DIAS database for Policy Decision making for Future climate change (atmospheric GCM over the Globe)

1. IDENTIFICATION INFORMATION

Name	database for Policy Decision making for Future climate change (atmospheric GCM over the Globe)
Abbreviation	d4PDF_GCM
Metadata Identifier	d4PDF_GCM20220304162131-DIAS20220214155649-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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5. DATE OF THIS DOCUMENT

2022-03-04

6. DATE OF DATASET

publication : 2015-12-21

7. DATASET OVERVIEW

7.1 Abstract

(1) This is the dataset simulated by high resolution atmospheric model of which horizontal resolution is 60km-mesh over the globe (GCM), and 20km over Japan and surroundings (RCM), respetively. The climate of the latter half of the 20th century is simulated for 6000 years (3000 years for the Japan area), and the climates 1.5 K (*2), 2 K (*1) and 4 K warmer than the pre-industrial climate are simulated for 1566, 3240 and 5400 years, respectivley, to see the effect of global warming.

(2) Huge number of ensembles enable not only with statistics but also with high accuracy to estimate the future change of extreme events such as typoons and localized torrential downpours. In addtion, this dataset provides the highly reliable information on the impact of natural disasters due to climate change on future societies.

(3) This dataset provides the climate projections which adaptations against global warming are based on in various fields, for example, disaster prevention, urban planning, environmetal protection, and so on. It would realize the global warming adaptations consistent not only among issues but also among regions.

(4) Total size of this dataset is 3 PB (3 x the 15th power of 10 bytes).

(*1) Datasets of the climates 2K warmer than the pre-industorial climate is available on 10th August, 2018.

(*2) Datasets of the climates 1.5K warmer than the pre-industorial climate is available on 8th February, 2022.

7.2 Topic Category(ISO19139)

climatologyMeteorologyAtmosphere

7.3 Temporal Extent

Begin Date	1951-01-01
End Date	2011-12-31
Temporal Characteristics	1/3/6/12 hourly, daily and monthly

7.4 Geographic Bounding Box

North bound latitude	90
West bound longitude	0

Eastbound longitude	360
South bound latitude	-90

7.5 Grid

Dimension Name	Dimension Size (slice number of the dimension)	Resolution Unit
row	640	0.5625 (deg)
column	320	TL319 gaussian grid (deg)
vertical	24	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)

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 > Impacts of global change, GLOBAL CHANGE > Regional climate change	AGU
theme	Models > GCM	GCMD_platform

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

Data Download Site of the DIAS (in Japanese) : http://d4pdf.diasjp.net/d4PDF.cgi?target=GCM&lang=ja

Data Download Site of the DIAS (in English) : http://d4pdf.diasjp.net/d4PDF.cgi?target=GCM&lang=en

d4PDF home page (in Japanese) : https://www.miroc-gcm.jp/d4PDF/

d4PDF home page (in English) : https://www.miroc-gcm.jp/d4PDF/index_en.html

d4PDF home page (in Japanese) [Mirror1] : http://www.coast.dpri.kyoto-u.ac.jp/d4PDF/

d4PDF home page (in English) [Mirror1] : http://www.coast.dpri.kyoto-u.ac.jp/d4PDF/index_en.html

d4PDF home page (in Japanese) [Mirror2] : https://climate.mri-jma.go.jp/d4PDF

d4PDF home page (in English) [Mirror2] : https://climate.mri-jma.go.jp/d4PDF/index_en.html

7.9 Data Environmental Information

7.10 Distribution Information

name	version	specification
grib	1	

8. DATA PROCESSING

9. DATA REMARKS

10. DATA POLICY

10.1 Data Policy by the Data Provider

DATA RELEASE POLICY OF DATABASE FOR POLICY DECISION MAKING FOR FUTURE CLIMATE CHANGE (d4PDF)

The database called d4PDF (database for Policy Decision making for Future climate change) was produced by the joint project of Meteorological Research Institute of Japan Meteorological Agency, Atmosphere and Ocean Research Institute of University of Tokyo, Disaster Prevention Research Institute of Kyoto University, National Institute of Environmental Study, Japan Agency for Marine-Earth Science and Technology (JAMSTEC), and University of Tsukuba, under the support of the Program for Risk Information on Climate Change (SOUSEI, FY2012-2016), the Social Implementation Program on Climate Change Adaptation Technology (SI-CAT, FY2015-2019), 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 database under "Strategic Project with Special Support" of JAMSTEC. Users can access d4PDF 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 the database for policy decision making for future climate change (d4PDF) which was produced with the Earth Simulator under corporations among science programs (SOUSEI, TOUGOU, SI-CAT, DIAS) sponsored by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan.

4. Individual users provide the joint project members (email to d4pdf-support@jamstec.go.jp) a copy of their scientific or technical papers, publications, press releases or other communications in case of using the data (recommended).

Disclaimer

The joint project members are not responsible for any damage that may result from their use.

Intellectual property

The intellectual property rights of the database belong exclusively to the joint project members.

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/policy/) and DIAS Privacy Policy (https://diasjp.net/en/privacypolicy/) 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 d4PDF produced with the Earth Simulator jointly by science programs (SOUSEI, TOUGOU, SI-CAT, DIAS) of 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