

# **Modeling the effects of climate change on crop productivity in the Alpine region**

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Despite an indisputable progress in our understanding of the processes involved in climate change, uncertainties of various sorts in climate projections remain considerable and should be considered in any impact study. One way to do so is to work with probabilistic scenarios. However, these are not of immediate use in conjunction with process-based models of crop productivity operating at the daily time scale. In this contribution we explore the possibility to model crop productivity using simple statistical relations with the seasonal mean climate conditions. We show, with an application to crop production in Switzerland, that such an approach is indeed feasible. We further show how the model can be combined with economic considerations to infer the risk of monetary losses of farming units under future climatic conditions, taking the uncertainties of the climate projections into account.