

2.23 USING EUSKALMET RADAR FOR ANALYSIS OF INTENSE AND PERSISTENCE PRECIPITATION EVENT IN BASQUE COUNTRY DURING WINTER: THE 11 JANUARY 2018 CASE.

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In this work a study of a severe weather episode (11 January 2018) is performed focusing on synoptic, mesoscale and local aspects based on different data available in the studied area including Radar products provided by Basque Meteorology Agency (Euskalmet). Euskalmet radar is sited in Kapildui Mountain (1174 m) near the capital of Basque Country, is a METEOR 1500 Doppler Weather Radar with Dual polarization capabilities. This radar is based on a Klystron transmitter system and operates in C-band frequency.

A depression initially located on Brittany descends rapidly towards the south, losing strength. The occluded front associated with that low affects especially the Basque Country (CAV) during the afternoon of the 11 January 2018. At the 500hPa level a relatively cold air mass (-30°C) favors certain convection and the formation of storms accompanied by hail.

The local pressure field configuration in the Basque Country region generates a surface convergence zone in the area of Gernika where two different air masses join, one warmer that is situated towards the west and another cold stagnated at the east, this causes a special activation of the front in the affected area.

The persistence of precipitation throughout all day, leaves more than 70 mm in 24 hours in different parts of the territory, with hourly intensities greater than 25 mm and ten minutes intensities greater than 8 mm. Those quantities are unusual in our territory in winter season cases. In the different radar products we can see the location of the convergence zone and the areas of maximum activity.

In different municipalities in Bizkaia, water accumulations on streets, the overflow of several rivers, local floods and numerous problems on roads are produced. The most affected area is the surroundings of Gernika, where material damage occurs and the Firemen had to rescue several people from cars trapped by water.