



Royal Netherlands  
Meteorological Institute  
*Ministry of Infrastructure and the  
Environment*

# **GLOBE Aerosols: Brief overview of spring campaign results**

Elise Hendriks

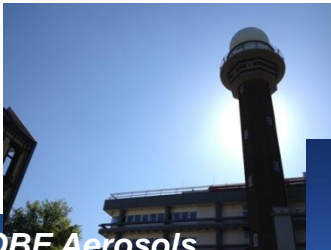
August 2013



# Spring campaign 2013

Measurement period:

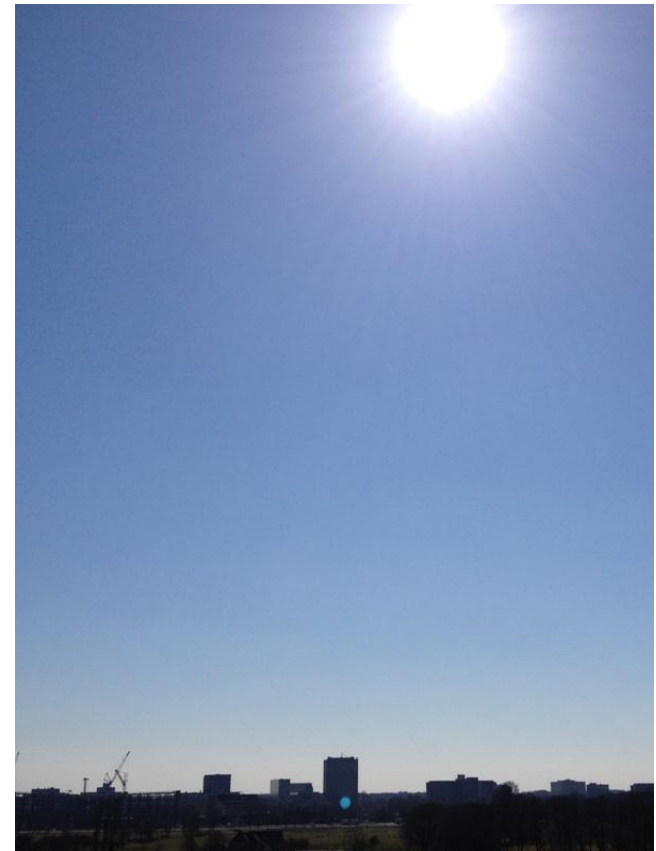
*March 1 – May 31*



**GLOBE Aerosols  
@KNMI**



*April 9-12, Tallin, Estonia  
clear skies and still snow*



***March 4, first excellent weather circumstances for  
GLOBE Aerosols measurements in the Netherlands***

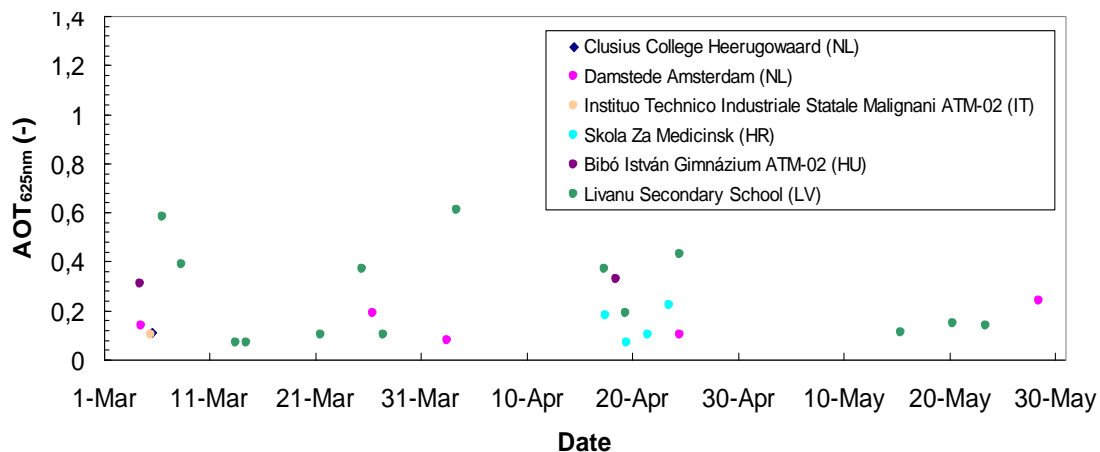
