

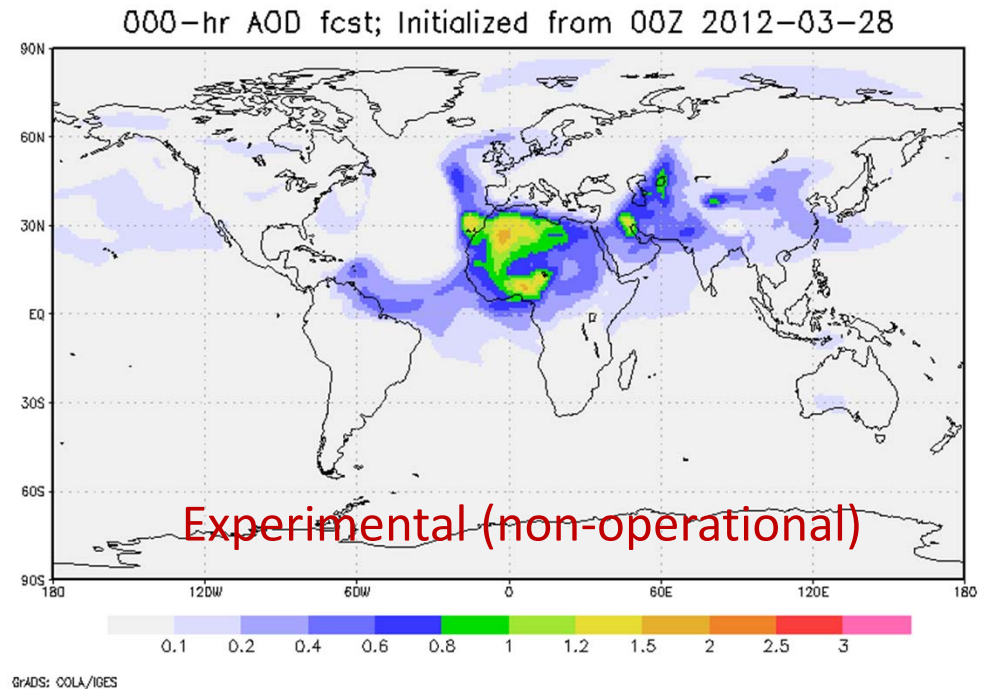


Near-Real-Time NEMS GFS Aerosol Component



Current State

- Near-real-time experimental system
- The first global in-line aerosol forecast system at NCEP
- AGCM : NCEP's NEMS GFS
- Aerosol: GSFC's GOCART
- 120-hr dust-only forecast once per day (00Z), output every 3-hr
- ICs: Aerosols from previous day forecast and meteorology from operational GDAS
- Operational Implementation targeted for Q4 FY12



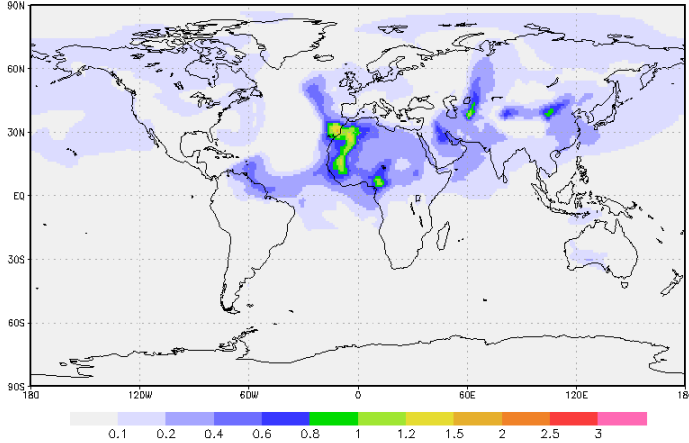
Ongoing Activities and Future Plans

- Use near-real-time smoke emissions from satellites (collaborating with NESDIS and GSFC)
- Full package implementation (dust, sea salt, sulfate, and carbonaceous aerosols)
- Refine the prototype volcanic ash capability (collaborating with ECMWF)
- Provide aerosol information for potential downstream users (e.g., NESDIS's SST retrievals, CPC-EPA UV index forecasts; aerosol lateral boundary conditions for regional models)



