



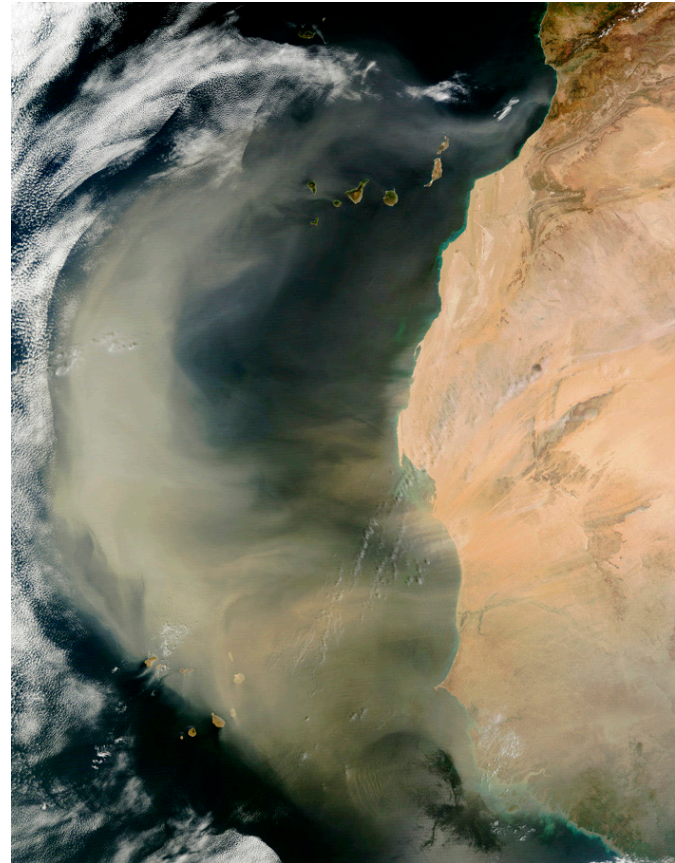
Saharan Dust Events

Raquel Gonçalves
INMG- Cape Verde



Saharan Dust

- 400-700 x 10⁶ tons/year
-- nearly half the world dust supply deposited to oceans (Middleton and Goudie, 2002).
- Found in all seasons -
NH summer, winter, spring
- Dust can be found at the surface and elevated above the PBL.



