National Aeronautics and Space Administration Goddard Earth Science Data Information and Services Center (GES DISC)

README Document for Jaeger Climatological Global Monthly Mean Precipitation

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Revision History

Revision Date	*Changes*	*Author*
June 16, 2016	This document was first created	Zhong Liu
October 5, 2016	More contents were added	Zhong Liu
March 26, 2021	GES DISC Help Desk new email address; http in the footer; data policy URL	Zhong Liu

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1.0 Introduction

This document provides basic information for using the Jaeger Climatological Global Monthly Mean Precipitation product.

The Jaeger Climatological Global Monthly Mean Precipitation consists of monthly precipitation based on climatology (data from 1931 to 1960 over the continents, and 1955 to 1965 over the oceans).

1.1 Dataset/Mission Instrument Description

1.1.1 Dataset/Instrument

The monthly mean rainfall estimates over the whole globe are based on climatology (data from 1931 to 1960 over the continents, and 1955 to 1965 over the oceans) and a gridding technique (See Jaeger (1983) for a general description of the method.).The data file consists of 2.5 degree latitude by 5 degree longitude gridded monthly means of estimated rainfall.

Basic characteristics:

Variable name: Monthly mean precipitation

Units: mm/month

Date range: January 1931 - December 1965

File size: 0.959 Mb (uncompressed)

Format: ASCII

Spatial coverage: Global (latitudes of 90 degrees North to 90 degrees South and longitudes of 180 degrees West to 180 degrees East)

Spatial resolution: 2.5 degree (latitude) x 5 degree (longitude)

Projection: Cylindrical Equidistant.

1.2 Algorithm Background

The monthly mean rainfall estimates over the whole globe are based on climatology (data from 1931 to 1960 over the continents, and 1955 to 1965 over the oceans) and a gridding technique (See Jaeger (1983) for a general description of the method.). The data file consists of 2.5 degree latitude by 5 degree longitude gridded monthly means of estimated rainfall.

For the continental regions, the grid cell values were derived from visual estimates of isopleth maps prepared from up-to-date climatic atlases containing annual and monthly rainfall values, supplemented by other data sets.

Over the oceans, rainfall values were estimated using Moller's method. Monthly percentage frequencies were derived using the U.S. Marine Climatic Atlas (U.S. Naval Weather Service, 1955-1965) for isoline data and their interpolated values at the grid points. These monthly frequencies were converted to annual percentages, which were then scaled to rainfall depth units, using Geiger's (1965) precipitation map, to generate monthly precipitation means.

1.3 Data Disclaimer

1.3.1 Acknowledgement

Please see, https://disc.gsfc.nasa.gov/information/documents?title=data-policy

1.3.2 Contact Information

GES DISC Help Desk:

For assistance with our data and services, please write or call us at:

Email: gsfc-dl-help-disc@mail.nasa.gov

Voice: 301-614-5224

Fax: 301-614-5268

2.0 Data Organization

The data consist of monthly precipitation in mm/month in one ASCII file.

2.1 File Naming Convention

The data are stored in one ASCII file, jaeger.dat.Z

Size: 0.126 Megabytes (ASCII)

2.2 File Format and Structure

Each rainfall field within the file begins with a month identifier (E15.8), followed by a 72 by 73 array of monthly mean precipitation estimates (in mm/month). Each estimate represents the climatological mean precipitation value for that month for a 2.5 degree latitude by 5 degree longitude grid cell. The data grid ranges in latitude from 90 degree south to 90 degree north and in longitude from 0 degree to 355 degree.

The sample FORTRAN program listed below describes the data structure of this file that should be used in reading the data. The data are in ASCII format and are easy to display. All months are contained in a single file, compressed using LZ (Unix-default).The file must be uncompressed before using a sample read program in FORTRAN.

2.3 Key Science Data Fields

Monthly mean precipitation

3.0 Data Contents

3.1 Dimensions

See Sec. 2.

3.2 Global Attributes

See Sec. 2.

3.3 Products/Parameters

Product name: Jaeger Climatological Global Monthly Mean Precipitation

Parameter name: Monthly mean precipitation

4.0 Options for Reading the Data

4.1 Command Line Utilities

4.1.1 more

more is a command to view (but not modify) the contents of a text file:

$more jaeger.dat

4.1.2 vi

vi is a text editor to view and modify the contents of a text file:

$vi jaeger.dat

4.2 Tools/Programming

A sample program in Fortran:

```
      real prec (72, 73), month
      do nm = 1, 12
      read (iunit, 100) month, ((prec (lon, lat), lon = 1, 72), lat = 1, 73)
100   format (5e15.8)
      enddo
```

5.0 Data Services

If you need assistance or wish to report a problem:
Email: gsfc-dl-help-disc@mail.nasa.gov
Voice: 301-614-5224
Fax: 301-614-5268
Address:
Goddard Earth Sciences Data and Information Services Center NASA Goddard Space Flight Center Code 610.2 Greenbelt, MD 20771 USA

6.0 More Information

N.A.

7.0 Acknowledgements

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References

Geiger, R., 1965.The earth's atmosphere:mean annual precipitation.Map 5, World Maps,Scale 1:30M, Justus perthes.

Jaeger, L., 1983.Monthly and areal patterns of mean global precipitation.Variations in the Global Water Budget, A. Street-Perrott, M. Beran, and R. Ratcliffe, Eds., D. Reidel Publ. Co., Dordrecht, 129-140.