When will our mountain sources dry up?

Tuesday 17 April, 10:00 – 11:00

There is strong concern about the impact of the use of artificial snow in ski resorts on climate, environment and the availability of drinking water. In some parts of the Alps the economic and environmental problems are already felt. This press conference reports new results of studies in high mountain climate and hydrology addressing these problems.

Mountains belong to one of the most sensitive environments of our globe and are therefore excellent indicators for climate change. At the same time they are the “water towers” of our earth. Already at present, climate change and increasing population pressure causes water stress in many mountain regions that depend on rainfall and meltwater from snow and glaciers. Fluctuations in precipitation, shifts in the melt season, water abstraction for artificial snow and dam reservoirs all effect the water cycle, especially river flow in our mountains worldwide. This in turn has strong impacts on drinking water, irrigation and agricultural production in downstream regions.

Even the Alps, associated until present with a moist climate and unlimited water supply, are witnessing conflicts in water use. One important reason is the increasing pressure exerted by winter tourism. The economical significance of winter ski tourism, attracting 60-80 million tourists in the European Alps alone, remains unchallenged. However, the 2007 OECD report shows that a 1-2°C of global warming can significantly reduce the snow cover, and the existence of many ski areas.

As a remedial measure to the present uncertainty in snowfall, artificial snow production has become common in practically all ski areas, consuming large amounts of water and energy. Water conflicts are emerging during the low river flow months in January and February when nature cannot offer enough resources to buffer the high water demand associated with ski tourism. Nevertheless, the impacts of artificial snow on the water cycle have hardly been studied and are yet to be quantified. New or modified approaches need to be developed to better measure, model, predict and manage high altitude water taking into account the rapidly increasing man-made modifications of mountains environments.

Note that there will also be a **Great Debate** on Monday 16 April: **“We must curtail the use of artificial snow”**. See details.

Session: CR9 Mountain hydrology and climatology: present state and future scenarios | >>programme

Thursday, 6 April 2006, 10:30 – 12:00

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