Negative aspects Saharan dust outbreak

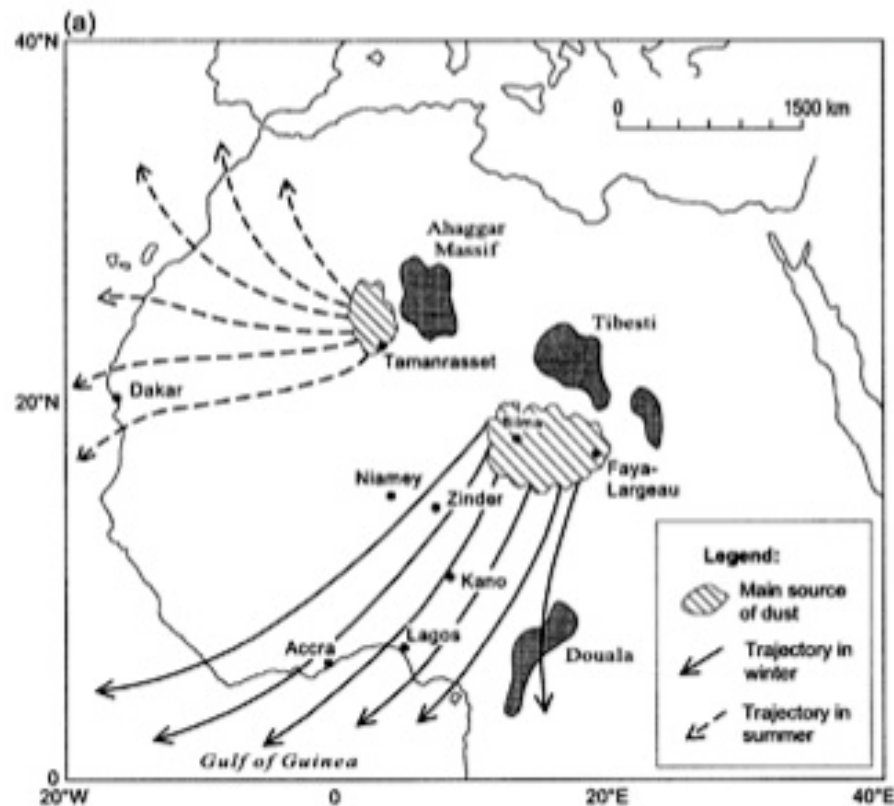
Sao Vicente, CV



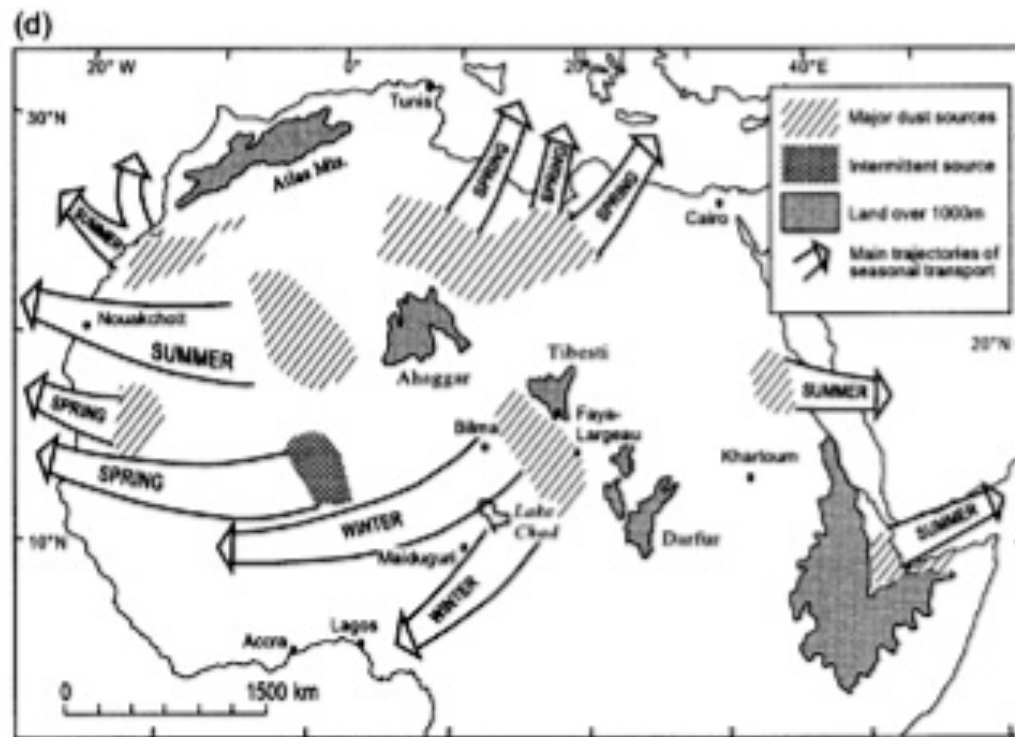
- Airport Closures
- Turbulence for aircraft
- Reduced visibility for sea traffic (<1 km during winter)
- Respiratory Hazard for large coastal urban populations.
- Respiratory Hazard for fishermen, ferry passengers.

Saharan Dust source areas

Kalu (1979)

