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First results on the chemical composition of inorganic aerosols at a site on the Namibian coast

Danitza Klopper (1), Paola Formenti (2), Patrick Hease (2), Servanne Chevaillier (2), Sylvain Triquet (2), Cécile Mirande-Bret (2), Mathieu Cazaunau (2), Anais Feron (2), Andreas Namwoonde (3), and Stuart Piketh (1)

(1) North-West University, School for Geo- and Spatial Sciences, Potchefstroom, South Africa , (2) LISA, UMR CNRS 7583, Université Paris Est Créteil et Université Paris Diderot, Institut Pierre Simon Laplace, Créteil, France, (3) SANUMARC, University of Namibia, Henties Bay, Namibia

Biomass burning, biogenic- and industrial processes and other natural and anthropogenic activities over southern Africa release aerosols into the atmosphere, a portion of which is subsequently transported over the Namibian coast and the South Atlantic Ocean. Their impact on the regional radiation budget and atmospheric composition will depend on their chemical composition. To characterize it, the long-term Henties Bay Aerosol Observatory (HBAO) has been established in 2012 at the coastal site in Henties Bay, Namibia. Since 2015, samples of aerosol particles are collected with a Partisol automated sampler on 47 mm nucleopore polycarbonate filters for 9 hours during the day (from 9 to 18h UTC) and during the night (from 21h to 6h UTC) on a week on/week off schedule. The aerosol elemental and ionic composition is subsequently analysed by X-Ray Fluorescence (XRF) and Ion Chromatography. This presentation aims to present a first look at the results of 2 years of data collection. The sub-daily chemical profile are analysed and compared to literature data from comparable sites to determine the levels of concentrations, the nature and the temporal variability of the collected aerosols.