

C. Troupin*, C. Muñoz*,
M. A. Rújula*, J. G. Fernández*,
S. Watelet*, A. Barth* & J.-M. Beckers*



*GHER-University of Liège

*Balearic Islands Coastal Ocean
Observing and Forecasting System

*Software citation &
process traceability*

Persistent identifiers everywhere

Ocean Observation

Science/expertise

Persistent identifiers everywhere

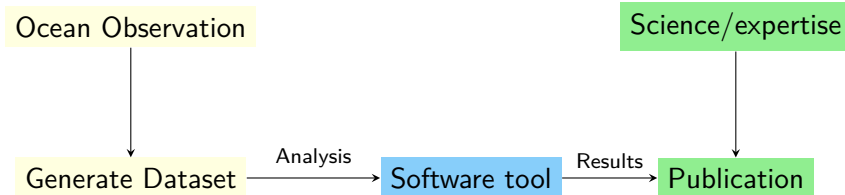
Ocean Observation



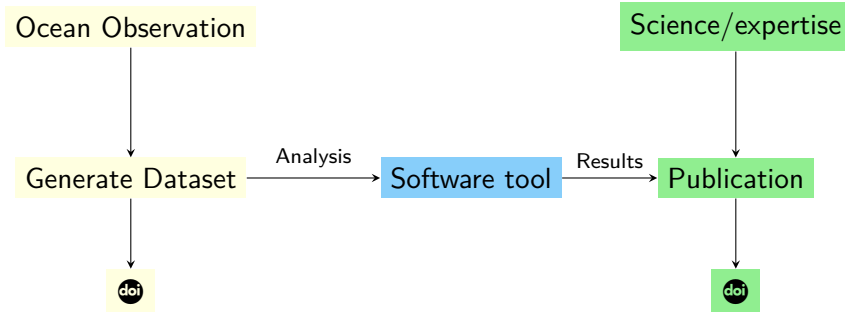
Generate Dataset

Science/expertise

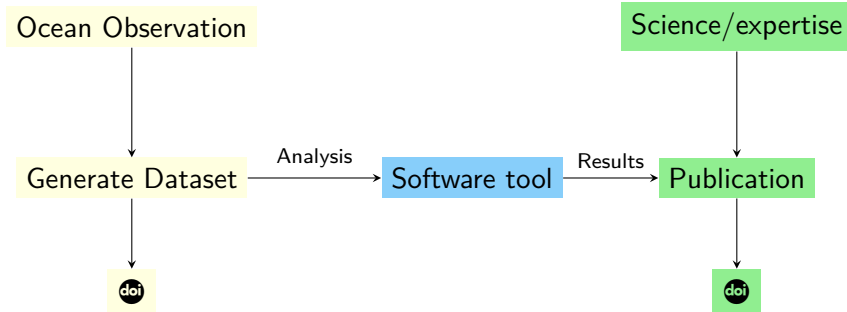
Persistent identifiers everywhere



Persistent identifiers everywhere



Persistent identifiers everywhere



How can we ensure the readers/users can **reproduce** the results?

Persistent identifiers:
what about

software tools?

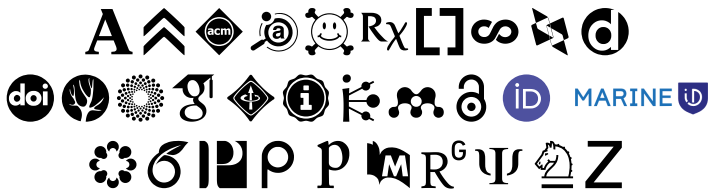
Context: who has done what, and how?



Source: [Academicons](#)

Context: who has done what, and how?

Let's work with ORCID and MarineID
(see previous ODIP workshops)



Source: [Academicons](#)

Data set identification and citation

See previous ODIP workshops + links to other initiatives

Research Data Alliance Data Citation working group

THOR project

Pangaea



PANGAEA.

Data Publisher for Earth & Environmental Science

SEARCH SUBMIT ABOUT CONTACT

Citation:

García Sotillo, Marcos; García-Ladona, Emilio; Orfila, Alejandro; Rodríguez-Rubio, Pablo; Conti Sampol, Daniel; Padorno, Elena; Capó, Esther; los Santo, Francisco Javier (2016): The MEDESS-GIB drifters database. doi:10.1594/PANGAEA.853701,

Supplement to: García Sotillo, Marcos; García-Ladona, Emilio; Orfila, Alejandro; Rodríguez-Rubio, Pablo; Maraver, José Cristobal; Conti, Daniel; Padorno, Elena; Jiménez, José Antonio; Capó, Este; Pérez, Fernando; Sayol, Juan Manuel; de los Santos, Francisco Javier; Amo, Arancha; Rietz, Ana; Troupin, Charles; Tintore, Joaquín; Álvarez-Fanju, Enrique (2016): The MEDESS-GIB database: tracking the Atlantic water inflow. *Earth System Science Data*, 8(1), 141-149. doi:10.5194/essd-8-141-2016



Always quote above citation when using data! You can download the citation in several formats below.

[RIS Citation](#) [BibTeX Citation](#) [Text Citation](#) [Facebook](#) [Twitter](#) [Google+](#) [Show Map](#) [Google Earth](#)

Abstract:

On September 9th 2014, an intensive drifter deployment was carried out in the Strait of Gibraltar. In the frame of the EU MED Program MEDESS-4MS, the MEDESS-GIB experiment consisted of the deployment of 35 satellite tracked drifters, mostly of CODE-type, equipped with temperature sensor sampling at a rate of 30 minutes. Drifters were distributed along and on both sides of the Strait of Gibraltar. The MEDESS-GIB deployment plan was designed as to ensure quasi-synoptic spatial coverage. To this end, 4 boats covering an area of about 680 NM2 in 6 hours were coordinated. As far as authors know, this experiment is the most important exercise in the area in terms of number of drifters released. Collected satellite-tracked data along drifter trajectories have been quality controlled and processed to build the here presented MEDESS-GIB data set.

Coverage:

Median Latitude: 36.201364 * Median Longitude: -2.514722 * South-bound Latitude: 28.415600 * West-bound Longitude: -23.914800 * North-bound Latitude: 44.582800 * East-bound Longitude: 31.093800

Data sets in peer-reviewed journals

Earth System Science Data

- ▶ "reuse of high-quality data of benefit to Earth system sciences"
- ▶ 30 articles in 2017 (as of July 24th)

The screenshot shows the article page for "The MEDESS-GIB database: tracking the Atlantic water inflow" in Earth System Science Data, Volume 8, Issue 1, published on 29 Mar 2016. The article is by Marcos García Sotillo¹, Emilio García-Ladona², Alejandro Orfila³, Pablo Rodríguez-Rubio⁴, José Cristóbal Maraver⁵, Daniel Conti⁶, Elena Padorno¹, José Antonio Jiménez², Este Capó⁷, Fernando Pérez², Juan Manuel Sayol⁸, Francisco Javier de los Santos⁴, Arancha Amo¹, Ana Riezu³, Charles Troupin⁹, Joaquín Tintore¹⁰, and Enrique Álvarez-Fanjul¹. The abstract describes an intensive drifter deployment in the Strait of Gibraltar as part of the MEDESS-4MS Project, involving 35 satellite-tracked drifters. The article is available through the PANGAEA repository (doi:10.1594/PANGAEA.853701). The page includes navigation links for Article, Peer review, Metrics, and Related articles, and social media sharing options.

