



Unlocking the Depths: ODIS Initiative and Polish Contributions to Global Oceanographic Data

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IMDIS 2024

Bergen, 27-29 May, 2024

- To develop and deploy the unified system providing access to distributed data resources as managed by the key scientific oceanographic institutes in Poland
- To make data resources FAIR and boost the development of the services based on environmental data.
- To extend availability of oceanographic data both to Polish and European organizations through advanced services provided for clients (including data analysis services).
- To open the system for all stakeholders and make it ready to accommodate other organizations and their data sources.

Who we are?



Maritime University in Gdynia



Polish Geological Institute
National Research Institute



Sea Fisheries Institute
National Research Institute



Institute of Oceanology
Polish Academy of Sciences



University of Gdańsk



Pomeranian Academy in Słupsk



University of Szczecin



Metadata

- Geographic Information – Metadata (ISO 19115-3-.2018)
- Geographic Information – Metadata (ISO 19139:2007)(ISO 19139)
- ISO 19139 Metadata – SeaDataNet CDI Profile INSPIRE COMPLIANT
- Dublin Core
- Geographic Information – Methodology for feature cataloguing (ISO 19110)

Vocabularies

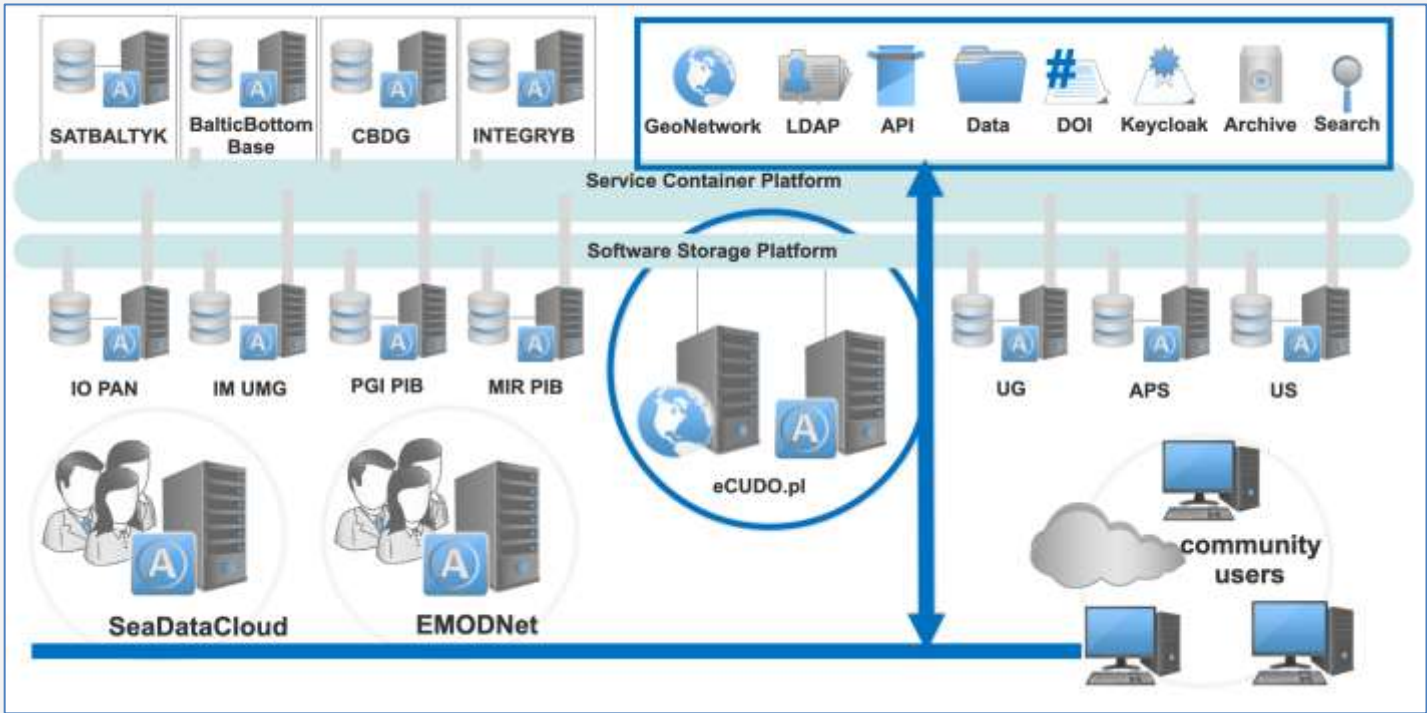
- NERC Vocabulary Server 2.0, GCMD Keywords, CF Conventions

Data formats

- NetCDF / CF
- ODV
- SHP
- GeoTiff
- CDI
- CSV

Services









- OPeNDAP
- WMS
- WFS
- CSW





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Search criteria

Use the form below to browse the metadata directory.

