

WMO SDS-WAS products

Enric Terradellas, AEMET, Barcelona, eterradellasj@aemet.es
chair of the WMO SDS-WAS Steering Committee



**Barcelona
Supercomputing
Center**



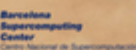



Centro Nacional de Supercomputación

Training Workshop on Sand and Dust Storms in West Africa, La Laguna, Spain 21 May 2018

Barcelona Dust Forecast Center

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BARCELONA DUST FORECAST CENTER



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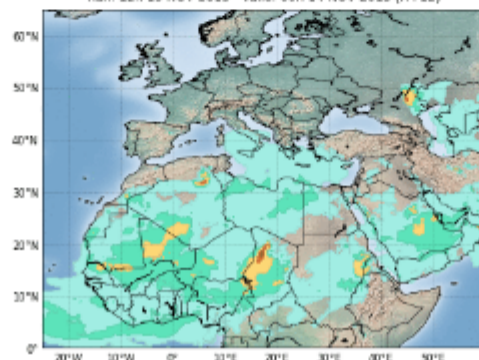
Training events in Muscat, Oman

Dust-related training events organized by the Regional Center for Northern Africa, Middle East and Europe of WMO SDS-WAS

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Barcelona Dust Forecast Center
NMMS/BSC-Dust Res: 0.1°x0.1° Dust Surface Conc. (µg/m³)
Run: 12h 13 NOV 2013 Valid: 00h 14 NOV 2013 (H+12)



Dust forecast

Latest dust forecast for Northern Africa, Middle East and Europe

[Check it here](#)

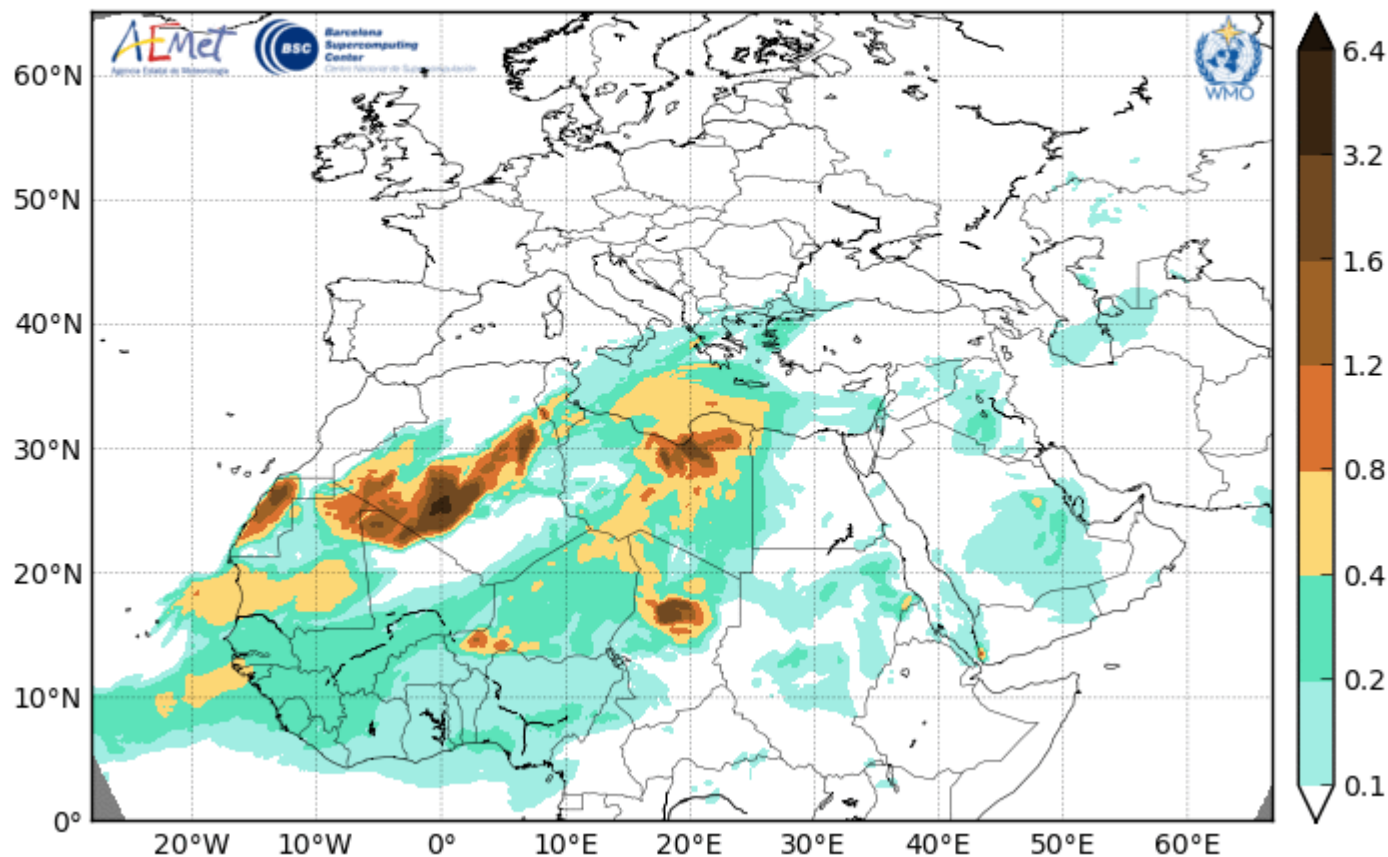
<https://dust.aemet.es>
dust.aemet.es

Barcelona Dust Forecast Center

FORECAST

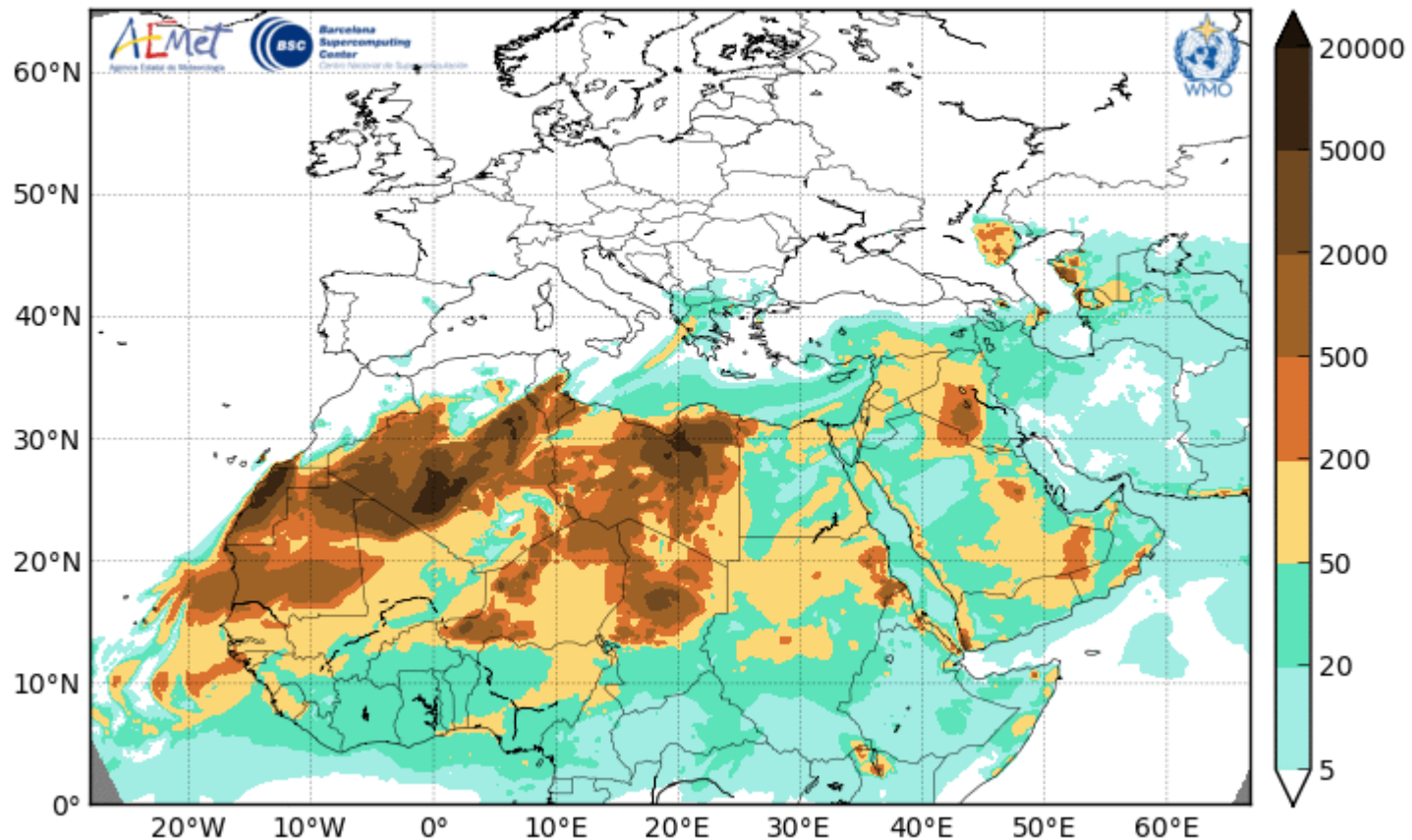
Barcelona Dust Forecast Center

Barcelona Dust Forecast Center - <http://dust.aemet.es/>
NMMB/BSC-Dust Res:0.1°x0.1° Dust AOD
Run: 12h 21 MAR 2018 Valid: 12h 21 MAR 2018 (H+00)



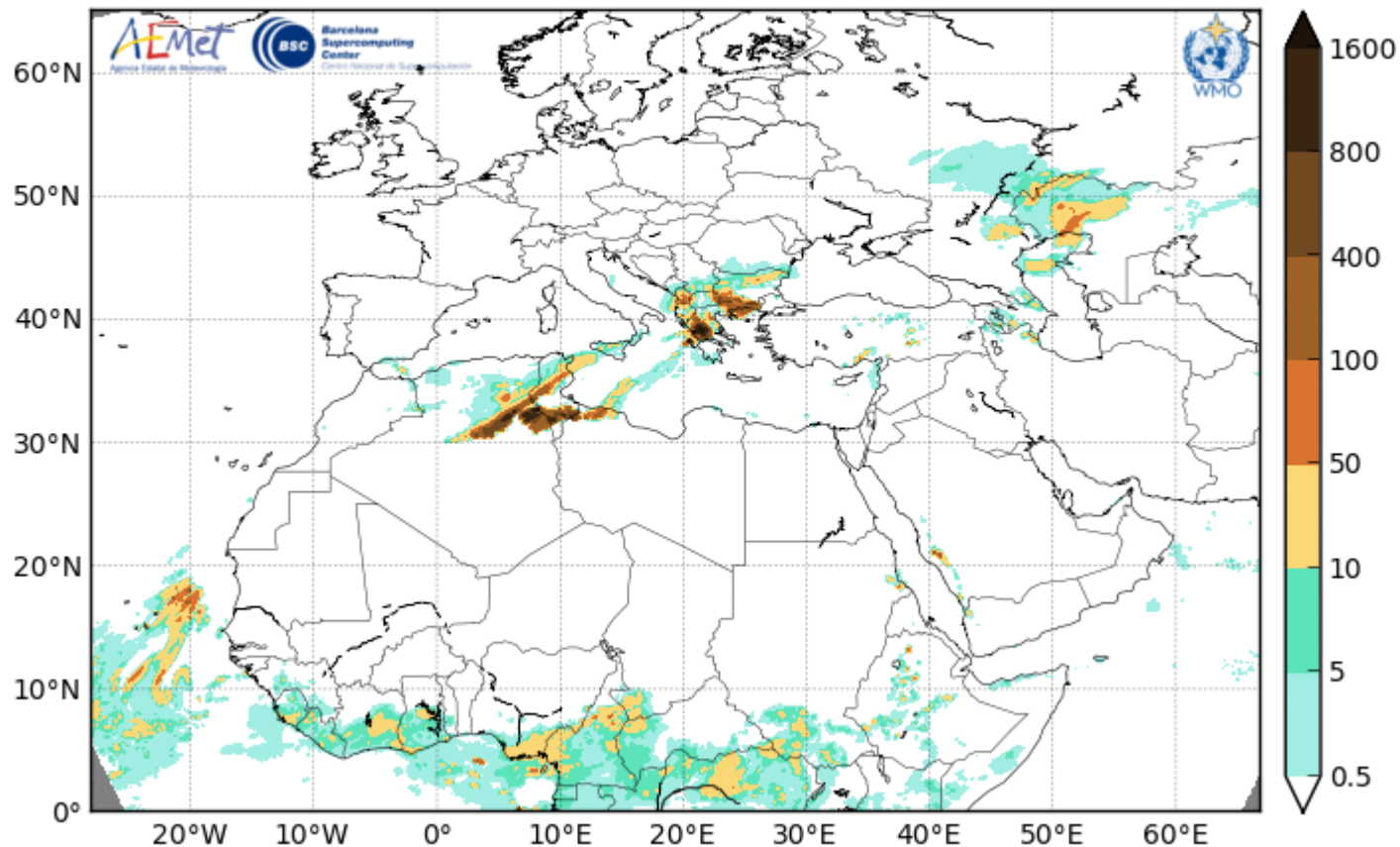
Barcelona Dust Forecast Center

Barcelona Dust Forecast Center - <http://dust.aemet.es/>
NMMB/BSC-Dust Res:0.1°x0.1° Dust Surface Conc. ($\mu\text{g}/\text{m}^3$)
Run: 12h 21 MAR 2018 Valid: 12h 21 MAR 2018 (H+00)



