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Fires over Greece in summer 2007 as observed from MERIS and SCIAMACHY

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In summer 2007 during the time period of 24^{th} to 27^{th} of August 2007 intense fire events over a length of 160 km were observed over the Peloponnese. The focus of the study presented here is the analysis of remotely sensed data including satellite based observations by the MERIS (MEdium Resolution Imaging Spectrometer) and SCIAMACHY (The SCanning Imaging Absorption SpectroMeter for Atmospheric CHartographY) both on board of ENVISAT as well as forward trajectory analyses and chemical box model calculations. The AOT (Aerosol Optical Thickness) values from MERIS increase by a factor of 5 and range from 0.2 up to 1.0 comparing the beginning (unpolluted) and end (strongly polluted by biomass burning) of August 2007 following the trail of smoke. In addition, from SCIAMACHY measurements an increase of tropospheric nitrogen dioxide (NO_2) from 4.0*10^{14} to 5.0*10^{15} molecules cm^{-2} and of glyoxal (CHOCHO) from 2.0* 10^{14} to 6.0*10^{15} molecules cm^{-2} was observed. Under this extreme biomass burning condition, this finally leads to photochemical ozone production.