Number of records available in the directory: **7213020**

Free text search: _____

<https://odis.ecudo.pl>

 Search  Clear 

API documentation

CSW service

Metadata in ISO 19115:2003 format compliant with SeaDataNet and eCUDO.pl profiles and the INSPIRE directive guidelines version 1.3 are available via the Catalog Service for the Web (CSW) 2.0.2.

Access to the CSW service is possible at: <https://central.ecudo.pl/csw>.

An example of the GetCapabilities request result is available at: <https://central.ecudo.pl/csw?service=CSW&request=GetCapabilities>.

OpenAPI documentation

Web services used in a graphical user interface can also be used programmatically. Documentation of all services is available in OpenAPI format. The documentation covers both services designed specifically for the eCUDO.pl platform and standard OGC services.

Documentation of the all services is available at: <https://central.ecudo.pl/api-docs>.

Documentation of services in JSON format is available at: <https://central.ecudo.pl/api-docs/ecudo>.

Documentations of OGC services in JSON format are available at the following links:

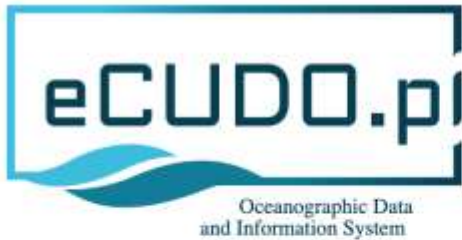
- <https://central.ecudo.pl/api-docs/csw>.
- <https://central.ecudo.pl/api-docs/wms>.
- <https://central.ecudo.pl/api-docs/wfs>.
- <https://central.ecudo.pl/api-docs/wcs>.
- <https://central.ecudo.pl/api-docs/wps>.

JSON-LD

The eCUDO.pl platform has been designed in such a way as to meet all 5 levels of data openness according to the 5-start Open Data concept. To ensure levels 4 and 5, the resources made available by the systems were additionally made available in the JSON-LD format.

The base system resource in the JSON-LD formation can be found at: <https://central.ecudo.pl/json-ld>.

API Key



[Login](#)

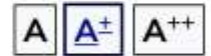
Language



Contrast



Text size



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Search criteria

Use the form below to browse the metadata directory.

Number of records available in the directory: **7213020**

Free text search:



<https://odis.ecudo.pl>

https://odis.ecudo.pl



Language Contrast Text size

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Conformance standards

Statuses

Keywords

Access constraints

Bounding Box

Search

Search results

Results presentation



Results: 1 to 10 of 7213020. Page 1 of 721302. Items per page: Page

Warning

Free text search ⏪

Measurements dates ⏪

Providers ⏵

- Available providers i
- University of Gdansk, Institute of Oceanography
 - National Marine Fisheries Research Institute
 - University of Szczecin, Institute of Marine and Environmental Sciences
 - Institute of Oceanology, Polish Academy of Sciences

Search results

Results presentation

⏪ ⏩ 1 2 3 4 5 6 7 ⏪ ⏩ i

Results: 1 to 10 of 889739, Page 1 of 88974, Items per page: 10 ⏵ Page ⏵ Go to page ⏵

Chlorophyll a concentration		r/V Oceanía, VDR Data	
Bounding Box (EPSG:4326)	Description	Bounding Box (EPSG:4326)	Description
North: 66.0957 East: 32.7247 South: 52.9748 West: 5.0452	Sub-surface concentration of the chlorophyll a retrieved from satellite measurements and supplemented by the results of the ecohydrodynamic model EcoSat	North: 55.1110 East: 17.0257 South: 55.1109 West: 17.0247	Environmental data from moving ship
	Measurements period		Measurements period
	Begin of measurements: 2012-06-29T12:00 End of measurements: 2012-06-29T12:00		Begin of measurements: 2022-03-09T14:57 End of measurements: 2022-03-09T14:20
	Data access		Data access
	Data access in satboltyk.pl system link to page ⏵		link to raw data ⏵
	Preview link to wms ⏵		Actions
	link to wms layer group ⏵		view data
	Download link ⏵		
	Add all		
	Actions		
	view data		