The MEDESS-GIB database: tracking the Atlantic water inflow

Marcos García Sotillo¹, Emilio García-Ladona², Alejandro Orfila³, Pablo Rodríguez-Rubio⁴, José Cristóbal Maraver⁵, Daniel Conti⁶, Elena Padorno¹, José Antonio Jiménez², Este Capó⁷, Fernando Pérez², Juan Manuel Sayol⁸, Francisco Javier de los Santos⁴, Arancha Amo¹, Ana Riezu³, Charles Troupin⁹, Joaquín Tintore¹⁰, and Enrique Álvarez-Fanjul¹

¹Puertos del Estado, 28041 Madrid, Spain
²ICM-CSIC, 08003 Barcelona, Spain
³IMDEA (CSIC-GIB), 07190 Esporles, Spain
⁴Autoridad Portuaria Bahía de Algeciras, 11207 Algeciras, Spain
⁵SASEMAR, 28011 Madrid, Spain
⁶SOCIB, 07121 Palma de Mallorca, Spain

Received: 02 Jul 2015 – Discussion started: 04 Nov 2015
Revised: 03 Mar 2016 – Accepted: 08 Mar 2016 – Published: 29 Mar 2016

Abstract. On 9 September 2014, an intensive drifter deployment was carried out in the Strait of Gibraltar. In the frame of the MEDESS-4MS Project (EU MED Program), the MEDESS-GIB experiment consisted of the deployment of 35 satellite tracked drifters, mostly of CODE-type, equipped with temperature sensor sampling at a rate of 30 min. Drifters were distributed along and on both sides of the Strait of Gibraltar. The MEDESS-GIB deployment plan was designed as to ensure quasi-synoptic spatial coverage. To this end, four boats covering an area of about 680 NM² in 6 h were coordinated. As far as these authors know, this experiment is the most important exercise in the area in terms of number of drifters released. Collected satellite-tracked data along drifter trajectories have been quality controlled and processed to build the presented MEDESS-GIB database. This paper reports the MEDESS-GIB data set that comprises drifter trajectories, derived surface currents and in situ SST measurements collected along the buoys tracks. [This series of data is available through the PANGAEA \(Data Publisher for Earth and Environmental Science\) repository, with the following doi:10.1594/PANGAEA.853701.](https://doi.org/10.1594/PANGAEA.853701) Likewise, the MEDESS-GIB data will be incorporated as part of the Copernicus Marine historical products. The MEDESS-GIB data set provides a complete Lagrangian view of the surface inflow of Atlantic waters through the Strait of Gibraltar and thus, very useful data for further studies on the surface circulation patterns in the Alboran Sea, and their links with one of the most energetic Mediterranean Sea flows: the Algerian Current.

Data sets in peer-reviewed journals

Scientific Data

- ▶ *"promote wider data sharing and reuse, and to credit those that share"*
- ▶ 127 publications in 2017 as of September 4 (all disciplines)

SCIENTIFIC DATA 



Altmetric: 40

[More detail >>](#)

Data Descriptor | [OPEN](#)

RiceAtlas, a spatial database of global rice calendars and production

Alice G. Laborte , Mary Anne Gutierrez, Jane Girly Balanza, Kazuki Saito, Sander J. Zwart, Mirco Boschetti, M.V.R. Murty, Lorena Villano, Jorrel Khalil Aunario, Russell Reinke, Jawoo Koo, Robert J. Hijmans & Andrew Nelson

How to go from data to products?

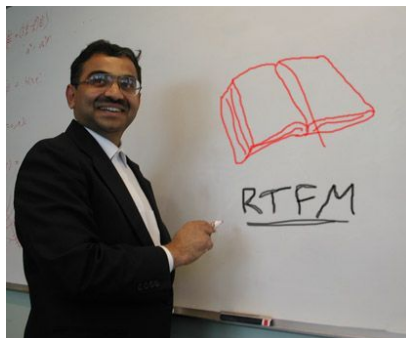
How to go from data to products?

- ▶ Read the publication?



How to go from data to products?

- ▶ Read the publication?
- ▶ Read the manual?



How to go from data to products?

- ▶ Read the publication?
- ▶ Read the manual?
- ▶ Get and re-use code referenced in publication

8 Code and data availability

The version of FESOM2.0 used to carry out simulations reported here can be accessed from <https://swrepo1.awi.de/svn/awi-fvom/> after registration. The updated versions will be available through the same link in future. For convenience, the configuration used, together with the meshes, is archived at [doi:10.5281/zenodo.161319](https://doi.org/10.5281/zenodo.161319). Mesh partitioning in FESOM is based on a METIS Version 5.1.0 package developed at the Department of Computer Science & Engineering at the University of Minnesota (<http://glaros.dtc.umn.edu/gkhome/views/metis>). METIS and pARMS (Li et al., 2003) present separate libraries which are freely available subject to their licenses. FESOM1.4 is available at <https://swrepo1.awi.de/projects/fesom/> (requires registration). The Polar Science Center Hydrographic Climatology (Steele et al., 2001) used to initialize runs of CORE-II atmospheric forcing data (Large and Yeager, 2009) is freely available online. The simulation results can be obtained from the authors on request.

Results:

numerical model outputs (re-analysis, forecasts)
climatologies build from in situ data
aggregated datasets

Goals:

proper citation in publications
control of different versions of the same product


Example: SeaDataNet Product Catalog (Sextant) Mediterranean Sea: Temperature and Salinity Climatology V1.1

Mediterranean Sea - Temperature and Salinity Climatology V1.1

PRODUCT IDENTIFICATION

Title
External shortname

Mediterranean Sea - Temperature and Salinity Climatology V1.1
SEADATANET_MedSea_climatology_V1.1_public



Abstract

Mediterranean Sea Climatology computed from the SeaDataNet V1.1 aggregated dataset. The version used for the DIVA software is the 4.6.9. The period covers 1900-2013. For data access please register at <http://www.marine-id.org>

Descriptive keywords

Feature type
Sea areas

Ocean discovery parameters

Ocean chemistry variable


Usage license

surface
Mediterranean Region
Mediterranean Sea
Temperature of the water column
Salinity of the water column
ITS-90 water temperature
Water body salinity
SeaDataNet licence

SPATIO-TEMPORAL EXTENT

Geographical extent

Geographic bounding box



- ▶ Internal permanent shortname: 90ae7a06-8b08-4afe-83dd-ca92bc99f5c0
- ▶ DOI: 10.12770/90ae7a06-8b08-4afe-83dd-ca92bc99f5c0

Mediterranean Sea - Temperature and Salinity Climatology V1.1

Date(s)	2015-11-30 (Creation)
Custodian(s):	IFREMER / IDM/SISMER
Originator(s):	Istituto Nazionale di Geofisica e Vulcanologia - INGV, Sede di Bologna
Credit	Seadatanet
Version	1.1
DOI	10.12770/90ae7a06-8b08-4afe-83dd-ca92bc99f5c0
Abstract	Mediterranean Sea Climatology computed from the SeaDataNet V1.1 aggregated dataset . The version used for the DIVA software is the 4.6.9. The period covers 1900-2013. For data access please register at http://www.marine-id.org
Keywords	Oceanographic geographical features, Temperature of the water column, Salinity of the water column, ITS-90 water temperature, Water body salinity, Mediterranean Region, Mediterranean Sea
Lineage	The data used as input for this product have been extracted from the Seadatanet Download Service:
Utilisation	DIVA software is the 4.6.9.
Temporal Exten	
Data	

[/SDN_2015-11_TS_Med_Sea_Climatology_v1.1.zip](#)

Can we go further and have:

*"The version used for the DIVA software is the 4.6.9,
doi: [10.5281/zenodo.836727](https://doi.org/10.5281/zenodo.836727)" ?*

Geoscientific Model Development

- ▶ *"description, development, and evaluation of numerical models of the Earth system and its components"*
- ▶ *"geoscientific model descriptions, from statistical models to box models to GCMs"*
- ▶ *"Inclusion of Code and/or data availability sections is mandatory for all papers"*

Geosci. Model Dev., 7, 225–241, 2014
https://doi.org/10.5194/gmd-7-225-2014
© Author(s) 2014. This work is distributed under
the Creative Commons Attribution 3.0 License.

