COMMON MEDITERRANEAN STRATEGY AND LOCAL PRACTICAL ACTIONS
FOR THE MITIGATION OF PORT, INDUSTRIES AND CITIES EMISSIONS.

Long monitoring campaign in Marseille

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Figure 1: Localization of the sampling sites selected for Marseille long monitoring campaigns

The long monitoring campaign in Marseille begun in July 2011 and is to end in July 2012. Fine particulate matter (PM2.5, particles with aerodynamic diameter less than 2.5µm) are collected at two different measurement sites on a 24h and 48h basis, respectively. The first site is located in Marseille downtown (5 avenues – red dot on the map). Besides particulate matter sampling, this measurement site, instrumented by AirPACA is also provided with further devices, allowing the continuous monitoring of NOx, ozone, SO2 and particulate matter concentrations (2.5 µm and 10 µm diameter).
The second site is located in Marseille's harbor Eastern Dock (blue dot on the map). This strategic location allows, first, to characterize particulate matter from remote sources before it impacts Marseille ; and then, to precisely determinate emissions resulting from harbor activities (main shipping engines, vehicles, …) and quantify their contribution toward Marseille air quality.
Additional measurement campaigns have also been conducted in the Fos/Berre industrial area. Thus, a one month filed campaign, has been carried out at Fos-sur-Mer (yellow dot on the map) in June 2011. It involved the deployment of an important dispositive to monitor both gaseous and particulate matter pollutant in the atmosphere (MASSALYA Platform). Several punctual campaigns would also be carried out nearby most important industrial sites, in order to precisely characterize their emission.

Comprehensive chemical characterization of PM2.5 will be carried out. This chemical characterization includes Organic Carbon, Elemental Carbon, major ions (sulphate, ammonium, nitrate, calcium, potassium,..), more than 50 metals/elements including V, Ni, Pb, Cs, Mo (..) and organic markers such as levoglucosan, PAHs, hopanes, n-alkanes, fatty acids (..).

All the data collected during those different measurement campaigns would then allow to estimate the contribution of each source toward Marseille air quality, using source apportionment models.

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