Comparison strategy LMDzT-INCA versus POLDER

Data November 1996 – June 1997
- Nudged LMDzT simulation 06/96-07/97 (ECMWF forcing)
- Ùse just model output where Polder observations available

TWO prameters compared
Aerosol Optical thickness (**AOD**) at 865 nm + **Aerosol index** (**AI**)

- *Optical properties calculated using Mie theory*
  (no humidity effects yet incorporated…)

  Optical thickness: $\tau = f(\,nmd,\ mass,\ refractive\ index,\ \sigma,\ \lambda\,)$
  for wavelengths 550, 670, 865 nm and all species

  $\rightarrow$ Angstroem Exponent α (wavelength dependency of AOD)
($\rightarrow$ 0 for dust+seasalt $\rightarrow$ 2 for small particles sulfate,POM,BC)
  $\rightarrow$ Polder aerosol index (A.I. = $\alpha \times \tau_{865}$)

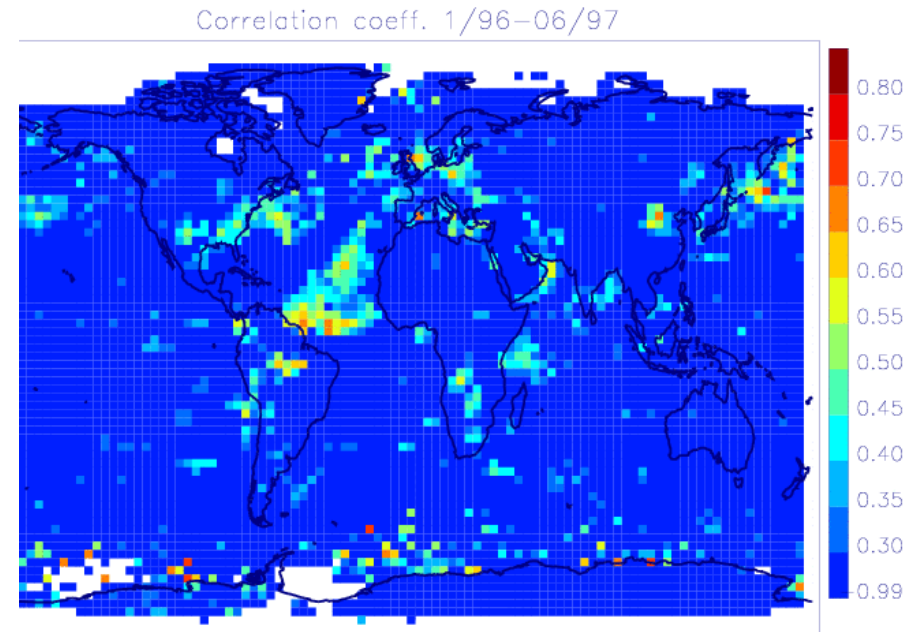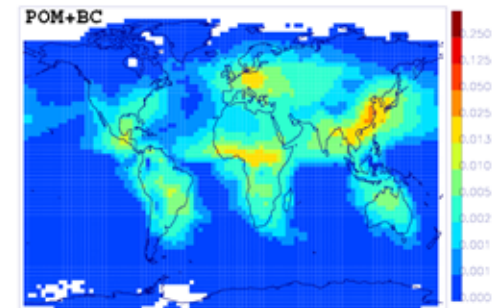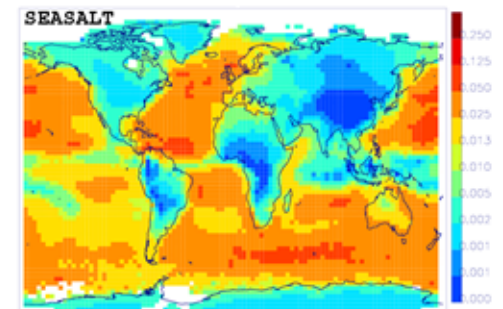**AEROSOL OPTICAL DEPTH**

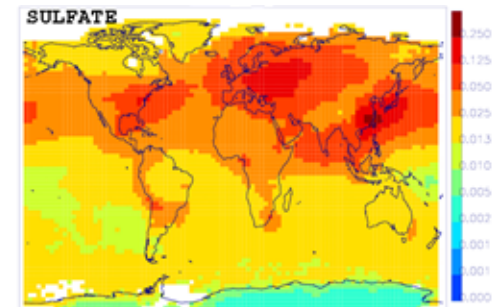242 DAYS
point by point
Temporal
Correlation
LMDzT-Polder