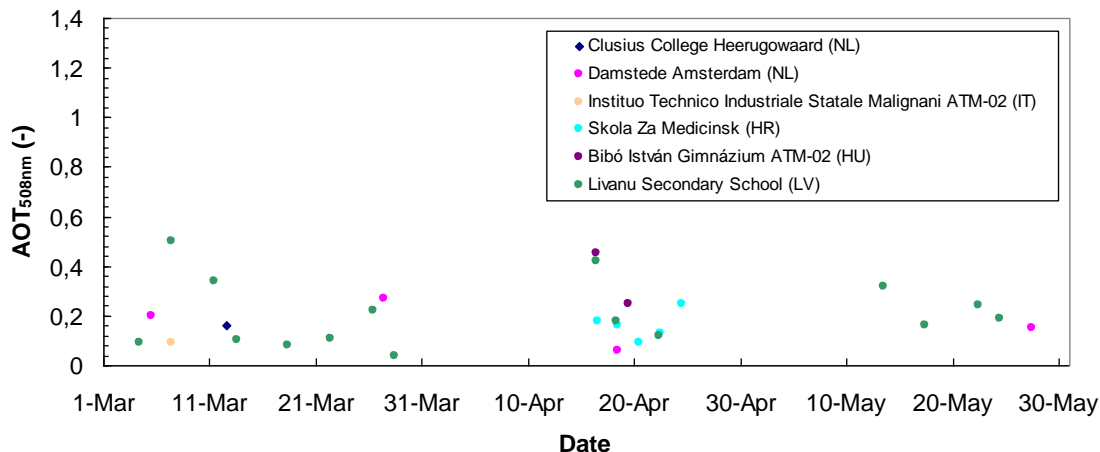


# Spring campaign 2013

## Overview:

- Total number of *69 AOT measurements* by *6 schools* in *5 countries*
- First blue skies and AOT measurements *March 4-5* **the Netherlands: AOT<0.2 and cold!**
- Lowest AOT in *March* and *end of April*

Aerosol Optical Thickness Spring 2013





# Spring campaign 2013

## Satellite measurements

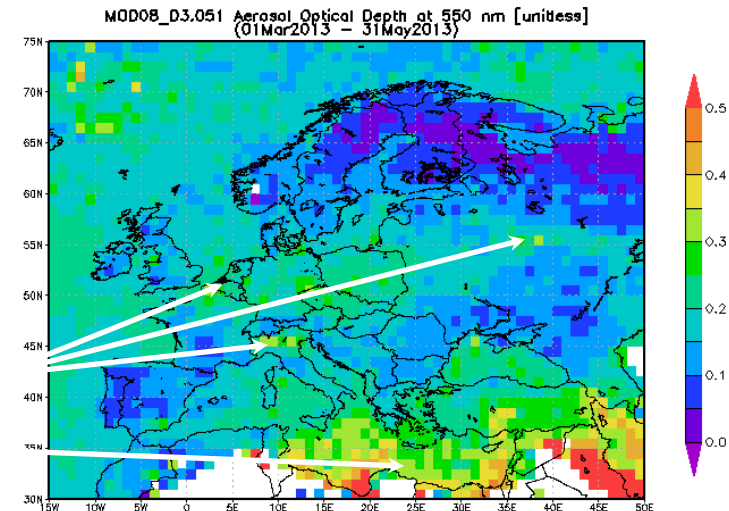
MODIS (NASA)

General features Europe:

- AOT highest near cities and industry
- decrease of AOT with latitude
- highest AOT in Po-Valley (Italy) and central to eastern Mediterranean

