



Comparison of the characteristics of hailstones precipitated on one side and the other of the Pyrenees.

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Hailpads networks allow knowing the characteristics of the stones precipitated by hail storms. The province of Lleida (Spain) has an excellent network of hailpads (managed by the ADV Terres de Ponent and the Servei Meteorologic de Catalunya) which is located south of the Pyrenees. To the north of it and in French territory, there is another similar one (placed in Hautes Pyrénées and Midi Pyrénées), managed by ANELFA. A large part of the hail storms that affect this French area are formed in Spanish territory, crossing the mountainous barrier of the Pyrenees, so it is interesting to know their characteristics from one side to the other. In both cases, historical series of more than 20 years are available.

We have taken the database of all the days in which hail falls have been detected in one or another hailpads network and we have calculated the diameter and maximum energy of the precipitated stones. With the data obtained, we have found the corresponding statistical distributions.

Once we have obtained these four databases (ie two for each of the networks) we have analyzed the statistical parameters that characterize them. We have also studied the temporal trend of hail precipitation on both sides of the Pyrenees

Finally, we have studied the meteorological factors that intervene in the formation of hail and the dependence they have on the maximum diameter and the maximum expected energy.

The results show a greater severity in the stones precipitated on the South side of the Pyrenees and the meteorological factors involved in the formation of hailstorms.