contact@odatis-ocean.fr
www.odatis-ocean.fr

ODATIS
OCEAN DATA INFORMATION AND SERVICES

Atelier technique juin 2019
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ERDDAP à l'IFREMER

Dominique Briand

Sommaire

- Introduction à ERDDAP
- ERDDAP à l'IFREMER, pour Odatis
- Exemples d'utilisation

Qu'est ce qu'ERDDAP

- **E**nvironmental **R**esearch **D**ivision **D**ata **A**ccess **P**rotocol
- Serveur de données (grille / tableau)

- Téléchargement / extraction de sous ensembles
- Affichage (cartes / graphiques)
- Recherche dans un catalogue
- Convertion des formats de données

Qu'est ce qu'ERDDAP

- Caractéristiques intéressantes
  - Configuration du serveur assistée
  - Agrégation automatique de données à priori "hétérogènes"
  - Uniformation des formats de dates
  - Conversion des formats, dont vers métadonnées
  - Serveur RESTfull

ERDDAP à IFREMER

http://www.ifremer.fr/erddap/index.html

- Jeux Argo
- Produits Coriolis (CORA, NRTOA)
- Produits SeaDataNet (Climatologies T&S)
- Jeu de données Glider
- etc... (17 jeux de données au total)

Configuration pour Argo

12000 fichiers multi-profils provenant de 11 centres de données

- Assistant de génération de configuration Erddap (GenerateDatasetsXml.sh)

=> nécessitée de modifier Erddap pour prendre le format multi-profile Argo.

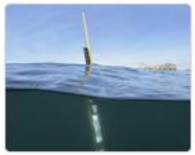
Configuration pour Argo

Adaptations diverses d'Erddap :

- Améliorer les performances => ignorer certaines variables
- Ne pas prendre en compte les fill_value en fin de profils
- Adapter la gestion des QC value

ERDDAP et ODATIS

Argo : Données et métadonnées du Global Data Assembly Centre (Argo GDAC)



Argo est un ensemble mondial de 3 000 flotteurs à profil dérivant libre qui mesurent la température et la salinité des 2000 premier m de la colonne d'eau. Cela permet, pour la première fois, une surveillance continue de la température, de la salinité et de la vitesse des eaux supérieures, toutes les données étant relayées et rendues publiques dans les ...

Source: Ifremer

Bouée de surface dérivantes

Mesures des bouées dérivantes de surface. Ce système est un mouillage dérivant constitué d'une bouée de surface reliée à une ancre flottante par un câble (orin, câblot). Il doit suivre avec le plus de précision possible la masse d'eau dans laquelle l'ancre flottante est immergée. Les bouées de surface sont suivis par satellites Argos. ...

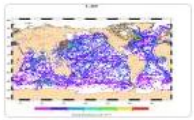
Source: LOCEAN, Météo France

EGO Gliders : Données et métadonnées du Global Data Assembly Centre (EGO GDAC)

L'initiative de Everyone's Gliding Observatories (EGO) est un rassemblement de plusieurs équipes d'océanographes, intéressés par développer l'utilisation des gliders pour les observations océaniques. EGO a commencé en Europe avec des membres de la France, de l'Allemagne, de l'Italie, de la Norvège, de l'Espagne et du Royaume-Uni. Les ...

Source: EGO gliders

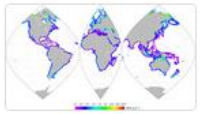
Global Ocean- CORA- In-situ Observations Yearly Delivery in Delayed Mode (1950-2014)



Résumé: Pour l'observation in-situ annuelle de l'océan global en temps différé. Le produit in situ en temps différé conçu pour des objectifs de réanalyse intègre la meilleure version disponible de données in situ pour les mesures de température et de salinité. Ces données sont recueillies auprès des principaux réseaux mondiaux (Argo, GOSUD, ...

Source: E.U. Copernicus Marine Service Information

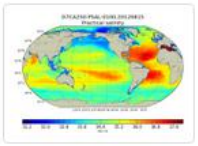
GlobCoast Moyenne mensuelle des Matières En Suspension (MES)



Moyenne mensuelle des Matières En Suspension (2002-2012) issue de l'algorithme de Han (2016) pour la zone côtière à l'échelle globale, à partir du capteur MERIS et avec les corrections atmosphérique POLYMER Ref: Bing Han, Hubert Loisel, Vincent Vantrepotte, Xavier Mériaux, Philippe Bryère,Sylvain Ouillon, David Dessailly, Qianguo Xing and Jianhua ...

Source: Université du Littoral Côte d'Opale - Laboratoire...

ISAS-13-CLIM champs grillée température et salinité



Le Système d'analyse in situ (ISAS) a été développé pour produire des champs de température et de salinité qui préservent autant que possible les capacités d'échantillonnage du temps et de l'espace du réseau des flotteurs ARGO. Depuis la première analyse globale réalisée en 2009, le système a été étendu pour tenir compte de tous les types de profils.

Source: Ifremer, LPO – UMR 6523 CNRS, Ifremer, IRD, UBO

ERDDAP et ODATIS

LANGUAGES | CONTACT |

QUI SOMMES-NOUS? DONNÉES ET SERVICES ACTIVITÉS ACTUALITÉS RESSOURCES

Accueil / Données et Services / Accès aux données / Catalogue complet

Catalogue complet

Le catalogue des données et produits du Pôle ODATIS permettent de découvrir les jeux de données fournis par la communauté nationale et leurs liens avec les programmes internationaux.

Ce catalogue propose plusieurs outils de services d'accès aux données : un service de recherche avec des filtres de sélection, un service de description de la donnée (via deux onglets : "Aperçu" et "Complet"), un service de visualisation, et un service de téléchargement direct ou via le portail local des partenaires.

- Plus d'information dans le Guide d'utilisation Sextant (édition *IFREMER*) et dans une courte vidéo (53 secondes) appliquée à un jeu de données du Pôle ODATIS.

