

Hourly 0.1 degree gridded rain, temperature, global radiation, and relative humidity from METEOSAT and SYNOP (IMPETUS dataset ID = 815)

General information

Dataset name: Hourly 0.1 degree gridded rain, temperature, global radiation, and relative humidity from METEOSAT and SYNOP (IMPETUS dataset ID = 815)

Created on: 2008-02-01

Contact(s)

Diederich, Malte - Meteorologisches Institut der Universität Bonn - Malte.Diederich@uni-bonn.de (PI or Lead scientist)

Period

Date begin (yyyy-mm-jj): 1983-01-01

Date end (yyyy-mm-jj): 2006-07-01

Project(s)

IMPETUS

Data description

Abstract

rain, global radiation, temperature, and relative humidity on a 0.1 degree (about 10 kilometer) grid at hourly intervals from 1983 to 2006. Derived from METEOSAT infra red images and SYNOP data. Calibrated and corrected for systematic errors using data from 1983 to 2006. 2 different rainfall estimates: based only on meteosat data, and based on meteosat and monthly ground estimates which is not for free distribution. The meteosat-only data allows the user to assess the quality of real-time monitoring data. Parameter, Attribute list: global radiation, precipitation, relative humidity, temperature, rain. Dataset created by IMPETUS subproject A1.

Data Lineage: IMPETUS, EUMETSAT, GTS; Data Consistency: High correlation of Global radiation, temperature, and relative humidity at validation site in Djougou, Rain rate has very low correlation with ground observations on a hourly and daily scale because of high spatial variability and coarse relationship between cloud top and rain. Deviations of rain estimates and ground measurements will occur because of high spatial variability of rain and because no ground measurements of rain were merged in to the data on an hourly or daily level; Data Completeness: some gaps in originating synop and meteosat data have been filled with interpolation and 'best guess' assumptions; No information about Positional Accuracy; Data Completeness: High correlation and no systematic biases with hourly calibration data in Djougou, but it is believed that systematic biases in other regions

may occur, especially near to the coast, Can not be verified due to absence of validation data

Observing strategy

Full coverage hourly estimations of rainfall, 2m temperature, relative humidity, and global radiation based on freely available meteosat and synop station data.

Geographic information

Measured parameters

Air humidity

Parameter name: air humidity

Parameter keyword: Atmosphere > Atmospheric Water Vapor > Water Vapor Indicators > Humidity

METEOSAT

Parameter name: METEOSAT

Precipitation

Parameter name: precipitation

Parameter keyword: Atmosphere > Precipitation

Rain

Parameter name: rain

Parameter keyword: Atmosphere > Precipitation > Liquid Precipitation > Rain

Global radiation

Parameter name: global radiation

Radiation

Parameter name: radiation

SYNOPS

Parameter name: SYNOPS

Air Temperature

Parameter name: Air Temperature

Parameter keyword: Atmosphere > Atmospheric Temperature > Surface Temperature > Air Temperature

Satellite image

Parameter name: satellite image

Data use information

Use constraints: Please inform the Point of Contact if you use the data for publication
Data policy: IMPETUS data policy
Database: IMPETUS
Original data format(s): Text