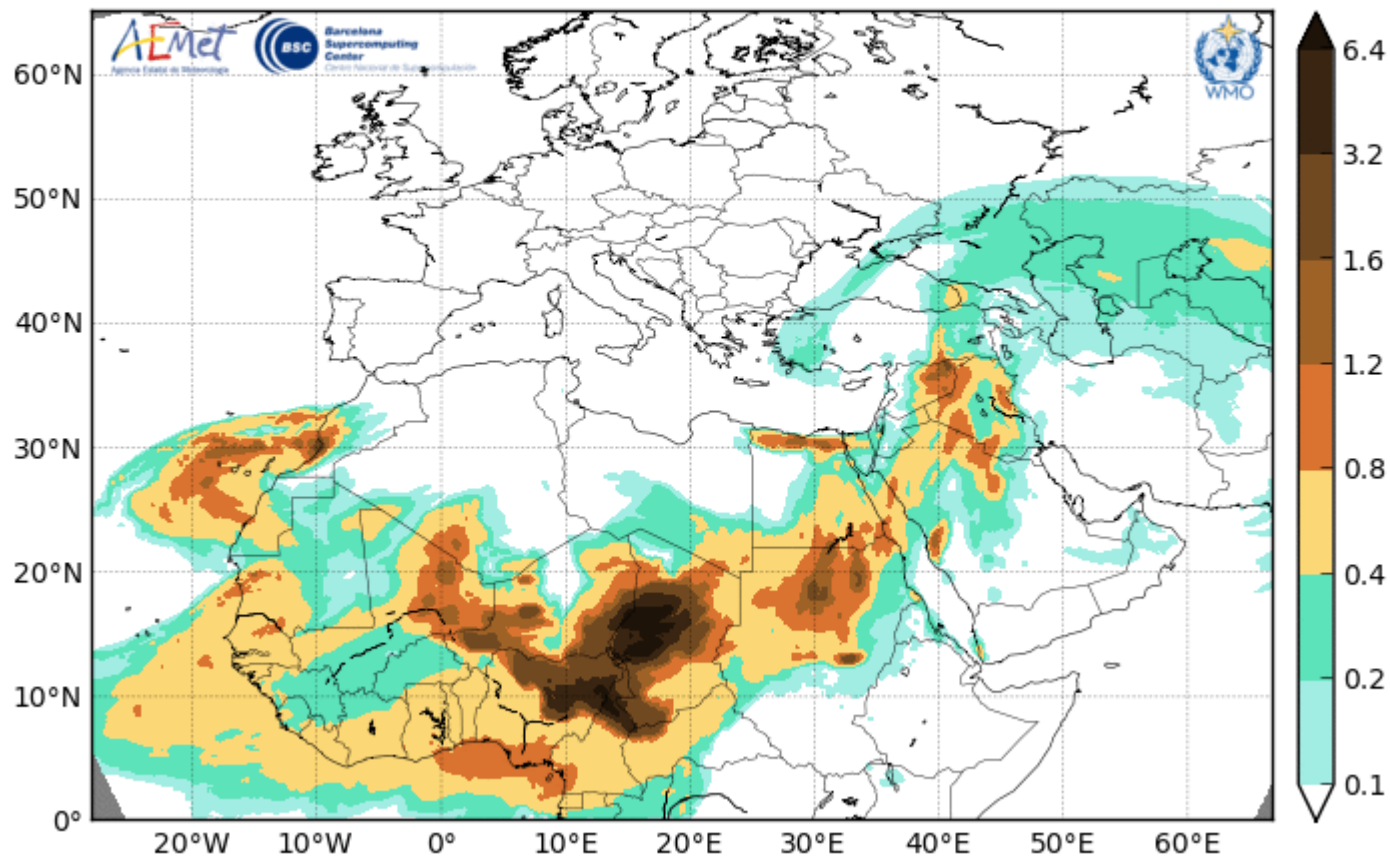
Barcelona Dust Forecast Center

Barcelona Dust Forecast Center - <http://dust.aemet.es/>
NMMB/BSC-Dust Res:0.1°x0.1° 3h Acc. Dust Wet Depos. (mg/m²)
Run: 12h 21 MAR 2018 Valid: 12h 21 MAR 2018 (H+00)




Barcelona Dust Forecast Center

Barcelona Dust Forecast Center - <http://dust.aemet.es/>
NMMB/BSC-Dust Res:0.1°x0.1° Dust AOD
Run: 12h 29 MAR 2018 Valid: 12h 29 MAR 2018 (H+00)



SDS-WAS Regional Center NAMEE

 **NORTHERN AFRICA-MIDDLE EAST-EUROPE (NA-ME-E) REGIONAL CENTER**
WMO Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS)

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Northern Africa-Middle East-Europe (NA-ME-E) Regional Center

by Francisco Benítez — last modified May 29, 2012 02:32 PM

Outstanding

- Guidance for forecasters
- 11 lectures on atmospheric mineral dust
- Forecast evaluation
- Compared dust forecasts

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Upcoming Events

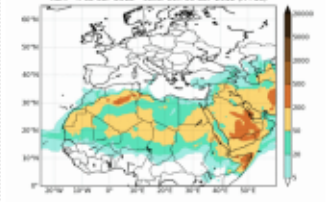
[European Aerosol Conference EAC-2012](#)
Sep 02, 2012 - Sep 07, 2012 — Granada, Spain

[2012 EUMETSAT Meteorological Satellite Conference](#)
Sep 02, 2012 - Sep 07, 2012 — Sosn, Poland

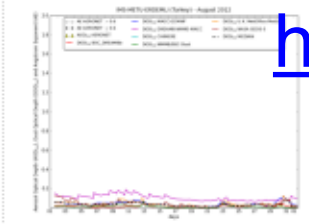
[90th International Symposium on Tropospheric Profiling](#)

Dust forecasts

WMO SDS WAS - Northern Africa-Middle East-Europe RC
MISSION: Dust Surface Concentration (µg/m³)
Run: 14-02 SEP 2012 - 0600 06 SEP 2012 11+120

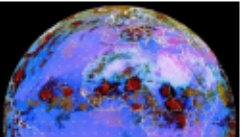
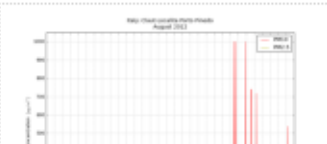


Compared Dust Forecasts



Forecast Evaluation

Dust observations



<https://sds-was.aemet.es>
sdswas@aemet.es

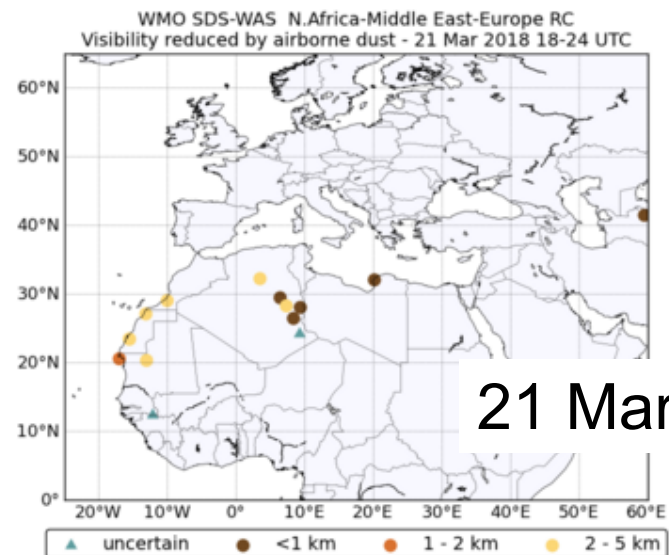
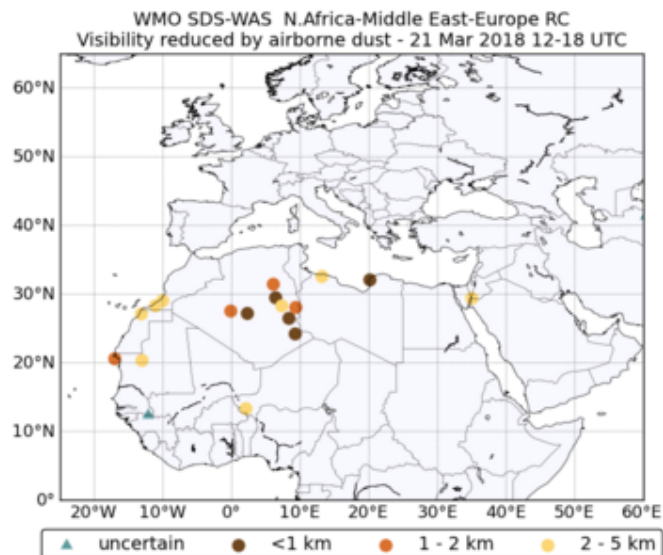
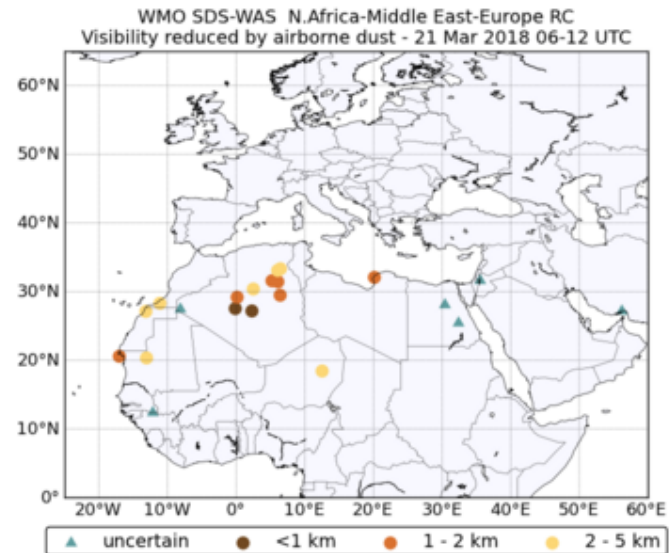
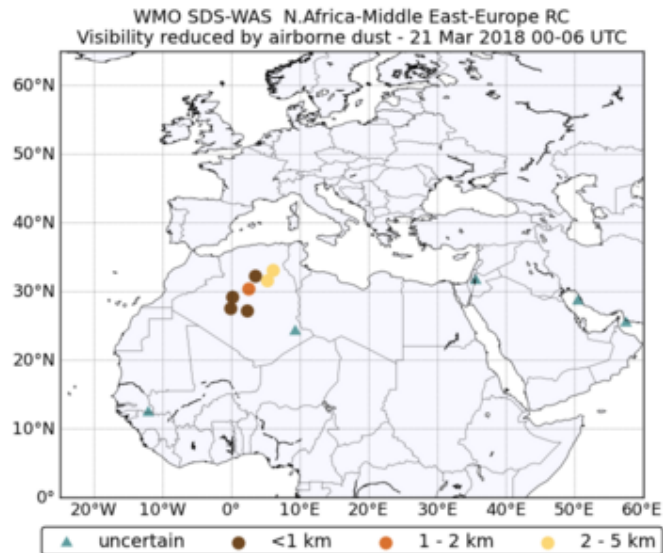
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FORECAST & PRODUCTS

