Ozone forecast 2013 – 2015, PM10 forecast 2013-2014– GEM-AQ Poland

A feedback on forecast & exceedances indicators DELTA tool

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Outline

- Data used for evaluation
- Emissions
- Ozone forecasts
- PM_{10} forecasts
- Remarks on flexibility and plots

# Values used for evaluation

- Ozone observation stations – 8hr max
  - 41 in 2013,
  - 82 in 2014, 91 in 2015
- PM10 observations stations – daily mean - 186 in 2013, 194 in 2014
- Model concentrations – pure forecast, no data assimilation
- Parameters for target plot and indicators:
  - Threshold=120 for O3, 50 for PM10
  - Observation uncertainty=999 – as in assessment
  - Flexibility=1&3 – conservative and model based
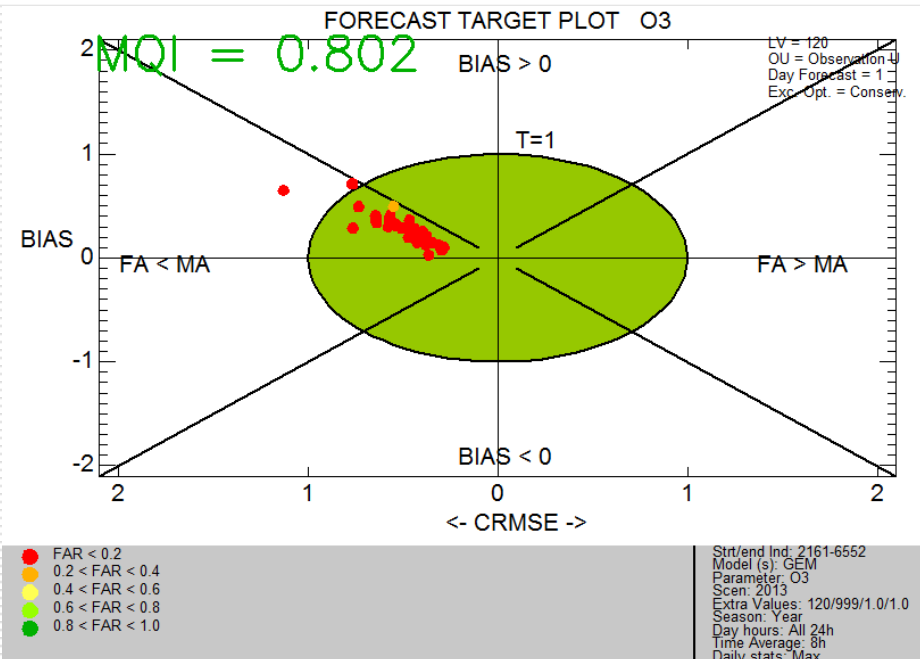 - Forecast horizon= 1 ???

Emission data

- EMEP inventory (valid 2011-2013)

- Emission 0.5x0.5 Mercator relocated to 0.125x0.125 and 0.05x0.05 based on GIS information