Volume 7, issue 1



Article

Peer review

Metrics

Related articles

Methods for assessment of models

29 Jan 2014

divand-1.0: n -dimensional variational data analysis for ocean observations

A. Barth^{1,*}, J.-M. Beckers¹, C. Troupin², A. Alvera-Azcárate¹, and L. Vandenbulcke^{3,4}

¹GHER, University of Liège, Liège, Belgium

²IMEDEA, Esporles, Illes Balears, Spain

³seamod.ro/Jaloo srl, Sat Valeni, Com. Salatrucu, Jud. Arges, Romania

⁴CIIMAR, University of Porto, Porto, Portugal

*Invited contribution by A. Barth, recipient of the EGU Arne Richter Award for Outstanding Young Scientists 2010.

Received: 07 Jun 2013 – Discussion started: 23 Jul 2013

Revised: 18 Oct 2013 – Accepted: 12 Dec 2013 – Published: 29 Jan 2014

doi:10.5194/gmd-7-225-2014

Earth Science Informatics

- ▶ *"(...) cutting-edge, and provocative scientific work in the area of Earth Science Informatics (...)"*
- ▶ *"(...) all aspects of computer applications to the acquisition, storage, processing, interchange, and visualization of data"*
- ▶ *Sub-disciplines: Ontology, Simulation and Modeling, Information Systems Applications*


[Earth Science Informatics](#)

November 2016, Volume 9, [Issue 4](#), pp 525-534

Information infrastructure for Australia's Integrated Marine Observing System

Authors

[Authors and affiliations](#)

Marton G. Hidas , Roger Proctor, Natalia Atkins, Julian Atkinson, Laurent Besnard, Peter Blain, Philip Bohm, Jon Burgess, Kim Finney, Dan Fruehauf, Guillaume Galibert, Xavier Hoenner, Jacqui Hope, Craig Jones, Sebastien Mancini, [show 4 more](#)

[Open Access](#) | Methodology Article

First Online: 25 May 2016

1
Shares

821
Downloads

doi:10.1007/s12145-016-0266-2

Methods in Oceanography

- ▶ *"original research on new methods in all aspects of oceanographic research"*
- ▶ *"significant advances in the development of new methods for the interpretation of either existing or future data"*



Methods in Oceanography

Volume 17, December 2016, Pages 50-82



Review

Potential for an underwater glider component as part of the Global Ocean Observing System

T. Liblik ^{a, b} ✉, J. Karstensen ^a, P. Testor ^c, P. Alenius ^d, D. Hayes ^e, S. Ruiz ^f, K.J. Heywood ^g, S. Pouliquen ^h, L. Mortier ^c, E. Mauri ⁱ

🗄 [Show more](#)

<https://doi.org/10.1016/j.mio.2016.05.001>

[Get rights and content](#)

doi:10.1016/j.mio.2016.05.001

🚫 discontinued as of 2017

Definition: online infrastructures whose objective is to persistently store and archive digital artifacts relevant to research:

- ▶ articles
- ▶ data
- ▶ images
- ▶ code
- ▶ ...

Figshare: "improve the organization of users' research"

- ▶ file upload, collaborative spaces, DOI attribution, ...
- ▶ on the platform: figures, datasets, media (including video), papers (including pre-prints), posters, code, and filesets.

CNR-ISMAR in situ observations network

12.10.2016, 11:04 by [Stefano Menegon](#), Pierluigi Penna, Mauro Bastianini, Giuseppe Stanghellini, Francesco Riminucci, [Alessandro Sarretta](#)

Presentation "CNR-ISMAR in situ observations network: new approaches for an interactive, high performance, interoperable system" given at the IMDIS 2016, International Conference on Marine Data and Information Systems - Gdansk (Poland) - October 11-13, 2016.

298

views

37

downloads

0

citations

CATEGORIES

• [Oceanography](#)

KEYWORD(S)

[in-situ observations](#)

[interoperability](#)

[sensors](#)

[observational network](#)

[https:](https://figshare.com/articles/CNR-ISMAR_in_situ_observations_network/4001448)

[//figshare.com/articles/CNR-ISMAR_in_situ_observations_network/4001448](https://figshare.com/articles/CNR-ISMAR_in_situ_observations_network/4001448)

DSpace

- ▶ has to be installed on a server manager by the search institution
- ▶ Sandbox: <http://demo.dspace.org/>

According to the [Registry of Open Access Repositories \(ROAR\)](#)

1759 institutions or companies as users

1374 repositories dedicated to Institutional or
Departmental Research

32 repositories dedicated to Research Data

3 dedicated to Open and Linked Data

Comprehensive Knowledge Archive Network (CKAN):

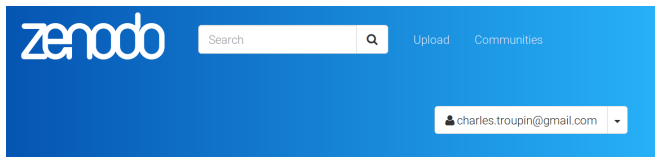
can be considered as a tool for making open data websites

- ▶ streamline publishing, sharing, finding and using data
- ▶ used by numerous governments, organisations and communities around the world
- ▶ has to be installed on a server manager by the search institution

Software tools and methods: Research platforms

Zenodo: research data repository funded by the European Commission

- ▶ ingest all research outputs and any file format
- ▶ DOIs assigned to have uniquely citable files
- ▶ integrated into reporting lines for research via OpenAIRE.



Recent uploads

September 1, 2017 (v20) **Software** **Open Access**




View

matplotlib/matplotlib v2.1.0rc1




Michael Droettboom; Thomas A Caswell; John Hunter; Eric Firing; Jens Hedegaard Nielsen; Nelle Varoquaux; Benjamin Root; Elliott Sales de Andrade; Phil Elson; Darren Dale; Jae-Joon Lee; Jouni K. Seppänen; Antony Lee; Ryan May; Damon McDougall; David Stansby; Andrew Straw; Paul Hobson; Tony S Yu; Eric Ma; Christoph Gohlke; Steven Silvester; Charlie Moad; Adrien F. Vincent; Jan Schulz; Peter Würtz; Federico Ariza; Cimarron; Thomas Hisch; Nikita Kniazev

matplotlib: plotting with Python

Comparison

Tool	CKAN	DSpace	Figshare	Zenodo
Open Source 	Yes	Yes	No	Yes
Ⓞ	ckan/ckan	DSpace/DSpace	–	zenodo/zenodo
Licence	Affero GNU GPL v3.0	BSD	–	GPL-2.0
1st released	November 2011	November 2002	January 2011	May 2013
Main technology	Python	Java	–	Python
Deployment	Local	Local	Cloud	Cloud
Integration with 	No	No	Yes	Yes
Integration with 	Yes	Not direct	Yes	Login

