India - High resolution daily gridded rainfall data for the Indian Region 1951-2007

National Climate Centre - India Meteorological Department

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Overview

Identification

ID NUMBER
ind-cghr-imd-1951-2007-v01

Version

VERSION DESCRIPTION

PRODUCTION DATE
2007

Overview

ABSTRACT
Here, we report the development of a high resolution (1 1 lat./long.) gridded daily rainfall dataset for the Indian region. There are only 1803 stations with minimum 90% data availability during the analysis period (1951–2003). For the analysis, we have followed the interpolation method proposed by Shepard. Standard quality-controls were performed before carrying out the interpolation analysis. Comparison with similar global gridded rainfall datasets revealed that the present rainfall analysis is better in accurate representation of spatial rainfall variation.

Using this gridded rainfall dataset, an analysis was made to identify the break and active periods during the southwest monsoon season (June–September). Break (active) periods during the monsoon season were identified as those in which the standardized daily rainfall anomaly averaged over Central India (21–27N, 72–85E) is less than –1.0 (more than 1.0). The break periods thus identified for the period 1951–2003 were comparable with those identified by earlier studies. Contrary to a recent study, no evidence was found for any statistically significant trends in the number of

break or active days during the period 1951–2003. This gridded rainfall dataset is available for noncommercial

applications.

This data product is a the third version of IMD gridded daily rainfall data developed in 2007. The data is updated up to 2007.

This data is arranged in 35x33 grid points. All the gridded data are in the directory “data” in the CDROM. The "data" directory contains 3 subdirectories viz. "binary" ,"ascii" and "stn_grd".

The unit of rainfall is in mm.

Coverage

GEOGRAPHIC COVERAGE
National

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
National Climate Centre	India Meteorological Department

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role

Name	Abbreviation	Affiliation	Role
Centre for Global Health Research	CGHR	St. Michael's Hospital; University of Toronto	Metadata Producer

DDI DOCUMENT VERSION
Version 1.0. This is the very first version of this DDI document.

DDI DOCUMENT ID
ind-cghr-imd-1951-2007-v01

Sampling

No content available

Questionnaires

No content available

Data Collection

Data Collection Dates

Start	End	Cycle
1951	2007	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

After the major drought of 1877 and the accompanying famine, the India Meteorological Department (IMD) established a large network of rain gauge stations, which provided a valuable source of data to analyse the space–time structure of the monsoon rainfall and its variability. With the introduction of the telegraph system, daily rainfall and also other meteorological observations were collected and analysed on a daily basis. Over the years, IMD has maintained high standards in monitoring rainfall and other meteorological parameters over India with great care and accuracy.

For the present analysis, we have used the daily rainfall data archived at the National Data Centre, IMD, Pune. IMD operates about 537 observatories, which measure and report rainfall that has occurred in the past 24 h ending 0830 h Indian Standard Time (0300 UTC). In addition, most of the state governments also maintain rain gauges for real-time rainfall monitoring. IMD digitizes, qualitycontrols and archives these data also along with rainfall data recorded at IMD observatories. Before archiving, IMD makes multi-stage quality control of observed values.

Data Processing

Data Editing

Standard quality control is performed before carrying out the analysis. First, station information (especially location) was verified, wherever the details are available. The precipitation data themselves are checked for coding or typing errors. Many such errors were identified, which were corrected by referring to the original manuscripts

Data Appraisal

No content available