



Topic: Assessing Streamflow Sensitivity in a Complex Watershed

Abstract:

Half of the world's population depends on fresh water that originates from mountains. In the present-day, it is apparent that climate change will affect these mountain water resources. Therefore, some crucial questions are often raised: Will mountain rivers continue to provide the same amount of fresh water as they have in the past? Have there been any changes in the hydrological regime of mountainous watersheds? Is there a chance that the flow magnitude and timing will change? In order to answer these questions, this research attempts to understand the hydrological regime of the Rhone River watershed, located in the southwestern part of Switzerland. The objective is to simulate stream-flow and assess its sensitivity due to changes in land-use and climate. A hydrological model was developed to simulate the streamflow and forecast future scenarios. Complexity due to anthropogenic influences such as hydropower based water transfer and natural variability (e.g. snow melt, glacier melt, orographic precipitation) was incorporated into this model. The study suggests an early summer melt and reduction of summer flow. The results obtained can be of added value to impact assessment studies for better understanding of water management and biodiversity in watersheds with similar hydro-physiographic constraints.

Jury:

Prof. Dr. Anthony Lehmann
Head of EnviroSPACE Lab.
University of Geneva, Switzerland

Dr. Emmanuel Castella
Head of Aquatic Science Laboratory (LEBA)
University of Geneva, Switzerland

Prof. Dr. Martin Beniston
Director, Institute for Environmental Sciences,
University of Geneva, Switzerland

Prof. Dr. Phillipe Quevauviller
Scientific Officer, European Commission
Brussels, Belgium

Dr. Karim Abbaspour
Systems Analyst, Integrated Assessment and Modeling
EAWAG, Switzerland

You Are Invited:

Dear All,

Here ends my last three years of research work. It is my immense pleasure to invite you to the public defense of my PhD thesis. Please confirm your presence by email.

I look forward to seeing you there!

Sincerely yours,
Kazi Rahman (From: Bangladesh)
[email: kazi.rahman@unige.ch]

Where and When:
May 22, 2013, Building D [10 AM]
Route de Drize, Carouge, Geneva

