



Deep Learning for forecasting Thunderstorms on NE Italy

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Forecasting thunderstorm is challenging, in particular in a complex area, like NE Italy, where complex orography (Alps chain), plain, lagoon and sea deeply interact with each other.

In this work a completely new approach is proposed, based on machine learning and in particular using Convolutional Neural Network, for forecasting cloud-to-ground lightning occurrence and number, every 6 hours. Many fields forecasted by the ECMWF IFS model, or computed from them (as for example the equivalent potential temperatures), are used as candidate predictors.

The first results seem encouraging and will be compared with those obtained using a more "classical" approach, that is, implementing an analogue method with the AtmoSwing software.