



150-year continuous simulation with 60km AGCM and 20km NHRCM by TOUGOU program

1. IDENTIFICATION INFORMATION

Name	150-year continuous simulation with 60km AGCM and 20km NHRCM by TOUGOU program
DOI	doi:10.20783/DIAS.650 [https://doi.org/10.20783/DIAS.650]
Metadata Identifier	GCM60_NHRCM20_150yr_TOUGOU20230727103906-DIAS20221121113753-en

2. CONTACT

2.1 CONTACT on DATASET

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2.2.1 Data Integration and Analysis System

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5. DATE OF THIS DOCUMENT

2023-07-27

6. DATE OF DATASET

publication : 2022-11-1_

7. DATASET OVERVIEW

7.1 Abstract

This is the dataset simulated by high resolution atmospheric global climate model (AGCM) with 60km horizontal resolution, and dynamical downscaling to Japanese region by regional climate model (RCM) with 20km horizontal resolution. The dataset is continuous one from the middle of 20th century to the end of 21st century, consists of the past climate (4 members of initial value ensemble) and the future climate (4 emission scenarios of the RCP2.6/4.5/6.0/8.5).

The continuous high-resolution simulations enable to estimate how meteorological events change from the past to the end of the 21st century, and to estimate when changes due to global warming become more pronounced than natural variability.

7.2 Topic Category(IS019139)

climatologyMeteorologyAtmosphere

7.3 Temporal Extent

Begin Date	1950-01-01
End Date	2099-12-31
Temporal Characteristics	1/3/6/12 hourly, daily and monthly

7.4 Geographic Bounding Box

North latitude bound	48
West longitude bound	110
Eastbound longitude	160
South latitude bound	21

7.5 Grid

Dimension Name	Dimension Size (slice number of the dimension)	Resolution Unit
row		GCM:60, NHRCM:20 (km)
column		GCM:60, NHRCM:20 (km)

vertical	24	GCM:1000, 925, 850, 700, 600, 500, 400, 300, 250, 200, 150, 100, 70, 50, 30, 20, 15, 10, 7, 5, 3, 2, 1, 0.5 (hPa)
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7.6 Geographic Description

7.7 Keywords

7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
theme	GLOBAL CHANGE > Global climate models, GLOBAL CHANGE > Regional climate change	AGU
theme	ATMOSPHERIC PROCESSES > Global climate models, ATMOSPHERIC PROCESSES > Regional modeling	AGU

7.7.2 Keywords on Project

7.7.2.1 Data Integration and Analysis System

Keyword Type	Keyword	Keyword thesaurus Name
theme	DIAS > Data Integration and Analysis System	No_Dictionary

7.8 Online Resource

file download : <https://data.diasjp.net/dl/storages/filelist/dataset:650>

7.9 Data Environmental Information

GCM60/ 60km global model output HPD, HPD_m01 - m04 historical simulation (1950-2014) initial-value ensemble HFD_HighResMIP RCP8.5 scenario simulation (2015-2099, after HPD) HFD_rcp26 RCP2.6 scenario simulation (2015-2099, after HPD_m01) HFD_rcp45 RCP2.6 scenario simulation (2015-2099, after HPD_m02) HFD_rcp60 RCP2.6 scenario simulation (2015-2099, after HPD_m03) NHRCM20/ 20km regional model output RCP2.6/ downscaling from HPD_m01,HFD_rcp26 RCP4.5/ downscaling from HPD_m02,HFD_rcp45 RCP6.0/ downscaling from HPD_m03,HFD_rcp60 RCP8.5/ downscaling from HPD,HFD_HighResMIP Note that HPD and HFD_HighResMIP of GCM60 are the same as "highresSST-present" and "highresSST-future" experiments with MRI-AGCM3-2-H published at the CMIP6 archive.

7.10 Distribution Information

name	version	specification
binary	N/A	binary with grads control files
grib	1	

8. DATA PROCESSING

9. DATA REMARKS

10. DATA POLICY

10.1 Data Policy by the Data Provider

This dataset was produced by Meteorological Research Institute of Japan Meteorological Agency, under the support of the Integrated Research Program for Advancing Climate Models (TOUGOU, FY2017–2021) and the Data Integration and Analysis System (DIAS), funded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). The Earth Simulator was used for building up the dataset. Users can access the dataset via the data server maintained by DIAS.

Terms and Conditions:

1. Individual users must register their name, affiliation, email-address and purpose of use before access to the database will be permitted.
2. Individual users should not redistribute the data to any third party.
3. The source of the database should be duly acknowledged in scientific and technical papers, publications, press releases and other communications in case of using the data.

Example:

This study used data produced with the Earth Simulator by the Integrated Research Program for Advancing Climate Models (TOUGOU) from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan.

Disclaimer:

Meteorological Research Institute of Japan Meteorological Agency is not responsible for any damage that may result from the use of this dataset. The intellectual property rights of the dataset belong exclusively to Meteorological Research Institute of Japan Meteorological Agency.

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

This study used data produced with the Earth Simulator by the Integrated Research Program for Advancing Climate Models (TOUGOU) from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan.

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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