The Western Mediterranean thunderstorms climatology

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Abstract

Météorage, the French National Lightning Locating System (LLS) operator, has developed the "Severe Thunderstorm Observation and Reporting Method" (STORM) aiming at detecting active thunderstorms and preventing severe weather based on VLF/LF total lightning data made of Cloud-To-Ground (CG) flashes and Cloud-To-Cloud discharges (CC). In addition to the cell positions, contours and trajectories, it is possible to determine the severity of a given cell based on its lightning rate monitoring and the lightning jump detection.

In this study we focus on the climatology of severe thunderstorms occurring on the HyMEX/SOP1 area based on a 10 years of STORM's cell data. Several parameters are analysed like the onset and death points of thunderstorms, lightning rates and trajectories to identify the preferred corridors.

First, we will present the principles and the data made available by STORM, and then the important results of our study in the perspective of the seasonal and yearly variations.

Topic Areas

Lightning and Weather

Submission Format

Poster