Subject

Minutes of meeting: Preperation for an observational dataset of European atmospheric profiling stations

Place and date of meeting

KNMI, De Bilt, Netherlands, 18 June 2010

Participants:

KNMI: Pier Siebesma (PS), Roel Neggers (RN), Dave Donovan (DD), Fred Bosveld (FB)
IPSL: Sandrine Bony (SB), Frédérique Cheruy (FC), Jean-Charles Dupont (JCD), Marjolaine Chiriaco (MC), Martial Haeffelin (MH)

June 18, 2010

ALGORITHM ISSUES:

WATER VAPOR:
- **Composite: from GPS + RS + MWR
- IPSL will propose a short procedure
- KNMI suggest that the IPT algorithm (Water vapor and liquid water content) is not operational enough to be implemented on a routine basis.

CLOUD FRACTIONS:
- **3D Cloud fraction: CloudNet algorithm. Already implement at Cabauw. Needs to be implemented at SIRTA.
  JCD to contact Ewan O’Connor. JCD may ask Henk and Berts for support.
- **Total cloud fraction (total cloud area): IPSL developed a CFBE algorithm (cloud fraction and cloud base height from TSI, radiative fluxes and lidar). CFBE is documented in an ISARS 2010 symposium extended abstract.
  - MSG Nowcasting SAF cloud fraction and cloud type at 15 min and 5km resolution over Europe.
  - Aqua-train cloud, water vapor and radiation products: SB to ask the ICARE data center to perform extractions over all CFMIP-5 sites (120 sites around the Globe).
  - GOCCP: SB to ask LMD to extract GOCCP data over CFMIP-5 sites

RADIATIVE FLUXES:
- **KNMI to extract MISR and GERB data over SIRTA and Cabauw

LIDAR:
- KNMI would like to implement the STRAT algorithm on ALS450 data to perform a cloud, aerosol, BLH mask.
  MH to exchange with DD on that.

SURFACE FLUXES:
- **FB recommends to perform Closing of Surface flux balance. FB to send JCD a report or article describing his recommendations
LIDAR and RADAR OBSERVABLES:
- IPSL to introduce ground-based lidar and radar simulators in CMIP-5 models

DATABASE:

**Regional variability**: How do we represent spatial variability inside model grid box area?
- Retain the site value measurements (SIRTA, Cabauw): choose one zone
- Add uncertainty bars from regional measurements (e.g. Meteo-France stations around SIRTA)

**Temporal resolution**: model = instantaneous every 30 min. What averaging on observation data (5, 10, 30 min):
- We propose to average all measurement data over one hour.

**File Format**: NetCDF, variable names (ARM CMBE or CMIP-5 or both?):
- We propose to use both and alias
- Naming convention: use CF compliant (climate and forecast conventions). (at IPSL see Sebastien Denvil)
- What should we do with missing data: missing value (e.g. -999.99)? missing periods?

Observation database:
- **Action for IPSL/KNMI**: first develop a focused dataset geared towards CMIP-5 by the end of 2010.
- **Distribution of observation database for CMIP-5**: DKRZ (German database for some EUCLIPSE model output).
- **RN to check with FASTER if they plan specific actions for CMIP-5 (beyond CMBE?).
- Observation data could be duplicated on the Gateway between PCMDI and JPL (developed for NASA satellite data): SB will ask JPL and PCMDI for their recommendation on such data archive.
- We will also develop a more comprehensive dataset for further model evaluation (e.g. KPT framework and IPSL parametrization testbed framework).

KNMI PARAMETRIZATION TESTBED:
- KNMI to provide SCM forcings over SIRTA from RACMO
- IPSL to contact RN to include SIRTA data in KPT
- FC to contact RN to include LMDZ in SCM mode in KPT.
- IPSL would like to use KPT graphics package for averaging and plotting.

**: PRIORITY ACTIONS FOR CMIP-5**