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Wet snow icing downstream of mountains

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A case of wet snow icing observed in the lee of mountains is simulated with a high-resolution atmospheric model (MM5). The simulation reveals how mountains can contribute to favourable conditions for wet snow icing immediately downstream of the mountain crests. The orography contributes to ascending motion and increased precipitation. In strong winds, the precipitation is easily advected to the lee of the mountain crest where the precipitation particles fall into a relatively dry surface layer. Evaporation is enhanced in the dry layer and this aids the wet snow to freeze on the power lines. Speed-up of the wind over the downslopes contributes also to increased flux of precipitation particles and increased snow accretion on the power lines.