



WMO SDS-WAS programme. Regional Center for Northern Africa, Middle East and Europe.

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Francesco Benincasa

2nd. Training Course on WMO SDS-WAS. Antalya, 21-25 Nov. 2011

The Regional Center



The Regional Center is jointly managed by AEMET and the BSC-CNS. It is located in Barcelona, at BSC-CNS premises



Objectives of the Regional Center

- **Lead the implementation and operation of an integrated system of observation and prediction**
 - **Identify and improve observational and forecast products**
 - **Promote the creation and improvement of observational networks in developing countries.**
- **Facilitate user access to information**
 - **Create and maintain a website**
 - **Create alternative systems tailored to users**
- **Build capacity of countries to use the products supplied**

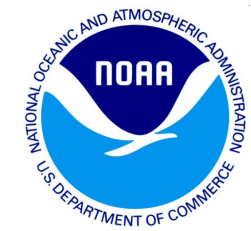
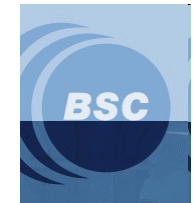
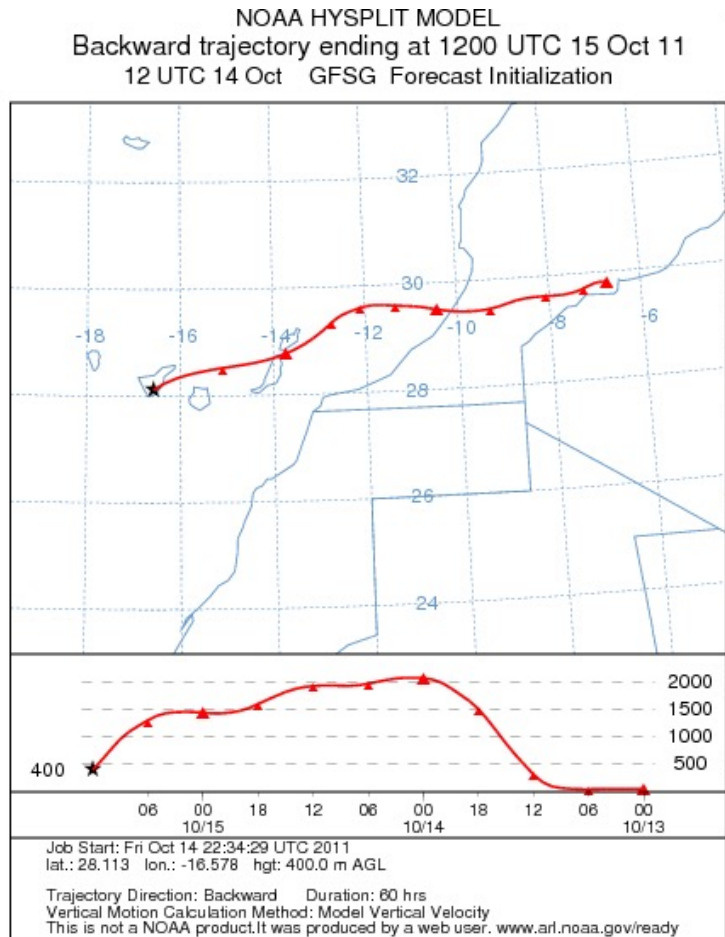
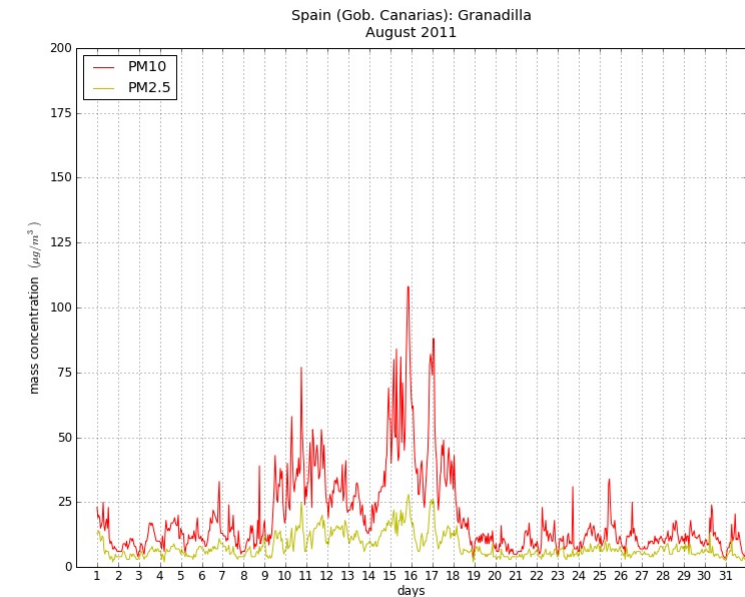
Integrated observational system

