AGENDA CT8 PLENARY SESSION

Start	End	Topic	Name
15:00	15:30	CT8 - #1 - Spatial Representativeness: discussion	All
15:30	15:40	CT8 - #2 - Exceedance situation indicators: findings of the hackathon	Stijn Janssen
15:40	16:00	CT8 - #3 - Network design: proposal for new exercise	Leonor Tarasson

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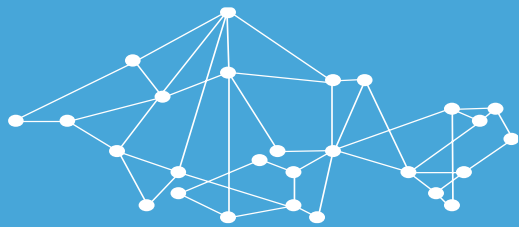Forum for air quality modelling in Europe

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CT8 – #1:
SPATIAL REPRESENTATIVENESS OF MONITORING STATIONS

STATUS UPDATE & DISCUSSION

STIJN JANSSEN, LEONOR TARRASON

SUGGESTION FOR A SR DEFINITION / RECIPE

- Discontiguous SR area

- Similarity criterion: annual mean concentrations

- Threshold value: 20% with absolute cutoff for low concentrations

- Limit SR area to the IPR AQ zone

- NO_2, PM_{10}/($PM_{2.5}$), O_3

→ Use modelled concentrations at station location (assuming bias is small → fit-for-purpose model)
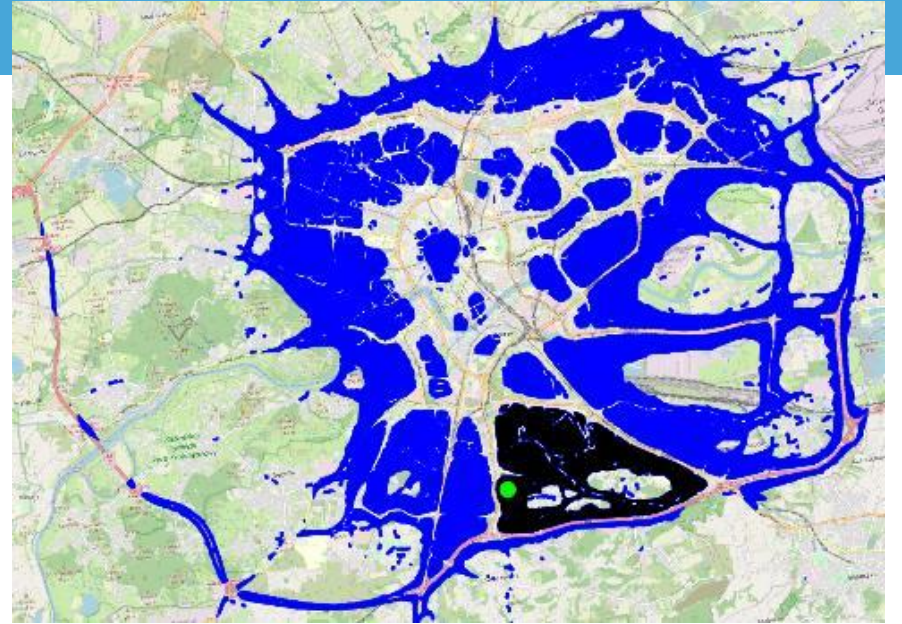
Test the Spatial Representativeness recipe and provide input for FAIRMODE Recommendations

- Make use of your existing modelling results

- Apply the recipe to delineate an SR area for a number of "interesting" stations in your country (rural, urban background, traffic, industrial)

- *Optional: perform your own sensitivity analysis on threshold values, contiguity, similarity criterion, lower cut-off, station type*

- *Optional: Compare these SR areas to results of other SR assessment methodologies used in your region/country*