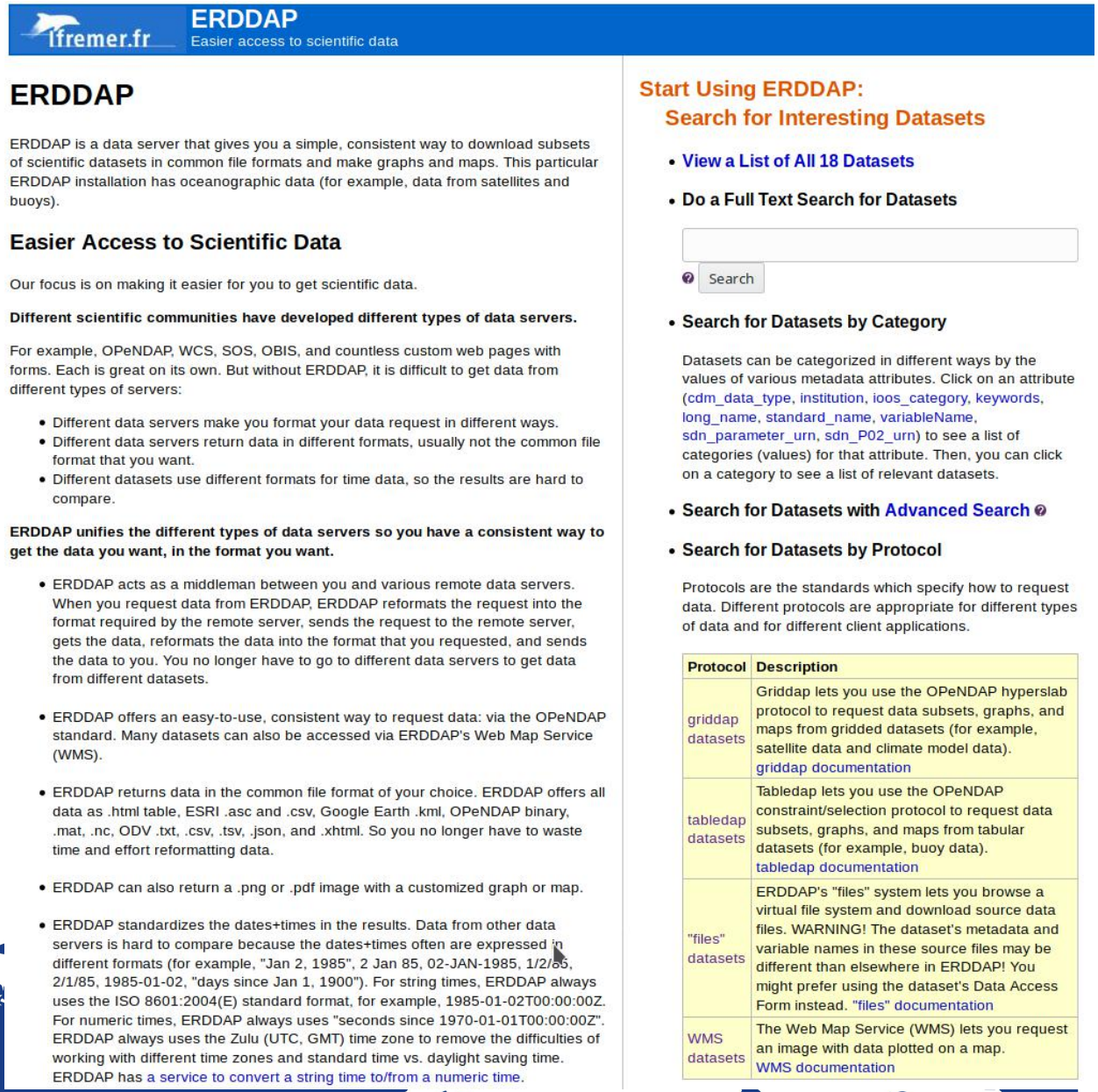
GlobCoast Moyenne mensuelle des Matières En Suspension (MES)

Export Retour

Aperçu Complet

Résumé	Moyenne mensuelle des Matières En Suspension (2002-2012) issue de l'algorithme de Han (2016) pour la zone côtière à l'échelle globale, à partir du capteur MERIS et avec les corrections atmosphérique POLYMER Ref: Bing Han, Hubert Loisel, Vincent Vantrepotte, Xavier Mériaux, Philippe Bryère,Sylvain Ouillon, David Dessailly, Qianguo Xing and Jianhua Zhu. Development of a Semi-Analytical Algorithm for the Retrieval of Suspended Particulate Matter rom Remote Sensing over Clear to Very Turbid Waters Remote Sens. 8, 211; doi:10.3390/rs8030211, 2016
Date(s)	2016-10-04 - Publication
Contacts	David Dessailly (Laboratoire d'Océanologie et de Géoscience - Univerité du Littoral Côte d'Opale), Université du Littoral Côte d'Opale Laboratoire d'Océanologie et de Géoscience (Université du Littoral Côte d'Opale), Hubert Loisel (Laboratoire d'Océanologie et de Géoscience - Université du Littoral Côte d'Opale)
Mots-clés	Données Ouvertes, Produits avancés, Thème couleur de l'eau CDS-IS-CORIOLIS /Biologie marine/Matière en suspension D5: Eutrophisation, D7: Conditions hydrographiques

Exemples d'utilisation



ifremer.fr ERDDAP
Easier access to scientific data

ERDDAP

ERDDAP is a data server that gives you a simple, consistent way to download subsets of scientific datasets in common file formats and make graphs and maps. This particular ERDDAP installation has oceanographic data (for example, data from satellites and buoys).

Easier Access to Scientific Data

Our focus is on making it easier for you to get scientific data.

Different scientific communities have developed different types of data servers.

For example, OPeNDAP, WCS, SOS, OBIS, and countless custom web pages with forms. Each is great on its own. But without ERDDAP, it is difficult to get data from different types of servers:

- Different data servers make you format your data request in different ways.
- Different data servers return data in different formats, usually not the common file format that you want.
- Different datasets use different formats for time data, so the results are hard to compare.

ERDDAP unifies the different types of data servers so you have a consistent way to get the data you want, in the format you want.

- ERDDAP acts as a middleman between you and various remote data servers. When you request data from ERDDAP, ERDDAP reformats the request into the format required by the remote server, sends the request to the remote server, gets the data, reformats the data into the format that you requested, and sends the data to you. You no longer have to go to different data servers to get data from different datasets.
- ERDDAP offers an easy-to-use, consistent way to request data: via the OPeNDAP standard. Many datasets can also be accessed via ERDDAP's Web Map Service (WMS).
- ERDDAP returns data in the common file format of your choice. ERDDAP offers all data as .html table, ESRI .asc and .csv, Google Earth .kml, OPeNDAP binary, .mat, .nc, ODV .txt, .csv, .tsv, .json, and .xhtml. So you no longer have to waste time and effort reformatting data.
- ERDDAP can also return a .png or .pdf image with a customized graph or map.
- ERDDAP standardizes the dates+times in the results. Data from other data servers is hard to compare because the dates+times often are expressed in different formats (for example, "Jan 2, 1985", 2 Jan 85, 02-JAN-1985, 1/2/85, 2/1/85, 1985-01-02, "days since Jan 1, 1900"). For string times, ERDDAP always uses the ISO 8601:2004(E) standard format, for example, 1985-01-02T00:00:00Z. For numeric times, ERDDAP always uses "seconds since 1970-01-01T00:00:00Z". ERDDAP always uses the Zulu (UTC, GMT) time zone to remove the difficulties of working with different time zones and standard time vs. daylight saving time. ERDDAP has a service to convert a string time to/from a numeric time.

Start Using ERDDAP: Search for Interesting Datasets

- View a List of All 18 Datasets
- Do a Full Text Search for Datasets

Search

- Search for Datasets by Category

Datasets can be categorized in different ways by the values of various metadata attributes. Click on an attribute (cdm_data_type, institution, ioos_category, keywords, long_name, standard_name, variableName, sdn_parameter_urn, sdn_P02_urn) to see a list of categories (values) for that attribute. Then, you can click on a category to see a list of relevant datasets.