- **Ground-based**
 - **In-situ (AQ monitoring stations)**
 - **Indirect Observations: visibility**
 - **Sun photometers (AERONET)**
 - **Lidar, ceilometers**
- **Satellite-based**
 - **GEO**
 - **LEO, MEO**

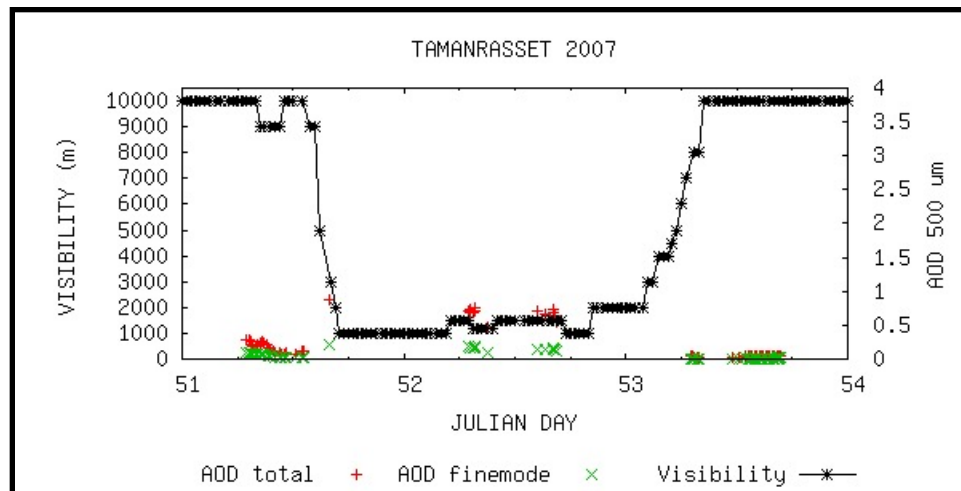
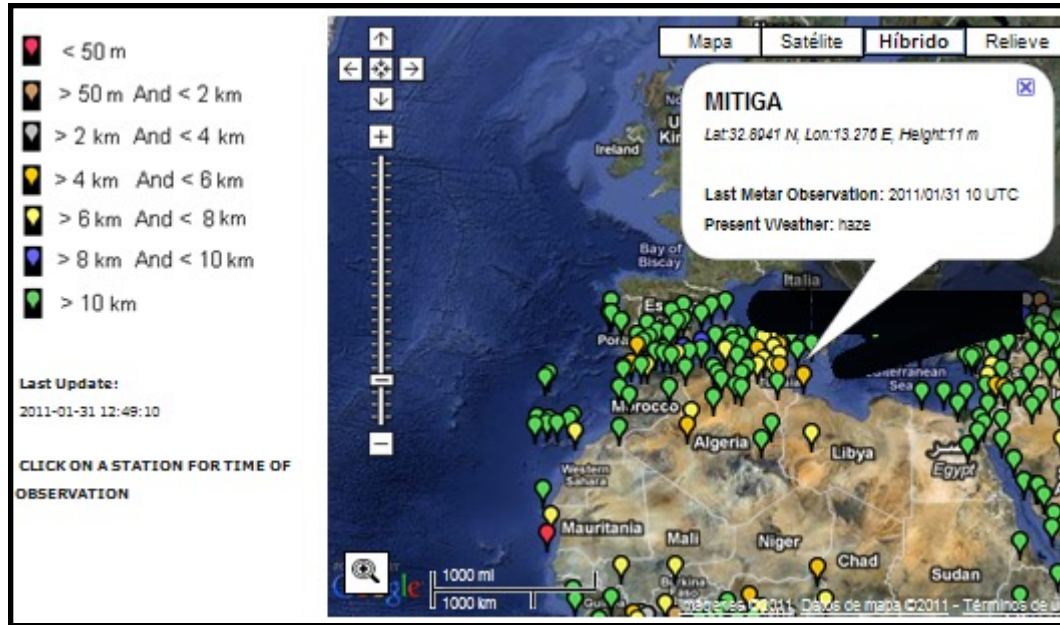
In-situ observations (AQ stations)



