

Predictability of malaria parameters in Sahel under the S4CAST Model.

Ibrahima Diouf (1,2), Belen Rodríguez-Fonseca (1,3), Abdoulaye Deme (4), Moustapha Cisse (5), Jaques-Andre Ndione (6), Amadou Gaye (2), Roberto Suárez-Moreno (1,3)

(1) Departamento de Geofísica y Meteorología Universidad Complutense de Madrid, (2) Laboratoire de Physique de l'Atmosphère et de l'Océan -Siméon Fongang, Ecole Supérieure Polytechnique de l'Université Cheikh Anta Diop (UCAD), BP 5085, Dakar-Fann, Dakar, Sénégal., (3) Instituto de Geociencias IGEO CSIC, (4) Université Gaston Berger de Saint Louis, B.P: 234, Saint-Louis, Sénégal., (5) Programme Nationale de Lutte contre le Paludisme (PNLP), BP 25279, Fann Résidence, Dakar, Sénégal., (6) Centre de Suivi Ecologique, BP 15 532, Fann Résidense, Dakar, Sénégal.

An extensive literature exists documenting the ENSO impacts on infectious diseases, including malaria. Other studies, however, have already focused on cholera, dengue and Rift Valley Fever. This study explores the seasonal predictability of malaria outbreaks over Sahel from previous SSTs of Pacific and Atlantic basins. The SST may be considered as a source of predictability due to its direct influence on rainfall and temperature, thus also other related variables like malaria parameters. In this work, the model has been applied to the study of predictability of the Sahelian malaria parameters from the leading MCA covariability mode in the framework of climate and health issue. The results of this work will be useful for decision makers to better access to climate forecasts and application on malaria transmission risk.