

# FAIRMODE input for e-Reporting

» Stijn Janssen, Claudio Belis & Philippe Thunis

# Context & process

- » FAIRMODE community has been asked to contribute to e-Reporting by answering **set of questions**
- » Questions were formulated by EEA in Spring 2014 (update in June 2014)
- » **FAIRMODE experts** have provided input over Summer:
  - » *Jenny Stocker (UK), Malgorzata Paciorek (PL), Laure Malherbe (FR), Fernando Martin (ES), Alexandra Monteiro (PT), Hans Backström (SE), Cristina Guerreiro (NO), John Stedman (UK)*
- » Summary by FAIRMODE Steering Group (WG1 & WG3)
- » Review of summary by the National Contact Points in October 2014

# Topics covert in the questions

- » Feedback on the scope of the model parameterisation **code list**
- » Feedback on the scope of the **modelling meta-data profile** and **data quality report**
- » Feedback on preferred **file formats** and **common projections grid**

# Feedback on the scope of the model parameterisation code list

- » Code list [2] is a **good starting point**
- » ... but more aspects should be included and the list could be organised according to specific topics:
  - » Model **type** (Eulerian, Lagrangian, Gaussian plume...)
  - » Model **characteristics** (advection, convection, turbulence, deposition, chemical schemes...)
  - » Model **input** (meteo, emissions, topography, boundary conditions...)
  - » Model **application** (assessment of AQ concentrations, assessment of population exposure, source apportionment...)

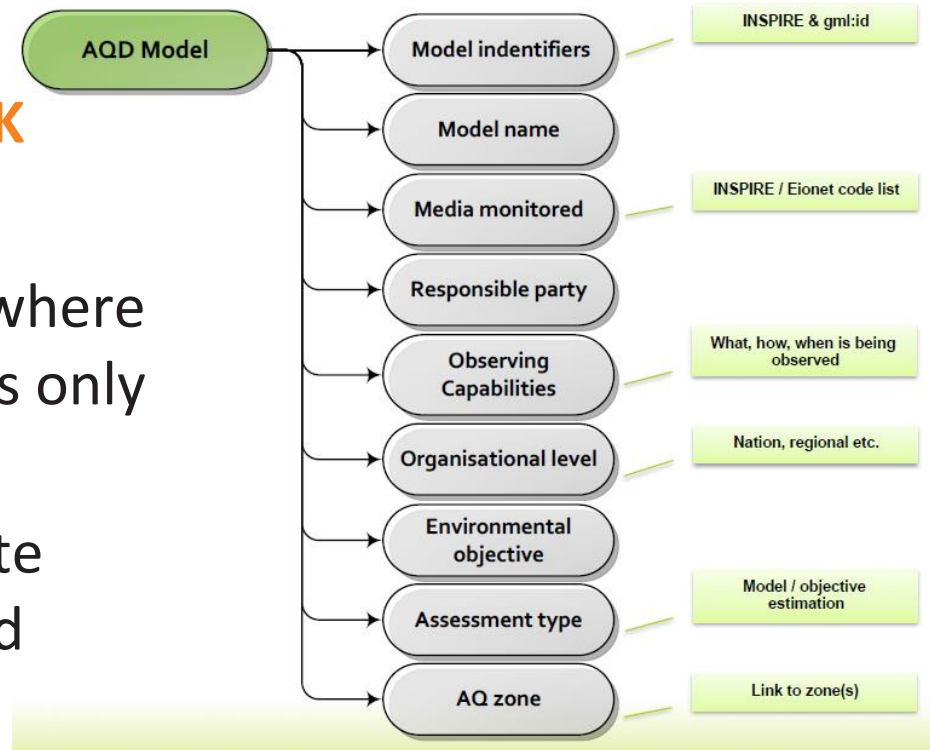
Id	Preferred label	Definition
advection	<a href="#">Advection scheme</a>	Description of the scheme used to characterise the ...
chemistry	<a href="#">Chemistry or chemical schemes applicable</a>	A description of the chemical schemes or ...
convection	<a href="#">Convection scheme</a>	Description of the scheme used to describe the ...
deposition	<a href="#">Deposition scheme</a>	Description of the deposition schemes used to ...
emissions	<a href="#">Emissions inventory applied</a>	Descriptive text to enable the identification ...
meteorology	<a href="#">Meteorology applied</a>	Descriptive text on the type of meteorology used ...
samplingPoints	<a href="#">Sampling points used</a>	A list of the sampling point used to inform an ...
topography	<a href="#">Topography scheme</a>	Description scheme for the terrain height and/or ...
turbulence	<a href="#">Turbulence</a>	Turbulence profiles based on surface similarity ...

# Feedback on the scope of the model parameterisation code list (II)

- » ... more aspects to add:
  - » For combined use of modelling and monitoring data via Kriging or data assimilation: **methodology** used and **monitoring data** used
  - » Space for **“free-text”** descriptions

# Feedback on the scope of the modelling meta-data profile

- » Model meta-data profile is **OK**
- » However:
  - » Report **hourly data** everywhere  
→ **too strict** (some models only provide annual averages)
  - » Some applications calculate concentrations on **grid** and **receptor points** (typically located along major roads) → possible to report both types **simultaneously?**



# Feedback on 'data quality report' element

- » Data quality objectives are a way to ensure that the model is fit for purpose.
- » FAIRMODE's **Model Quality Objective** is more and more used as a reference to evaluate modelling results in the framework of the AQD.
- » Clear need to further develop a **model benchmarking system** and **guidance** on how to do the modelled data quality testing and reporting → ongoing work in FAIRMODE
- » Difficult to calculate a value for **model uncertainty** suitable for inclusion in dataflow E

# Feedback on your preferred file formats

- » The **output file formats** mainly used are ASCII style, netCDF or Shapefile.
- » **netCDF** seems to be the format which is most widely accepted and preferred within the modelling community.
- » **GML** is flexible, open and supports mixed forms of geographic objects. However, it **is not considered** as an **appropriate format** for data reporting. GML is not practical for gridded data and the files are large and slow to use and transfer.
- » Most of the MS do **not** have modelled data available as a **web services**.



# Feedback on common projection and a common projection grid

- » **Common projection** is in principle **no problem** via recalculation of coordinates.
- » FAIRMODE **does not recommend a common projection grid** because of the following potential problems/questions:
  - » choice of the modelling grid depends on many aspects and a common grid cannot be imposed to modellers for their calculations,
  - » which grid would be suitable for which spatial scale?
  - » which interpolation method should be selected?
  - » what is the risk of impairing the quality of the results?
  - » risk of wrongly comparing modelling data obtained at different scales.

# Conclusions

- » EEA wants to prepare the (technical) ground for those MS that do report model results (NL, UK, ES) but they need real world data to build up expertise and draft guidances
- » There is no consensus yet on how to report model data in the e-reporting process
- » Possible way forward:
  - » Disconnect reporting of modelling data from the formal compliance checking
  - » Everybody can report model output under the label of “exchange of information” without any formal consequences
  - » In the meantime technical issues related to ICT (EEA) and modelling aspects (FAIRMODE) could be solved
  - » (EU mapping initiative... → see discussions of yesterday)