Dynamic-statistical prediction of snow making conditions

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Output from a numerical weather forecast model was statistically post-processed to forecast snow making conditions up to 7 days into the future. Multiple linear regressions for the model ouptut statistics (MOS) were developed with weather stations, which are installed with the snow making equipment in a central Alpine ski resort extending from 650 to 1500 m MSL. Data quality issues will be discussed. Temperature, relative humidity and wet bulb temperature were forecast. Depending on the forecast range and the altitude, mean absolute temperature deviations of 0.9 K to 4.2 K occurred in the verification winter of 2005/06. The forecast of the binary event wet-bulb temperature below -2°C (a requirement for most artificial snow making equipment) was particularly successful - even out to 7 days - and about 30 percent points better than a persistence forecast.