



Surface meteorology overview for the DOMINO campaign

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In November-December 2008 an experimental campaign was carried out at El Arenosillo (Huelva-Spain) with the aim to investigate the oxidative capacity of lower atmosphere. To support the interpretation of the trace gas and aerosol measurements a detailed meteorology study was performed. Surface meteorological parameters (wind, temperature, humidity, pressure, rainfall, ultraviolet radiation) were monitored during the campaign with sensors at 10 m above the ground. In addition, the synoptic conditions were analysed with pressure maps both for the surface and at 850 hPa, showing the prevalence of anticyclonic situations, although also a low pressure system occurred.

Due to the coastal character of the location in the southwest of the Iberian Peninsula, observed air masses originated from the ocean as well as from continental sources with different quantities and qualities of emissions. Air masses have been classified according to their different trajectories before arrival at El Arenosillo, obtained using the HYSPLIT model; the back trajectories have been computed every two hours for an altitude of 100 m and a duration of 48 hours. The effect of different meteorological input data and altitudes on the trajectories has been evaluated.

In order to investigate the influence of the air mass origin on the atmospheric chemistry occurring in the air mass, the observed concentrations of ozone, NO and NO₂ will also be discussed.