

Name of research institute or organization:

Koninklijk Nederlands Meteorologisch Instituut (Royal Dutch Meteorological Institute)

Title of project:

GLOBE Aerosol Monitoring project

Project leader and team:

J.P. de Vroom
T. Vlemmix
P.F. Levelt (project leader)

Project description:

The project is part of the satellite mission project OMI (www.knmi.nl/omi). The project involves OMI aerosol optical thickness validation by undergraduate student measurements (www.knmi.nl/globe and www.globe.gov). These measurements are done with a LED-based, hand-held GLOBE Sun photometer.

Main results are published in JGR (see reference section)

Goal of work at Jungfraujoch was the Langley-plot calibration of the extraterrestrial constants for several GLOBE Sun photometers. This was done by clear sky measurements of direct sunlight at 508 and 625 nm at different solar zenith angles, i.e. at sunrise and sunset.

Key words:

Aerosol Optical Thickness, Calibration, Sun photometer, Education

Internet data bases:

www.knmi.nl/globe, www.globe.gov

Collaborating partners/networks:

SME Advies and Drexel University

Scientific publications and public outreach 2007:

Refereed journal articles

Boersma and De Vroom (2006): Validation of MODIS aerosol observations over the Netherlands with GLOBE student measurements, *J. Geophys. Res.*, 111, D20311, doi:10.1029/2006JD007172.

Contributed to measurements reported in JGR (to be published): The 2005 and 2006 DANDELIONS NO₂ and Aerosol Intercomparison Campaigns.

Presentations

Vlemmix, T: yearly conference for teachers in geography Poster and Presentation on the GLOBE-aerosol project, KNAG (Koninklijk Nederlands Aardrijkskundig Genootschap / Royal Dutch Geographical Society), Utrecht, 8/12/2006.

Vlemmix, T: Poster and Presentation on the GLOBE-aerosol project, Conference for teachers in physics, Woudschoten, 15/12/2006.

T.Vlemmix, E.J. Brinksma, P.F. Levelt, R. Braak, B. Veihelmann, and J.P. Veeffkind: Presentation "The GLOBE-Aerosol monitoring Project at KNMI", 2007 EGU General Assembly, April 19, 2007, Vienna, Austria.

Vlemmix, T: Presentation on results of GLOBE spring campaign, OMI Science Team conference, UMBC, Baltimore, 6/6/2007.

Magazine and Newspapers articles

E.J.Brinksma, T.Vlemmix, P.F.Levelt: „Satellite validation by Students“, Dutch Magazine for Physics (Nederlands Tijdschrift voor Natuurkunde), March 2007

T.Vlemmix, E.J.Brinksma, J.P. de Vroom, P.F.Levelt: „Dutch Students contribute to OMI aerosol validation“, The Earth Observer (NASA), October 2007

Radio and television

“start of the GLOBE aerosol measurement campaign”, news item, National Dutch Radio 1, October 2007.

“start of the GLOBE aerosol measurement campaign”, news item, Rotterdam newspaper, October 2007.

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