- Rural background stations
- Near-real-time data



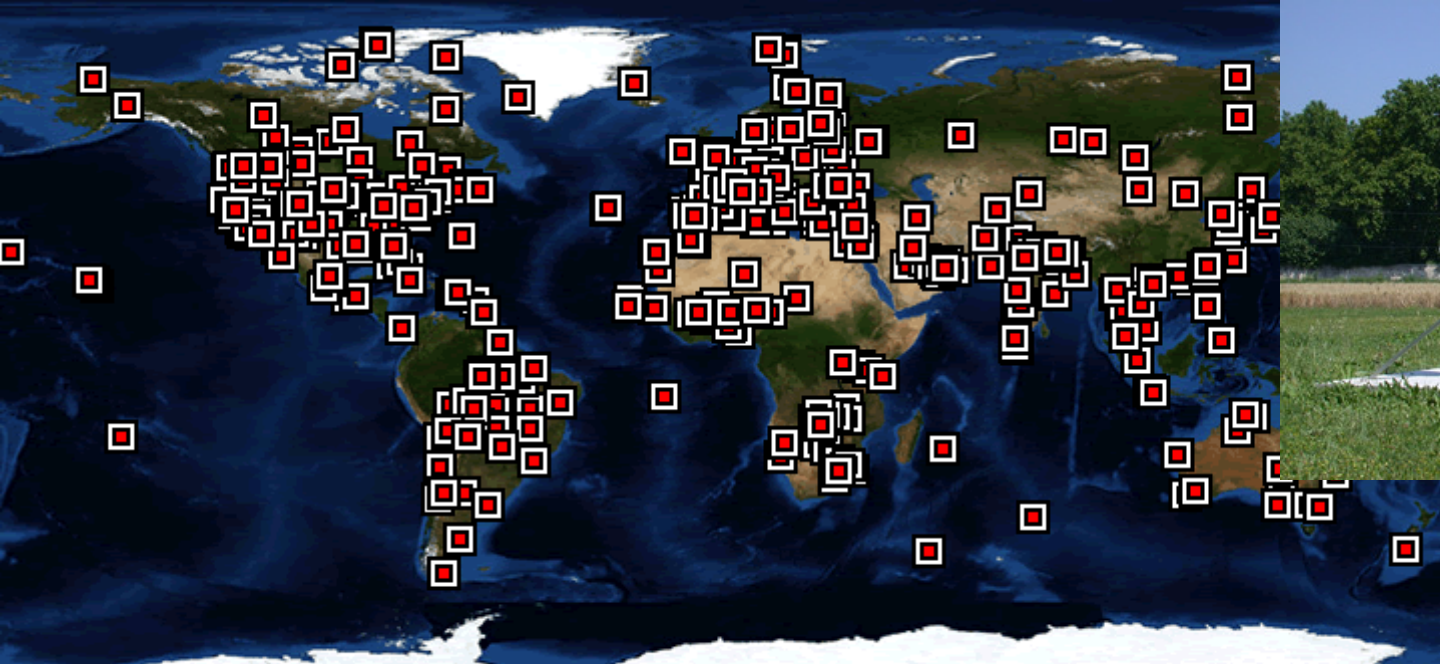
Visibility



**Tamanrasset, Algeria,
20-22 Feb. 2007**

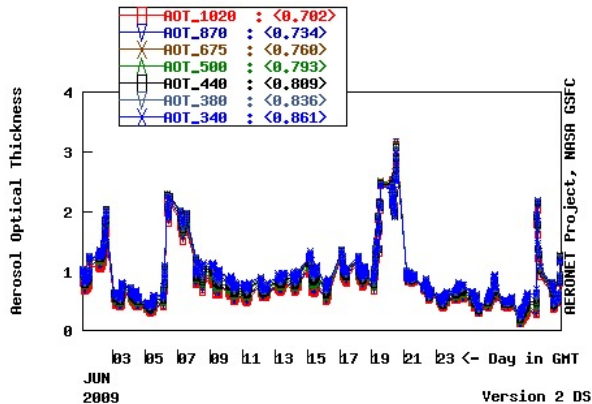
AERONET

AEROSOL ROBOTIC NETWORK



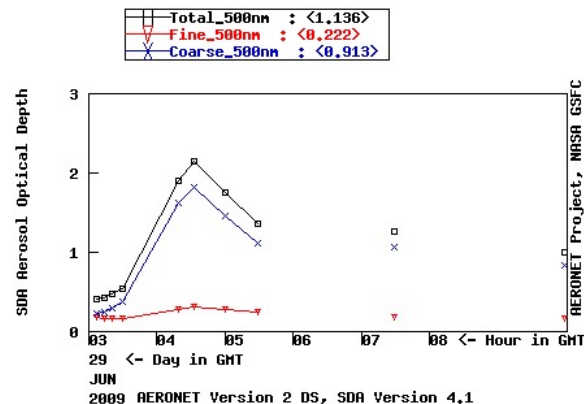
**Ciel Electronics
CE318**

Solar_Village , N 24°54'25", E 46°23'49", Alt 764 m,
PI : Naif_Al-Abbadi, nabbadi@kacst.edu.sa
Level 1.5 AOT; Data from JUN 2009



