

## **Climate Change Impacts on Water for Agricultural Production**

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**Abstract.** The scarcity of water for food production is a major threat to society in the 21st century, since agriculture, the largest consumer of freshwater, is under pressure from global climate change and faces competing demands from energy production, population increase, and economic growth. To ensure resilience in the production of food and to secure the sustainability of our environment, a long-term strategy to secure the supply, improve the use efficiency, and to agree on the management of all water (surface water, groundwater, wastewater) will be essential. This will require a high-level understanding of the complex system connecting climate, water, food production, environment, and human behavior, including the roles played by government policy and economic factors. This talk will present a modeling framework to address climate impacts on water for agricultural production – a challenge issue concerning interactions among the natural-human systems across global to local scales.