

Value of Satellite Rainfall Estimate in Enhancing Climate Services in Africa

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Abstract

Despite recent and mostly global efforts to promote climate services in developing countries, Africa still faces significant limitations in its institutional infrastructure and capacity to develop, access, and use decision-relevant climate data and information products at multiple levels of governance. In many parts of Africa, National Meteorological and Hydrological Services (NHMS), which are mandated with collecting and providing weather, water, and climate information, struggle to do so as a result of long-term under-investment, a narrow commercial base, inadequate resource models, and even civil unrest. Access to existing climate data has also been a challenge mainly because of national data policies, low financial investment, lack of dissemination capacity and tools, and high access costs. The [Enhancing National Climate Services \(ENACTS\)](#) initiative, led by Columbia University's International Research Institute for Climate and Society, strives to overcome these challenges by targeting the way climate-sensitive decisions are made at the local, regional, and national levels. This is accomplished by working directly with the National Meteorological and Hydrological Services to build capacity for improving the availability, access, and use of quality climate data and information products at relevant spatial and temporal scales. Challenges to availability of climate data are alleviated by combining quality-controlled station rainfall measurements with satellite rainfall estimates to generate spatially and temporally complete timeseries going back 40 years. Access to climate information is enhanced by developing an online mapping service that provides a user-friendly interface for analyzing and visualizing climate information products. Use of the generated climate data and the derived information products is promoted through raising awareness in relevant communities, training users, and co-production processes. The ENACTS approach, which has been implemented in over 20 countries in Africa as well as a couple of countries in Asia and South America, has demonstrated the value of satellite rainfall estimates in enhancing climate services in data-poor parts of the world.