EGU23-1162, updated on 24 Apr 2024
https://doi.org/10.5194/egusphere-egu23-1162
EGU General Assembly 2023

Meteorology and mineral dust forecast variability during the CADDIWA campaign

Laurent Menut
Laboratoire de Meteorologie Dynamique, IPSL, CNRS/Ecole Polytechnique, Palaiseau, France (laurent.menut@lmd.ipsl.fr)

As support to the operational field campaign of the CADDIWA field experiment, the coupled regional model WRF-CHIMERE in forecast mode during the summer 2021. The simulation domain covers West Africa and the East Atlantic and allows the modeling of dust emissions and their transport to the Atlantic. On this route, we find Cape Verde which was used as a base for measurements during the CADDIWA campaign. The forecast consists of meteorological variables and mineral dust concentrations on a horizontal grid with a resolution of 30 km and from the surface to 200 hPa. Each day, the simulation starts the day before (D-1) and up to 4 days ahead (D+4). For each day, we thus have 6 different calculations, with logically a better precision the closer we get to the analysis (D-1). This presentation will show a quantification of the variability of the forecast of mineral dust according to the modelled lead. This quantification will also be done according to the interactions between clouds, aerosols and radiation.