Utilisation of Helsinki UbiCasting data in air quality assessment and management

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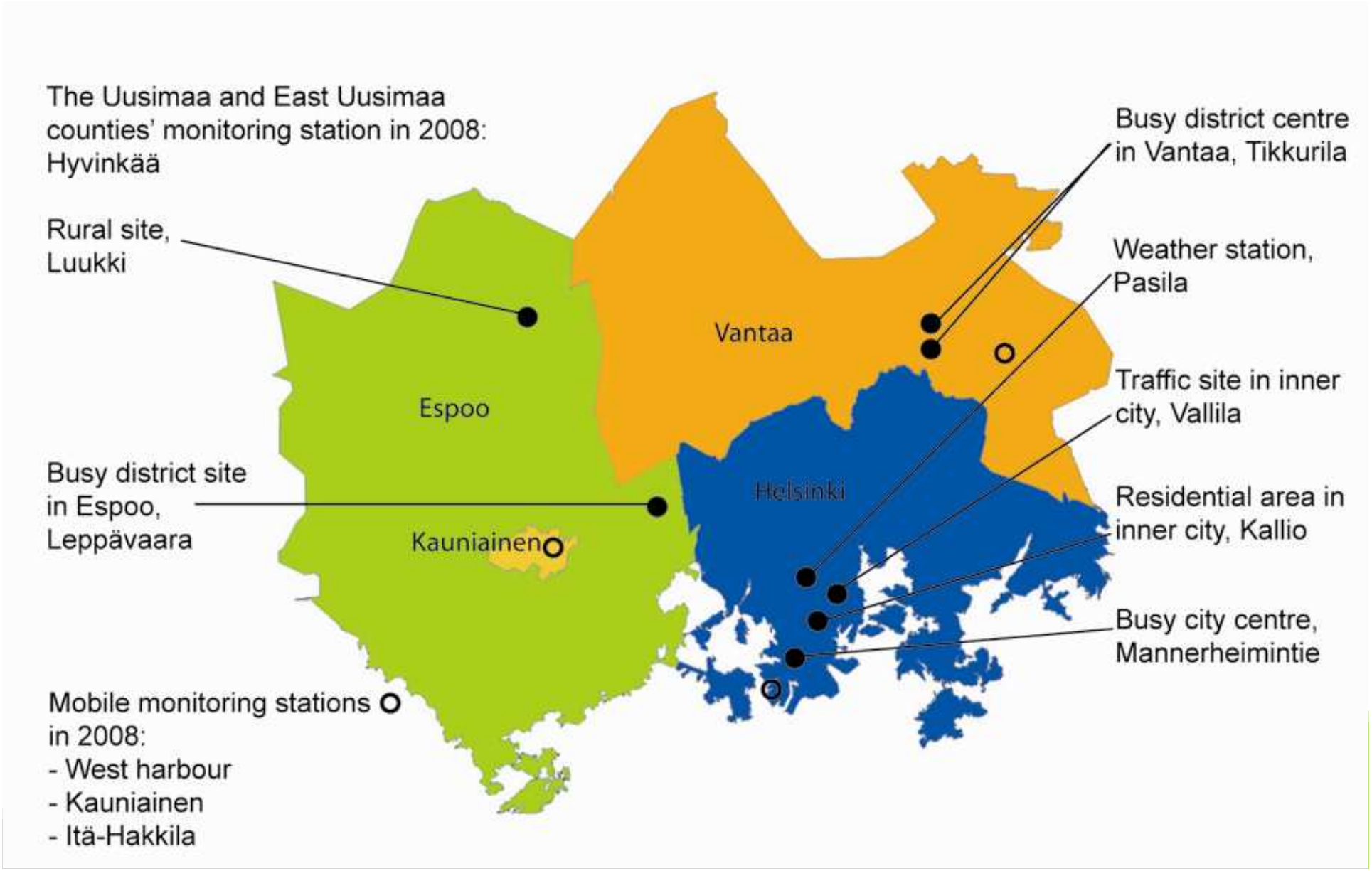
Air Protection Group

- **Air quality monitoring in the Helsinki metropolitan area**
- **Informing the public on air quality**
- **Air quality research and planning**
- **Air quality communication and education**

