). Future water management schemes require information on the changing availability of water resources, the drivers of change, and the underlying processes; for example, interactions between surface and ground water or eco-hydrology. An interdisciplinary working group will develop appropriate research projects in this field.
3. *Natural hazards* are often triggered by extreme events, indirect consequences of climate change (shrinking glaciation, disappearing permafrost, increasing droughts), or expanding infrastructure. To better understand the dynamics of natural hazards and to mitigate risks, efforts have to focus on the interactions between humans and the environment, on standardized long-term observations (especially in peri-glacial research), and on shared research sites and data platforms.
4. Sustainable *regional development* in the European context and the constitution of social capital are a precondition for the conservation of cultural landscapes in the Alps. As the general conditions for regional development differ largely from country to country, cooperation will focus on comparative

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research (such as analyzing the strengths of different regions) and information exchange.

5. For the Swiss and Austrian Alps, *tourism and leisure* are important economic factors. So far, tourism research in both countries has mainly addressed economic questions and has often been limited to mandated case studies. In the future, international cooperation has to combine forces to develop transdisciplinary research approaches to analyzing tourism and leisure in the wider social and ecological context.
6. The Alps will play an important role in the future *energy market* far beyond the Swiss and Austrian borders. Ongoing changes in energy policy will profoundly affect energy production in the Alps in terms of new energy production plants, long-term investments (in solar and wind energy), and energy storage, and in terms of landscape conservation requirements. Research should capitalize on expert knowledge from the concerned sectors to develop best options for energy production in the Alps.
7. Individual and collective *perceptions of the Alps* vary among social groups and over time. But Alpine landscapes are changing as well. Research can deliver insights on different social groups' requirements or expectations regarding Alpine landscapes, the health effects of Alpine landscapes, and the consequences of perceptions of landscape changes.
8. The growing amount of spatial and digital data in and on the Alps represents a great potential for research (such as modeling future developments) and management (such as monitoring natural hazards). A consortium of experts on remote sensing, geo-informatics, and alpine research will develop strategies and tools for better availability of, access to, and management of digital data.

The 8 research fields described above are explained in more detail in the Mittersill Commitment Paper (see website). Adopting a bottom-up approach, the Alliance relies strongly on the active contributions of individual researchers willing to lead activities and to advocate for research issues at a larger scale. The next Swiss-Austrian Mountain Days are planned for 2015, providing an opportunity to evaluate the results of the activities initiated in Mittersill in 2013.

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CH-AT Alliance: www.chat-mountainalliance.eu/en/

Mittersill Commitment Paper: www.chat-mountainalliance.eu/images/allianz/pdf/Committment_CHAT_2013.pdf

Mountain Days 2013: www.chat-mountainalliance.eu/en/mountain-days.html

Programs:

EUMETNET: www.eumetnet.eu

GLORIA: www.gloria.ac.at

HISTALP: www.zamg.ac.at/histalp

LTER: www.lternet.edu

World Glacier Inventory: http://nsidc.org/data/g01130.html

Journals:

Mountain Research and Development: www.mrd-journal.org/

eco.mont: www.oeaw.ac.at/ecomont/

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