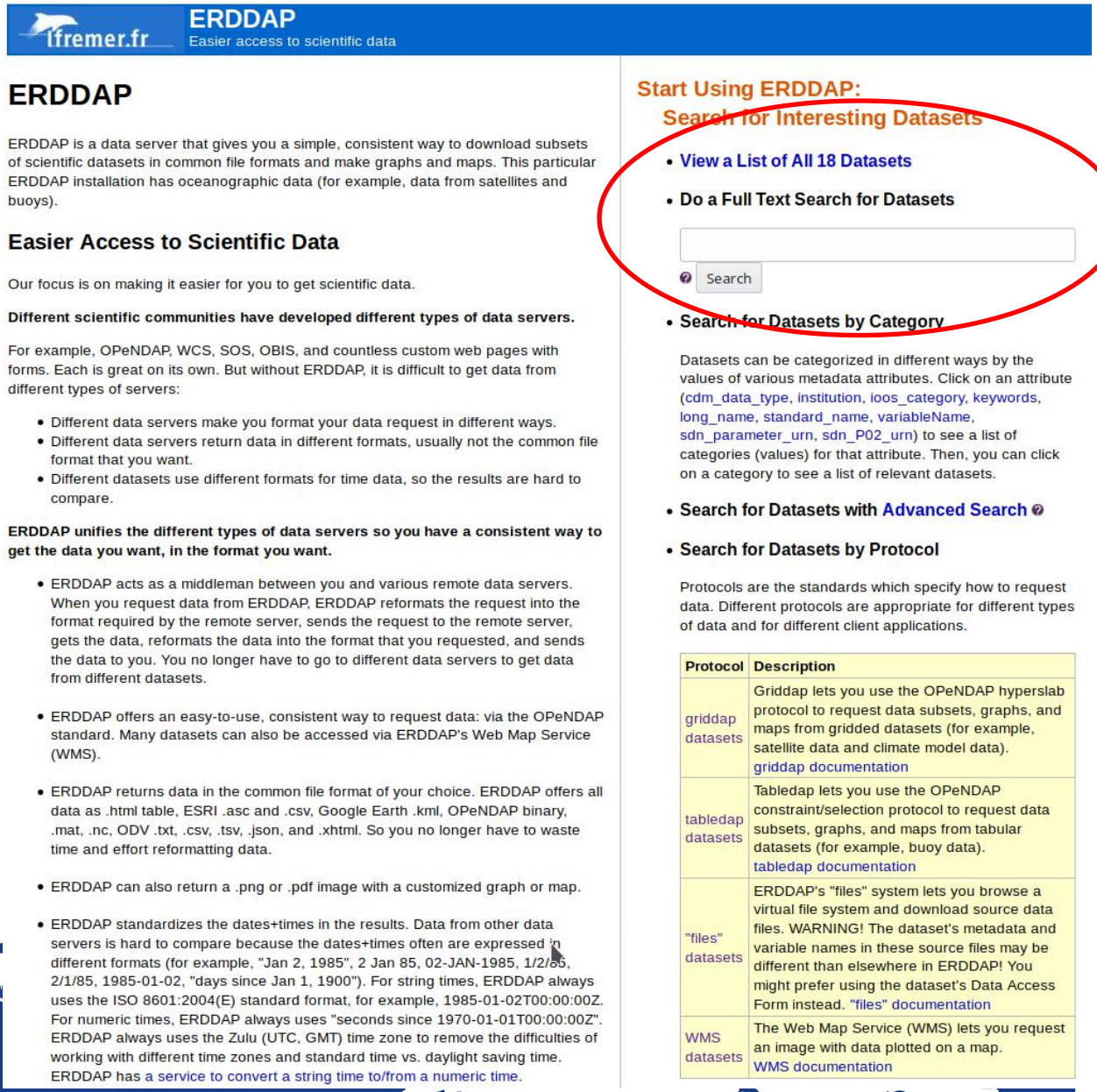
- Search for Datasets with Advanced Search
- Search for Datasets by Protocol

Protocols are the standards which specify how to request data. Different protocols are appropriate for different types of data and for different client applications.

Protocol	Description
griddap datasets	Griddap lets you use the OPeNDAP hyperslab protocol to request data subsets, graphs, and maps from gridded datasets (for example, satellite data and climate model data). griddap documentation
tabledap datasets	Tabledap lets you use the OPeNDAP constraint/selection protocol to request data subsets, graphs, and maps from tabular datasets (for example, buoy data). tabledap documentation
"files" datasets	ERDDAP's "files" system lets you browse a virtual file system and download source data files. WARNING! The dataset's metadata and variable names in these source files may be different than elsewhere in ERDDAP! You might prefer using the dataset's Data Access Form instead. "files" documentation
WMS datasets	The Web Map Service (WMS) lets you request an image with data plotted on a map. WMS documentation

Exemples d'utilisation

Découverte



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"files" datasets	ERDDAP's "files" system lets you browse a virtual file system and download source data files. WARNING! The dataset's metadata and variable names in these source files may be different than elsewhere in ERDDAP! You might prefer using the dataset's Data Access Form instead. "files" documentation
WMS datasets	The Web Map Service (WMS) lets you request an image with data plotted on a map. WMS documentation

Découverte

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ERDDAP > List of All Datasets

18 matching datasets, listed in alphabetical order.

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph			* The List of All Active Datasets in this ERDDAP *		M	background			Ifremer	allDatasets
data			graph	M		2000-2015 climatology of the Subtropical Mode Waters and Permanent Pycnocline properties in the World Ocean		F I M	background	RSS		LOPS/Ifremer	OACP-Argo-Clim
		data	graph			Argo Float Bio Vertical Profiles		F I M	background	RSS		Argo	ArgoFloats-bio
		data	graph			Argo Float Vertical Profiles		F I M	background	RSS		Argo	ArgoFloats
		data	graph			Argo, Mean structure of the North Atlantic subtropical permanent pycnocline		F I M	background	RSS		LOPS/Ifremer	OACP-Argo
		data	graph			Argo, Profile Classification Model, North-Atlantic, Temperature		F I M	background	RSS		Ifremer/LOPS	PCM-Argo
	set	data	graph			DBCP drifting buoy data and metadata (DBCP drifting buoys GDAC)		F I M	background	RSS		???	DBCPDriftingBuoysGDAC
data			graph	M		Global Ocean, Coriolis Observation Re-Analysis CORA4.1		F I M	background	RSS		SISMER/IFREMER	ifremer_tds0_6080_109e_ed80
data			graph	M		GlobCoast, biogeochemical, Monthly		F I M	background	RSS		Universite du Lit...	ulcoGlobcoast
data			graph	M		ISAS 2013, Monthly Climatology, Global, 0.5 degree		F I M	background	RSS		LPO/IFREMER	ISAS13
data			graph	M		NRTOA, Near Real Time Objective Analysis		F I M	background	RSS		Ifremer	NRTOA
		data	graph			OceanGliders GDAC trajectories		F I M	background	RSS		IFREMER	OceanGlidersGDACTrajectories
data			graph	M		SDN_TS_ArcticOcean_Climatology		F I M	background	RSS		SeaDataNet	SDN_ArcticOcean_Clim
data			graph	M		SDN_TS_BalticSea_Climatology		F I M	background	RSS		SeaDataNet	SDN_BalticSea_Clim
data			graph	M		SDN_TS_BlackSea_Climatology		F I M	background	RSS		SeaDataNet	SDN_BlackSea_Clim
data			graph	M		SDN_TS_MedSea_Climatology		F I M	background	RSS		SeaDataNet	SDN_MedSea_Clim
data			graph	M		SDN_TS_NorthAtlanticOcean_Climatology		F I M	background	RSS		SeaDataNet	SDN_NorthAtlanticOcean_Clim
	set	data	graph			SeaDataNet inSitu		F I M	background	RSS		SeaDataNet	SeaDataNet_inSitu

The information in the table above is also available in other file formats (.csv, .htmlTable, .itx, .json, .jsonlCSV, .jsonlKVP, .mat, .nc, .nccsv, .tsv, .xhtml) via a RESTful web service.

