

Using radar data for analysis of a very heavy precipitation episode in Bilbao area.

Joseba Egaña

Tecnalia - meteo area / Basque Meteorology Agency, Spain

Gaztelumendi, Santiago (Tecnalia - meteo area / Basque Meteorology Agency, Basque Country, Spain)

Palacio, Virginia (Tecnalia - meteo area / Basque Meteorology Agency, Basque Country, Spain)

Principe, Olatz (Tecnalia - meteo area / Basque Meteorology Agency, Basque Country, Spain)

Maruri, Mercedes (Tecnalia - meteo area / Basque Meteorology Agency, Basque Country, Spain)

E-mail: joseba.egana@tecnalia.com

The objective of this work is to present a preliminary analysis of a very heavy precipitation event that occurs the 28 August 2013 in Bilbao city through the use of Kapildui Radar information available for the Basque Country Area. Euskalmet radar is sited in Kapildui mountain, a central location. This radar is a METEOR 1500 Doppler Weather Radar with Dual polarization capabilities from Gematronik and operating in C-band.

The synoptic situation is marked by the Atlantic anticyclone that goes in Europe, favouring the north wind in surface. In the middle and upper layers of the atmosphere exists meridional circulation, with cold air (-15°C at 500 hPa level) over the Bay of Biscay. Sea surface temperature in that moment is around 22°C . Although stability indices are low, form convective cells in the sea and close to the coast that go into the Cantabrian side, leaving heavy showers especially in Bilbao.

In this episode, is interesting to analyze convective cells generation, and to note that forecasted and observed stability indices were not so high. Vertical structure of storms cells where not exceptional. Cells with relatively little vertical development and a slow and irregular movement from north to south (not usually observed during summer in this region) promote heavy showers all around the area.

A study of this event, that it was a rather surprising situation, is made analyzing different parameters, based on the available data and specially focused on the interpretation of the different imagery products of the Kapildui radar.