

WG1. Benchmarking DELTA-Tool

Feedback on the new MQO and Target plot : Portugal case study

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Ana Isabel Miranda
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Data

Model: EURAD

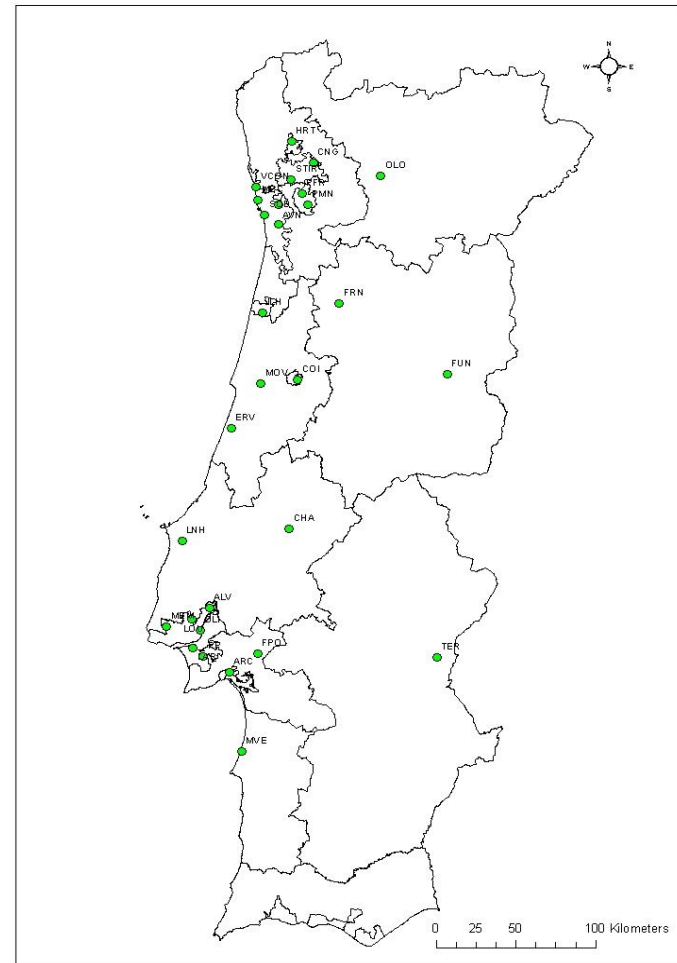
Year: 2012

Assimilation: data fusion

Domain: Portugal

Resolution: 5x5 km²

Validation: Σ 25 stations



DELTA-Tool use

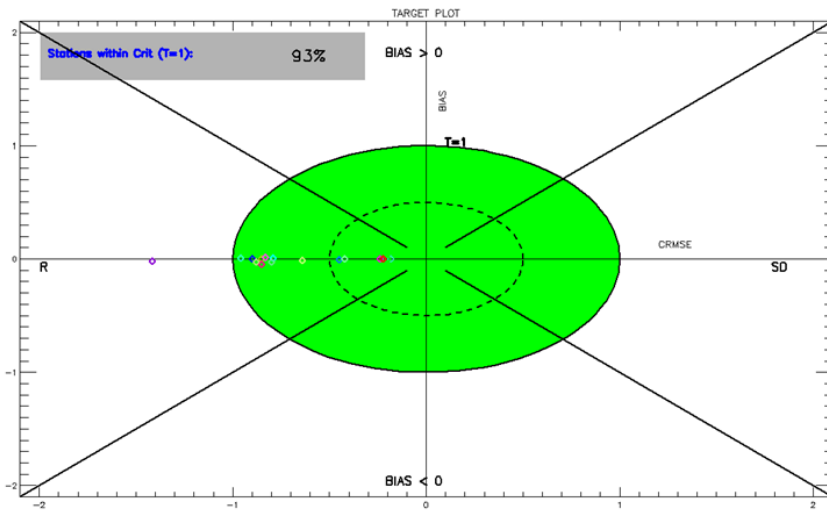
Official reports for Environmental Protection Agency



The performance of the air quality modelling system (for both assessment and forecast purposes) is evaluated using DELTA-Tool

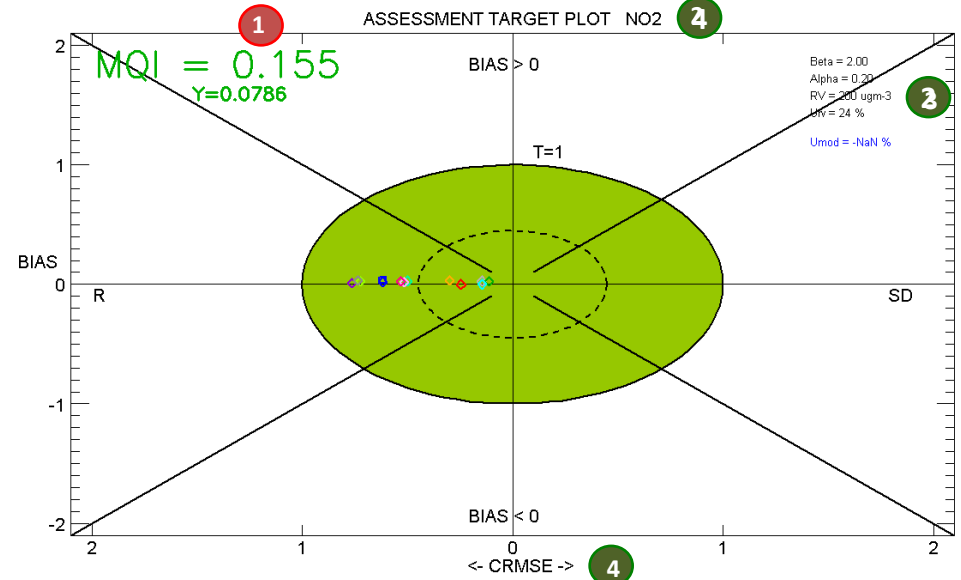
NO₂ Short-term (hourly)

2014 (version 3.6)



- | | |
|-------|-------|
| ● PMN | ● LOU |
| ● PFR | ● MEM |
| ● COM | ● ARC |
| ● OLD | ● CHA |
| ● SOB | ● FPO |
| ● ERV | ● ALV |
| ● FUN | ● TER |
| ● OLI | |
| ● LAR | |

2016 (version 5.4)



-Info about plot data---

● ALV	● FUN
● ARC	● LOU
● CHA	● PFR
● ERV	● SOB
● FPO	
● LAR	
● MEM	
● OLI	
● OLD	

-Info input data -> [startup_pt.ini \\modeling\Mydata2 \\monitoring\Mydata2]

