



## **Real-time african fire plumes during the AMMA experiment.**

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The West African Monsoon (WAM) is a dynamical coupled system in which climate evolution is linked to ocean/land surface forcings and to changes in the atmospheric composition. The understanding and predictability of the WAM variability requires a detailed knowledge of feedbacks between the surface (land-ocean) and the atmosphere. The African Monsoon Multidisciplinary Analyses (AMMA) program is an international integrated multidisciplinary project dedicated to improving our knowledge and understanding of the WAM, including its impacts on global chemistry and aerosols and its variability on daily-to-interannual timescales. Special operation periods (SOP) with ground-based and airborne observations are planned during the dry (January-February 2006) and the wet (June to August 2006) seasons over West Africa. A new tool has been developed to forecast the fire plumes over Africa and help the aircraft planning during the SOPs. The GIRAFFE model (reGIONAL Real time AFrican Fire plumEs) is based on ECMWF forecasts, daily fires from TRMM and MODIS and the lagrangian model FLEXPART. The focus of GIRAFFE is to monitor the fires in the northern hemisphere during the dry season and the intrusions of southern hemispheric fires over West Africa during the wet season. Daily forecasted plumes obtained during the dry season will be presented with sensitivity tests on the satellite (TRMM vs. MODIS), the diurnal cycle of the fire and the injection height.