

QWECI.Rain_Kumasi - Rainfall gauges network, Kumasi area, Ghana

General information

Dataset name: QWECI.Rain_Kumasi - Rainfall gauges network, Kumasi area, Ghana
Created on: 2012-09-07

Contact(s)

Van Der Linden Roderick - IGMK - roderick.linden@kit.edu (PI or Lead scientist)

Period

Date begin (yyyy-mm-jj): 2008-12-01
Date end (yyyy-mm-jj): 2012-05-17

Project(s)

QWECI

Data description

Abstract

The Ghana precipitation database contains unfiltered minutely rainfall data and filtered minutely, hourly, and daily precipitation time series collected at four weather stations in the Kumasi area of Ghana. Used were weighing precipitation gauges of the OTT type with a resolution of 0.1 mm of rain and a temporal resolution of one minute. The data covers in general the period between December 2008 and May 2012.

The rainfall observations suffer in terms of artificial rainfall peaks (mostly 0.1 or 0.2 mm of rain in one minute). Therefore, an artificial rainfall filter was used to select realistic rainfall events. Note that this filter cannot perfectly select precipitation values. Some rainfall events will not be included by the filter and some artificial rainfall peaks will be embedded into the filtered data. In this database, the unfiltered minutely data and filtered minutely, hourly, and daily rainfall data is available.

The rain gauges were installed by the Institute of Geophysics and Meteorology from the University of Cologne and have been donated to the Kwame Nkrumah University of Science and Technology (KNUST). The automatic rain stations were readout and monitored by staff from KNUST.

Observing strategy

The dataset contains data from four local weighing rain gauges at three meteorological stations in the Kumasi area. Data is in general available for the period December 2008 to May 2012.

The airport station data is available for the period December 2008 to April 2011, the second airport station produced data only since April 2011, the Agromet station is available for April 2009 and for May 2011 to May 2012, and the data from the Emena station covers May 2010 to May 2012. The data gaps can be extracted from the ASCII files starting with STATION_hourly or STATION_daily or can be found in the file data_gaps.txt. The location

(latitude, longitude) values of the three stations are included in the locations.txt file. Note that the 2airport station replaced the airport station.

Instrument information

Sensor

Instrument type:	RAIN GAUGES
------------------	-------------

Geographic information

KUMASI

Location name:	KUMASI
Platform type:	GROUND STATIONS

Measured parameter

Precipitation Amount

Parameter name:	Precipitation Amount
Parameter keyword:	Atmosphere > Precipitation
Unit:	millimeter - mm
Date begin (yyyy-mm-jj):	2008-12-01
Date end (yyyy-mm-jj):	2012-05-17

Data use information

Use constraints:	AMMA data chart
Database:	AMMA database
Original data format(s):	Text