Geophysical Research Abstracts
Vol. 19, EGU2017-14333, 2017
EGU General Assembly 2017

Evolution of the atmospheric boundary layer in southern West Africa – an overview from the DACCIWA field campaign

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In southern West Africa, extended low-level stratus clouds form very frequently during night-time and persist long into the following day influencing the diurnal cycle of the atmospheric boundary layer (ABL). During the course of the day, a transition from nocturnal low-level stratus to stratocumulus, cumulus, and sometimes congestus and possibly cumulonimbus clouds is observed.
In June and July 2016, a ground-based field campaign took place in southern West Africa within the framework of the Dynamics-aerosol-chemistry-cloud interactions in West Africa (DACCIWA) project with the aim to identify the meteorological controls on the stratus and the evolution of the ABL. During the measurement period, extensive remote sensing and in-situ measurements were performed at three supersites in Kumasi (Ghana), Savè (Benin) and Ile-Ife (Nigeria). We give an overview of the atmospheric conditions during the whole measurement period focusing on the vertical and temporal distribution of the stratus and relevant related atmospheric features.