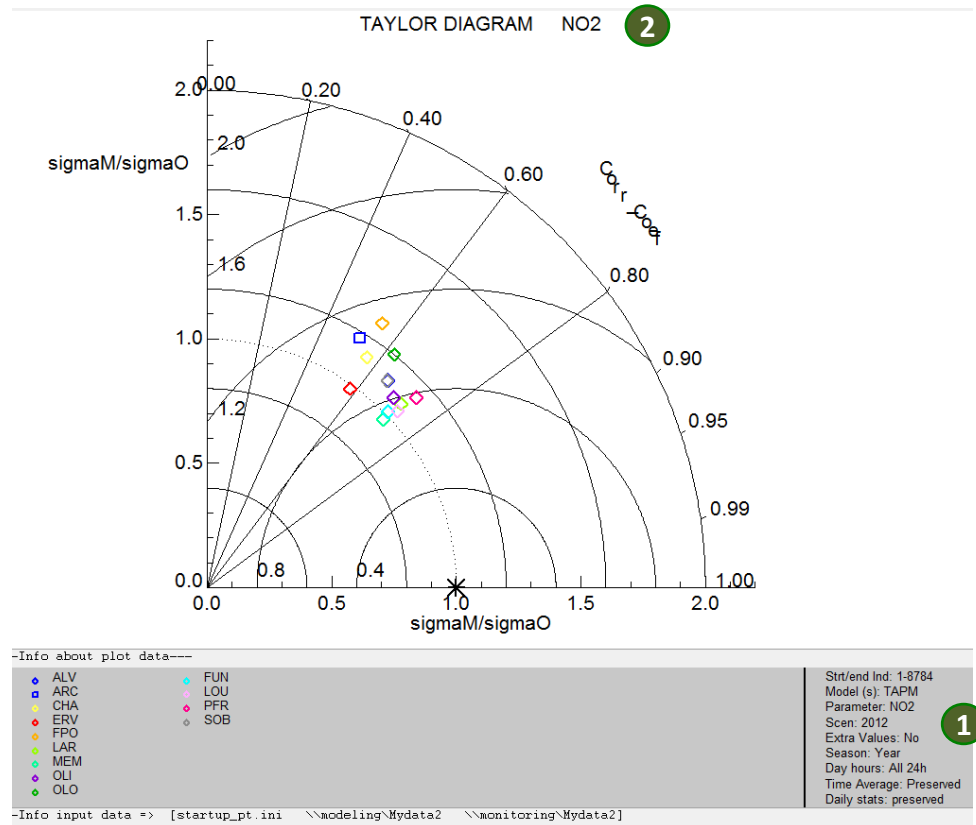
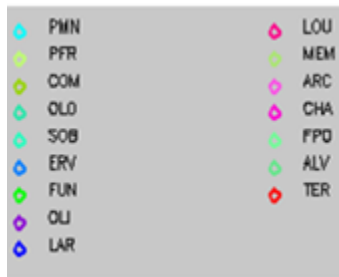
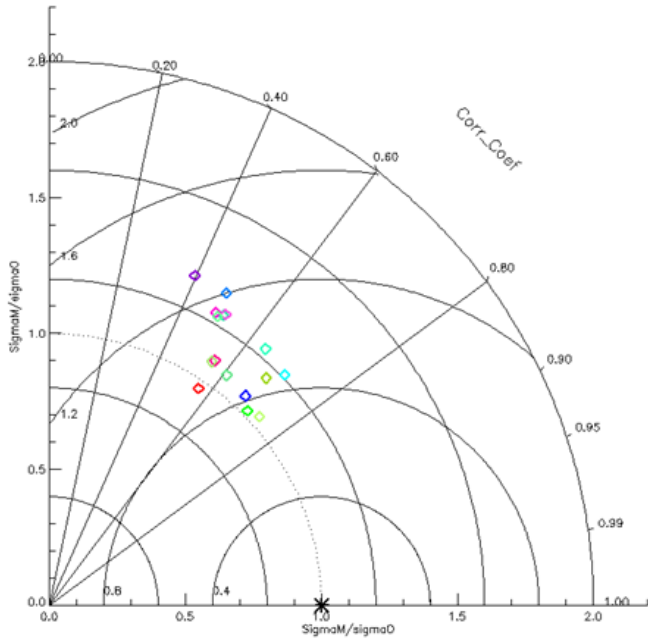
Stt/fend ind: 1-8784
Model (s): TAPM
Parameter: NO2
Scen: 2012
Extra Values: No
Season: Year
Day hours: All 24h
Time Average: Preserved
Daily stats: preserved

3

NO₂ Hourly average

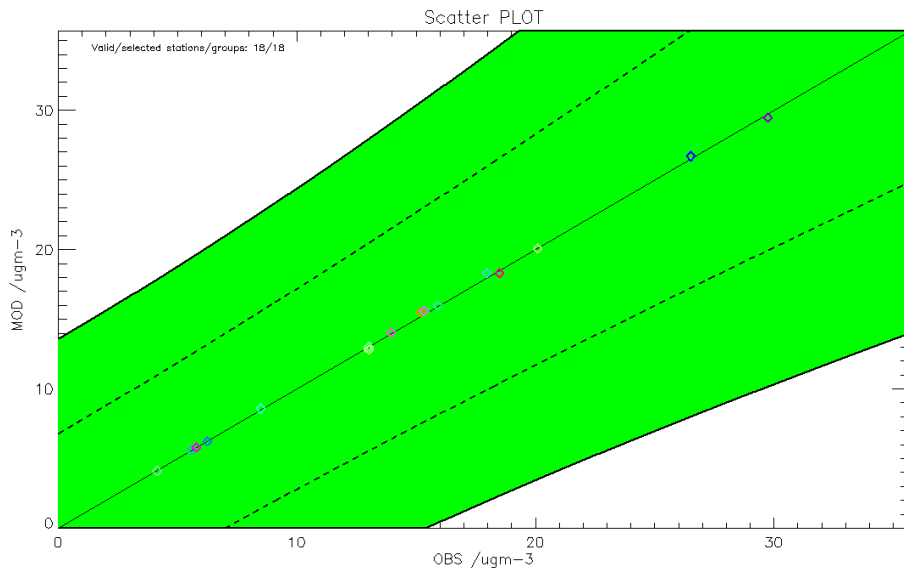
2014 (version 3.6)

2016 (version 5.4)

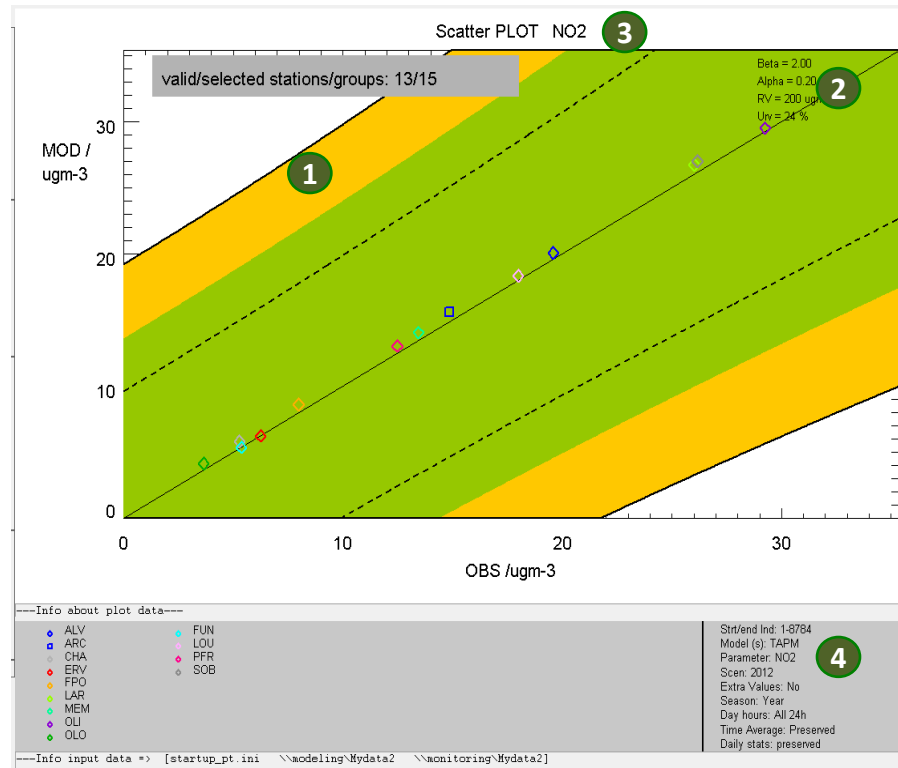


NO₂ Short-term (hourly)

2014 (version 3.6)



2016 (version 5.4)



