

Operational warnings issued by the SMC in the 8th March snow event in Catalonia

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The snowfall event of 8th March 2010 was one of the most important of the last years in Catalonia, with high societal impact in the communication and in the power distribution.

Since 2002, after an agreement between Meteorological Service of Catalonia (SMC) and Civil Protection authority, the SMC is the agency responsible to carry out meteorological warnings in Catalonia. These warnings are issued depending on the thresholds which are expected to be exceeded (three different probability degrees are defined), and are characterized by a high spatial and temporal resolution.

In the snow event of 8th March, forecasting team of the SMC did the first meteorological warning three days before, on 5th March. During the two following days broadcasted four different warnings, taking into account the high probability of exceeding 2 cm of snow above 200 meters, 15 above 400 m and 30 above 800 m. Furthermore, the SMC disseminated also two special press releases with the aim to extend the forecast to the public.

In the afternoon of Sunday, 7th March, the snow precipitation started in some areas of Catalonia. From this moment, the SMC followed the surveillance of situation with the remote sensing tools and the Meteorological Observers Network data. This network is formed by a hundred of spotters with mobile phones able to transmit observations in real time to our web site. This surveillance and the conceptual model of snow events in Catalonia allowed the forecasters to improve the estimation of the snow level forecasted by mesoscale meteorological models. In this event, the snow level obtained from these models was higher than the real one.

In spite of the accuracy of the forecast, the impact was very important in Catalonia. On one hand, it was due to the exceptionality of the event, with 3 cm of snow in Barcelona in the afternoon of a working day. On the other hand, the large amount of wet snow precipitation (until 100 mm), and the wind, contributed to an important snow accumulation in the electric power lines. The snow weight and the wind effect broke down a lot of electrical towers in the north-east of Catalonia and more than 450,000 customers were affected by power outages in the following days.