Creating an Open data Portal for Citizens: the MISTRAL Project

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MISTRAL (Meteo Italian SupercompuTing poRtAL Project) is an EU-Funded project, aiming to create a National Meteorological Open Data Portal to provide citizens, public administrations and national and international private organizations with high accuracy meteorological data from observational networks and historical and real-time analyses and forecasts.
The MISTRAL portal will facilitate and foster re-use of the datasets by weather and weather-dependent communities, to provide added value services, using HPC resources to good effect, and developing new business opportunities.
This 2 year project, that started on 1 October 2018, has the following objectives:
- improve access to large datasets of public weather institutions,
- unleash creative exploitation of massive weather datasets using supercomputers,
- Big Data Challenge: to create a new service at the Italian national level, to exploit the massive amounts of public open data that are available; and to use supercomputing facilities to analyze complex combinations of these datasets to make forecasts more valuable,
- improve the interoperability of regional weather data providers by adopting international standards,
- provide direct upload of data generated by the supercomputers into the Italian National Data Open Portal and the EU Open Data Portal, ensuring trans-European access,
- interoperability and services linking the weather sector to the core service platform of the EU Open Data Portal,
- provide official and certified data and services to foster data re-use in accordance with Public Sector Information and Open Government initiatives,
- provide citizens with free access to weather observations and forecast data, and associated visualization tools,
- design and implement new ways of displaying and visualizing datasets and metadata, tailored to meet users' needs,
- identify viable business models that can support sustainable use of weather datasets, and the development of Italian public weather institution resources in European repositories, with a trans-national perspective.

In this contribution, the main services coming from HPC post-processing of observations and weather forecasts will be highlighted, with special emphasis on Observed Weather Data (Current Weather, Historical data, Satellite data, Radar layers), interactive services delivering Weather Forecast data on a regular grid (at high resolution, for different forecast ranges, with regular updates, and highlighting severe weather potential), and gridded, high accuracy, probabilistic rainfall forecasts, for flash flood prediction.