



## **Case Study of Multiple Low Topped Supercell Tornadoes in SW Iberia. March 4, 2018**

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During the afternoon of March 4, 2018, at least four tornadoes were spawned in the southwest of the Iberian Peninsula, over the Portuguese Algarve and the Spanish west part of Andalusia. Two of them were associated to the same convective cell and a third one was formed under another cell developed from the first one. One of the tornadoes was originated in Portugal, crossed the Guadiana River and continued through Spain, being one of the longest recorded in this country. At least two of the tornadoes reached an intensity equivalent to F2 in the Fujita Scale, which is very rare in this region. Taking into account the low frequency of multiple tornado occurrence in the area, this episode could be considered an “Iberian tornado outbreak”. On the other hand, this episode shows some of the prominent characteristics common in many tornado events in the southwest of the Iberian Peninsula, where tornados tend to happen in the cold season, in an environment with low CAPE and high vertical shear (HSLC) and high humidity at low levels, features associated with the development of convective cells that present similar characteristics to those of the supercells, but more subtle and with much lower tops. This work shows a brief meteorological analysis of the episode and a summary of the damage survey done by the authors on three of the tornadoes. In addition to the above, it is revealed the need to develop a scale of damage adapted to the vegetation and construction standards in Europe.

Keywords: tornadoes; tornado outbreak; low topped supercell; HSLC convection; field survey