Données grillées

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ERDDAP > griddap

Griddap lets you use the OPeNDAP hyperslab protocol to request data subsets, graphs, and maps from gridded datasets (for example, satellite data and climate model data). For details, see ERDDAP's griddap Documentation.

10 matching datasets, listed in alphabetical order. (Or, refine this search with Advanced Search)

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
data			graph	M		2000-2015 climatology of the Subtropical Mode Waters and Permanent Pycnocline properties in the World Ocean		F I M	background	RSS		LOPS/Ifremer	OACP-Argo-Clim
data			graph	M		Global Ocean, Coriolis Observation Re-Analysis CORA4.1		F I M	background	RSS		SISMER/IFREMER	ifremer_tds0_6080_109e_ed80
data			graph	M		GlobCoast, biogeochemical, Monthly		F I M	background	RSS		Universite du Lit...	ulcoGlobcoast
data			graph	M		ISAS 2013, Monthly Climatology, Global, 0.5 degree		F I M	background	RSS		LPO/IFREMER	ISAS13
data			graph	M		NRTOA, Near Real Time Objective Analysis		F I M	background	RSS		Ifremer	NRTOA
data			graph	M		SDN_TS_ArcticOcean_Climatology		F I M	background	RSS		SeaDataNet	SDN_ArcticOcean_Clim
data			graph	M		SDN_TS_BalticSea_Climatology		F I M	background	RSS		SeaDataNet	SDN_BalticSea_Clim
data			graph	M		SDN_TS_BlackSea_Climatology		F I M	background	RSS		SeaDataNet	SDN_BlackSea_Clim
data			graph	M		SDN_TS_MedSea_Climatology		F I M	background	RSS		SeaDataNet	SDN_MedSea_Clim
data			graph	M		SDN_TS_NorthAtlanticOcean_Climatology		F I M	background	RSS		SeaDataNet	SDN_NorthAtlanticOcean_Clim

The information in the table above is also available in other file formats (.csv, .htmlTable, .itx, .json, .jsonlCSV, .jsonlKVP, .mat, .nc, .nccsv, .tsv, .xhtml) via a RESTful web service.

Données tableau

ODATIS

ifremer.fr **ERDDAP**
Easier access to scientific data

ERDDAP > tabledap

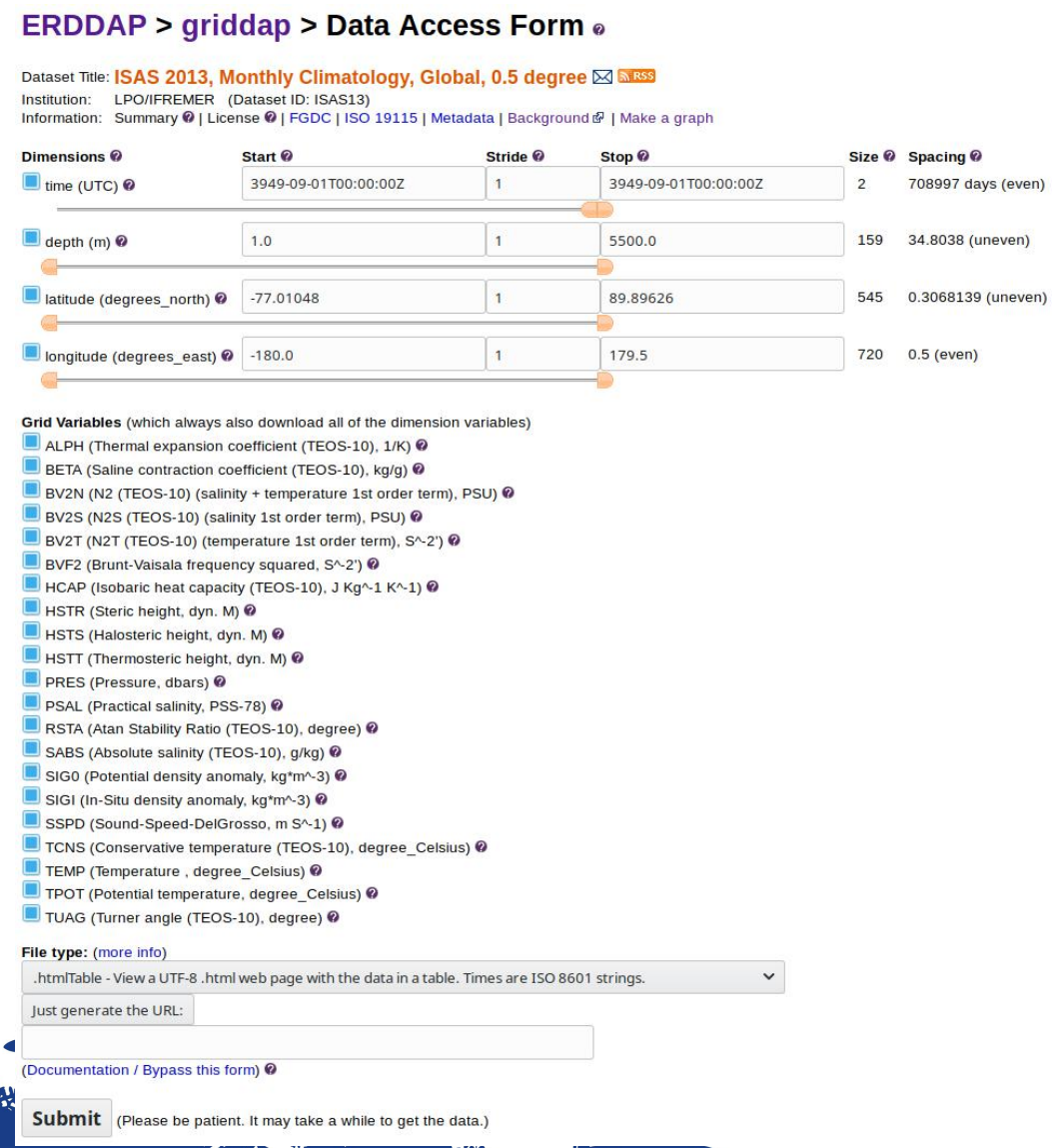
Tabledap lets you use the OPeNDAP constraint/selection protocol to request data subsets, graphs, and maps from tabular datasets (for example, buoy data). For a quick introduction, see this video introduction to using tabledap. For details, see ERDDAP's tabledap Documentation.

