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CMEMS In Situ TAC

In Situ TAC Team



Copernicus © In Situ TAC Where we are?



3
components
:

- Space
- In situ

- Services

**Atmosphere
Monitoring**
**Climate Change
Marine Monitoring**
(CMEMS)

**Land Monitoring
Security
Emergency
Management**

**7 MFCs
(models)**

**GLO MFC
ARC MFC
BAL MFC
NWS MFC
IBI MFC
MED MFC
BS MFC**

8 TACs

(Observations)

**In Situ TAC
6 Space TACs:
OCTAC,
SLTAC, ...**

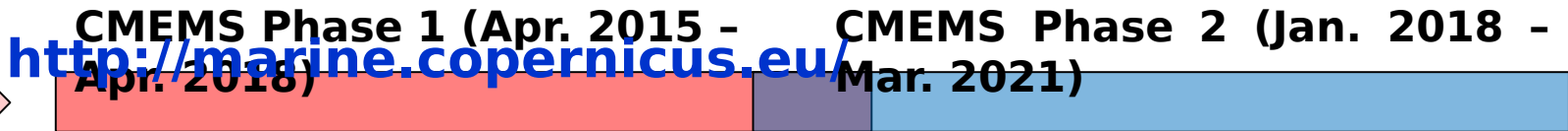
**1 Multi Ob.
CIS**



CMEMS: Evolution in time

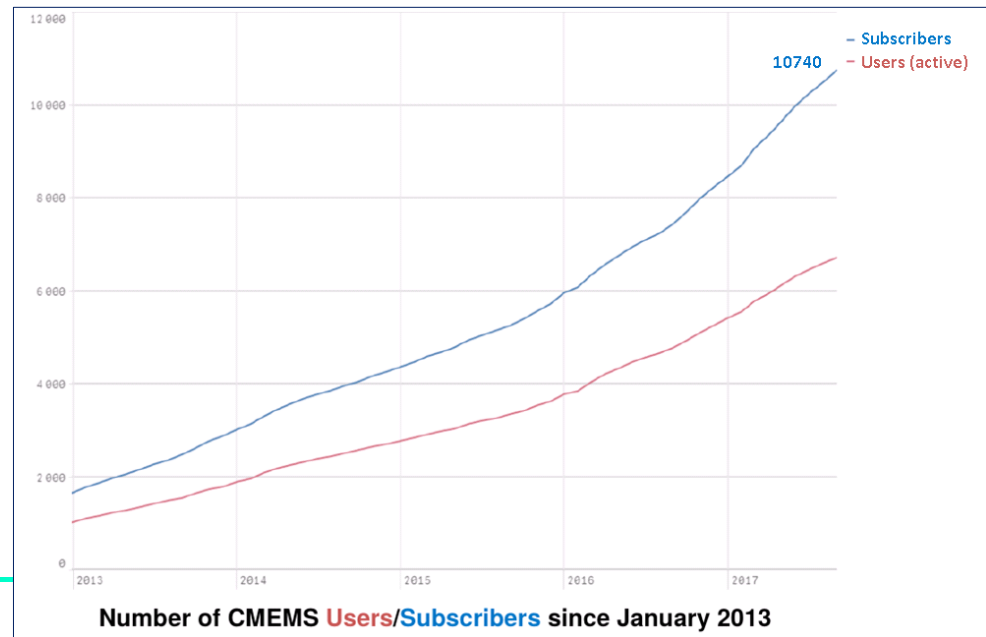
CMEMS: Copernicus Marine Environment Monitoring Service

GMES
MyOcean



Jan. - Apr. 2018: overlapping period between the two Phases: transition.

**Increasing number of users
(MyOcean- CMEMS)**



In Situ TAC: Organization (2018)

IN SITU TAC ORGANIZATION Leader: Ifremer / France



Management & Operations 7 Regions

Global:	Ifremer / France
Arctic:	IMR / Norway
Baltic:	SMHI / Sweden
NWS:	BSH / Germany
IBI:	Puertos del Estado / Spain
MED:	HCMR / Greece
Black Sea:	IOBAS / Bulgaria

Scientific Expertise Cross Cutting

Product Quality:	Oceanscope-PdE-IMR
Multi Year:	SOCIB-OceanScope-PdE
BGC assim.:	IMR

System Evolution

HF Radar:	AZTI-CNR-SOCIB
Carbon Data:	UIB
BGC assessment:	IMR-HCMR-SYKE
Monitoring:	SOCIB-PdE-HCMR



In Situ TAC: general description

General characteristics:

Fully operational service since April 2015

7 Components: Global + 6 regions (Arctic, Baltic, NWS, IBI, MED and BlackS)

Same data format (NetCDF - OceanSites 1.2)

Same FTP structure

Same RTQC & quality indexes

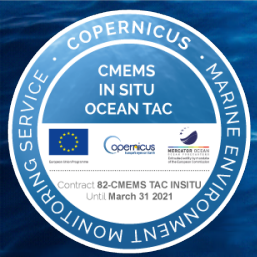
NRT (near real time) and **REP** (reprocessed) products

Functions implemented:

Acquisition from international networks and regional providers

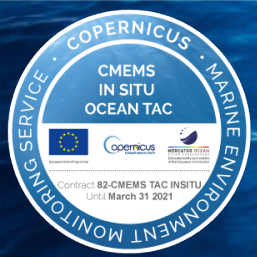
Quality control: agreed procedures following EuroGOOS DATA-MEQ WG recommendations in coherence with international agreements (SeaDataNet,

