

GEO AQ/CoP and OWS activities at

**Institute for Energy and Climate Research 8:
Troposphere (IEK-8)**

» Trace Gas and Aerosol Processes in the Troposphere

Martin Schultz

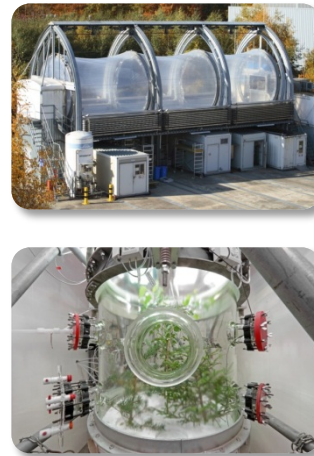
Institute mission

Trace gases and aerosol processes in the troposphere

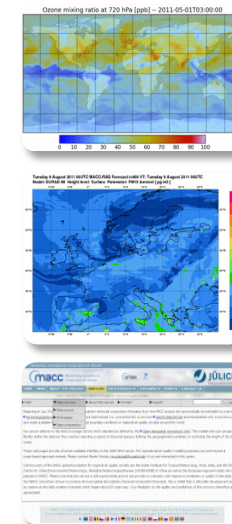
Observation



Simulation /
Process Understanding



Numerical Modeling



Goal: establish the scientific basis for societal and political decisions on energy options, mitigation and adaptation strategies

GEO Activities of IEK-8