DUST OBSERVATIONS

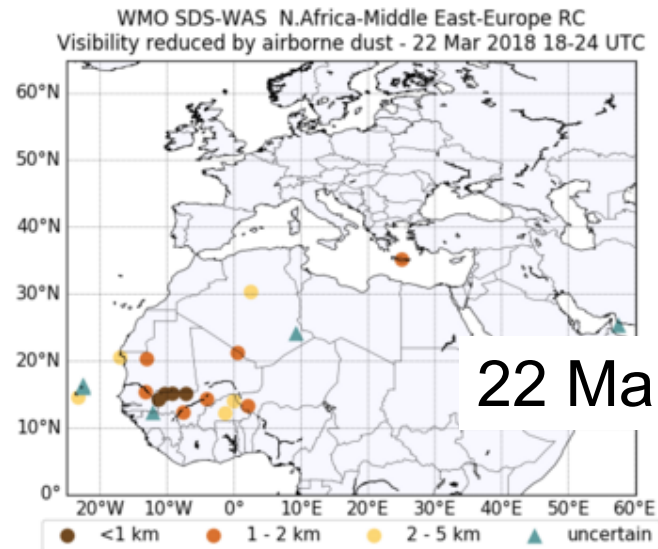
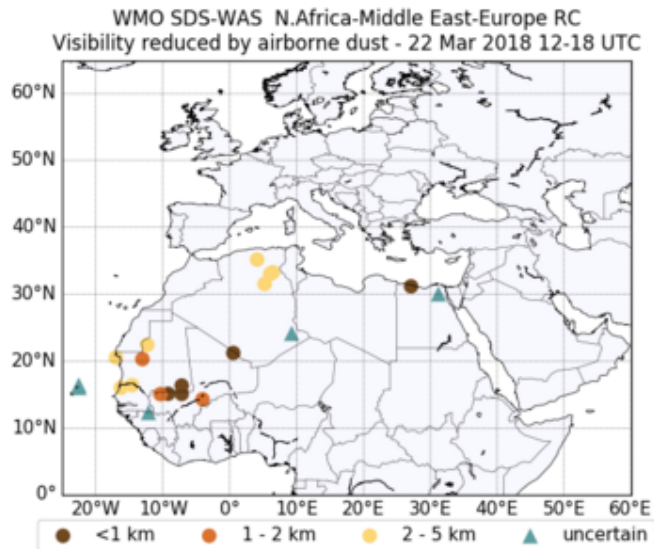
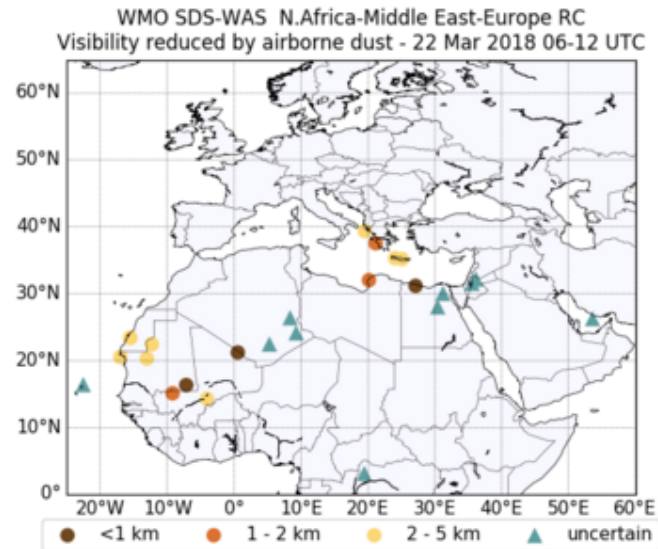
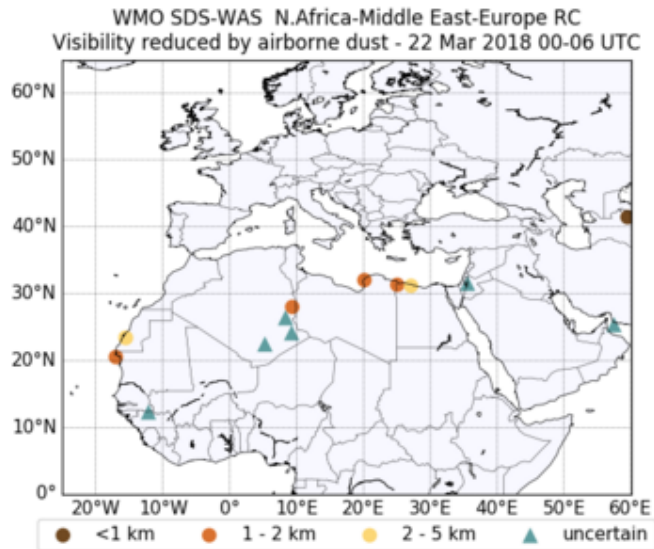
Visibility

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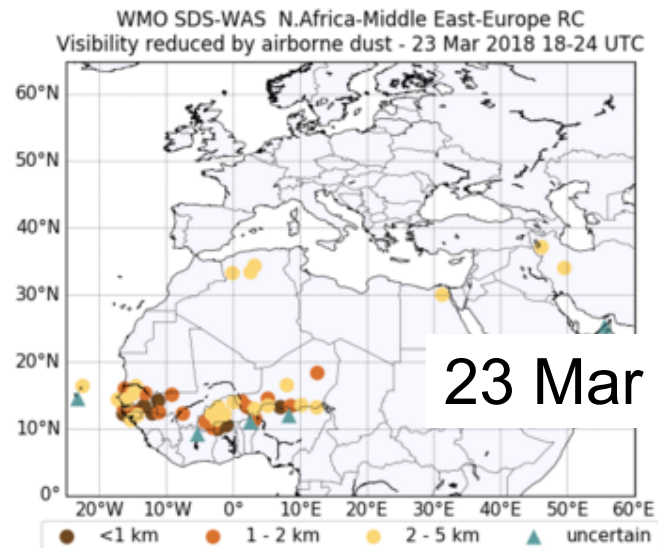
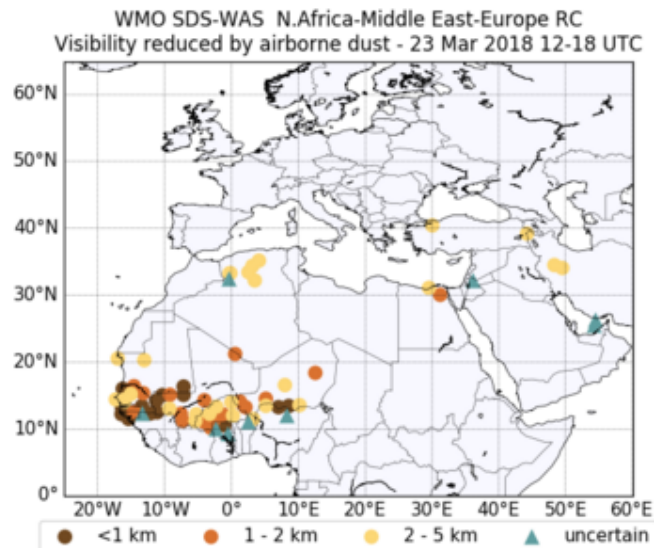
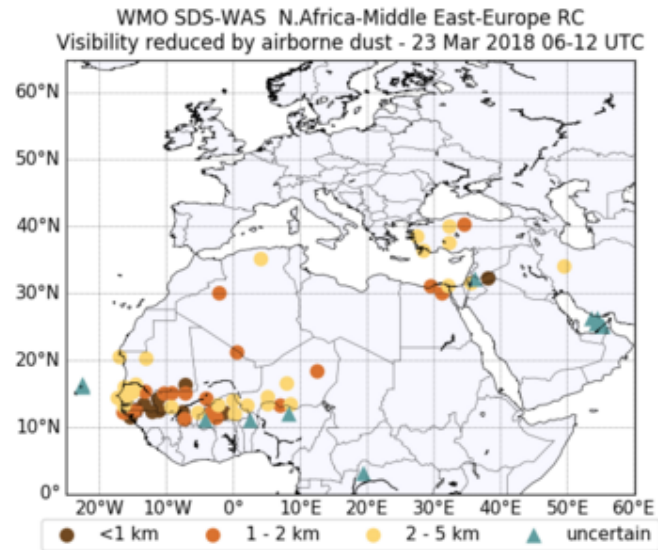
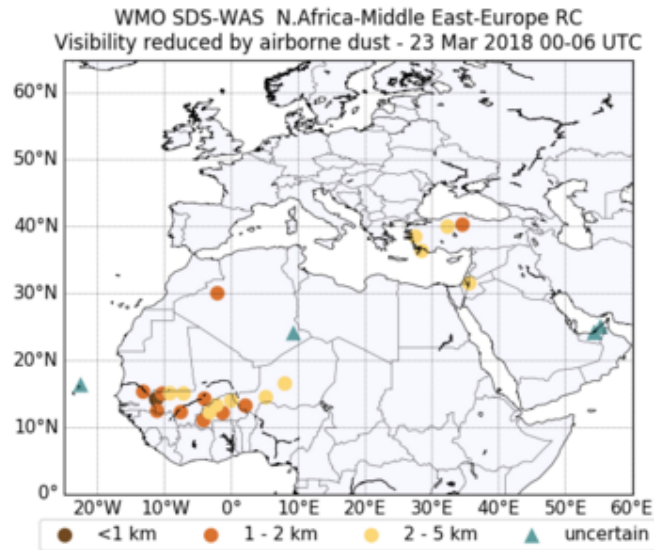
21 Mar 2018

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22 Mar 2018

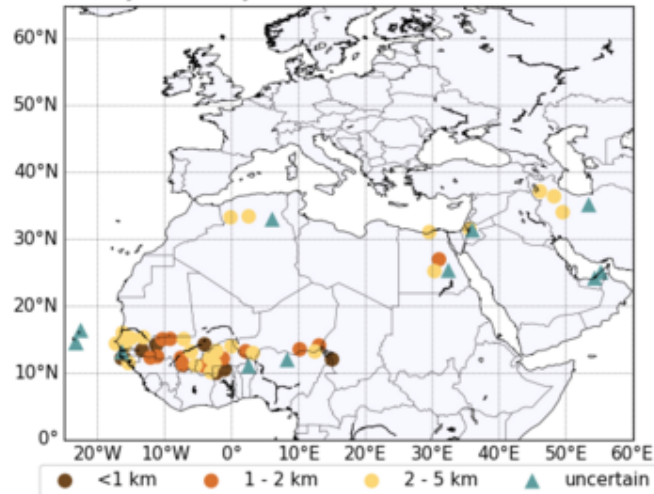
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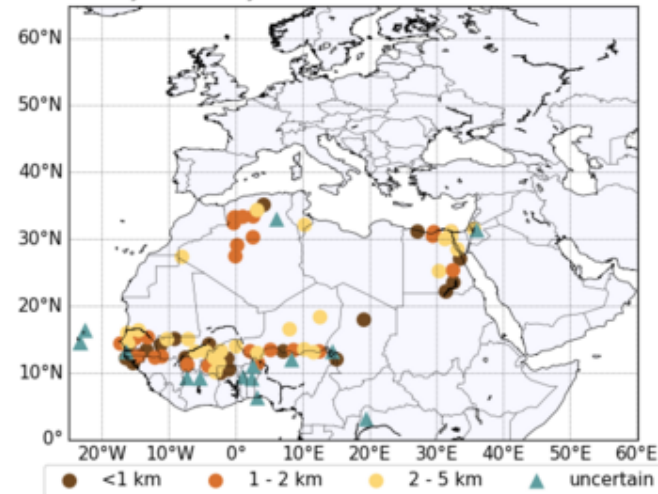
23 Mar 2018

SDS-WAS Regional Center NAMEE

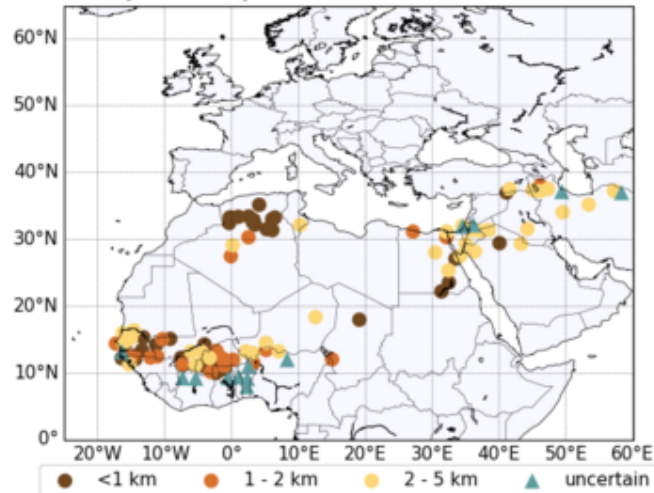
WMO SDS-WAS N.Africa-Middle East-Europe RC
Visibility reduced by airborne dust - 24 Mar 2018 00-06 UTC



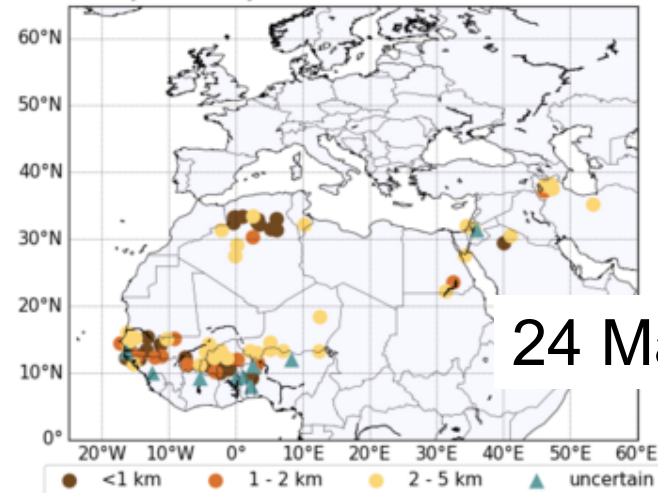
WMO SDS-WAS N.Africa-Middle East-Europe RC
Visibility reduced by airborne dust - 24 Mar 2018 06-12 UTC



WMO SDS-WAS N.Africa-Middle East-Europe RC
Visibility reduced by airborne dust - 24 Mar 2018 12-18 UTC