Air pollutants at present

YTV's air quality monitoring stations 2008

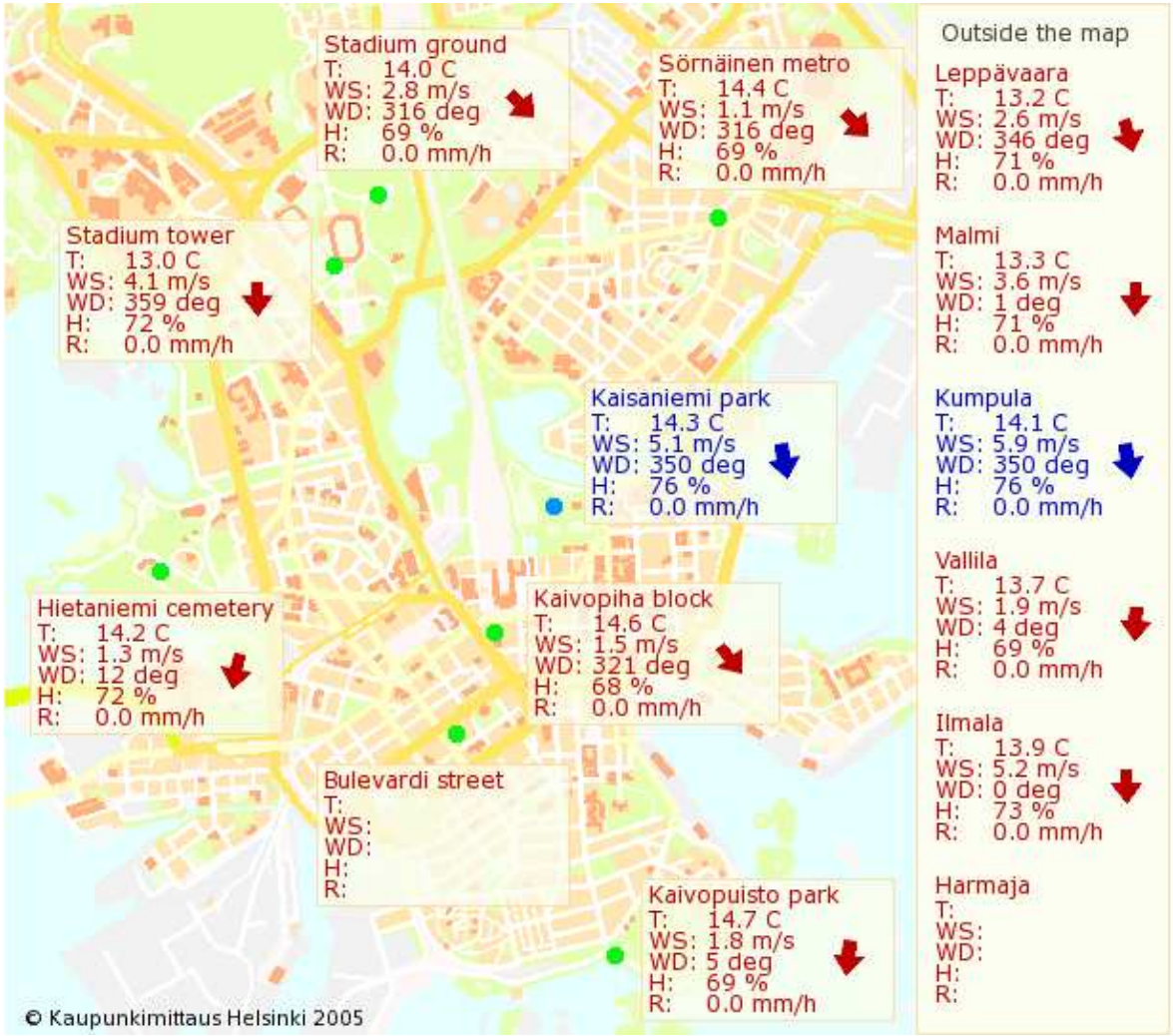


Components

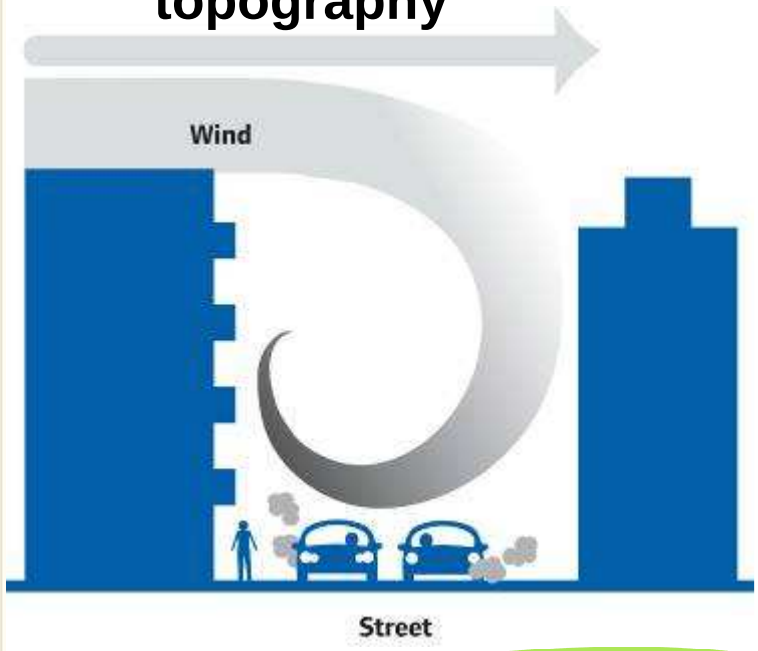
- Sulphur dioxide (1976)
- Nitrogen oxides (NO and NO_2) (1986)
- Carbon monoxide (1988)
- Ozone (1988)
- Benzene and other VOC (2003)
- Total suspended particulates (1978)
- Thoracic particles (1988)
- Fine particles(1997)
- Lead (1978)
- Other heavy metals (2000)
- Polyaromatic hydrocarbons (2005)
- Meteorological parameters:

Wind speed, direction, Relative humidity, Pressure, Temperature, Precipitation, Radiation

