

1. IDENTIFICATION INFORMATION

Name	FORA-WNP30
Edition	1.0
Metadata Identifier	FORA_WNP30_JAMSTEC_MRI20230727073902-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

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Name	Meteorological Research Institute
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5. DATE OF THIS DOCUMENT

2023-07-27

6. DATE OF DATASET

publication : 2016-01-20

7. DATASET OVERVIEW

7.1 Abstract

Four-dimensional Variational Ocean ReAnalysis for the Western North Pacific (FORA-WNP30) is the first-ever dataset covering the western North Pacific over the last three decades (1982-2014) at eddy-resolving resolution. This is the cooperative work of Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and Meteorological Research Institute, Japan Meteorological Agency (JMA/MRI) using the Earth Simulator.

FORA-WNP30 was produced by using MRI Multivariate Ocean Variational Estimation system, version of 4-dimensional variational method (MOVE-4DVAR; Usui et al. 2015), the data assimilation system developed by the JMA/MRI. MOVE-4DVAR uses MRI.COM-WNP (Tsujino et al. 2006), eddy-resolving ocean model for Western North Pacific developed by JMA/MRI, as the forward model of ocean and sea ice.

The settings of the assimilation system are as follows:

- Ocean and sea ice model
- * Domain: 117° E-160° W, 15° N-65° N
- * Horizontal resolution: 1/10° (1/6° east of 160° E) longitude × 1/10° (1/6° north of 50° N) latitude
- * Number of vertical levels: 54 levels (0-6300m)
- Assimilation method
- * Ocean: 4-dimensional variational method
- * Sea ice: objective analysis by minimum variance estimation and nudging
- * Assimilation cycle: 3 cycles in a month (day 1 to 10, 11 to 20, 21 to the end of month in each month), sea ice is nudged to the daily analysis.
- Assimilated observation
- * In situ temperature and salinity profiles from WOD2013 and GTSPP (0-1500m)
- * Gridded SST made by merging satellite and in situ observations (MGDSST; Kurihara et al., 2006 [in Japanese])
- * SLA by satellites (TOPEX/Poseidon, Jason-1/2, ERS-1/2, Envisat, GFO, Cryosat)
- * SSM/I sea ice concentration data
- Atmospheric forcing
- * daily-mean of JRA-55 (Kobayashi et al., 2015)
- Analysis period
- * Jan. 1, 1982 to Dec. 31, 2014

7.2 Topic Category(ISO19139)

oceans

environment

7.3 Temporal Extent

Begin Date	1982-01-01
End Date	2014-12-31
Temporal Characteristics	Daily

7.4 Geographic Bounding Box

North latitude bound	65
West longitude bound	116.8
Eastbound longitude	200.25
South latitude bound	14.8

7.5 Grid

Dimension Name	Dimension Size (slice number of the dimension)	Resolution Unit
row	673	6 (minute)
column	442	6 (minute)
vertical	54	(m)

7.6 Geographic Description

7.7 Keywords

7.7.1 Keywords on Dataset

Keyword Type	Keyword	Keyword thesaurus Name
theme	Oceans > Ocean Circulation > Eddies, Oceans > Ocean Circulation > Ocean Currents, Oceans > Ocean Circulation > Wind-driven Circulation	GCMD_science
theme	Models > GCM	GCMD_platform
theme	Climate, Weather	GEOSS

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

: <http://synthesis.jamstec.go.jp/FORA/index.html>

Data Download from the DIAS : <https://data.diasjp.net/dl/storages/filelist/dataset:269>

7.9 Data Environmental Information

7.10 Distribution Information

name	version	specification
netCDF	1.0	CF-1.6

8. DATA PROCESSING

9. DATA REMARKS

10. DATA POLICY

10.1 Data Policy by the Data Provider

1. The dataset is available for free for scientific and educational purposes. If you wish to use the dataset for non-scientific or non-educational purposes, please inform us in advance and follow our instructions.

2. The source of the dataset should be accordingly acknowledged and the article below should also be referred in scientific or technical papers, publications, press releases or other communications regarding the dataset.

Usui et al., 2016, Four-dimensional Variational Ocean Reanalysis: A 30-year high-resolution dataset in the western North Pacific (FORA-WNP30). *J. Oceanogr.*, submitted.

3. Users should provide JAMSTEC/CEIST a copy or URI of their scientific or technical papers, publications, press releases or other communications regarding the dataset.

4. Users are not permitted to redistribute, deliver, or sell the dataset to public.

[Constraints and Disclaimer] 1. The copyright and intellectual property right of the dataset belong to JAMSTEC and JMA/MRI. Please note that although JAMSTEC and JMA/MRI have paid the close attention to produce the dataset, JAMSTEC and JMA/MRI assume no responsibility regarding the reliability of the dataset.

[Constraints and Disclaimer] 2. JAMSTEC and JMA/MRI are not responsible to users for any damage that may be caused by the use of the 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

This study utilized the dataset 'Four-dimensional Variational Ocean Reanalysis for the western North Pacific' (FORA-WNP30), which was produced by Japan Agency for Marine-Science and Technology (JAMSTEC) and Meteorological Research Institute of Japan Meteorological Agency (JMA/MRI).

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

Usui, N., T. Wakamatsu, Y. Tanaka, N. Hirose, T. Toyoda, S. Nishikawa, Y. Fujii, Y. Takatsuki, H. Igarashi, H. Nishikawa, Y. Ishikawa, T. Kuragano and M. Kamachi. Four-dimensional Variational Ocean Reanalysis: A 30-year high-resolution dataset in the western North Pacific (FORA-WNP30).

Journal of Oceanography (submitted).