Product validation & assessment: assess the consistency of the data



In Situ TAC Products in 2018

- **T&S** NRT (daily) and REP (yearly update): Global and Regional
Provided since 2015
- **UV** (current) from Drifters REP (yearly update): Global
Provided since 2016
- **Wave** NRT (daily) and REP (yearly update): Global
Provided in NRT since 2017 and **REP 2018**
- **BGC** - O2 and Chla : NRT (daily) and REP (yearly update): Global
Provided in NRT since 2017 and **REP 2018**



In Situ TAC: changes and plans for Phase 2

- One common Distribution Unit: DIAS (Data Information and Access Service) cloud system @ **Unique FTP access** for all the CMEMS products
- **HF Radar integration** following INCREASE Service Evolution project coordinated by AZTI
Planned NRT for 2019 and REP 2020
- **Carbon data integration** in link with ICOS-Ocean operated by University of Bergen
Planned NRT & REP for 2019
- Prepare Ocean Monitoring Indicators (OMIs)
Planned for 2018, 2019 & 2020

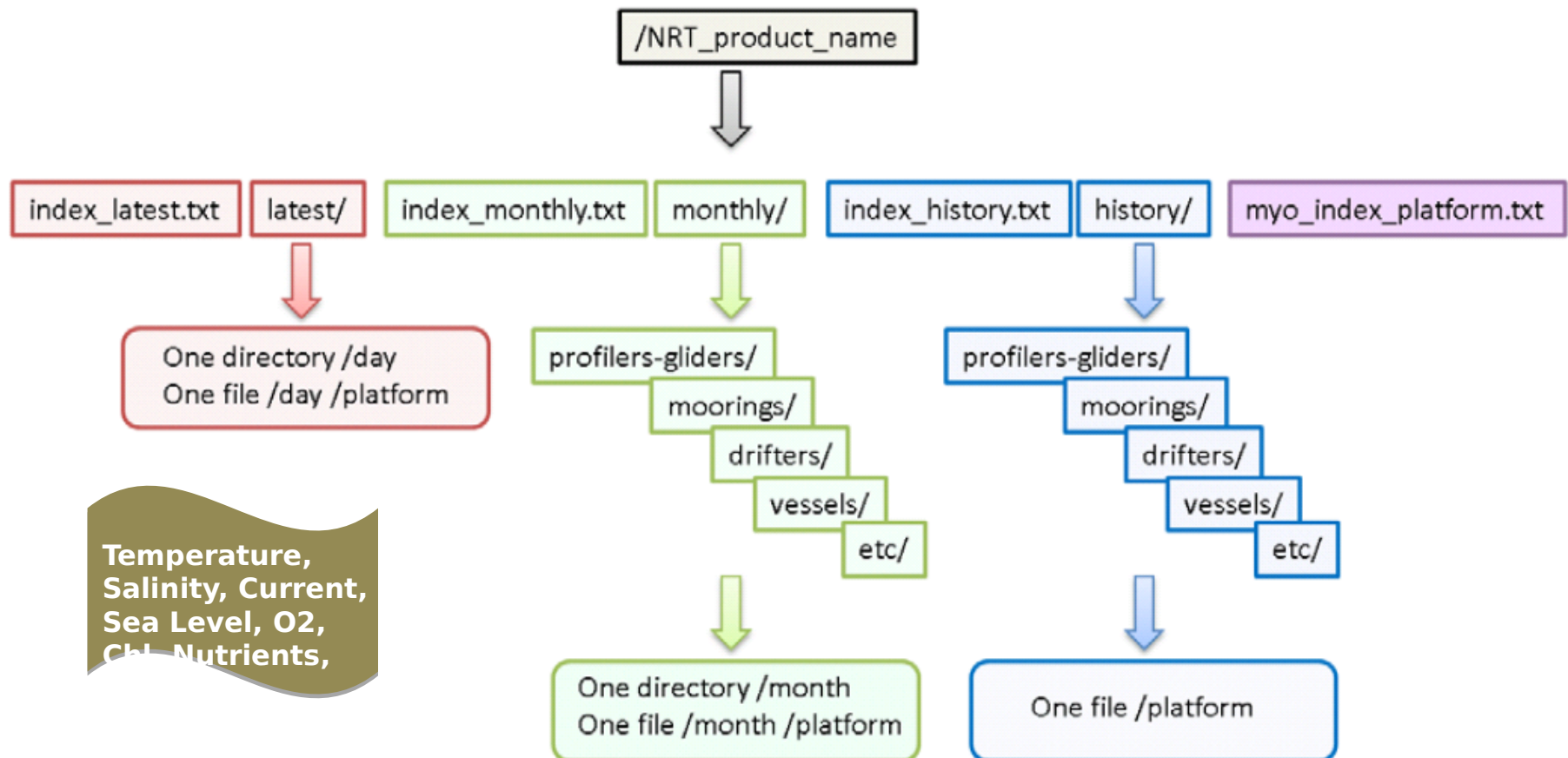


In Situ TAC: FTP structure (NRT)

Access with Copernicus user & passwd (free registration)