8 matching datasets, listed in alphabetical order. (Or, refine this search with Advanced Search)

Grid DAP Data	Sub-set	Table DAP Data	Make A Graph	WMS	Source Data Files	Title	Sum-mary	FGDC, ISO, Metadata	Back-ground Info	RSS	E mail	Institution	Dataset ID
	set	data	graph			* The List of All Active Datasets in this ERDDAP *		M	background			Ifremer	allDatasets
		data	graph			Argo Float Bio Vertical Profiles		F I M	background	RSS		Argo	ArgoFloats-bio
		data	graph			Argo Float Vertical Profiles		F I M	background	RSS		Argo	ArgoFloats
		data	graph			Argo, Mean structure of the North Atlantic subtropical permanent pycnocline		F I M	background	RSS		LOPS/Ifremer	OACP-Argo
		data	graph			Argo, Profile Classification Model, North-Atlantic, Temperature		F I M	background	RSS		Ifremer/LOPS	PCM-Argo
	set	data	graph			DBCP drifting buoy data and metadata (DBCP drifting buoys GDAC)		F I M	background	RSS		???	DBCPDriftingBuoysGDAC
		data	graph			OceanGliders GDAC trajectories		F I M	background	RSS		IFREMER	OceanGlidersGDACTrajectories
	set	data	graph			SeaDataNet inSitu		F I M	background	RSS		SeaDataNet	SeaDataNet_inSitu

The information in the table above is also available in other file formats (.csv, .htmlTable, .itx, .json, .jsonlCSV, .jsonlKVP, .mat, .nc, .nccsv, .tsv, .xhtml) via a RESTful web service.

Extraction sous ensemble



ERDDAP > griddap > Data Access Form

Dataset Title: ISAS 2013, Monthly Climatology, Global, 0.5 degree
Institution: LPO/IFREMER (Dataset ID: ISAS13)
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Make a graph

Dimensions	Start	Stride	Stop	Size	Spacing
time (UTC)	3949-09-01T00:00:00Z	1	3949-09-01T00:00:00Z	2	708997 days (even)
depth (m)	1.0	1	5500.0	159	34.8038 (uneven)
latitude (degrees_north)	-77.01048	1	89.89626	545	0.3068139 (uneven)
longitude (degrees_east)	-180.0	1	179.5	720	0.5 (even)

Grid Variables (which always also download all of the dimension variables)

- ALPH (Thermal expansion coefficient (TEOS-10), 1/K)
- BETA (Saline contraction coefficient (TEOS-10), kg/g)
- BV2N (N2 (TEOS-10) (salinity + temperature 1st order term), PSU)
- BV2S (N2S (TEOS-10) (salinity 1st order term), PSU)
- BV2T (N2T (TEOS-10) (temperature 1st order term), S^-2')
- BVF2 (Brunt-Vaisala frequency squared, S^-2')
- HCAP (Isobaric heat capacity (TEOS-10), J Kg^-1 K^-1)
- HSTR (Steric height, dyn. M)
- HSTS (Halosteric height, dyn. M)
- HSTT (Thermosteric height, dyn. M)
- PRES (Pressure, dbars)
- PSAL (Practical salinity, PSS-78)
- RSTA (Atan Stability Ratio (TEOS-10), degree)
- SABS (Absolute salinity (TEOS-10), g/kg)
- SIG0 (Potential density anomaly, kg*m^-3)
- SIGI (In-Situ density anomaly, kg*m^-3)
- SSPD (Sound-Speed-DelGrosso, m S^-1)
- TCNS (Conservative temperature (TEOS-10), degree_Celsius)
- TEMP (Temperature , degree_Celsius)
- TPOT (Potential temperature, degree_Celsius)
- TUAG (Turner angle (TEOS-10), degree)

File type: (more info)

.htmlTable - View a UTF-8 .html web page with the data in a table. Times are ISO 8601 strings.

Just generate the URL:

(Documentation / Bypass this form)

Submit (Please be patient. It may take a while to get the data.)

Extraction sous ensemble

ERDDAP > tabledap > Data Access Form

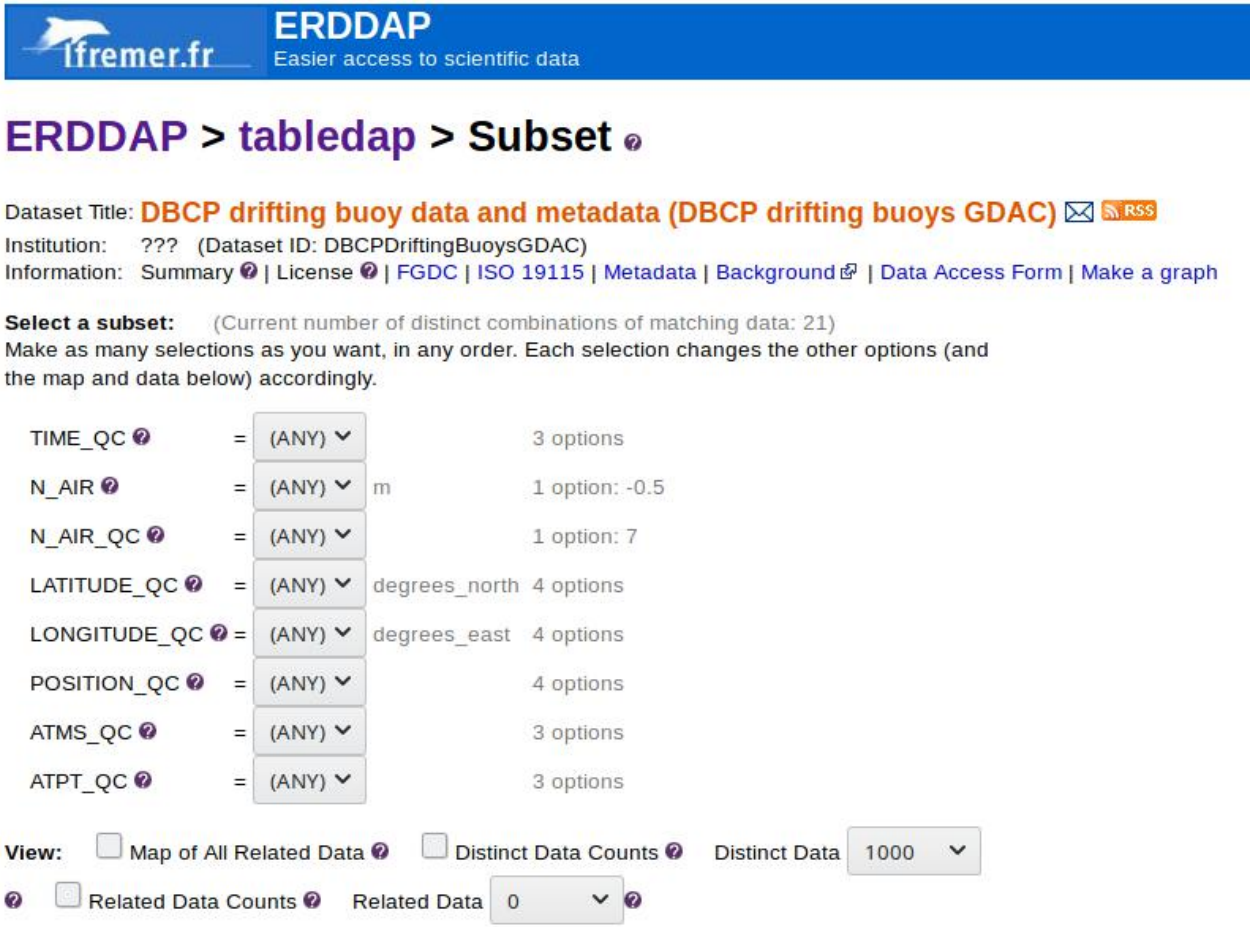
Dataset Title: **Argo Float Bio Vertical Profiles**

