



# ALPNAP

Monitoring and Minimisation  
of Traffic-Induced Noise and Air Pollution  
Along Major Alpine Transport Routes  
[www.alpnap.org](http://www.alpnap.org)



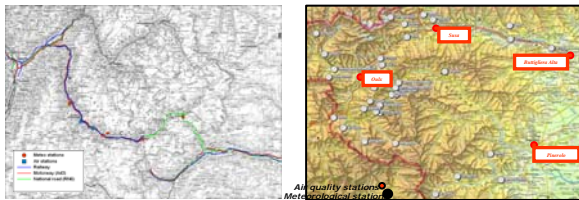
## Meteorology and Air Pollution in the Frejus transect

### A survey in the site



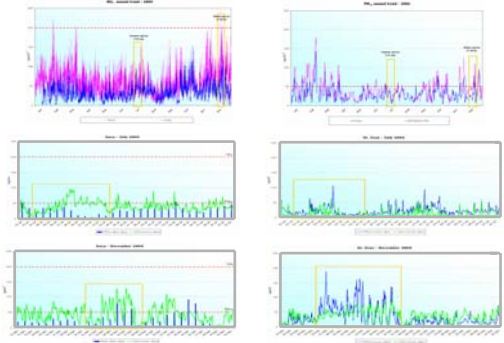
**MAURIENNE VALLEY:**  
National Road RN6  
Highway A43  
Railway

**SUSA VALLEY:**  
National Roads SS24-335 and SS25  
Highway A32  
Railway

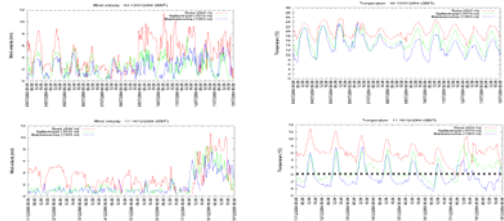


### Selection of periods for air pollution

*Searching for high pollution level episodes in 2004...*

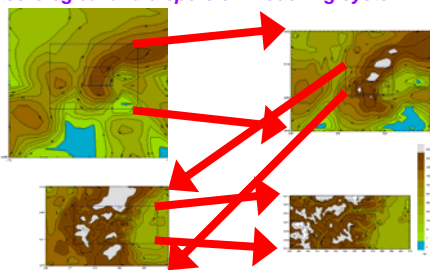


*...and looking at the meteorology of the selected episodes...*

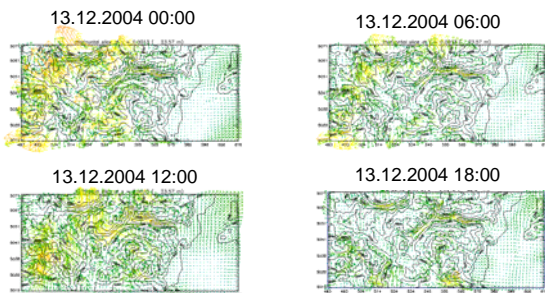


### The numerical model simulation

*The computational domains in RMS (RAMS-MIRS-SPRAY)  
meteorological and dispersion modelling system*

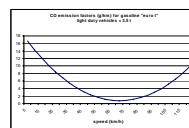


*Example of the wind speed field output from RAMS-MIRS*



### In process !

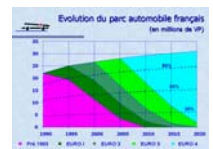
COPERT III methodology is applied to calculate road traffic emission providing emission factors for each vehicle of its classification



Example of emission factors for gasoline "euro I" light duty vehicles < 3.5 t according to speed

Total emission are calculated by summing emissions from 3 different sources:

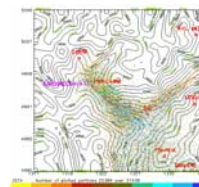
- The thermal stabilised engine operation (hot);
- The warming-up phase (cold start);
- The fuel evaporation (not used for NO<sub>x</sub> and PM<sub>10</sub>)



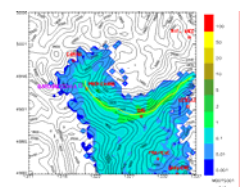
New technical European standards increase in France

Simulation of the dispersion and estimation of the concentration of traffic emission pollutants

*An example of outputs from SPRAY*



Dispersion of the plume of particles in Susa valley



Ground level concentration in Susa valley

#### Contact the Lead Partner:

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