WMO SDS-WAS N.Africa-Middle East-Europe RC
Visibility reduced by airborne dust - 24 Mar 2018 18-24 UTC



24 Mar 2018

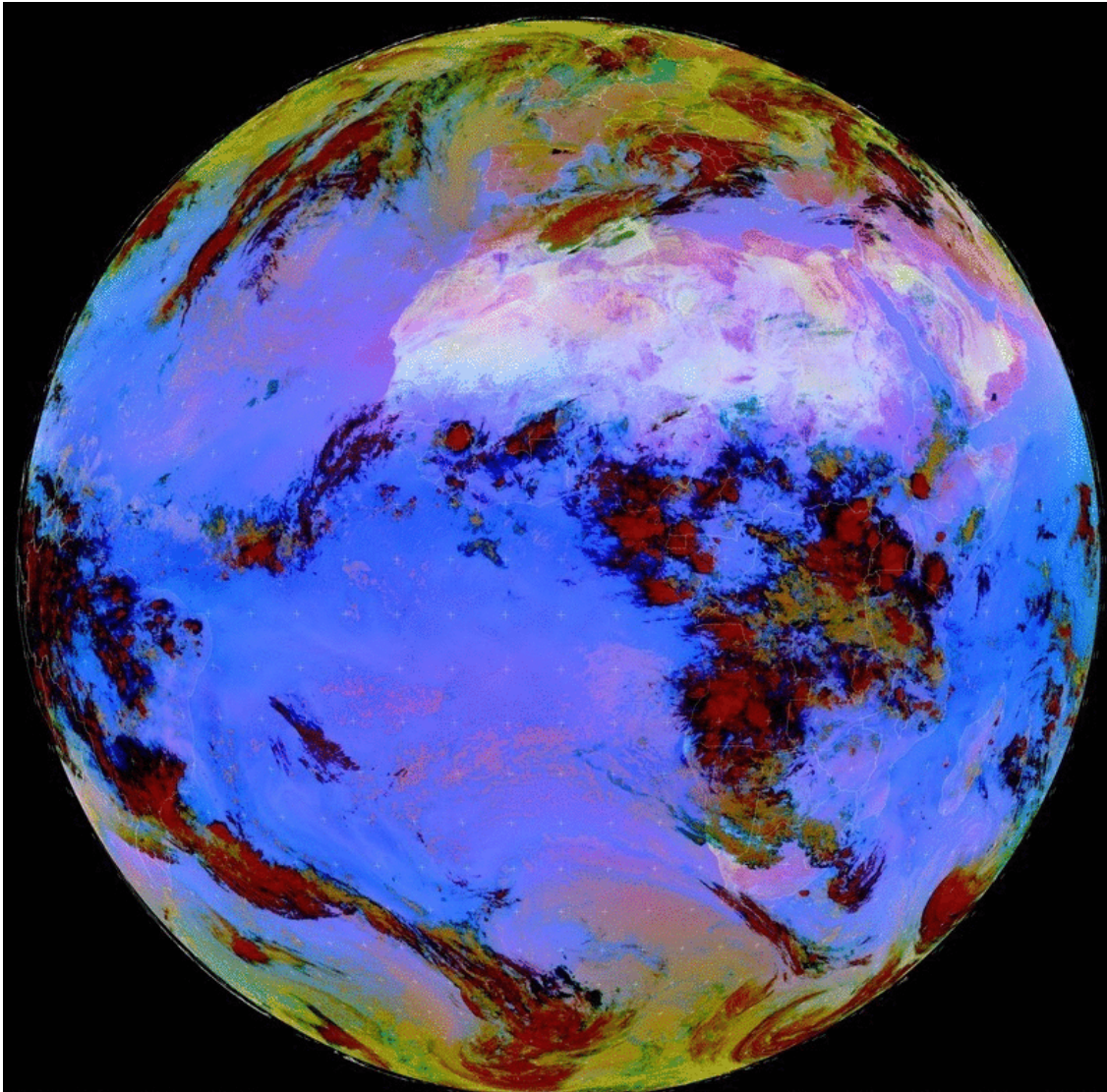
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DUST OBSERVATIONS

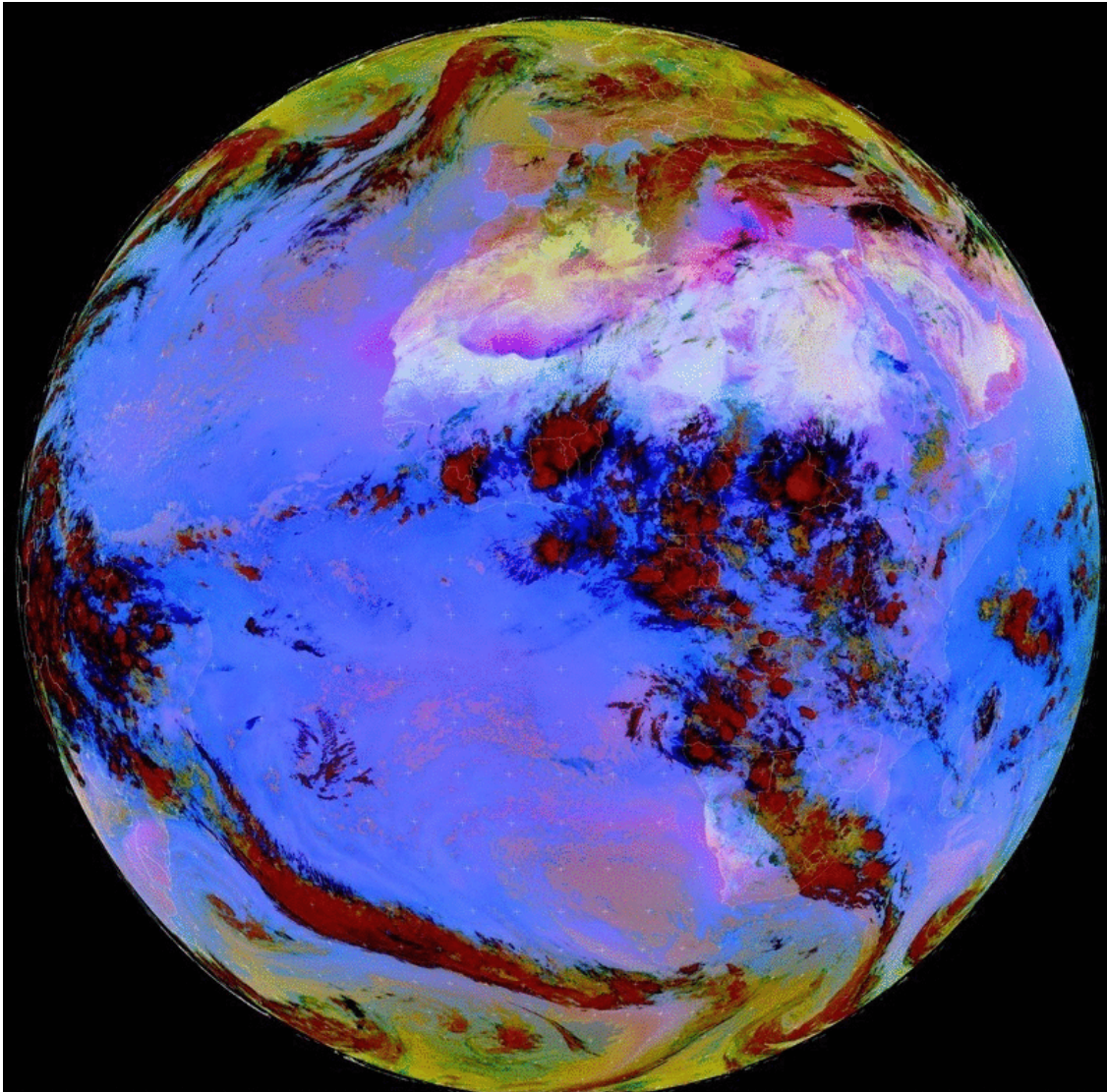
MSG-EUMETSAT

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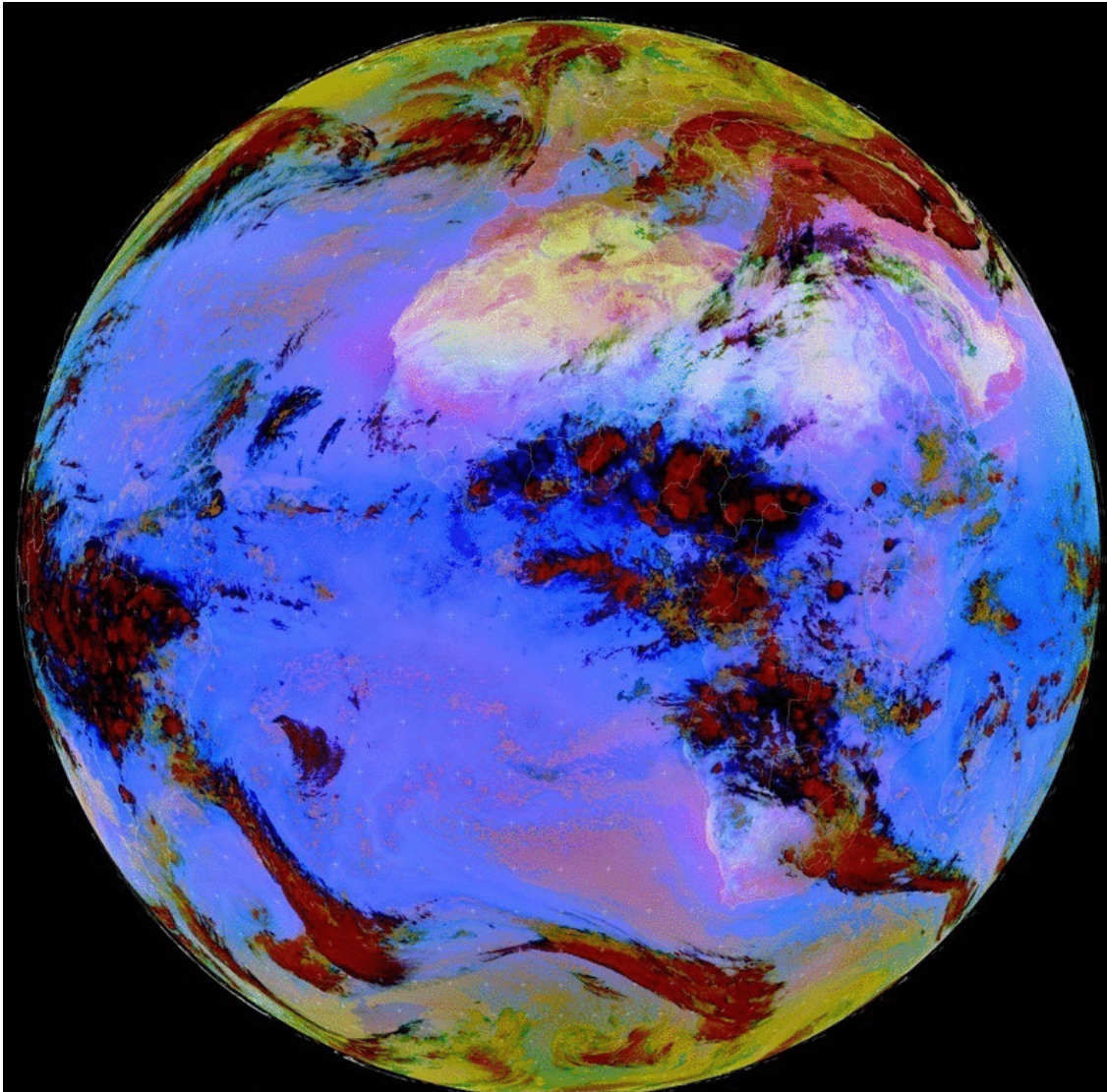
21 Mar 2018

