

# Climate change and ski areas in Trentino region, Italy

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**Abstract** — The existence of an ongoing climate change cannot be denied, or hidden, and tourism is going to be affected by it to a large extent. The analysis of current trends in the response of tourism to climate change, in conjunction with the forecast of future climate scenarios, can help us in focusing the possible solutions to future possible problems. This work focused on the existing trends in winter tourism in the Trentino region (Italian Alps), by analysing, for the years 1981/1982 to 2007/2008, the climate data from six meteo stations located in ski resorts characterized by different height and geographical position. Data analysis showed that the number of the days with more than 20 cm of snow, minimum level for permitting skiing, is reducing, and interannual variability is increasing. The trend is particularly evident for lower altitude areas. The average, minimum and maximum temperatures of above mentioned winter periods was compared with tourist arrivals suggesting an inverse correlation, with a marked decrease in tourists arrivals in higher temperature periods. The results support the conclusion that the tourists will be obliged to reach higher ski areas with lower temperature and adequate snow level, while a further increase in temperatures will lead the lower ski areas to disappear, and the high seasonal variability will put at risk winter tourism itself in many areas. The further perspective of research, on tourism trends in summer season, will also be outlined.

**Index Terms** — Climate change, meteo, ski, winter tourism



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