

NOAA WOD Dataset Acquisition

1. Search for the NOAA World Ocean Database (WOD):

<https://www.ncei.noaa.gov/products/world-ocean-database>



The World Ocean Database (WOD) is world's largest collection of uniformly formatted, quality controlled, publicly available ocean profile data. It is a powerful tool for oceanographic, climatic, and environmental research, and the end result of more than 20 years of coordinated efforts to incorporate data from institutions, agencies, individual researchers, and data recovery initiatives into a single database. WOD data spans from Captain Cook's 1772 voyage to the contemporary Argo period, making it a valuable resource for long term and historical ocean climate analysis. Original versions of the 20,000+ datasets in the WOD are available through the NCEI archives.

Data Access Documentation Quality Control Help

Access Methods

Use the WODselect retrieval system to search the WOD by specific parameters (date, geographic area, probe type, etc.) and measured variables. View a dataset distribution map and cast count of your search criteria, and download a custom dataset in WOD native, csv, or netCDF.

[Launch WODSelect](#) [WOD Updates](#)

WOD data is also accessible through interfaces that sort data geographically and by date in native ASCII format.

[Data by Location](#) [Data by Year](#)



2. Under Access Methods, select 'Launch WODSelect':

<https://www.ncei.noaa.gov/access/world-ocean-database-select/dbsearch.html>

WORLD OCEAN DATABASE SELECT AND SEARCH

The World Ocean Database (WOD) is a NOAA NCEI data product and an activity of the IODE (International Oceanographic Data and Information Exchange) as well as the World Data Service for Oceanography of the World Data System hosted at NCEI.

The WODselect web application enables users to retrieve and access the World Ocean Database data as well as quarterly updated/added new data by utilizing various search criteria specified by the user. The query results will provide a distribution map, cast count, and the option to select data formats such as WOD native (ascii), Comma Separated Value (.csv), or netCDF (.nc) based on customized search criteria. The data will be extracted and placed on the NCEI data server, and the data links will be provided in the user's email. More detailed information can be found in the [Introduction](#) to the WOD and [User's Manual](#).

To build a user defined search query:

1. Place check mark in front of any number of criteria.
2. Press the "Build a query" button.

(If any criteria below are not checked, the default will apply).

SEARCH CRITERIA: (definitions)	DEFAULT:
<input type="checkbox"/> Geographic Coordinates	- whole world
<input type="checkbox"/> Observation Dates - e.g., Year(s), Month(s), Day(s)	- all years/months/days
<input type="checkbox"/> Dataset - e.g., OSD, CTD, XBT	- all datasets
<input type="checkbox"/> Measured Variables - e.g., Temperature, Salinity, Nutrients	- all available variables
<input type="checkbox"/> Biology - e.g., Phytoplankton, Zooplankton	- all available plankton
<input type="checkbox"/> Deepest Measurement	- all depths
<input type="checkbox"/> Country	- all countries
<input type="checkbox"/> Ship/Platform	- all ships/platforms
<input type="checkbox"/> Cruise	- all cruises
<input type="checkbox"/> Accession #	- all accessions
<input type="checkbox"/> Project	- all projects
<input type="checkbox"/> Institute	- all institutes
<input type="checkbox"/> Data Exclusion Using WOD Quality Control Flags	- no exclusion
<input type="checkbox"/> Data Additions	- WOD23 released data

3. Select the Search Criteria Necessary for your dataset. In this project's case, select Geographic Coordinates, Observation Dates, Dataset, and Measured Variables

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SEARCH CRITERIA: (definitions)

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<input checked="" type="checkbox"/> Measured Variables - e.g., Temperature, Salinity, Nutrients	- all available variables
<input type="checkbox"/> Biology - e.g., Phytoplankton, Zooplankton	- all available plankton
<input type="checkbox"/> Deepest Measurement	- all depth
<input type="checkbox"/> Country	- all countries
<input type="checkbox"/> Ship/Platform	- all ships/platforms
<input type="checkbox"/> Cruise	- all cruises
<input type="checkbox"/> Accession #	- all accessions
<input type="checkbox"/> Project	- all projects
<input type="checkbox"/> Institute	- all institutes
<input type="checkbox"/> Data Exclusion Using WOD Quality Control Flags	- no exclusion
<input type="checkbox"/> Data Additions	- WOD23 released data

Build a query

Reset

4. You are then able to customize the chosen criteria. For this project: Geographic Coordinates were not limited to ensure as much coverage as possible, Observation Dates were filtered from 1990 to 2023, Datasets were limited to OSD and for Measured Variables, only Oxygen was selected.