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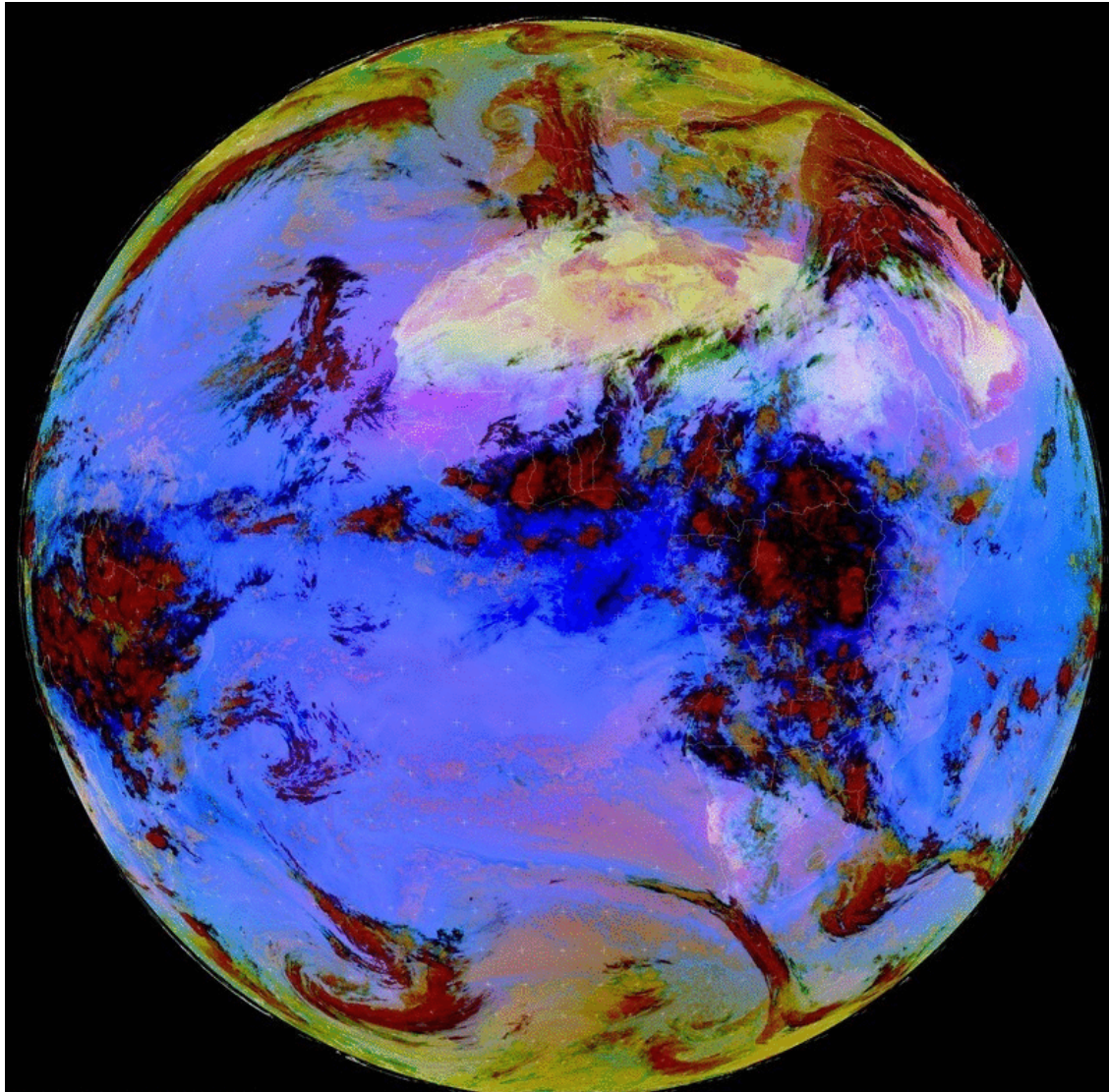
22 Mar 2018

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23 Mar 2018

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24 Mar 2018

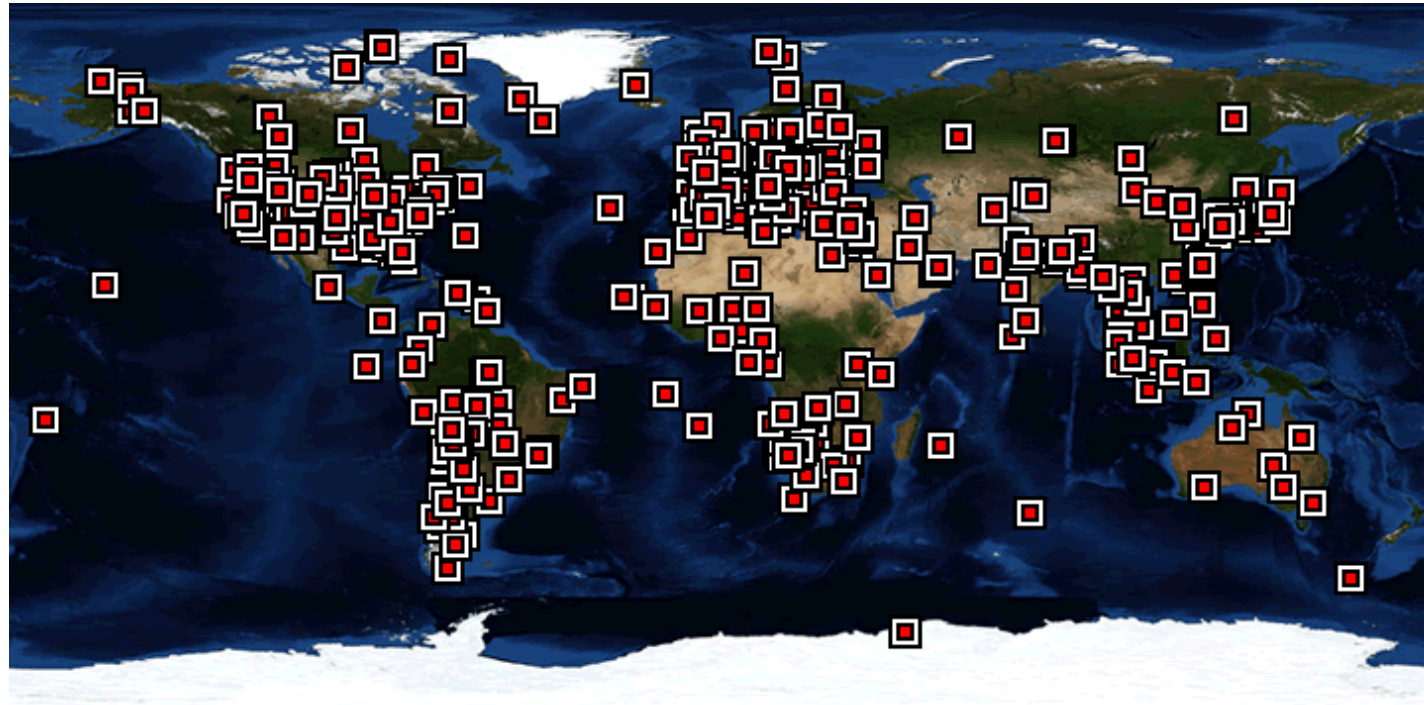
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DUST OBSERVATIONS

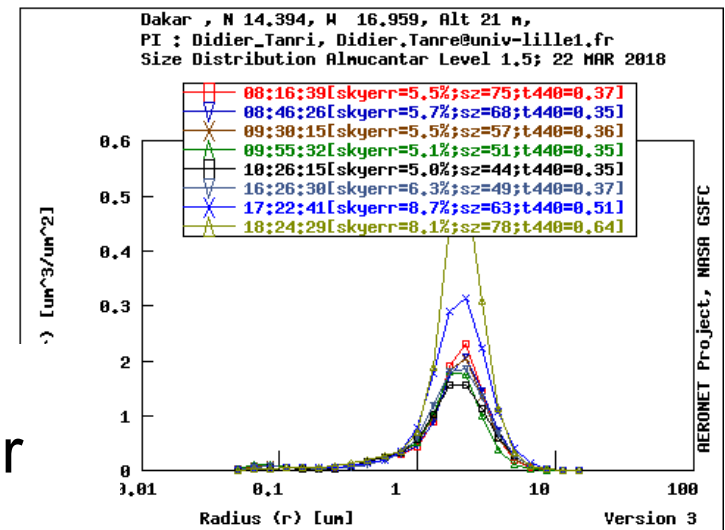
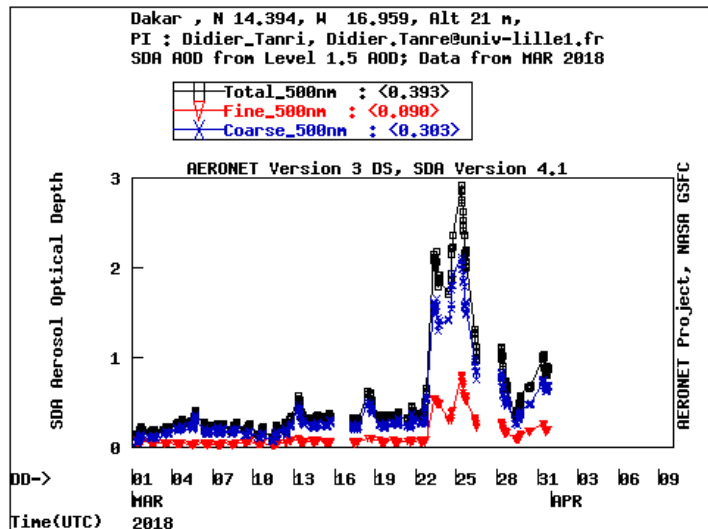
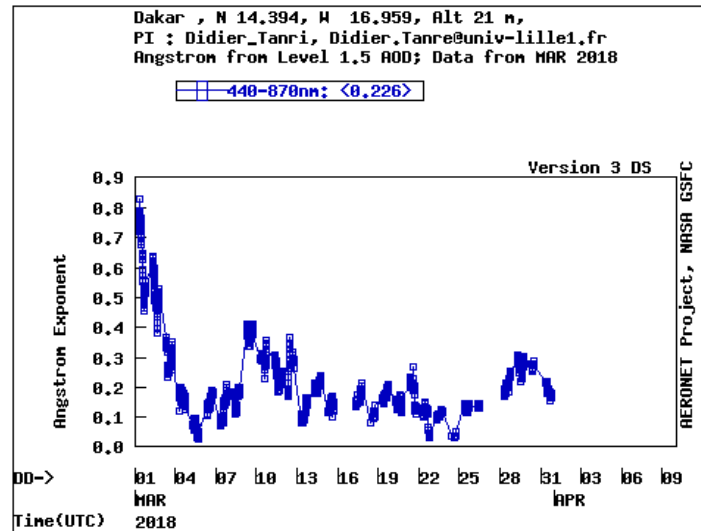
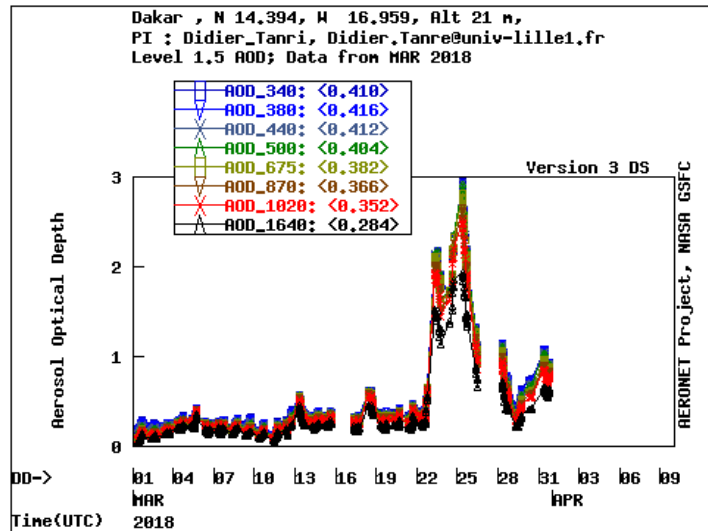
AERONET

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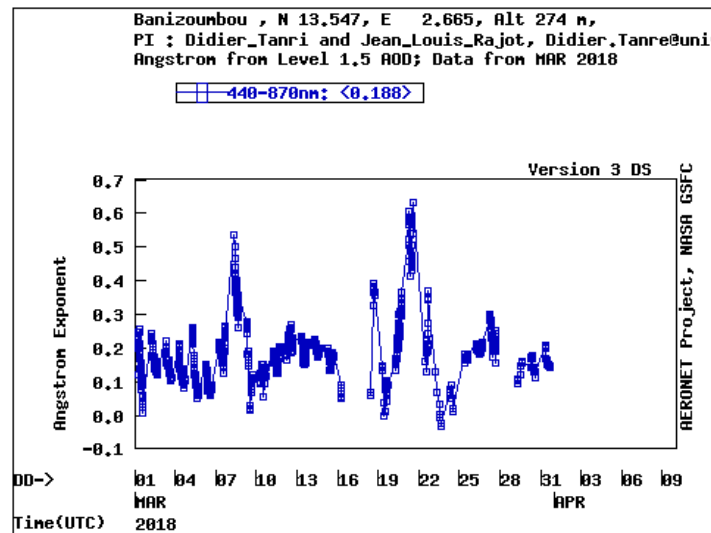
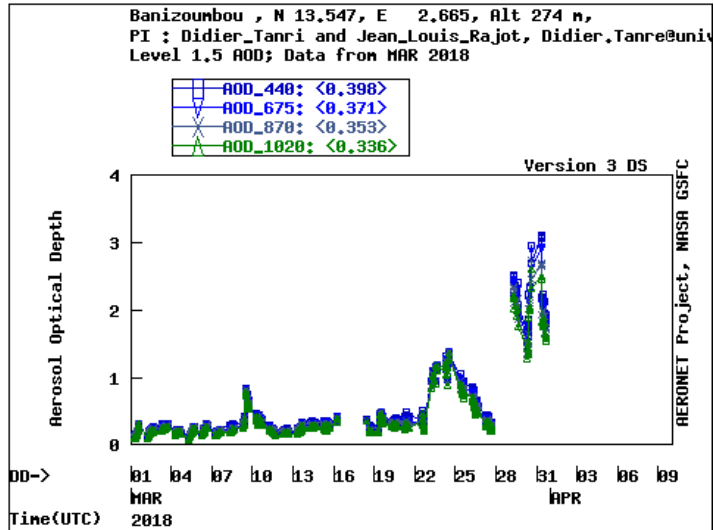
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Dakar
(Senegal)
March 2018

