

Master Thesis

Title:

An assessment of agricultural water use in Europe in the context of climate change

Abstract:

Agriculture is the single largest water user amongst all the economic sectors. Water scarcity and intensification of water variability as a result of climate change pose serious concerns on agricultural production and food security. There have been increasing research interests in assessing possible impacts of climate change on agricultural water use in both irrigated and rainfed systems on various geographical scales.

The overall objective of this proposed project is to assess the impact of climate change on agricultural water use in Europe. The concrete research tasks include: 1) investigation into current agricultural water use in food production with a focus on major staple food crops; 2) projection of impacts of climate change on agricultural water use under the IPCC climate and socio-economic scenarios with a focus on temporal and spatial variations. Regions of high risk of negative impacts will be highlighted.

The GIS-based EPIC (Environmental Policy Integrated Climate) model (GEPIC) will be used as the core model in the impact assessment.

Necessary skills: Basic knowledge of ArcGIS; programming skills (VB, Fortran or others)

The position is available immediately. The location of the position is at the Swiss Federal Institute for Aquatic Science and Technology (Eawag), Duebendorf, Switzerland. Please submit your application (attach your most recent publications if any) to Dr. Hong Yang (email: hong.yang@eawag.ch), SIAM, EAWAG, Ueberlandstrasse. 133, 8600 Duebendorf, Switzerland.