d4PDF tropical cyclone track dataset

1. IDENTIFICATION INFORMATION

Name	d4PDF tropical cyclone track dataset
DOI	doi:10.20783/DIAS.640 [https://doi.org/10.20783/DIAS.640]
Metadata Identifier	d4PDF_tropical_cyclone20230727103351-DIAS20221121113753-en

2. CONTACT

2.1 CONTACT on DATASET

Name	Tomoya Shimura
Organization	Disaster Prevention Research Institute, Kyoto University
E-mail	dias@oceanwave.jp

2.2 CONTACT on PROJECT

2.2.1 Data Integration and Analysis System

Name	DIAS Office
Organization	Japan Agency for Marine-Earth Science and Technology
Address	3173-25, Showa-Cho, Kanazawa-ku, Yokohama-shi, Kanagawa, 236-0001, Japan
E-mail	dias-office@diasjp.net

3. DOCUMENT AUTHOR

Name	Tomoya Shimura
Organization	Integrated Climate Model Advanced Research Program (TOUGOU Program)

4. DATASET CREATOR

Name	Adrean Webb
Organization	Integrated Climate Model Advanced Research Program (TOUGOU Program)

5. DATE OF THIS DOCUMENT

2023-07-27

6. DATE OF DATASET

publication : 2022-02-01

7. DATASET OVERVIEW

7.1 Abstract

1) Global tropiocal cyclone dataset created from "database for Policy Decision making for Future climate change (d4PDF)" using the objective cyclone tracking algorithm. The 6000 years amount data for historical climate and 5400 years amount data for 4 degree warming future, were used.

2) Two different objective cyclone tracking algorithm were applied and the each dataset is provided, respectively.

3) Source dataset (d4PDF dataset) of this dataset can be obtained from http://search.diasjp.net/en/dataset/d4PDF_GCM .

4) This dataset can be useful for meteorological disaster risk assessment under climate change due to tropical cyclones.

7.2 Topic Category(ISO19139)

climatologyMeteorologyAtmosphere

7.3 Temporal Extent

Begin Date	1951-01-01
End Date	2110-12-31

7.4 Geographic Bounding Box

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

7.5 Grid

7.6 Geographic Description

7.7 Keywords

7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
theme	Atmosphere > Atmospheric Pressure > Anticyclones/Cyclones, Climate Indicators > Atmospheric/Ocean Indicators > Extreme Weather > Tropical Or Extratropical Cyclone Frequency/ Intensity	GCMD_science
theme	GLOBAL CHANGE > Impacts of global change	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:640

7.9 Data Environmental Information

The file naming is as follows. Historical climate: {algorithm}_HPB_m{number}.nc ・{algorithm} is the TC tracking algorithm from KU (Webb et al., 2019) and MRI (Yoshida et al., 2017) ・{number} is the number of ensemble member. Future climate: {algorithm}_HFB_4K_{SST}_m{number}.nc ・{algorithm} is the TC tracking algorithm from KU (Webb et al., 2019) and MRI (Yoshida et al., 2017) ・{SST} is the future SST condition from CC, GF, HA, MI, MP, and MR. ・{number} is the number of ensemble member.

7.10 Distribution Information

name	version	specification

8. DATA PROCESSING

9. DATA REMARKS

10. DATA POLICY

10.1 Data Policy by the Data Provider

Data Policy:

1. Individual users should not redistribute the data to any third party.

2. The source of the database should be acknowledged in scientific and technical papers, publications, press releases and other communications in case of using the data.

3. This dataset can be used for non-commercial purposes. For commercial use of this dataset, the prior explicit permission of the data provider must be obtained.

Disclaimer:

The intellectual property rights of the dataset belong exclusively to Disaster Prevention Research Institute, Kyoto university and Meteorological Research Institute of Japan Meteorological Agency. Disaster Prevention Research Institute, Kyoto university and Meteorological Research Institute of Japan Meteorological Agency are not responsible for any damage that may result from the use of this dataset.

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

- In case that tracks by Webb et al. (2019) are used

"The track data is provided by Webb et al. (2019) based on d4PDF dataset (Mizuta et al. 2017)."

- In case that tracks by Yoshida et al. (2017) are used

"The track data is provided by Yoshida et al. (2017) based on d4PDF dataset (Mizuta et al. 2017)."

Please cite following references

Webb, A., T. Shimura and N. Mori (2019) Global Tropical Cyclone Track Detection and Analysis of the d4PDF Mega-ensemble Projection, Journal of Japan Society of Civil Engineers, Ser. B2 (Coastal Engineering), 75, p. I_1207-I_1212. https://doi.org/10.2208/kaigan.75.I_1207

Yoshida, K., M. Sugi, R. Mizuta, H. Murakami and M. Ishii (2017). Future changes in tropical cyclone activity in high‐resolution large‐ensemble simulations. Geophysical Research Letters, 44(19), 9910-9917. https://doi.org/10.1002/2017GL075058

Mizuta, R., A. Murata, M. Ishii, H. Shiogama, K. Hibino, N. Mori, O. Arakawa, Y. Imada, K. Yoshida, T. Aoyagi, H. Kawase, M. Mori, Y. Okada, T. Shimura, T. Nagatomo, M. Ikeda, H. Endo, M. Nosaka, M. Arai, C. Takahashi, K. Tanaka, T. Takemi, Y. Tachikawa, K. Temur, Y. Kamae, M. Watanabe, H. Sasaki, A. Kitoh, I. Takayabu, E. Nakakita, M. Kimoto (2017) Over 5000 years of ensemble future climate simulations by 60 km global and 20 km regional atmospheric models, The Bulletin of the American Meteorological Society (BAMS), July, pp.1383-1398. https://doi.org/10.1175/BAMS-D-16-0099.1

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

Webb, A., T. Shimura and N. Mori (2019) Global Tropical Cyclone Track Detection and Analysis of the d4PDF Mega-ensemble Projection, Journal of Japan Society of Civil Engineers, Ser. B2 (Coastal Engineering), 75, p. I_1207-I_1212. https://doi.org/10.2208/kaigan.75.I_1207

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