- Relocation masks separate for each SNAP category

- Temporal variability and vertical distribution for each SNAP category

Ozone forecast 2013

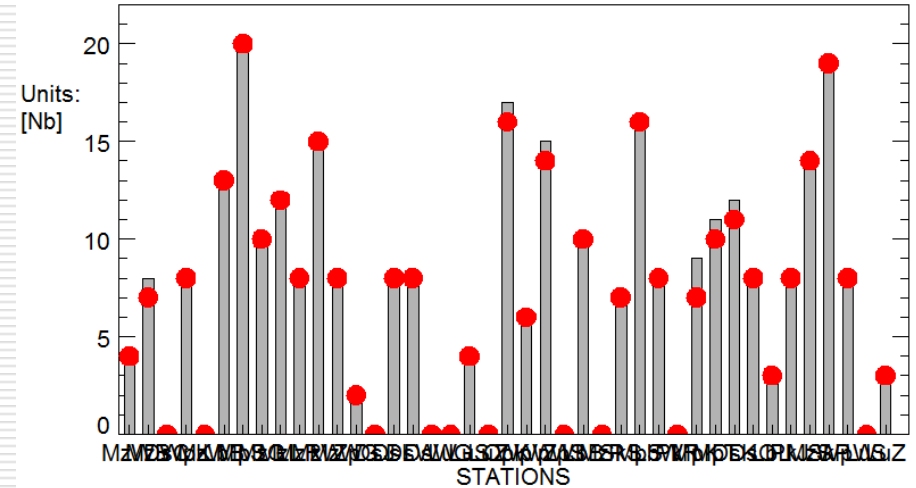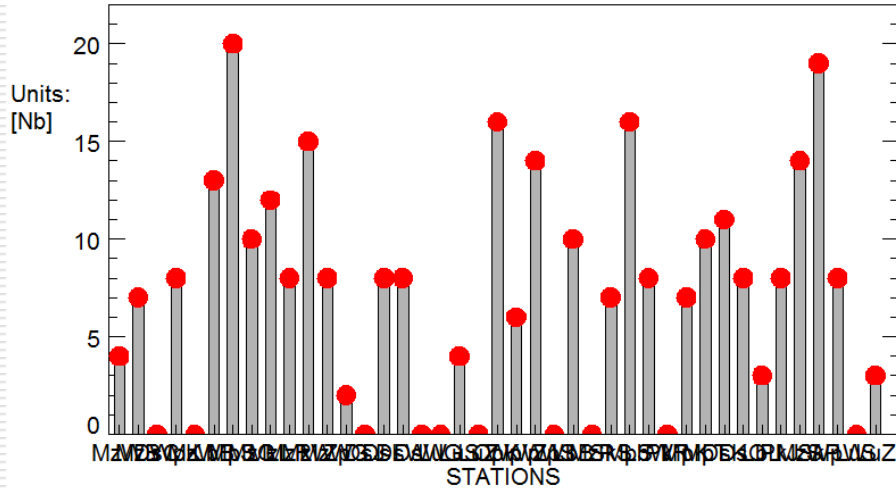**Flexibility – model based**   **Flexibility – conservative**
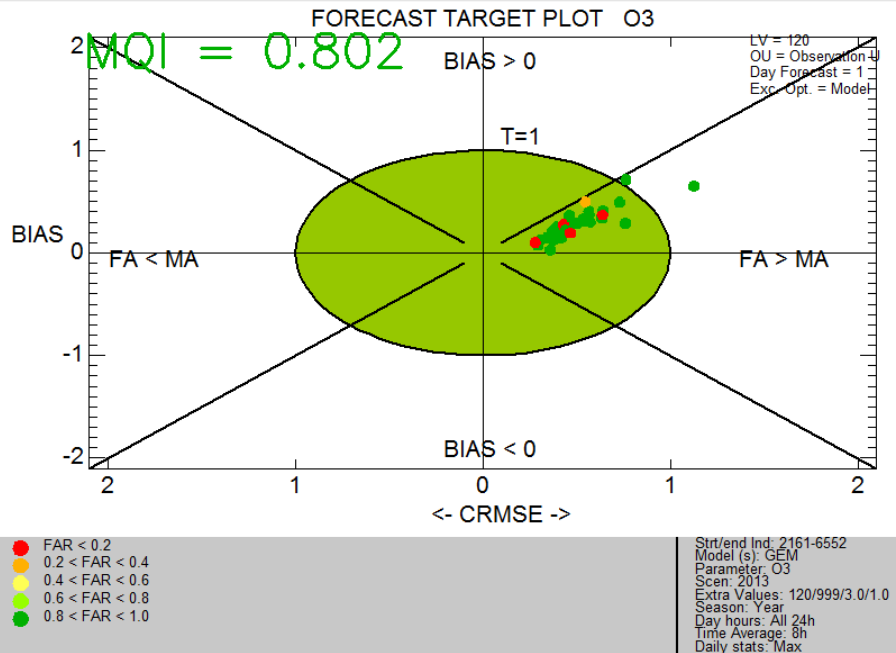
Ozone forecast 2013

