Machine Learning algorithms and environmental decision support systems: a new approach for air quality decision planning

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- New dynamic data driven decision support systems, based on big data and continuous data flows (e.g. Copernicus data flow) in line with the European Data Strategy in which access to data and the ability to use it are essential for innovation and growth, in order to increase the transparency of the evidence that underpins policymaking

- Continuous update of data based on a sliding window approach and random forest algorithm

- Complex and non-linear phenomena analysis

- Dynamic processing and continuous training

The prototype
PM10 Stations
City of Rome

The algorithm
Random Forest + Sliding Window approach

Results
Prevision 65% - 80% Efficiency