

**Observational Data  
&  
Model evaluation**

Possible overlaps within  
GEMS

# Questions discussed in all themes

- which data sets are available, which will be used ?
- which contacts have been / have to be established ?
- who will be in charge as contact
- data agreements / protocols

# Define overlaps:

## Table of all obs. data used in GEMS

- Data Source
- Parameters
- Contact for data base
- Email of data base contact
- Web site
- Availability
- Data agreement
- GEMS contact
- GEMS contact email
- Provided data format
- Converted to data format
- Available period
- Available Temporal resolution
- Available Horizontal resolution
- Available Vertical resolution
- Real time access

### For all sub projects

GHG, GRG, AER, RAQ,  
PRO

- > avoid redundant work

- definition of a common GEMS contact to data basis
- establishment of common GEMS data agreement / protocol
- development of common model validation tools?

# Overlaps of obs data used in GEMS

Overlaps						
	GHG	GRG	AER	RAQ	PRO	GEMS contact
GAW/WMO	X	X	X			Harald Berresheim DWD
NDSC		X	X			
SCIAMACHY	X	X			X	
HIRDLS	X	X	X			
SEVIRI		X (O3)	X (aerosols)			
MLS	X	X				
MIPAS	X	X				
IASI	X	X				
AIRS	X	X				
MOPITT	X	X			X	
TES	X	X			X	
CrIS	X	X				
CMDL	X	X				
EMEP			X	X		
MODIS			X		X	
GOME		X			X	
MOZAIC		X		X (vertical profs)		Jean Pierre Cammas LA

Source	Parameters	Contact for data base	Availability	Data agreement	GEMS contact
Ground based (station) data					
EMEP	mass conc, size				NUIG (LSSCE, MPIM)
IMPROVE	mass conc.				NUIG (LSSCE, MPIM)
AERONET	AOD, SSA, size				LOA
GAWWMO (WDCA)	AOD	Julian Wilson	Made available to GEMS by the Global Atmospheric Watch (GAW) network	Data is provided for scientific non-commercial use	Harald Berresheim (DWD), Harald Flentje (DWD)
GAWWMO (WDCA)	aerosol chemistry and physics				Harald Berresheim (DWD), Harald Flentje (DWD)
Brewer Network	AOD (UV)	several	varying	varying	RMIB
ARM sites	surface radiative flux				ECMWF, LOA
NDSC	backscatter, profiles?				SA
BSRN (ETH), SURFRAD	radiation budget, surface irradiance, meteorological parameters				ECMWF, LOA
EARLINET	ext. coeff				?
other Lidar	ext. coeff				?

Source	Parameters	Contact for data base	Availability	Data agreement	GEMS contact
Supersites					
Mace Head	mass conc, size				NIUG
Hohenpeissenberg	mass conc, size	Harald Berresheim	data is available	–	Harald Berresheim (DWD), Harald Flentje (DWD)
SIRTA	surface radiative flux				LSCE, LOA
Satellites					
POAM, HALOE	ext. coeff				
MERIS	AOD (865nm), epsilon factor, radiances				
ER-2, ENVISAT	radiances (GLOBAER)				
SEVIRI	aerosol optical depth and aerosol index				RMB
GERB	TOA radiative flux				RMB
MODIS on TERRA and AQUA	AOD, Type, Size, Radiances				
HIRDLS	AOD at 4 wavelenghts				
SAGE II	AOD at 8 wavelenghts				
SAGE III	AOD at 8 wavelenghts				
MISR					
ATSR					
TOMS					
CALIPSO					

Source	Parameters	Contact for data base	Availability	Data agreement	GEMS contact
<b>Satellites</b>					
MODIS	Aerosol OD				
SCIAMACHY	NO2	KNMI			
MOPITT	CO				
TES	CH4 and CO				
GOME	HCHO	KNMI			

Source	Parameters	Contact for data base	Availibility	Data agreement	GEMS cont act
EMEP		Leonore Tarrosou met no			
EMEP data will be merged with GAW data at GAW data centers (current developments, workshops)					
air quality data from regional and national agencies for 2003/2004		institues in respective countries			
DWD and supersite Hohenpeissenberg data to be provided for FRIUUK (Cologne)					Harald Berresheim (DWD), Harald Flentje (DWD)
MOZAIC	vertical profiles over Europe	Jean Pierre Cammas LA	made available by the MOZAIC programme (CNRS-LA) to the GEMS project	MOZAIC data protocol (provided by MOZAIC project) should be signed by GEMS partners	Jean Pierre Cammas



# Questions discussed in all themes

- which data sets are available, which will be used ?
- which contacts have been / have to be established ?
- who will be in charge as contact
- data agreements / protocols
- **common data base (format / storage ?)**
- **common model evaluation strategies / tools ?**