



# Integrated Research Program for Advancing Climate Models (TOUGOU Program) CMIP6 simulation data by Global Climate Model MIROC-ES2L: CMIP

## 1. IDENTIFICATION INFORMATION

Name	Integrated Research Program for Advancing Climate Models (TOUGOU Program) CMIP6 simulation data by Global Climate Model MIROC-ES2L: CMIP
Abbreviation	CMIP6. CMIP. MIROC. MIROC-ES2L
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Metadata Identifier	CMIP6_MIROC_ES2L_CMIP20230727095641-en

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## 5. DATE OF THIS DOCUMENT

2023-07-27

## 6. DATE OF DATASET

revision : 2020-07-31

## 7. DATASET OVERVIEW

### 7.1 Abstract

"Integrated Research Program for Advancing Climate Models" ("TOUGOU Program") is a five-year project being implemented by the Ministry of Education, Culture, Sports, Science and Technology ("MEXT") from FY2017 to FY2021 with the primary objective of elucidating the mechanisms of climate change and generating information on climate change projections through the development of climate models that will form the basis for all climate change countermeasures.

The TOUGOU Program consists of four research themes. The objectives of the theme A is to actively participate in the coupled model intercomparison project phase 6 (CMIP6) by using the global climate models developed in the previous programs, and to carry out many original climate model simulations to generate the forecast information necessary for the formulation of near-future adaptation and mitigation measures. Theme B aims to, such as, more precisely estimate CO2 emissions by using the Earth System Model (ESM), a climate model that incorporates biological and chemical processes into the global climate model.

This dataset contains the results of the CMIP (DECK experiments) by MIROC-ES2L, among the various simulations for CMIP6 that have been carried out in this TOUGOU Program using the global climate models and the Earth system models developed in Japan.

This work was supported by the Integrated Research Program for Advancing Climate Models (TOUGOU) Grant Number JPMXD0717935715 from the Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan.

All CMIP6 data are collected, managed and published by the Earth System Grid Federation (ESGF), and DIAS serves as one node of the ESGF. All public datasets, including this dataset, are available from ESGF. Please refer to the CMIP6 Guidance for Data Users (link below) for information on the use of these datasets, including this dataset.

### 7.2 Topic Category(IS019139)

climatologyMeteorologyAtmosphere

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## 7.3 Temporal Extent

Begin Date	1850-01-01
End Date	2350-01-01

## 7.4 Geographic Bounding Box

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

## 7.5 Grid

## 7.6 Geographic Description

## 7.7 Keywords

### 7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
theme	Climate	GEOSS

### 7.7.2 Keywords on Project

## 7.8 Online Resource

DOI landing page, Citation information : <https://doi.org/10.22033/ESGF/CMIP6.902>

TOUGOU Program Web site : <http://www.jamstec.go.jp/tougou/program/index.html>

CMIP6 Project Web site : <https://pcmdi.llnl.gov/CMIP6>

CMIP6 Terms of Use : <https://pcmdi.llnl.gov/CMIP6/TermsOfUse>

CMIP6 Guidance for Data Users : <https://pcmdi.llnl.gov/CMIP6/Guide/dataUsers.html>

MIP Description : <https://search.es-doc.org/>

Model Information : <https://explore.es-doc.org/cmip6/models/miroc/miroc-es21>

ESGF, Search Variables (in DKRZ) : <http://esgf-data.dkrz.de/search/cmip6-dkrz>

ESGF, Search Variables (in LLNL) : <http://esgf-node.llnl.gov/search/cmip6>

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Errata Information : <https://errata.es-doc.org/>

## 7.9 Data Environmental Information

## 7.10 Distribution Information

name	version	specification
netCDF	classic	CF Convention

## 8. DATA PROCESSING

## 9. DATA REMARKS

## 10. DATA POLICY

### 10.1 Data Policy by the Data Provider

This dataset is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0).

See "CMIP6 Guidance for Data Users" for the detailed information.

<https://pcmdi.llnl.gov/CMIP6/Guide/dataUsers.html>

### 10.2 Data Policy by the Project

## 11. LICENSE

## 12. DATA SOURCE ACKNOWLEDGEMENT

### 12.1 Acknowledge the Data Provider

Cite this dataset as:

Hajima, Tomohiro; Abe, Manabu; Arakawa, Osamu; Suzuki, Tatsuo; Komuro, Yoshiki; Ogura, Tomoo; Ogochi, Koji; Watanabe, Michio; Yamamoto, Akitomo; Tatebe, Hiroaki; Noguchi, Maki A.; Ohgaito, Rumi; Ito, Akinori; Yamazaki, Dai; Ito, Akihiko; Takata, Kumiko; Watanabe, Shingo; Kawamiya, Michio; Tachiiri, Kaoru (2019). MIROC MIROC-ES2L model output prepared for CMIP6 CMIP. Version YYYYMMDD[1].Earth System Grid Federation. <https://doi.org/10.22033/ESGF/CMIP6.902>

[1] Please use the latest dataset version or if not available the latest data download date as version in your data citation.

For acknowledgement, see CMIP6 Terms of Use.

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## 12.2 Acknowledge the Project

# 13. REFERENCES

Hajima, T., Watanabe, M., Yamamoto, A., Tatebe, H., Noguchi, M. A., Abe, M., Ohgaito, R., Ito, A., Yamazaki, D., Okajima, H., Ito, A., Takata, K., Ogochi, K., Watanabe, S., and Kawamiya, M.: Development of the MIROC-ES2L Earth system model and the evaluation of biogeochemical processes and feedbacks, *Geosci. Model Dev.*, 13, 2197–2244, <https://doi.org/10.5194/gmd-13-2197-2020>, 2020.