Probability of detection

False alarm ratio

Ozone forecast 2014

Ozone forecast 2014

Probability of detection   **False alarm ratio**
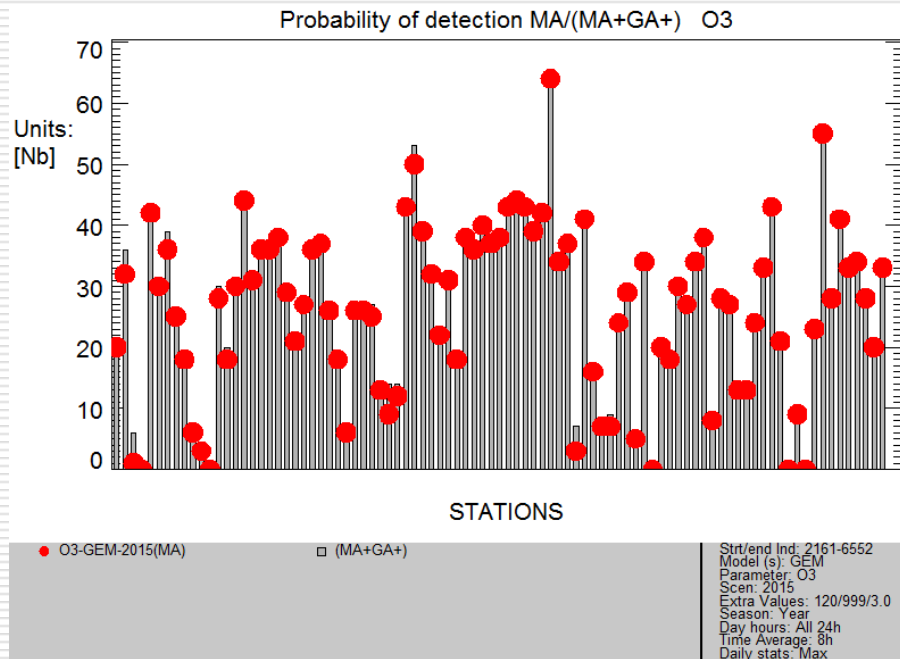
Ozone forecast 2015

