



Relationship between alpine tourism demand and hot summer air temperatures associated with climate change

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We quantified the impacts of hot summer air temperatures on tourism in the Swiss Alps by analyzing the relationship between temperature and overnight stays in 40 Alpine resorts. Several temperature and insolation thresholds were tested to detect their relationship to summer tourism.

Our results reveal significant correlations between the number of nights spent in mountain resorts and hot temperatures at lower elevations. Alpine resorts nearest to cities are most sensitive to hot temperatures. This is probably because reactions to hot episodes take place on a short-term basis as heat waves remain relatively rare. The correlation in June is stronger compared to the other months, probably because school holidays and the peak domestic tourist demand in summer usually takes place in July and August.

Our results suggest that alpine tourist resorts could benefit from hotter temperatures at lower elevations under future climates. Tourists already react on a short-term basis to hot days and spend more nights in hotels in mountain resorts. If heat waves become more regular, it seems likely that tourists choose to stay at alpine resorts more frequently and for longer periods.