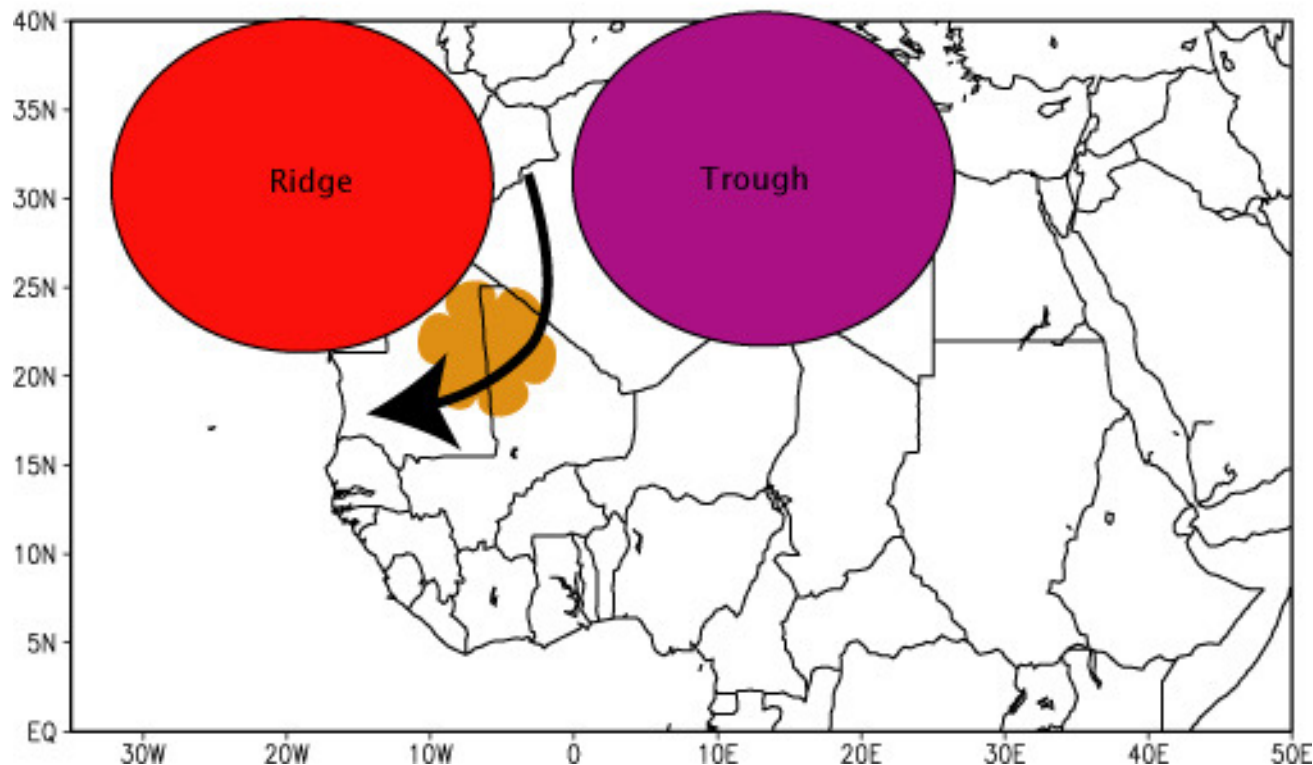


Saharan Dust source areas Middleton (1986, 2001)

