



A study of a generalized snow event in Basque Country: the 11 January 2018 case.

Santiago Gaztelumendi (1,2) and Joseba Egaña (1,2)

(1) Basque Meteorology Agency (EUSKALMET), Basque Country, Spain , (2) TECNALIA R&I, Energy and Environment Division, Meteorology Area, Basque Country, Spain

In this work we present a study of an unusual generalized snowfall episode that occurs in Basque Country during 11 January 2018. An amazing event that affects during a relatively short period time all parts of Basque Country (including coastal areas) not seen since 1985.

During the episode a very strong anticyclone is located on the Scandinavian countries, while a deep storm is close to the Azores. In this way, a northeast flow corridor is formed, favoring the arrival of a very cold air mass of Siberian origin. This cold air mass interacts in the Iberian Peninsula with another mass of smoother and more humid air, generating a warm front that moves from south to north. Precipitation from this front leaves moderate and generalized snowfall for approximately 5 hours at any level.

The accumulated precipitation is very homogeneous, in general is between 5 and 10 liters per square meter, with maximums between 10 and 15 liters per square meter. The snow thicknesses are relevant, in between 5 and 15 cm, in any part of the country. Throughout the day, the warmer air mass that comes from the south, along with the south wind, radically changes the situation, melting rapidly the falling snow in some places in a few hours.

In order to study and understand the evolution of this event, synoptic characteristics, mesoscale situation and other local meteorological characteristics are analyzed including datasets coming from the Basque Country Automatic Weather Station Mesonet and other sources (MSG, Radar, etc) available in the area during this episode.