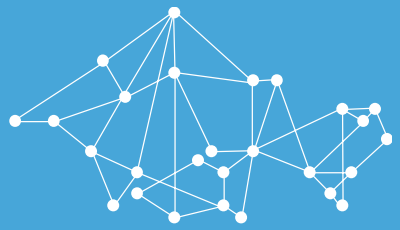
FAIRMODE
Forum for air quality modelling in Europe



WG1: SUMMARY & RECOMMENDATIONS FOR THE NEXT WORKPLAN

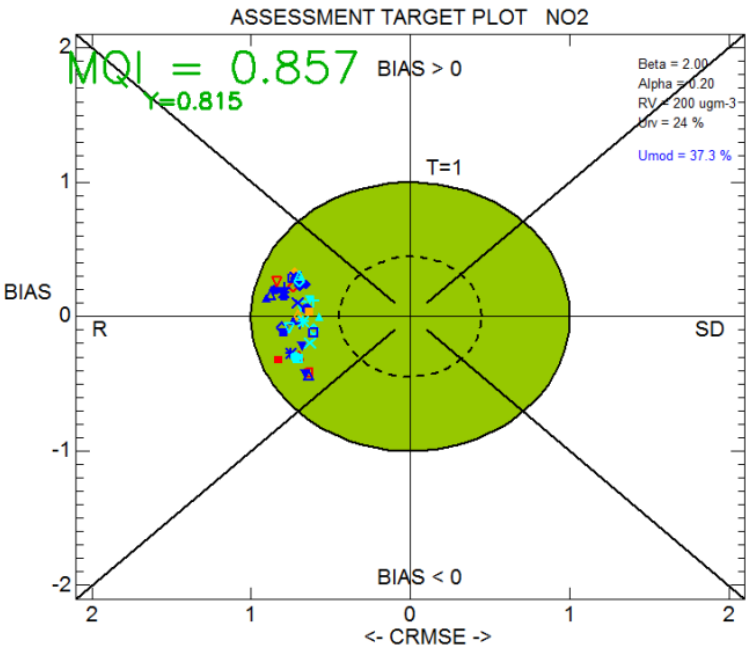
STIJN JANSSEN & CRISTINA GUERREIRO

MODELING QUALITY OBJECTIVE

Proposal for a new Target Diagram got positive evaluation

- Integration of the 90% fulfilment criteria in the MQI
- Model uncertainty & annual mean MQI explicitly mentioned

- Improvement (less stringent) in the MQO for annual means of PM10 and PM2.5 and spatial MPC (R & SD)
- Improvement for ozone, but should not be further releaxed
- Still need to find a good formulation for the MPC for the percentiles related to short-term limit/target values.
  - (two volunteers: Jan Horalek & Jenny Stocker)
- Open issue: Measurement uncertainty dependent on measurement method? → CEN working group.



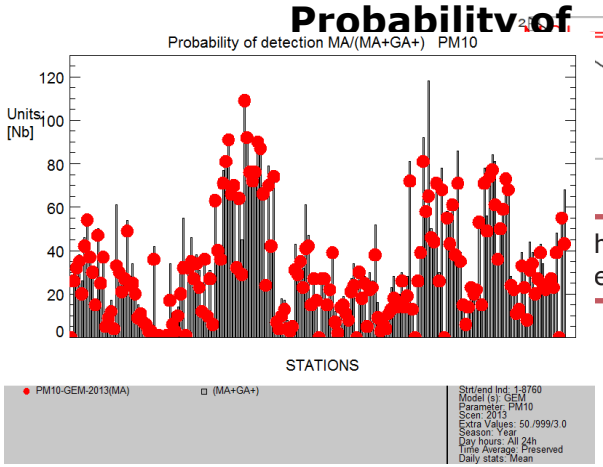
Overview of FAIRMODE benchmarking for model evaluation

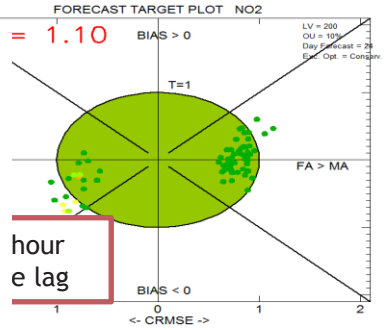
- 15 interested partners;
- 6 e-mails received; please send to Alexandra.monteiro@ua.pt
- By 15th July you will receive the questions for the contribution to the paper:
  - SWOT analysis
  - Feedback on the benchmarking methodology
- Input by 15th September
- Draft for review 15th October; submit 15th November