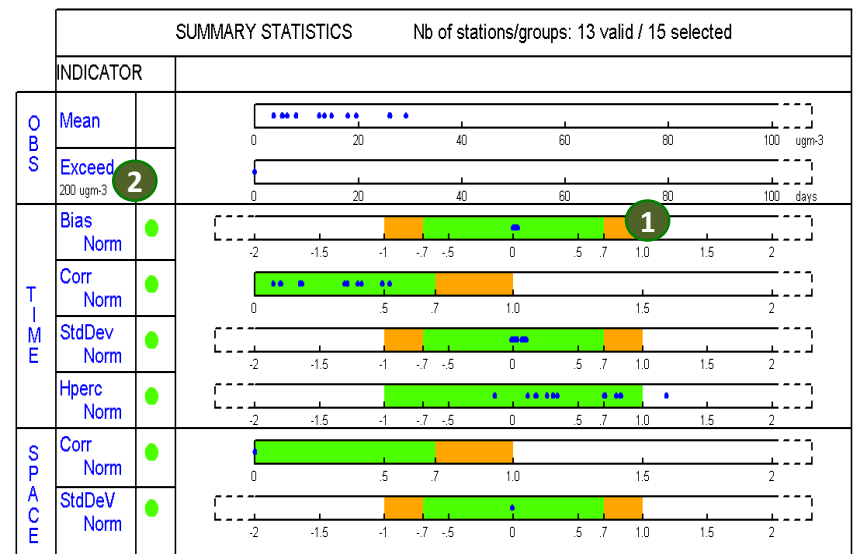
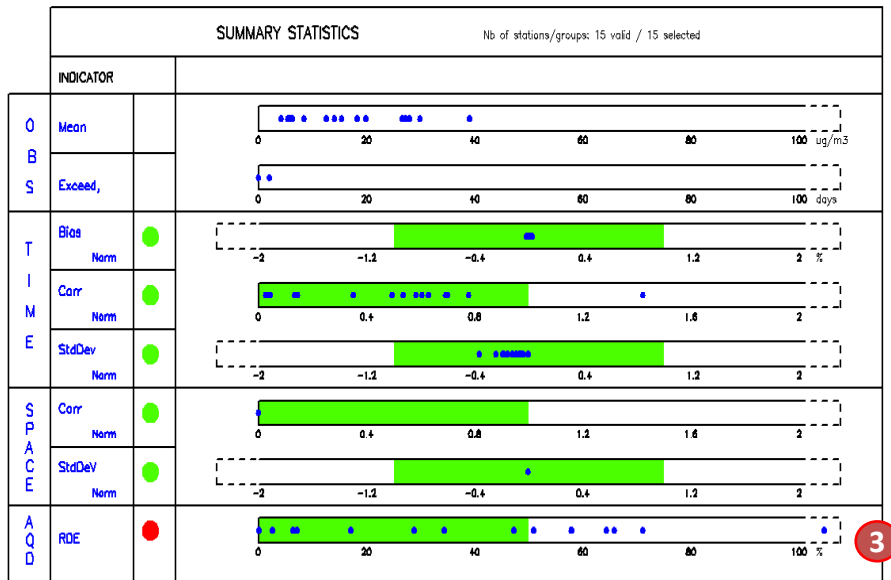
HRT	PP
PFR	OLI
OLO	LAR
YCDN	LOU
STIR	MEM
ERV	ARC
FUN	CHA
FRN	FPO
MOV	ALY

NO₂

Short-term (hourly)

2014 (version 3.6)

2016 (version 5.4)



- PMN
- PFR
- CNG
- QLO
- SOB
- ERV
- FUN
- OLI
- LAR

- LQU
- MEM
- ARC
- CHA
- FPQ
- ALV

Info about plot data---

- Performance Criteria satisfied
- Performance Criteria satisfied; Error dominated by corresponding Indicator
- TIME: >90% of stations fulfills the Performance Criteria
- SPACE: Dot fulfills the Performance Criteria
- TIME: <90% of stations fulfills the Performance Criteria
- SPACE: Dot does not fulfill the Performance Criteria

Info input data => [startup_pt.ini \\\modeling\Mydata2 \\\monitoring\Mydata2]

4

NO₂

Analysis

Elaboration

Diagram

- BarPlot
- Scatter
- Time Series
- Target (OU)
- Summary Report & print (OU)
- MPC (OU)
- Taylor
- ...

Statistics

- Daily - Year (PM10)
- 8H Max (O3)
- Hourly - Year (NO2...)

summary report: The threshold value is the limit value.

Need thresholds (v1#v2...) 40.0000# 1

Display criteria...

Multiple choice info

Max multiple choice for selected diagram is: 1

For selected statistic you may select (1):
1) observations.

Data

Time Avg

preserve (none)

8h running

N/A

Daily stats

Preserve

Mean

Max

Min

N/A

Hour Day Month

Date 0 1 1

 23 31 12

Season

All

Summer (JJA)

Winter (DJF)

N/A

Day

All

Day (08-19)

Night (00-07/20-23)

WeekDays (Mo-Fr)

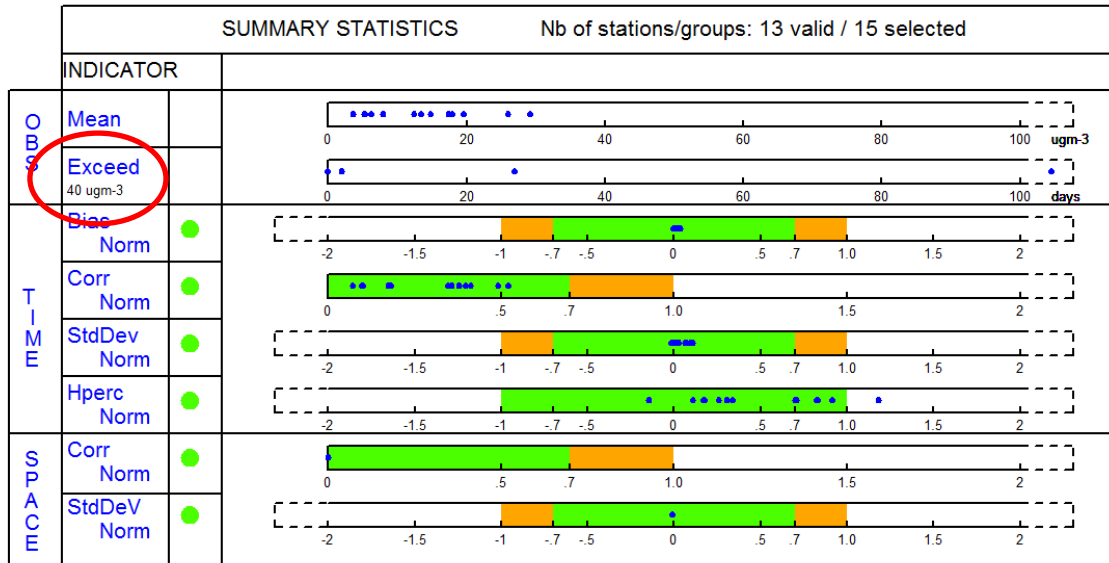
WeekEnd (Sa-Su)

N/A

OK

NO₂

long-term (annual)???