Data access – search criteria

- Topics <
- Conformance standards <
- Statuses v

Available statuses i

- Ongoing

Keywords v

Available keywords i

- | | | |
|--|--|---|
| <input type="checkbox"/> Acoustic noise in the water column | <input type="checkbox"/> Active seismic refraction | <input type="checkbox"/> Air pressure |
| <input type="checkbox"/> Air temperature | <input type="checkbox"/> Ammonium and ammonia concentration parameters in water bodies | <input type="checkbox"/> Aqua |
| <input type="checkbox"/> Atmosphere models | <input type="checkbox"/> Atmospheric humidity | <input type="checkbox"/> Baltic Sea |
| <input type="checkbox"/> Bathymetry and Elevation | <input type="checkbox"/> Borehole | <input type="checkbox"/> CTD |
| <input type="checkbox"/> Carotenoid and flavenoid pigment concentrations in water bodies | <input type="checkbox"/> Chemical composition | <input type="checkbox"/> Chlorophyll pigment concentrations in water bodies |
| <input type="checkbox"/> Chlorophyll-a pigment concentrations in water bodies | <input type="checkbox"/> Cloud cover height and extent | <input type="checkbox"/> Daily sum of PAR irradiance measurements in the atmosphere |
| <input type="checkbox"/> Date and time | <input type="checkbox"/> Dissolved oxygen parameters in the water column | <input type="checkbox"/> Dissolved total and organic nitrogen concentrations in the water column |
| <input type="checkbox"/> Dissolved total or organic phosphorus concentration in the water column | <input type="checkbox"/> EARTH SCIENCE > Biological Classification > Animals/Vertebrates > Fish | <input type="checkbox"/> EARTH SCIENCE > Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes |
| <input type="checkbox"/> EARTH SCIENCE > Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Anchovies/Herrings | <input type="checkbox"/> EARTH SCIENCE > Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Cods/Haddock | <input type="checkbox"/> EARTH SCIENCE > Biological Classification > Animals/Vertebrates > Fish > Ray-finned Fishes > Flounders |
| <input type="checkbox"/> Earth Science > Oceans > Ocean Chemistry > Oxygen | <input type="checkbox"/> Earth Science > Oceans > Ocean Temperature > Water Temperature | <input type="checkbox"/> Earth Science > Oceans > Salinity/Density > Salinity |
| <input type="checkbox"/> Fish morphology, age and physiology | <input type="checkbox"/> Geographical grid systems | <input type="checkbox"/> Geological sample density |
| <input type="checkbox"/> Geological sample magnetic, electrical and acoustic properties | <input type="checkbox"/> Geology | <input type="checkbox"/> Geostationary orbiting satellite |
| <input type="checkbox"/> Heat fluxes between the water column and the atmosphere | <input type="checkbox"/> Horizontal velocity of the water column (currents) | <input type="checkbox"/> Hydrolytic activity in sediment |
| <input type="checkbox"/> INAP | <input type="checkbox"/> Ice motion and related parameters | <input type="checkbox"/> Inorganic chemical composition of sediment or rocks |
| <input type="checkbox"/> Landslide | <input type="checkbox"/> Light absorption in the water column | <input type="checkbox"/> Light extinction and diffusion coefficients |
| <input type="checkbox"/> Lithology | <input type="checkbox"/> Lithology of rocks | <input type="checkbox"/> Long-wave radiation |
| <input type="checkbox"/> Magnetics | <input type="checkbox"/> Man-made structures | <input type="checkbox"/> Marine archaeology |
| <input type="checkbox"/> MetOp-A | <input type="checkbox"/> MetOp-B | <input type="checkbox"/> Meteorological geographical features |
| <input type="checkbox"/> Mineralogical composition | <input type="checkbox"/> NOAA-12 | <input type="checkbox"/> NOAA-14 |
| <input type="checkbox"/> NOAA-15 | <input type="checkbox"/> NOAA-16 | <input type="checkbox"/> NOAA-17 |
| <input type="checkbox"/> NOAA-18 | <input type="checkbox"/> NOAA-19 | <input type="checkbox"/> Natural hazards |
| <input type="checkbox"/> Net Radiation | <input type="checkbox"/> Nitrate concentration parameters in the water column | <input type="checkbox"/> Nitrate+nitrite concentration parameters in the water column |
| <input type="checkbox"/> Nitrite concentration parameters in the water column | <input type="checkbox"/> Ocean colour and earth-leaving visible waveband spectral radiation | <input type="checkbox"/> Oceanographic geographical features |

Data access – search criteria

Access constraints

Bounding Box

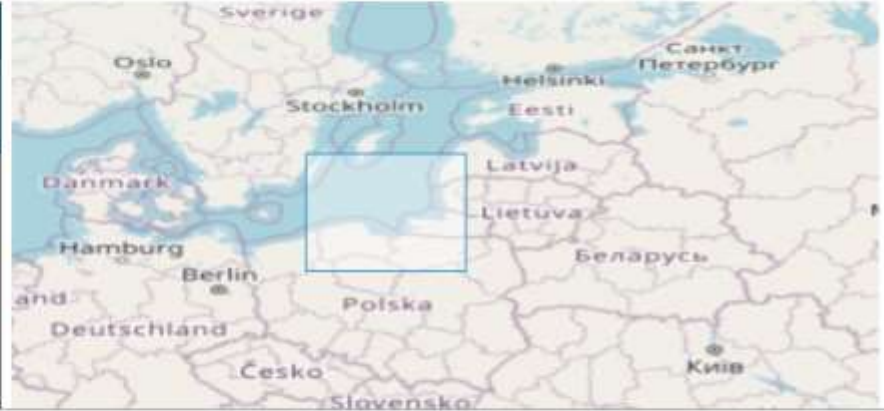
Bounding Box (EPSG:4326)

