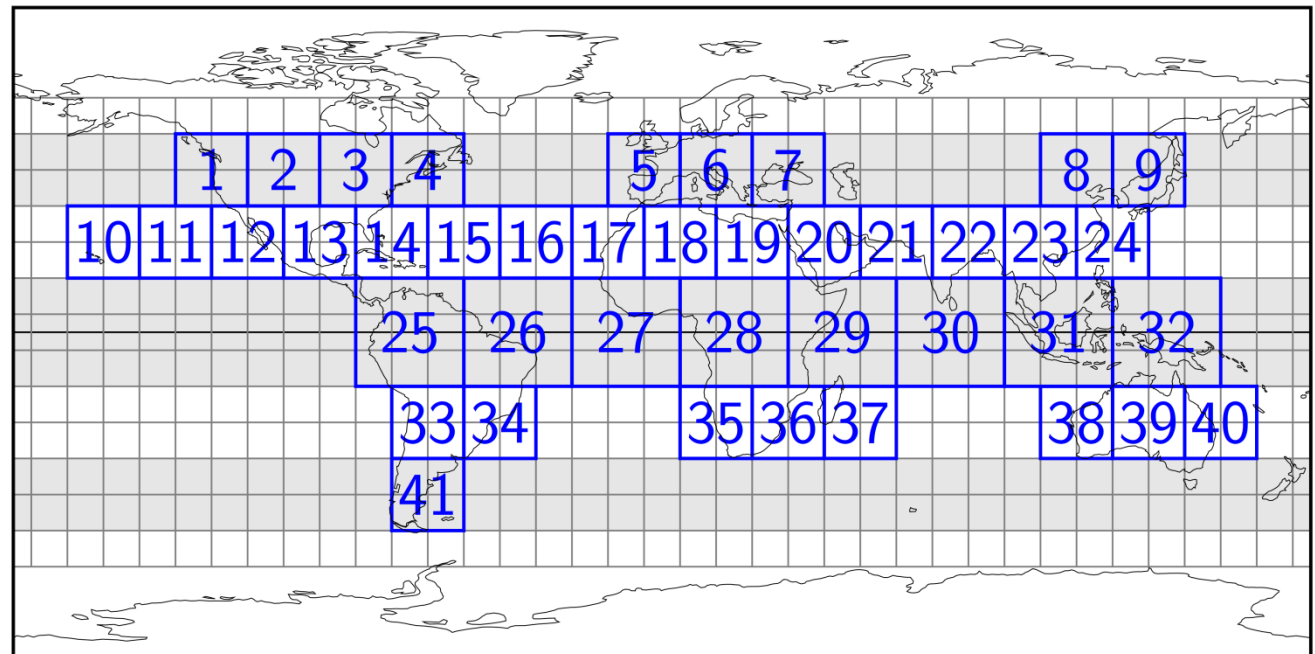# Regional Aerosol Optical Depth Trends with MATCH, CCCM and MODIS

David Fillmore and Seiji Kato   AeroCom, Hamburg

Monthly time series
MATCH, MODIS
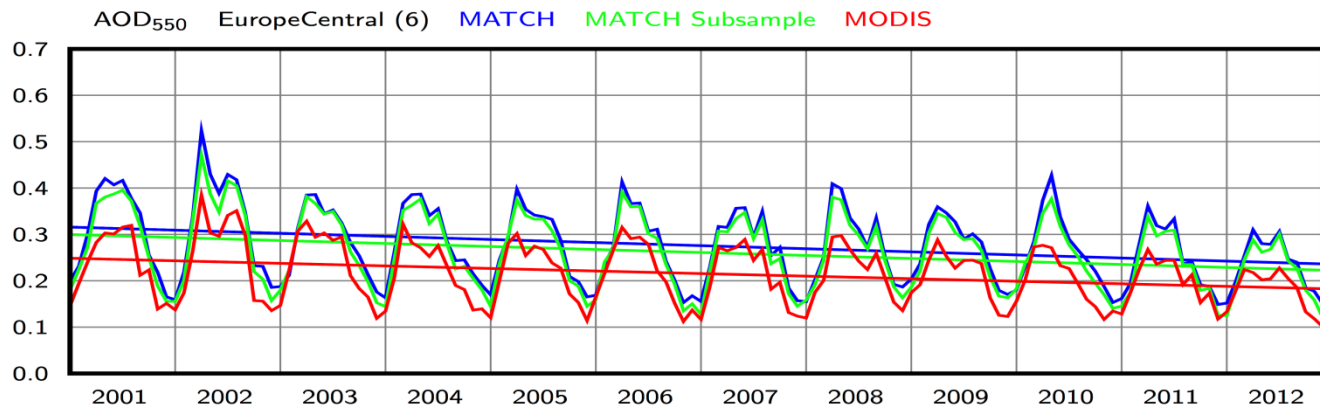2001-2012