NRT product: data received in real time

history directory: aggregated NRT data



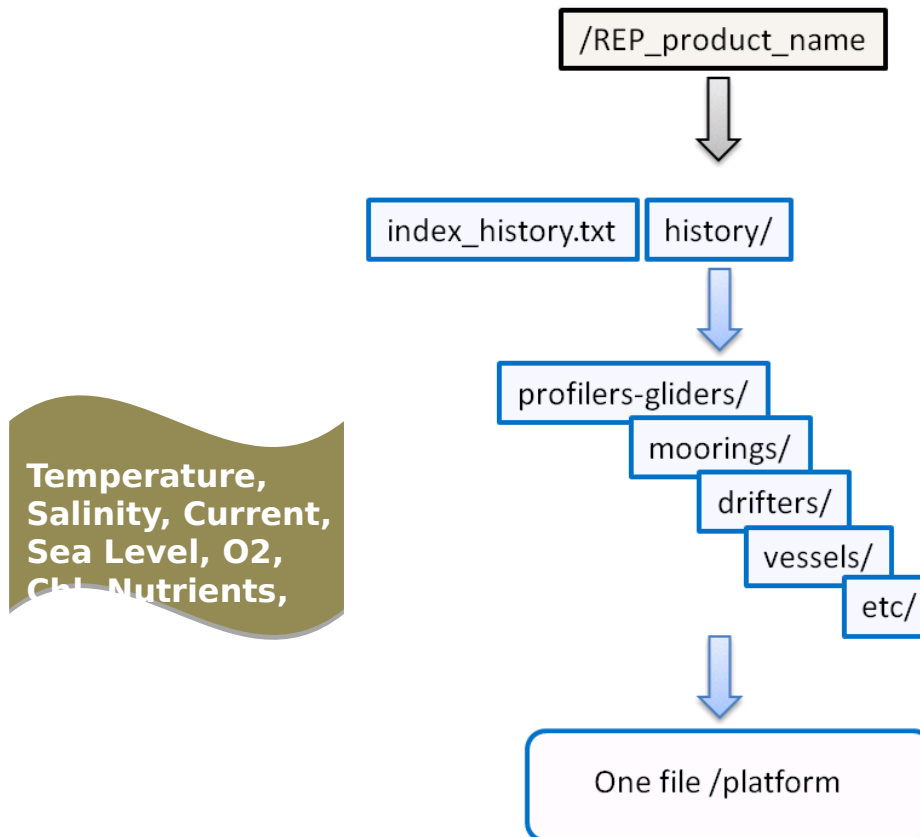


In Situ TAC: FTP structure (REP)

Access with MyOcean - Copernicus user & passwd

REP product: validated and assessed data

history directory: validated and assessed data from providers or NRT product





New In Situ TAC web site: <http://www.marineinsitu.eu/>

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CEMMS In Situ TAC

Copernicus Marine Environment Monitoring Service In Situ Thematic Assessment

 ACCESS DATA

 SUBMIT DATA

 DASHBOARD

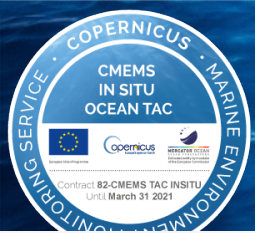
 MONITORING

 OCEANOTRON

 SOFTWARE

www.marineinsitu.eu/monitoring/

INSTAC General presentation



Monitoring

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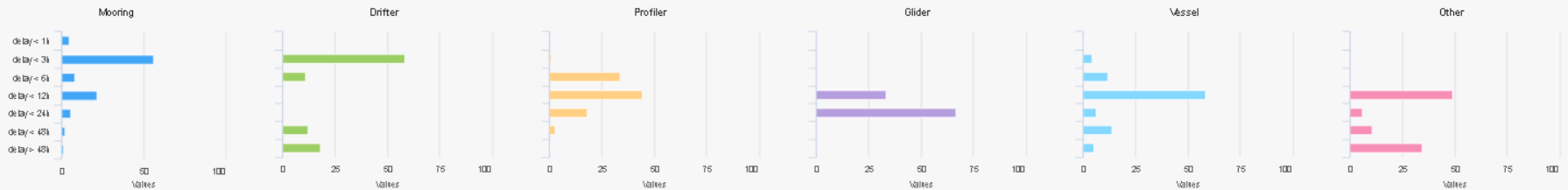


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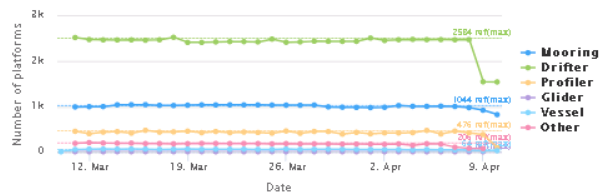
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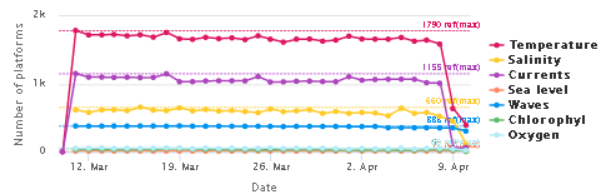
kpi1a : Delay of arrival during last week (%)



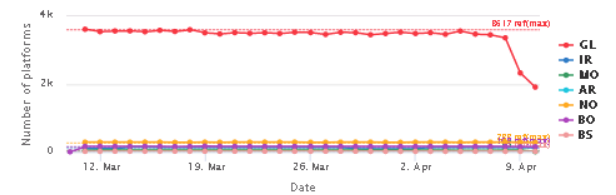
kpi2a : Number of platforms in the DU within a day per type



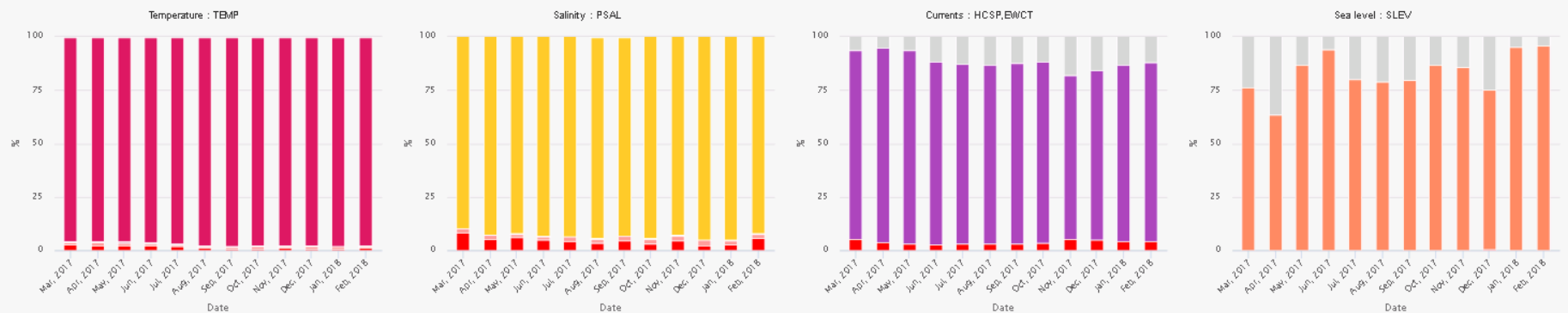
kpi2b : Number of platforms in the DU within a day per parameter