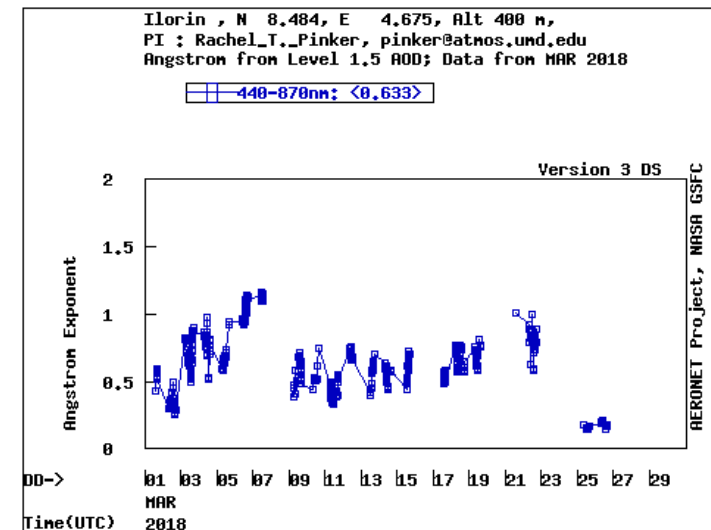
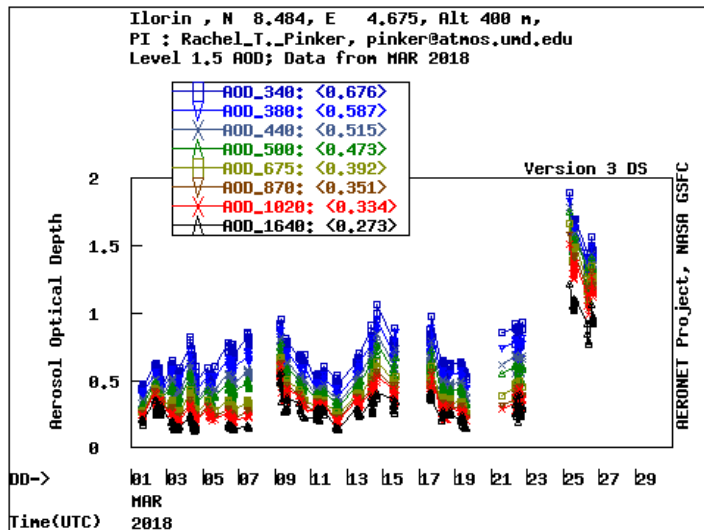


22 Mar
2018

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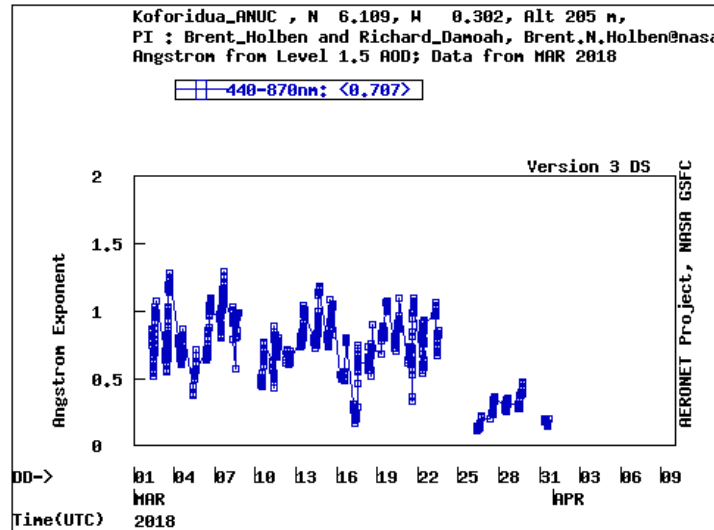
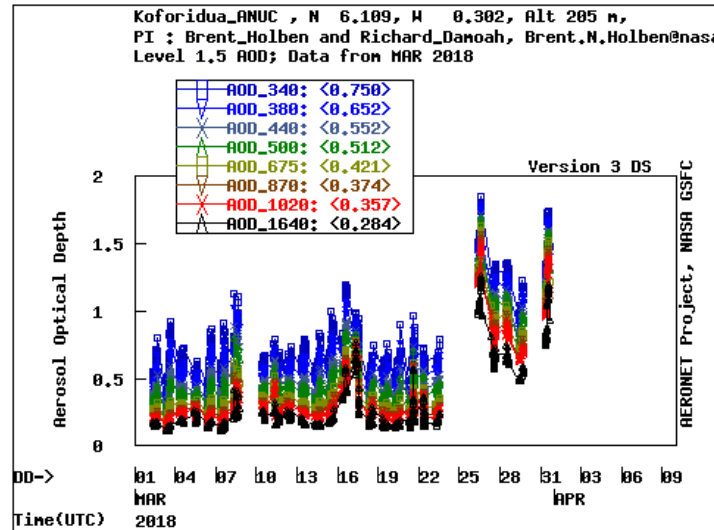


Banizoumbou
(Niger)
March 2018

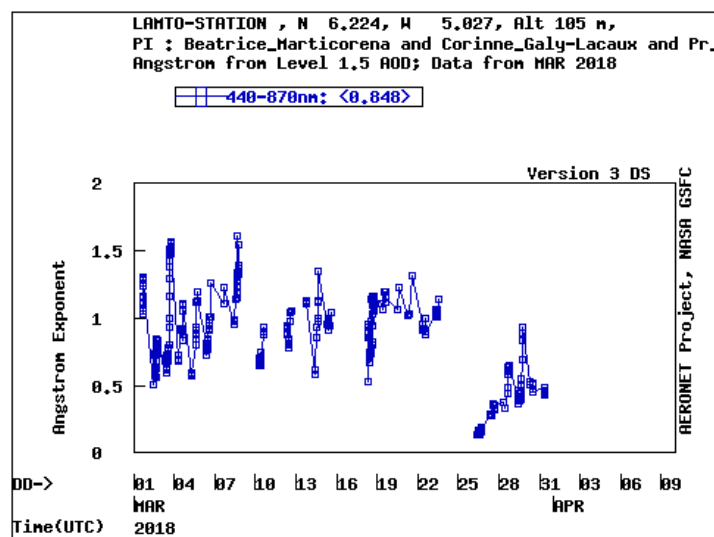
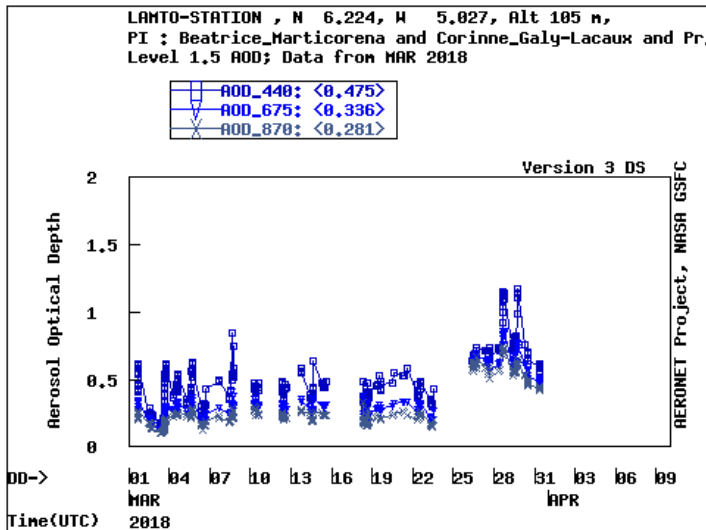


Ilorin
(Nigeria)
March 2018

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Koforidua
(Ghana)
March 2018



Lamto St.
(Ivory C.)
March 2018

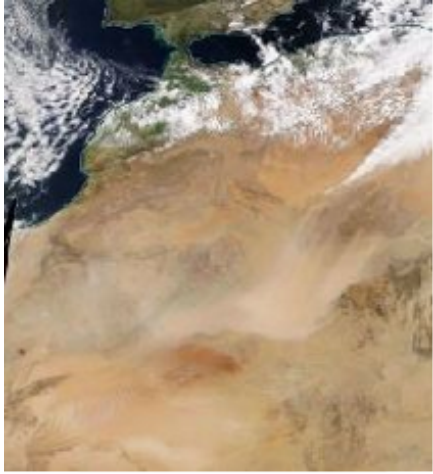
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FORECAST & PRODUCTS

DUST OBSERVATIONS

MODIS

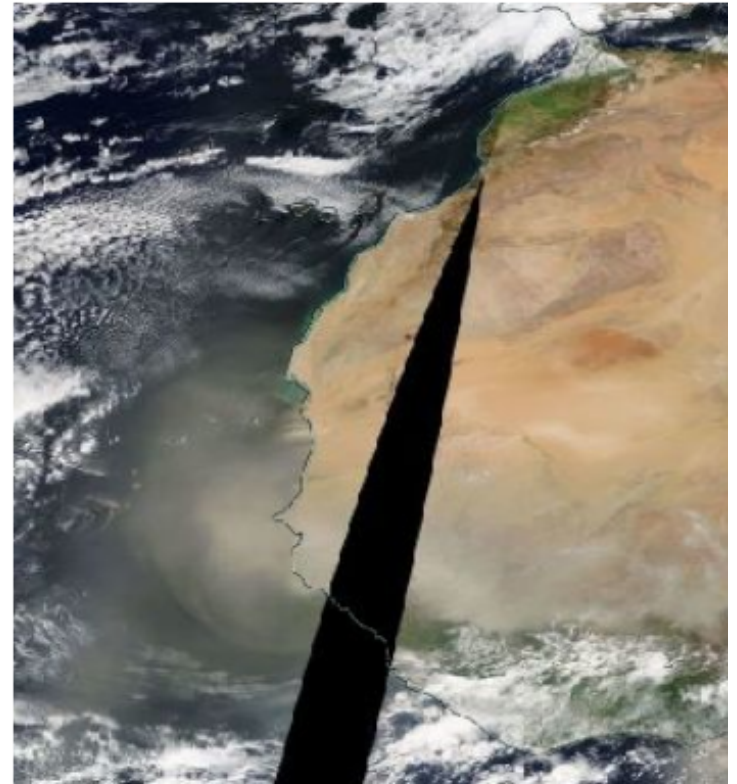
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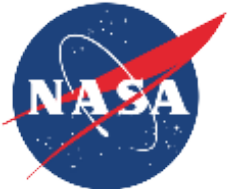
Terra/MODIS
21 Mar 2018