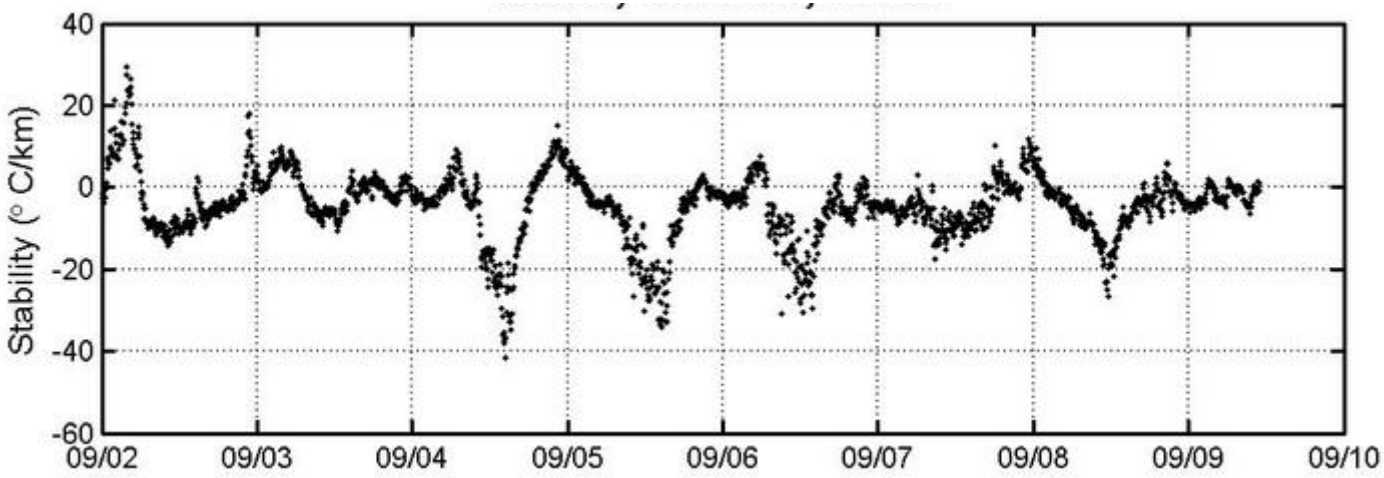
Utilisation of Helsinki Testbed data



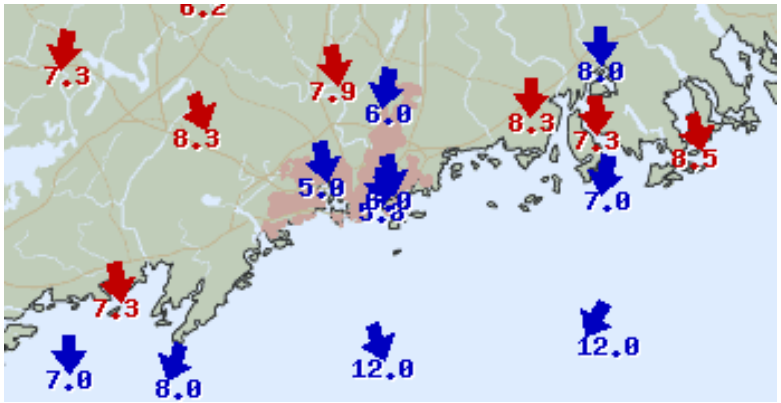
- **Help to asses air quality now**
- **The effect of buildings and topography**



