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1.5-year AOD observations at the Navarino Environmental Observatory (NEO), in Messinia-S. Greece (Eastern Mediterranean)

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Ground-based observations of the Aerosol Optical Depth (AOD) at the newly operated Navarino Environmental Observatory (NEO), in Messinia-S. Greece (Eastern Mediterranean), are analysed in this work. NEO is a co-operation between Stockholm University, the Academy of Athens and TEMES S.A., dedicated to research and education on the climate and environment of the Mediterranean region. Measurements were acquired with a Multi-Filter Rotating Shadowband Radiometer at five wavelengths. The temporal variability characteristics of the AOD and the Angstroem exponent will be investigated in order to retrieve the major sources of aerosols over the area in conjunction with back-trajectory analyses. The relation between columnar properties of aerosols and in-situ measurements, will be additionally studied during the intensive campaign ARGON (Aerosol and TRace Gases Observational Campaign at NEO). The ARGON campaign took place in the period 7 June – 12 July 2012 at NEO premises in Costa Navarino, Messinia. In addition to the routine aerosol, trace gases and radiometric measurements at NEO, extra instrumentation was operated for the monitoring of NO_x (NO and NO_2), CO and PM10, for the first time in the area. A PM10 sampler was used for the collection of 24h atmospheric samples on quartz filters for further in vitro chemical analyses. Finally, a LIDAR system on board of the new van type mobile lab of the Academy of Athens was deployed for the scanning of the vertical profile of aerosol in the atmosphere during the period of measurements.