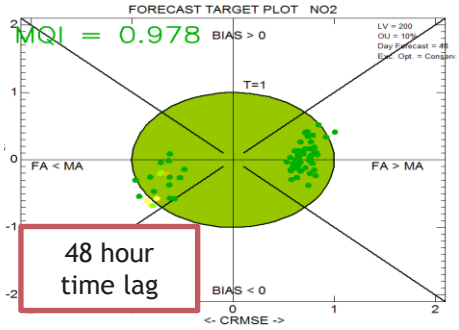
FORECAST MODEL QUALITY OBJECTIVE

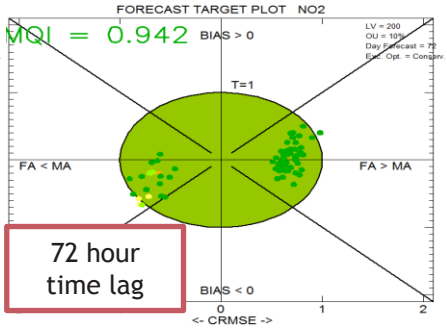
Do we need a benchmarking procedure for forecast models?

- DELTA-*in-forecast* mode → additional info for forecast models (is not replacing standard benchmarking process)
- Comparison with the persistence model
- Threshold exceedance indicators
- Some open issues to tackle: inconsistencies in Guidance document, small bug fixes, useful indicators…







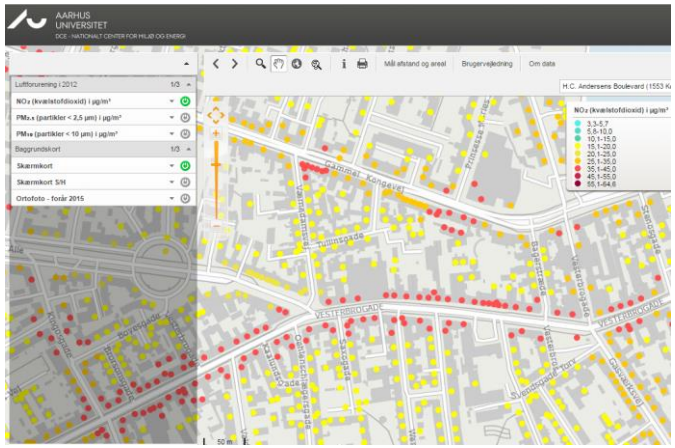


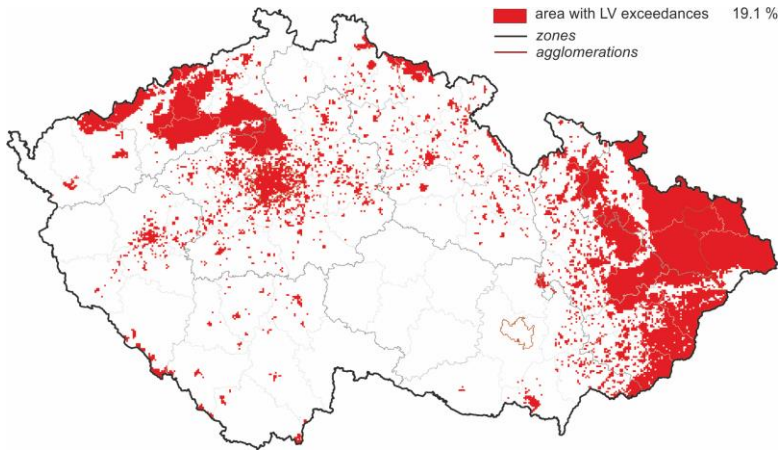
EXCEEDANCE ESTIMATES

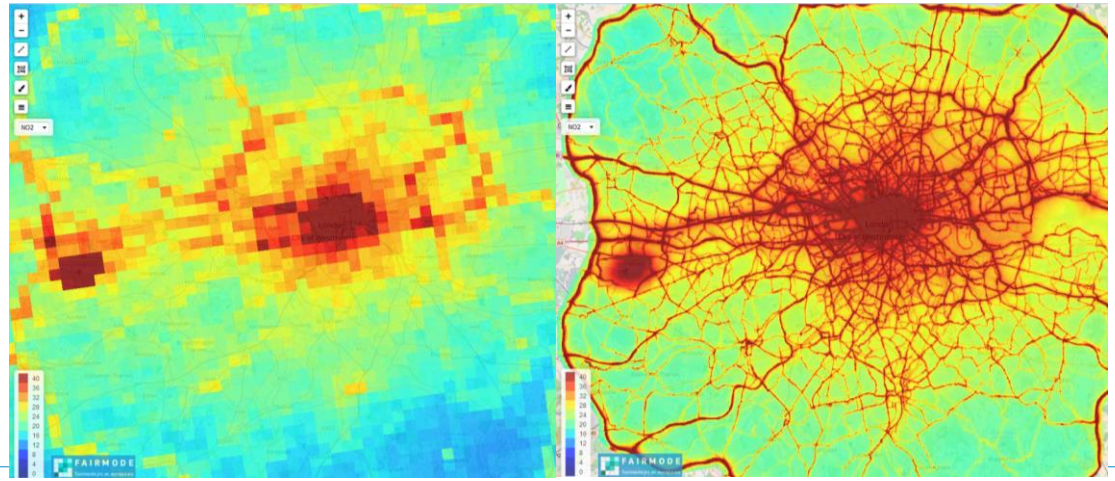
- Reporting of an exceedance situation according to implementing decision 2011/850/EC
  - *6. Estimate of the surface area where the level was above the environmental objective*
  - *7. Estimate of the length of road where the level was above the environmental objective*
  - *10. Estimate of the total resident population in the exceedence area*
  - *11. Estimate of the ecosystem/vegetation area exposed above the environmental objective*
- Analysis of population exposed to LV exceedances in Germany:
  - Stuttgart: **1.800** (2012), Hamburg **221.780** (2012)
  - Differences in exposed population are due to different approaches (modelling and station-based)
- Need for harmonization!