Utilisation of meteorological data



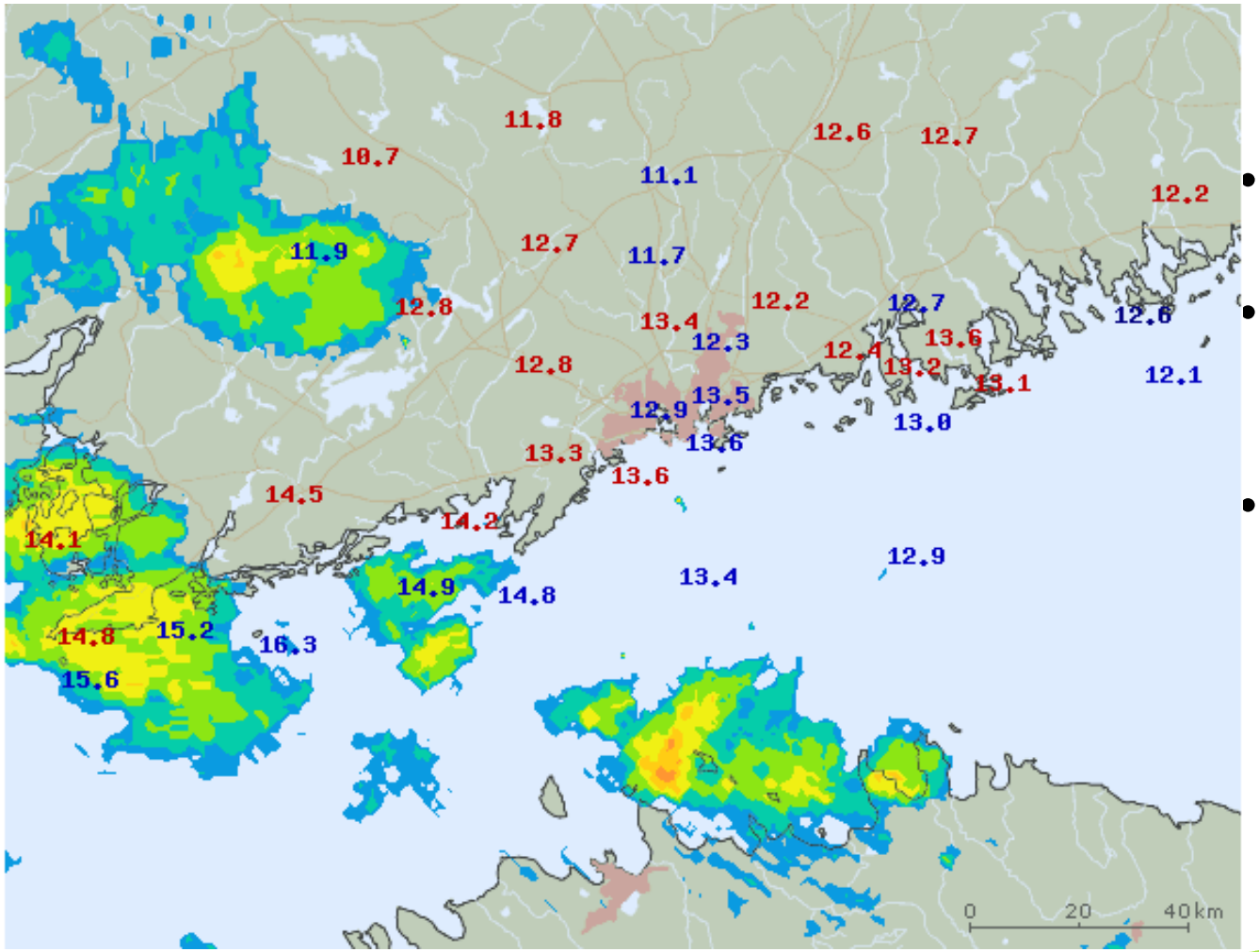
Stability



Wind speed and direction