- Contributions to GEO work plan 2012-2015 (input to Phil Dickerson, HE-01)
- Co-Organisation of GEO AQ-CoP workshops
- Contributions to „AQ“ metadata definitions (Dublin workshop; Good practices document in preparation)
- Run and develop the AQ CoP interoperable WCS server (jointly with Rudy Husar and Kaari)
- Demonstrate interoperability through web applications (TFHTAP and MACC)
- Expand WCS-based air quality network in Europe



Co-chair GEO AQ CoP (mit R. Husar und G. Fowley)



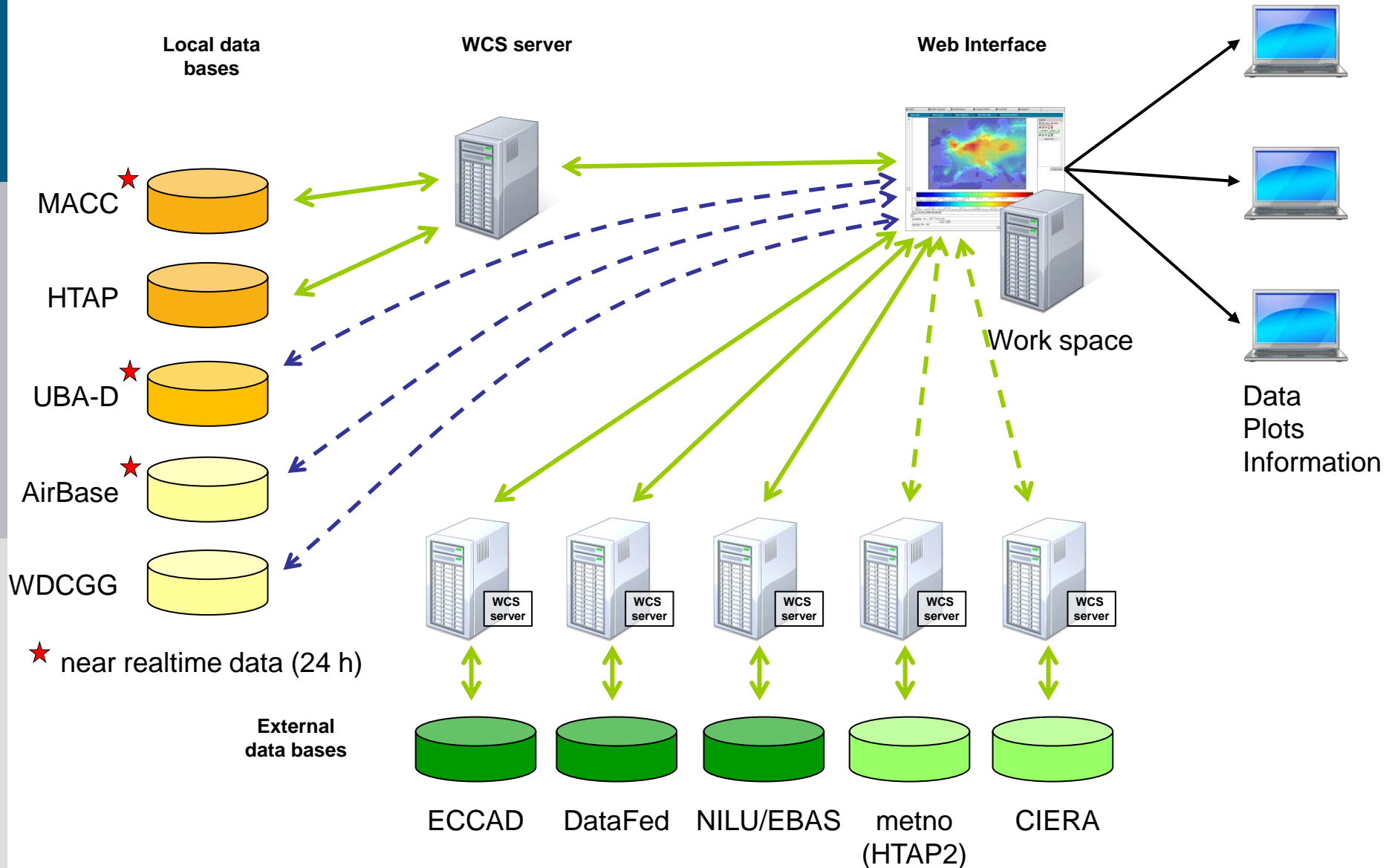
Workshop Daten-Netzwerk
Solta, Kroatien, August 2011