North:	<input type="text" value="57.1957"/>	i
East:	<input type="text" value="21.9171"/>	i
South:	<input type="text" value="53.1530"/>	i
West:	<input type="text" value="16.3940"/>	i

Hide map

Map controls

Draw box i	Zoom i	Navigation i
<input type="button" value="Draw box"/>	<input type="button" value="Zoom in"/>	<input type="button" value="↑ up"/>
<input #"="" type="button" value="Base map i"/>	<input type="button" value="Zoom out"/>	<input type="button" value="← left"/> <input type="button" value="center"/> <input type="button" value="→ right"/>
<input type="button" value="Standard"/>	<input type="button" value="Initial zoom"/>	<input type="button" value="↓ down"/>
<input type="button" value="High contrast"/>		



Search Clear [i](#)

Search results

Results presentation



Data access – dataset description

Chlorophyll a concentration

Dataset info

Title:	Chlorophyll a concentration
Creation date:	2022-09-04
Publication date:	2022-09-04
Revision date:	2022-09-04
Abstract:	Sub-surface concentration of the chlorophyll a retrieved from satellite measurements and supplemented by the results of the ecohydrodynamic model EcoSat
Status:	onGoing
Language:	eng
Topics:	oceans
Character set:	utf8
Keywords:	Oceanographic geographical features unknowns Orbiting satellite Chlorophyll pigment concentrations in water bodies
Formats:	GeoTiff

Data access

Preview	link to wms		Show map
Download	link		
	link to wms layer group		Show layers
[object Object]	link to page		
	Add all		

Data usage constraints

Use limitation:	Not applicable
Access constraints:	otherRestrictions
Other constraints:	Creative Commons Attribution 4.0 International License
Classification:	




Map controls



Dataset spatial info

Reference system:	World Geodetic System 84
Spatial resolution:	1000 Metres
Begin of measurements:	2012-06-29T12:00
End of measurements:	2012-06-29T12:00
North:	66.0957
East:	32.7247
South:	52.9748
West:	5.0452

Data access – dataset description

Chlorophyll a concentration		Dataset info	
Party responsible for metadata		Dataset info	
Organization name:	Institute of Oceanology, Polish Academy of Sciences	Title:	Chlorophyll a concentration
E-mail address:	satbaltyk@iopan.pl	Creation date:	2022-09-04
Role:	pointOfContact	Publication date:	2022-09-04
Metadata general info		Revision date:	2022-09-04
File identifier:	urn:SDN:CD:iopan.ptuuid:0000113e-a3a8-44db-8471-047ee9d33f22	Abstract:	Sub-surface concentration of the chlorophyll a retrieved from satellite measurements and supplemented by the results of the ecohydrodynamic model EcoSat
Parent identifier:		Status:	onGoing
Hierarchy level:	dataset	Language:	eng
Creation date:	2022-09-04	Topics:	oceans
Language:	eng	Character set:	utf8
Character set:	utf8	Keywords:	Oceanographic geographical features unknown Orbiting satellite Chlorophyll pigment concentrations in water bodies
<div style="border: 1px solid black; height: 150px; width: 100%;"></div>		Formats:	GeoTIFF
		Party responsible for data	
Map controls		Organization name:	Institute of Oceanology, Polish Academy of Sciences
		E-mail address:	satbaltyk@iopan.pl
Dataset spatial info		Role:	custodian
Reference system:	World Geodetic System 84	Data usage constraints	
Spatial resolution:	1000 Metres	Use limitation:	Not applicable
Begin of measurements:	2012-06-29T12:00	Access constraints:	otherRestrictions
End of measurements:	2012-06-29T12:00	Other constraints:	Creative Commons Attribution 4.0 International License
North:	66.0957	Classification:	
East:	32.7247	Data quality info	
South:	52.9748	Scope:	dataset
West:	5.0452	Statement:	The algorithm performance statistics are available at www.satbaltyk.pl
		Conformance standard	

INNOWACYJNA GOSPODARKA
MARSZALKOWSKI FUNDUSZ WZROSTU REGIONALNEGO

UNIA EUROPEJSKA
EUROPEJSKI FUNDUSZ
ROZWOJU REGIONALNEGO

Konsorcjanci

Wybierz czas [UTC]