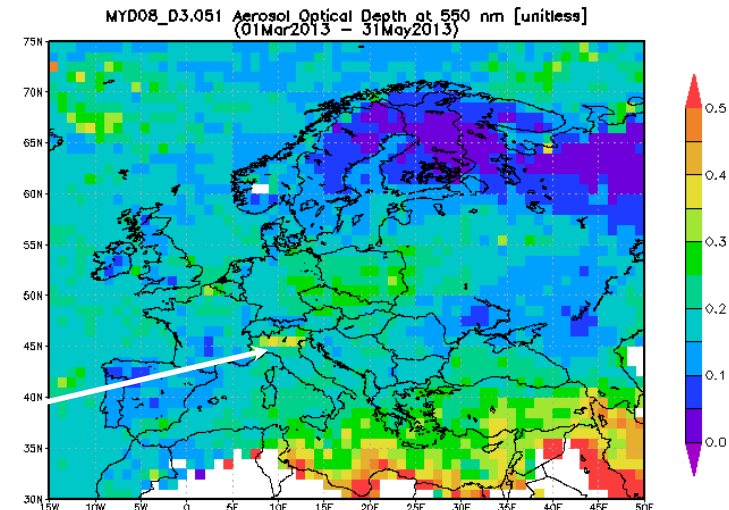
MODIS Terra  
(morning)

*traffic & industry*  
*Saharan dust*



MODIS Aqua  
(afternoon)

*relatively poor ventilation  
of air mass*

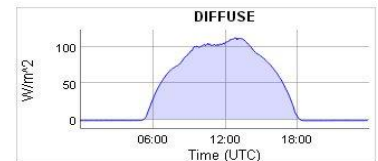
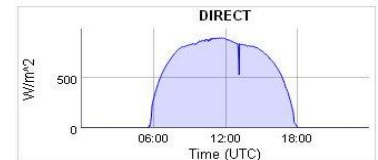
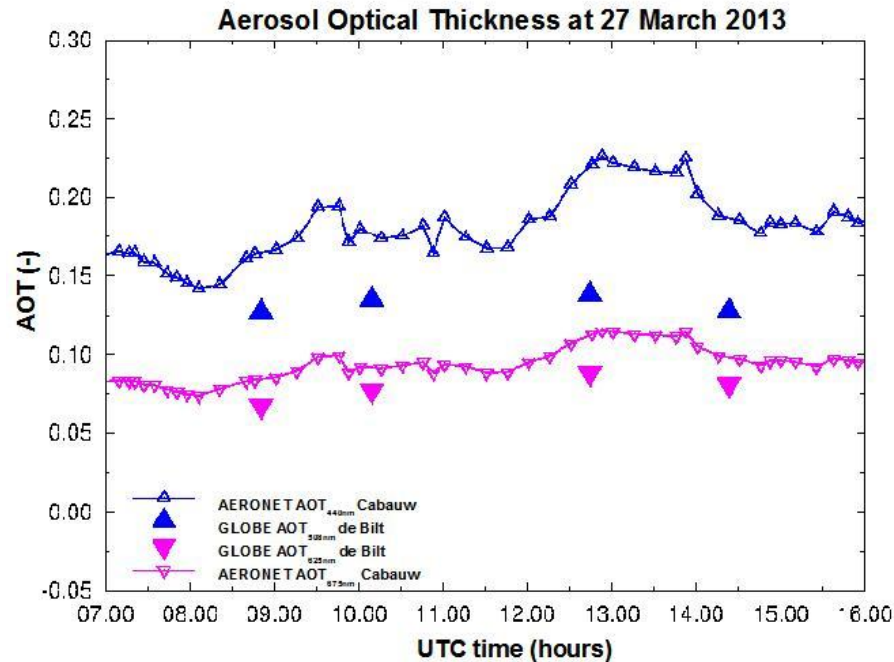




