

Future temperature and precipitation changes in the Swiss Alps.

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Warming is stronger in the Alps than in the Swiss lowlands (according to several scenarios and regional climate models): about 1 °C for the summer in the second half of the 21st century compared with 1980–2009. This altitude-dependence of temperature change is likely related to the snow-albedo (less snow at higher elevations means more warming) and other feedback mechanisms. Projections indicate warming of about 1 to 6 °C for the Alps until the end of the 21st century, strongly depending on the scenario and the lead time.

A height-dependence of the precipitation change signal is also found in many seasons: model results indicate a stronger increase in precipitation at low altitudes in the winter as compared to the Alpine region, but a tendency towards more drying at lower compared with higher altitudes in the summer. In case of precipitation, the projection uncertainty is large, however, and in most seasons precipitation can increase or decrease.

Source: Zubler et al., 2014. Climatic Change 125: 237-252.

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