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AMMA
African Monsoon Multidisciplinary Analyses

The African monsoon is an intensive rainy period that brings most of the annual precipitation in less than four months. In the last decades, a lot of issues arose from the monsoon variability. Today, thanks to the analysis of the data collected during the AMMA programme, the mechanisms regulating the monsoon and its societal impacts start being unravelled.

Five hundred scientists have participated in the 3rd International conference of AMMA in Burkina Faso from 20 to 24 of July 2009. Among the various results obtained, the AMMA researchers have shown that the formation of cold water in the Gulf of Guinea plays a determining role in the monsoon onset. Similarly, the meteorological conditions in the Mediterranean Sea or in the Indian Ocean are key factors in the variability and the retreat of the monsoon. Integrating the data from AMMA improves seasonal weather and climate forecasts, not only over West Africa but also over Europe. We better understand the behaviour of soil moisture, river discharger and the level of ground water under the effect of previous precipitation and human activities. We also better know aerosol emissions, especially carbonate and from pollution, and their impacts on health.

In regard to the importance of the results presented, the programme, initially planed for the 2002-2009 period, is extended. AMMA will deepen its research on the monsoon variability and its mechanisms and accelerate the transfer of results into seasonal and intra-seasonal forecasts and climatic change scenarios for the coming years. These scientific advances have to better benefit West African countries and their populations. In integrating the understanding of the interactions between society, environment, resources and climate in the global climate change context, the AMMA research community will contribute to this objective.

AMMA Campaigns

Three years ago, in January 2006, the main field campaign of the AMMA scientific programme started in Niamey, Niger. With more than 500 researchers positioned from the Gulf of Guinea to the Sahara, the AMMA programme deployed hundreds of instruments, on the ground, ships, aircraft and balloons. They simultaneously monitored the evolution of soils, cultures, vegetation, rivers, oceans and the atmosphere before, during and after the monsoon. An unprecedented observational dataset has been collected, complemented by data from new generation satellites. The experimental AMMA phase was a success thanks to an international cooperation, bringing together teams from more than 30 nations of which 14 West African countries.

AMMA Press Contact

Aude Sonnevile : aude.sonneville@cnrm.meteo.fr
In France : +33 (0)5 61 07 98 74/ +33 (0)6 21 28 90 73
www.amma-international.org

Press release