# An example: AOT at KNMI in the Netherlands

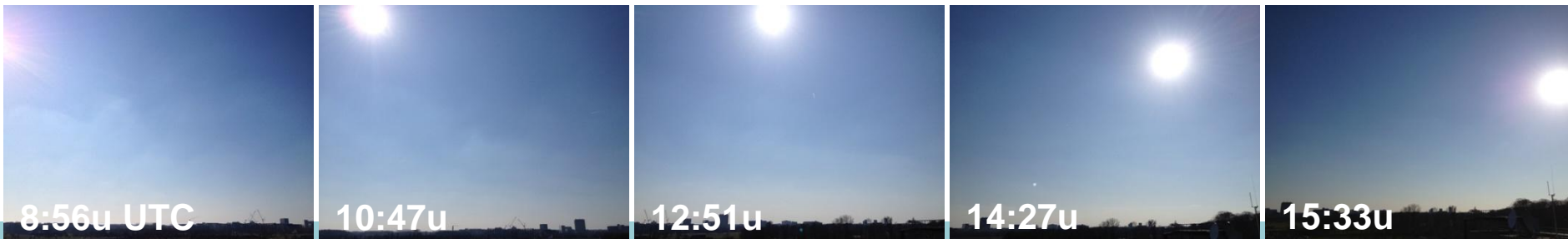
GLOBE and  
AERONET AOT  
observations  
at  
March 27  
2013

*(AERONET is a world wide network  
of professional sun photometers)*



BSRN direct and diffuse  
global radiation

*(BSRN is a world wide network of  
solar radiation measurement  
sites)*

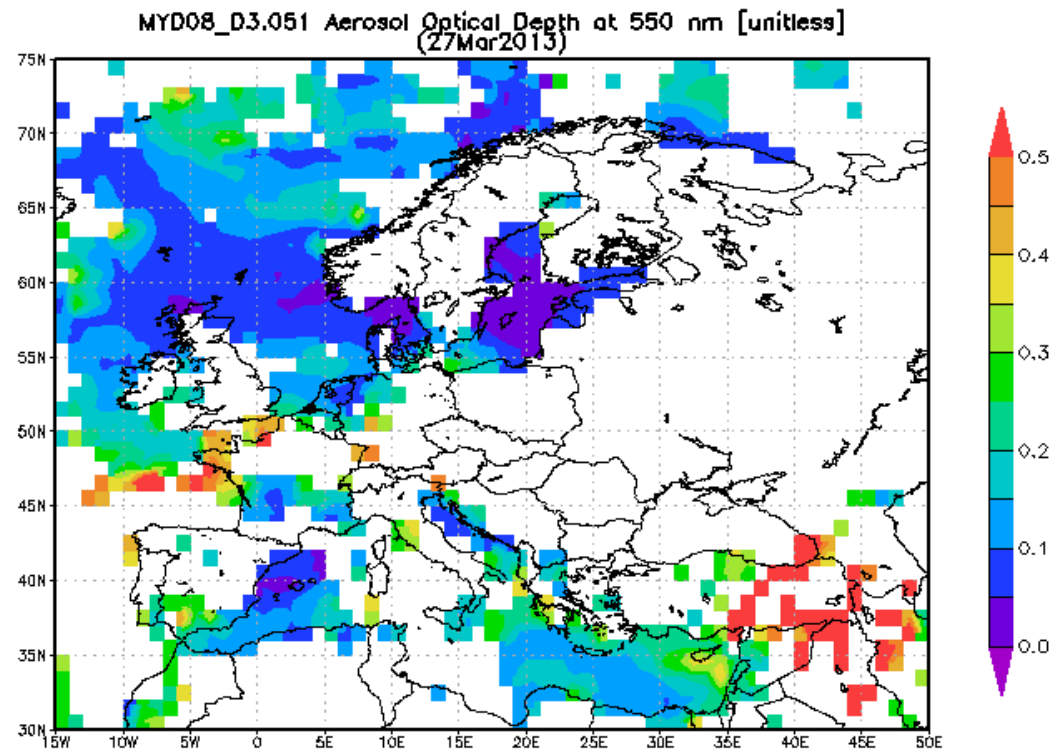
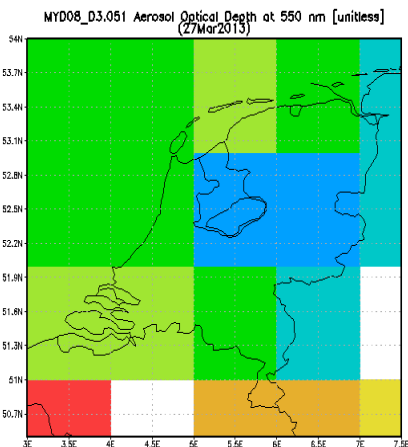