12 hr NGAC fcst for 2012-03-28
(from NGAC web site)

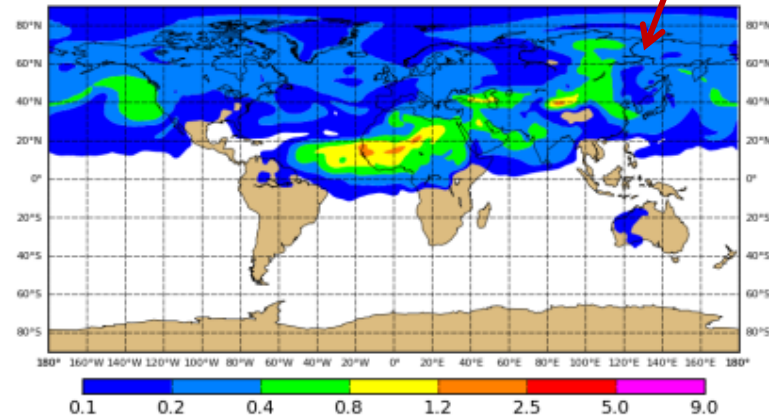
012-hr AOD fcst; Initialized from 00Z 2012-03-28



12 hr NGAC fcst for 2012-05-05
(from ICAP website)

Saturday 5 May 2012 00UTC NGAC Forecast t+012
Saturday 5 May 2012 12UTC Valid Time
Dust Aerosol Optical Depth at 550nm

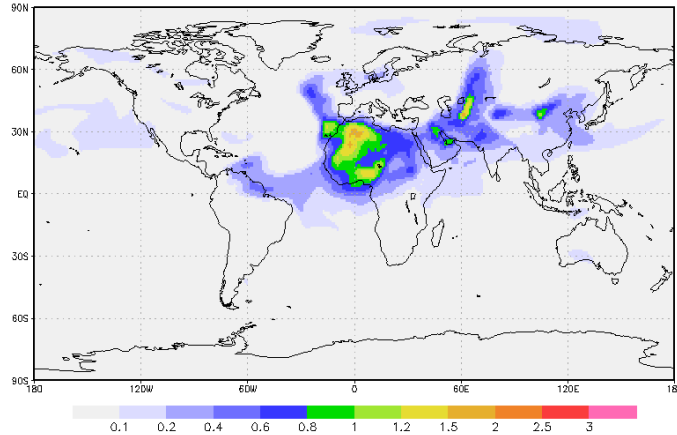
Removal is too weak



Plots Generated Sunday 6 May 2012 18UTC/NRL/Monterey Aerosol Modeling

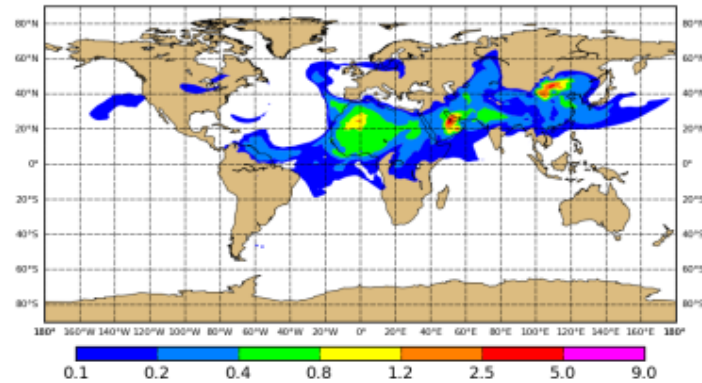
12 hr NGAC fcst for 2012-03-28 using revised NGAC
(from NCEP web site)

012-hr AOD fcst; Initialized from 00Z 2012-03-28



12 hr NAAPS fcst for 2012-03-28
(from ICAP website)

Wednesday 28 March 2012 00UTC NAAPS Forecast t+012
Wednesday 28 March 2012 12UTC Valid Time
Dust Aerosol Optical Depth at 550nm



Plots Generated Wednesday 25 April 2012 01UTC/NRL/Monterey Aerosol Modeling
NOT OFFICIAL FNMC NAAPS BLIN

NCEP's NGAC development benefits from the ICAP activities. NGAC has been refined, and NRT run is being updated using the revised code.