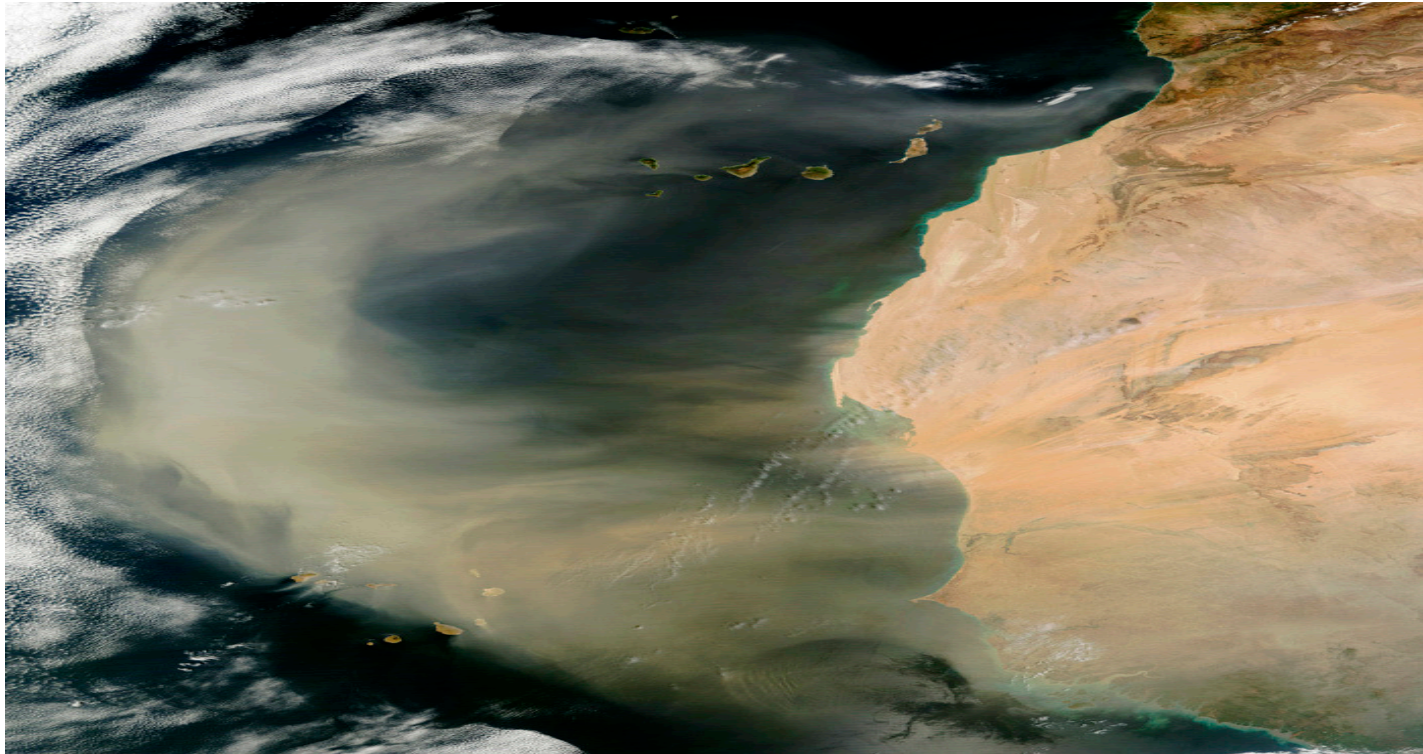


Low/Mid-level(700 hPa) circulation associated with winter/spring season outbreaks

Winter/Spring Season Sahara Dust Outbreak

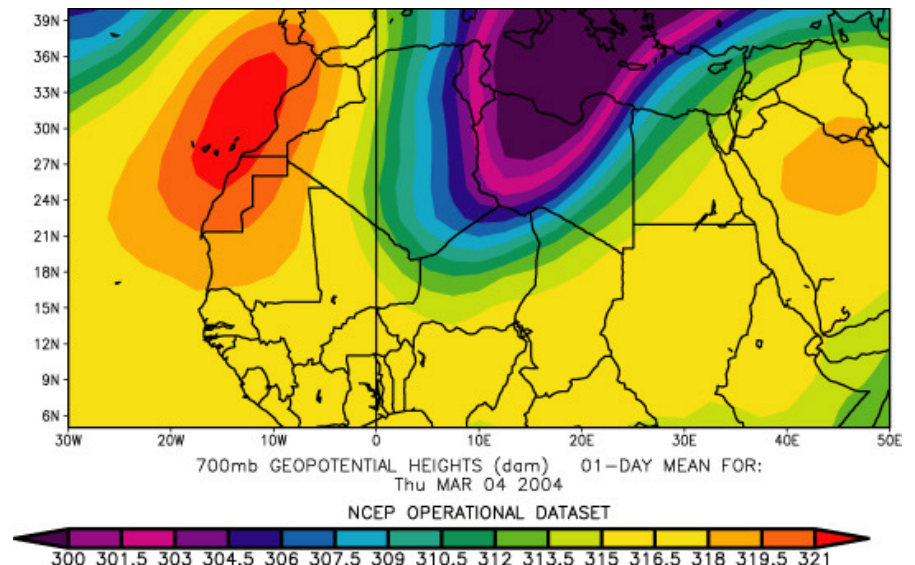
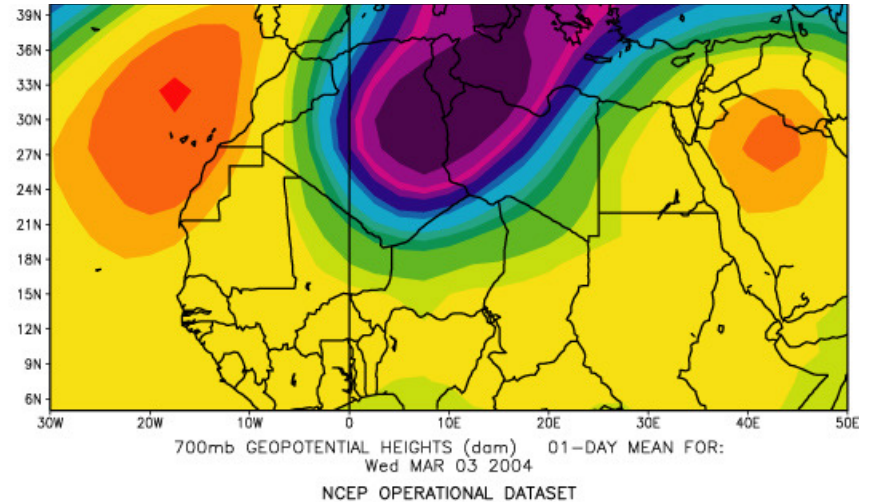