Comparison

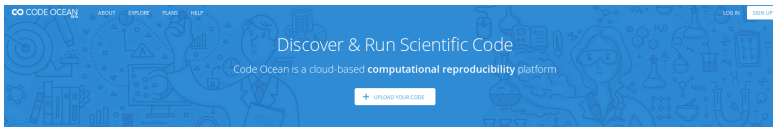
Tool	CKAN	DSpace	Figshare	Zenodo
Open Source	Yes	Yes	No	Yes
	ckan/ckan	DSpace/DSpace	–	zenodo/zenodo
Licence	Affero GNU GPL v3.0	BSD	–	GPL-2.0
1st released	November 2011	November 2002	January 2011	May 2013
Main technology	Python	Java	–	Python
Deployment	Local	Local	Cloud	Cloud
Integration with 	No	No	Yes	Yes
Integration with 	Yes	Not direct	Yes	Login

Choice for further tests: Zenodo

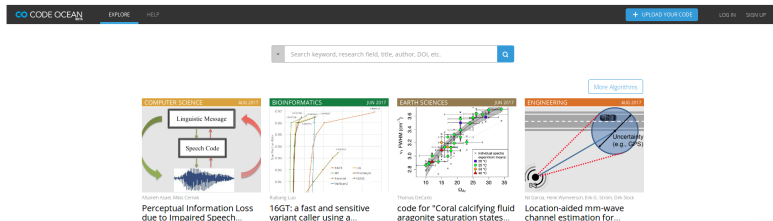
- 1 Free and open software
- 2 Cloud service, i.e. no installation
- 3 Coupling with GitHub
- 4 Login via ORCID

Computational reproducibility platform

Code Ocean: "easy way to share, discover and run code published in academic journals and conferences"



Code Ocean banner with navigation links (ABOUT, EXPLORE, PLANS, HELP), a search bar (LOG IN, SIGN UP), and the text "Discover & Run Scientific Code". Below the text is the statement "Code Ocean is a cloud-based computational reproducibility platform" and a button labeled "+ UPLOAD YOUR CODE".



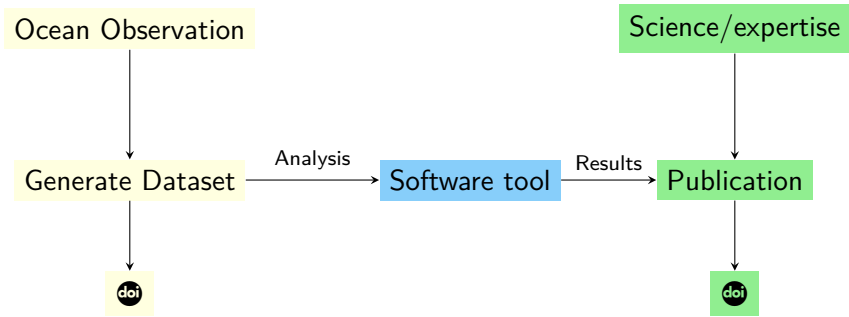
Code Ocean search results page showing a search bar with the text "Search keyword, research field, title, author, DOI, etc." and a magnifying glass icon. Below the search bar are four algorithm cards:

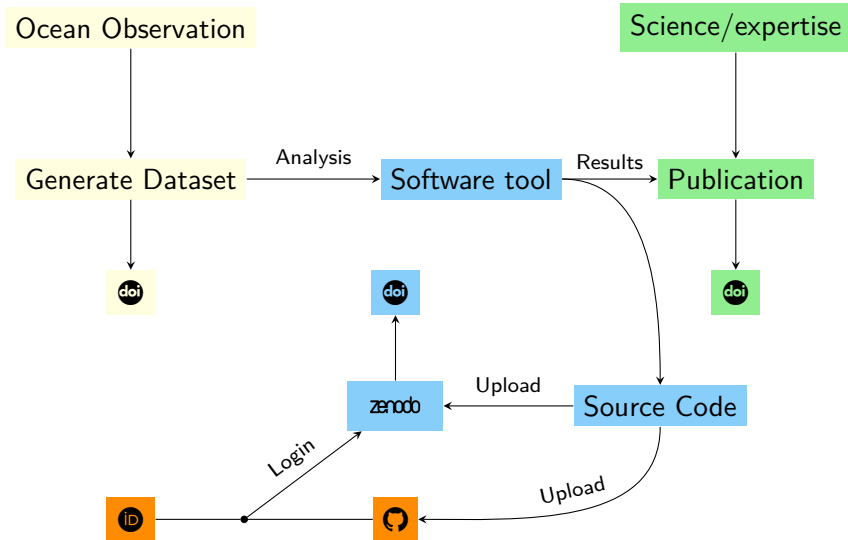
- COMPUTER SCIENCE** (Apr 2015): "Linguistic Message" and "Speech Code" diagram. Author: Asghar, Akash, Mike Conroy. Title: "Perceptual Information Loss due to Impaired Speech..."
- BIOINFORMATICS** (Jan 2011): "16GT: a fast and sensitive variant caller using a...". Author: Rafique, Laila.
- EARTH SCIENCES** (Jun 2017): "code for 'Coral calcifying fluid aragonite saturation states...". Author: Thomas D'Elia.
- ENGINEERING** (Apr 2015): "Location-aided mm-wave channel estimation for...". Author: Nil Garcia, Henrik Kyreniemi, Erik G. Ström, Oskari Stock.

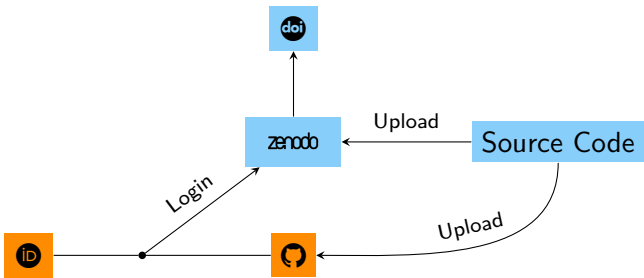
A "More Algorithms" button is visible above the Engineering card.

Motivations:

Reproducibility & Traceability







Reproducibility: **IF** same experiment
identical parameters
same dataset
same model
THEN same results

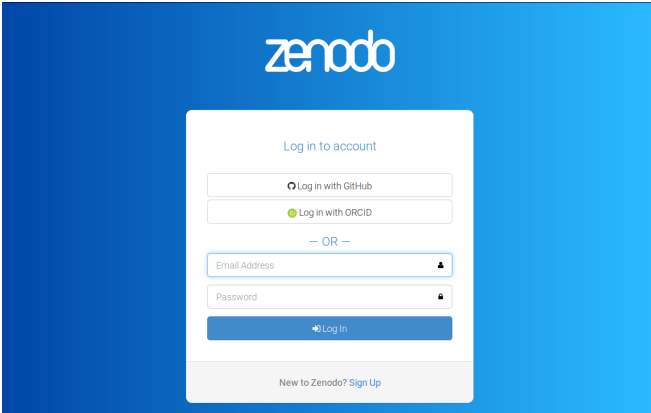
Traceability: all the elements used in the analysis/experiment:
accessible
properly described
uniquely identified

A closer look

to Zenodo


Login: 3 options

- 1 Use  account
- 2 Use  account
- 3 Create new  (Sign Up)



The screenshot shows the Zenodo login interface. At the top, the Zenodo logo is displayed in white on a blue background. Below the logo, the text "Log in to account" is centered. There are two buttons for social login: "Log in with GitHub" and "Log in with ORCID". Below these is a separator "— OR —". There are two input fields: "Email Address" and "Password". Below the input fields is a blue "Log In" button. At the bottom of the form, there is a link: "New to Zenodo? Sign Up".