◀ 2023-10-23 12:00 ▶

Temperatura powierzchni morza

Promieniowanie słoneczne

Chlorofil a

Produkcja pierwotna

+ ATMOSFERA, METEOROLOGIA

+ HYDROLOGIA

+ OPTYKA MORZA

+ BILANS ENERGETYCZNY

+ SKŁADNIKI WODY MORSKIEJ

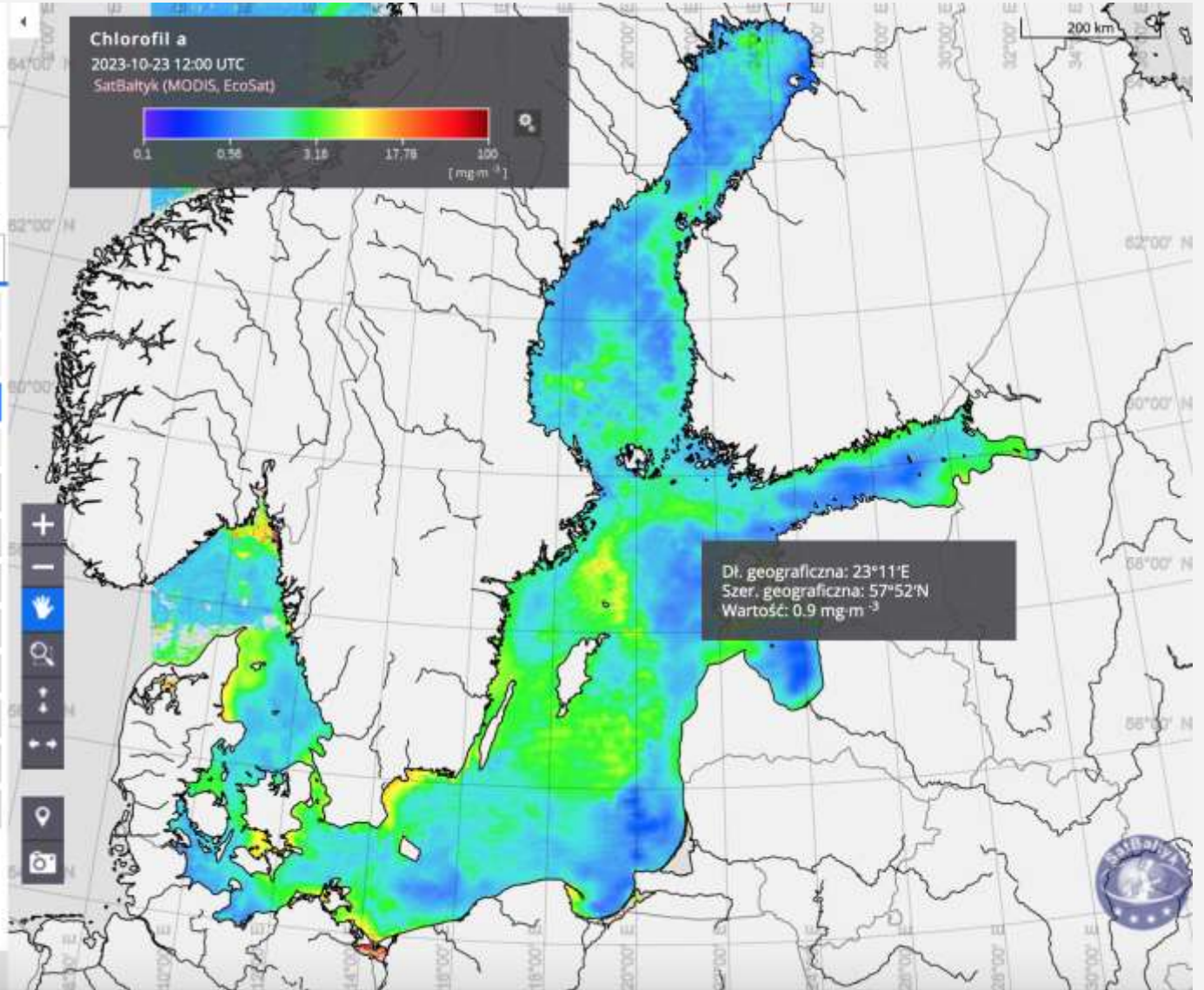
+ FOTOSYNTETA, FITOPLANKTON

+ STREFA BRZEGOWA

+ ZAGROŻENIA

[Regulamin](#) | [Kontakt](#) | [Strona główna](#)