11/96-06/97
Cloudfree area

Correlation coeff. 1/96-06/97

No of Days with POLDER DATA
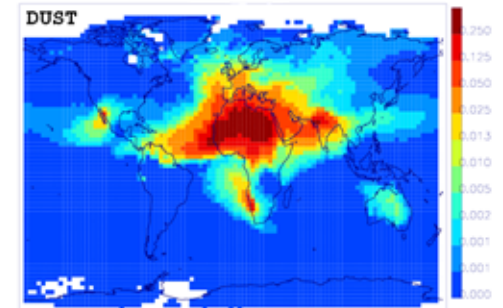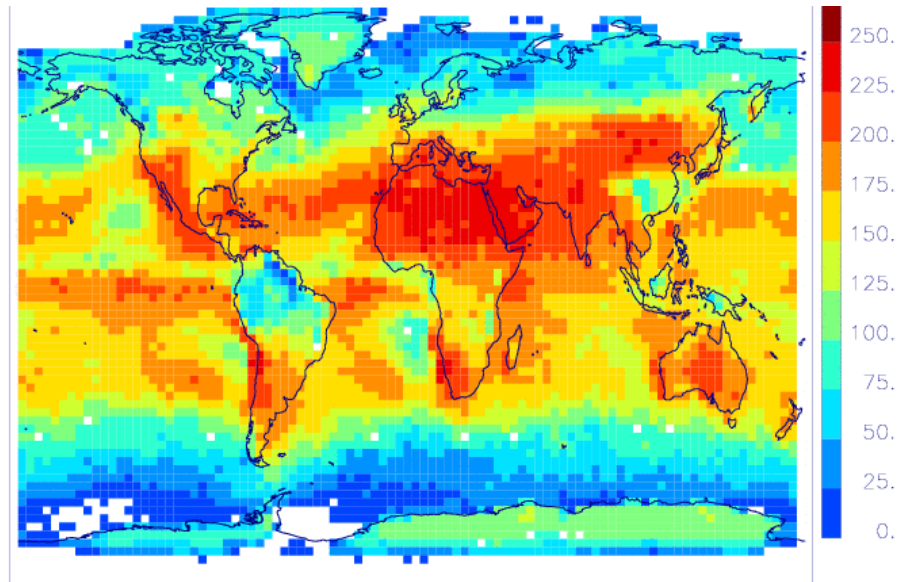
HOW to improve correlation LMDZ-POLDER ??

Daily ➡ Monthly

2°x2°

10°x10°
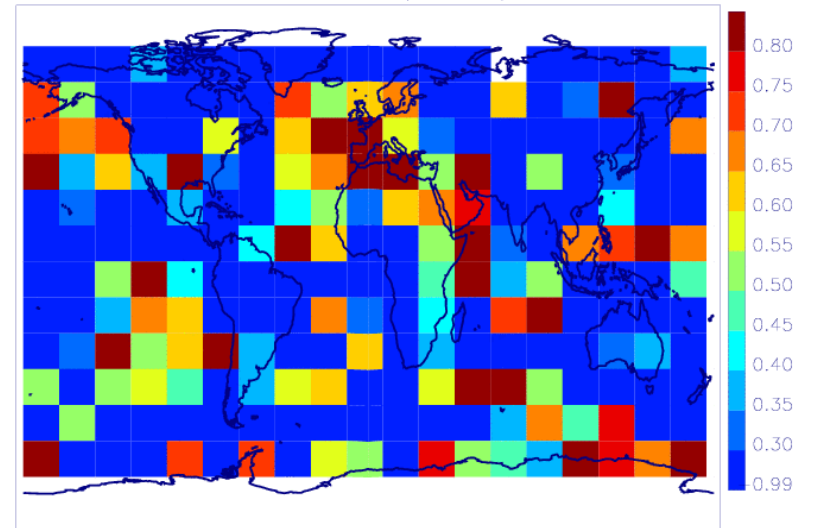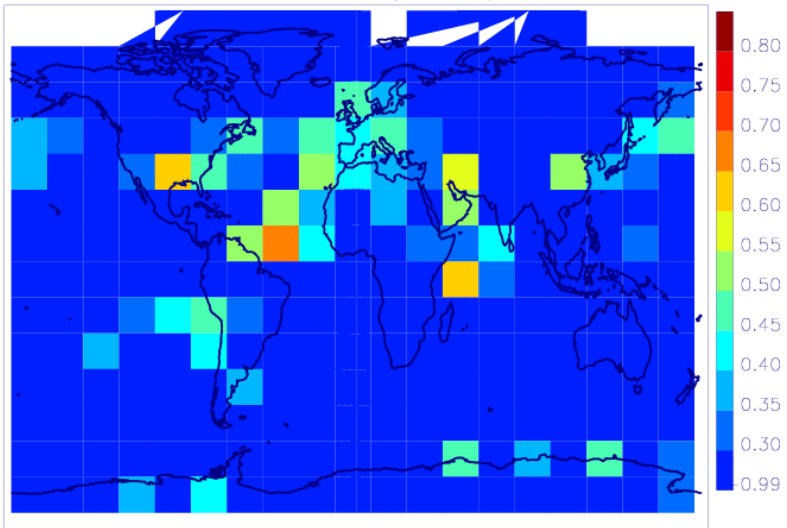
LMDZ-INCA AEROCOM status and plans

- *year 2000 finished*
  Protocol partially implemented

- *revised run for all years with full protocol*
  until end of July

- *prescribed sources run until end of August*