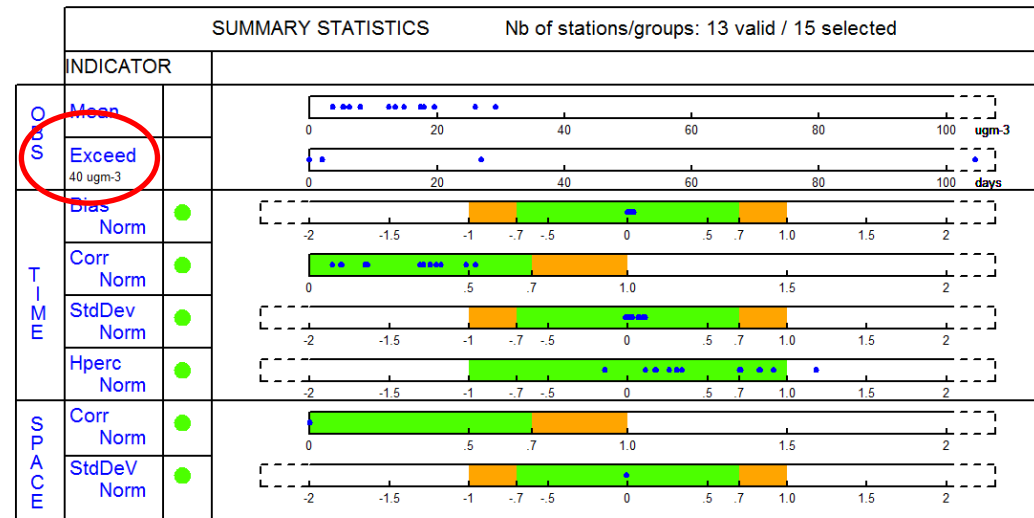
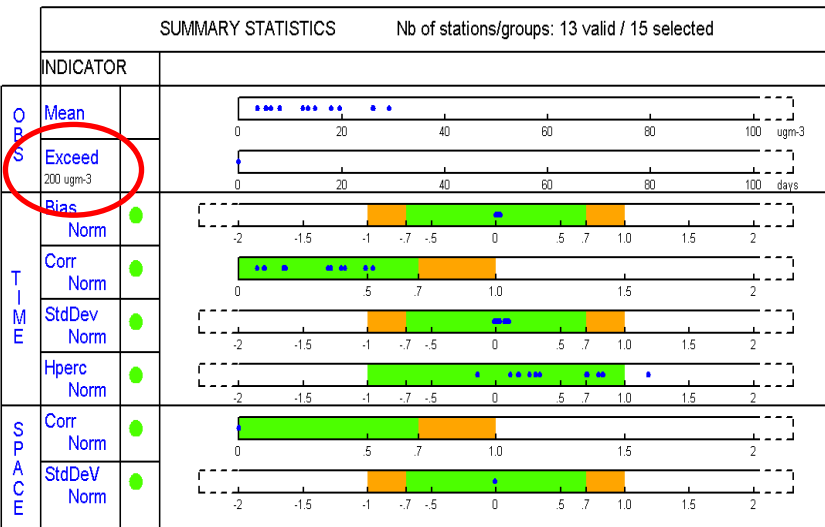
--Info about plot data--

- ■ ■ Performance Criteria satisfied
- ■ ■ Performance Criteria satisfied; Error dominated by corresponding Indicator
- TIME: >90% of stations fulfills the Performance Criteria
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- TIME: <90% of stations fulfills the Performance Criteria
- SPACE: Dot does not fulfill the Performance Criteria

--Info input data => [startup_pt.ini \\modeling\Mydata2 \\monitoring\Mydata2]

NO₂

Results are the same!



Info about plot data---

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- TIME: <90% of stations fulfill the Performance Criteria
- SPACE: Dot does not fulfill the Performance Criteria

Info input data => [startup_pt.ini \\\modeling\Mydata2 \\\monitoring\Mydata2]

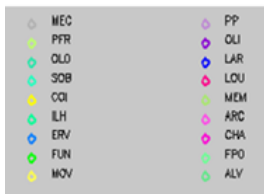
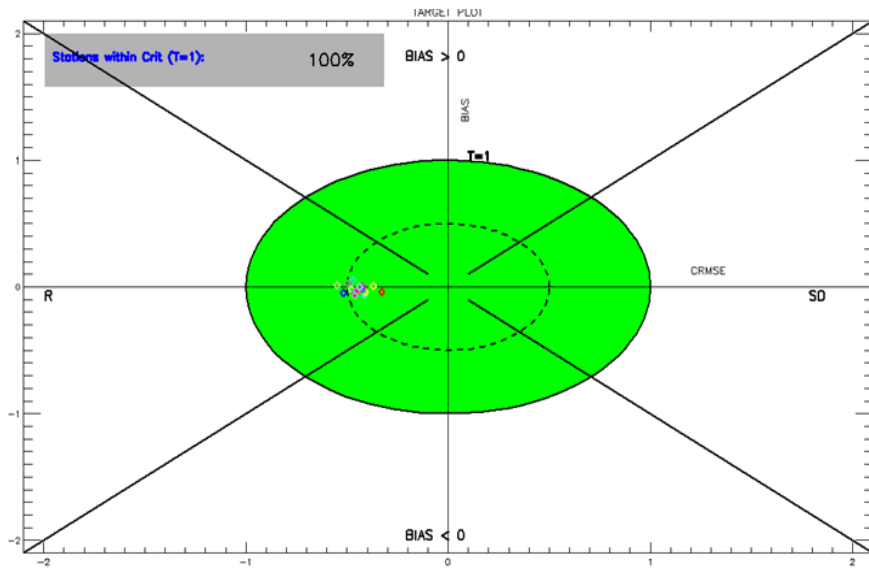
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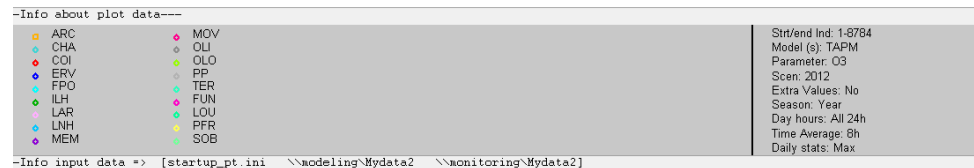
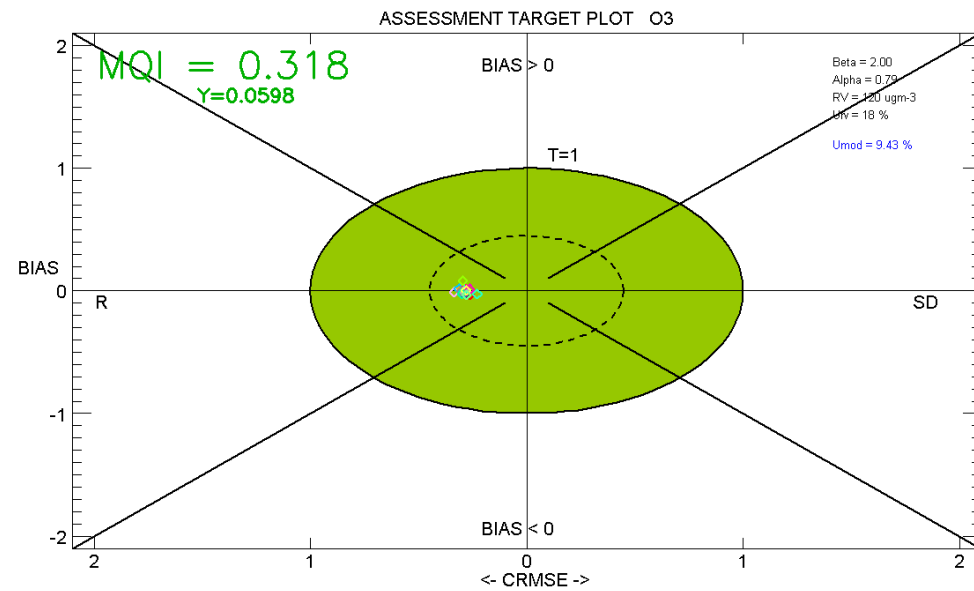
Info input data => [startup_pt.ini \\\modeling\Mydata2 \\\monitoring\Mydata2]

O₃

2014 (version 3.6)

