



## A study of active thunderstorm episodes in Basque Country

Santiago Gaztelumendi (1,2), Joseba Egaña (1,2), Arkaitz Etxezarreta (3), José Antonio Aranda (4,2)

(1) Meteorology Area, Energy and Environment Division, TECNALIA R&I, Basque Country, Spain., (2) Basque Meteorology Agency (EUSKALMET), (3) ADASA, (4) Emergencies and Meteorology Directorate, Security Department, Basque Government

Characterizing most active thunderstorms is an important part of operational severe weather forecast and surveillance activities. In this paper a study of different severe episodes with over 2000 Cloud to Ground (CG) flashes affecting Basque Country area during last years is presented. Particularly six episodes are analyzed, 21/07/2015 with 4229 CG flashes, 22/08/2015 with 2851, 22/07/2013 with 2699, 25/07/2014 with 2515, 20/07/2013 with 2448, and 20/06/2014 with 2331 CG flashes.

Analysis is done focusing on lightning features of the convective structures but also including others hazards as hail, heavy rainfall or strong winds. For lightning characterization different parameters are considered as cloud-to ground lightning, intra-cloud lightning, polarity or current characteristics.

We have considered data from different sources available in the area, Automatic Station Network, Lighting Detection Network and Euskalmet Radar. On the other hand Mesoscale and synoptic characteristics are analyzed including data from different Models and Meteosat.