

Catalogue of available data

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The intense interest in aerosol influences on climate change has spurred a large number of campaigns over the past several years directed to one or another aspect of aerosol-climate interactions. These campaigns and their key findings could be summarized in the text of our report. We have begun to compile a list of these campaigns in Table A1, together with literature references and URLs to data sources and repositories.

Likewise monitoring of shortwave atmospheric radiation and/or aerosol optical depth, in many instances coupled with local aerosol measurements, is pertinent to evaluation of aerosol influences on radiation. These systematic radiation/aerosol measurements could also be briefly summarized in our report. We have begun to compile a list of these activities in Table A2, together with literature references and URLs to data sources and repositories.

Issues that need to be considered in including data sets to this list:

- Are the data accessible?
- Is the dataset sufficiently complete to be useful for Aerosol-Climate studies?
- What level of quality control is implemented?

We are contacting our European/Asian/Australian colleagues for additional input.

TABLE A1: AEROSOL FIELD CAMPAIGNS (1995-2005)

Campaign/ location	Parameters	Reference/data archive	Time
SCAR-B (Amazonia)	AOD, SSA, aerosol and cloud microphysics	<i>Dubovik et al.</i> [1998]; <i>Kaufman et al.</i> [1998b]; <i>Reid et al.</i> [1998] http://eosweb.larc.nasa.gov/	1995
ACE-1 and 2 (Southern Ocean south of Tasmania)	Aerosol physical, chemical and optical properties, surface and vertical profiles, AOD	<i>Bates et al.</i> [1998]; http://www.ofps.ucar. edu/projects.html	1995
TARFOX (Eastern USA, Atlantic)	Aerosol physical, chemical and optical properties, surface and vertical profiles, AOD	<i>Russell et al.</i> [1999] http://eosweb.larc.nasa.gov/	1996
PEM Tropics A		http://www- gte.larc.nasa.gov/gte_miss.htm	1996
ACE-2 (Eastern North Atlantic)	Aerosol physical, chemical and optical properties, surface and vertical profiles, AOD, radiative fluxes	<i>Raes et al.</i> [2000], ultra.ei.jrc.it:8181	1997

PEM Tropics B		http://www-gte.larc.nasa.gov/gte_miss.htm	1999
AEROSOLS99 (Atlantic)	Aerosol physical, chemical and optical properties at surface, AOD, lidar	<i>Bates et al.</i> [2001]; <i>Voss et al.</i> [2001] http://saga.pmel.noaa.gov/data/	1999
INDOEX (South Asia, Indian Ocean)	Aerosol and cloud microphysics, aerosol chemistry, AOD, radiative fluxes	http://www-indoex.ucsd.edu	1999
SAFARI 2000 (Southern Africa)	Aerosol physical, chemical and optical properties, surface and vertical profiles, AOD, radiative fluxes	www.safari2000.org http://safari.gecp.virginia.edu/	2000
PRIDE/PELTI 2000 (Caribbean)		http://modis-atmos.gsfc.nasa.gov/PRIDE/index.html http://geo.arc.nasa.gov/sgg/PRIDE/	2000
TRACE-P		http://www-gte.larc.nasa.gov/gte_miss.htm	2001
ACE-Asia (East Asia, Western Pacific)	Aerosol physical, chemical and optical properties, surface and vertical profiles, lidars, AOD	http://www.pmel.noaa.gov http://www.ofps.ucar.edu/projects.html	2001
MINOS (Mediterranean Sea)	AOD, aerosol chemistry and microphysics, solar fluxes	http://www.mpch-mainz.mpg.de/~reus/	2001
CLAMS (Chesapeake Bay)	Aerosol and cloud microphysics, aerosol chemistry, AOD, radiative fluxes	http://snowdog.larc.nasa.gov/clams/index.html http://eosweb.larc.nasa.gov/HPDOCS/proj_sup.html	2001
ITCT 2002 (west coast of US)	Aerosol and cloud microphysics, aerosol chemistry, AOD, radiative fluxes	http://www.al.noaa.gov/ WWHHD/pubdocs/ITCT/	2002
INTEX, ITCT 2004 (both coasts of US)	Aerosol and cloud microphysics, aerosol chemistry, AOD, radiative fluxes	http://geo.arc.nasa.gov/sgg/singh/white_paper.pdf	2004
West Africa Monsoon Experiment			2005

TABLE A2 SYSTEMATIC AEROSOL/RADIATION MEASUREMENTS

Program/ location	Parameters	Reference/data archive	Time
Cape Grim (Tasmania)	Aerosol physical, chemical and optical properties	http://www.bom.gov.au/inside/cgbaps/index.shtml	1976- present
GAW (22 sites)		http://www.ei.jrc.it/wdca/ http://www.wmo.ch/	1989- present
BSRN (19 sites)		http://bsrn.ethz.ch/	1992- present
ARM SGP (Oklahoma)	Radiative fluxes, aerosol surface chemistry/optics and vertical profiles	<i>Mather et al.</i> [1998]; http://www.arm.gov http://www.cmdl.noaa.gov/aero/net/index.html	1992- present
AERONET (~100 sites worldwide)	Spectral AOD, Spectral SSA, Angstrom exponent	<i>Holben et al.</i> [1999; 2001]; <i>Dubovik et al.</i> [2001]; http://aeronet.gsfc.nasa.gov	1993 – present
NOAA baseline and regional stations (Barrow, Mauna Loa, Bondville)	Aerosol optical and chemical properties	http://www.cmdl.noaa.gov/aero/net/index.html	1994- present
ARM Barrow	Radiative fluxes Co-located with NOAA baseline station	<i>Mather et al.</i> [1998]; http://www.arm.gov	1996- present
ARM TWP (West Pacific)	Radiative fluxes	<i>Mather et al.</i> [1998]; http://www.arm.gov	1997 – present
MPL net (6 sites)	Lidar profiles	http://virl.gsfc.nasa.gov/mpl-net/	1998- present
KCO (Arabian Sea)	Spectral AOD, solar fluxes	Satheesh et al. [1999]	1998 – 2000
SOAR (8 ships)	Radiative fluxes and AOD	http://www.gim.bnl.gov/soar/index.html	1998- present
CARPOS (Southern California)	AOD, solar fluxes, aerosol vertical profile	http://www-c4.ucsd.edu/	2000 – present
Kosan (East China Sea)	Aerosol physical, chemical and optical properties	http://my.dreamwiz.com/kosae/ http://www.cmdl.noaa.gov/aero/net/index.html	2001- present

COSAM database	Chemical data used for CTM evaluation	http://www.ei.jrc.it/wdca/ Barrie et al., Tellus, 53, 615-645, 2001
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