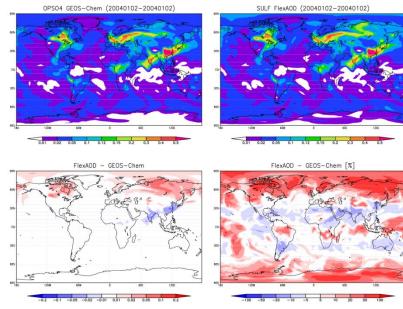
## FlexAOD offline calculations against online (and the "RH" issue) @ 550 nm

Results are shown for GEOS-Chem v9-01-01 (online) and FlexAOD v1.4 "STD case" (offline) AOD calculations. Plots are the average of hourly timeseries (ND49) of February 2<sup>nd</sup> 2004. Panels show: top-left, online calculation; top-right, offline; bottom-left, absolute difference offline-online; bottom-right, relative difference offline-online. For each species, the comparison online/offline is shown for the standard case with standard relative humidity output (standard RH) and for a case with corrected relative humidity output (chemistry RH, see FlexAOD wiki page).

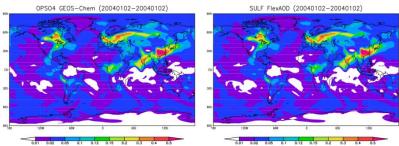
-- Gabriele Curci, August 1<sup>st</sup> 2011

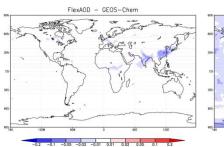
#### Sulfate AOD



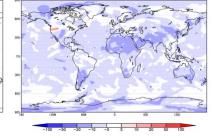


#### Online vs offline w/ chemistry RH



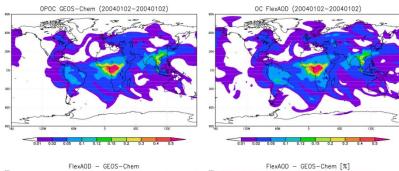


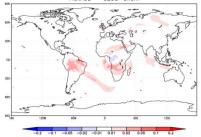
FlexAOD - GEOS-Chem [%]

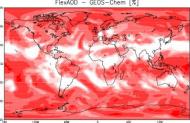


## **Organic Carbon AOD**

#### Online vs offline w/ standard RH

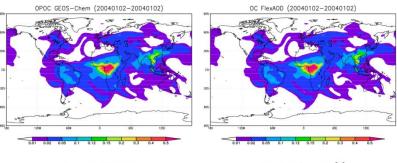


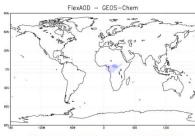




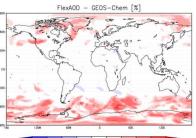
-100 -50 -20 -10 -5 5 10 20 50 100

## Online vs offline w/ chemistry RH





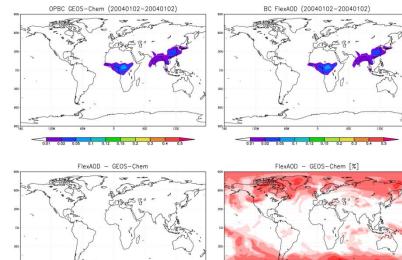
-0.2 -0.1 -0.05 -0.02 -0.01 0.01 0.02 0.05 0.1 0.2



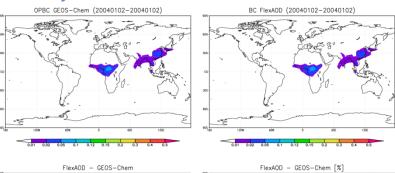
-100 -50 -20 -10 -5 5 10 20 50 100

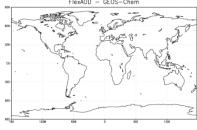
### **Black Carbon AOD**

# Online vs offline w/ standard RH



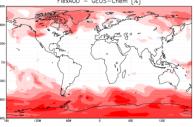






-0.1 -0.05 -0.02 -0.01 0.01 0.02 0.05

-0.2 -0.1 -0.05 -0.02 -0.01 0.01 0.02 0.05 0.1 0.2

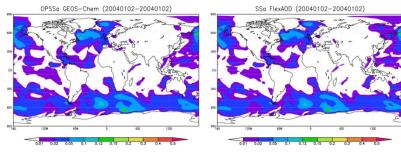


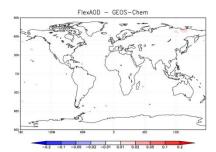
-10 -5 5 10 20

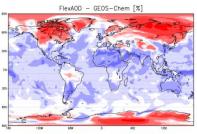
-100 -50 -20 -10 -5 5 10 20 50 100

## Sea Salt Accumulation AOD

### Online vs offline w/ standard RH

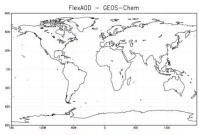




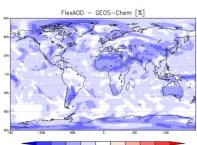


-100 -50 -20 -10 -5 5 10 20 50 100

## Online vs offline w/ chemistry RH



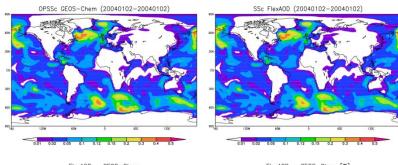
.2 -0.1 -0.05 -0.02 -0.01 0.01 0.02 0.05 0.1 0.2

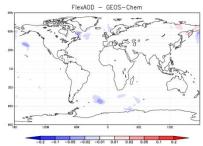


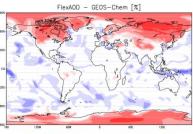
-100 -50 -20 -10 -5 5 10 20 50 100

## Sea Salt Coarse AOD

#### Online vs offline w/ standard RH

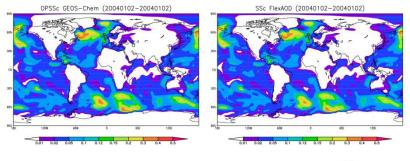


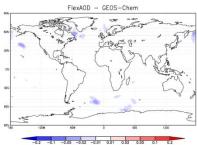


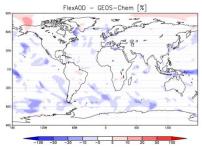


-100 -50 -20 -10 -5 5 10 20 50 100

## Online vs offline w/ chemistry RH

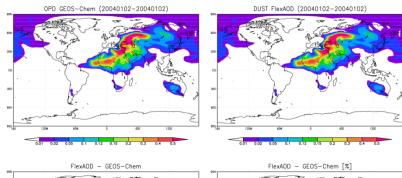


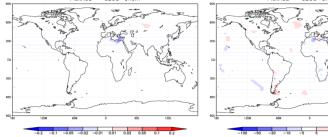




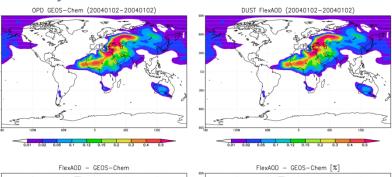
## **Dust AOD**

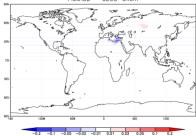
### Online vs offline w/ standard RH

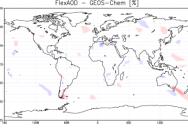




#### Online vs offline w/ chemistry RH







mer.

10

-5 - 10