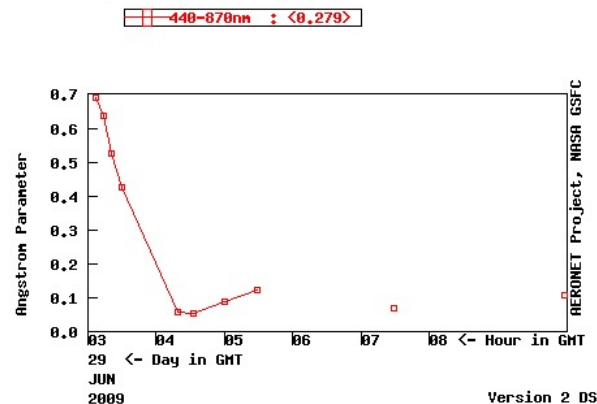
June 2009

Solar_Village , N 24°54'24", E 46°23'50", Alt 764 m,
PI : Naif_Al-Abbadi, nabbadi@kacst.edu.sa
SDR AOD from Level 1.5 AOD; 29 JUN 2009



29 June 2009 – Solar Village, Saudi Arabia

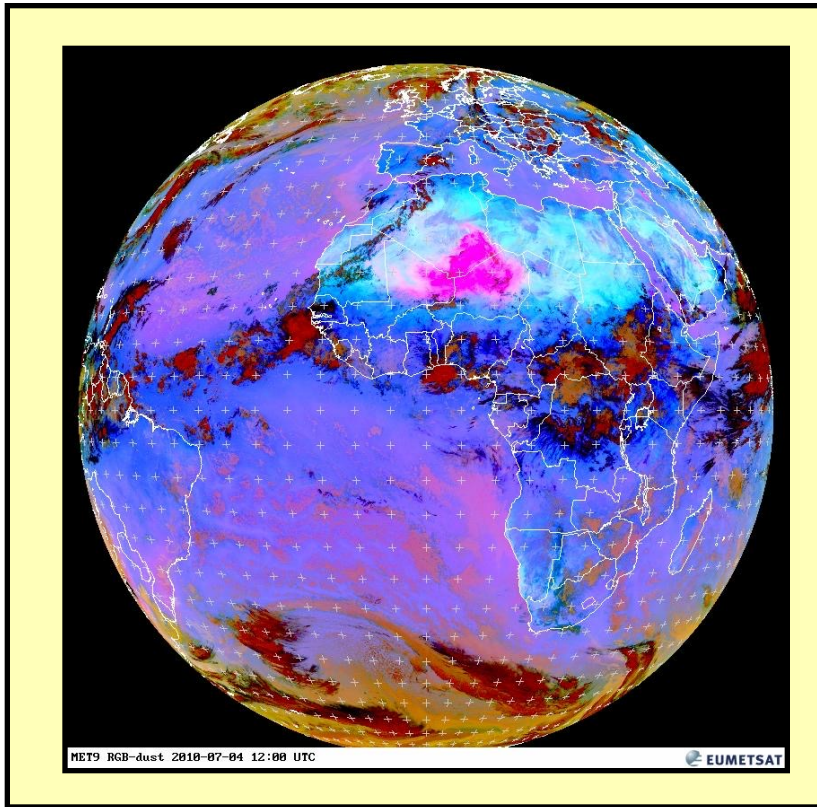
Solar_Village , N 24°54'25", E 46°23'49", Alt 764 m,
PI : Naif_Al-Abbadi, nabbadi@kacst.edu.sa
Angstrom from Level 1.5 AOT; Data from 29 JUN 2009



