



## **African Anthropogenic Emissions Inventories for gases and particles from 1990 to 2016**

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Presently, there is one African regional inventory dealing with biofuel and fossil fuel emissions (Lioussé et al., 2014) and only global emission inventories including Africa. Developing a regional inventory for gases and particles is not an easy task: the DACCIWA project has allowed to organize a framework suitable for this development through regrouping several investigators. The aim is to set an African database on fuel consumption and new emission factor measurements and to include other sources of pollution than biofuel and fossil fuel such as flaring and waste burning yet not negligible in Africa. The inclusion of these sources in the new inventory and also new emission factor measurements will reduce the uncertainties on anthropogenic emissions in Africa.

This work will present the first version of African fossil fuel (FF), biofuel (BF), gas flaring and waste burning emission inventories for the 1990-2016 period for the major atmospheric compounds (gases and particles) provides up to date emission fields at  $0.125^\circ \times 0.125^\circ$  spatial resolution and yearly temporal resolution that can be used to model atmospheric composition and impacts over West Africa. New emission factor measurements on ground and in combustion chambers will be discussed. Temporal variability of emissions from 1990 to 2016 will be scrutinized.

In parallel, uncertainties on existing biomass burning emission inventories will be presented. New emission inventories based on MODIS burnt area products and AMMABB methodology have been developed for the period 2000-2012. They will be compared with GFED and GFAS products.

Finally, tests on these inventories in Regional Climate Model (RegCM) at African scale will be presented for different years.