



Fog water chemical composition during the AEROCLO-sA campaign

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Namibia is an arid country where numerous rural and urban centers depend on ephemeral rivers for their water supply. These water sources are, however, limited and display seasonal salinization. Fog occurs along the coast and extends over up to 100 km inland, and has been considered for a long time as a source of drinking water. Fog is also a vital source of moisture for the endemic flora and fauna of the Namib Desert. However, due to the current change in climate and air quality, fog occurrence and composition, of crucial importance for the local ecosystems and populations, may be impacted. In the frame of the AEROCLO-sA campaign, fog collection experiments were performed at Henties Bay, along the Namibian coast, and at the desert site of the Gobabeb Research and Training Center during the period of intense fog observations of the campaign, from September 4th to 12th, 2017. Fog collection experiments were performed with two pre-cleaned Caltech Active Strand Cloud Water Collectors (CASCC) that were run in parallel. A stainless steel CASCC was deployed and samples were analyzed for organics (TOC, DOC, organic acids, and specific organic markers), while a plastic collector was used for sampling and further analysis of pH, inorganic ions, metals and water isotopes. Complementary measurements were performed on some of these samples, such as UV-visible and 2D-fluorimetric analysis, and nebulization prior AMS-c-ToF analysis. On the coast, at Henties Bay, eight events were sampled. Their chemical compositions will be presented and discussed relative to the local aerosol composition, as well as the composition of sea water, also sampled during the same period. These results will be contrasted with observations from two fog events at the inland Gobabeb desert site.