Main page: linked accounts

[Upload](#) [Communities](#) ctroupin@isocib.es



[Home](#) / [Account](#) / [Linked accounts](#)




Settings

- Profile
- Change password
- Linked accounts**
- Applications
- Shared links
- GitHub

Linked accounts

Tired of entering password for Zenodo every time you sign in? Set up single sign-on with one or more of the services below:

-  **GitHub** ✓
Software collaboration platform, with one-click software preservation in Zenodo.
-  **ORCID** ✓
Connecting Research and Researchers.

About	Resources	Developers	Contribute	Funded by
About	Features	REST API	GitHub	
Contact	FAQ	OAI-PMH	Donate	
Policies				

Powered by [CERN Data Centre](#) & [Invenio](#)

[Privacy policy](#) [Terms of Use](#) [Support](#)

Upload: you can drop anything

Drag and drop files here

– or –

[Choose files](#)

(minimum 1 file required, max 50 GB per dataset - [contact us](#) for larger datasets)

Upload type required ▾

Publication Poster Presentation Dataset Image Video/Audio Software Lesson

Publication type

Basic information required ▾

Digital Object Identifier

Optional. Did your publisher already assign a DOI to your upload? If not, leave the field empty and we will register a new DOI for you. A DOI allows others to easily and unambiguously cite your upload. Please note that it is NOT possible to edit a Zenodo DOI once it has been registered by us, while it is always possible to edit a custom DOI.

Pre-reserve DOI

In particular: Software

(ok for stable code)

Upload: add metadata

■ Digital Object Identifier

Optional. Did your publisher already assign a DOI to your upload? If not, leave the field empty and we will register a new DOI for you. A DOI allows others to easily and unambiguously cite your upload. Please note that it is NOT possible to edit a Zenodo DOI once it has been registered by us, while it is always possible to edit a custom DOI.

 Reserve DOI 

📅 Publication date *

Required. Format: YYYY-MM-DD. In case your upload was already published elsewhere, please use the date of first publication.

📄 Title *

Required.

👤 Authors *



Upload: add metadata

Digital Object Identifier

Optional. Did your publisher already assign a DOI to your upload? If not, leave the field empty and we will register a new DOI for you. A DOI allows others to easily and unambiguously cite your upload. Please note that it is NOT possible to edit a Zenodo DOI once it has been registered by us, while it is always possible to edit a custom DOI.

 Reserve DOI 

Publication date *

Required. Format: YYYY-MM-DD. In case your upload was already published elsewhere, please use the date of first publication.

Title *

Required.

Authors *

Optional.

Optional.

Optional.

Optional.

Optional.

Upload metadata: licence

License required ▾

Access right *

- Open Access
- Embargoed Access
- Restricted Access
- Closed Access

Required. Open access uploads have considerably higher visibility on Zenodo.

License *

- GNU Affero General Public License v3**
- GNU Free Documentation License 1.3 with no cover texts and no invariant sections**
- GNU General Public License 2.0**
- GNU General Public License 3.0**
- GNU Lesser General Public License 2.1**

Not necessarily Open!

Upload metadata: funding!

Funding recommended ▼

Zenodo is integrated into reporting lines for research funded by the European Commission via OpenAIRE (<http://www.openaire.eu>). Specify grants which have funded your research, and we will let your funding agency know!

Grants

✕

SeaDataCloud - Further developing the pan-European infrastructure for marine data

SeaDataNet II: Pan-European infrastructure for ocean and marine data management

These grants are not yet available in OpenAIRE. It may take some time before it is available in OpenAIRE.

[+ Add another grant](#)

Common strategy for SeaDataCloud, ODIP, ...tools?

Upload metadata: funding!

OpenAIRE

Facebook Twitter LinkedIn YouTube RSS

BLOG | NEWSLETTER SIGN IN | REGISTER

HOME PARTICIPATE SEARCH MONITOR SUPPORT OPEN ACCESS

zenodo

Research. Shared.

New Version Relunched (Sept 12).
Find out what's new!

Strengthening Science: How Effective is Horizon2020 So Far?

OpenAIRE has been used as a source for data to measure the 'impact' of Horizon2020 so far. Open Access is a vital part of that...
The EC has released an interim set of [working documents](#) to measure the impact and effectiveness of the Horizon2020 Work Programme. Although it is still in the early days, the Work Programme is proving so far a success in terms of relevance, efficiency, and coherence.

RESEARCHERS

Why Open Access. How to comply. What services to use.

DATA PROVIDERS

How to make your content more visible. What to do to increase quality. How to join.

Common strategy for SeaDataCloud, ODIP, ...tools?

Upload: finish

Related/alternate identifiers	recommended ▶
Contributors	optional ▶
References	optional ▶
Journal	optional ▶
Conference	optional ▶
Book/Report/Chapter	optional ▶
Thesis	optional ▶
Subjects	optional ▶

About

About

Policies

Infrastructure

Principles

Contact

Blog

Blog

Help

FAQ

Features

What's New

Developers

REST API

OAI-PMH

Contribute

 GitHub

 Donate



Funded by

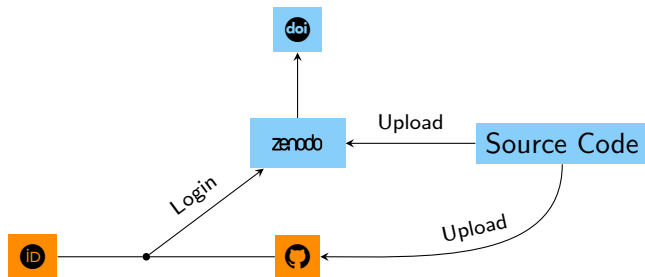


Zenodo & Github

working hand in hand

Requirements

- 1  or  account
- 2 Source code



In Zenodo: click on the GitHub tab

Settings

- Profile
- Change password
- Security
- Linked accounts
- Applications
- Shared links
- GitHub**

GitHub Repositories (updated now) Sync now ...

Get started


- 1 Flip the switch**

Select the repository you want to preserve, and toggle the switch below to turn on automatic preservation of your software.


ON
- 2 Create a release**







Go to GitHub and [create a release](#). Zenodo will automatically download a .zip-ball of each new release and register a DOI.
- 3 Get the badge**

After your first release, a DOI badge that you can include in GitHub README will appear next to your repository below.

 DOI [10.5281/zenodo.8475](#)
(example)

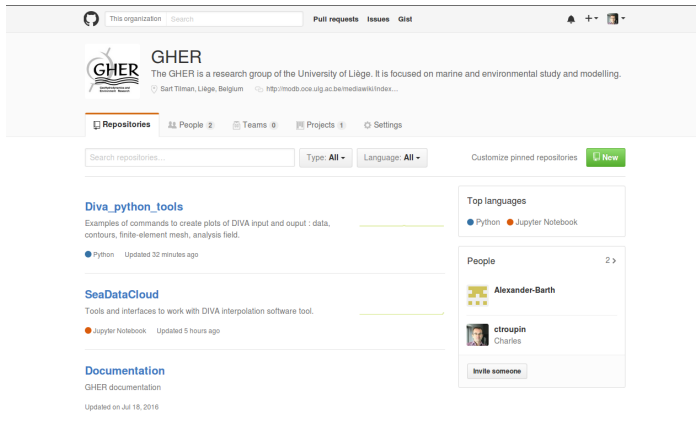
Generating for software releases

In Zenodo: turn on the synchronisation
for the selected  repositories

 ctroupin/python-oceans	<input type="checkbox"/> OFF
 gher-ulg/Diva_python_tools	<input checked="" type="checkbox"/> ON
 gher-ulg/Documentation	<input type="checkbox"/> OFF
 gher-ulg/SeaDataCloud	<input checked="" type="checkbox"/> ON
 socib/CMEMS-INSTAC-Dashboard	<input type="checkbox"/> OFF
 socib/HFRadarReports	<input type="checkbox"/> OFF


