

The AMMA program : Results and new challenges from a WCRP perspective

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AMMA (African Monsoon Multidisciplinary Analyses), a program endorsed by WCRP, IGBP and WWRP, ended its first phase in 2010. A review of results will be given with particular emphasis on the understanding and prediction of the variability and change of the West African Monsoon. New understanding of the water cycle from scales of meters to the whole continent and of the interactions between ocean, atmosphere and land, will be presented from the perspective of research that supports improvement of the climate variability prediction in this region. Key challenges related to observations, modeling and analysis will be discussed with particular emphasis on the need for an integrative view of the coupled ocean-atmosphere-land monsoon system and intraseasonal to seasonal scales, to meet the demands of society (e.g. forecasting of dry periods in the monsoon) but also to move ahead in our understanding of the annual cycle. Promising avenues opened during the first phase of AMMA can be followed up in greater depth in the second phase, particularly the role of the ocean and its interactions with the atmosphere and interactions with the other tropical regions and mid-latitudes.