



Spatial and temporal Lightning distribution in Basque Country.

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

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

In this work we present the spatial and temporal characteristics of lightning in the Basque Country and neighboring areas. For this purpose we use 6-year strokes data registered in the available VLF/LF (very low frequency/low frequency) lightning detection network (LINET).

The spatial distribution of lightning strokes is presented for different resolution in somme maps showing somme patterns and allowing the asses of local risk of lightning and the study of local effects, particularly the influence of orography on the occurrence of thunderstorms. Highest number of lightning strokes occurs in the mountainous interior of Basque Country, the lowest number of lightning strokes occurs in the litoral area.

Despite a high year to-year variability, the temporal analysis reveals a clear annual cycle with the highest number of events during summer time (June to August) and a minimum during winter. On average a diurnal cycle with maximum in the afternoon are also present.

In addition to the spatio-temporal cloud to ground strokes distribution from 2011 to 2016, some others lightning attributes are also included in this study.