Generating for software releases

Go on your  home page



The screenshot shows the GitHub interface for the GHER organization. At the top, there is a navigation bar with the organization name, a search bar, and links for Pull requests, Issues, and Gist. Below this is the organization's profile, including its logo, name, and a brief description: "The GHER is a research group of the University of Liège. It is focused on marine and environmental study and modelling." The main content area is titled "Repositories" and features a search bar, filters for Type (All) and Language (All), and a "New" button. Three repositories are listed: "Diva_python_tools" (Python, updated 32 minutes ago), "SeaDataCloud" (Jupyter Notebook, updated 5 hours ago), and "Documentation" (updated on Jul 18, 2016). On the right side, there are two sidebars: "Top languages" showing Python and Jupyter Notebook, and "People" listing Alexander-Barth and ctroupin (Charles) with an "Invite someone" button.

This organization Search Pull requests Issues Gist

 **GHER**
The GHER is a research group of the University of Liège. It is focused on marine and environmental study and modelling.
Sart Tilman, Liège, Belgium <http://modb.oca.ucl.ac.be/mediswiki/Index...>

Repositories People Teams Projects Settings

Search repositories... Type: All Language: All Customize pinned repositories [New](#)

Diva_python_tools
Examples of commands to create plots of DIVA input and output : data, contours, finite-element mesh, analysis field.
Python Updated 32 minutes ago

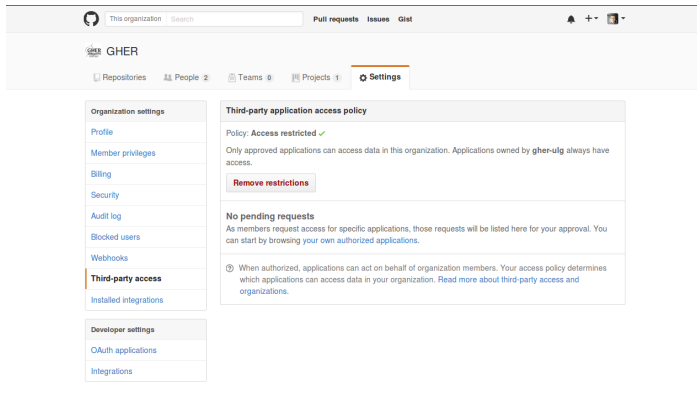
SeaDataCloud
Tools and interfaces to work with DIVA interpolation software tool.
Jupyter Notebook Updated 5 hours ago

Documentation
GHER documentation
Updated on Jul 18, 2016

Top languages
Python Jupyter Notebook

People 2 >
Alexander-Barth
ctroupin Charles
[Invite someone](#)

In settings: allow third-party access



The screenshot shows the GitHub organization settings page for 'GHER'. The 'Settings' tab is selected, and the 'Third-party application access policy' section is expanded. The policy is currently set to 'Access restricted', and there are no pending requests.

Organization settings

- Profile
- Member privileges
- Billing
- Security
- Audit log
- Blocked users
- Webhooks
- Third-party access**
- Installed integrations

Third-party application access policy

Policy: **Access restricted** ✓

Only approved applications can access data in this organization. Applications owned by **gher-ulg** always have access.

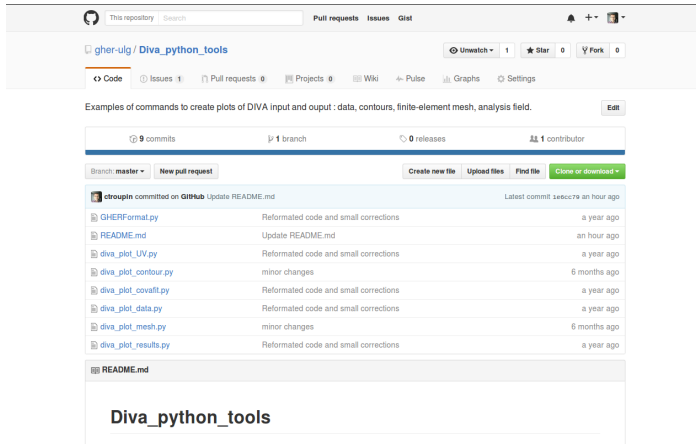
[Remove restrictions](#)

No pending requests

As members request access for specific applications, those requests will be listed here for your approval. You can start by browsing [your own authorized applications](#).

ⓘ When authorized, applications can act on behalf of organization members. Your access policy determines which applications can access data in your organization. [Read more about third-party access and organizations](#).

Open the selected project repository



The screenshot shows the GitHub interface for the repository `gher-ulg / Diva_python_tools`. At the top, there are navigation links for Pull requests, Issues, and Git. Below the repository name, there are buttons for Unwatch (1), Star (0), and Fork (0). A navigation bar includes links for Code, Issues (1), Pull requests (0), Projects (0), Wiki, Pulse, Graphs, and Settings.

Below the navigation bar, there is a text box containing the text: "Examples of commands to create plots of DIVA input and output : data, contours, finite-element mesh, analysis field." To the right of this text is an "Edit" button.

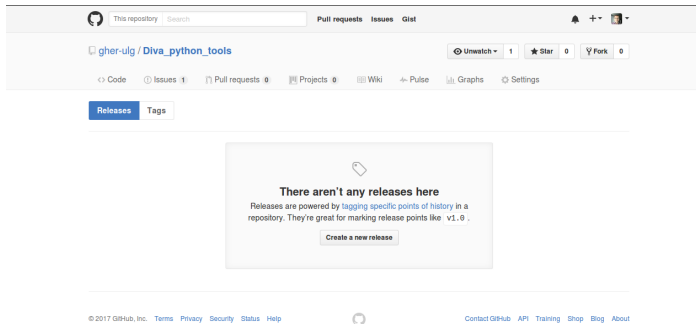
Below the text box, there is a summary bar showing 9 commits, 1 branch, 0 releases, and 1 contributor. Below this bar are buttons for "Branch: master", "New pull request", "Create new file", "Upload files", "Find file", and "Clone or download".

The main content area shows a list of commits by `ctroupin` on GitHub. The latest commit is dated "an hour ago". The list includes the following files and their commit times:

File	Description	Time
<code>GHERFormat.py</code>	Reformatted code and small corrections	a year ago
<code>README.md</code>	Update README.md	an hour ago
<code>diva_plot_UV.py</code>	Reformatted code and small corrections	a year ago
<code>diva_plot_contour.py</code>	minor changes	6 months ago
<code>diva_plot_covaft.py</code>	Reformatted code and small corrections	a year ago
<code>diva_plot_data.py</code>	Reformatted code and small corrections	a year ago
<code>diva_plot_mesh.py</code>	minor changes	6 months ago
<code>diva_plot_results.py</code>	Reformatted code and small corrections	a year ago

Below the commit list, there is a section for the `README.md` file, which contains the text: `Diva_python_tools`.