Institution: Argo (Dataset ID: ArgoFloats-bio)

Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Make a graph

Variable	Check All / Uncheck All	Optional Constraint #1		Optional Constraint #2		Minimum	Maximum
fileNumber	>=		<=				
data_type	>=		<=				
format_version (File format version)	>=		<=				
handbook_version (Data handbook version)	>=		<=				
reference_date_time (UTC)	>=		<=			1950-01-01T00:00:00Z	1950-01-01T00:00:00Z
date_creation (Date of file creation, UTC)	>=		<=			2019-03-27T09:18:50Z	2019-06-03T01:19:44Z
date_update (UTC)	>=		<=			2019-03-27T09:18:50Z	2019-06-03T01:19:44Z
platform_number (Float unique identifier)	>=		<=				
project_name (Name of the project)	>=		<=				
pi_name	>=		<=				
cycle_number (Float cycle number)	>=		<=			0	827
direction	>=		<=				
data_center	>=		<=				
dc_reference	>=		<=				
data_state_indicator	>=		<=				
data_mode	>=		<=				
platform_type (Type of float)	>=		<=				
float_serial_no (Serial number of the float)	>=		<=				
firmware_version (Instrument firmware version)	>=		<=				
wmo_inst_type (Coded instrument type)	>=		<=				
time (UTC)	>=	2019-05-26T00:00:00Z	<=	2019-06-02T19:31:51Z		2002-09-08T23:02:52Z	2019-06-02T19:31:51Z
time_qc (Quality on date and time)	>=		<=				

Extraction sous ensemble



Visualisation de données

Données grillées

ODATIS

ifremer.fr **ERDDAP**
Easier access to scientific data

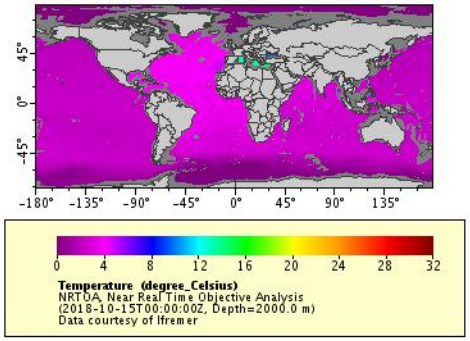
ERDDAP > griddap > Make A Graph

Dataset Title: **NRTOA, Near Real Time Objective Analysis**
Institution: Ifremer (Dataset ID: NRTOA)
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Data Access Form

Graph Type: surface
X Axis: longitude
Y Axis: latitude
Color: TEMP

Dimensions	Start	Stop
time (UTC)	specify just 1 value →	2018-10-15T00:00:00Z
depth (m)	specify just 1 value →	2000.0
latitude (degrees_north)	-77.01048	89.89626
longitude (degrees_east)	-180.0	179.5

Click on the map to specify a new center point.
Zoom: Data | Out 8x | Out 2x | Out | In | In 2x | In 8x



Graph Settings

Color Bar: | Continuity: | Scale:
Minimum: | Maximum: | N Sections:
Draw land mask:
Y Axis Minimum: | Maximum: | Ascending: ascending

Redraw the Graph (Please be patient. It may take a while to get the data.)

Optional:
Then set the File Type: .htmlTable (File Type information)
and Download the Data or an Image
or view the URL: http://www.ifremer.fr/erddap/griddap/NRTOA.htmlTable?TEMP%5B(2018-10-15T0(
(Documentation / Bypass this form)

Données grillées

ODATIS

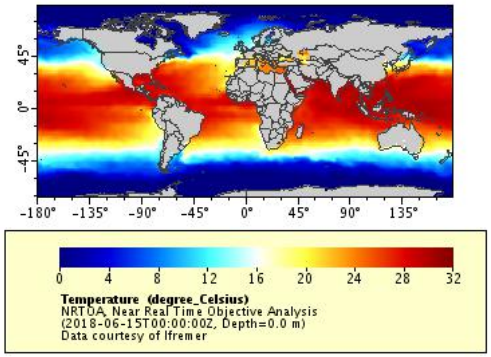
ifremer.fr **ERDDAP**
Easier access to scientific data

ERDDAP > griddap > Make A Graph

Dataset Title: **NRTOA, Near Real Time Objective Analysis** ✉ RSS
Institution: Ifremer (Dataset ID: NRTOA)
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Data Access Form

Graph Type: surface
X Axis: longitude
Y Axis: latitude
Color: TEMP

Click on the map to specify a new center point.
Zoom: Data | Out 8x | Out 2x | Out | In | In 2x | In 8x



Dimensions	Start	Stop
time (UTC)	specify just 1 value →	2018-06-15T00:00:00Z
depth (m)	specify just 1 value →	0.0
latitude (degrees_north)	-77.01048	89.89626
longitude (degrees_east)	-180.0	179.5

