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# Bias corrected climate scenarios over Japan based on CDFDM method using CMIP6

## 1. IDENTIFICATION INFORMATION

Name	Bias corrected climate scenarios over Japan based on CDFDM method using CMIP6
Edition	Ver. 1
Abbreviation	NIES2020
DOI	doi:10.17595/20210501.001 [ <a href="https://doi.org/10.17595/20210501.001">https://doi.org/10.17595/20210501.001</a> ]
Metadata Identifier	NIES2020_jpnCDFDM_CMIP620230727104021-DIAS20221121113753-en

## 2. CONTACT

### 2.1 CONTACT on DATASET

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### 2.2 CONTACT on PROJECT

#### 2.2.1 Data Integration and Analysis System

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## 3. DOCUMENT AUTHOR

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## 4. DATASET CREATOR

Name	Noriko N. Ishizaki
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## 5. DATE OF THIS DOCUMENT

2023-07-27

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## 6. DATE OF DATASET

publication : 2021-05-01

## 7. DATASET OVERVIEW

### 7.1 Abstract

This dataset is bias corrected climate scenarios over Japan with the spatial resolution 1km using CMIP6. Five GCMs were selected from CMIP6; MIROC6, MRI-ESM2-0, ACCESS-CM2, IPSL-CM6A-LR, MPI-ESM1-2-HR. Regarding the GHGs emission pathways, SSP1-RCP2.6, SSP2-RCP4.5, and SSP5-RCP8.5 were used. CDFDM proposed by Iizumi et al. (2010; 2011; 2012; 2014; 2017) was modified so that the model is constructed within each month. Daily data for eight variables (daily mean, max, min temperature, precipitation, global solar radiation, downward longwave radiation, wind speed, and relative humidity) are available from 1900 to 2100. The abbreviations of the variables in the download page are tas [degree C], tasmax [degree C], tasmin [degree C], pr [mm/day], rsds [MJ/m2/day], rlds [MJ/m2/day], sfcwind [m/s], and rhs [%], respectively.

### 7.2 Topic Category(ISO19139)

climatologyMeteorologyAtmosphere

### 7.3 Temporal Extent

Begin Date	1900-01-01
End Date	2100-12-31
Temporal Characteristics	Daily

### 7.4 Geographic Bounding Box

North latitude bound	46
West longitude bound	122
Eastbound longitude	146
South latitude bound	24

### 7.5 Grid

Dimension Name	Dimension Size (slice number of the dimension)	Resolution Unit
row	1920	1 (km)
column	2640	1 (km)

### 7.6 Geographic Description

## 7.7 Keywords

### 7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
discipline	Climate scenario, Bias adjustment, CDFDM, Impact assessment, CMIP6	Bias correction

### 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

: <https://www.nies.go.jp/doi/10.17595/20210501.001.html>

File download : <https://data.diasjp.net/dl/storages/filelist/dataset:654>

## 7.9 Data Environmental Information

## 7.10 Distribution Information

name	version	specification
netCDF	netCDF4	

# 8. DATA PROCESSING

## 8.1 Data Processing (1)

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

Bias correction using modified CDFDM method was applied to the 5 selected GCMs from CMIP6. The CDF for the calibration period was conducted in each month. Daily observational data from 1980 to 2018 were utilized to maximize the reference period. Historical data for the GCM was composed of 1980–2014 from the historical run and 2015–2018 from the SSP585 run for each GCM. As a reference data, we used the Agro-Meteorological Grid Square Data (Ohno et al. 2016). Data formats were based on the Gregorian calendar. Linear trend was preserved for the daily mean, max, and minimum temperature and downward longwave radiation.

### 8.1.2 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

The User should not re-distribute the data to third party. The User may publish new intellectual products (hereafter "Products") based on this data set.

When publishing any Products based on the present data set, it must be clearly stated that the present data set was used.

However, the Author may request the User to delete the citation from the Product. In that case, the User shall comply with the request within reasonable extent.

The Author and the Data Provider shall not have any liability or responsibility whatsoever for any damage that may arise from the use of this data set, and the User must not imply that any guarantee is provided by the Author or the Data Provider. Any injury or loss arising from the use of this data set is solely the responsibility of the User.

### 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

## 12. DATA SOURCE ACKNOWLEDGEMENT

### 12.1 Acknowledge the Data Provider

When this data set is referred to in publications, it should be cited in the following format.

Ishizaki, N. N., 2021: Bias corrected climate scenarios over Japan based on CDFM method using CMIP6, Ver.x.x\*1, NIES, doi:10.17595/20210501.001, (Reference date\*2: YYYY/MM/DD)

\*1 Please indicate the version number you used the data.

\*2 As the reference date, please indicate the date you downloaded the files.

### 12.2 Acknowledge the Project

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### 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

Ishizaki, N. N., H. Shiogama, N. Hanasaki and K. Takahashi (2022) Development of CMIP6-based climate scenarios for Japan using statistical method and their applicability to heat-related impact studies. <https://doi.org/10.1029/2022EA002451>