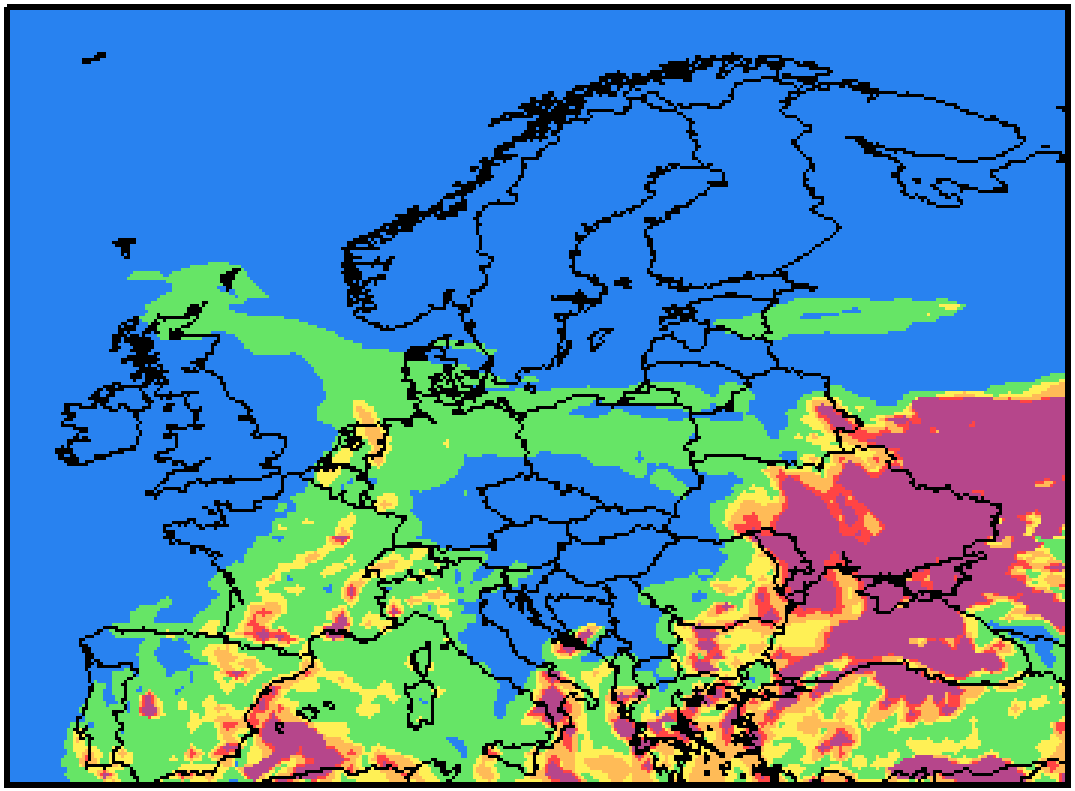
- **Dispersion of emissions**
- **Possible inversion**

