



A study of severe storms in Basque Country: the 3rd June 2018 case.

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In this study we analyze a strong thunderstorm case that occurs in the Basque Country during 3rd June 2018. After a mostly sunny morning, during evening heavy showers affect many areas in the territory. About 4:00 pm, rain intensity increases, with ten minutes precipitation over 10 mm, causing many incidents and the intervention of fire brigade and police in numerous municipalities.

In this work, different aspects of this event are analyzed at synoptical, mesoscale and local level, using all available information, including automatic weather station mesonet, MSG and Radar information provided by Basque Meteorology Agency (Euskalmet).

In height, a cut-off low is located in the northwest of the Iberian Peninsula, generating instability in all the peninsular cantabric area. At surface level, low pressures are also prevailing in the northwest. An instability line first and an occluded front later, associated with that depression, affect our territory promoting severe storms.

The event is characterized by very heavy showers, punctually torrential ($> 60\text{mm} / 1\text{h}$), in the inland regions of the Basque Cantabrian slope; that cause local floods, landslides and problems in roads in different affected villages. During the afternoon, very active convective nuclei are formed affecting different points such as Antzuola, Bergara, Amurrio and Atxondo. It is worth noting the local nature and limited extension of these storms, whereas in some location the precipitation was torrential in places just a few kilometers much smaller precipitation quantities are observed.