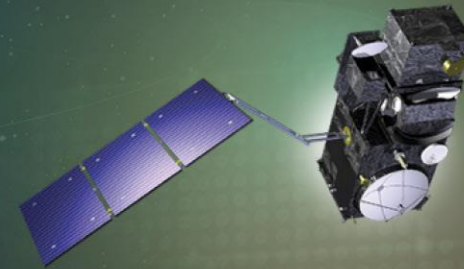




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7th Sentinel-3 Validation Team Meeting 2022

18-20 October 2022 | ESA-ESRIN | Frascati (Rm), Italy

Sentinel 3 SLSTR validation using in-situ data collected by the MONIZEE system (Portugal).

Luísa Lamas, Inês Martins, Rita Esteves, Paulo Nunes
Instituto Hidrográfico, Portugal



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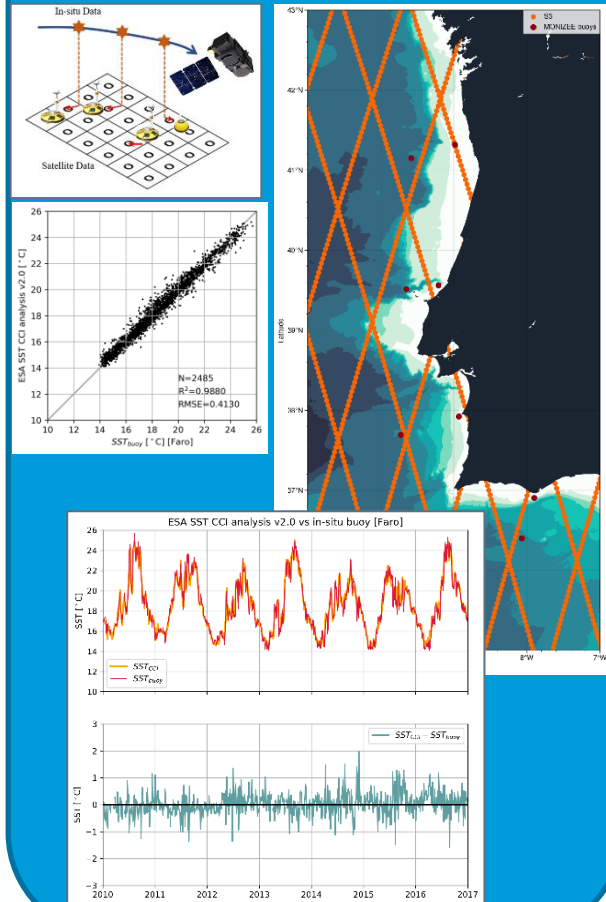


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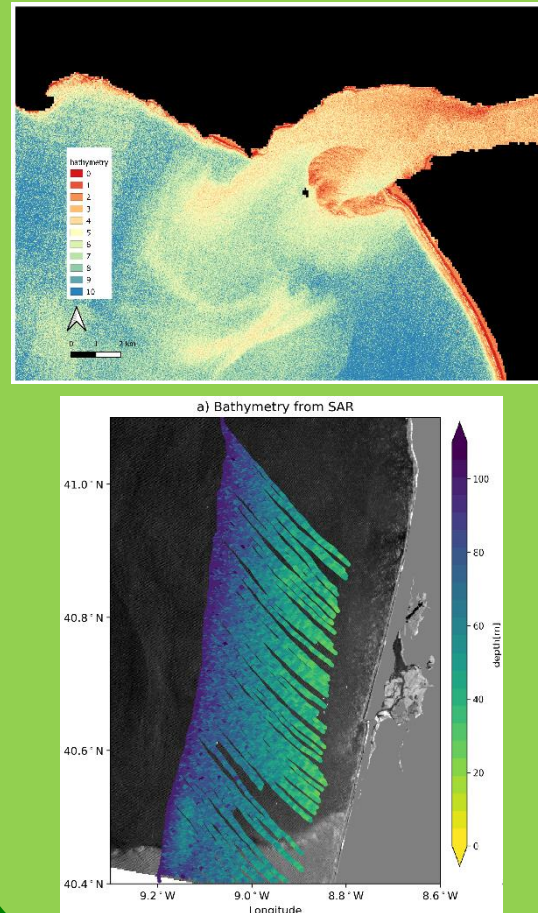


