

Snow management practices in French ski resorts

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Winter tourism plays a fundamental role in the economy of French mountain regions but also in other countries such as Austria, USA or Canada. Ski operators originally developed grooming methods to provide comfortable and safe skiing conditions. The interannual variability of snow conditions and the competition with international destinations and alternative tourism activities encouraged ski resorts to mitigate their dependency to weather conditions through snowmaking facilities. However some regions may not be able to produce machine made snow due to inadequate conditions and low altitude resorts are still negatively impacted by low snow seasons. In the meantime, even though the operations of high altitude resorts do not show any dependency to the snow conditions they invest in snowmaking facilities. Such developments of snowmaking facilities may be related to a confused and contradictory perception of climate change resulting in individualistic evolutions of snowmaking facilities, also depending on ski resorts main features such as their altitude and size. Concurrently with the expansion of snowmaking facilities, a large range of indicators have been used to discuss the vulnerability of ski resorts such as the so-called “100 days rule” which was widely used with specific thresholds (i.e. minimum snow depth, dates) and constraints (i.e. snowmaking capacity).

The present study aims to provide a detailed description of snow management practices and major priorities in French ski resorts with respect to their characteristics. We set up a survey in autumn 2014, collecting data from 56 French ski operators. We identify the priorities of ski operators and describe their snowmaking and grooming practices and facilities. The operators also provided their perception of the ski resort vulnerability to snow and economic challenges which we could compare with the actual snow conditions and ski lift tickets sales during the period from 2001 to 2012.