Flexibility – model based

Flexibility – conservative
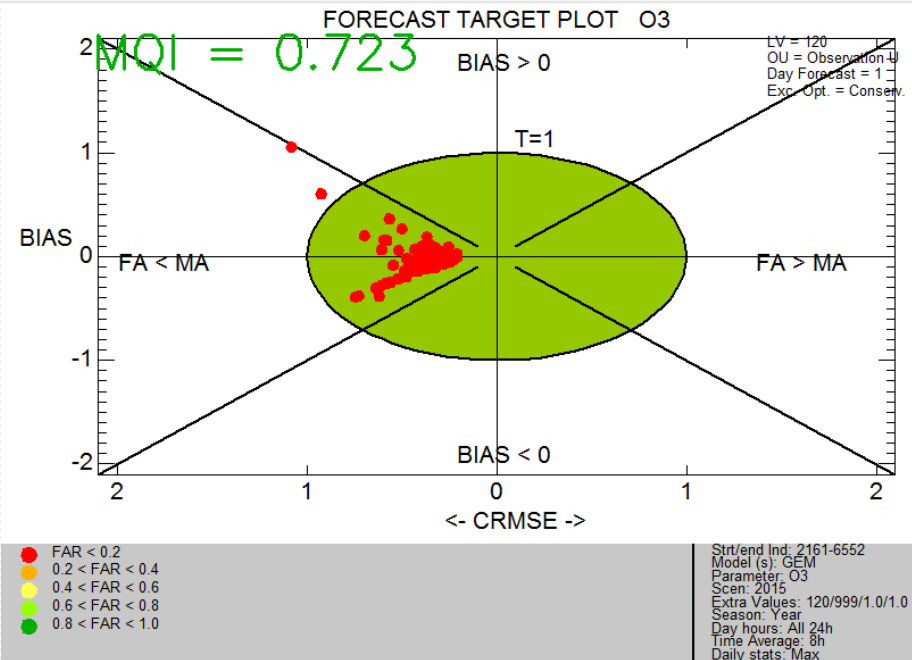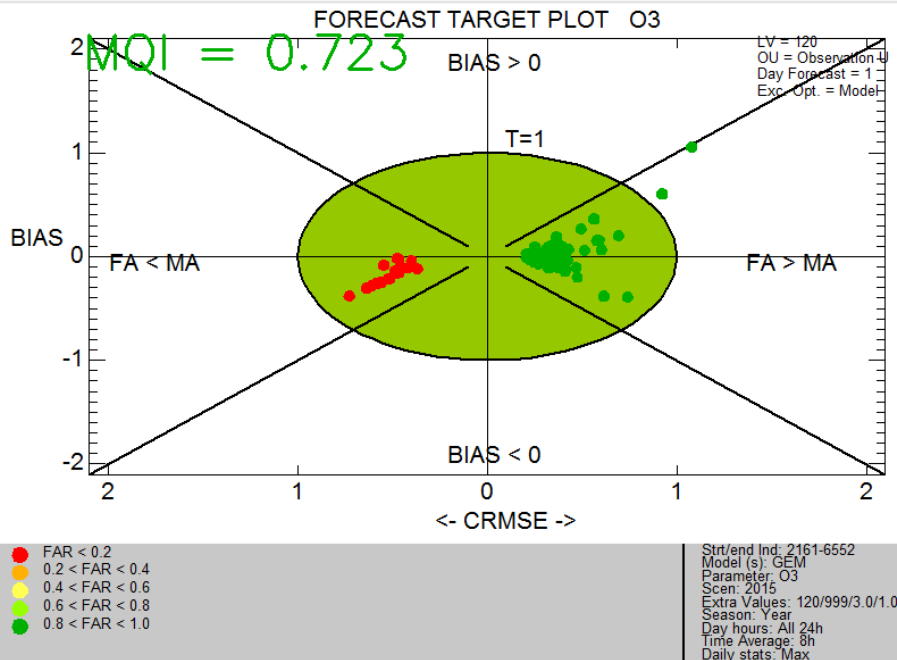
Ozone forecast 2015
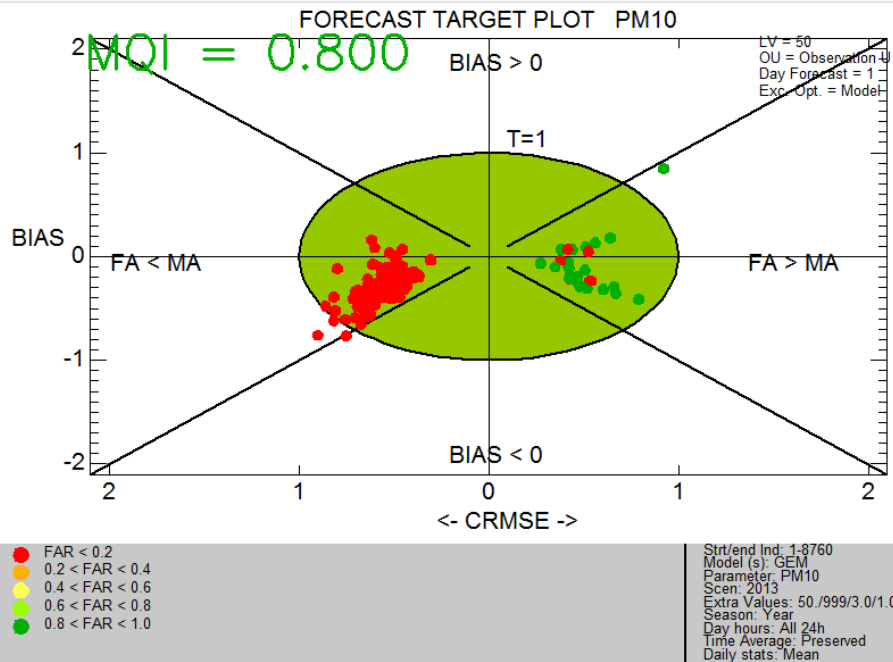
Probability of detection　　　　**False alarm ratio**
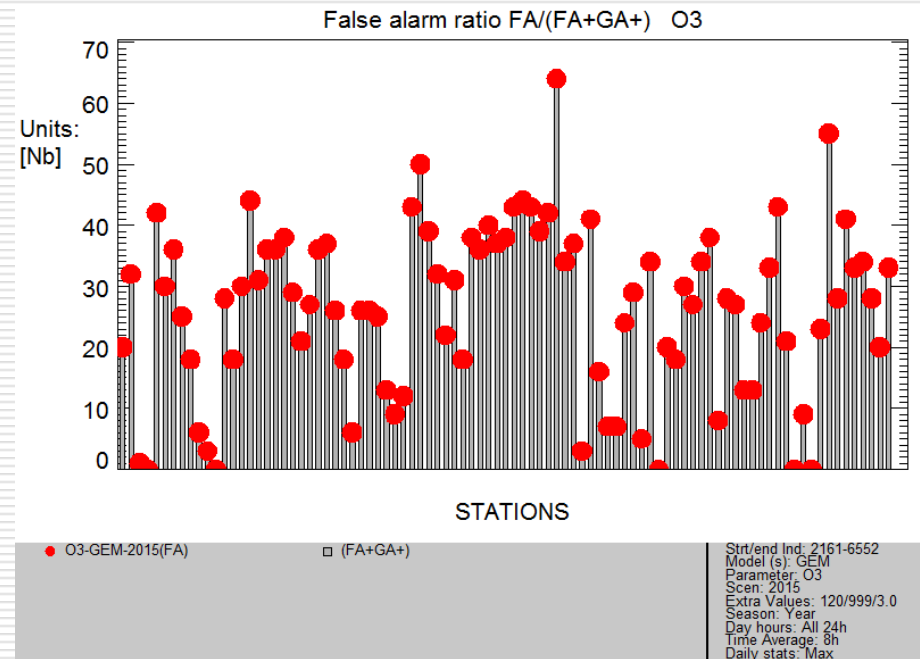
PM$_{10}$ forecast 2013