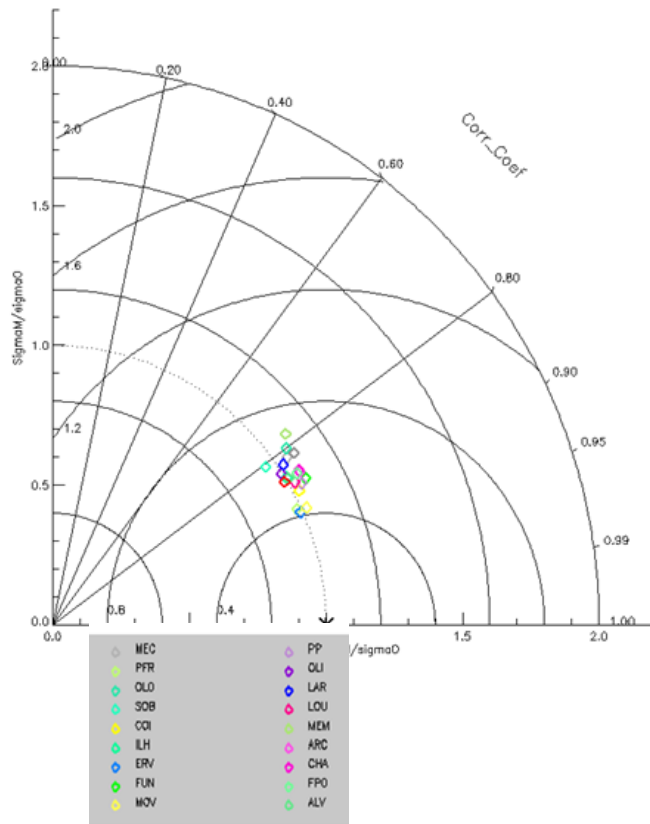


2016 (version 5.4)

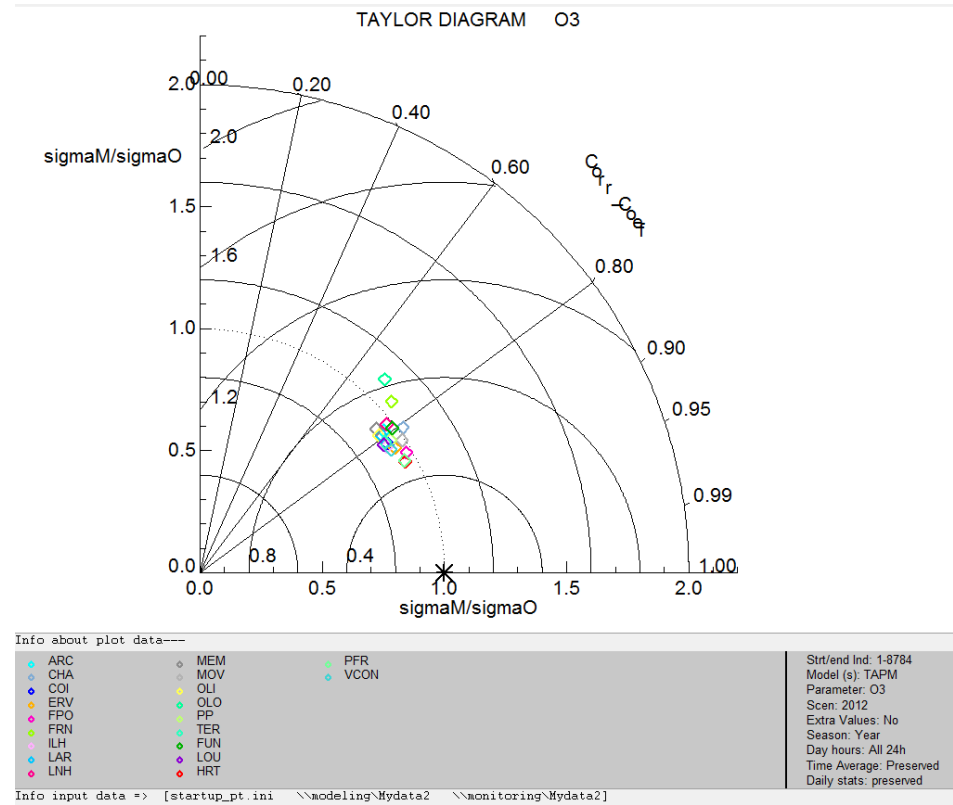


O₃

2014 (version 3.6)

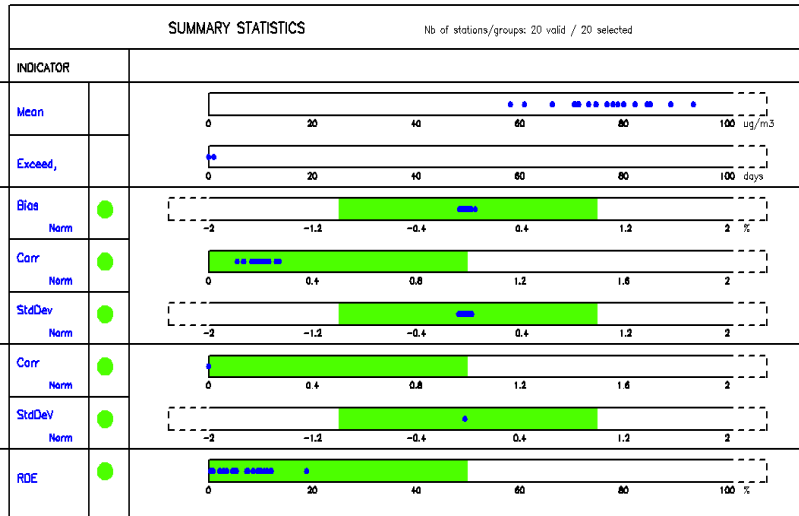


2016 (version 5.4)

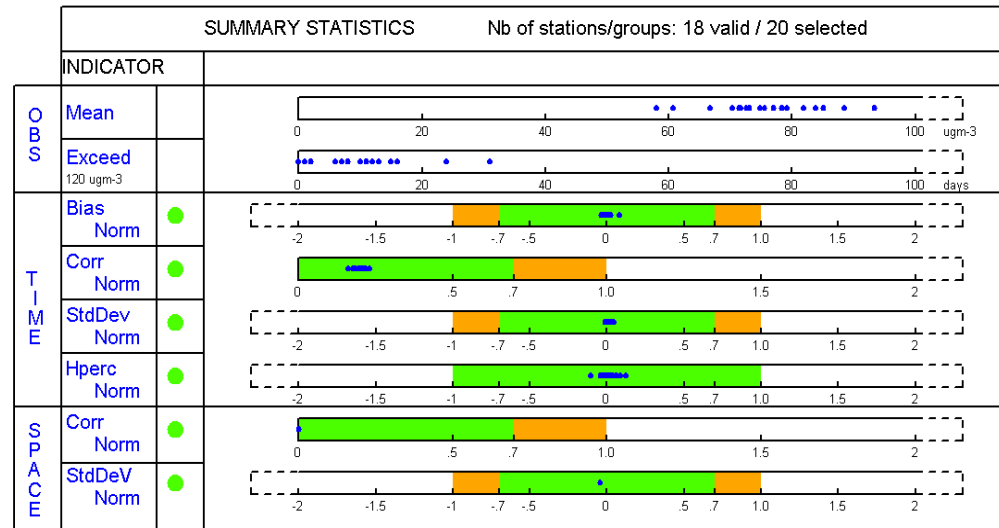


O₃

2014 (version 3.6)



2016 (version 5.4)



