

Application of a wet snow accretion model to the Münsterland event

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A severe wet snow event in the northwest part of Germany (Münsterland area) and in neighbouring regions caused damages of electric power lines and wide-spread outages in November 2005. The paper shortly surveys the event, the damages and the meteorological pre-conditions. Meteorological conditions (temperature and relative humidity) corresponded to wet snow accretion conditions during almost all the time of the event. Maximum wet-snow loads of approximately 50 N/m occurred. They were estimated by evaluation of the snow density from meteorological data and by analysis of diameter of ice accretion from photographs. The wet snow accretion model of Makkonen (1989) was applied to reconstruct the accretion process in time. The paper shows, that the maximum wet-snow load estimates based on observations are in good agreement with the model results when the snow density is estimated as a function of wind velocity (Poots, 1995) and the model input parameter (visibility) is adjusted by a constant factor of 0.5 for night-time observations, as proposed by Rasmussen et al. (1999).