



# Bias-corrected d4PDF historical and non-warming climate data

## 1. IDENTIFICATION INFORMATION

Name	Bias-corrected d4PDF historical and non-warming climate data
DOI	doi:10.20783/DIAS.544 [ <a href="https://doi.org/10.20783/DIAS.544">https://doi.org/10.20783/DIAS.544</a> ]
Metadata Identifier	d4PDF_CDFDM_S14FD20221122152739-DIAS20221121113753-en

## 2. CONTACT

### 2.1 CONTACT on DATASET

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### 2.2 CONTACT on PROJECT

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## 5. DATE OF THIS DOCUMENT

2022-11-22

## 6. DATE OF DATASET

publication : 2018-07-23

## 7. DATASET OVERVIEW

### 7.1 Abstract

The bias-corrected d4PDF dataset offers daily data of 10 climatic variables over the globe from 1951 to 2010. Data from the historical experiment and non-warming counterfactual simulation are available (at this moment, there is no plan to conduct bias-correction of data from the +4 degC experiment). See Shiogama et al. (2016), Mizuta et al. (2017) and Imada et al. (2017) for details on the original d4PDF database. For each simulation, data for 100-member ensemble are available. The data over the sea and Antarctica are not bias-corrected (i.e., the raw data of the MRI-AGCM3.2 (Mizuta et al., 2012) were used), whereas those over the land are bias-corrected using S14FD meteorological forcing dataset (doi:10.20783/DIAS.523) as the baseline. Variables include daily mean 2m air temperature (tave2m, ° C), daily maximum 2m air temperature (tmax2m, ° C), daily minimum 2m air temperature (tmin2m, ° C), daily total precipitation (precsfc, mm d-1), daily mean downward shortwave radiation flux (dswrfsfc, W m-2), daily mean downward longwave radiation flux (dlwrfsfc, W m-2), daily mean 2m relative humidity (rh2m, %), daily mean 2m specific humidity (spfh2m, kg kg-1), daily mean 10m wind speed (wind10m, m s-1) and daily mean surface pressure (pressfc, hPa).

### 7.2 Topic Category(ISO19139)

climatologyMeteorologyAtmosphere

### 7.3 Temporal Extent

Begin Date	1951-01-01
End Date	2010-12-31
Temporal Characteristics	Daily

### 7.4 Geographic Bounding Box

North latitude bound	90
West longitude bound	-180
Eastbound longitude	180
South latitude bound	-90

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## 7.5 Grid

Dimension Name	Dimension Size (slice number of the dimension)	Resolution Unit
column	720	0.5 (deg)
row	360	0.5 (deg)
vertical	1	1 (level)

## 7.6 Geographic Description

## 7.7 Keywords

### 7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
theme	Atmosphere > Atmospheric Temperature > Air Temperature, Atmosphere > Precipitation > Precipitation Amount, Atmosphere > Atmospheric Radiation > Incoming Solar Radiation, Atmosphere > Atmospheric Radiation > Longwave Radiation, Atmosphere > Atmospheric Water Vapor > Humidity, Atmosphere > Atmospheric Pressure > Surface Pressure	GCMD_science

### 7.7.2 Keywords on Project

#### 7.7.2.1 Data Integration and Analysis System

Keyword Type	Keyword	Keyword thesaurus Name
theme	DIAS &gt; Data Integration and Analysis System	No_Dictionary

## 7.8 Online Resource

File download : <https://data.diasjp.net/dl/storages/filelist/dataset:544>

## 7.9 Data Environmental Information

## 7.10 Distribution Information

name	version	specification
NetCDF	4	

# 8. DATA PROCESSING

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## 8.1 Data Processing (1)

### 8.1.1 General Explanation of the data producer's knowledge about the lineage of a dataset

Daily data for the 1961–2000 period derived from the S14FD forcing dataset were used as the baseline. Information on the errors associated with the AGCM was derived using a single member of the factual simulations (labeled “HPB\_m001” in the d4PDF database), and the same error information was applied to the other ensemble members of the factual and counterfactual simulations.

### 8.1.2 Data Source

Data Source Citation Name	Description of derived parameters and processing techniques used
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## 8.2 Data Processing (2)

### 8.2.1 General Explanation of the data producer's knowledge about the lineage of a dataset

Dr. Shiogama, the National Institute for Environmental Studies, who is creating the original data, reported that the pre-correction file of the ground pressure data of HPB\_m063 was damaged and that recalculation with the atmospheric model was carried out. We corrected the biased correction of recalculated barometric pressure data. HPB\_m063/pressfc.zip (2018/09/06)

### 8.2.2 Data Source

Data Source Citation Name	Description of derived parameters and processing techniques used
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## 9. DATA REMARKS

## 10. DATA POLICY

### 10.1 Data Policy by the Data Provider

It is requested to cite the reference (Iizumi et al., 2018) when the dataset is used.

### 10.2 Data Policy by the Project

#### 10.2.1 Data Integration and Analysis System

If data provider does not have data policy, DIAS Terms of Service (<https://diasjp.net/en/terms/>) and DIAS Privacy Policy (<https://diasjp.net/en/privacy/>) apply.

If there is a conflict between DIAS Terms of Service and data provider's policy, the data provider's policy shall prevail.

## 11. LICENSE

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## 12. DATA SOURCE ACKNOWLEDGEMENT

### 12.1 Acknowledge the Data Provider

The original d4PDF database was produced under the SOUSEI programme sponsored by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT).

### 12.2 Acknowledge the Project

#### 12.2.1 Data Integration and Analysis System

If you plan to use this dataset for a conference presentation, paper, journal article, or report etc., please include acknowledgments referred to following examples. If the data provider describes examples of acknowledgments, include them as well.

” In this study, [Name of Dataset] provided by [Name of Data Provider] was utilized. This dataset was also collected and provided under the Data Integration and Analysis System (DIAS), which was developed and operated by a project supported by the Ministry of Education, Culture, Sports, Science and Technology. ”

## 13. REFERENCES

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