- MEC
- PFR
- OLO
- SOB
- COI
- ILH
- ERV
- FUN
- MOV
- PP
- OLI
- LAR
- LOU
- MEM
- ARC
- CHA
- FPO
- ALV
- LNH
- TER

--Info about plot data--

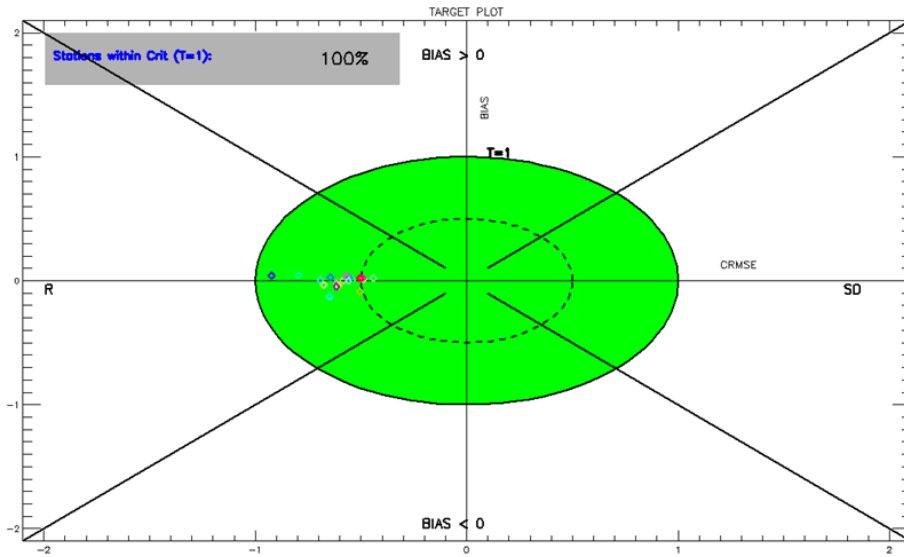
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--Info input data => [startup_pt.ini \modeling-Mydata2 \monitoring-Mydata2]

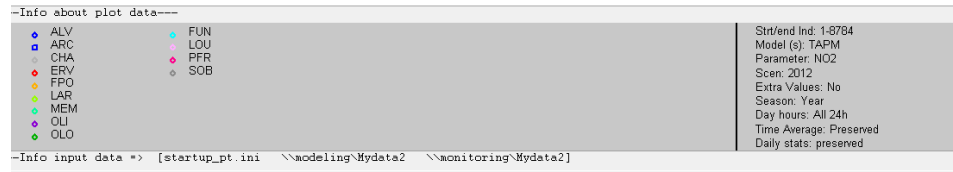
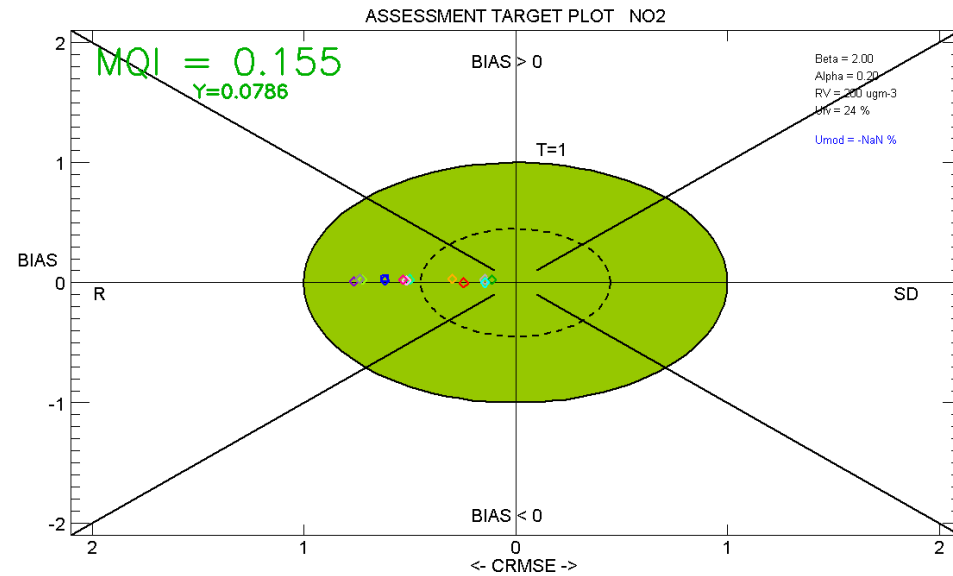
PM10

Daily average

2014 (version 3.6)



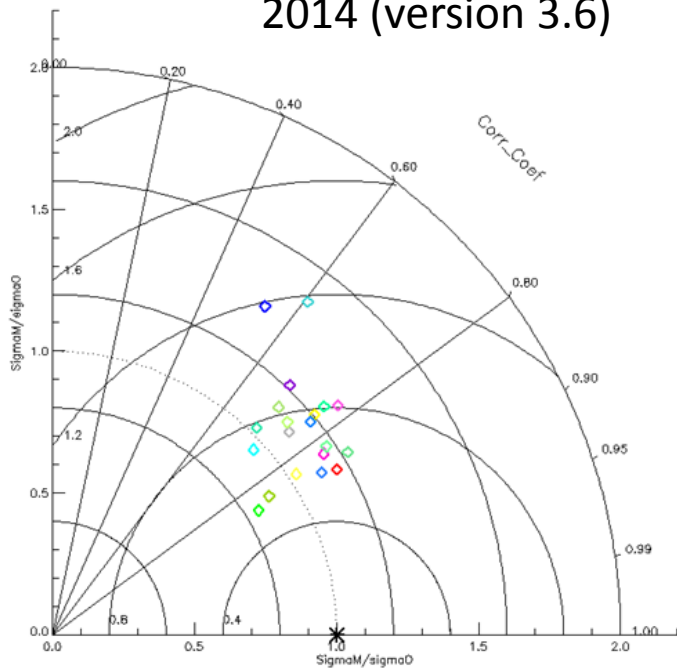
2016 (version 5.4)



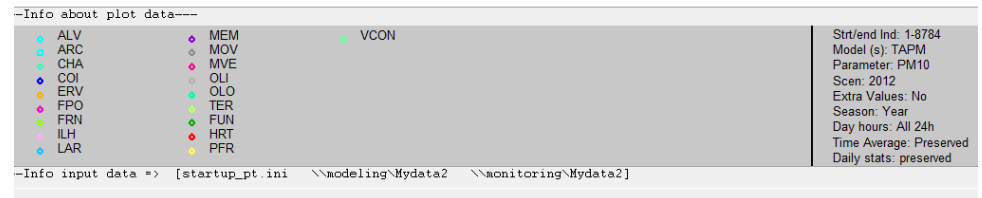
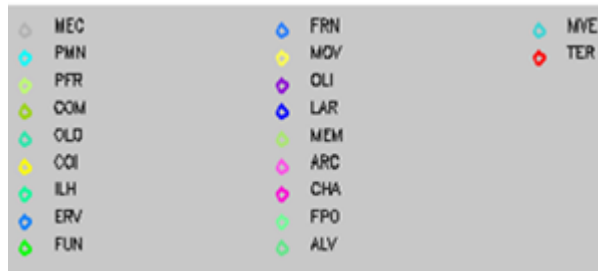
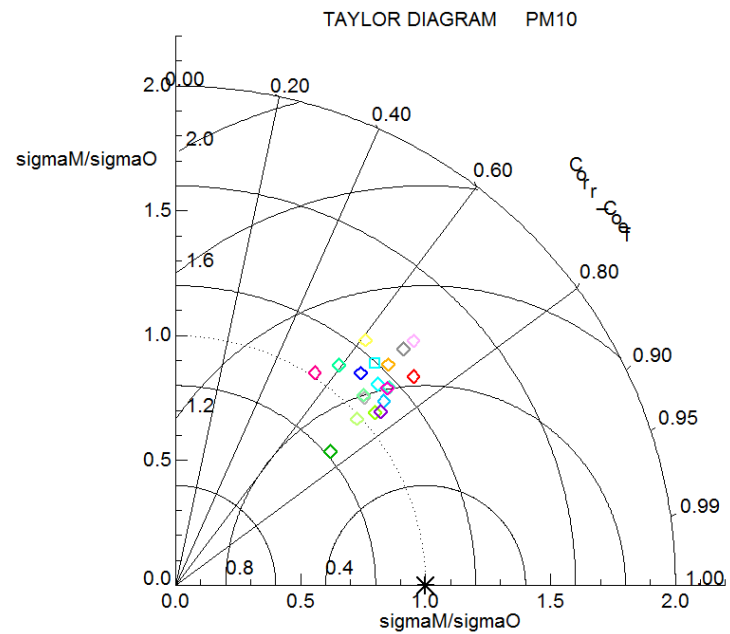
PM10