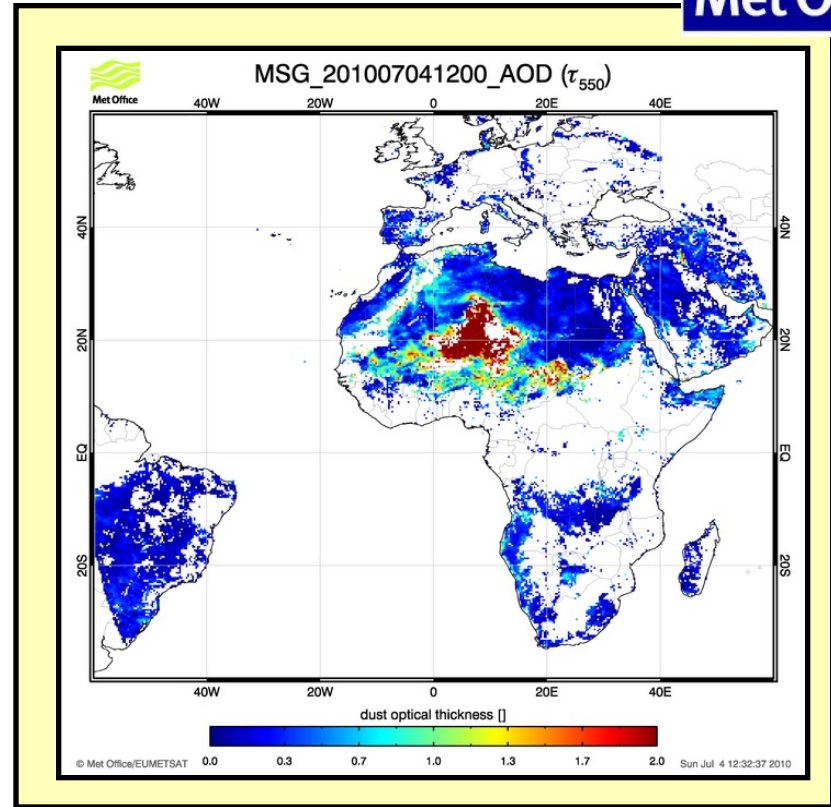
GEO satellites. Products from SEVIRI



4 July 2010 12:00 UTC



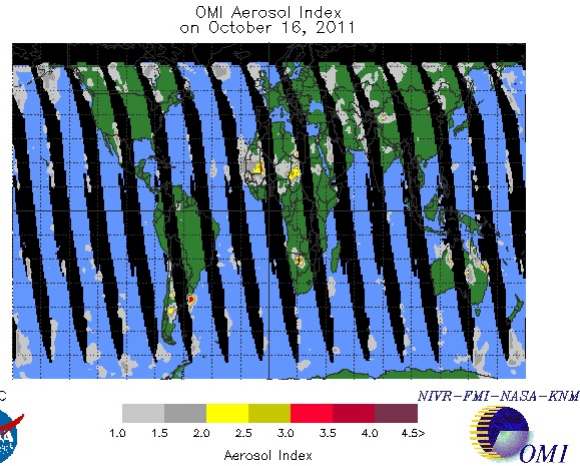
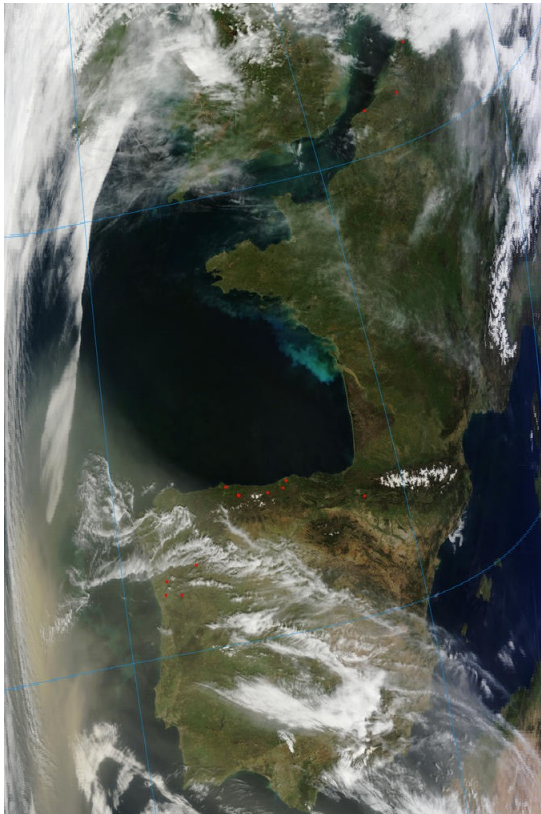
**EUMETSAT RGB-dust
(qualitative)**