OBSERVATION DATES:

(data gathered between Jan. 1773 - present)

Check if profiles taken in Months/Days for each years desired. (If unchecked, all profiles taken between (From) Year/Month/Day and (To) Year/Month/Day (inclusive) are desired). See [example](#)

	Year [YYYY]	Month [1-12]	Day [1-31]
From:	<input type="text" value="1990"/>	<input type="text"/>	<input type="text"/>
To:	<input type="text" value="2023"/>	<input type="text"/>	<input type="text"/>

DATASET:

Plankton data are only present in the OSD dataset.

Nutrient and chlorophyll data are only present in the OSD and SUR datasets.

*[Important note about BT bias corrections in WOD](#)

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- Ocean Station Data (OSD) [Bottle, low resolution CTD/XCTD, plankton data]
 - High Resolution CTD/XCTD (CTD)
 - Expendable Bathythermograph (XBT)
 - Mechanical Bathythermographs (MBT) [includes Digital Bathythermograph, μ BT]
 - Profiling Floats (PFL)
 - Drifting Buoys (DRB)
 - Moored Buoys (MRB) [TAO, PIRATA, others]
 - Autonomous Pinniped Bathythermographs (APB)
 - Undulating Oceanographic Recorder (UOR) [Towed CTD]
 - Surface-Only (SUR) [Bucket, Thermosalinograph]
 - Glider data (GLD)

MEASURED VARIABLES:

Column 1: Select variables to include in the extracted file if available in a cast. If no variables are marked in Column 1, the extracted data file will contain all available variables (default).

Column 2: Select variables that must all be present in a cast. Any variable marked in Column 2 will be in the extracted file even if not marked in Column 1.

ALL

1	2	Variable	WOD	Datasets where variables are stored
			unit/scale	More information about datasets, pdf (0.01 MB)
<input type="checkbox"/>	<input type="checkbox"/>	Temperature	°C	OSD, CTD, MBT, XBT, SUR, APB, MRB, PFL, UOR, DRB, GL
<input type="checkbox"/>	<input type="checkbox"/>	Salinity	unitless	OSD, CTD, SUR, APB, MRB, PFL, UOR, DRB, GLD
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Oxygen	μ mol/kg	OSD, CTD, PFL, UOR, GLD, DRB
<input type="checkbox"/>	<input type="checkbox"/>	Phosphate	μ mol/kg	OSD
<input type="checkbox"/>	<input type="checkbox"/>	Silicate	μ mol/kg	OSD
<input type="checkbox"/>	<input type="checkbox"/>	Nitrate and Nitrate+Nitrite	μ mol/kg	OSD, PFL

5. Then select ‘Get Inventory’ on the bottom. Only click this once

6. A summary of your data request will appear below. Select ‘Download Data’

COPY OF YOUR DATABASE SEARCH CRITERIA:

OBSERVATION DATES: Year from 1990 to 2023

DATASET: OSD

MEASURED VARIABLES (must): Oxygen

MEASURED VARIABLES (extract): Oxygen

QUERY RESULTS:[VIEW DATA DISTRIBUTION PLOT](#) [CRUISE LIST](#)*Please, CLICK ONLY ONCE, it may take a while before results are shown.***The cast count for your request is:**

282320 OSD casts

Full (expanded) file size estimate (163.5 MB)

Gzipped file size estimate (39.1 MB)

NOTE: the file size estimates are for the WOD native format*Data extractions will take approximately 2 hour(s)*[DOWNLOAD DATA](#)

- For Format, select the CSV format data and Standard Output. For Depth Level, select Observed Level Data and then fill out your Email Address and select ‘Extract Data’

DOWNLOAD DATA:**1. CHOOSE FORMAT** **WOD native ASCII format**

Ocean Data View supports WOD native format

- output example
- downloading and reading instructions

 Data from each selected instrument in separate file Data from all selected instruments together **Comma Delimited Value (CSV) format**

Ocean Data View does not support csv format

- output example
- downloading and reading instructions

 Standard output *CSV output definitions**netCDF format** single cast *more info

(available on observed levels only)

 ragged array *more info**2. CHOOSE DEPTH LEVEL** **Observed level data** *definition Standard level data *definition**3. CHOOSE FLAG TYPES**  **IQuOD** *definition

(flags, uncertainties, additional metadata)

 WOD flags *definition**4. CHOOSE XBT/MBT corrections** (not applicable for single cast netCDF format)[No corrections](#)[Info on XBT bias corrections](#)**5. EXTRACT DATA**Enter your **E-mail** address to [EXTRACT DATA](#)