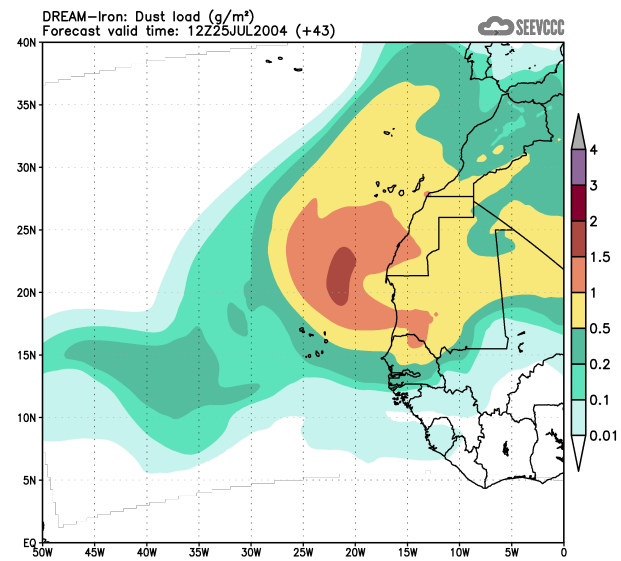
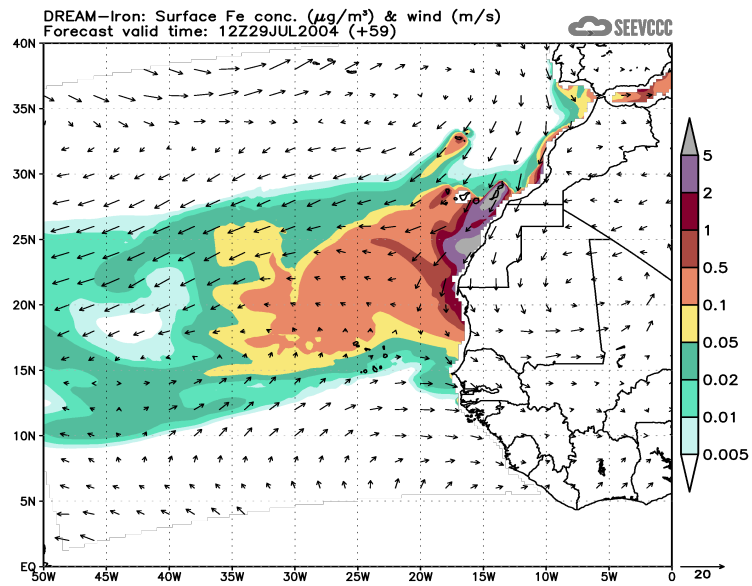
North Africa dust Outbreak Examples (March 2004)