Workshop Metadaten
Dublin, Irland, September 2012

Jülich OWS INterface (JOIN)

<http://join.iwk.kfa-juelich.de> (bis Dez. 2012: <http://macc.icg.kfa-juelich.de:50080>)



Data catalogues in JOIN

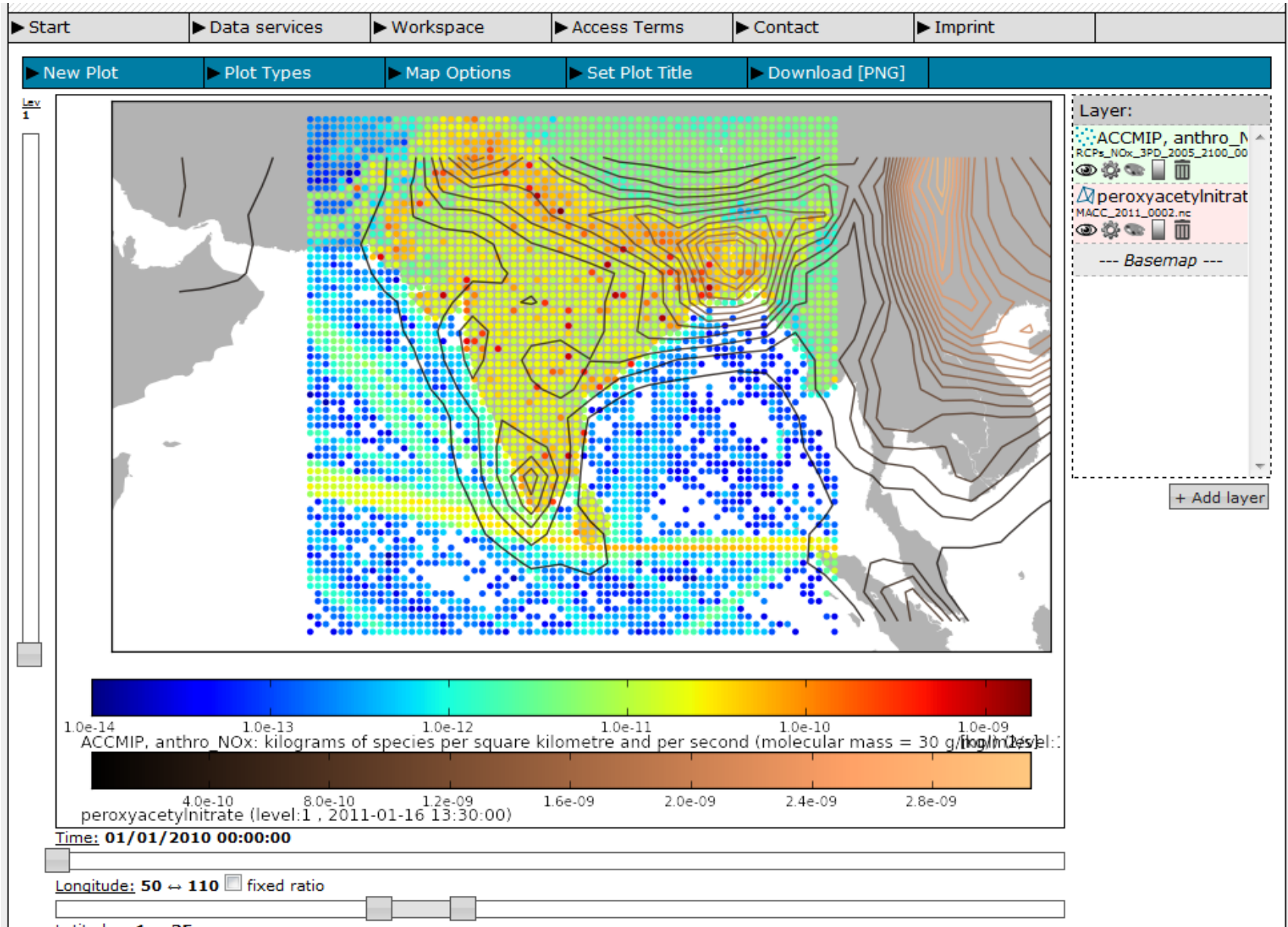
HTAP Juelich (monthly)		
BlueSky	←	USA
ECCAD Server	←	Toulouse, France
ECCAD Test Server	←	Toulouse, France
HTAP Juelich (hourly)		
HTAP Juelich (pressure/monthly)		
HTAP_FC		
HTAP_FC (pressure)		
HTAP_FE		
HTAP_FE (hourly)		
HTAP_FE (pressure)		
IAGOS server	←	Toulouse, France
MACC_24h_Global_Forecasts		
MACC_24h_Global_Forecasts_monthly		
MACC_Daily_96h_Global_Forecasts		
MACC_Daily_Wildfire_Emissions		
MACC_Global_Composition		
MACC_Global_Composition_Monthly		
MACC_Global_Forecast_Daily		
MACC_Reanalysis_monthly		
MACC_Wildfire_Emissions_monthly		
MODIS4 (via datafed)	←	USA
NAAPS (via datafed)	←	USA
NOAA test	←	USA
OMI (NASA_ACDISC via datafed)	←	USA

Focus:

Make actual use of data (beyond straightforward „data provision“)

Linking external data sets not trivial
EVEN with uniform standards

Overlay of data fields (emissions and model fields)