kpi2c : Number of platforms in the DU within a day per PU



kpi3b : Data quality flag percentages per parameter during specified period in months





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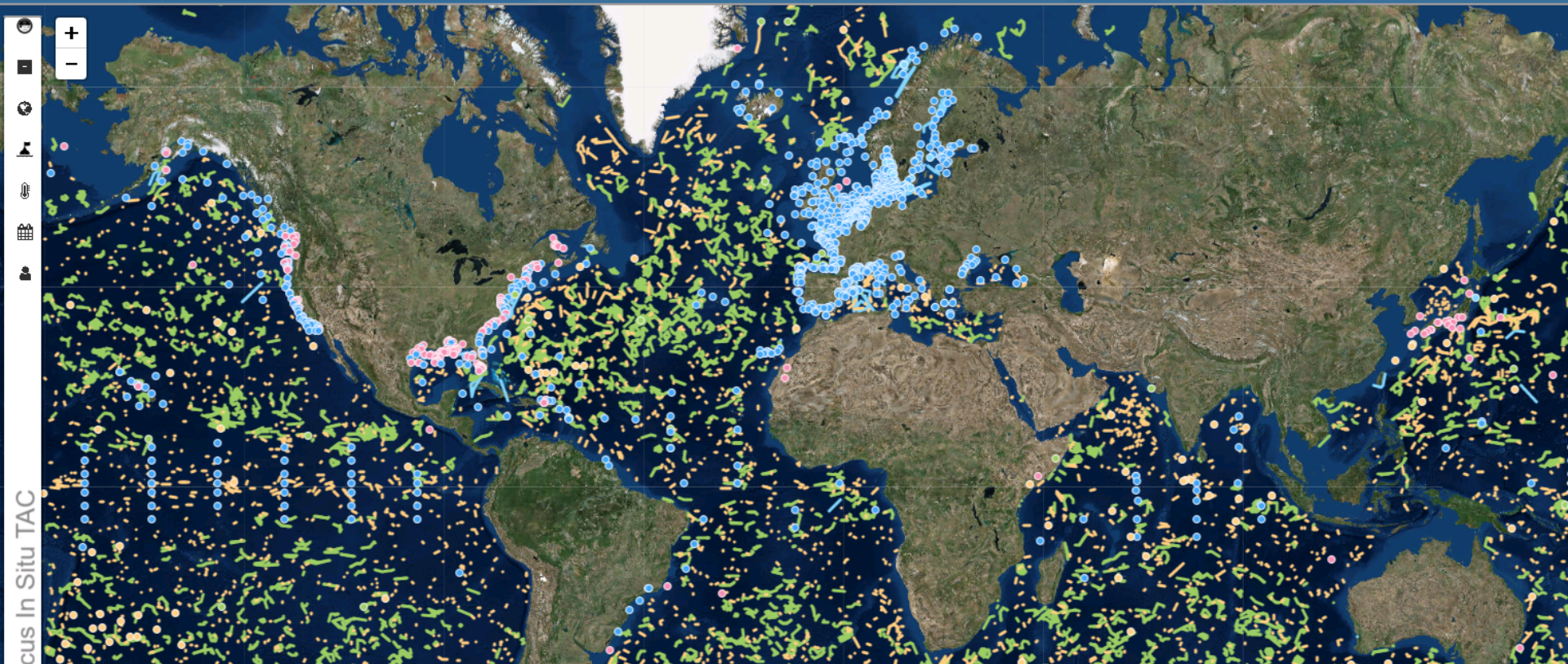
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Copernicus In Situ TAC

