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METEOROLOGISKA INSTITUTET  
FINNISH METEOROLOGICAL INSTITUTE

# Contributions of different sources and types of aerosols to AOD during spring-2006 wild-land fire episode

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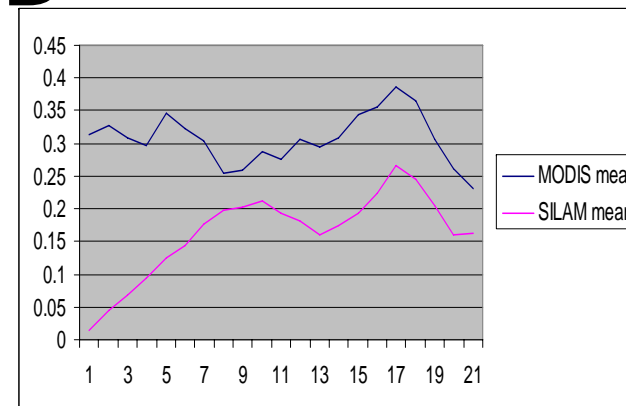
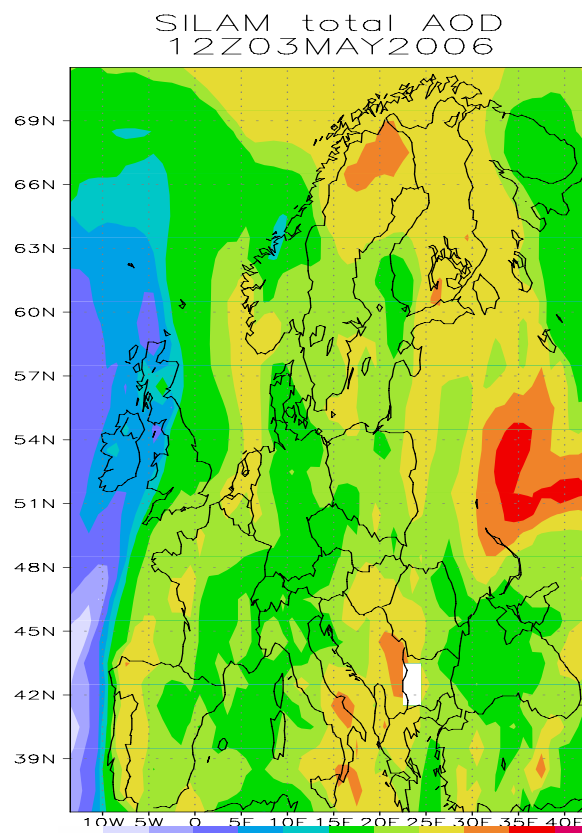
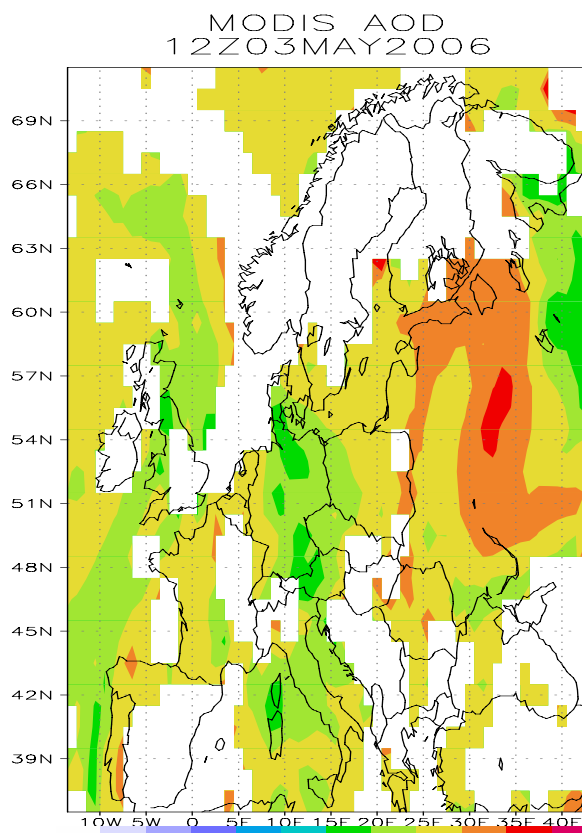


