



## **Impact of Low Level Clouds on radiative and turbulent surface flux in southern West Africa**

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During the monsoon season in West Africa, low-level clouds form almost every night and break up between 0900 and the middle of the afternoon depending on the day. The break-up of these clouds leads to the formation of boundary-layer cumuli clouds, which can sometimes evolve into deep convection. The low-level clouds have a strong impact on the radiation and energy budget at the surface and consequently on the humidity in the boundary layer and the afternoon convection.

During the DACCIWA ground campaign, which took place in June and July 2016, three supersites in Benin, Ghana, and Nigeria were instrumented to document the conditions within the lower troposphere including the cloud layers. Radiative and turbulent fluxes were measured at different places by several surface stations jointly with low-level cloud occurrence during 50 days. These datasets enable the analysis of modifications in the diurnal cycle of the radiative and turbulent surface flux induced by the formation and presence of the low-level clouds. The final objective of this study is to estimate the error made in some NWP simulations when the diurnal cycle of low-level clouds is poorly represented or not represented at all.