Total number of platforms

37624

Since ever

Volume of data

2536 MB

From last 30 days

Data providers

315

From last 30 days

Number of users

161

From last 30 days

Number active platforms

7028

From last 30 days

Services availability

~ **99.9%**

From last 30 days



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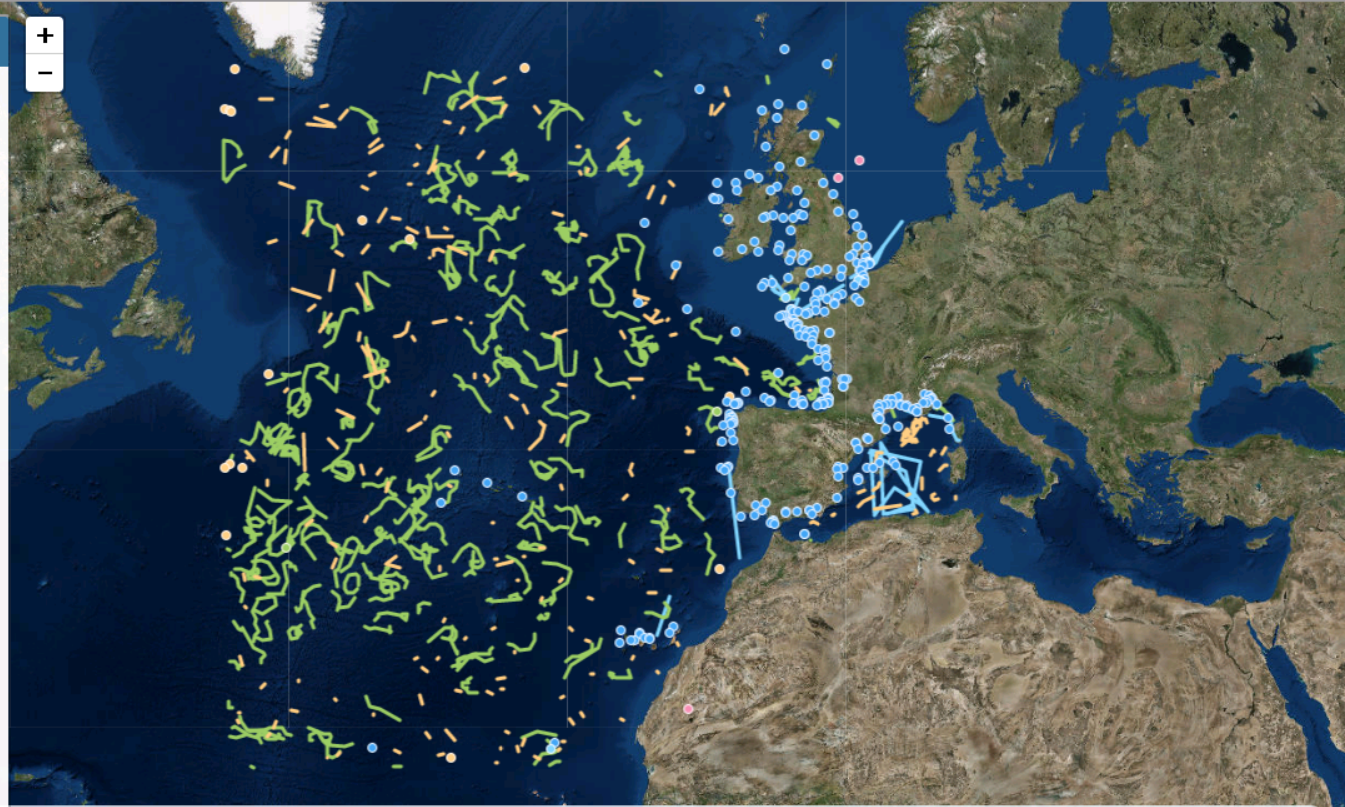
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Regions

INSTAC comprehends 7 regions of data collection. More info at: [Copernicus in situ TAC - CMEMS regions definition](#).

- Global
- Mediterranean
- Iberia-Biscay-Ireland
- North West Shelf
- Baltic
- Arctic
- Black Sea



Latest Iberia-Biscay-Ireland

2536 MB

days

Data providers

315

From last 30 days

Number of users

161

From last 30 days

Number active platforms

7028

From last 30 days

Services availability

~ **99.9%**

From last 30 days

Leaflet | Tiles © Esri — Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aeroquad, IGN, IGP, UPR-EGP, and the GIS User Community



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Platforms

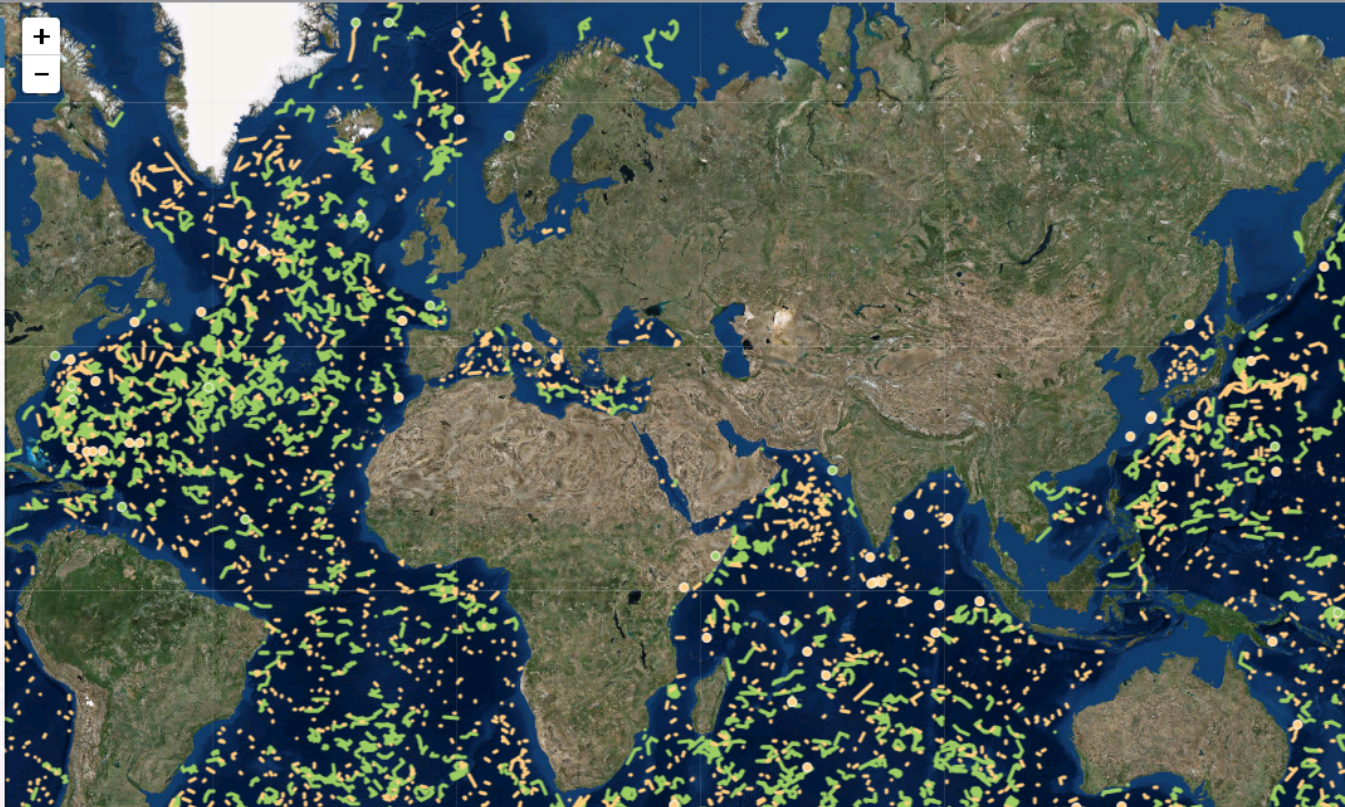
INSTAC groups datasets according to the platform on board of which those were collected differentiating 5 major groups: fixed stations (moorings, river flows, tide gauges...), drifters (reporting sea water currents or not), profilers & gliders, vessels (ferriboxes, XBTs, Miniloggers...) and others (Sea-Mammals, Bottles...).

