

Eawag Seminar Invitation

Water Scarcity: A Remote Sensing Perspective on Causes and Solutions

Speaker **Prof. Alex Damm,**
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When **November 17, 11.00 – 12.00 a.m.**

Where **Forum Chriesbach, room C20, Eawag Dübendorf**

Abstract The Earth system is increasingly impacted by human activities. Population growth, economic development, the increasing demand for natural resources and energy, the conversion of functional land surfaces, agriculture, or environmental pollution affect any biological, chemical and physical process on Earth. Resulting environmental change already affects natural water balances and water availability, and impacts biological processes, energy cycling and human wellbeing. The enormous and still growing human demand for water will accelerate the pressure on global water resources and increase the societal challenge of water scarcity.

Among the different Sustainable Development Goals (SDG) defined by the United Nations, SDG 6 focuses on water and calls for actions to ensure access to water and sanitation for all. Suggested actions include achieving access to water and sanitation, improve water quality, increase the water use efficiency, implement integrated water resource management, protect water related ecosystems, and capacity building. At the same time, lack of relevant data and understanding are identified, actually hindering coherent decision making and implementing required actions. New integrated approaches combining experiments, observations, and models are suggested to reduce data and knowledge gaps and contribute tackling the problem of water scarcity.

Building upon recent developments in remote sensing technology and methodology, three examples aligned to facilitate implementing actions defined for SDG 6 and addressing aspects of water availability, use, and quality will be outlined. Suggested approaches combine novel Earth observation data, process models and in situ data, and aim to provide a comprehensive knowledgebase for investigating causes of water scarcity, implementing a sustainable management of global water resources, and defining solutions to reduce water scarcity.