Atmos. Chem. Phys. Discuss., 3, S1796–S1797, 2003
www.atmos-chem-phys.org/acpd/3/S1796/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Characterization of African dust over southern Italy" *by* A. Blanco, et al.

F. Dulac

fdulac@cea.fr

Received and published: 27 October 2003

The pionneer source inventory by D'Almeida (1986) used in your figure 1 ignores source regions in the northernmost part of Africa which are now known to be active sources for dust in the Mediterranean. The work by Prospero et al., as recommended by one anonymous reviewer, is certainly more up to date and appropriate. I also wish to mention the work by Moulin et al., 1998 and Brooks and Legrand, 2000 based on Meteosat Infrared data. In particular Moulin et al. show seasonal variations in the transport characteristics. Do you confirm that your four episodes follow the spring and late spring typical situations shown by Fig. 4 in Moulin et al.?

Regarding your discussion of back-trajectories and source regions (figure 2) I also wish to mention Hamonou et al. (1999) who show that dust layers from different source

Full Screen / Esc
Print Version
Interactive Discussion
Discussion Paper

regions in Africa can be found superimposed in southern Europe. Since a trajectory can overpass certain source regions in the absence of dust emission, I stress that Meteosat IR or TOMS data should be used to detect active sources in Africa along the back-trajectories in order to ascertain your conclusions on source regions.

References

Brooks, N. and Legrand, M.: Dust variability over northern Africa and rainfall in the Sahel, in "Linking Climate Change to Land Surface Change", S.J. McLaren and D.R. Kniveton Eds., Kluwer, 1-25, 2000.

Hamonou, E., Chazette, P., Balis, D., et al.: Characterization of the vertical structure of Saharan dust export to the Mediterranean basin, J. Geophys. Res., 104, 22257-22270, 1999.

Moulin, C., Lambert, C.E., Dayan, U., et al.: Satellite climatology of African dust transport in the Mediterranean atmosphere. J. Geophys. Res., 103, 13137-13144, 1998.

Interactive comment on Atmos. Chem. Phys. Discuss., 3, 4633, 2003.