



Double Rain Gauge Network, Iowa, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Krajewski, W. F. 2004. *Double Rain Gauge Network, Iowa, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. <https://doi.org/10.5067/2BC7FR1I6HLS>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/NSIDC-0210>



National Snow and Ice Data Center

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1 DATA DESCRIPTION

1.1 Parameters

Rainfall is measured by two tipping bucket rain gauges. Each data file consists of three columns:

1. Date (yyymmdd)
2. Time (hh:mm:ss) UTC
3. Recorded rain rate in mm

1.1.1 Unit of Measurement

Rainfall amount (in mm) from tipping bucket gauge.

1.1.2 Parameter Source

The network consists of 25 dual tipping bucket rain gauge platforms.

1.1.3 Sample Data Record

The following sample is taken from the "SITE04.dat" file.

20020811	15:15:00	0.00
20020811	15:20:00	12.43
20020811	15:25:00	5.69
20020811	15:30:00	0.43
20020811	15:35:00	0.00

1.2 File Information

1.2.1 Format

Data files are ASCII text files.

File Size: File sizes range from 2.69 MB to 3.51 MB.

Volume: Total volume of data files is 78.72 MB.

1.2.2 Naming Convention

Files are named after the study sites. For example, SITE12.dat.

1.3 Spatial Information

1.3.1 Coverage

Southernmost Latitude: 41.5° N
 Northernmost Latitude: 41.75° N
 Westernmost Longitude: 91.75° W
 Easternmost Longitude: 91.5° W

1.4 Temporal Information

1.4.1 Coverage

18 June 2002 through 13 November 2003. Different data files cover different time periods. The table below shows the start and end dates for each site.

Table 1. Start and End Date for Each Site

Site Number	Start Date	End Date
1	8/13/02	11/12/03
2	8/11/02	11/12/03
3	09/19/02	11/12/03
4	8/11/02	11/12/03
5	8/11/02	11/12/03
6	8/11/02	11/12/03
7	8/11/02	11/12/03
8	8/11/02	11/12/03
9	8/11/02	11/12/03
10	6/18/02	11/12/03
11	6/20/02	11/12/03
12	8/18/02	11/20/03
13	8/15/02	11/11/03
14	8/12/02	11/12/03
15	9/14/02	11/13/03
16	8/12/02	11/12/03
17	8/15/02	11/13/03
18	8/15/02	11/12/03
19	8/15/02	9/26/03
20	8/14/02	11/12/03

Site Number	Start Date	End Date
21	6/21/02	11/12/03
22	6/21/02	11/12/03
23	6/18/02	11/12/03
24	8/18/02	11/12/03
25	10/17/02	11/13/03

1.4.2 Resolution

Data files contain readings in five-minute intervals.

2 DATA ACQUISITION AND PROCESSING

2.1 Processing

After quality control of the raw data from the tipping buckets, investigators used the tip interpolation method (Ciach 2002) to calculate rain rate. The rain rate values in the third column of the data files are the average of the two tipping-bucket rain gauges on the platform. Because of the way a tipping-bucket operates, data were recorded only when the buckets tipped (when they contained moisture).

2.2 Quality, Errors, and Limitations

Raw data were taken in one-minute intervals, and processed into five-minute rain accumulations. Although such short time scale accumulations are associated with significant random error, providing data on a five-minute basis provides flexibility in selecting the time interval for analysis. This is particularly important for evaluation of remote sensing products. The random error of the tipping bucket rain gauge data decreases with time accumulation scale. It is negligible for scales longer than about 15 minutes. The investigators guarantee quality between 1 April and 13 November, 2003.

2.3 Instrumentation

2.3.1 Description

The network consists of 25 dual tipping-bucket rain gauge platforms. Please see [IIHR-Hydroscience and Engineering](#) to learn more.

3 RELATED DATA SETS

- [AMSR-E Validation Data](#)
- [AMSR-E Data at NSIDC](#)
- [SMEX Soil Moisture and Temperature Profiles, Walnut Creek, Iowa](#)
- [Wakasa Bay Weather Forecast Maps](#)

4 CONTACTS AND ACKNOWLEDGMENTS

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5 REFERENCES

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6 DOCUMENT INFORMATION

6.1 Publication Date

February 2004

6.2 Date Last Updated

30 December 2020