Daily average

2014 (version 3.6)



2016 (version 5.4)

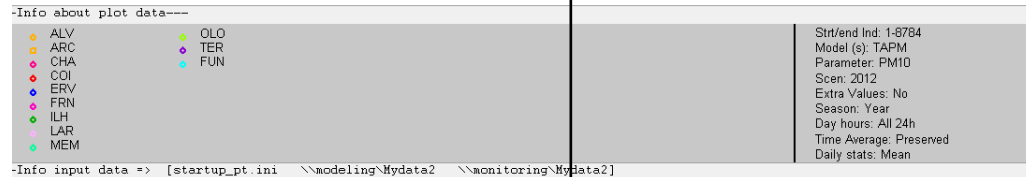
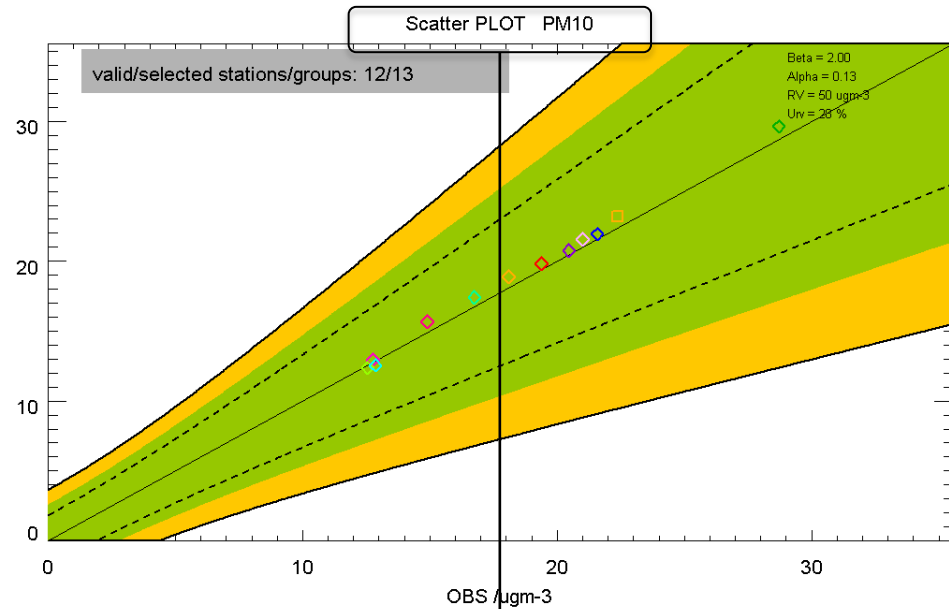
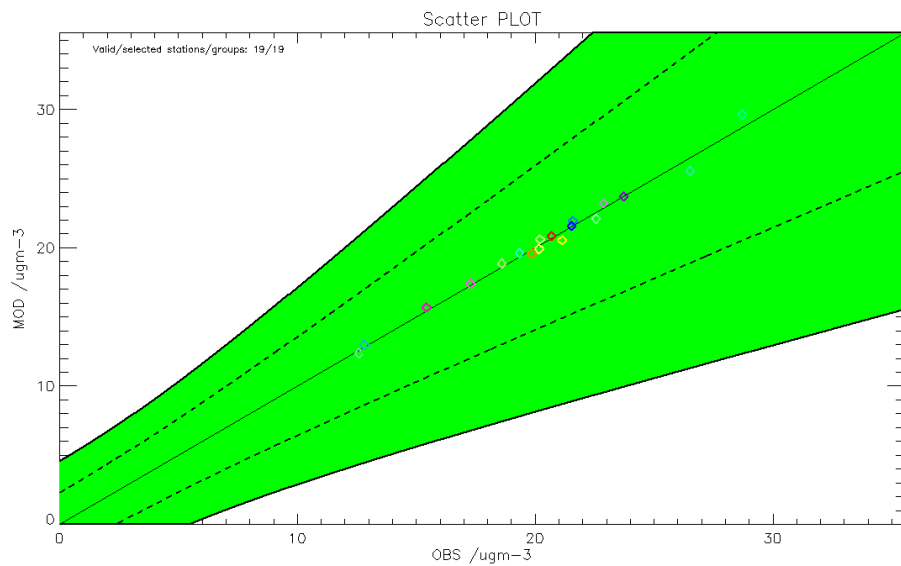


PM10

Daily average

2014 (version 3.6)

2016 (version 5.4)



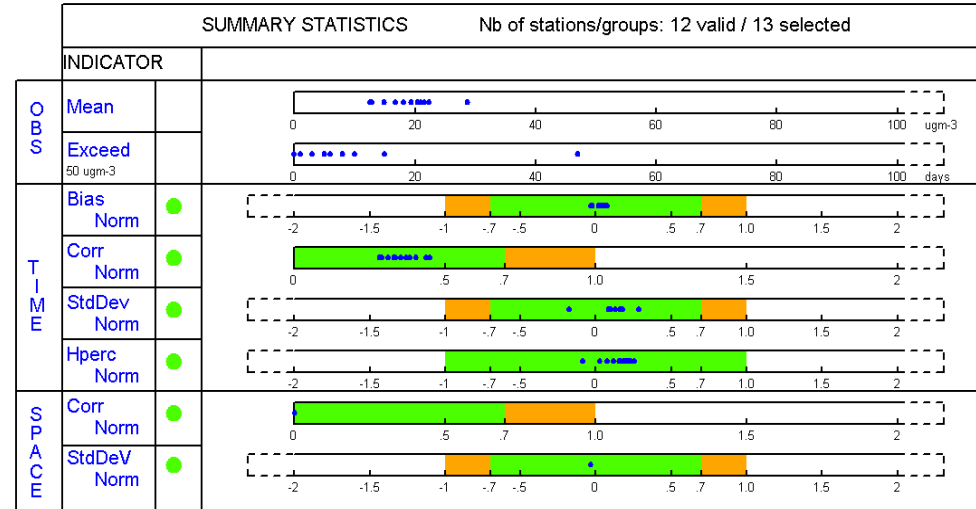
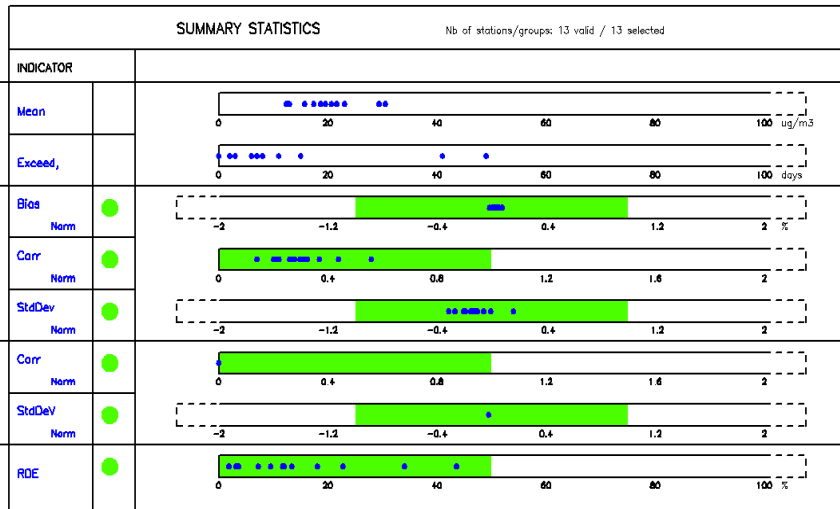
Would be possible to add information to the title regarding the time period?
Hourly/daily or annual?