IH's recent work in Satellite Oceanography

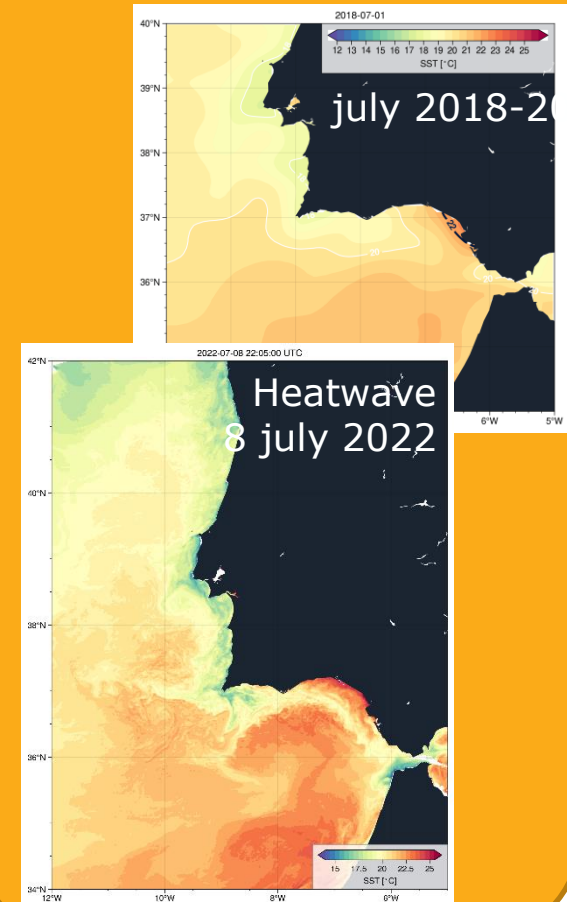
Validation



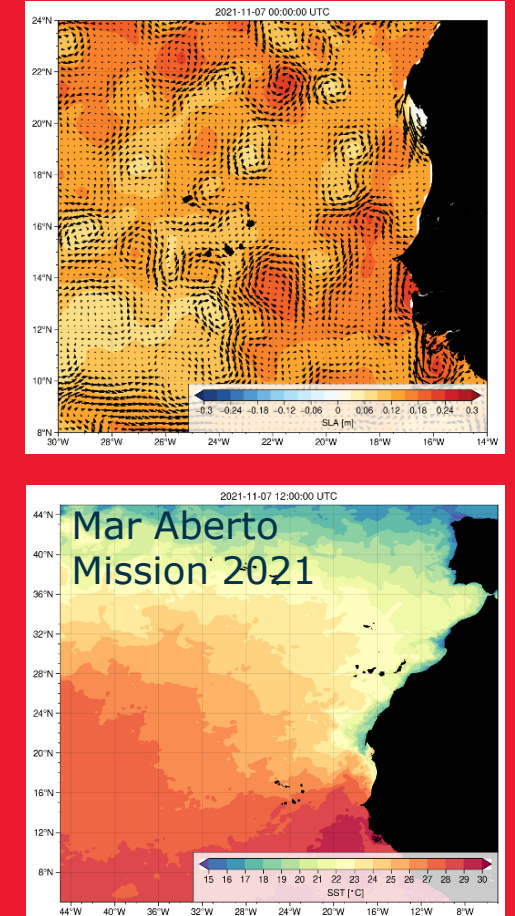
Bathymetry



R&D

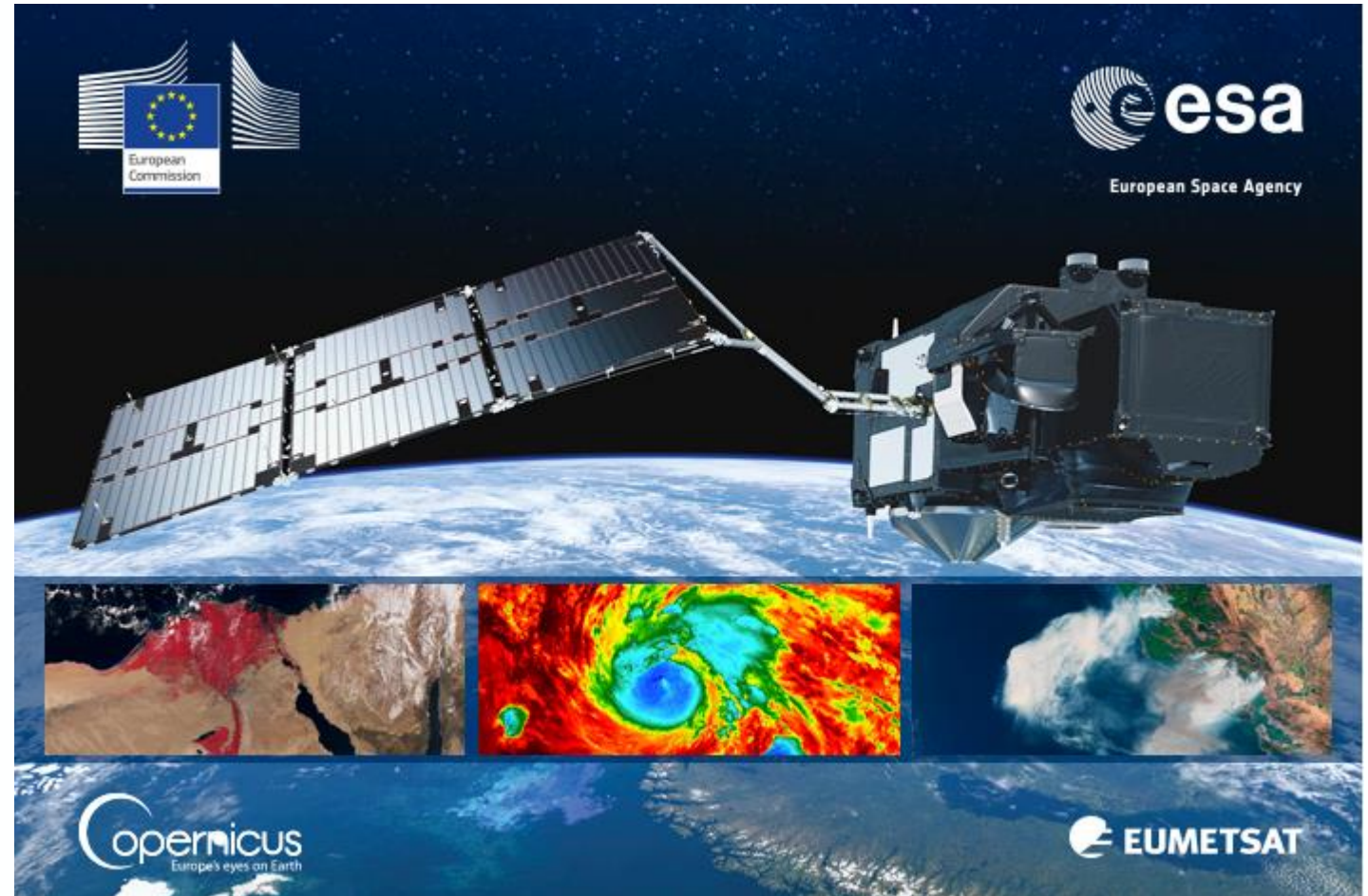


Operational Support

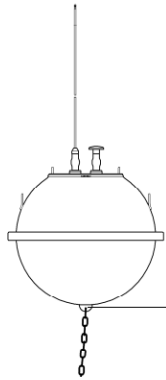


IH as Sentinel-3 Validation Team Member

- Project accepted March 2022
- IH S3VT project: "Sentinel 3 SLSTR validation using in-situ data collected by the MONIZEE system (Portugal)"
- Assessment and validation of Sentinel-3 data SST products, through monitoring data, field experiments and campaigns.