Wykonanie: PPM Open Projects




Data accessibility – open access to real data



Koszyk

Data from station on pier in Sopot - urn:SDN:CDI:iopan.pl:uuid:c13da2d3-ed8c-4022-aa06-ce9a31eca086	WWW.DOWNLOAD-1.0-http--download	link	
Data from station on pier in Sopot - urn:SDN:CDI:iopan.pl:uuid:e69324ca-3ee1-4365-bbb6-caae555154a6	WWW.DOWNLOAD-1.0-http--download	link	
Data from station on pier in Sopot - urn:SDN:CDI:iopan.pl:uuid:f6bab680-09e4-4ec3-955f-fd7fd905b57	WWW.DOWNLOAD-1.0-http--download	link	
Temperatura powietrza, dnia: 2012-8-30 - urn:SDN:CDI:mir.gdynia.pl:uuid:007900bc-36ec-4780-ad2b-40212d274d30	WWW.DOWNLOAD-1.0-http--download	link	
Download the source file	WWW.DOWNLOAD-1.0-http--download	link	
Download data - Service JSON	WWW.DOWNLOAD-1.0-http--download	link	
Show samples of points on the map of the day 2012.8.30	OGC:WMS-1.3.0-http-get-map	link	
Data from station on pier in Sopot - urn:SDN:CDI:iopan.pl:uuid:cfd44f-a875-4764-b15a-e8a79032c117	WWW.DOWNLOAD-1.0-http--download	link	
Data from station on pier in Sopot - urn:SDN:CDI:iopan.pl:uuid:c3b903d3-b02c-41d6-8462-79409dac757c	WWW.DOWNLOAD-1.0-http--download	link	

<https://central.ecudo.pl/search?keywords=Air%20temperature&west=18.5651&east=18.5877&north=54.4551&south=54.4378>



← → ↻ 🏠 🔒 <https://central.ecudo.pl/search?keywords=Air temperature> ☆ 🔍 Szukaj

JSON Nieprzetworzone dane Nagłówki

Zapisz Kopiuj Zwiń wszystkie Rozwiń wszystkie 🗑 Filtruj JSON

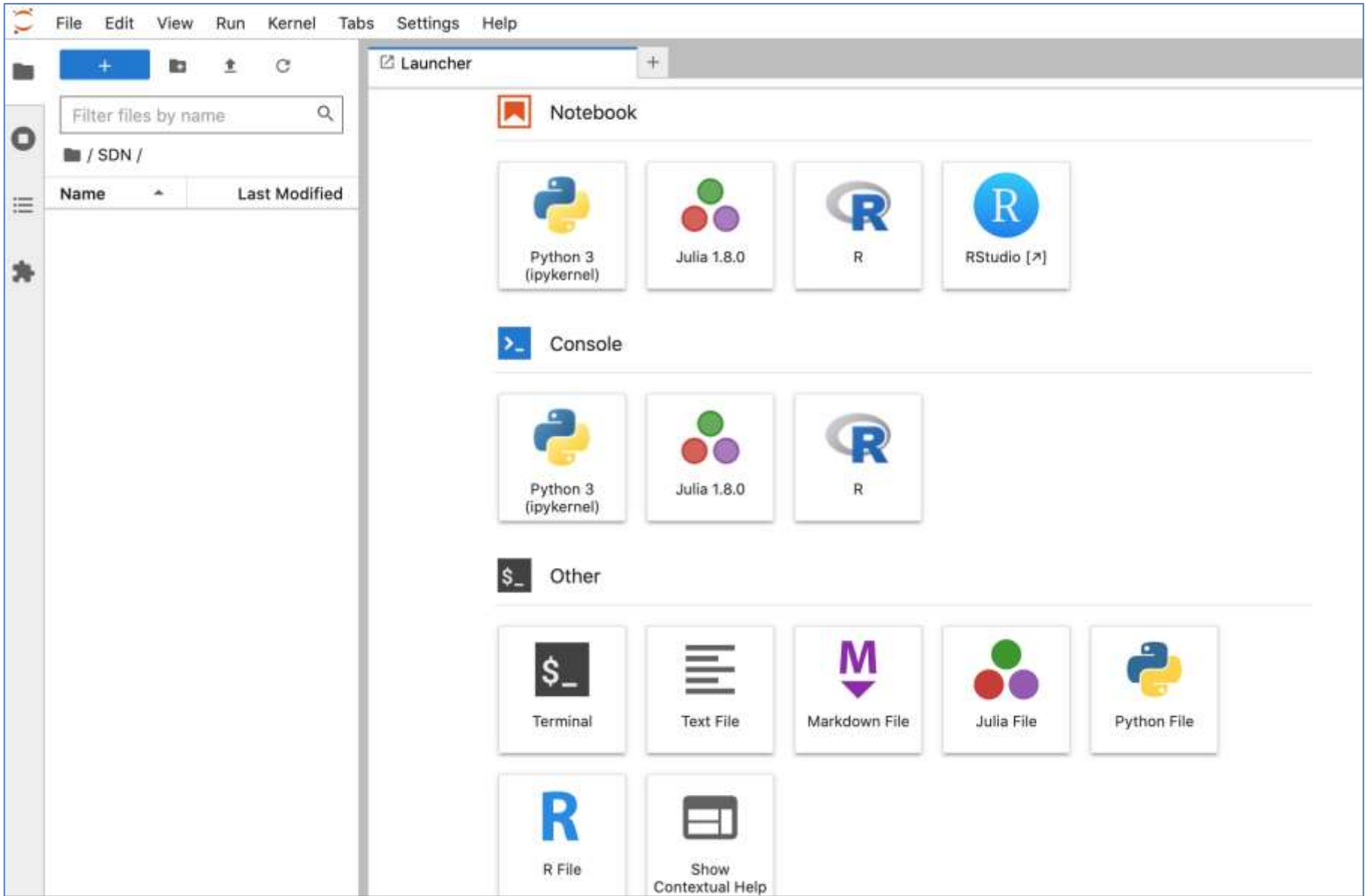
▼ id:

