



# CEOP Model Output for 3D Gridded data

## 1. IDENTIFICATION INFORMATION

Name	CEOP Model Output for 3D Gridded data
Abbreviation	Coordinated Energy and Water-Cycle Observation Project Model Output 3D Gridded data
Metadata Identifier	CEOP_Model_Grid20230727080116-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

Name	DIAS Office
Organization	Japan Agency for Marine-Earth Science and Technology
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## 3. DOCUMENT AUTHOR

Name	Michael Lautenschlager
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## 4. DATASET CREATOR

Name	BoM: Bureau of Meteorology
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Name	CPTEC: Centro de Previsao de Tempo e Estudos Climaticos
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Name	ECMWF: European Centre for Medium-Range Weather Forecasts
Name	ECPC: Experimental Climate Prediction Center
Organization	ECPC: Experimental Climate Prediction Center
Name	EMC: EPSON Meteo Center (Centro EPSON Meteo)
Name	GLDAS: Global Land Data Assimilation System
Name	GMAO: NASA Global Modeling and Assimilation Office
Name	JMA: Japan Meteorological Agency
Name	MSC: Meteorological Service Canada
Name	NCEP: National Centers for Environmental Prediction
Name	NCMRWF: National Center for Medium Range Weather Forecasting
Name	UKMO: UK Met Office

## 5. DATE OF THIS DOCUMENT

2023-07-27

## 6. DATE OF DATASET

publication : 2010-03-26

## 7. DATASET OVERVIEW

### 7.1 Abstract

Ten operational Numerical Weather Prediction (NWP) and two data assimilation centers are currently contributing analysis/assimilation and forecast model products from global and regional NWP suites, including both operational and reanalysis systems to this component of CEOP. The contributing centers include:

BoM: Bureau of Meteorology

CPTEC: Centro de Previsao de Tempo e Estudos Climaticos

ECMWF: European Centre for Medium-Range Weather Forecasts

ECPC: Experimental Climate Prediction Center

EMC: EPSON Meteo Center (Centro EPSON Meteo)

GLDAS: Global Land Data Assimilation System

GMAO: NASA Global Modeling and Assimilation Office

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JMA: Japan Meteorological Agency

MSC: Meteorological Service Canada

NCEP: National Centers for Environmental Prediction

NCMRWF: National Center for Medium Range Weather Forecasting

UKMO: UK Met Office

The Max-Planck Institute for Meteorology (MPIM) in coordination with the ICSU World Data Center for Climate (WDCC) in Hamburg, Germany was designated as the CEOP model output archive center. The WDCC is administered by the Model and Data Group (M&D) at MPIM and the German Climate Computing Center (DKRZ).

To assist with the organization of this activity during the Coordinated Enhanced Observing Period ('CEOP'), a Model Output Management Document was drafted as a guide for the participating centers to use in setting up their processes for meeting their commitments to 'CEOP'. The Guidance Document addressed the two issues of (1) the model output variables requested by 'CEOP' and (2) the two types of requested model output, namely global gridded (in GRIB format) and site-specific Model Output Location Time Series (MOLTS) at each of the 'CEOP' Reference Sites.

A new version of the Guidance Document will be compiled that clarifies what model output data will be generated by the NWP Centers and Groups contributing to the model output component of Coordinated Energy and Water Cycle Observations Project (CEOP) and how they will interface/transfer the data that will be handled and retained at the WDCC. The issues covered in the document will include: (1) global versus regional products; (2) desired assimilation output; Interval and length of free-running forecasts; (3) Operational versus reanalysis data; (4) the CEOP schedule/archive periods; (5) the number and locations of MOLTS sites; and (6) the homogenizing of the model output and metadata formats (i.e. standard parameters).

Results up to this point in the CEOP model output generation effort make it clear that the transfer aspect of the data handling effort has been progressing well. Data from all twelve Centers participating in CEOP have been received at the data archive center and has either been placed into the database at the Hamburg facility, or is in the process of being entered into the database. The current data holdings in the MPIM archive can be viewed [http://www.mad.zmaw.de/fileadmin/extern/wdc/ceop/Data\\_timeline\\_L\\_12.pdf](http://www.mad.zmaw.de/fileadmin/extern/wdc/ceop/Data_timeline_L_12.pdf).

