New SOCIB Data Catalog REST API

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Summary

- What is SOCIB and role of Data Center
- Data repository: THREDDS
- New SOCIB API overall description
- API in detail with examples
- Technologies and methodologies
- Use cases and related products
What is SOCIB?
Balearic Islands Coastal Observing and Forecasting System

Observing Facilities

- **GLIDER FACILITY**
  - 74 glider missions total
  - 1,668 glider days at sea total
  - 68,821 CTD profiles total

- **R/V SOCIB**
  - 484 ship days of operation from 2013-2017
  - 353 ship days, external access from 2013-2017

- **HF RADAR**
  - 95% time in operation (1,779 days)
  - 75% area coverage

- **LAGRANGIAN PLATFORMS**
  - 2,022 Vertical profiles
  - 9,843 total days of Argo profilers observations

- **SURFACE DRIFTERS**
  - 132 total platforms
  - 15,129 days of data

- **ARGO PROFILERS**
  - 21 stations transmitting data in real-time

- **FIXED STATIONS**
  - 3 operational forecasting systems

- **BEACH MONITORING**
  - 3 beach monitoring stations
  - 2,500 operative days
  - 6 beach monitoring survey/year/beach
  - 16 Technical & Research collaborations

Forecasting Facilities

- **CURRENTS**
  - 1 high-resolution prediction system (NMOP-H)

- **WAVES**
  - 1 high-resolution prediction system (SAPD-H)

- **RISSAGUES**
  - 1 atmosphere-ocean prediction system for meteor-tsunamis (BRIFS)

www.socib.es
Data Center Facility

- Beach Monitoring
- Modelling & Forecasting
- HF Radar
- Gliders
- Research Vessel
- Fixed Stations
- Drifters

Dissemination

Acquisition

Processing

Assembly

Archiving

Preservation

Dissemination

DATASET

SOCIB API

Users
Data repository: THREDDS catalog
SOCIB Data Catalog API

REST API

DATASETS

SOCIB Data Catalog

SOCIB API

HTTP CLIENT/LIBRARIES
Data Sources endpoint detail

- api.socib.es/data-sources
- api.socib.es/data-sources/{id}

HOW WE CAN ACCESS THE FILES

METADATA

- DEPLOYMENT
- INSTRUMENT
- PLATFORM
- VARIABLES
- FEATURE TYPES
- BOUNDING BOX

FOR EACH ENTRY (FILE)

- OPENDAP
- JWEBCHART
- DOWNLOAD
- DAPP
- THREDDS CATALOG
- LW4NC2
- WMS
- PROFILE VIEWER
Data endpoint detail

- api.socib.es/data-sources/{id}/data

RETRIEVING THE DATA ARRAYS

api.socib.es/data-sources/423b242b11/data/?
max_qc_value=2&
standard_variable=sea_water_speed&
initial_datetime=2018-03-01T00:00:00&
end_datetime=2018-10-28T23:59:59&
processing_level=L1&
resample_rule=1w&
resample_how=max

CURRENT PROFILER
DEPLOYED IN A MOORED
BUOY AT PALMA BAY
Data Products endpoint detail

- api.socib.es/data-products
- api.socib.es/data-products/{id}

DATA PRODUCTS ARE GROUPINGS OF DATASETS

api.socib.es/data-products/socib-enl-canales-apr2015

SOCIB ENL CANALES APR2015

DATA SOURCES

- GPS (RV)
- CTD (RV)
- TERMOSAL (RV)
- CURRENT PROFILER (RV)
- SURFACE DRIFTER
- PROFILER DRIFTER
Data Platforms endpoint detail

- api.socib.es/data-platforms
- api.socib.es/data-platforms/{id}
- api.socib.es/data-platforms/{id}/files/latest
- api.socib.es/data-platforms/{id}/files/historical

Which files contain the data in a specific period of time?

Which files contain the latest data?

api.socib.es/data-products/socib-enl-canales-apr2015
Methodologies

api.socib.es
/data-sources/5961a15c40/data
/data-products/socib-enl-canales-apr2015
Technologies

- PYTHON
- DJANGO
- DJANGO REST FRAMEWORK
- CF-PYTHON
- PANDAS
- SOCIB’S NETCDF_LAYER

Processing System Log Files

- FILEBEAT + LOGSTASH
- CELERY

- POSTGIS

Near Real Time Up-to-Date Index
Use cases and related products

- IT expert
- Data scientist

http://api.socib.es/home

- Data Catalog: apps.socib.es/data-catalog
- Landing page of SOCIB DOI system
- Data integration with CMEMS
THANKS!!

Questions?