- ▼ 0: "urn:SDN:CDI:iopan.pl:uuid:000076b2-3e21-45e1-be44-12c24bac8f7d"
- ▼ 1: "urn:SDN:CDI:iopan.pl:uuid:000082f8-827d-4b0d-8b61-522409313f73"
- ▼ 2: "urn:SDN:CDI:iopan.pl:uuid:000115e1-48e7-4b76-8865-a0a8a567875a"
- ▼ 3: "urn:SDN:CDI:iopan.pl:uuid:00027e59-bc63-4406-9d68-f04f527d9fab"
- ▼ 4: "urn:SDN:CDI:iopan.pl:uuid:0002c527-0b99-4dec-b541-8f1f5f1e1ec3"
- ▼ 5: "urn:SDN:CDI:iopan.pl:uuid:00036dcc-5e70-4421-a530-7ea26c7bd6aa"
- ▼ 6: "urn:SDN:CDI:iopan.pl:uuid:00052e29-6cd1-487a-b5bd-895e651b3418"
- ▼ 7: "urn:SDN:CDI:iopan.pl:uuid:000831d7-220f-44a4-affa-1cc687992e32"
- ▼ 8: "urn:SDN:CDI:iopan.pl:uuid:0008b83a-1c16-4369-ba60-bab840398bf1"
- ▼ 9: "urn:SDN:CDI:iopan.pl:uuid:000983c5-4536-48e5-ae1b-901c52da9591"