Click on the *Release* button



The screenshot shows the GitHub interface for the repository 'gher-ulg / Diva_python_tools'. At the top, there is a search bar and navigation links for 'Pull requests', 'Issues', and 'Gist'. Below the repository name, there are statistics: 'Unwatch' (1), 'Star' (0), and 'Fork' (0). A horizontal menu contains links for 'Code', 'Issues' (1), 'Pull requests' (0), 'Projects' (0), 'Wiki', 'Pulse', 'Graphs', and 'Settings'. Below this, there are two tabs: 'Releases' (active) and 'Tags'. The main content area features a large grey box with a tag icon and the text: 'There aren't any releases here'. Below this text, it explains that releases are created by tagging specific points in history and provides a 'Create a new release' button. At the bottom of the page, there is a footer with copyright information and links for 'Contact GitHub', 'API', 'Training', 'Shop', 'Blog', and 'About'.

Fill in the information and ...

Code Issues 1 Pull requests 0 Projects 0 Wiki Pulse Graphs Settings

Releases Tags

@ Target: master

Choose an existing tag, or create a new tag on publish

Write Preview Markdown supported

Release with separated files for each plot, using the Basemap module.

Attach files by dragging & dropping, [selecting them](#), or pasting from the clipboard.

Attach binaries by dropping them here or [selecting them](#).

This is a pre-release
We'll point out that this release is identified as non-production ready.

Publish release Save draft

Tagging suggestions

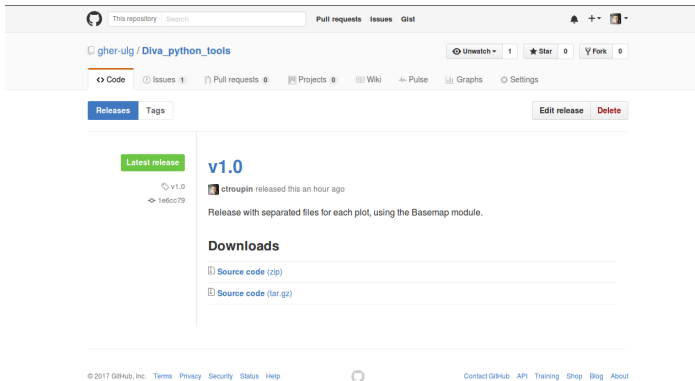
It's common practice to prefix your version names with the letter v. Some good tag names might be v1.0 or v2.3.4.

If the tag isn't meant for production use, add a pre-release version after the version name. Some good pre-release versions might be v0.2-alpha or v5.9-beta.3.

Semantic versioning

If you're new to releasing software, we highly recommend reading about [semantic versioning](#).

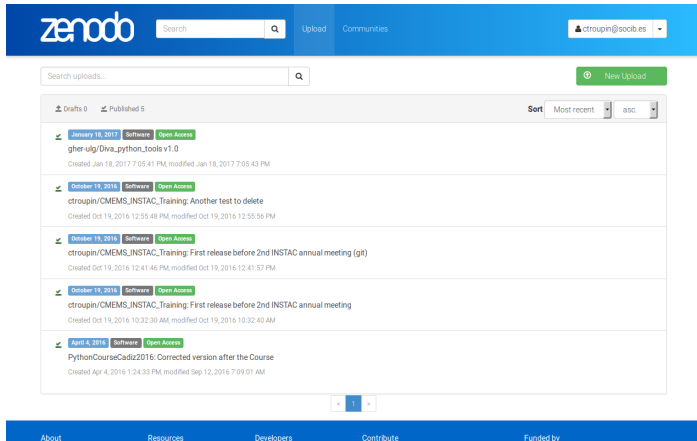
...make the release



The screenshot shows the GitHub interface for the repository 'gher-ulg / Diva_python_tools'. The 'Releases' tab is active, displaying the latest release 'v1.0' by user 'ctroupin', released 'this an hour ago'. The release description states: 'Release with separated files for each plot, using the Basemap module.' Under the 'Downloads' section, there are two links: 'Source code (zip)' and 'Source code (tar.gz)'. The repository navigation bar includes links for Code, Issues (1), Pull requests (0), Projects (0), Wiki, Pulse, Graphs, and Settings. The footer contains copyright information for 2017 GitHub, Inc. and links for Terms, Privacy, Security, Status, Help, Contact GitHub, API, Training, Shop, Blog, and About.

Generating for software releases

Check the project release on Zenodo and ...



The screenshot shows the Zenodo interface. At the top, there is a blue header with the Zenodo logo, a search bar, and navigation links for 'Upload' and 'Communities'. A user profile dropdown shows 'ctroupin@socib.es'. Below the header is a search bar for uploads and a 'New Upload' button. The main content area displays a list of uploads, sorted by 'Most recent' in 'asc' order. The list includes:

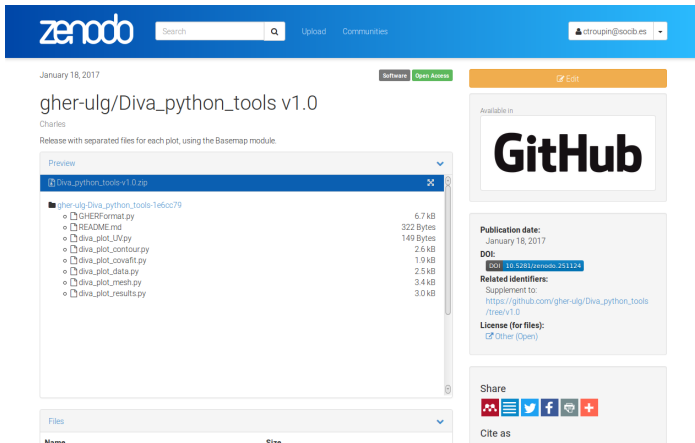
- January 18, 2017** | Software | Open Access
gher-ulg/Dirva_python_tools v1.0
Created Jan 18, 2017 7:05:41 PM, modified Jan 18, 2017 7:05:43 PM
- October 19, 2016** | Software | Open Access
ctroupin/CMEMS_INSTAC_Training: Another test to delete
Created Oct 19, 2016 12:55:48 PM, modified Oct 19, 2016 12:55:56 PM
- October 19, 2016** | Software | Open Access
ctroupin/CMEMS_INSTAC_Training: First release before 2nd INSTAC annual meeting (git)
Created Oct 19, 2016 12:41:46 PM, modified Oct 19, 2016 12:41:57 PM
- October 19, 2016** | Software | Open Access
ctroupin/CMEMS_INSTAC_Training: First release before 2nd INSTAC annual meeting
Created Oct 19, 2016 10:32:30 AM, modified Oct 19, 2016 10:32:40 AM
- April 4, 2016** | Software | Open Access
PythonCourseCadiz2016: Corrected version after the Course
Created Apr 4, 2016 1:24:33 PM, modified Sep 12, 2016 7:09:01 AM

At the bottom of the page, there is a blue footer with navigation links: 'About', 'Resources', 'Developers', 'Contribute', and 'Funded by'.

Generating for software releases

...get the  badge

and celebrate



The screenshot shows the Zenodo interface for a software release. At the top is the Zenodo logo, a search bar, and navigation links for 'Upload' and 'Communities'. The user 'ctroupin@soib.es' is logged in. The release is titled 'gher-ulg/Diva_python_tools v1.0' and is categorized as 'Software'. The release date is 'January 18, 2017'. The author is 'Charles'. The description is 'Release with separated files for each plot, using the Basemap module.' A file browser shows a zip file 'gher-ulg-Diva_python_tools-1e6cc79.zip' containing several Python files and a README. The right sidebar includes a 'GitHub' badge, 'Publication date: January 18, 2017', 'DOI: 10.5281/zenodo.251124', 'Related identifiers' (a GitHub link), 'License (for files): Other (Open)', and a 'Share' section with social media icons.

zenodo Search Upload Communities ctroupin@soib.es

January 18, 2017 Software Open Access Edit

gher-ulg/Diva_python_tools v1.0

Charles

Release with separated files for each plot, using the Basemap module.