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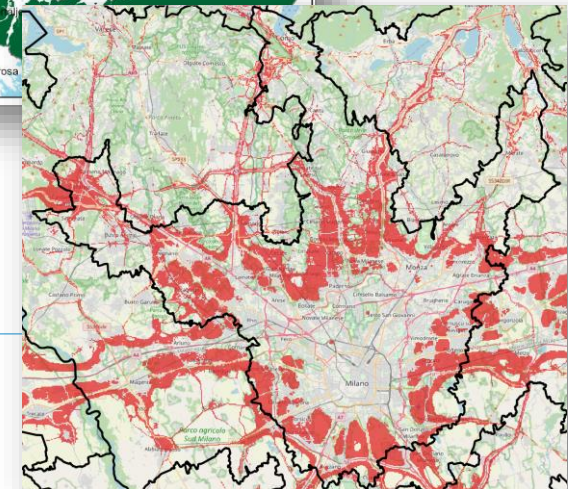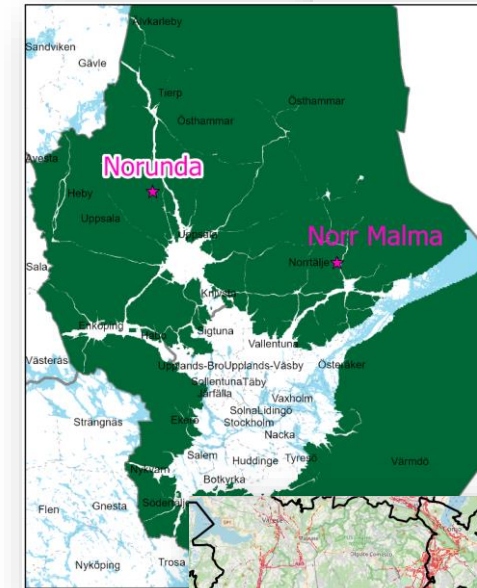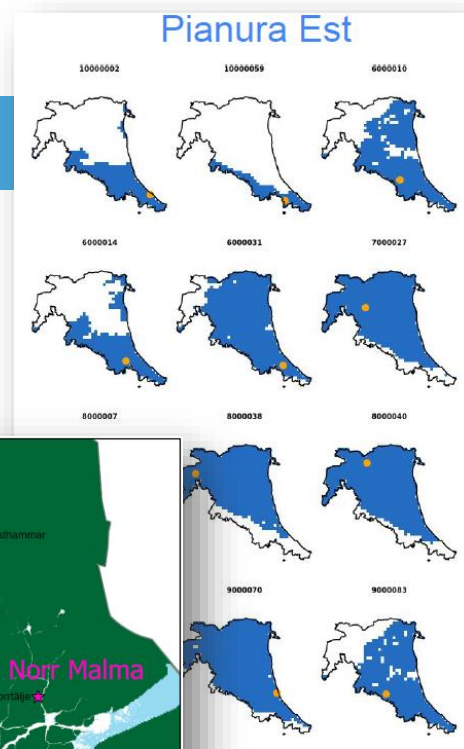Forum for air quality modelling in Europe

PARTICIPANTS CT8.1

Name	Country/Region
Vasiliki Assimakopoulou, Kyriaki-Maria Fameli	Athens
Doreen Schneider, Christiane Lutz-Holzhauer	Baden-Württemberg
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Michele Stortini, Roberta Amorati	**Emila Romagna**
Bruce Rolstad Denby, Eivind Grøtting Wærsted	**Norway / Europe**
Alicia Gressent	France
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Stephan Nordmann	**Germany**
Antonio Piersanti	Italy
Jutta Geiger	North Rhine-Westphalia
Grzegorz Jeleniewicz	**Poland**
Alexandra Monteiro	Portugal
Angela Morabito, Ilenia Schipa, Francesca Intini	Puglia
Susanne Bastian, Uwe Wolf, Martina Strakova	Saxony
Katrin Zink	Schleswig-Holstein (Northern Germany)
Fernando Martin	**Spain**
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Matthew Ross-Jones, Hilma Engholm	**Sweden**
Bianca Patrizia Andreini, Chiara Collaveri, Francesca Calastrini, Caterina Busillo, Francesca Guarnieri	**Tuscany**

The good news:

» Spatial Representativeness is essential information of a monitoring station and links to many elements in the AQD

» Models become fit-for-purpose to assess SR at all spatial scales and all station types

» FAIRMODE has a much more harmonized view on the subject than few years ago

» So… we're making significant progress. Eventually!

→ thanks to all the enthusiastic participants for their contributions

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» Threshold (or tolerance) in similarity criterion:
  » Relative or absolute threshold (or combination)?
  » 5% - 20%
  » Pollutant dependent?
  » Station type dependent?

» Similarity criterion: simple "annual mean" or more complex definitions: source dependent, seasonal mean, percentiles…?

» What about:
  » model (resolution) dependency?
  » bias between model and station values → what is acceptable?

» Inter-annual variability of the SR area: a matter of fact or a problem?

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POINTS FOR DISCUSSION

» Threshold (or tolerance) in similarity criterion:
  » Relative or absolute threshold (or combination)?
  » 5% - 20% → link with measurement and model uncertainty
  » Pollutant dependent? → should be no problem
  » Station type dependent? → would be good if this can be avoided

» Similarity criterion: simple "annual mean" or more complex definitions: source dependent, seasonal mean, percentiles...? → let's start with something simple but maybe not sufficient

» What about:
  » model (resolution) dependency?
  » bias between model and station values → what is acceptable?

→ model should be fit-for-purpose

» Inter-annual variability of the SR area: a matter of fact or a problem? → it is just a reality

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Statement from Stephan Nordmann

What is the reason for this approach? According to Annex III B in the AQD (macroscale siting) representative areas of sampling points are relatively unspecific (e. g. several km^2 for background sites).

➢ Is it really necessary to have such detailed information about the representative area?

➢ What question should be answered with that?

➢ Is it even possible to give such a detailed information, because the conditions around the sampling points are changing (e. g. meteorology)?