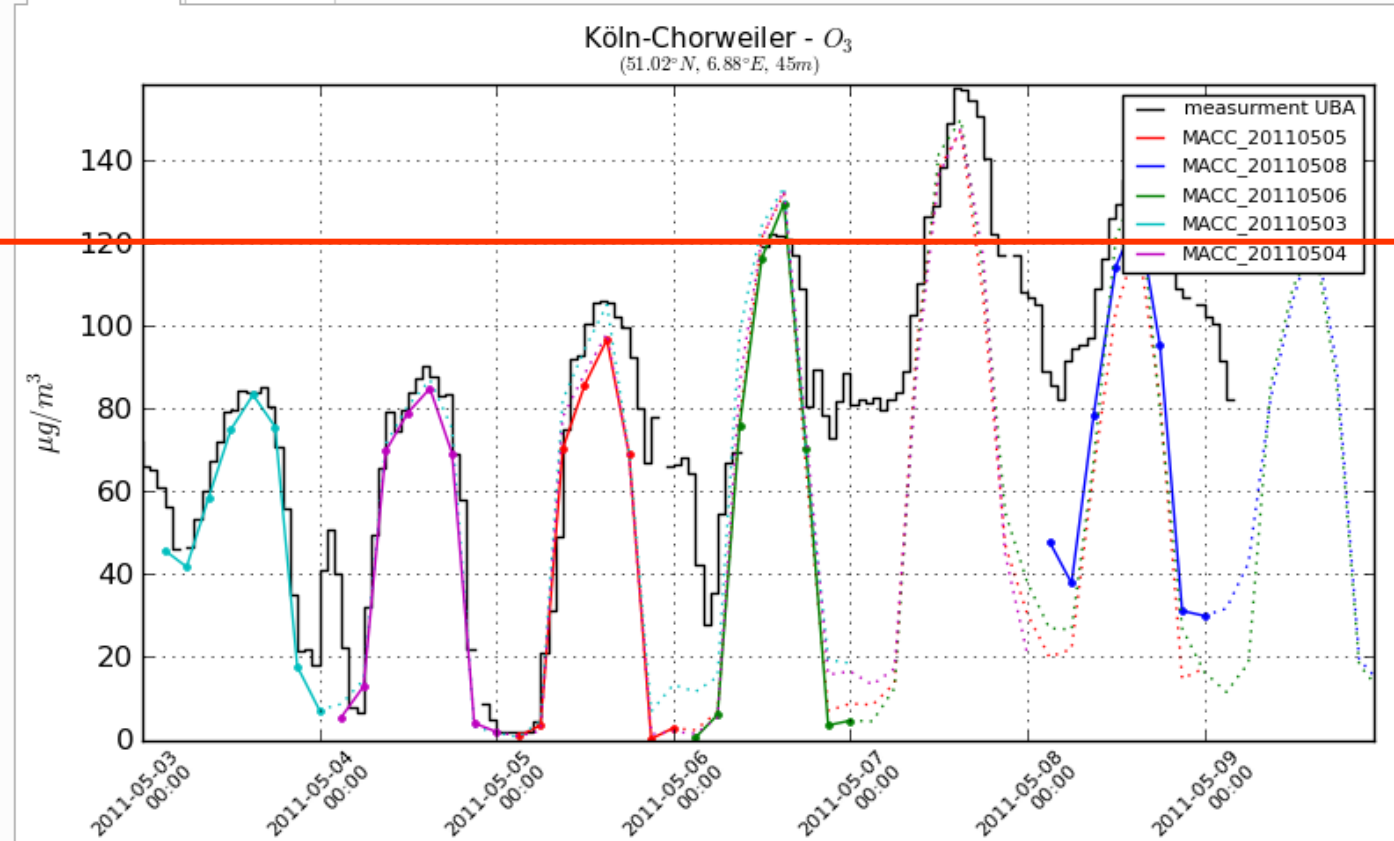


Model-data comparisons

Home > Services > MACC global boundaries for regional air quality models

Data comparison (under construction)

Station: Köln-Chorweiler (DENW053)



Models:

- MACC_20110505
- MACC_20110508
- MACC_20110506
- MACC_20110503
- MACC_20110504

Species:

- SO₂
- O₃
- NO₂

[Data source and use conditions](#)

EU threshold (8 hours)

Next steps

- On request of MACC:
 - better user management
 - direct linking to specific data sets and views
 - consolidate metadata profile and publish metadata records
- On request of HTAP:
 - linkage to met.no server (new HTAP archive)
 - more model and data comparison tools
- Other:
 - restructuring and public release of core code
 - all kinds of enhancements

Sponsors

- MACC
- IGAS
- US EPA
- Forschungszentrum Jülich
- EU HTAP project