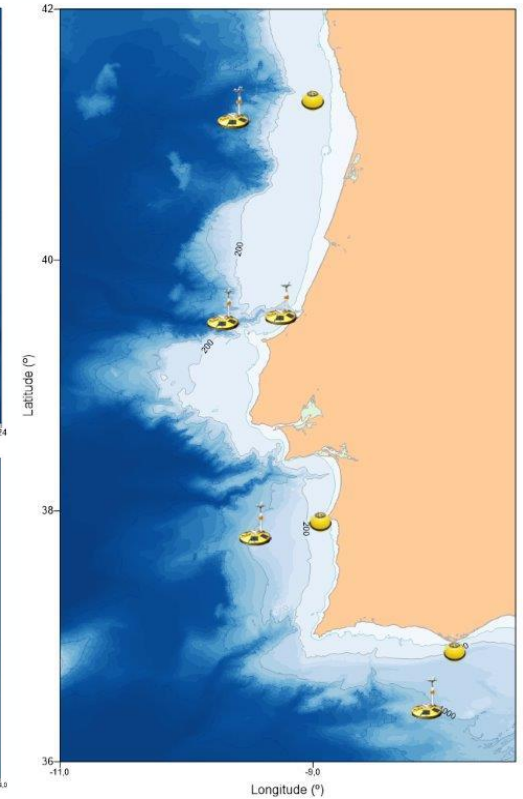
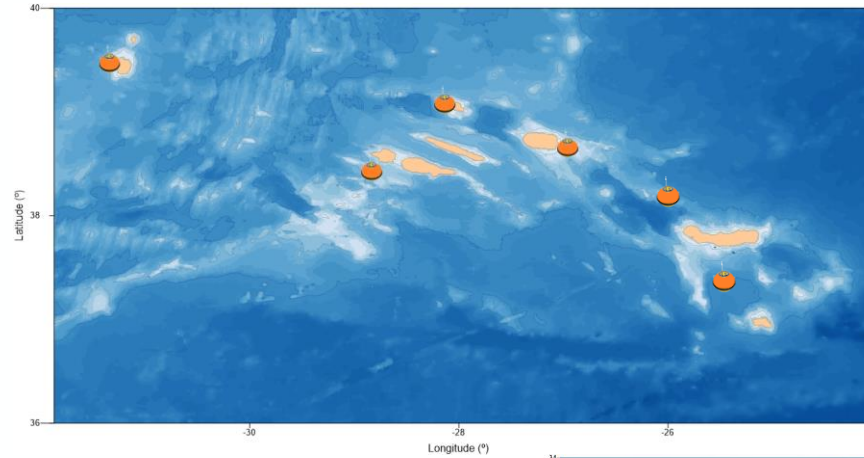
MONIZEE BUOY NETWORK



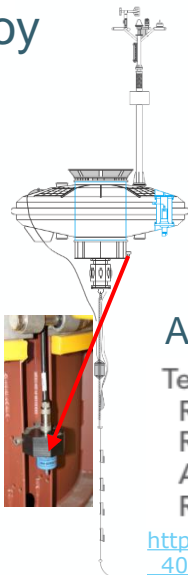
Datawell buov

<i>temperature</i>	Value
Range	-5 °C-+46 °C
Resolution	0.05 °C
Accuracy	0.2 °C

Temperature Sensor



Fugro Oceanor buoy

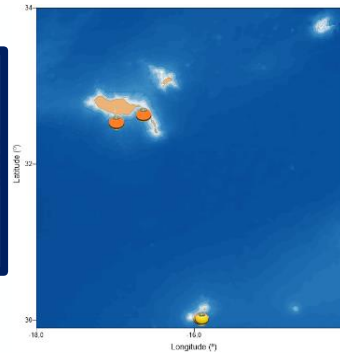


Aanderaa water temperature sensor

Temperature:
 Range: -4 - 36°C (24.8 - 96.8°F)⁽¹⁾
 Resolution: 0.001°C (0.0018°F)
 Accuracy: ±0.03°C (0.054°F)
 Response Time (63%): <2 seconds

