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Big data in the context of Euskalmet activities

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Traditional operational meteorology rely on big amount of data, from different simulation models, different observation sources (Automatic weather stations, satellite, radar, etc) and different man-based products. This classical scenario usually involves large amounts of structured data, which properly speaking, cannot be considered ‘big data’.
Nowadays, connected sensors are becoming ubiquitous and social networks offer valuable real-time, geolocalised information. Big data may offer a greater insight and result in better short-term forecasts, although some challenges have to be faced before the technology can be used in current procedures. By nature, big data sources are heterogeneous and lack quality standards. Validation and understanding are time consuming processes. A combination of machine processing techniques and visualisation tools can overcome many of these problems. The final goal is to be able to extract trends and outliers by analysis of a combination of new and traditional data sources using “big data” methodologies and tools
In this paper, we present the strategy that is being followed to implement big data in different operational tasks in Euskalmet. First we present a inventory of traditional and non-traditional data sources available in Euskalmet, including direct and indirect meteorology related ones. Secondly we analyse how they can be used in order to improve forecast process and analysis at Basque country level. Finally some conclusions and preliminary analysis of different techniques, systems and tools available is presented.