PM10

Daily average

2014 (version 3.6)

2016 (version 5.4)



- MEC
- OLD
- COI
- ILH
- ERV
- FUN
- FRN
- LAR
- MEM
- ARC
- CHA
- ALV
- TER

Info about plot data---

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Info input data => [startup_pt.ini \\modeling\Mydata2 \\monitoring\Mydata2]

PM10

Some question of NO2: how to proceed for annual data?

Analysis

Elaboration

Diagram

- BarPlot
- Scatter
- Time Series
- Target (OU)
- Summary Report & print (OU)
- MPC (OU)
- Taylor
- ...

Statistics

- Daily - Year (PM10) ?
- 8H Max (O3)
- Hourly - Year (NO2...)

summary report: The threshold value is the limit value.

Need thresholds (v1#v2...) 40.0000# 1

Display criteria...

Multiple choice info

Max multiple choice for selected diagram is: 1

For selected statistic you may select (1):
1)observations.

Data

Time Avg

preserve (none)

8h running

N/A

Daily stats

Preserve

Mean

Max

Min

N/A

Hour Day Month

Date 0 1 1

 23 31 12

Season

All

Summer (JJA)

Winter (DJF)

N/A

Day

All

Day (08-19)

Night (00-07/20-23)

WeekDays (Mo-Fr)

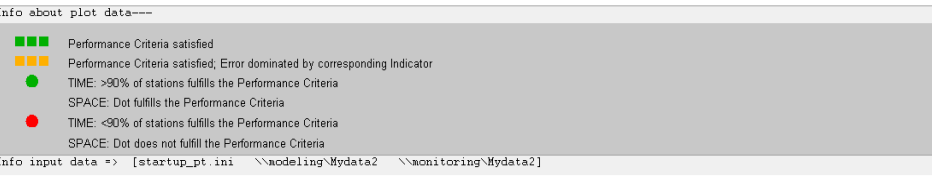
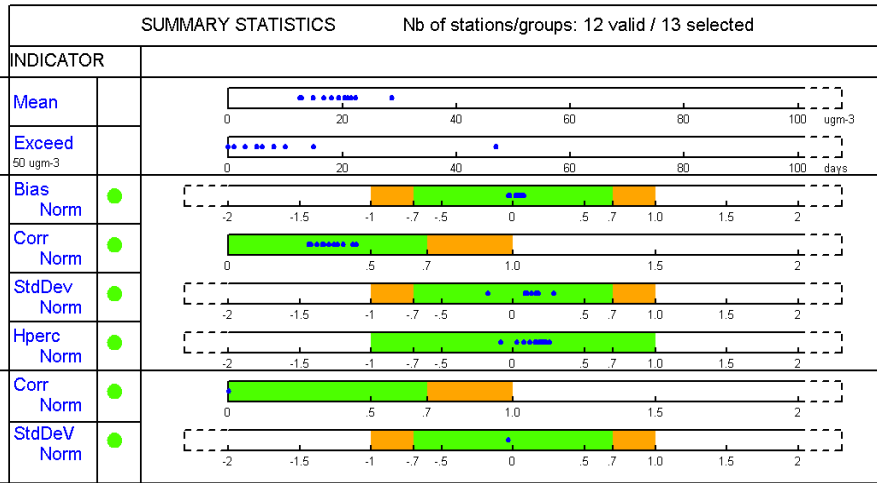
WeekEnd (Sa-Su)

N/A

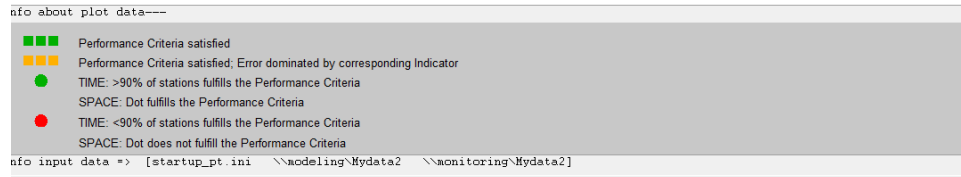
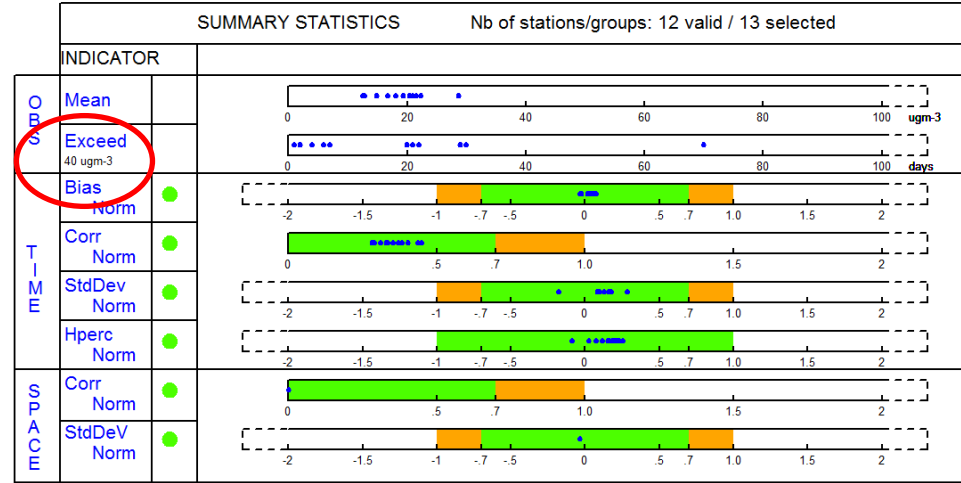
OK

PM10

Previous one: daily values



Annual values?? X



Annual data: some doubts...

JRC - Fair Mode

File Benchmark Mode Data selection Analysis Help

Assessment
Planning

Commission Research Centre
Institute for Environment and Sustainability

TAYLOR DIAGRAM NO2

6. BENCHMARKING MODE

From the Delta Tool top menu select the item "Benchmarking" (this is only possible when the "Data Selection" window and the "Analysis" window are closed).

At present the automatic production of performance reports is available for the following pollutant concentrations and time frequencies:

- daily maximum 8h mean O3
- Daily averaged PM10
- Daily averaged PM25
- Hourly NO2
- Yearly PM10
- Yearly NO2

Reports are produced similar to those presented in [Section 5](#) of the "Concepts" part of this document.

sigmaM/sigmaO

---Info about plot data---

• ALV	• FUN
• ARC	• LOU
• CHA	• PFR
• ERV	• SOB
• FPO	
• LAR	
• MEM	
• OLI	
• OLO	

Strt/end Ind: 1-8784
Model (s): TAPM
Parameter: NO2
Scen: 2012
Extra Values: No
Season: Year
Day hours: All 24h
Time Average: Preserved
Daily stats: preserved

---Info input data => [startup_pt.ini \\modeling\Mydata2 \\monitoring\Mydata2]

Some final comments

- Conclusions for this model assessment case study were the same as previous ones
- But the several changes significantly improved the analysis of results (more detailed information and more correct one):
 - Information regarding uncertainty
 - Quantified information
- There is still some doubts regarding the annual (vs hourly/daily) selection

Some final comments

- There are a lot of different plots available: maybe it could be interesting to separate the most “relevant” ones (target; summary report) from the others for the non-expert users...

Print screen Helder

Thank you!

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