



## **Implementation of the atmospheric on line coupled model WRF/CHEM over the Po Valley: preliminary results**

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The Po Valley, one of the most industrialized and populated areas in Northern Italy, is characterized by very high levels of particulate matter (PM) concentrations, which often exceed the European air quality standards. This is due to high urban and industrial emissions as well as frequent stagnant meteorological conditions (low wind speed and temperature inversions) associated to a complex orography of the area. In order to provide a good estimate of the spatial and temporal distribution of PM<sub>10</sub> concentration in this region, a detailed description of both meteorological and air quality conditions is therefore required. This work aims at describing both the meteorology and the air quality over the Po Valley through the application of the fully coupled on-line Weather Research and Forecasting/Chemistry (WRF/Chem) model.

Preliminary results related to the implementation of WRF/Chem over the Po valley are presented. PM<sub>10</sub> surface concentrations over a 6x6 km<sup>2</sup> resolution domain are compared to observations provided by several monitoring sites distributed across the area.