# Model setup

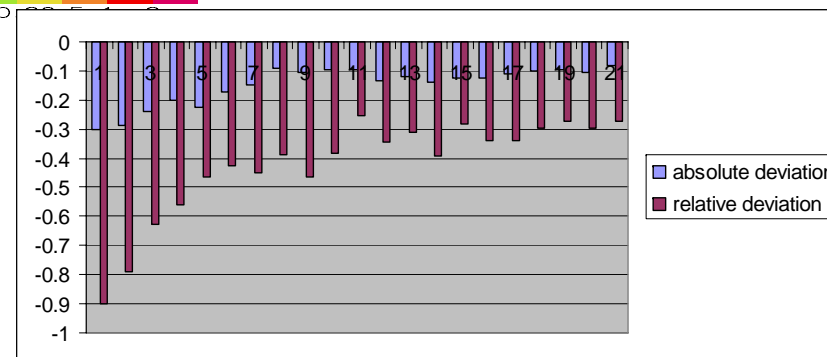
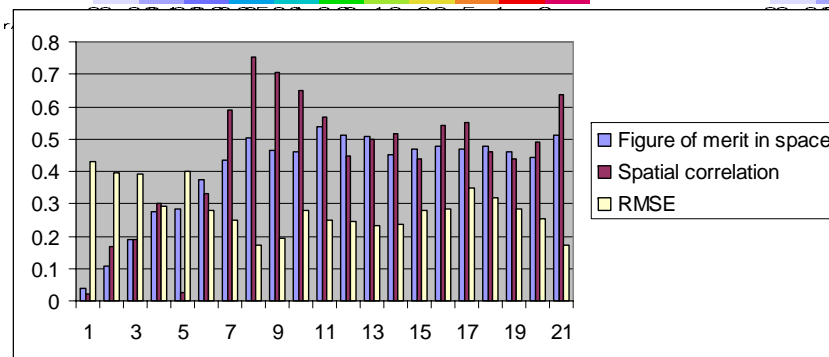
- HIRLAM meteo data
- Resolution 0.2 deg
- Vertical 10 layers up to ~8 km
- Emissions:
  - PM and gases from fires FAS – TA
    - Soot, SO<sub>x</sub>, NO<sub>x</sub>, VOCs
  - Gases from TNO & EMEP
  - PM from EMEP
  - Sea salt (emission modelling)
- Chemistry: basic scheme (27 species, 53 gaseous and aqueous-phase reactions)



