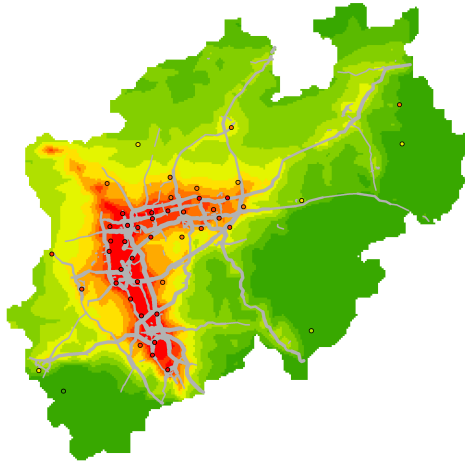


# Analysis and visualisation of observational network data

## FLADIS

is a program system for the analysis and visualisation of observational network data.

FLADIS calculates the spatial distribution of e. g. air pollutants from point measurements and model simulation runs. It combines interpolated measured data and modelling results for each time step for which data is available.



Concentration distribution, measurement points and road network with mean daily traffic.

### Statistics

FLADIS provides statistics of the considered quantities, e. g. for air pollution concentrations:

- calculation of all characteristics listed in the EU Air Quality Framework Directive 96/62/EC, such as hourly, daily and annual means, exceedance frequencies and uncertainties
- evaluation according to the current Daughter Directives

### Export functions

- output of FLADIS results in GIS formats (ArcGIS, MapInfo)
- single or animated GIF files for e. g. a web-based presentation of your results

### Automatic control

The add-on program FladisOnline enables FLADIS to evaluate observation data continuously. FladisOnline provides a dialogue box where dates to start and stop FLADIS may be defined individually.

### Calculation bases

- inclusion of orography, time-resolved meteorology and emission structure
- uniform emission interface (EES) to calculate the emission structure of individual pollutants directly from emission inventories
- several interpolation schemes
- internal models: balance approach, linear statistical model
- external models: interfaces e. g. to LASAT, RCG, EURAD, IMMIS, TRAMPER

### OI and data assimilation

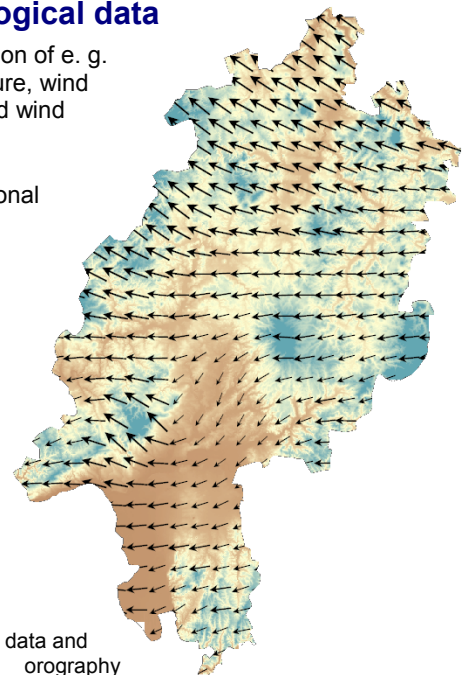
- Optimum Interpolation (OI) is a geostatistical method that adjusts modelling data to observations depending on the structural behaviour and influence of measurements
- OI is used for the spatial interpolation of point measurements
- OI is used for data assimilation to calibrate the model background fields prior to their combination with the interpolated measured data

### Planning of observational networks

- planning and optimisation of observational networks using the statistical cross validation module
- cross validation results serve as an indicator for the quality of the calculated area values

### Meteorological data

- visualisation of e. g. temperature, wind speed and wind direction
- data from observational networks
- data from external sources



Wind field data and orography



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Detailed information on FLADIS is available at [www.fladis.de](http://www.fladis.de).  
Information about IVU Umwelt GmbH is available at [www.ivu-umwelt.de](http://www.ivu-umwelt.de).

IVU Umwelt offers support in integrating FLADIS into your observational network as well as additional statistical evaluation and individual models for e. g. statistical forecasts.