User Guide - CoralSea products

This document introduces the **experimental products dedicated to the sea around Coral Sea** available via the FTP site at the address: /donnees/ftpsedr/DUACS/experimental/regional-coralsea

Coral Sea products are free and devoted to scientific applications and non-commercial use (as stated in the License agreement you have approved).

These products are processed in **Delayed Time (DT).**

Area considered:

- [-30, 0°N] [140, 220°E]

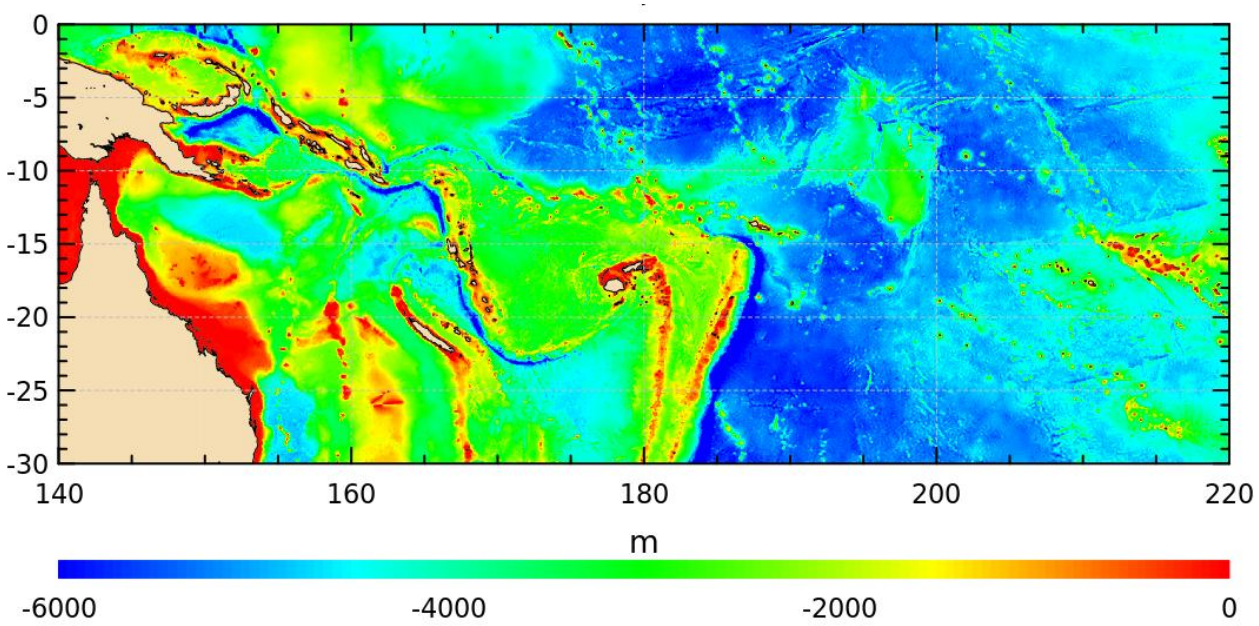

Figure : Bathymetry in the « regional-falkland" area

➢ **Sea Level Anomaly data** – folder "grids/msla/all-sat-merged/h"

The Sea Level Anomaly is constructed using the same methodology as for the global ocean product (see SSALTO/DUACS user Handbook for more information), except that different parameters were tuned specifically for the region (i.e. correlation scales & measurement error budget).

FPT path: regional-coralsea/delayed-time/grids/msla/all-sat-merged/h/
Resolution: 1/8°x1/8° (regular grid)
Delivery: daily
Data period: **[**June 2014 – May 2015]
File nomenclature: DELAY_ZONE _PRODUCT_DATEMAP_DATEPROD.FORMAT.gz

DELAY	dt	Delayed time products
PRODUCT	allsat_msla_h	Sea Level Anomaly
ZONE	coralsea	Coral Sea products
DATEMAP	YYYYMMDD	date of the dataset
DATEPROD	YYYYMMDD	delivery date of the dataset
FORMAT	nc	NetCDF

➢ **Absolute Dynamic Topography data** – folder "grids/madt/all-sat-merged/h"

The Absolute Dynamic Topography is constructed using regional grids of SLA products and global Mean Dynamic Topography MDT_CNES-CLS13 described in Rio et al, 2014.

Rio, M.-H., S. Mulet, and N. Picot (2014), Beyond GOCE for the ocean circulation estimate: Synergetic use of altimetry, gravimetry, and in situ data provides new insight into geostrophic and Ekman currents, Geophys. Res. Lett., 41, doi:10.1002/2014GL061773.

FPT path: regional-coralsea/delayed-time/grids/madt/all-sat-merged/h/
Resolution: 1/8°x1/8° (regular grid)
Delivery: daily
Data period: **[**June 2014 – May 2015]
File nomenclature: DELAY_ZONE _PRODUCT_DATEMAP_DATEPROD.FORMAT

DELAY	dt	Delayed time products
PRODUCT	allsat_madt_h	Absolute dynamic topography
ZONE	coralsea	Coral Sea products
DATEMAP	YYYYMMDD	date of the dataset
DATEPROD	YYYYMMDD	delivery date of the dataset
FORMAT	nc	NetCDF

➢ **Anomalies of the Geostrophic Current data** – folders "grids/msla/all-sat-merged/uv" & "grids/msla/all-sat-merged/cuv"

The Anomalies of the Geostrophic Current is deduced from regional SLA field using stencil width methodology (Arbic et al, 2012). A version including a cyclogeostrophy correction (Penven et al, 2014) is also provided.