# An example: AOT over Europe and the Netherlands

MODIS Aqua  
over Europe,  
The Netherlands,  
March 27  
2013

*Clear skies in the  
Netherlands,  
but clouded the largest part  
of Europe!*



(source: NASA's [GIOVANNI](#) Interactive Visualization and Analysis tool)



# Explore more observations

... where and how?

GLOBE schools, for example:

- Dutch, Latvian schools: [globe.gov](http://globe.gov) Or [www.knmi.nl/globe/](http://www.knmi.nl/globe/),
- French and Estonian schools through: <http://www.meteodesecoles.org/calisphair>

Satellite data, for example:

- MODIS through NASA's online analysis tool GIOVANNI: [disc.sci.gsfc.nasa.gov/giovanni/](http://disc.sci.gsfc.nasa.gov/giovanni/)

Other aerosol data networks, for example:

- AERONET data [gcmd.nasa.gov/records/GCMD\\_AERONET\\_NASA.html](http://gcmd.nasa.gov/records/GCMD_AERONET_NASA.html)

Other:

- BSRN solar radiation data network: <http://bsrn.awi.de/>

NASA National Aeronautics and Space Administration

**Giovanni** - The Bridge Between Data and Science

+ ABOUT GIOVANNI + NEWS

MODIS  
Atmo:

Home

This tool is designed for visualization and analysis of the Atmosphere Data, Plot, and Correlation Map. Animation is available for Lat-Lon Maps. The about the data will be available in the future.

- Further information about this MOVAS instance can be obtained [here](#).
- Giovanni MOVAS Monthly instance is [here](#).
- Data Availability from MODAPS LAADS Web is shown [here](#)

Select: **NASA's GIOVANNI**

Spatial **analysis tool**  
Cursor Coordinates: -131.21094, 8

NASA GODDARD SPACE FLIGHT CENTER

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Record Search Query:  
**The AEROSOL ROBOTIC NETWORK (AERONET) from NASA**  
Entry ID: AERONET\_NASA

[ Get Data ]

This data set description is available [Click to see membership](#)

**Summary**  
**Abstract:** AERONET (Aerosol Robotic Network) is an international monitoring network and data archive supported by NASA. Observing System and expanded by federation with many institutions. The network hardware consists of identical sun-sky scanning spectral radiometers owned by national universities. Data from this collaboration provides global aerosol optical depth and aerosol absorption. [Click to view more](#)

**AERONET**

Related URL



# GLOBE Aerosols

## Measurement campaigns up next..



### Europe & Eurasia

- GLOBE Aerosols in Europe & Eurasia
  - *fall measurement campaign 2013* **Sep 16 – Oct 14**
  - *spring measurement campaign 2014*  
**March 3 – May 9**

Visit <http://www.globe.gov/web/europe-aerosols-campaign>

### the Netherlands

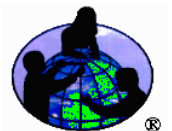
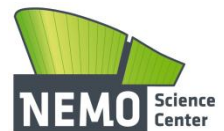
- GLOBE Aerosols in the Netherlands: [iSPEX-GLOBE](#) campaign **summer 2013**

See also <http://www.knmi.nl/globe/aerosolen.html>



Koninklijk Nederlands  
Meteorologisch Instituut  
Ministerie van Verkeer en Waterstaat

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**Space**  
Office







Koninklijk Nederlands  
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*Ministerie van Infrastructuur en Milieu*

**Thanks for watching 😊**

August 2013