



A study of a tornado event in Basque Country: the 4th July 2018 case.

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In this study we describe the occurrence of a tornado during the 4th July 2018 in the southern part of Basque Country that affects an uninhabited wooded area (the Legaire fields in the Entzia mountain range). The tornado touched down in a beech forest causing significant damage, with hundreds of trees uprooted or cut by the wind. A total of 72 hectares delimited by a perimeter of 11 Km, in an area of 2 Km long and widths up to 200 meters in some places. During this day, much of the Basque Country is affected by storms with heavy rains, hail and wind gust, particularly the Álava territory and its capital Vitoria-Gasteiz where urban floods and minor damages are produced.

Tornado cases in Iberian Peninsula, and particularly in Mediterranean area (Catalonia, Balearic Islands, and Andalusia) are relatively often observed, in Cantabric area (north of Iberian Peninsula) they are very unusual, in fact in Basque Country just another case is previously documented in recent history: the 23rd June 2014 case. That event also happened in Álava, in Bernedo municipality (near Izki area) where about 3 hectares of pine forest was affected.

In this work we focus on the study of meteorological situation during the event and on the atmospheric conditions for the occurrence of the tornado. We present an analysis of the general environment focusing on the relevant aspects that favor severe convection development, using different synoptic and mesoscale information, including Radar data and Meteosat images. Finally we include an evaluation of surface aspects and damages in the affected area.