‘The added value of satellite observations of aerosol optical depth for operational air quality forecasts’

final meeting, 18 March 2008, Darmstadt

Calibration run + effect NO2 and O3
Calibration run

• Compare response of forecast model to real and synthetic measurements

• PM10 from AIRBASE * 0.7

• Bias corrected
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Calibration run

![Real measurements graph](image1)

![Synthetic measurements graph](image2)
Calibration run

Bias

real measurements

synthetic measurements

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RMSE

Real measurements

Synthetic measurements

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Temporal correlation

![Graphs showing temporal correlation between real and synthetic measurements.](image)
Calibration run
In conclusion:

• when we don’t look at the difference in bias and RMSE at the beginning of the forecast runs we can say that the systems response to real and synthetic measurements is similar.
Effect on $O_3$ and NO$_2$

![Map of O3 concentrations]

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Effect on $O_3$ and $NO_2$
Effect on $O_3$ and $NO_2$

DE04 - Deuselbach

$O_3$ [ug/m$^3$]

- measurement
- model
- assim

hour

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Effect on $O_3$ and $NO_2$

- Measurement
- Model
- Assimilation
Effect on $O_3$ and $NO_2$
Effect on $O_3$ and $NO_2$ - summary

• Effect on $O_3$ and $NO_2$ is small/restricted to source regions

• Not necessarily in right direction

• To address $O_3$ and $NO_2$, need for assimilation of $O_3$ and $NO_2$ measurements