Terra/MODIS
22 Mar 2018



Terra/MODIS
23 Mar 2018



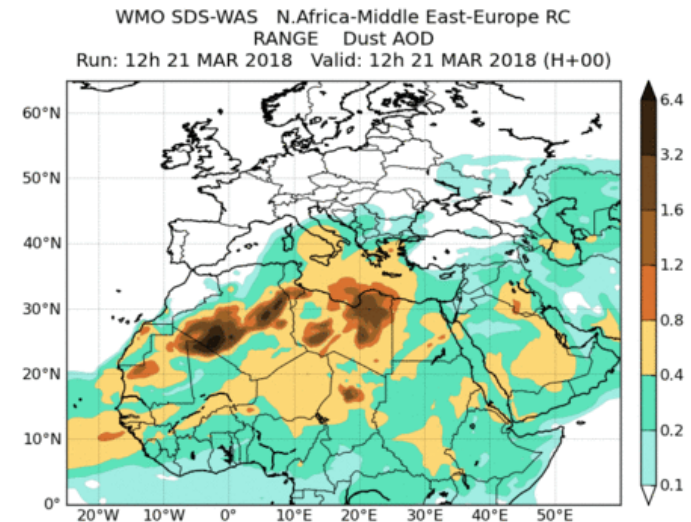
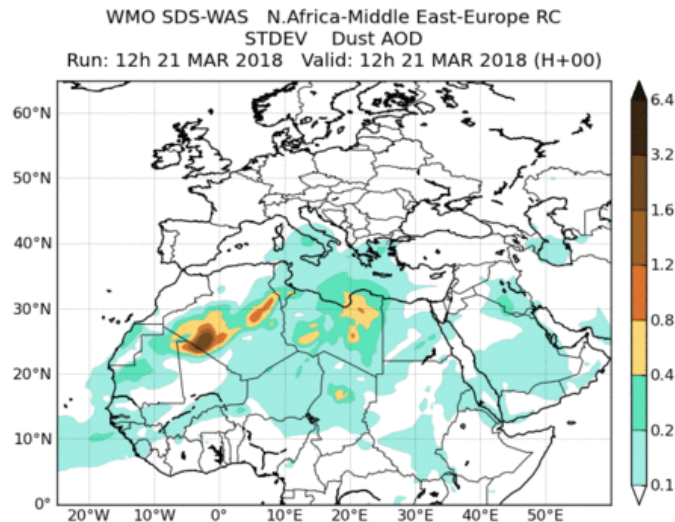
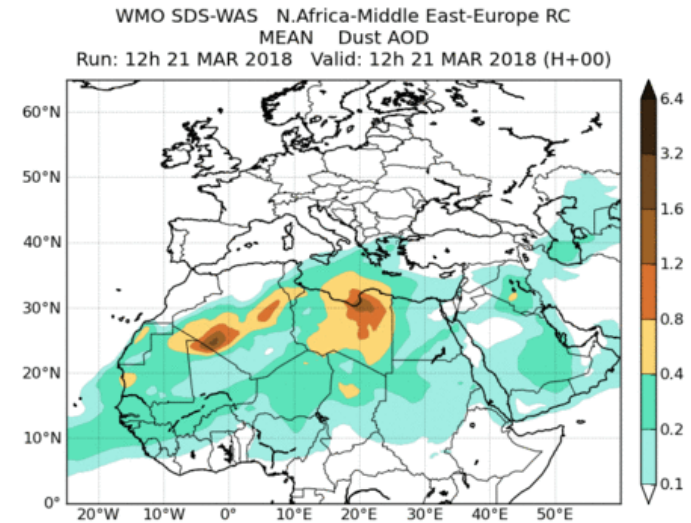
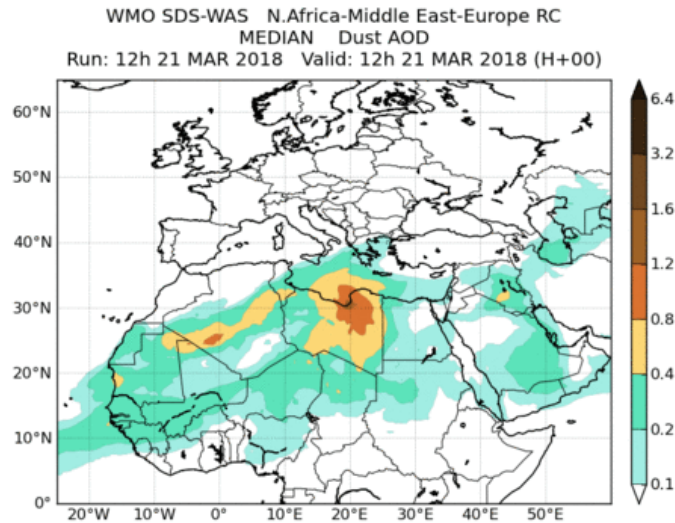
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FORECAST & PRODUCTS

DUST FORECASTS

Ensemble Forecast

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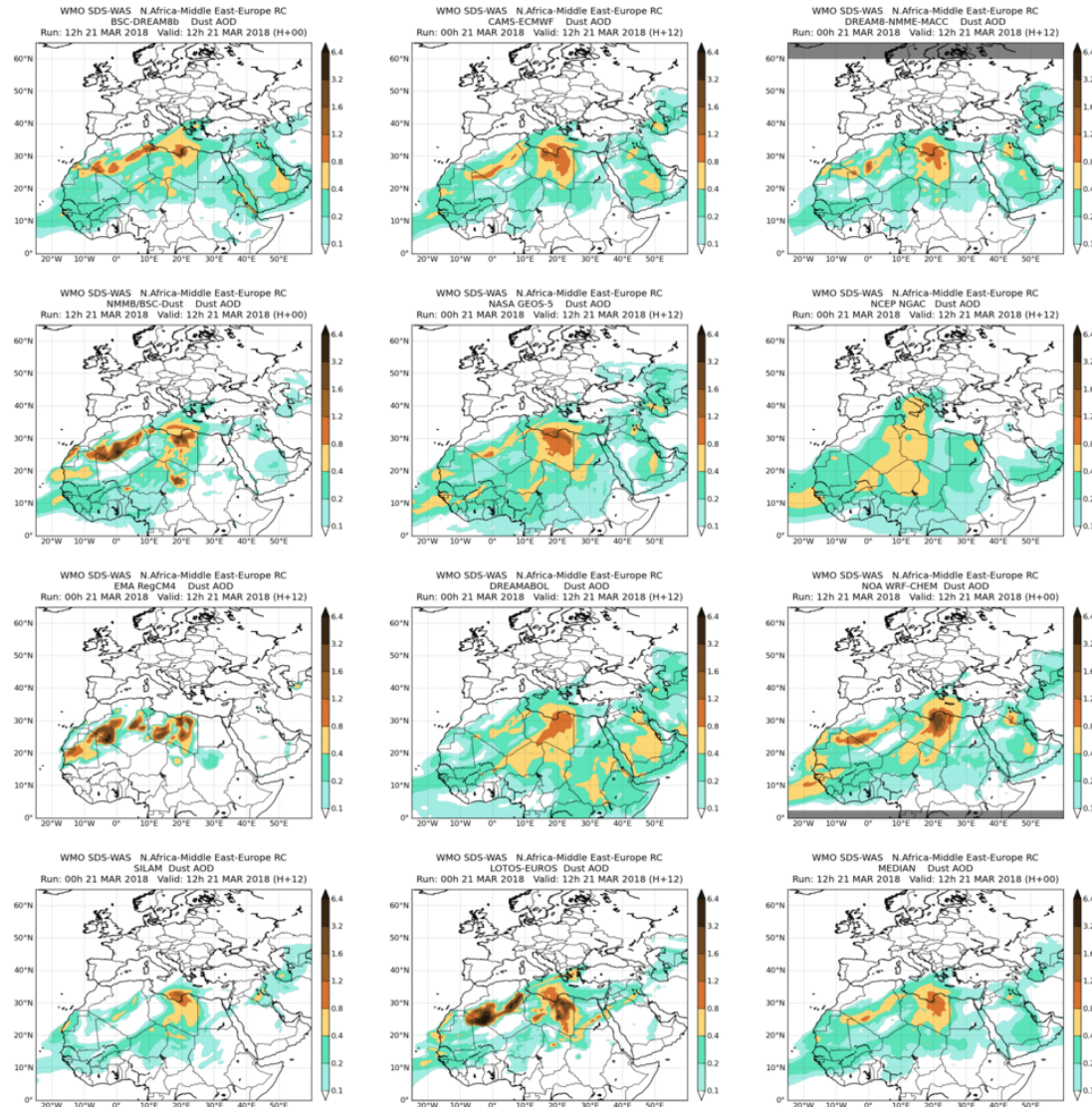
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FORECAST & PRODUCTS

DUST FORECASTS

Forecast Comparison

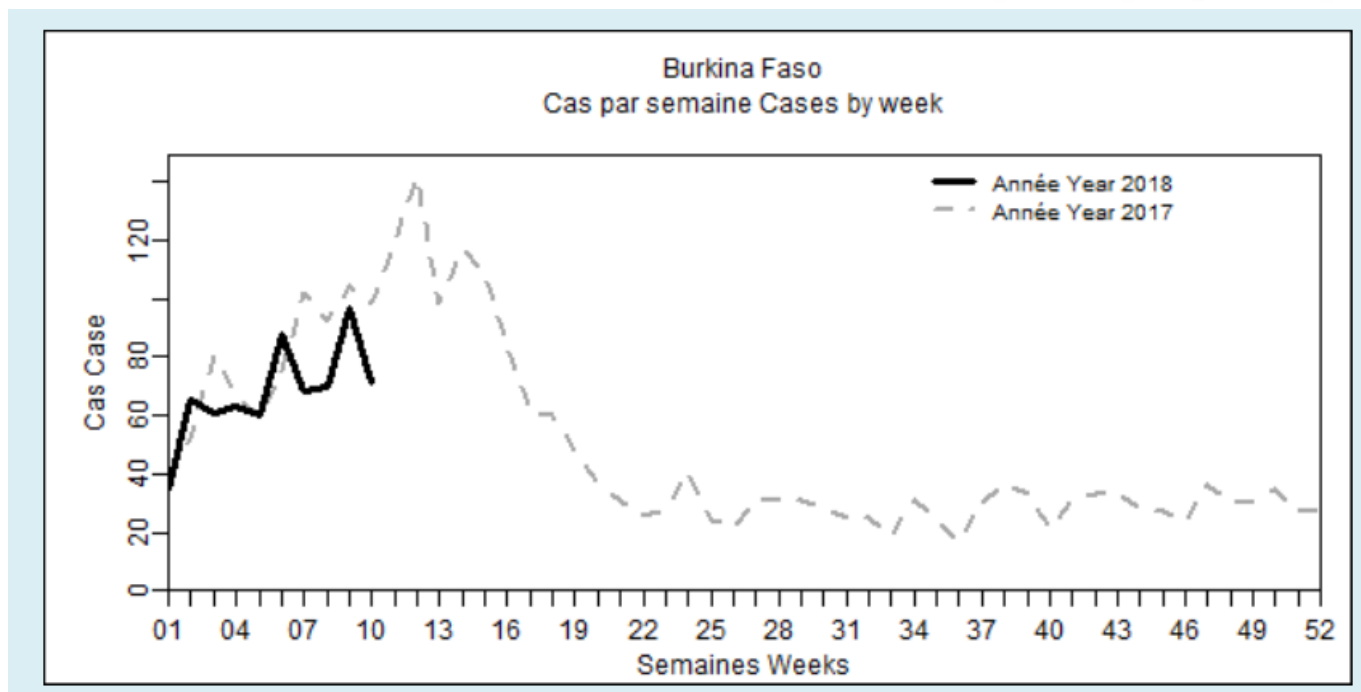
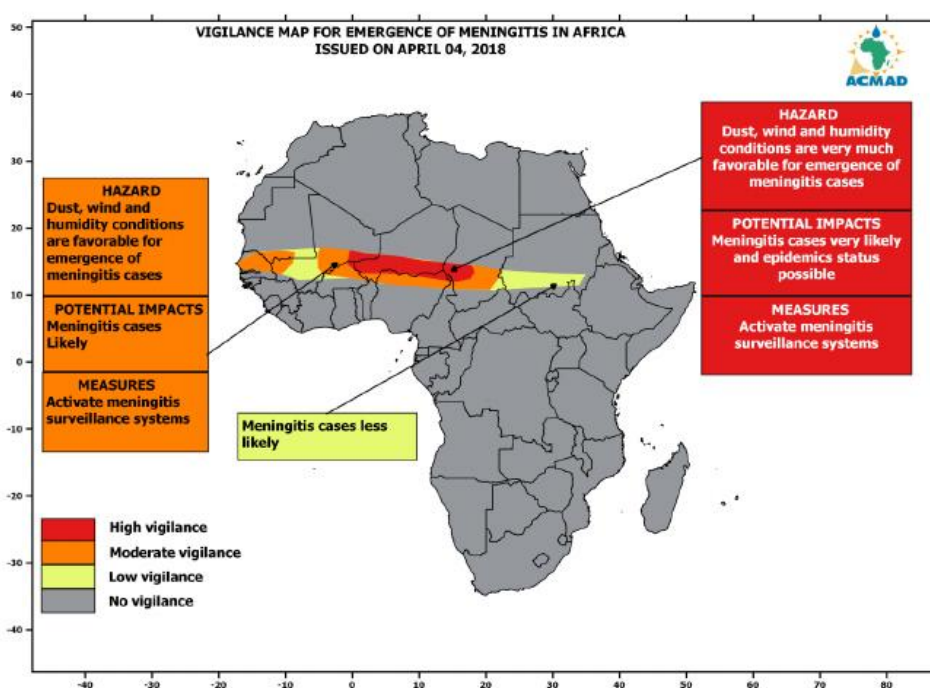
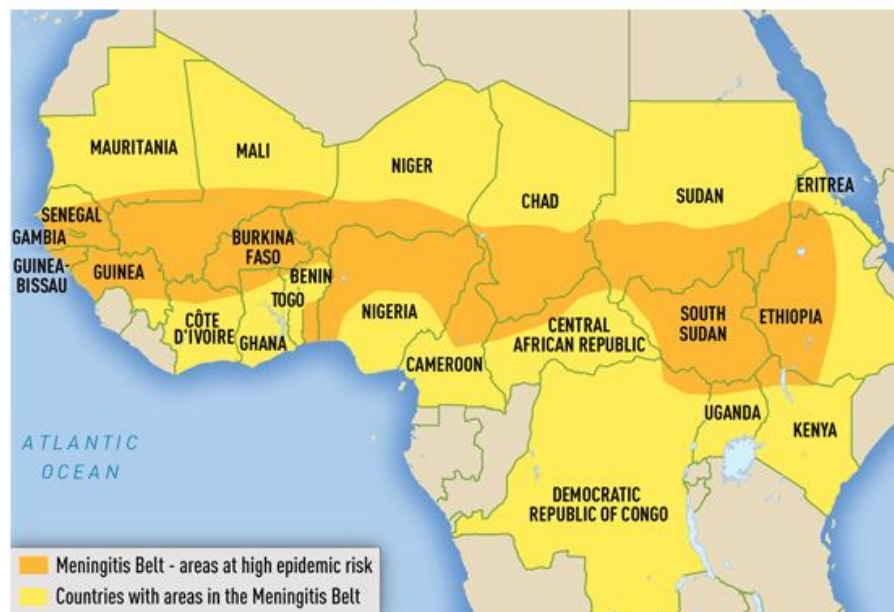
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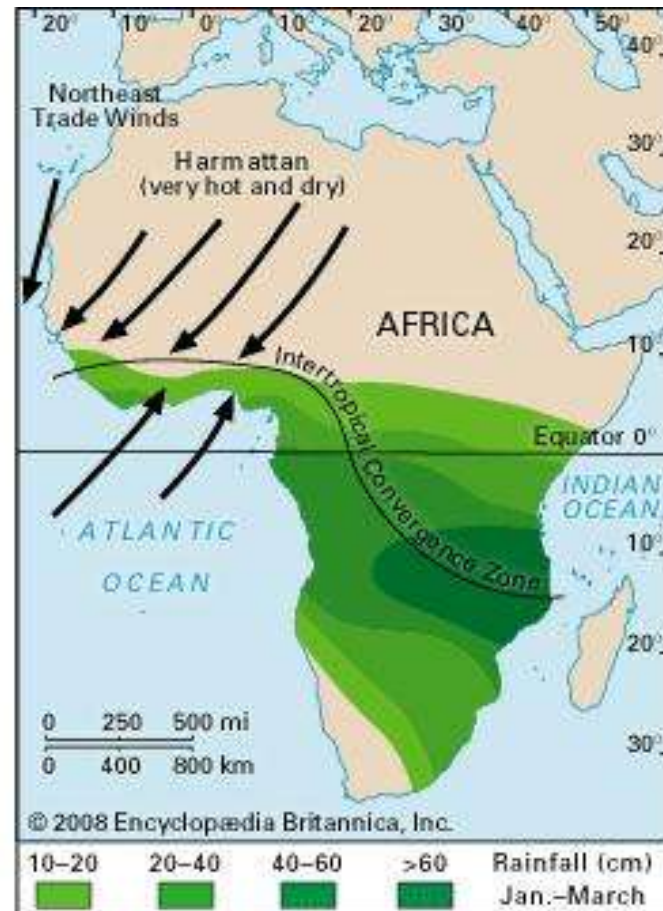
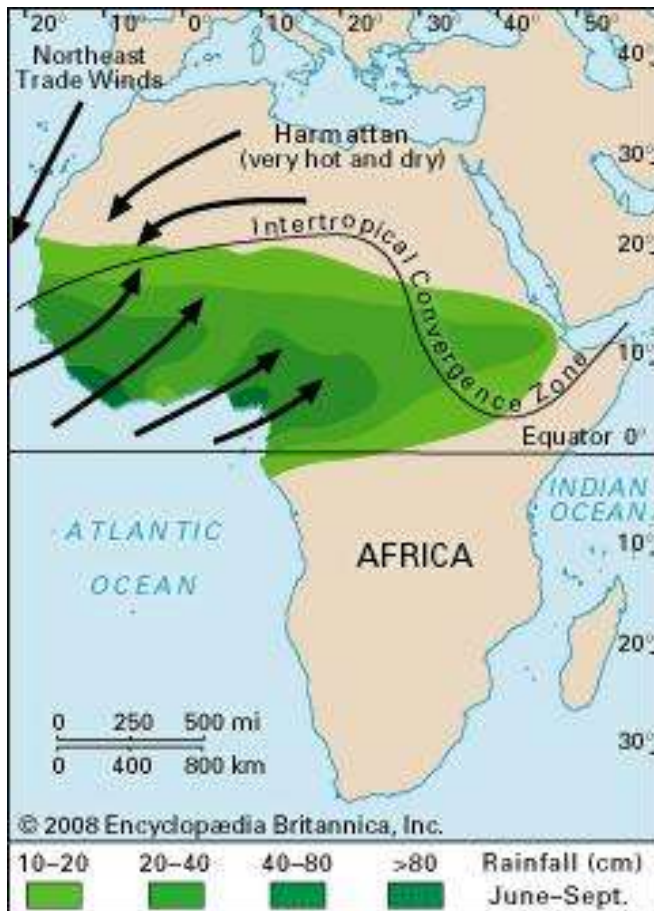