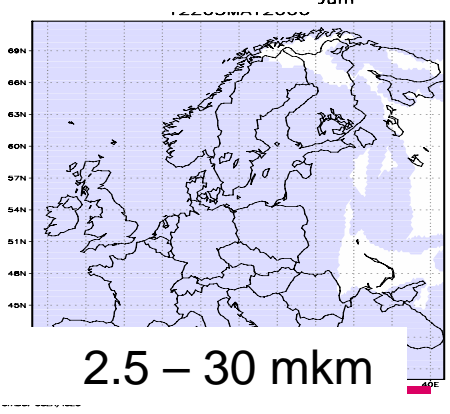
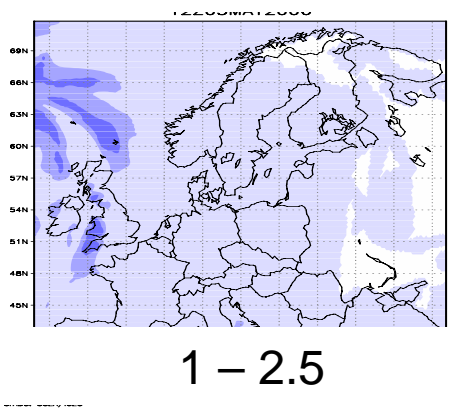
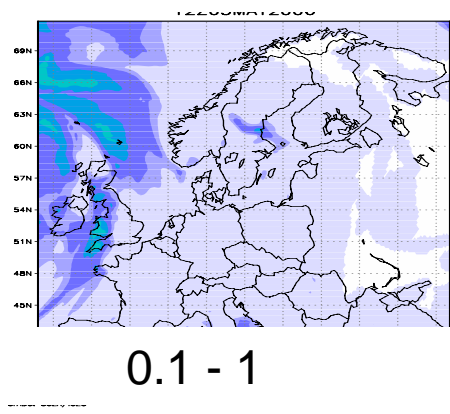
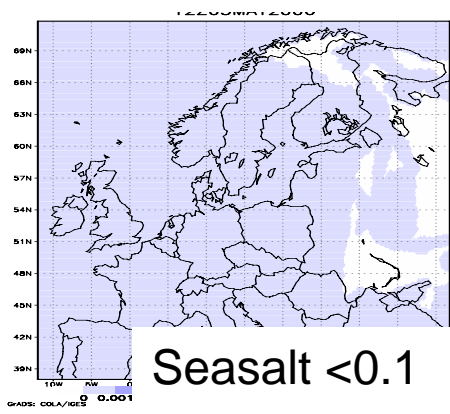
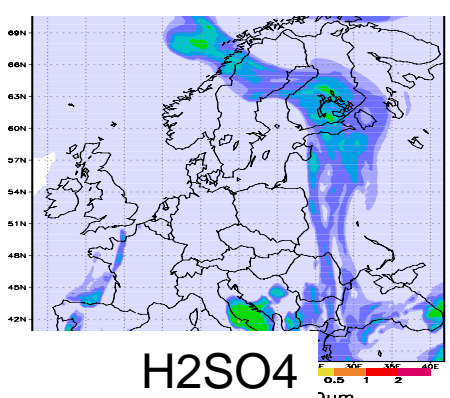
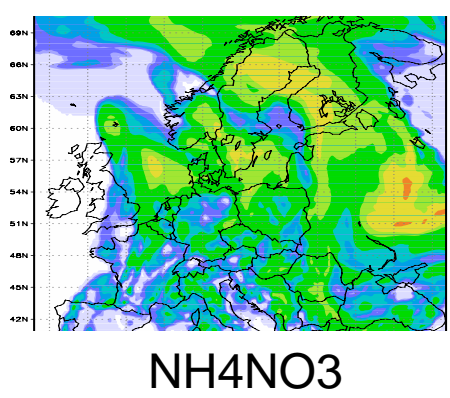
