

## JASA ACS Reproducibility Initiative - Author Contributions Checklist Form

Data

### **Abstract:**

The data considered in this paper is the precipitation rate in the monsoon months (June-September) over the years 2002-2012 in different locations over the latitude range 21N to 30N and the longitude range 84E to 90E. The data (TRMM-2B31, version 7) had been gathered by the Tropical Rainfall Measuring Mission (TRMM) of the US National Aeronautics and Space Administration (NASA) and the Japanese Aerospace Exploration Agency (JAXA) and are derived by processing images recorded by the combined Precipitation Radar (PR) and TRMM Microwave Imager (TMI), through an algorithm (2B31). The data set consists of the latitude and the longitude of a location representing the center of a 5 km pixel, average precipitation rate over that pixel and the time of recording.

### **Availability**

These data are available in Hierarchical Data Format (HDF) and can be freely downloadable from NASA Goddard Space Flight Center's website <http://trmm.gsfc.nasa.gov/> (data locator: <http://disc.gsfc.nasa.gov/datacollection/2B31.V7.html>)

### **Description**

Permissions: Not required.

Licensing information: Not applicable.

Link to data: The data analyzed in the paper can be available from the Dataverse repository <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/V81B1D>

Link to original data :

[https://disc.gsfc.nasa.gov/mirador-guide?tree=project&dataset=2B31%20\(Versions%20\):%20Combined%20Rainfall%20Profile%20\(PR,%20TMI\)&project=TRMM&dataGroup=Orbital&version=7&CGISESSID=831972a3b15559f3d768e59d7043934a](https://disc.gsfc.nasa.gov/mirador-guide?tree=project&dataset=2B31%20(Versions%20):%20Combined%20Rainfall%20Profile%20(PR,%20TMI)&project=TRMM&dataGroup=Orbital&version=7&CGISESSID=831972a3b15559f3d768e59d7043934a)

OR

[https://disc.gsfc.nasa.gov/datasets?keywords=TRMM\\_2B31\\_7&page=1](https://disc.gsfc.nasa.gov/datasets?keywords=TRMM_2B31_7&page=1)

Metadata: Combined PR/TMI rain rate and path-integrated attenuation at 5 km horizontal, and 250 m vertical, resolutions, over a 247 km swath.

Version information: 2B 31 V7

Code

### **Abstract:**

All codes are written in R. The programs are sufficient for producing all the tables and figures presented in the paper. The input and output for each of the programs are mentioned at the top of the corresponding program files.

### **Description**

How delivered: As R source code. The R version used here is 3.3.4.

License information: All the codes are licensed under the MIT License.

Link to code: The R-codes are deposited in github.com: <https://github.com/janakaushik/JASA-ACS>

Operating system: Intel(R) Core(TM) i7-7700HQ CPU @ 2.80 GHz 2.81 GHz with RAM 16 GB

Instructions for Use

### **Reproducibility**

The data and codes are included in a zipped file (suppl.zip) and uploaded as supplementary material with this submission.

The data files along with descriptions of these files are contained in the folder “data”.

All the tables and the figures from the paper can be reproduced by processing the R source codes (labeled by the figure and table names) provided in the folder “R-codes”.

The given path for the input data of the R-codes can be processed by unzipping the supplementary file (i.e., “suppl.zip”) and placing the folder “data” in the working directory of R.