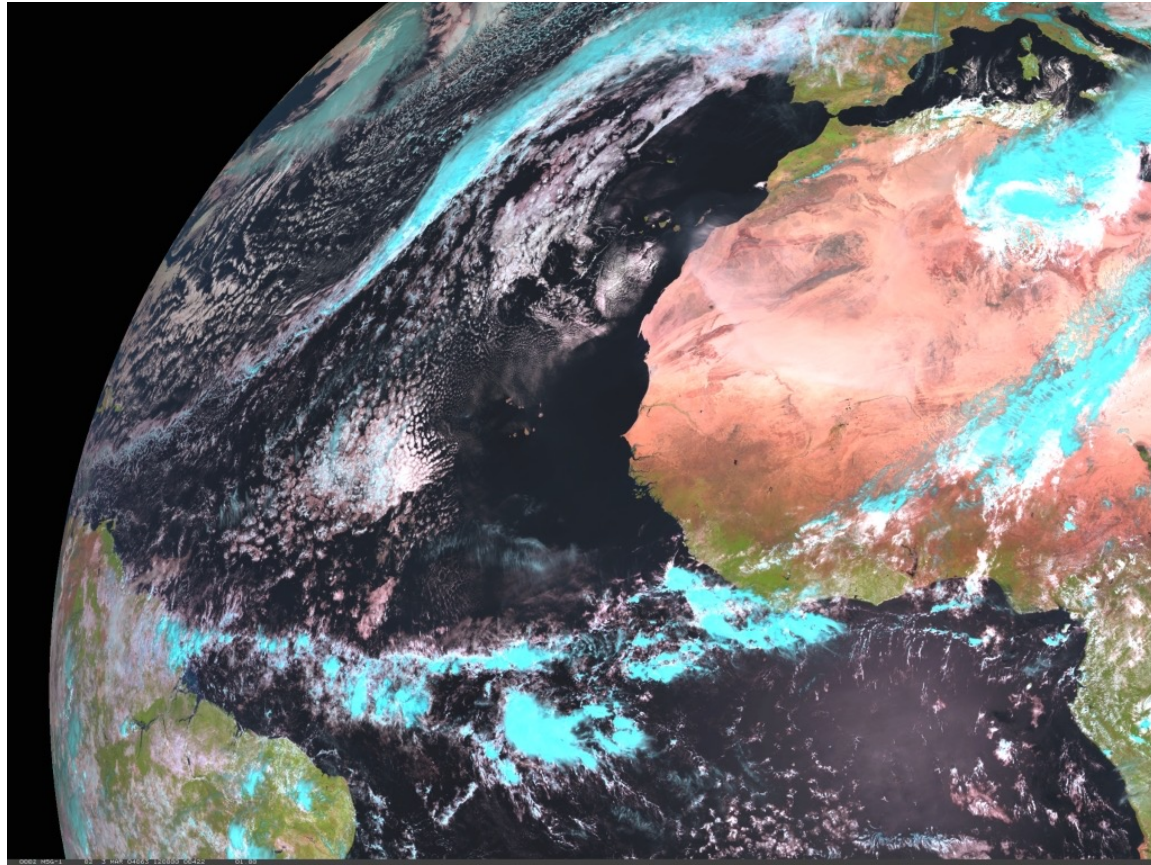
March 2004 Dust Outbreak

- 700 hPa
Strong winds over Libya .
Trough over Libya and Algeria.
Ridge over Morocco
West-East Pressure gradient -->
drives strong northerly winds
over Mali/Mauritania.