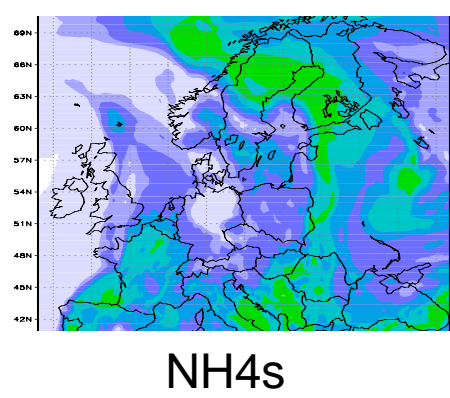
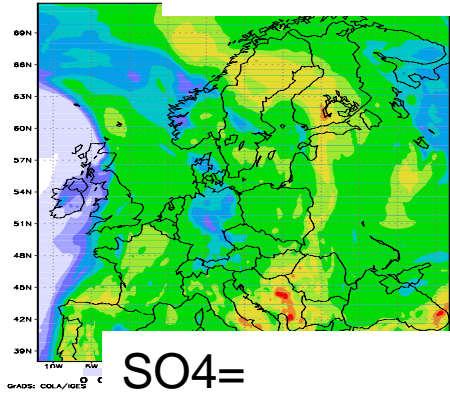
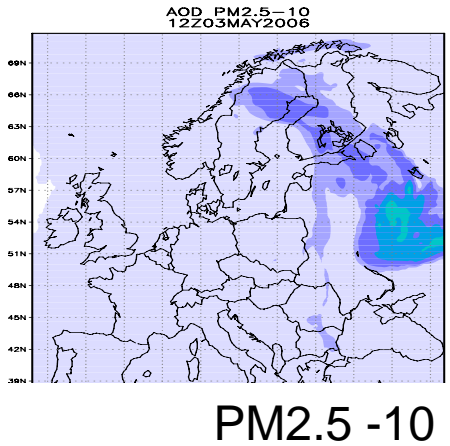
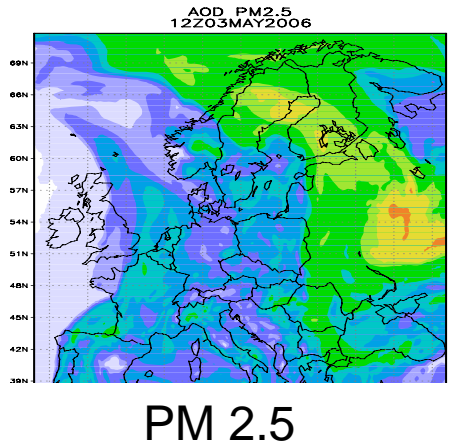
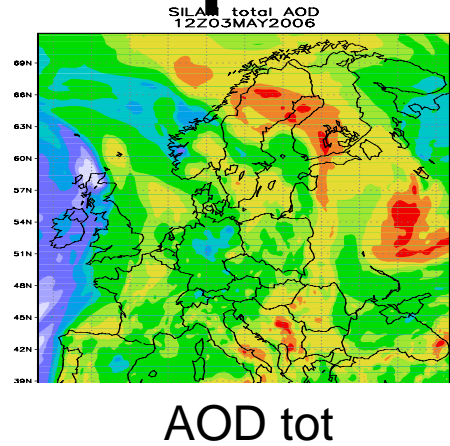
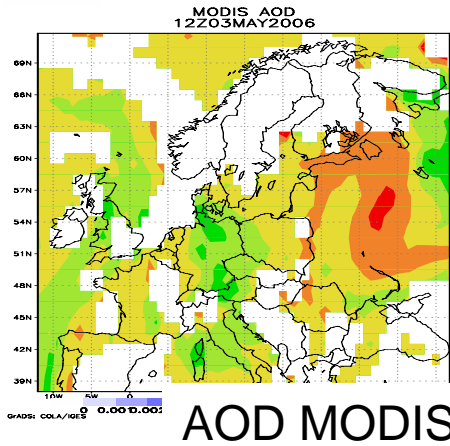
# Comparison with MODIS AOD