Select the category you want to isolate from all displayed. More info at: [Product User Manual](#) (Platform category).

- Fixed stations
- Vessels
- Drifters
- Profilers&gliders
- Others

INSTAC distinguish in turn several subcategories (data origin) from within the previous categories. More info at [Product User Manual](#) (Data types).

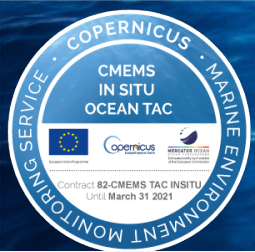
- Moorings
- River flows
- Drifters (DC)
- Drifters (DB)
- Profilers
- Gliders
- Ferribox
- Recopesca
- XBTs
- Mini loggers
- TESAC
- CTDs
- Bottles
- ScanFish
- Sea mammals
- Thermosalinometer
- BATHY



Latest Drifters Profilers&gliders Global

<p>Data providers</p> <p>315</p> <p>From last 30 days</p>	<p>Number of users</p> <p>161</p> <p>From last 30 days</p>	<p>Number active platforms</p> <p>7028</p> <p>From last 30 days</p>	<p>Services availability</p> <p>~ 99.9%</p> <p>From last 30 days</p>
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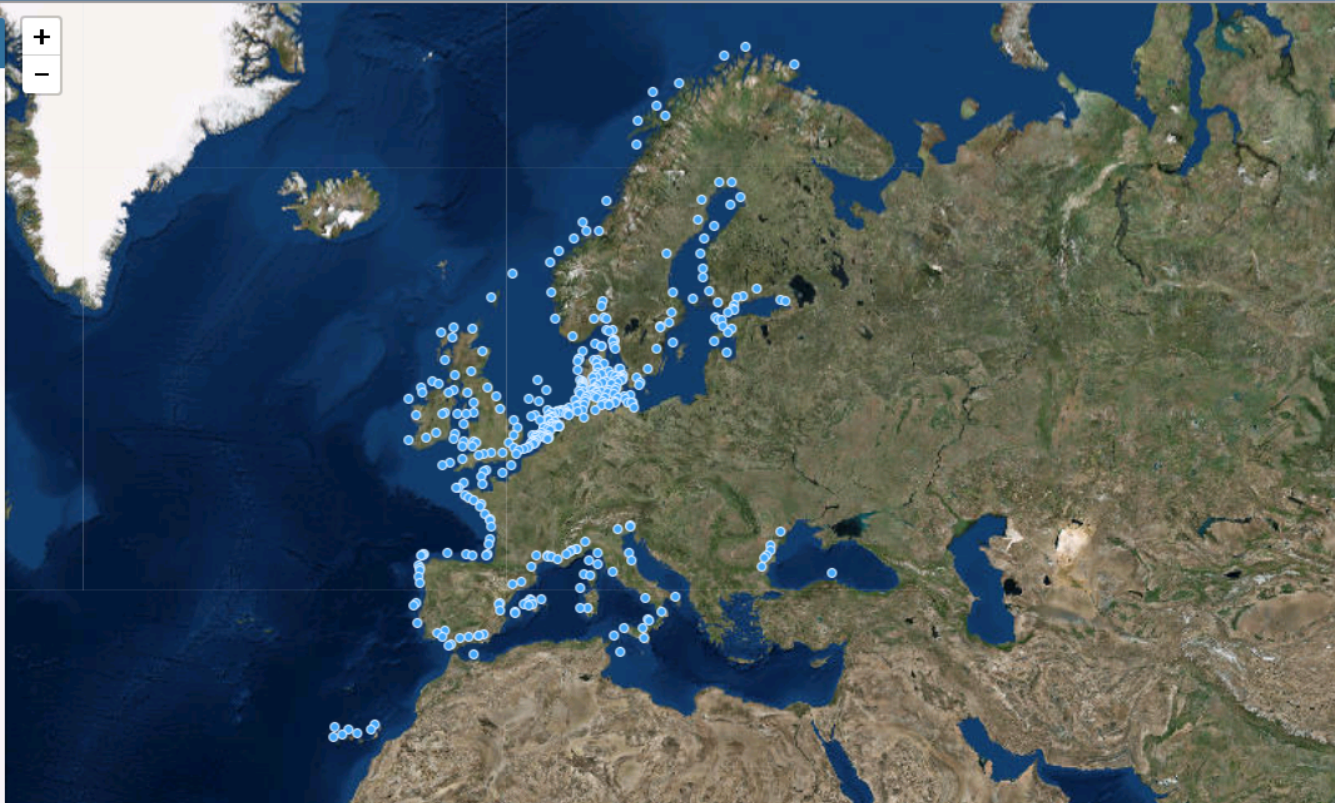
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Parameters

Abstraction of INSTAC list of parameters ie: PSAL and CNDC as 'Salinity'. More info at: [Copernicus in situ TAC - CMEMS System Requirements Document](#).

