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Nathalie Rouché, Jean-François Boyer, Patrick Seyler

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SIEREM: Information system of long-term historical data recorded in Africa

Nathalie ROUCHÉ, Jean-François BOYER, Patrick SEYLER - HydroSciences Montpellier, France
http://www.hydrosciences.fr/sierem
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BACKGROUND AND OBJECTIVES

Data and information are often scattered, heterogeneous or incomplete; they are rarely comparable and suited to needs. Numerous public, semi-public and private organizations produce and manage data, but often they do not have the resources to exchange, assemble, standardize, summarize and capitalize on the data that they possess. Over and above these difficulties, there is also the more general problem of a natural and widespread reluctance to share information, particularly when it is considered strategic because it can be used for paid services or to provide access to power. While most countries and basins (national or transboundary) clearly need to make an effort to alleviate current data deficiencies, it is also vital that they develop links between data producers and users no matter what the theme or level of intervention (local, basin, national and international) and reinforce capacities for accessing, processing and using existing data. It is in this context and aware of these stakes that HydroSciences Montpellier Laboratory has developed an information system known as SIEREM, which contains several types of environmental variables for the whole of Africa.

With 13,720 measurement stations and 33,740 chronological series (i.e. more than 120 million recordings) for 1837-2015, this is the largest environmental information system in Africa. The SIEREM site provides free access to all information except raw measurement data, which are the property of the national services of African countries.

Hydro-climatic data is combined with spatial data: 201 contours of catchment basins and 2,962 rivers. SIEREM has also been enriched with data recovered from historical hydrological archives. More than 1,342 photos have been brought together in 391 geo-referenced albums. http://www.hydrosciences.fr/sierem

RESULTS

SIEREM produces kmz files that place the station on Google Earth. The data become more accessible, time series plotted and metadata can be seen on the context of the landscape.

REFERENCES


ROUCHÉ, N. ; ROYER, P. ; SEYLER, P. ; BOYER, J. - SIEREM : information system of long-term historical data recorded in Africa. 5th World FRIEND Conference, La Havana - Cuba, Nov. 2006. This reference is available on the HydroSciences Montpellier website.

SIEREM website: http://www.hydrosciences.fr/sierem

DATA SET SIEREM

1. General inventory of Environmentnal Information System SIEREM

The Congo river is the world’s second largest river, both for its mean flow and for its catchment area, which is about 3.7 million km². Discharge is 40,050 m³/s at Kinshasa. Source: Hydrologie tropicale : genèse naturelle et utilisation à l’échelle du bassin, 1404 Publ. n° 238,1994

2. Hydrometric data recorded in Sierem database

Different Types of data can be managed: discharges, water level, rainfall, temperature, humidity.

3. Catchment basins – Photos – Book Map Library

Hydrologie tropicale: géoscience et développement IAHS Publ. no. 238, 1994

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