

Maritime Aerosol Network as a component of AERONET in the context of aerosol optical depth studies over the oceans

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Aerosol optical depth (AOD) is an atmospheric optical parameter critical for various applications ranging from Earth radiative balance computations to ocean color studies, from understanding of global aerosol distribution to aerosol remote sensing from space and global aerosol transport modelling. A brief history of the ship-based aerosol optical depth studies over the oceans spanning for over 50 years is presented. Long-term island based comprehensive AOD measurements, which seemed to be a luxury for various applications in the 1980s, do not satisfy contemporary needs of remote sensing and modelling researches. Establishment of Maritime Aerosol Network (MAN) as a component of AERONET allowed to improve our knowledge of aerosol optical properties over the oceans and fill existing data gaps in various oceanic areas. MAN deploys a hand-held sunphotometer (Microtops II) for AOD measurements aboard ships of opportunity. MAN is affiliated with the AERONET calibration and data processing standards and procedures. Data collection over World Oceans, spanning now for almost 17 years put together a public web-based archive which currently consists of over 650 cruises and more than 10000 measurement days (https://aeronet.gsfc.nasa.gov/new_web/maritime_aerosol_network_v3.html). Collected data make an important contribution, enhance our knowledge and help better understand aerosols over the oceans In this paper we will show the progress of the network and present opportunities for collaboration.

Keywords: maritime aerosol, remote sensing, sunphotometer, atmospheric correction