EXCEEDANCE ESTIMATES

Discussion very much linked to appropriate spatial scale of the assessment method



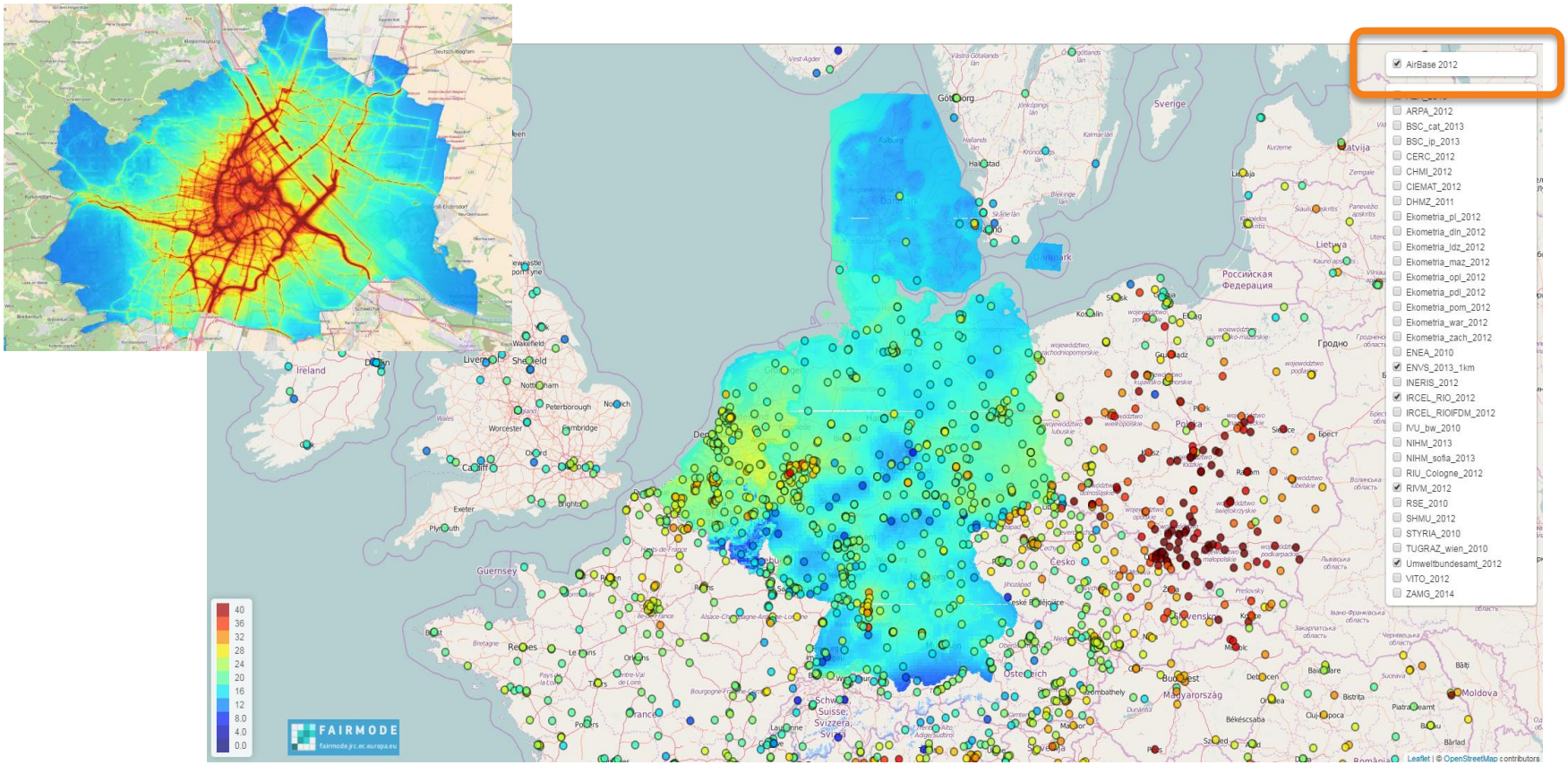




COMPOSITE MAPPING

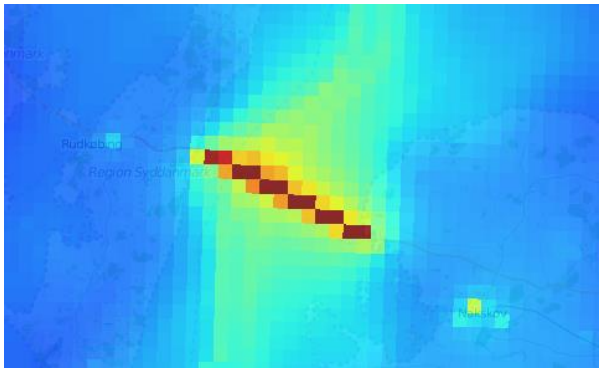
Number of new contributions since Baveno

New feature: AirBase 2012 stations added



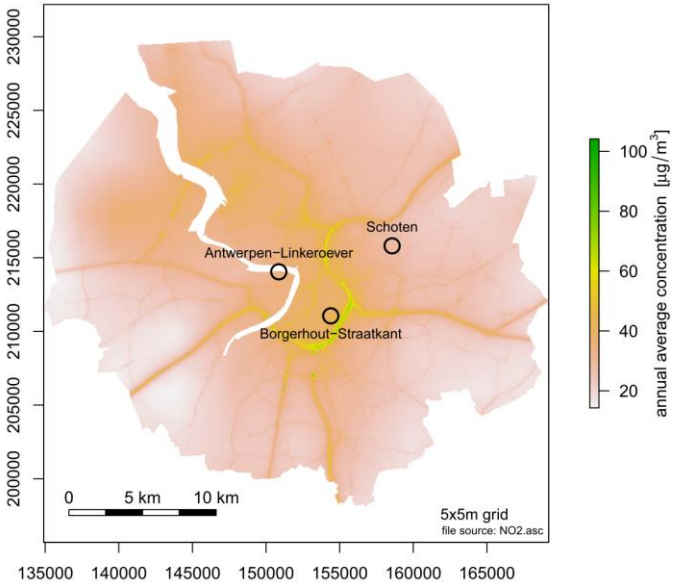
Scandinavia, South-Western, Central-West, Central-East

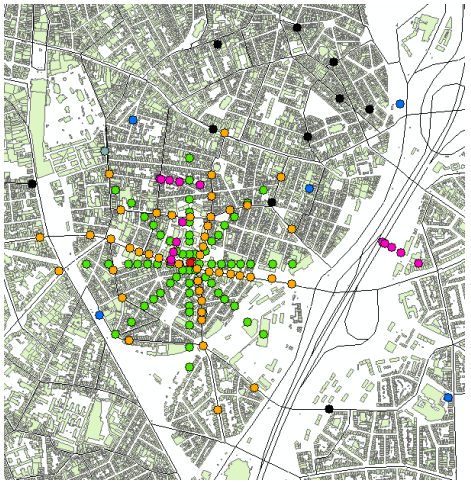
- Interesting discussions about causes of inconstancies:
  - Emissions
  - Data fusion/data assimilation
- Peer review of your air quality maps
- Clear link with IPR & e-Reporting → harmonize as much as possible
- Suggestions to improve the platform:
  - Target diagram attached to a map
  - Labeling of the maps
  - Quality control of data formats during upload process



SPATIAL REPRESENTATIVENESS

- Input data set:
  - Monitoring data (incl synthetic data based on model output)
  - Emissions
  - Population density
  - Building heights
- Results expected from participants
  - Maps, simplified metrics, scale, similarity of locations…
- Timing:
  - Data sets distributed June 2016
  - First results: September, October 2016





WG1 RECOMMENDATIONS FOR THE NEXT FAIRMODE WORKPLAN

Where to focus on in the next 3 years?

- Support to the ongoing CEN work to elaborate an MQO standard
  - Tackle major "open issues" (high percentiles,…)
- Support to the e-Reporting process
  - Estimation of exceedances
  - Models that are fit-for-purpose
- Cross Cutting Activities (?)
  - Spatial Representativeness → ongoing intercomparison exercise
  - Forecasting
  - M&M (data fusions)
- Composite Mapping exercise as a catalyst