MATCH assimilates
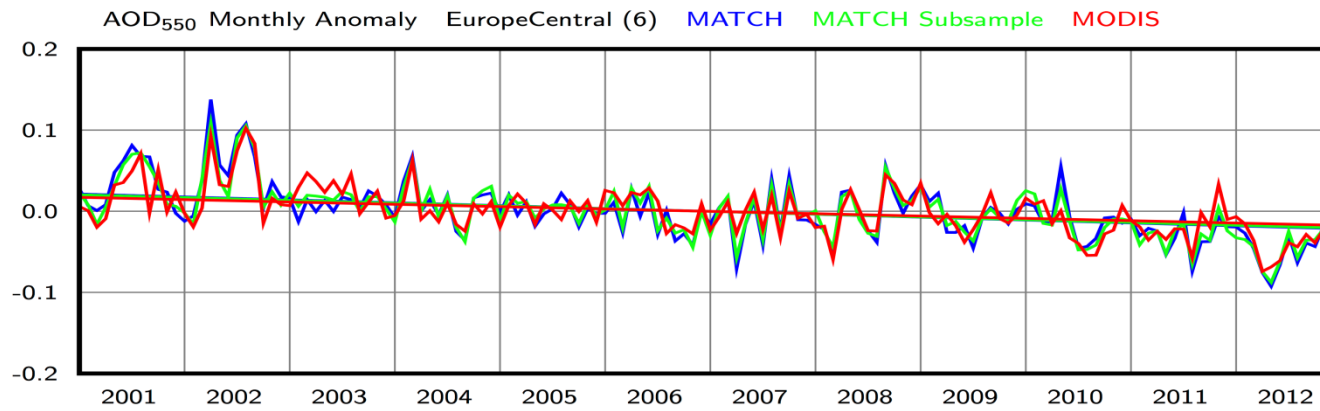MODIS AOD (550)
(also Deep Blue)
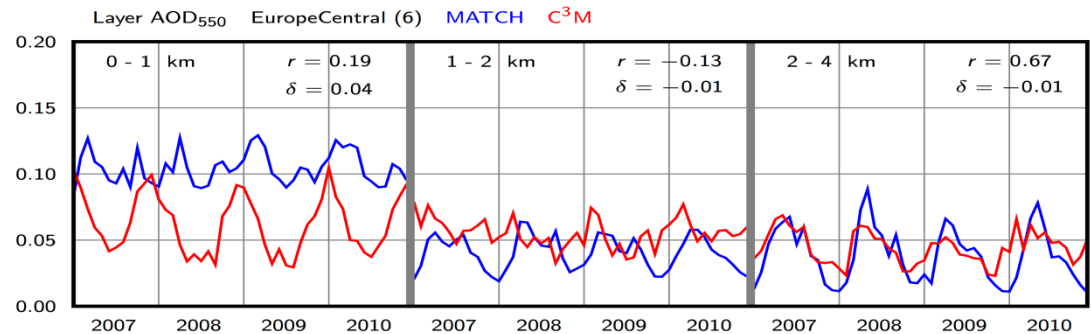
CCCM
layer AOD
2007-2010

gridded to NCEP T62

2013 September 23

AOD$_{550}$ EuropeCentral (6)   MATCH   MATCH Subsample   MODIS

MATCH
MATCH subsample with
MODIS daily coverage
MODIS

AOD$_{550}$ Monthly Anomaly   EuropeCentral (6)   MATCH   MATCH Subsample   MODIS

MATCH
CCCM

Layer AOD$_{550}$ EuropeCentral (6)   MATCH   C^{3}M

| 0 - 1 km | | $r = 0.19$ | | 1 - 2 km | | $r = -0.13$ | | 2 - 4 km | | $r = 0.67$ |
| | | $\delta = 0.04$ | | | | $\delta = -0.01$ | | | | $\delta = -0.01$ |

EuropeCentral (6)	b (decade^{-1})	a	r	p	ϵ
MATCH	−0.067	0.316	−0.283	0.001	0.000
MATCH Subsample	−0.065	0.300	−0.281	0.001	0.000
MODIS	−0.055	0.249	−0.298	0.000	0.000

$$AOD_{550} = b\,t + a$$