



## **Limitations of modeling snow in ski resorts**

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The body of literature on snow modeling in a ski area operations context has been growing over the last decades in an accelerating speed. The majority of snow model applications for ski areas can be found in the climate change impacts literature. These studies differ in many aspects: the type of model used; the meteorological variables used in the models; the spatial and temporal resolution of the meteorological variables; the method how the climate change signal is derived and applied in the model concept; the number of climate models and emission scenarios used and consequently the handling of uncertainties; the indicators used to interpret the impacts for the skiing tourism industry; the incorporation of adaptation measures (e.g. snowmaking); and the geographical scale of analysis.

In this contribution we will present a review of approaches used for modeling snow conditions in a ski area context. The major limitations both from a scientific as well as from a users' perspective will be discussed and solutions for shortcomings of existing approaches will be presented.