- Salinity
- Temperature
- Currents
- Sea Level
- Waves
- Chlorophyll
- Oxygen



Latest Sea Level Global

2536 MB

days

Data providers

315

From last 30 days

Number of users

161

From last 30 days

Number active platforms

7028

From last 30 days

Services availability

~ 99.9%

From last 30 days



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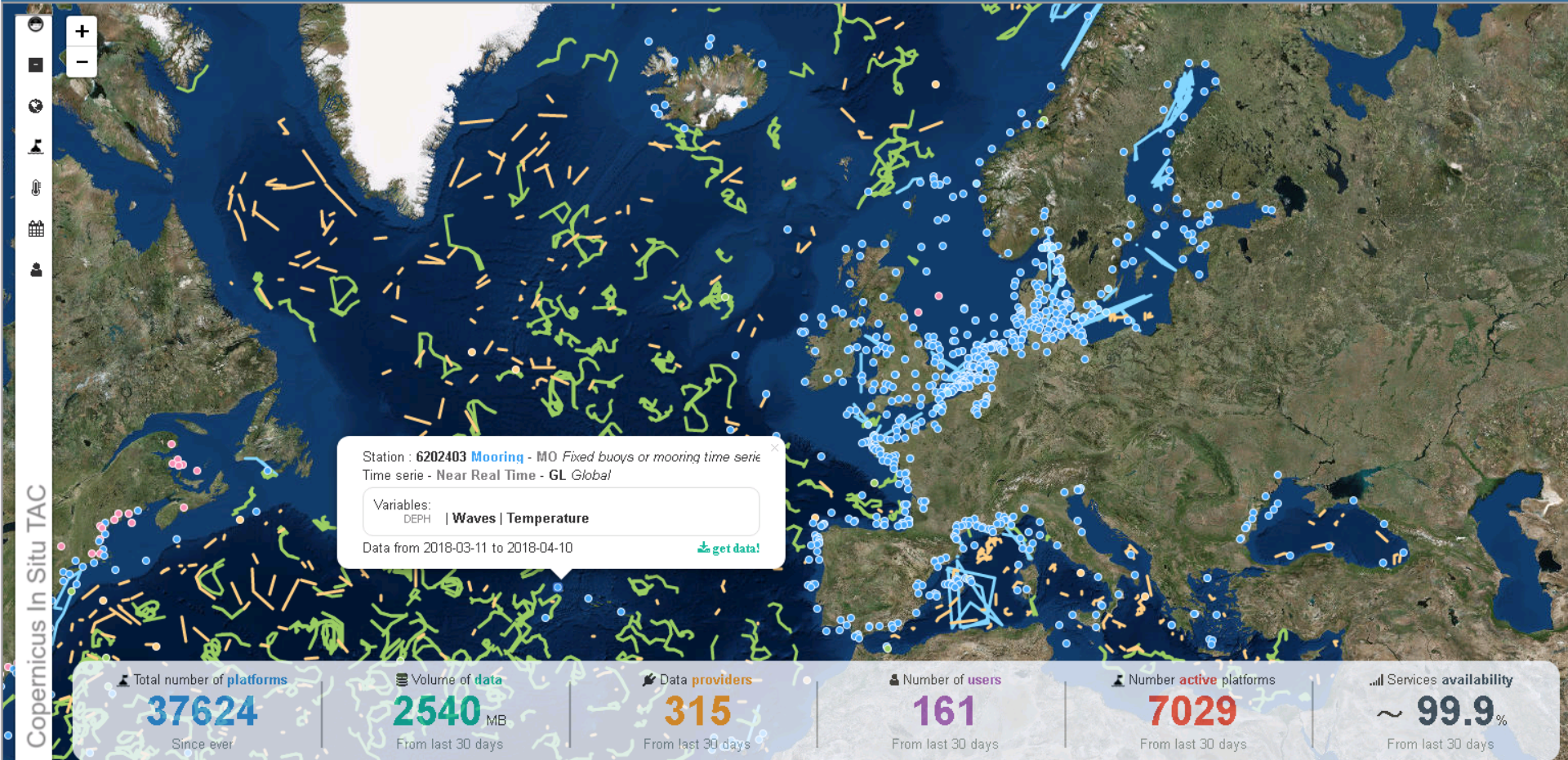
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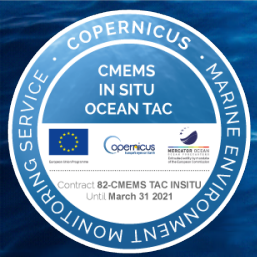
New web site:
<http://www.marineinsitu.eu/>

In Situ TAC web site is not finished yet:

**Missing providers
acknowledgement!**

- **Managed by EDMO (SDN European Directory of Marine Organizations) code**
- **Waiting for some regions to implement it.**
- **It should appear the name of provider, logo & URL.**