Utilisation of meteorological data: Rain &Temperature



- "Forecasting" of air quality in short term
- The maintenance of streets during the spring dust episode
- Planning of field work

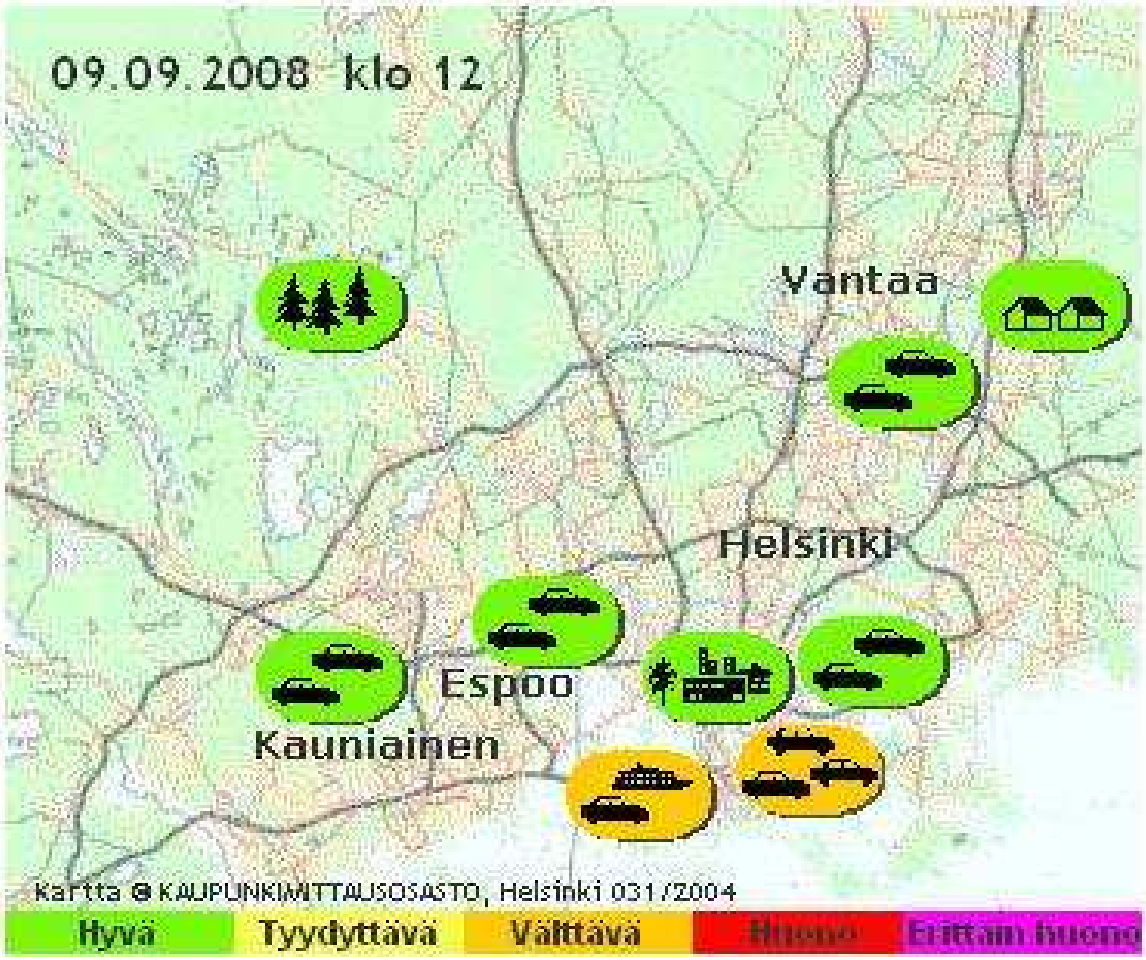
Modeling and forecasting air quality



Forecast for $PM_{2.5}$ from forest fires SILAM-model

- **Possible to warn people in case of poor air quality**
- **Special groups (e.g. asthmatics, people with cardio-vascular disease)**
- **Encourage people to work at home and avoid unnecessary traveling**

Air Quality Now



- **www.ytv.fi/ilmanlaatu**