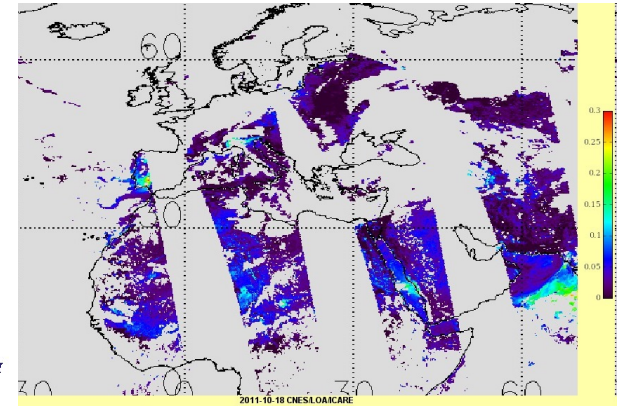
**UKMO dust AOD 550 nm
(quantitative)**

Products from LEO and MEO satellites

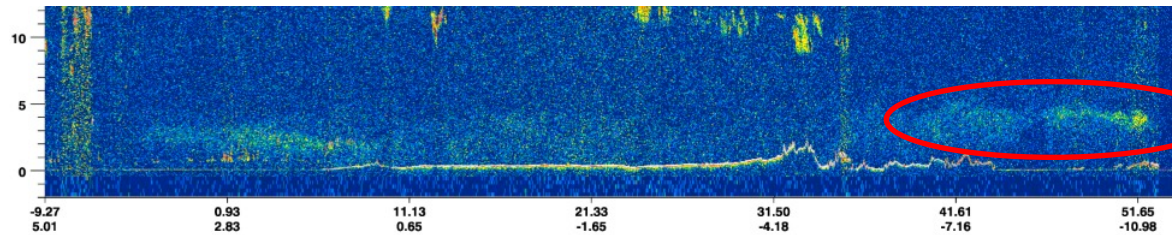
**MODIS True Color
6 Apr. 2011**



OMI

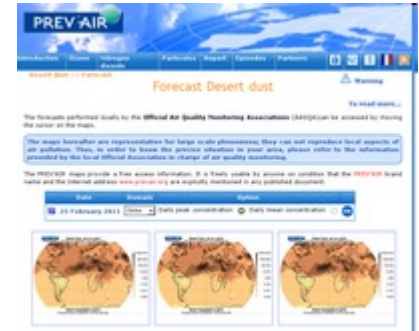
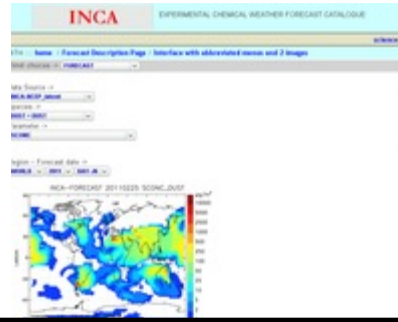
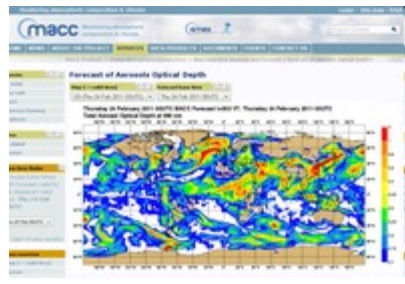
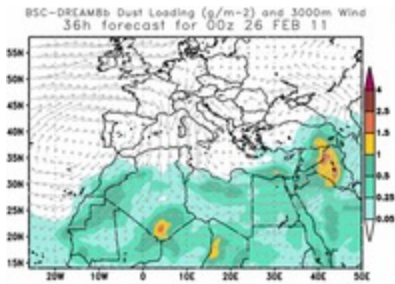


PARASOL



CALIPSO 7 Apr. 2011

Dust models

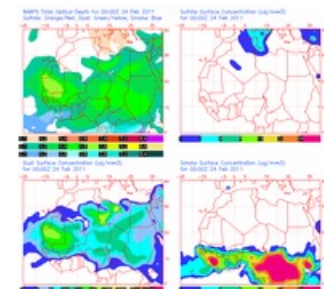
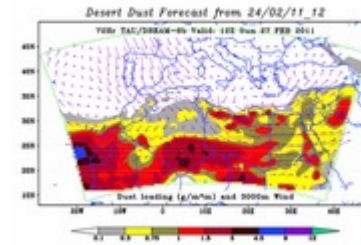
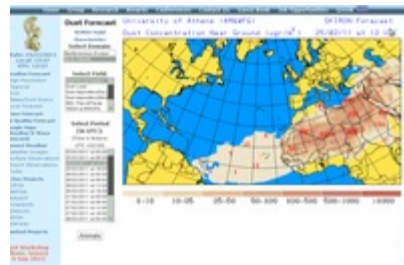
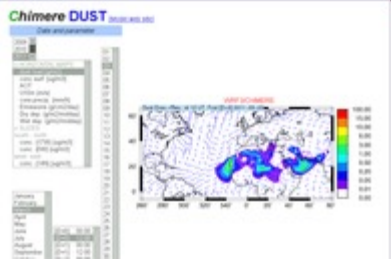


