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# Climate, environment and health: recent achievements in Senegal

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## Résumé

Before 1999, we cannot say that the Climate, Environment and Health issue has not been tackled by scientists in Senegal. But regarding bibliography, it seems that often climate issues

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are highlighted by people coming from the health sector (epidemiologists, medical entomologists, etc.) themselves without interactions with climate and meteorology community. After the "Bamako Health and Climate Workshop" led by IRI in 1999, things will change drastically. Indeed, early of the 2000s the French Space Agency developed a programme on tele-epidemiology divided into 4 components: (i) Improving access to healthcare (Treating patients at remote and mobile sites), (ii) Environment-Climate-Health (Monitor, predict and prevent epidemics), (iii) Crisis Management (Better management of major humanitarian crises) and (iv) Education and Training (Improving healthcare and learning thanks to Space). The second component of this approach has been implemented in Senegal, and has led or impacted major environment, climate and health projects during this last decade. Today in Senegal, one major outcome is that an Health and Environment Observatory (HEO) has been dedicated to this issue, and it's 15\*15 km (225km<sup>2</sup>) centered over the village of Barkedji, with a High concentration of in-situ measurements covering various sectors: climate, hydrology, water quality, vegetation, land use and land cover changes, veterinary (herds concentration, serosurvey, ruminants parks), malaria incidence, entomological and viral surveys, and social pastoral practices investigations... This site hosted the EMERCASE (EMERgency CASE) and EDEN (Emerging Diseases in a changing European eNvironment, funded by EU-FP6) projects, the WP 3.4 (Health impacts) of AMMA project (African Monsoon Multidisciplinary Analysis, funded by EU-FP6), AdaptRVF project (Impacts of Climate change on Rift valley fever vectors emergence in Senegal: adaptation and strategies for a better pastoralism management in Sahel, funded by GICC programme) and QWECI (Quantifying Weather and Climate Impacts on Health in Developing Countries, funded by EU-FP7). Senegalese scientific research teams involved in area of study are: UCAD (University Cheikh Anta Diop), IPD (Institut Pasteur de Dakar), CSE (Ecological Monitoring Center), DSV (National Livestock Service) and the NMCP (National Malaria Control Programme). In the same way, the HEO site is built on a strong international partnership (France, United Kingdom, Germany, Italy, Spain and Kenya). Since 2001, relevant publications and strong scientific results have been achieved thanks to collaborative projects based on pluridisciplinary and multidisciplinary approach; main findings are available in the REDGEMS web site ([www.redgems.org](http://www.redgems.org)).

**Mots-Clés:** Climate, environment, health, multidisciplinary approach, Senegal