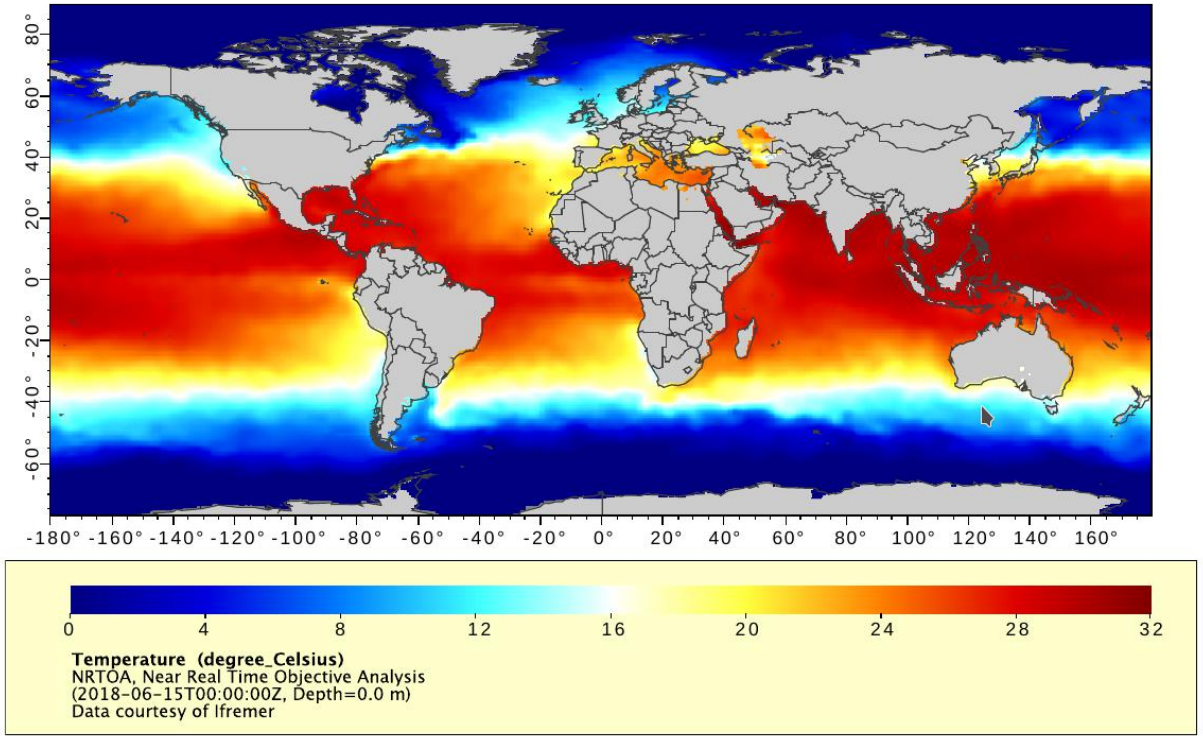
Graph Settings

Color Bar: BlueWhiteRed | Continuity: Continuous | Scale: Linear
Minimum: | Maximum: | N Sections:
Draw land mask:
Y Axis Minimum: | Maximum: | Ascending: ascending

Redraw the Graph (Please be patient. It may take a while to get the data.)

Optional:
Then set the File Type: .htmlTable (File Type information)
and Download the Data or an Image
or view the URL: http://www.ifremer.fr/erddap/griddap/NRTOA.htmlTable?TEMP%5B(2018-06-15T0(
(Documentation / Bypass this form)

Données grillées



http://www.ifremer.fr/erddap/griddap/NRTOA.geotif?TEMP%5B(2018-06-15T00:00:00Z)%5D%5B(0.0)%5D%5B(-77.01048):(89.89626)%5D%5B(-180.0):(179.5)%5D&.draw=surface&.vars=longitude%7Clatitude%7CTEMP&.colorBar=BlueWhiteRed%7CC%7CLinear%7C%7C%7C&.bgColor=0xffccccff

Données taleaux

ODATIS

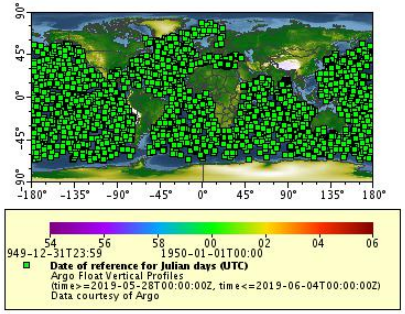
ifremer.fr **ERDDAP**
Easier access to scientific data

ERDDAP > tabledap > Make A Graph

Dataset Title: **Argo Float Vertical Profiles** RSS
Institution: Argo (Dataset ID: ArgoFloats)
Range: longitude = -179.99942 to 180.0°E, latitude = -99.999 to 89.784°N, time = 1956-11-25T05:05:04Z to 2019-06-03T06:10:00Z
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Data Access Form

Graph Type: markers
X Axis: longitude
Y Axis: latitude
Color: temp

Click on the map to specify a new center point.
Zoom: Out 8x | Out 2x | Out | Data | In | In 2x | In 8x
Time range: 7 day(s)



Constraints	Optional Constraint #1		Optional Constraint #2	
time	>=	2019-05-28T00:00:00Z	<=	2019-06-04T00:00:00Z
	>=		<=	
	>=		<=	
	>=		<=	
	>=		<=	

Server-side Functions
distinct()
(") "

Graph Settings
Marker Type: Filled Square Size: 5
Color:
Color Bar: Continuity: Scale:
Minimum: Maximum: N Sections:
Draw land mask:
Y Axis Minimum: Maximum: Ascending: ascending

Redraw the Graph (Please be patient. It may take a while to get the data.)

Optional:
Then set the File Type: .htmlTable (File Type information)
and Download the Data or an Image
or view the URL: http://www.ifremer.fr/erddap/tabledap/ArgoFloats.htmlTable?longitude,latitude,re

Données taleaux

ERDDAP
Easier access to scientific data

ERDDAP > tabledap > Make A Graph

Dataset Title: **Argo Float Vertical Profiles**
Institution: Argo (Dataset ID: ArgoFloats)
Range: longitude = -179.99942 to 180.0°E, latitude = -99.999 to 89.784°N, time = 1956-11-25T05:05:04Z to 2019-06-03T06:10:00Z
Information: Summary | License | FGDC | ISO 19115 | Metadata | Background | Data Access Form

Graph Type: lines
X Axis: psal
Y Axis: pres

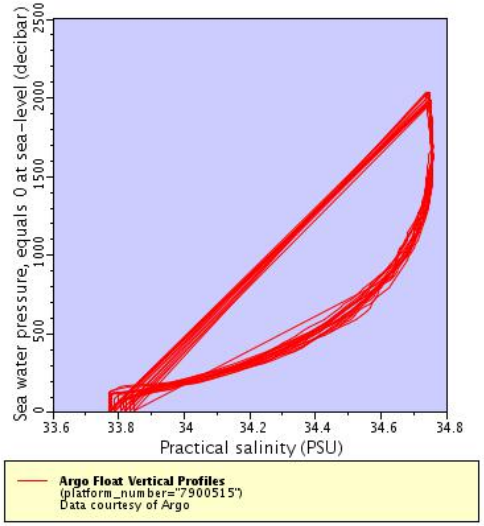
Constraints	Optional Constraint #1		Optional Constraint #2	
platform_number	=	"7900515"	<=	
	>=		<=	
	>=		<=	
	>=		<=	
	>=		<=	

Server-side Functions
distinct()

