



Preoperational Doppler-radar mesoscale wind structure detection algorithm: application to Spanish Mediterranean cases.

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The main aim of this poster is to show a new version of the automatic mesoscale wind structure detection algorithm for the Spanish weather Doppler-radar network, developed during the last years by the “Agencia Estatal de Meteorología” (AEMET). Taking into account that well-defined mesocyclones and other significant wind structures can be readily detected by single Doppler-radar, the algorithm is based on the NSSL-MDA (National Severe Storms Laboratory-Mesocyclone Detection Algorithm). It is specifically designed to automatically detect and identify radial velocity patterns associated with small-scale vortices and other wind structures. The algorithm's different steps and its application of some real cases will be shown. During 2008 and 2009, the algorithm was tested in a preoperational stage, adjusting the needed parameters and thresholds, especially in the Mediterranean area. In the near future, the algorithm will be implemented within the operational procedure to automatically identify, analyse, diagnose, track and extrapolate convective cells and structures in radar data, improving the forecasters' ability to issue early warnings for hazardous convective events.