

According to current knowledge, West African climate may be characterized by high decadal predictability because it is governed by processes with long-term memory such as the state of the oceans (PDO and AMO), land-cover characteristics, greenhouse-gas and aerosol concentrations. In addition, West African climate is tied to tropical cyclogenesis in the Atlantic Ocean. By means of a multi-model ensemble with regional climate models (RCMs: REMO, CCLM, WRF) the decadal forecast skill of the West African monsoon and Atlantic hurricanes will be assessed during a hindcast period and translated into an operational forecast system for the period 2015-2025. Such a forecast is promising because boundary conditions such as anthropogenic land-cover changes (LCCs), greenhouse-gas (GHG) and aerosol (AER) emissions are crucial for West African climate and have high predictive skill at the decadal time scale, as they are mainly related to the rather stable process of demographic growth in sub-Saharan Africa. Furthermore, the forecast skill will increase considerably, if improved global SST predictions for the next decade will be achieved by other projects in the MiKlip consortium. Thus, DEPARTURE offers a promising test case for decadal SST forecasts as one of the overall MiKlip objectives and – at the same time – explores additional boundary conditions with decadal predictability such as LCCs and aerosols which are probably more relevant to African than to European climate.