



## **Study of convective activity in Veneto region**

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Forecasting thunderstorm activity during the convective season is one of the major challenges in the operational setting of the Centro Meteorologico di Teolo (CMT), the regional met service of the North-eastern Italian region Veneto. CMT has a relatively long tradition in using radar for monitoring convection, but a systematic thunderstorm climatology was never constructed.

The purpose of this study is to take a first step in filling this gap by means of radar imagery. More precisely, the records of the Storm Cell Identification and Tracking (SCIT) is exploited, an algorithm developed by NSSL and available in the Hydromet Decision Support System (HDSS) recently installed at CMT. Such a characterization of convective activity can be used as the basis for the evaluation of new generation operational numerical weather prediction guidance related to severe weather.

For the present study, data for some summer seasons are available to be analyzed in terms of distribution of convective activity in terms of presence of cells over the CMT radar domain. In more detail, preferred genesis regions, times of the day, and tracks for convective activities can be identified in dependence of the various months of the convective seasons, as well as stratified according to various parameters characterizing the strength of the cells, like maximum dBZ, cell area and volume, height of max dBZ, and others. A case-study based and a systematic evaluation of the performance of the SCIT algorithm to detect convective cells in Veneto, as well as first climatological evaluation will be presented.