Arbic B. K, Scott R. B., Chelton D. B., Richman J. G. and Shriver J. F., Effects on stencil width on surface ocean geostrophic velocity and vorticity estimation from gridded satellite altimeter data, J. Geophys. Res., vol117, C03029, doi:10.1029/2011JC007367, 2012

Penven, P., I. Halo, S. Pous, and L. Marie (2014), Cyclogeostrophic balance in the Mozambique Channel, J. Geophys.Res. Oceans, 119, 1054–1067, doi:10.1002/2013JC009528.

FPT path: regional-coralsea/delayed-time/grids/msla/all-sat-merged/[c]uv/
Resolution: 1/8°x1/8° (regular grid)
Delivery: daily
Data period: **[**June 2014 – May 2015]
File nomenclature: DELAY_ZONE _PRODUCT_DATEMAP_DATEPROD.FORMAT

DELAY	dt	Delayed time products
PRODUCT	allsat_msla_uv	Anomalies of the Geostrophic Current
	allsat_msla_cuv	Anomalies of the Geostrophic Current corrected from cyclogeostrophy effect
ZONE	coralsea	Coral Sea products
DATEMAP	YYYYMMDD	date of the dataset
DATEPROD	YYYYMMDD	delivery date of the dataset
FORMAT	nc	NetCDF

➢ **Absolute Geostrophic Current data** – folder "grids/madt/all-sat-merged/uv" & "grids/madt/all-sat-merged/cuv"

The Absolute Geostrophic Current is deduced from regional ADT field using stencil width methodology (Arbic et al, 2012). A version including a cyclogeostrophy correction (Penven et al, 2014) is also provided.

FPT path: regional-coralsea/delayed-time/grids/madt/all-sat-merged/[c]uv/
Resolution: 1/8°x1/8° (regular grid)
Delivery: daily
Data period: **[**June 2014 – May 2015]
File nomenclature: [bar_]DELAY_ZONE _PRODUCT_DATEMAP_DATEPROD.FORMAT

DELAY	dt	Delayed time products
PRODUCT	allsat_madt_uv	Absolute Geostrophic Current
	allsat_madt_cuv	Absolute Geostrophic Current corrected from cyclogeostrophy effect
ZONE	coralsea	Coral Sea products
DATEMAP	YYYYMMDD	date of the dataset
DATEPROD	YYYYMMDD	delivery date of the dataset
FORMAT	nc	NetCDF

➢ **Ekman surface current data** – folder "grids/ekman_surface_currents/uv"

Ekman Surface currents are computed from ECMWF ERA INTERIM windstress with an Ekman model fitted onto drifting buoys [Rio et al. 2014 in prep]. They refer to the sea surface (0m and 15m levels). The products are daily mean currents.
FPT path: regional-coralsea/delayed-time/grids/ekman_surface_currents/uv/
Resolution: 1/8°x1/8° (regular grid)
Delivery: daily
Data period: [June 2014 – May 2015]
File nomenclature: DELAY_ZONE _PRODUCT_DATEMAP_DATEPROD.FORMAT

DELAY	dt	Delayed time products
PRODUCT	ekman_uv	Ekman surface current at 15m
ZONE	coralsea	Coral Sea products
DATEMAP	YYYYMMDD	date of the dataset
DATEPROD	YYYYMMDD	delivery date of the dataset
FORMAT	nc	NetCDF

➢ **Total surface current data** – folder "grids/total_surface_currents/all-sat-merged/uv" & "grids/total_surface_currents/all-sat-merged/cuv"

Total Surface currents are the sum of Absolute Geostrophic currents and Ekman currents. Ekman component refers to the sea surface (0m and 15m levels). The products are daily mean currents. A version including a cyclogeostrophy correction (Penven et al, 2014) is also provided.
FPT path: regional-coralsea/delayed-time/grids/total_surface_currents/all-sat-merged/[c]uv/
Resolution: 1/8°x1/8° (regular grid)
Delivery: daily
Data period: [June 2014 – May 2015]
File nomenclature: DELAY_ZONE _PRODUCT_DATEMAP_DATEPROD.FORMAT

DELAY	dt	Delayed time products
PRODUCT	allsat_total_uv_0m	Total surface current (Geostrophy+Ekman 0m)
	allsat_total_uv_15m	Total surface current (Geostrophy+Ekman 15m)
	allsat_total_cuv_0m	Total surface current (Geostrophy corrected from cyclogeactrophy+Ekman 0m)
	allsat_total_cuv_15m	Total surface current (Geostrophy corrected from cyclogeactrophy+Ekman 15m)
ZONE	falkland	Falkland Sea products
DATEMAP	YYYYMMDD	date of the dataset
DATEPROD	YYYYMMDD	delivery date of the dataset
FORMAT	nc	NetCDF

Note : The Total surface current product is obtained combining Ekman –15 meters) currents deduced from ECMWF 10m wind speed, and absolute geostrophic current from regional DT product.

➢ Contact us

For problems of connection, errors and such, please send us the error messages you're getting, and tell us the software you're using. This will help us answer more rapidly.
See also the FAQs

➢ How to site the Coral Sea products ?:

When using the Coral Sea experimental products, please cite:
"The altimeter and Ekman products were produced by Ssalto/Duacs and CLS with support from Cnes”