matchedRecordsCount: 986536

returnedRecordsCount: 10

Data accessibility – tools for open access to real data

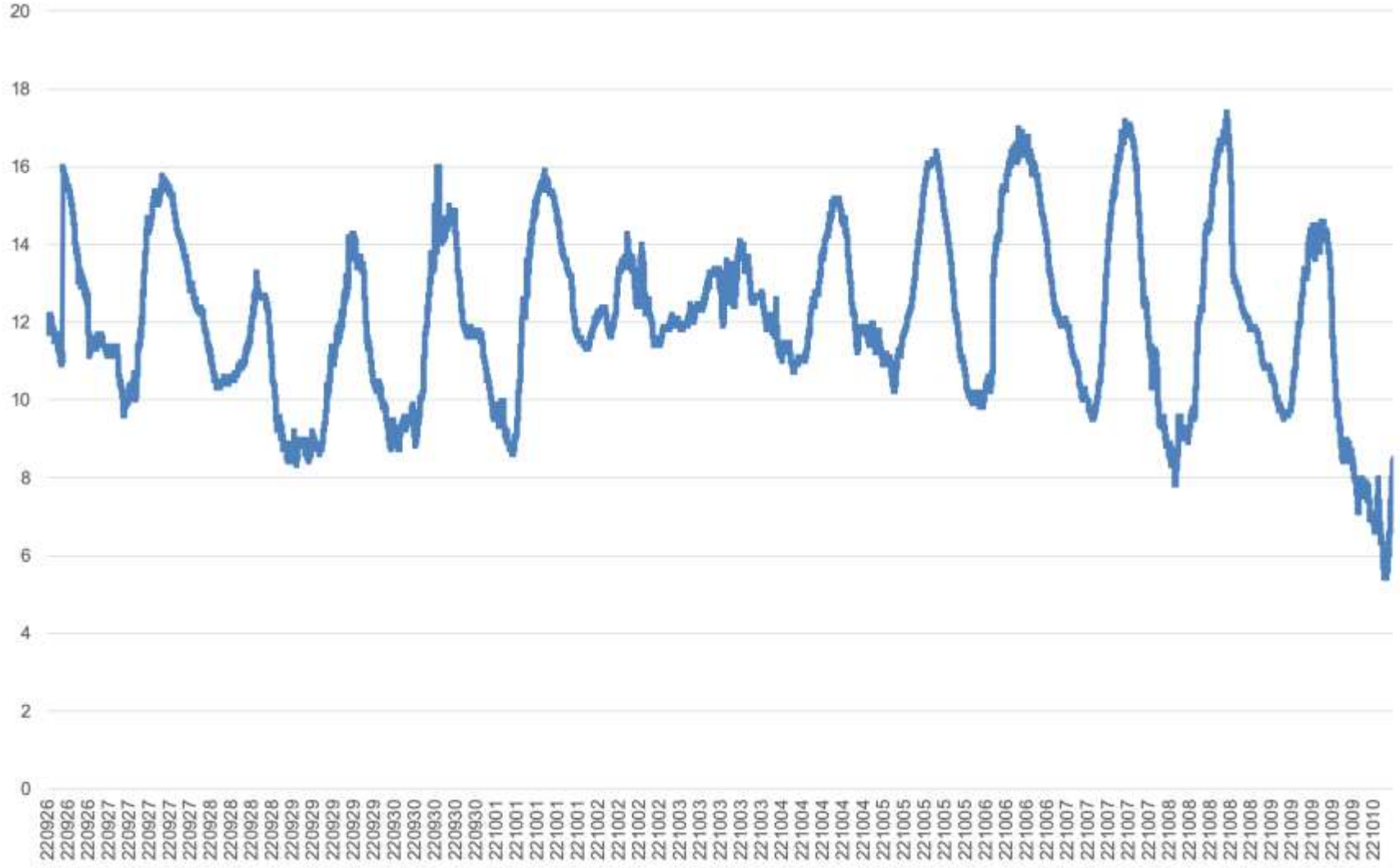


Data accessibility – open access to real data

<gmd:URL>

<https://databank-ctd.iopan.pl/data/raw/ctd/Baltic/Sopot-molo-meteo\\@400000004e68dba40c8f436c.s>

</gmd:URL>



SIPCoast - System Informacji Przestrzennej strefy brzoowej Morza Bałtyckiego

ARCHIWALNE ZDJĘCIA LÓTNICZE

METADANE

PROFIL BRZEJOWY

ZALEWANIE PLAŻY

SZEROKOŚĆ PLAŻY

ZDARZENIA SZTORMOWE

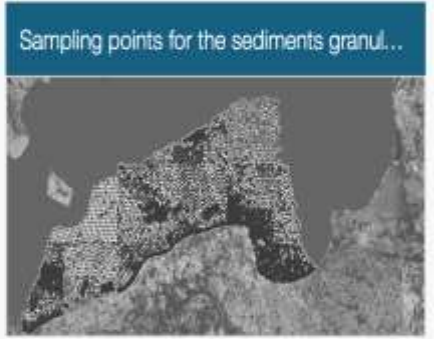
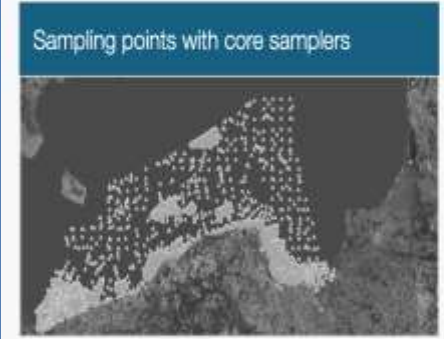
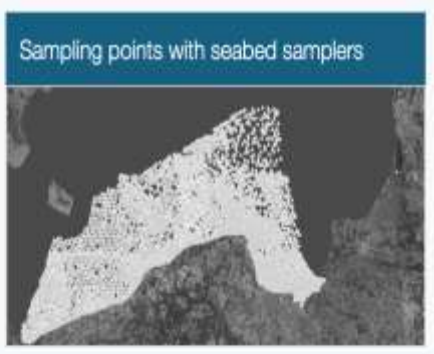
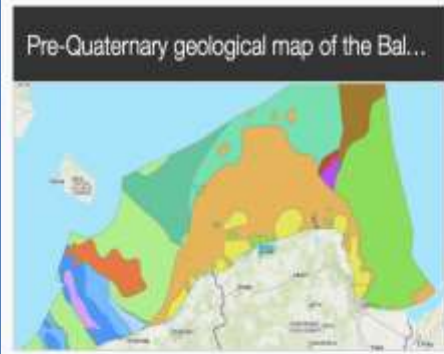
METEOROLOGIA

FALOWANIE

STANY WODY

ECUDO-PORTAL

ECUDO-ODS



- Further Integration with SeaDataNet, EMODNet
- Certification of Trustworthy Data Repository
- Implementation of Oceanographic Data Committee

IODE Recommendation:

1. National Oceanographic Data and Information Coordination Committee have to be composed of all stakeholders involved in data collection and management,
2. should identify all ocean observation and research activities at the national level and their data management needs,
3. have to agree on the distribution of responsibilities for data management responsibilities,
4. implements standard methods by all facilities involved in oceanographic data and information management,
5. conducts harmonized development of data resources and infrastructure of the committee members.





- **7 organisations**
- **over 7 000 000 data objects provided as Open Access**
- **over 500TB of data**
- **5 * Open Data Model and FAIR assured data provision**
- **WCAG 2.0 conformed interface for human interaction**
- **M2M interface for interaction with outer systems**

Thank you!