BSC-DREAM8b

MACC-ECMWF

INCA-LMDzT

MÉTÉO-FRANCE



CHIMERE

SKIRON

TAU-DREAM8b

NAAPS

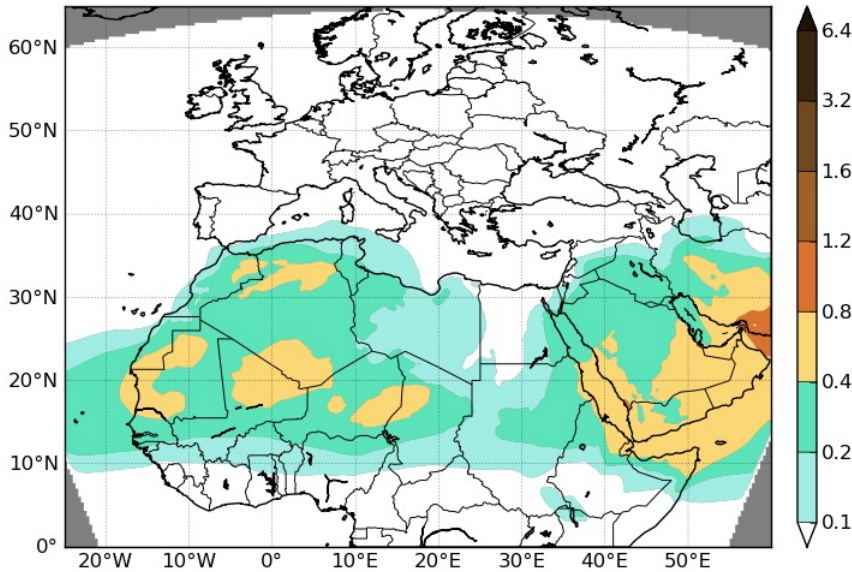


DREAM8-SEEVCCC

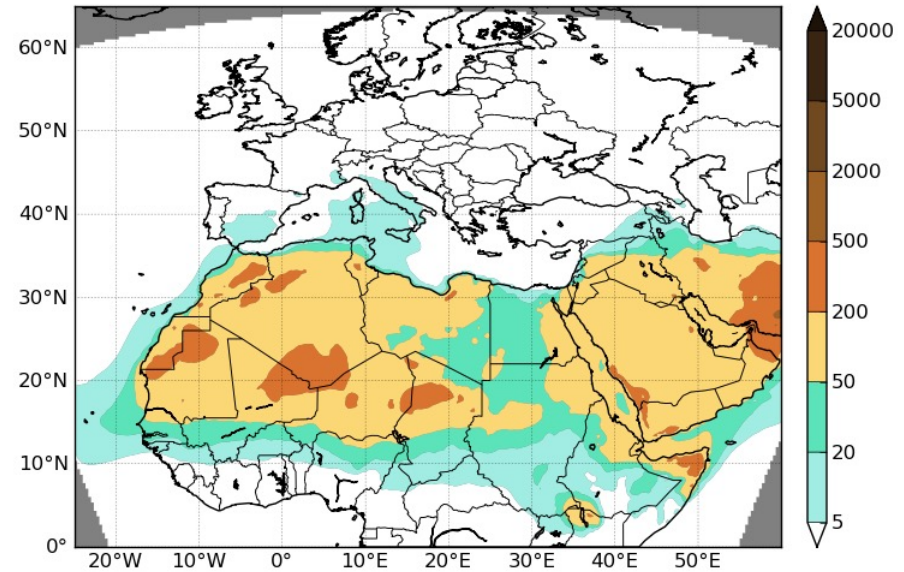
Time-averaged products

Sep. 2011

WMO SDS-WAS N.Africa-Middle East-Europe RC
BSC-DREAM8b Dust Load (g/m^2)
Average: SEP 2011



WMO SDS-WAS N.Africa-Middle East-Europe RC
BSC-DREAM8b Dust Surface Concentration ($\mu\text{g}/\text{m}^3$)
Average: SEP 2011



African Centre of Meteorological Application for Development
Centre Africain pour les Applications de la Météorologie au Développement

CLIMATE AND HEALTH BULLETIN

JULY 2010

sds-was.aemet.es

The screenshot shows the homepage of the Northern Africa-Middle East-Europe (NA-MEE) Regional Center. The header includes the WMO logo and the text "NORTHERN AFRICA-MIDDLE EAST-EUROPE (NA-MEE) REGIONAL CENTER" and "WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS)". A navigation menu contains links for HOME, ABOUT US, FORECAST & PRODUCTS, PROJECTS & RESEARCH, MATERIALS, NEWS, EVENTS, and CONTACT US. The main content area features a sidebar with a "Home" menu, a search box, and "Latest News" items. The central content area displays the title "Northern Africa-Middle East-Europe (NA-MEE) Regional Center" and a large satellite image of the Earth showing dust concentrations over the region. A yellow banner at the bottom of the screenshot reads "Subscribe to the public newsletter service!".

HOME

ABOUT US

FORECAST & PRODUCTS

PROJECTS & RESEARCH

MATERIALS

NEWS

EVENTS

CONTACT US



Subscribe to the public newsletter service!

sdswas@aemet.es

Capacity Building



Barcelona, Nov. 2010
8-12: Training Week on
Satellite Meteorology
15-19: Training Week on
WMO SDS-WAS products





Training on Meteorological Services, SDS Forecast and Early Warning System. Istanbul, 22-26 February 2011



2nd. Training Course on WMO SDS-WAS (satellite and ground observation and modelling of atmospheric dust). Antalya, 21-25 Nov. 2011



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