Flexibility – model based

Flexibility – conservative
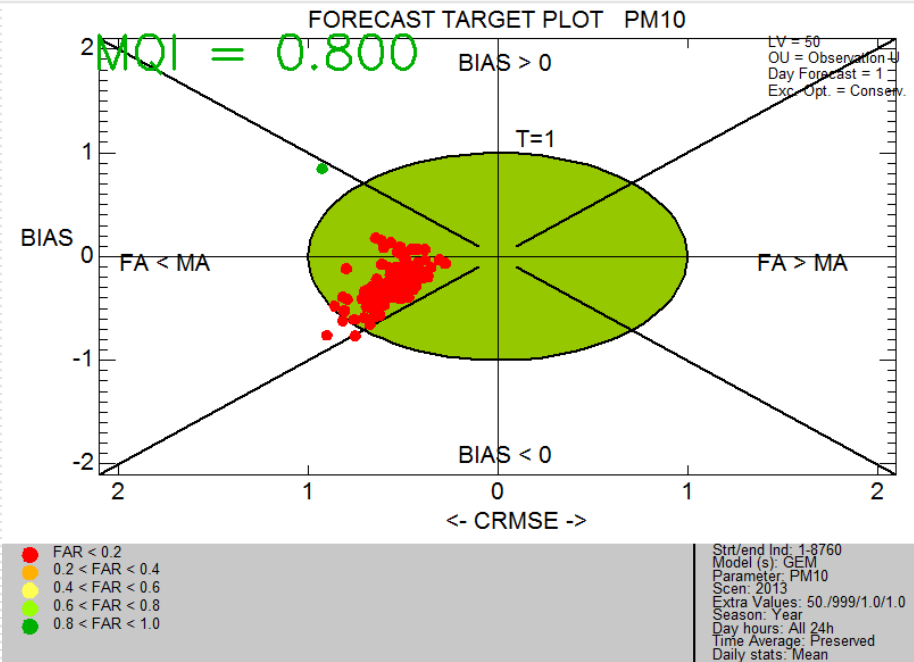
PM$_{10}$ forecast 2013