Preview

- gher-ulg-Diva_python_tools-1e6cc79
 - GHERFormat.py 6.7 kB
 - README.md 322 Bytes
 - diva_plot_UV.py 149 Bytes
 - diva_plot_contour.py 2.6 kB
 - diva_plot_covsfit.py 1.9 kB
 - diva_plot_data.py 2.5 kB
 - diva_plot_mesh.py 3.4 kB
 - diva_plot_results.py 3.0 kB

Files

Name	Size
------	------

Available in

GitHub

Publication date:
January 18, 2017

DOI:
[10.5281/zenodo.251124](https://doi.org/10.5281/zenodo.251124)

Related identifiers:
Supplement to:
https://github.com/gher-ulg/Diva_python_tools/tree/v1.0

License (for files):
[Other \(Open\)](#)





Share

Cite as

Use case 1

get DOI for Diva releases

Diva (simplified) development history

- 1990's: Variational Interpolation Method (Fortran 77)
only 2D interpolations
- 2006 SeaDataNet, code refactory and set of bash scripts
- 2007 🖱️ with ODV 
- 2008 code in Subversion , distribution through GHER web page
- 2009 new modules in Fortran 90
for loops over depth and time
- 2012 new error calculation technique
- 2017 switch from  to **git**, distribution via 

Easy way

- 1 Create a new repository with the latest release of the code
- 2 Lose all the history of the changes, the previous releases and developing branches



Hard/conservative way

- 1 Git repository whose structure reflects that of SVN (trunk, branches, tags)
- 2 Use the `git-svn` bridge
- 3 End up with a new GitHub repos with all the history

Use-case: Diva releases

- 1 Switch from SVN to GitHub (conserving the history)

Resources:

- ▶ <https://git-scm.com/book/en/v2/Git-and-Other-Systems-Migrating-to-Git>
- ▶ <http://john.albin.net/git/convert-subversion-to-git>
- ▶ <https://www.atlassian.com/git/tutorials/migrating-overview>

Use-case: Diva releases

- 1 Switch from SVN to GitHub (conserving the history)
- 2 Enable Diva repository on Zenodo

 gher-ulg/DIVA

DOI 10.5281/zenodo.265396

ON

Use-case: Diva releases

- 1 Switch from SVN to GitHub (conserving the history)
- 2 Enable Diva repository on Zenodo
- 3 Edit the different *tags* on GitHub to get DOI

The screenshot shows the GitHub interface for a repository. At the top, there are two tabs: 'Releases' and 'Tags', with 'Tags' being the active tab. To the right of these tabs are two buttons: 'Edit tag' and 'Delete'. Below the tabs, the repository name 'diva-4.6.5' is displayed, along with a commit hash '17d7517'. The main content area shows the tag name 'diva-4.6.5' in large blue text, followed by a commit message: 'swatelet tagged this on Apr 14, 2014 · 132 commits to master since this tag'. Below this, it says 'release 4.6.5'. A section titled 'Downloads' contains two links: 'Source code (zip)' and 'Source code (tar.gz)', each with a download icon.

Releases **Tags** Edit tag Delete

diva-4.6.5
17d7517

diva-4.6.5

swatelet tagged this on Apr 14, 2014 · 132 commits to master since this tag

release 4.6.5

Downloads

[Source code \(zip\)](#)

[Source code \(tar.gz\)](#)

Use-case: Diva releases

- 1 Switch from SVN to GitHub (conserving the history)
- 2 Enable Diva repository on Zenodo
- 3 Edit the different *tags* on GitHub to get DOI
- 4 Now we can have
"The version used for the DIVA software is the 4.6.9,
doi: [10.5281/zenodo.400968](https://doi.org/10.5281/zenodo.400968)

Use-case: Diva releases

- 1 Switch from SVN to GitHub (conserving the history)
- 2 Enable Diva repository on Zenodo
- 3 Edit the different *tags* on GitHub to get DOI
- 4 Now we can have
*"The version used for the DIVA software is the 4.6.9,
doi: 10.5281/zenodo.400968"*
- 5 Bonus: *"cite as"* and social media

Share



Cite as

GHER-Diva, Sylvain Watelet, Jean-Marie Beckers,
Charles Troupin, Alexander Barth, 2015. gher-
ulg/DIVA diva-4.6.9. doi:10.5281/zenodo.400968

Environmental Modelling and Software

Use case II

SOCIB Glider toolbox

Glider toolbox (Matlab/Octave)



SOCIB Glider toolbox is a set of MATLAB/Octave scripts and functions to manage the data collected by our Glider fleet

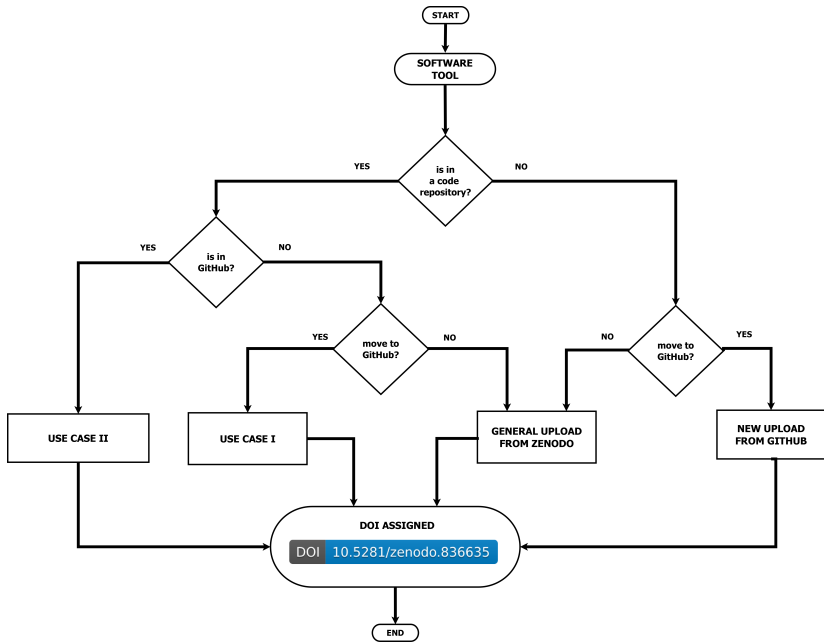


NetCDF-CF compliant

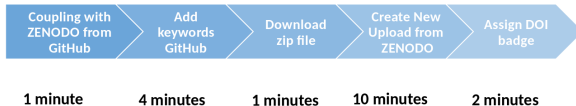
Motivations

- ▶ Publish results of our day by day work
- ▶ Track the utilization of our toolbox from research activities





User Experience



Publication date:
July 31, 2017

DOI:
[DOI: 10.5281/zenodo.874706](https://doi.org/10.5281/zenodo.874706)

Keyword(s):
[Ocean science](#) [physical oceanography](#) [data preservation](#)
[NetCDF](#) [Matlab](#) [Dataset](#) [Older](#) [Recent](#) [Search](#)

License (for files):
[CC](#) Creative Commons Attribution 4.0

Conclusions on Zenodo

- 1 Seamless integration with GitHub, login via ORCID
- 2 A big step toward reproducibility
- 3 A mature and user-friendly tool



*I don't mind your thinking slowly;
I mind your publishing faster than you think*

W. Pauli