## 7.2 Topic Category(IS019139)

climatologyMeteorologyAtmosphere

## 7.3 Temporal Extent

Begin Date	2001-07-01
End Date	2004-12-31
Temporal Characteristics	Depends on each NWPCs (Hourly, 3hourly, 6hourly, etc.) please see <a href="http://www.eol.ucar.edu/projects/ceop/dm/model/model_table.html">http://www.eol.ucar.edu/projects/ceop/dm/model/model_table.html</a> for more detail

## 7.4 Geographic Bounding Box

North latitude bound	90
West longitude bound	-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	Climate	GEOSS

### 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

CEOP : <http://www.ceop.net/>

CEOP Model Output Archive : <http://www.eol.ucar.edu/projects/ceop/dm/model/>

CEOP Model Output Data Gateway : <http://ceop.wdc-climate.de>

BMRC : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#bom](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#bom)

CPTEC : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#cptec](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#cptec)

ECMWF : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#ecmwf](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#ecmwf)

ECPC : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#ecpc](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#ecpc)

GLDAS : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#gldas](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#gldas)

GMAO : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#gmao](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#gmao)

JMA : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#jma](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#jma)

MSC : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#msc](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#msc)

NCEP : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#ncep](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#ncep)

NCMRWF : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#ncmrwf](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#ncmrwf)

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UK Met Office : [http://www.eol.ucar.edu/projects/ceop/dm/model/model\\_chars.html#ukmo](http://www.eol.ucar.edu/projects/ceop/dm/model/model_chars.html#ukmo)

EMC : available soon

## 7.9 Data Environmental Information

## 7.10 Distribution Information

name	version	specification
grib	no information	

# 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

### 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

## 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

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## 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

BMRC

Seaman, R. W. Bourke, P. Steinle, T. Hart,, G. Embery, M. Naughton, and L. Rikus, 1995: Evolution of the Bureau of Meteorology’s global assimilation and prediction system. Part 1: analysis and initialisation. *Aust. Met. Mag.*, 44, 1-18.

Bourke, W., T. Hart, P. Steinle, R. Seaman, G. Embery, M. Naughton, and L. Rikus, 1995: Evolution of the Bureau of Meteorology global assimilation and prediction system. Part 2: resolution enhancements and case studies. *Aust. Met. Mag.*, 44, 19-40.

CPTEC

Cavalcanti IFA, Marengo JA, Satyamurty P, Nobre CA, Trosnikov I, Bonatti JP, Manzi AO, Tarasova T, Pezzi LP, D’Almeida C, Sampaio G, Castro CC, Sanches MB, Camargo L, 2002: Global climatological features in a simulation using the CPTEC-COLA AGCM. *J. Climate*, 15(21), 2965-2988

ECPC

Ruane, A.C., and J.O. Roads, 2007: The diurnal cycle of water and energy over the continental United States from three reanalyses. *J. Meteor. Soc. Jpn.* 85A, 117-143.

ECPC SFM

Kanamitsu, M., A. Kumar, H.-M. H. Juang, W. Wang, F. Yang, J. Schemm, S.-Y. Hong, P. Peng, W. Chen and M. Ji, 2002a: NCEP Dynamical Seasonal Forecast System 2000. *Bull. Amer. Met. Soc.*, 83, 1019-1037.

JMA

Japan Meteorological Agency, 2007: Outline of the operational numerical weather prediction at the Japan Meteorological Agency. Appendix to WMO numerical weather prediction progress report. available on <http://www.jma.go.jp/jma/jma-eng/jma-center/nwp/outline-nwp/index.htm>

MSC

For the atmospheric model GEM that was used for CEOP

C t J., S. Gravel, A. M thot, A. Patoine, M. Roch, and A. Staniforth, 1998a: The operational CMC-MRB global environmental multiscale (GEM) model. Part I: Design

considerations and formulation. *Mon. Wea. Rev.*, 126, 1373-1393.

For the particular configuration of the global system that was used for CEOP:

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B lair, S., J. Mailhot, C. Girard, and P. Vaillancourt, 2005: Boundary layer and shallow cumulus clouds in a medium-range forecast of large-scale weather system. *Mon. Wea. Rev.*, 133, 1938–1960.

B lair, S., M. Roch, A.-M. Leduc, P.A. Vaillancourt, S. Laroche, and J. Mailhot, 2008: Medium-range quantitative precipitation forecasts from Canada's new 33-km deterministic global operational system. *Wea. Forecasting* (conditionally accepted, but the revisions required are small).

#### NCEP\_GFS

Global Climate and Weather Modeling Branch, EMC, Camp Springs, Maryland, 2003: The GFS Atmospheric Model. NCEP Office Note 442, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, National Centers for Environmental Prediction, 4700 Silver Hill Road, Mail Stop 9910, Washington D.C. 20233-9910

#### UK Met Office

Milton SF, Earnshaw P, 2007: Evaluation of surface water and energy >> cycles in the Met Office global NWP model using CEOP data. *JMSJ*, 85A, >> 43–72