Ⓟ **Very soon!!**

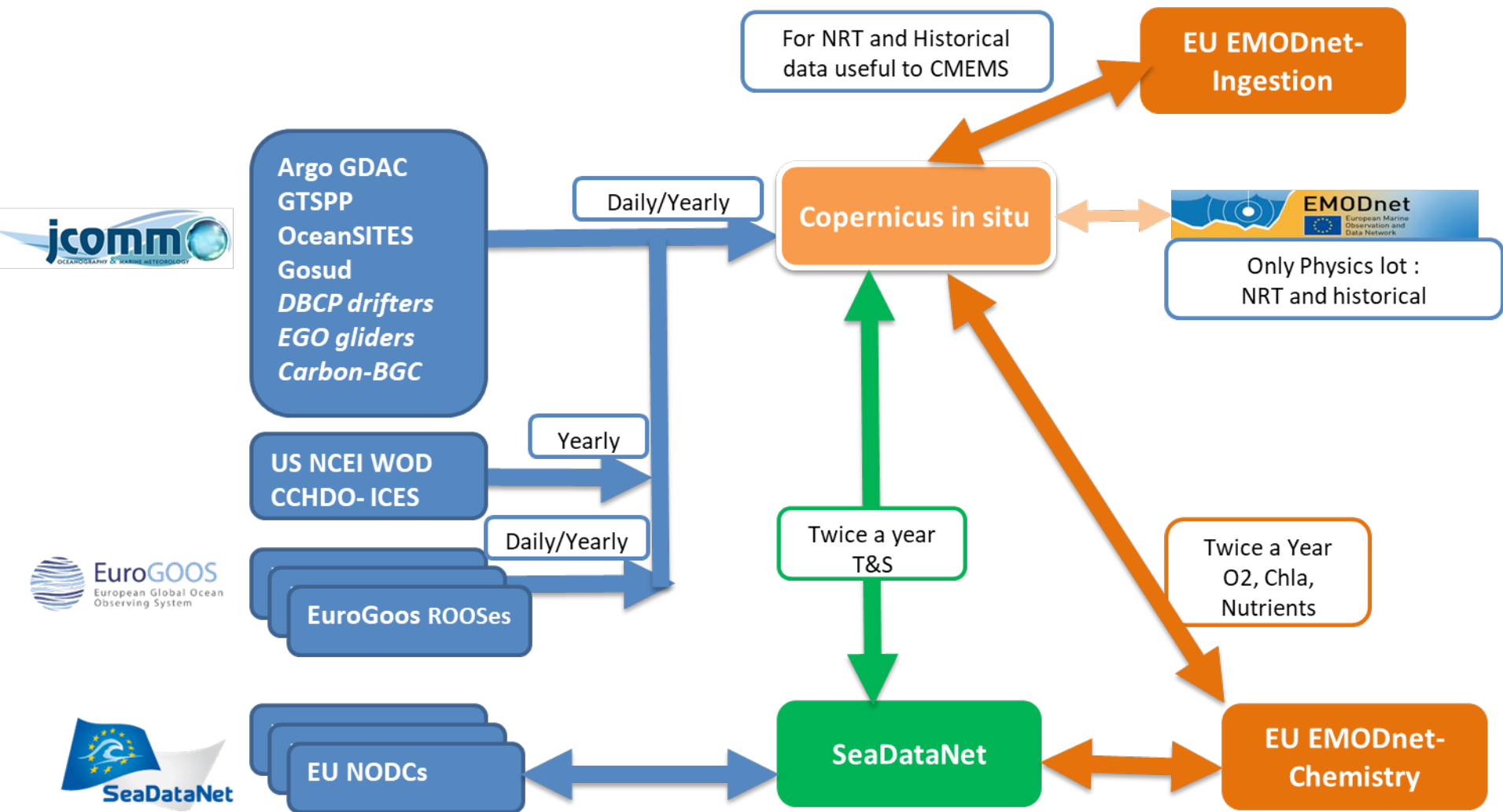


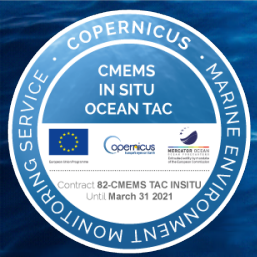
CMEMS requirements - in situ observations

- Critical sustainability gaps , sampling gaps and major gaps for biogeochemical observation (e.g. carbon, oxygen, nutrients, Chl-a)
- Sustaining the **Argo global array** , consolidating its regional components and **implementing its major extensions (Biogeochemical Argo and Deep Argo)** are strong priorities for CMEMS
- **Improving ROOSes** and key observing systems such as **Ferryboxes, gliders, tide gauges and HF Radars** are also strong priorities for regional CMEMS products
- Mercator-Océan is working with the European Environment Agency in the **framework of a Future European Ocean Observing System (EOOS)** to address these gaps and consolidate/improve global and regional in situ observing systems
- A more **detailed analysis of CMEMS requirements is now being prepared in collaboration with EuroGOOS . Input to EOOS and OceanObs19**



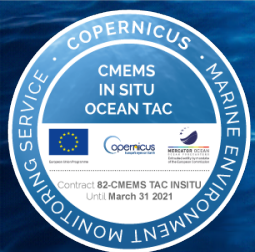
CMEMS IN Su TAC integrated in the European and International in Situ data management landscape





Why Share data with CMEMS INSTAC

- **Adding value to the data:** making data available via CMEMS INSTAC allows datasets to be combined to create data products and improve CMEMS products in your area of interest . Underlying data sources are always carried with the data.
- **Satisfying funding requirements:** Increasingly funding bodies and governments require that data obtained using public funds be made freely available. Submitting data and making it available via CMEMS INSTAC ensures data is publicly shared for re-use in particular with EMODnet and SeaDataNet.
- **Enhancing Data Quality :** Making a data set available to CMEMS INSTAC allows you to benefit to additional assessment especially during the elaboration of historical products where coherency with neighboring observations is performed and feedback on anomalies detected provided back to providers .



THANKS FOR YOUR ATTENTION!

OUR TEAM
Can we help you?



INSTAC General presentation