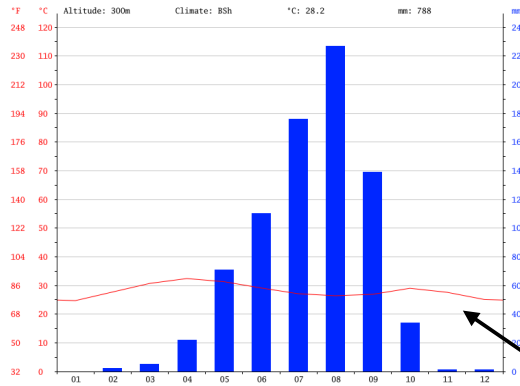
EWS in Burkina Faso



Map 3-11. Areas with frequent epidemics of meningococcal meningitis







< 600 mm / year



600-900 mm / year



> 900 mm / year

 **Warm desert climate (BWh)**

 **Warm semi-arid climate (BSh)**

 **Tropical savanna climate (Aw)**

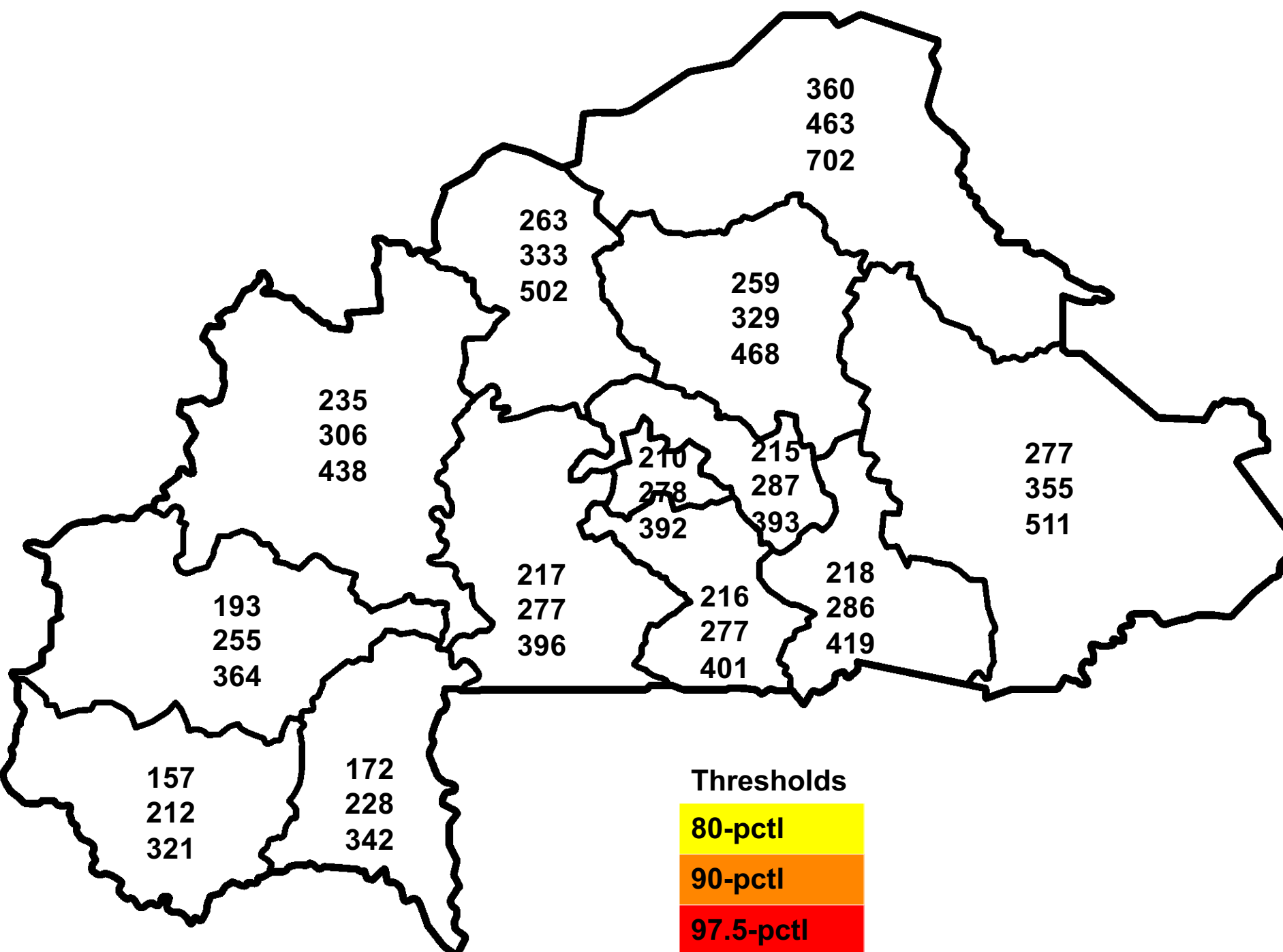




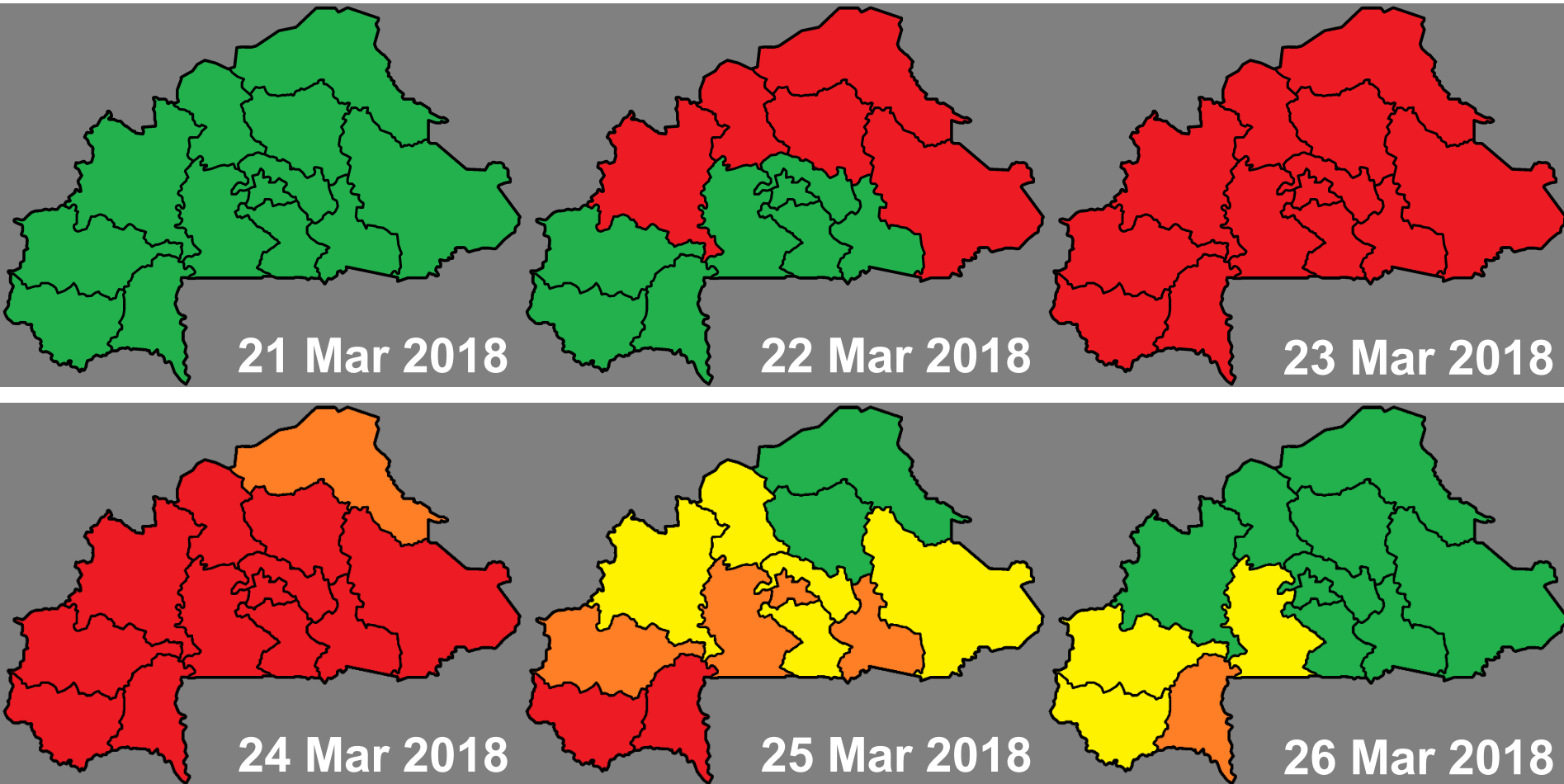
Dry season



Wet season



BF: Early Warning System



BF: Early Warning System