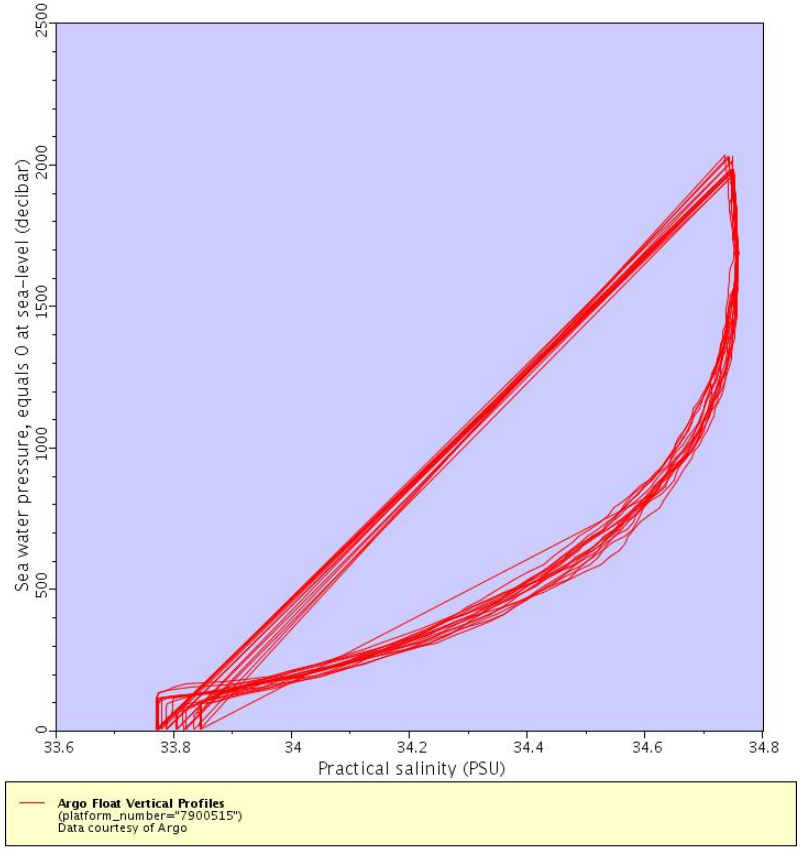
Graph Settings
Color:
Y Axis Minimum: Maximum: Ascending: ascending

Redraw the Graph (Please be patient. It may take a while to get the data.)

Optional:
Then set the File Type: .htmlTable (File Type information)
and Download the Data or an Image
or view the URL: http://www.ifremer.fr/erddap/tabledap/ArgoFloats.htmlTable?psal,pres&platform_
(Documentation / Bypass this form)



Données taleaux



http://www.ifremer.fr/erddap/tabledap/ArgoFloats.htmlTable?psal,pres&platform_number=%227900515%22&.draw=lines&.color=0xFF0000&.bgColor=0xffccccff

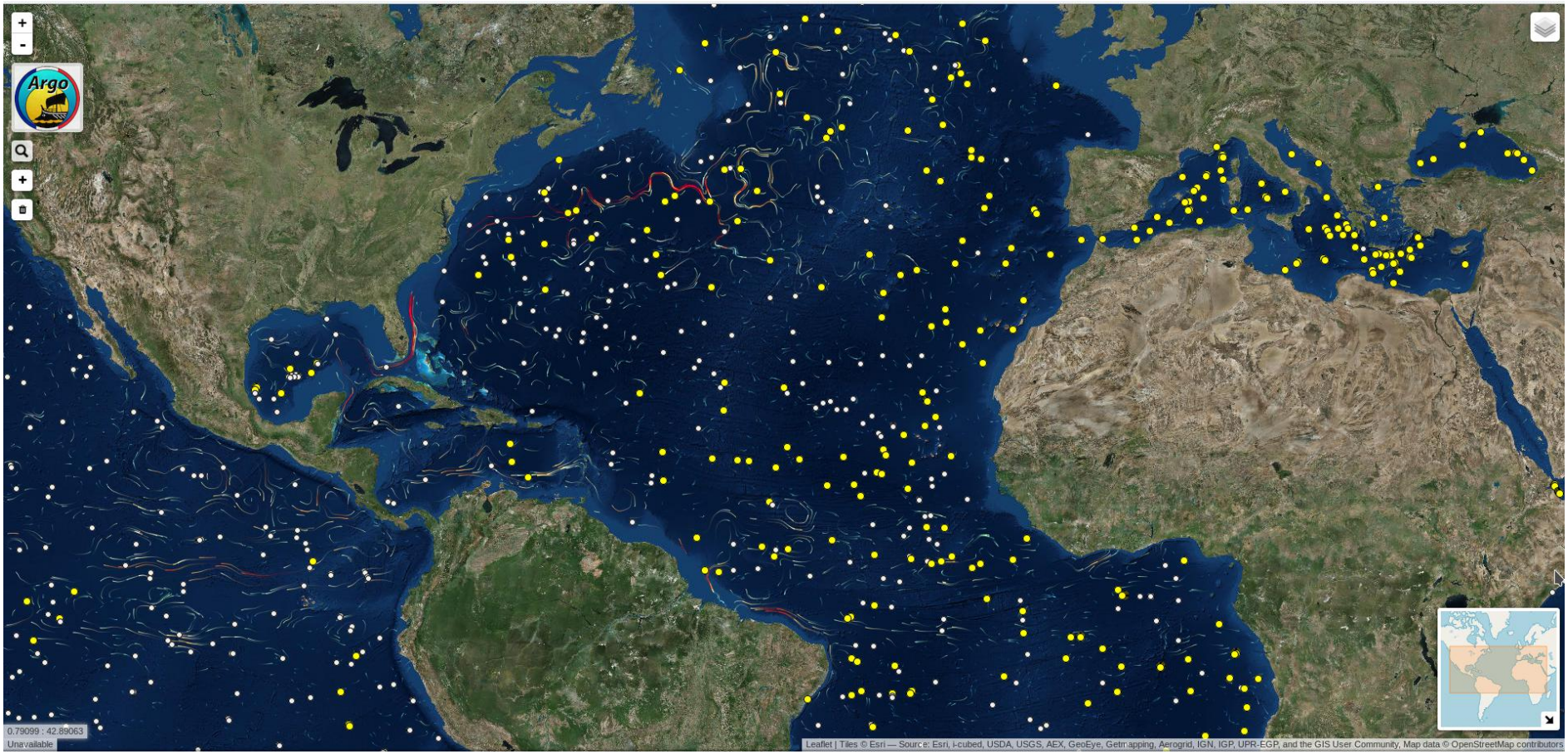
Utilisation des données

Outil de suivi des flotteurs Argo DIVAA

http://map.argo-france.fr/

- Flux Json Erddap Argo
- Basée sur JavaScript et Leaflet
- Source code : github.com/quai20/DIVAA

DIVAA


Argo
0.79099 : 42.89063
Unavailable
Leaflet | Tiles © Esri — Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, UPR-EGP, and the GIS User Community, Map data © OpenStreetMap contributors

DIVAA

- Erddap server :
  - Data easily accessible with AJAX request. Here, the url is build from float/date/position daily collected.

```
$.ajax({
 url:"http://www.ifremer.fr/erddap/tabledap/ArgoFloats....",
  dataType: 'jsonp',
  jsonp: '.jsonp',
  cache: 'true',
  success: function (data) {
          //Do something with you data
          },
  type: 'GET'
  });
```

  - Access to all metadata (wmo, DAC, Project, PI, float model), data (P, T, S) & qc values.
  - Large selection options available (on meta, data or qc)
  - Large output format possibilities (csv, json, nc, matlab, ...)
  - Possibility to request a graph (png, pdf, jpg, html, ...).

contact@odatis-ocean.fr
www.odatis-ocean.fr

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OCEAN DATA INFORMATION AND SERVICES

Merci de votre attention !