Probability of detection **False alarm ratio**
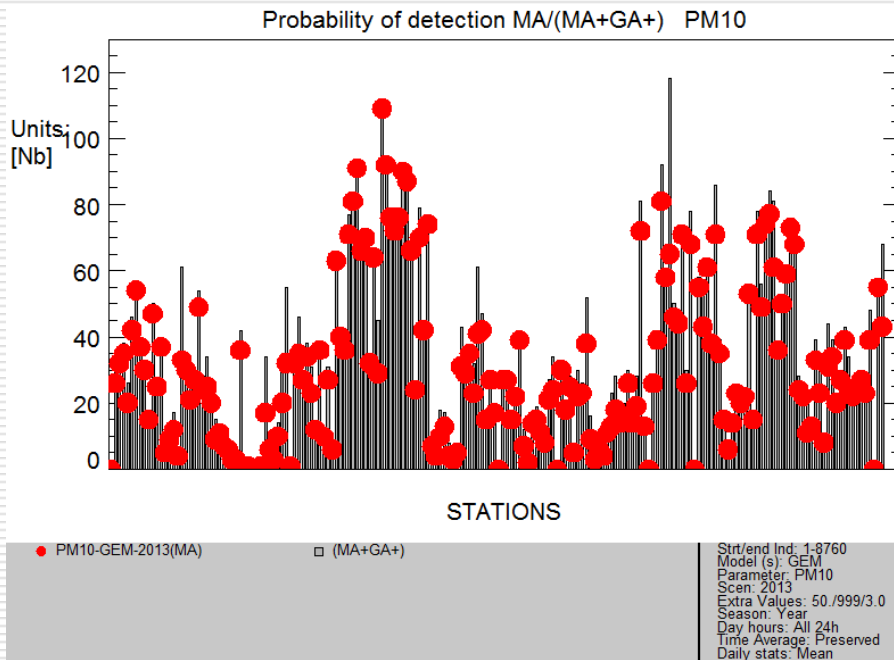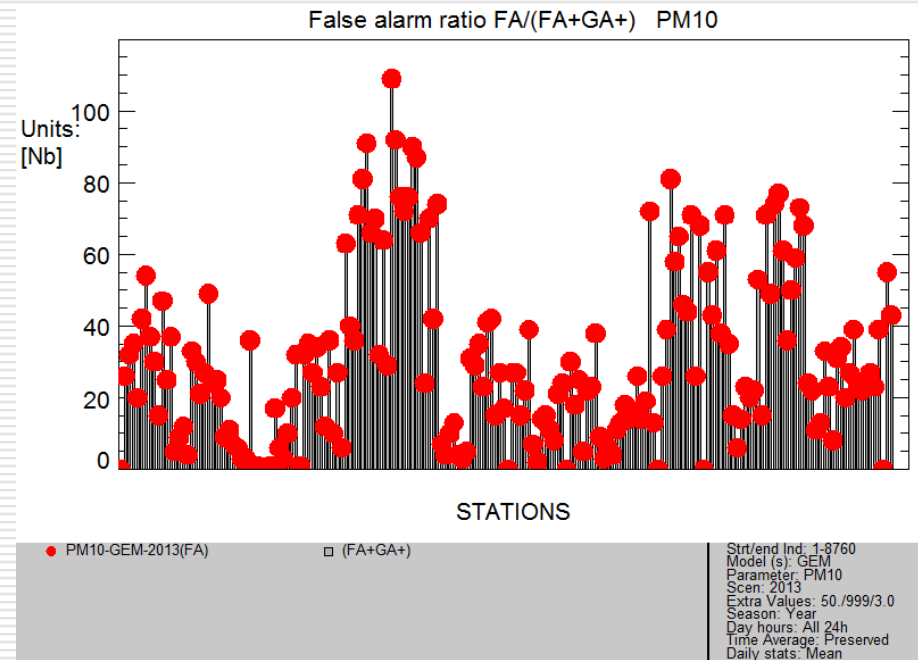
PM$_{10}$ forecast 2014

