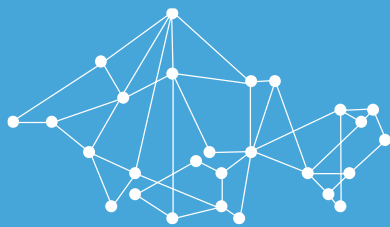




FAIRMODE

Forum for air quality modelling in Europe



WG1: UPDATE ON MQO, DELTA- TOOL AND GUIDANCE DOCUMENT

STIJN JANSSEN, JOOST WESSELING & PHILIPPE THUNIS

MODELLING QUALITY INDICATOR & OBJECTIVE

When is a model “good enough” for policy support?

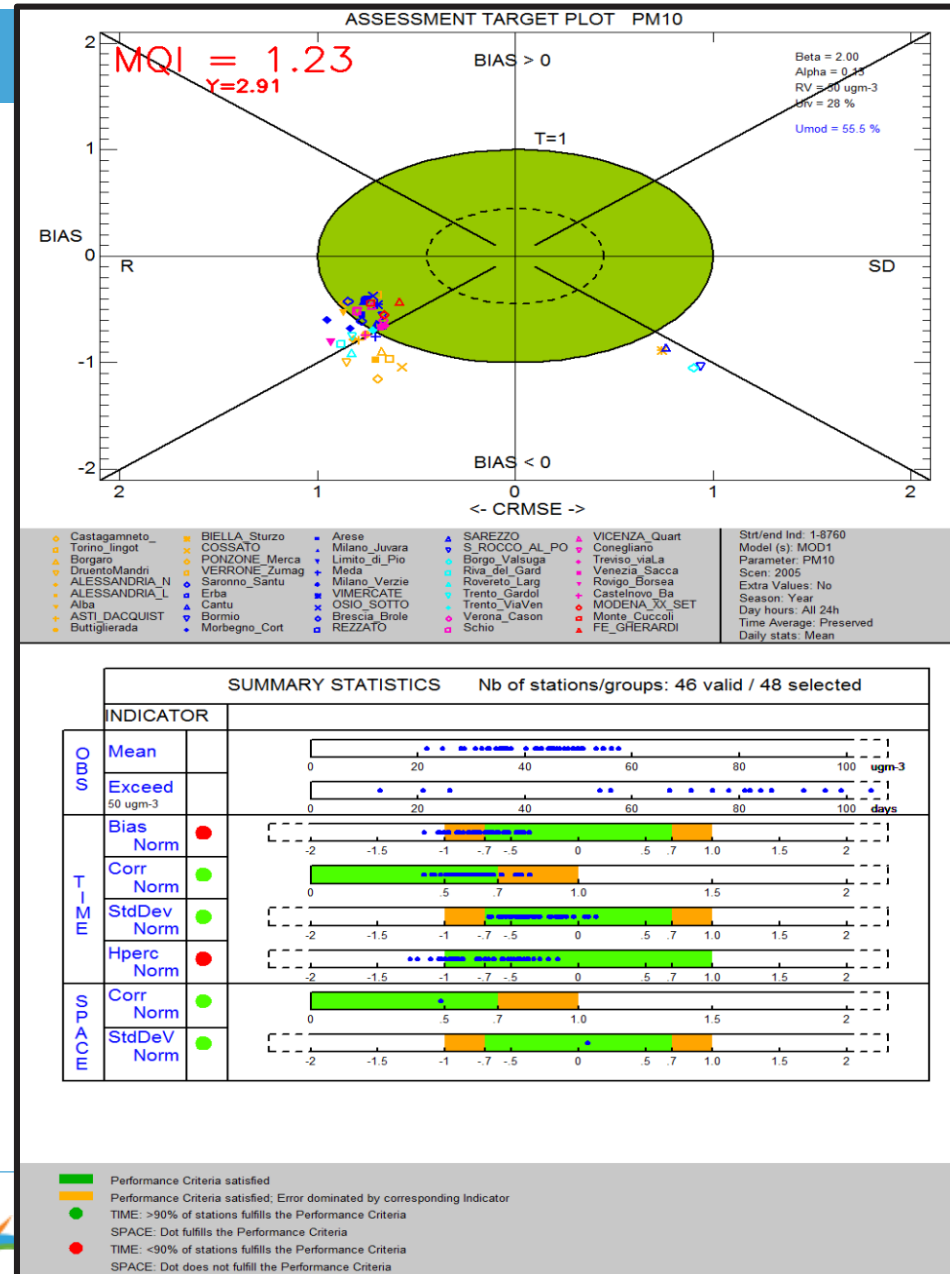
- » **Modelling Quality Indicator (MQI)**: Statistical indicator calculated on the basis of measurements and modelling results.
- » **Modelling Quality Objective (MQO)**: Criteria for the value of the MQI. The MQO is said to be fulfilled if MQI is less than or equal to unity.