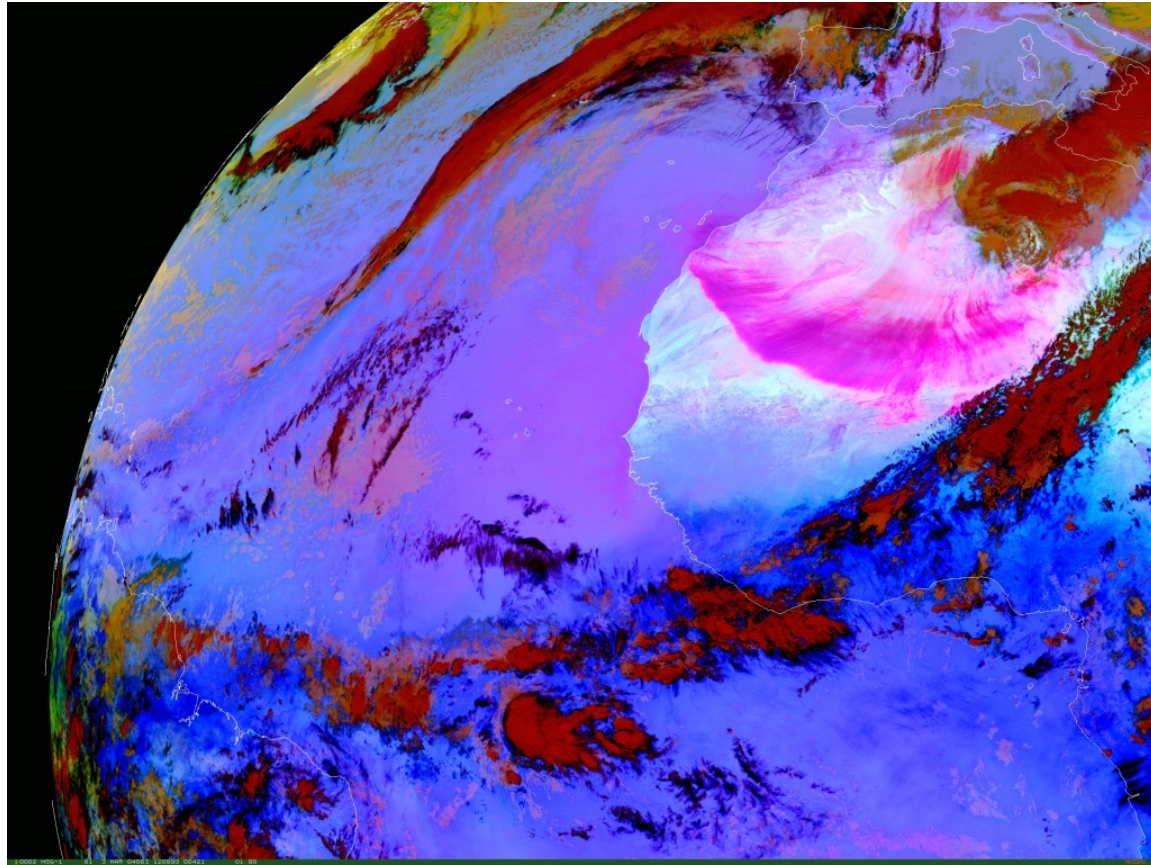




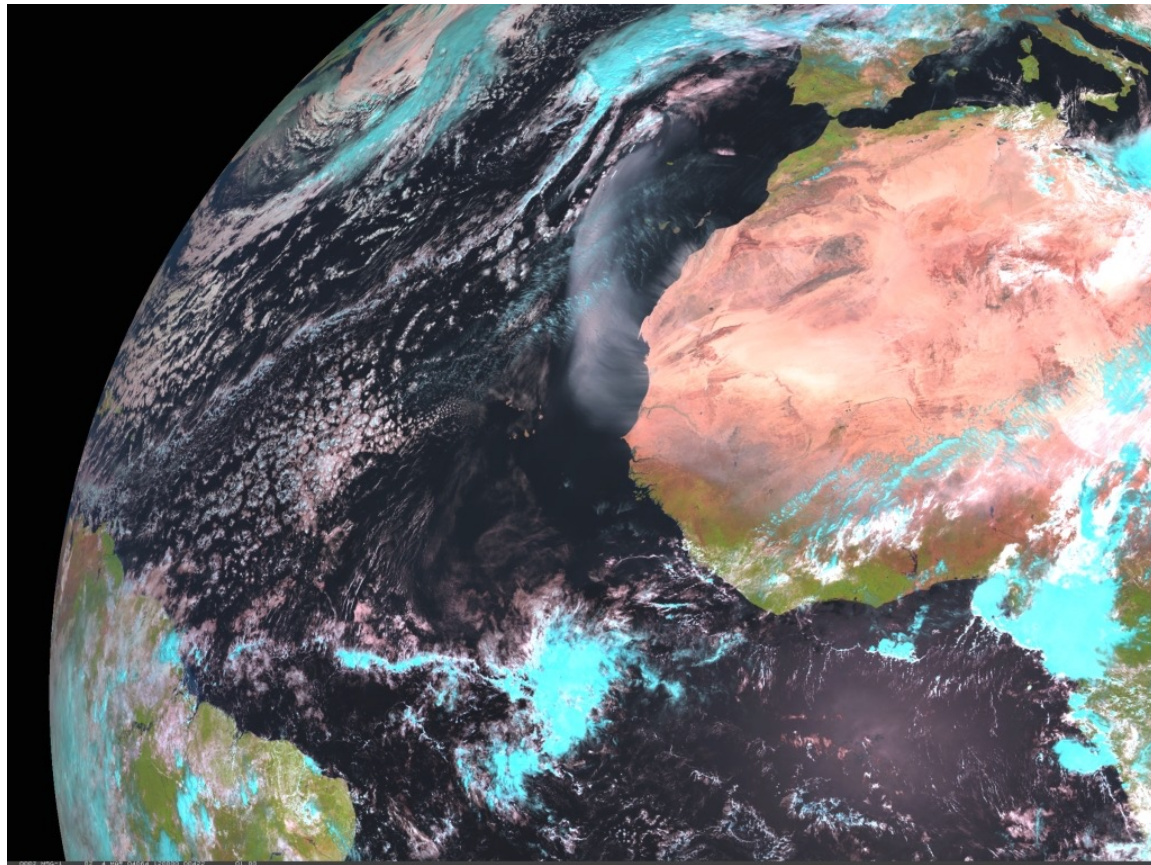
March 3rd 2004 Visible Image



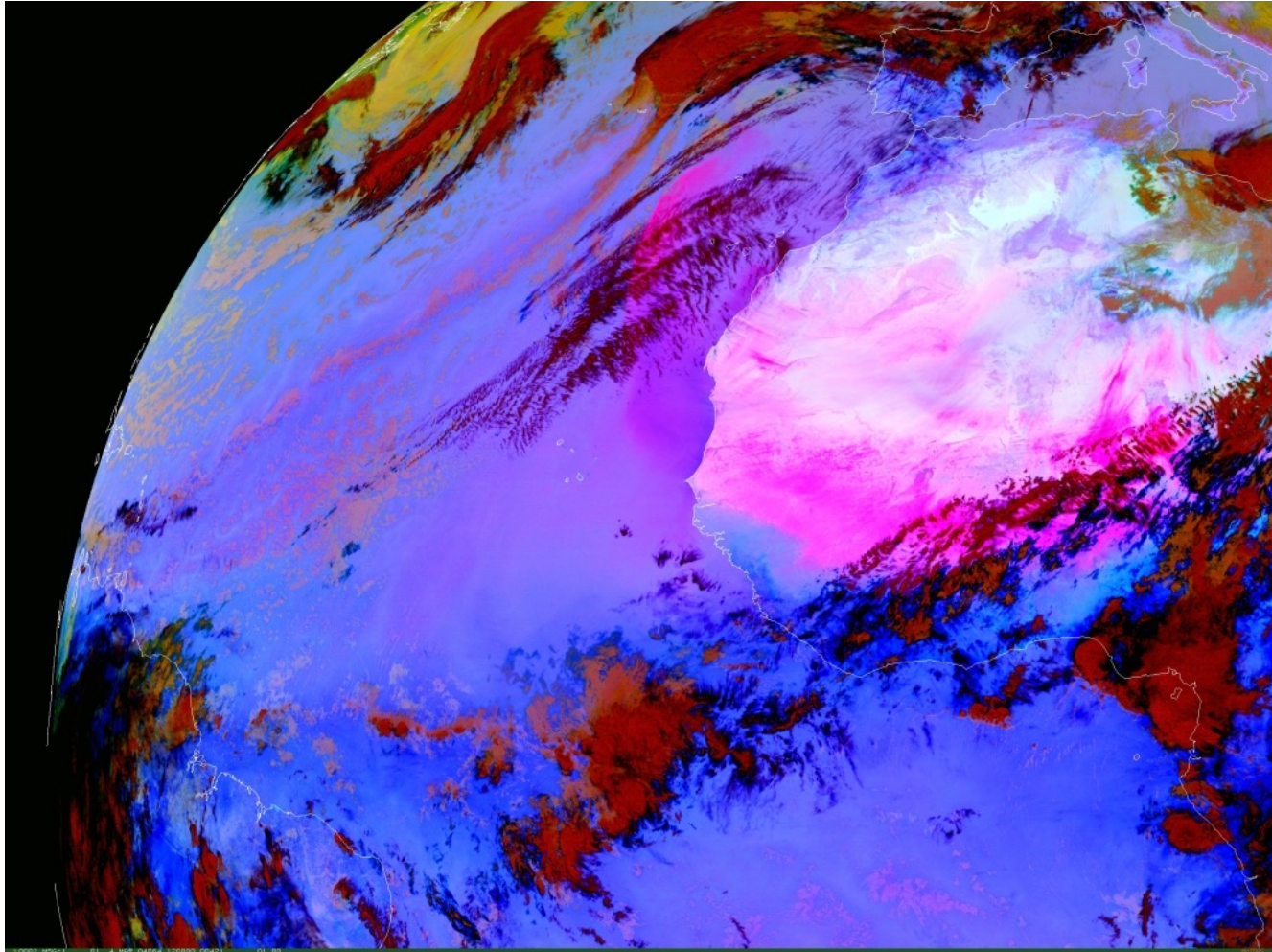
MSG dust product March 3, 2004



March 4th 2004 Visible Image



MSG dust product March 4, 2004



Pictures from Sal Island (Mai 19, 2006)



Summary

- In Cape Verde Saharan dust can be monitored from Satellite image MSG and products Messir

Muito obrigada