Flexibility – model based   **Flexibility – conservative**
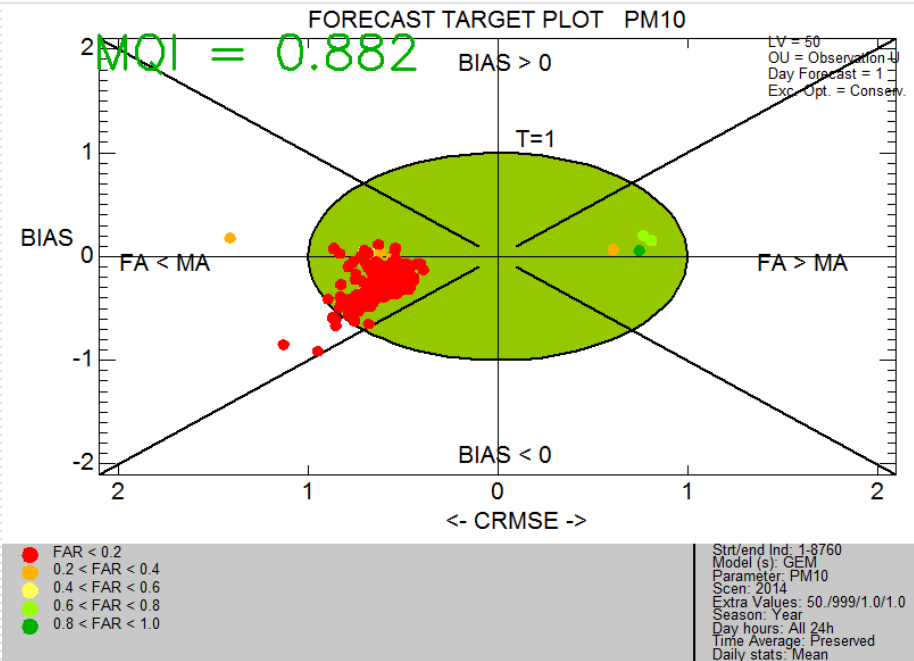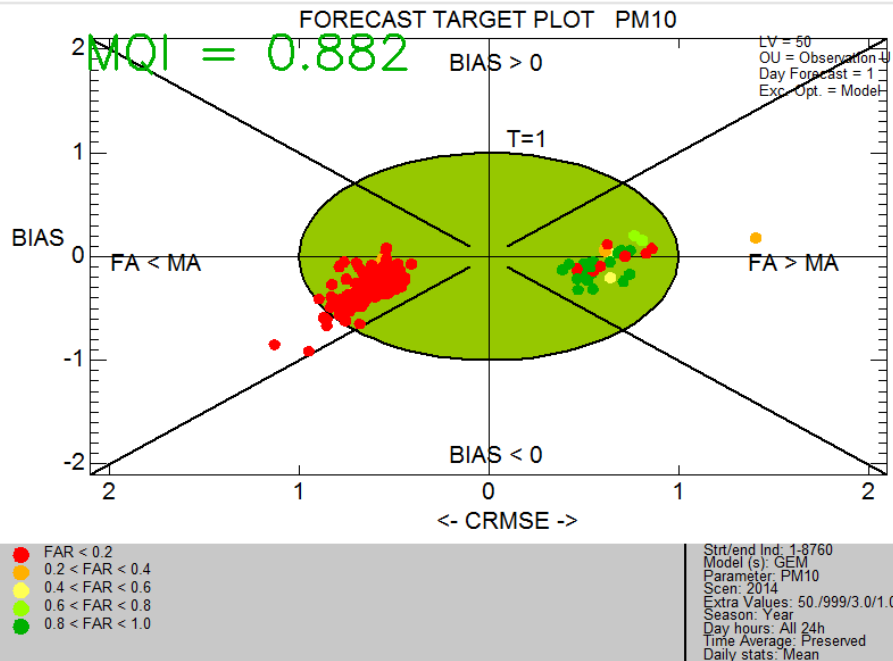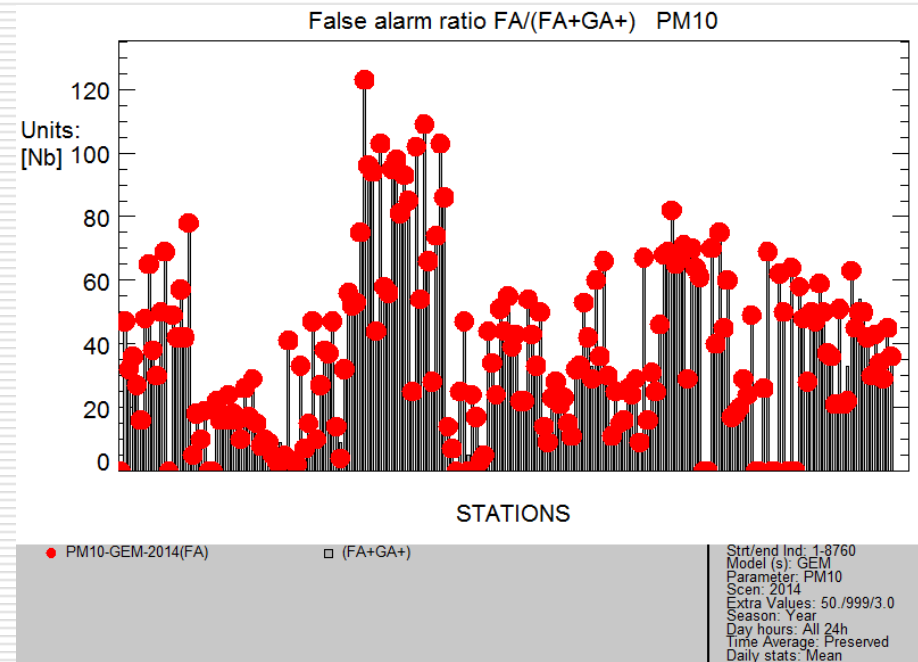
PM$_{10}$ forecast 2014
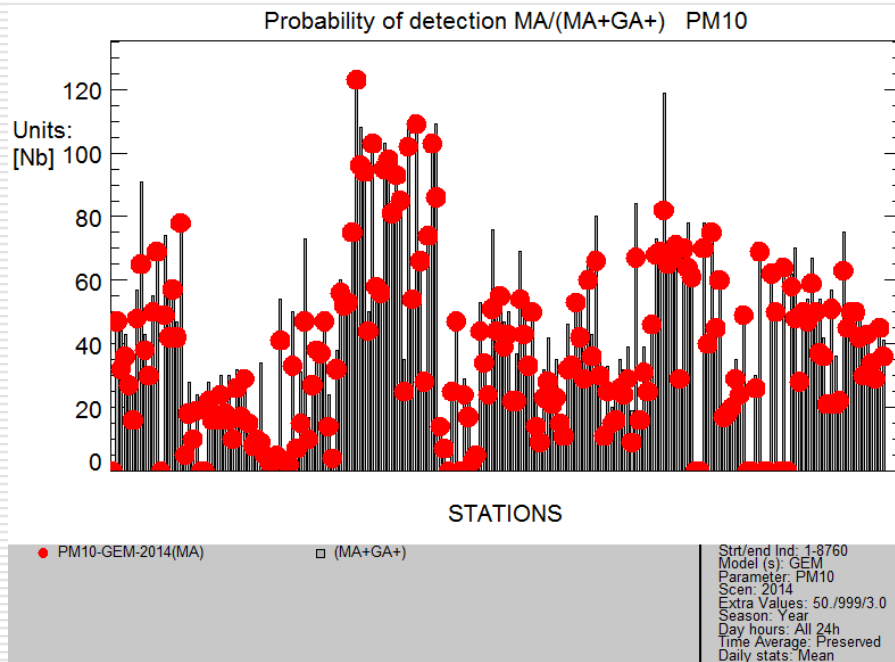
Probability of detection   **False alarm ratio**

Remarks

- Flexibility values and observation uncertainty are very sensitive – further description is needed in note/guidance

- Forecast horizon needs a better description

- The FAR scale and description is confusing – also needs more details

- The probability of detection / False alarm ratio – nearly identical as for ozone – not sure it should be

THANK YOU!