$$MQI = \frac{RMSE}{\beta RMS_U} \quad \text{and} \quad MQO: MQI \leq 1$$

with RMS_U the measurement uncertainty

REPORTING TEMPLATE

- » Some recent remarks...
- » “Corr Norm” → is related to correlation but is not R or R². Good values in the range 0 - 0.7. New label required?
- » TIME/SPACE labels are confusing
 - » TIME: station by station comparison of obs and model time series → “time series” statistics
 - » SPACE: analysis of annual averaged values over all stations → “spatial” analysis



GUIDANCE DOCUMENT VS2.1

Available via the FAIRMODE website

WG1 - Assessment [view website](#)

Assessment

Lead: VITO Co-lead: JRC Co-ordinator: S. Janssen

In this WG a methodology to benchmark model performances according to a common scale and common template has been the focus for several years.

In this context, model quality objectives (MQO) based on observation uncertainty have been discussed and the methodology is consolidated in the so-called DELTA tool. Currently the methodology is extensively tested by the FAIRMODE community.

Current Activities

- EU Composite Maps
- Source App. Intercomp.
- Spat. Repr. Intercomp.

About FAIRMODE

Working groups

Related Documents

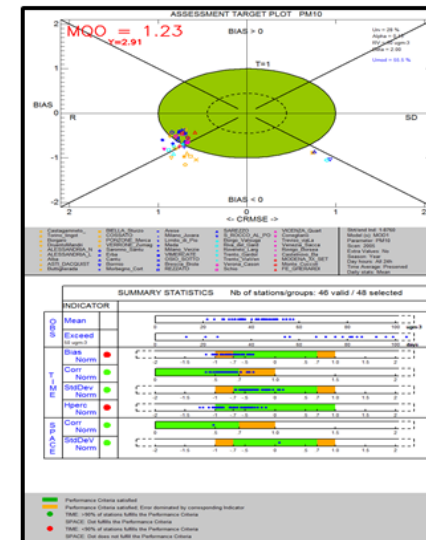
- [Spatial representativeness of monitoring stations: Report on the outcome of the inter-comparison exercise \(February 2018\)](#)
- [Guidance document on MQO and Benchmarking V2.1 \(February 2017\)](#)
- [Updates on long and short term MQO and usage in the Delta tool \(May 2016\)](#)
- [MQO in the framework of the FAIRMODE project \(Apr 2014\)](#)
- [MQO Template performance report & DELTA updates \(Mar 2012\)](#)
- [Delta User's guide V5.4 \(June 2016\)](#)

Guidance Document on Modelling Quality Objectives and Benchmarking

Stijn Janssen, Cristina Guerreiro, Peter Viaene, Emilia Georgieva, Philippe Thunis

with contributions from: Kees Cuvelier, Elke Trimpeneers, Joost Wesseling, Alexandra Montero, Ana Miranda, Jenny Stocker, Helge Rørdam Olesen, Gabriela Sousa Santos, Keith Vincent, Claudio Carnevale, Michele Stortini, Giovanni Bonafè, Enrico Minguzzi, Laure Malherbe and Marco Deserti

Version 2.1 – February 2017



NEW VERSIONS AVAILABLE SOON

- » Today Guidance Document vs2.1 & DELTA vs5.5
- » Guidance Document vs 2.2 will be fully compatible with DELTA vs5.6
- » Most important changes in Guidance Doc and DELTA:
 - » Bug fixes
 - » Compatible with e-Reporting → csv dump file → see PPT Artur Gsella
 - » New MQO on forecast (Chapter 10) → see Forecast session on Thursday
- » New release in July (?) → depends on feedback during Technical Meeting Tallinn