- Zero boundaries & initial conditions
- No dust
- Missing values of MODIS
- Uncertainties in fire emissions
- Assumptions made for MODIS AOD retrieval



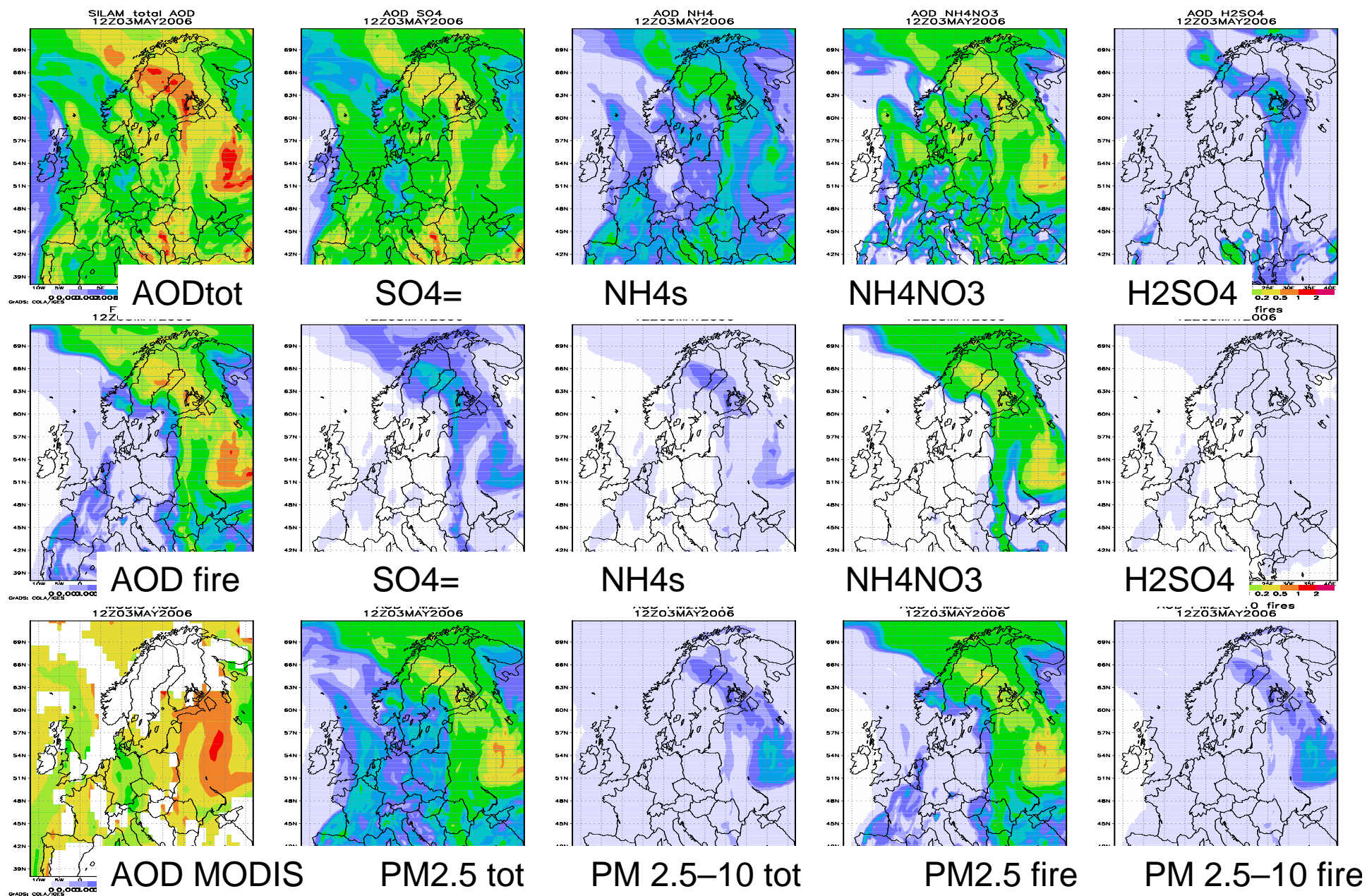
# Chemical composition







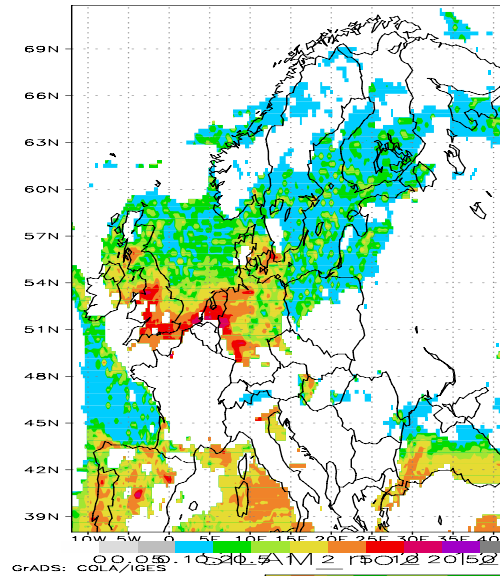
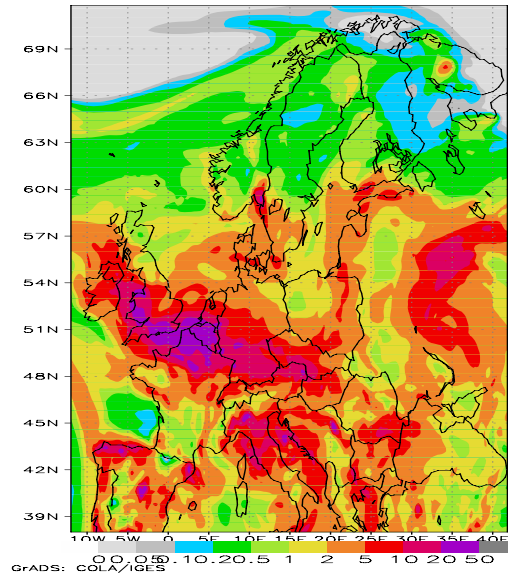
# Contribution from fire emissions



# Comparison with OMI NO2



SILAM\_no2 12Z10MAY2006 OMI\_no2 12Z10MAY2006



OMI\_no2 12Z03MAY2006