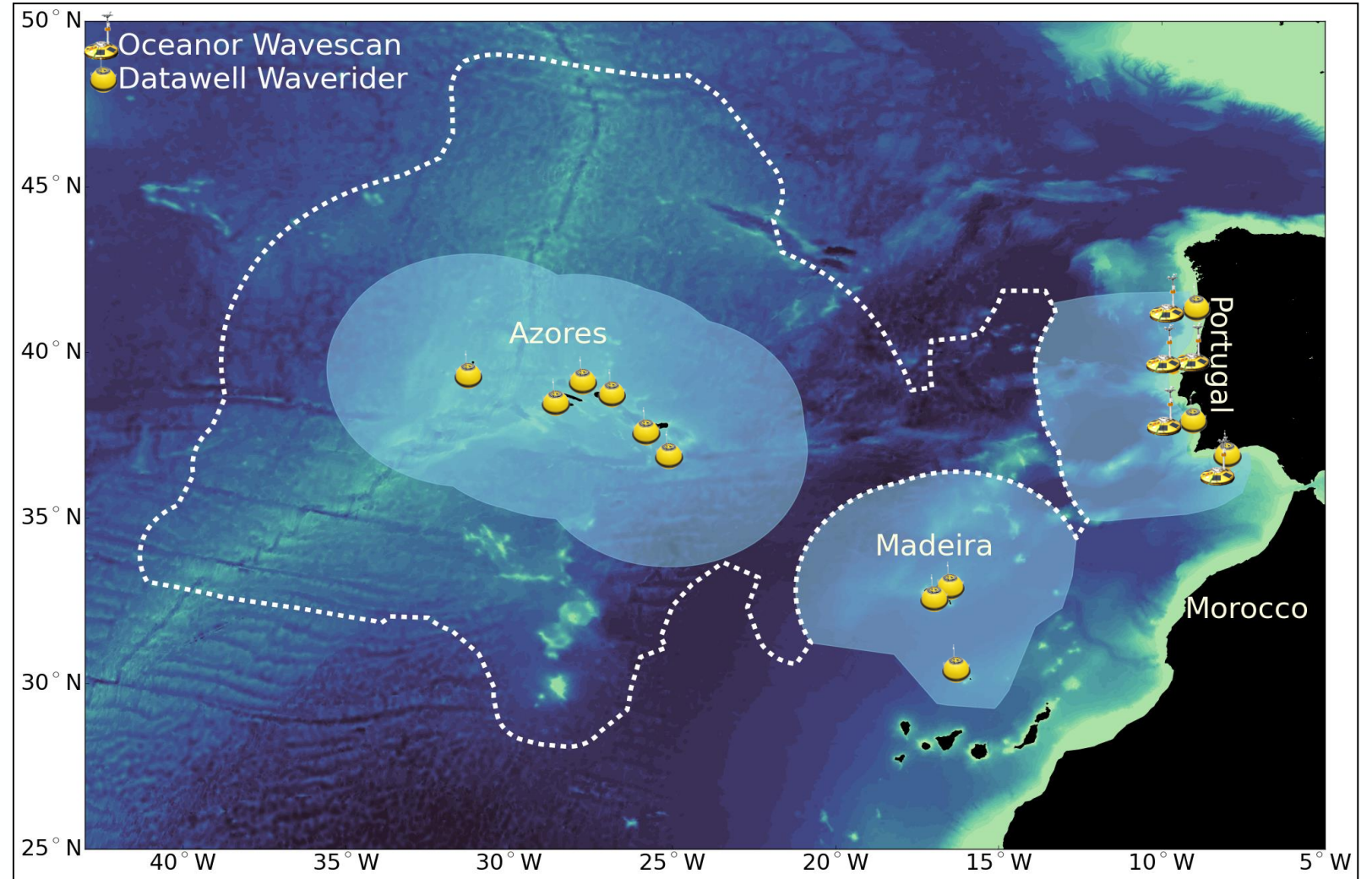
https://www.aanderaa.com/media/pdfs/d363_aanderaa_temperature_sensor_4060_4060r.pdf

- Boia Ondógrafo
- Boia ondógrafo administrada por entidades locais cujos dados são geridos pelo IH
- Boia Multiparamétrica



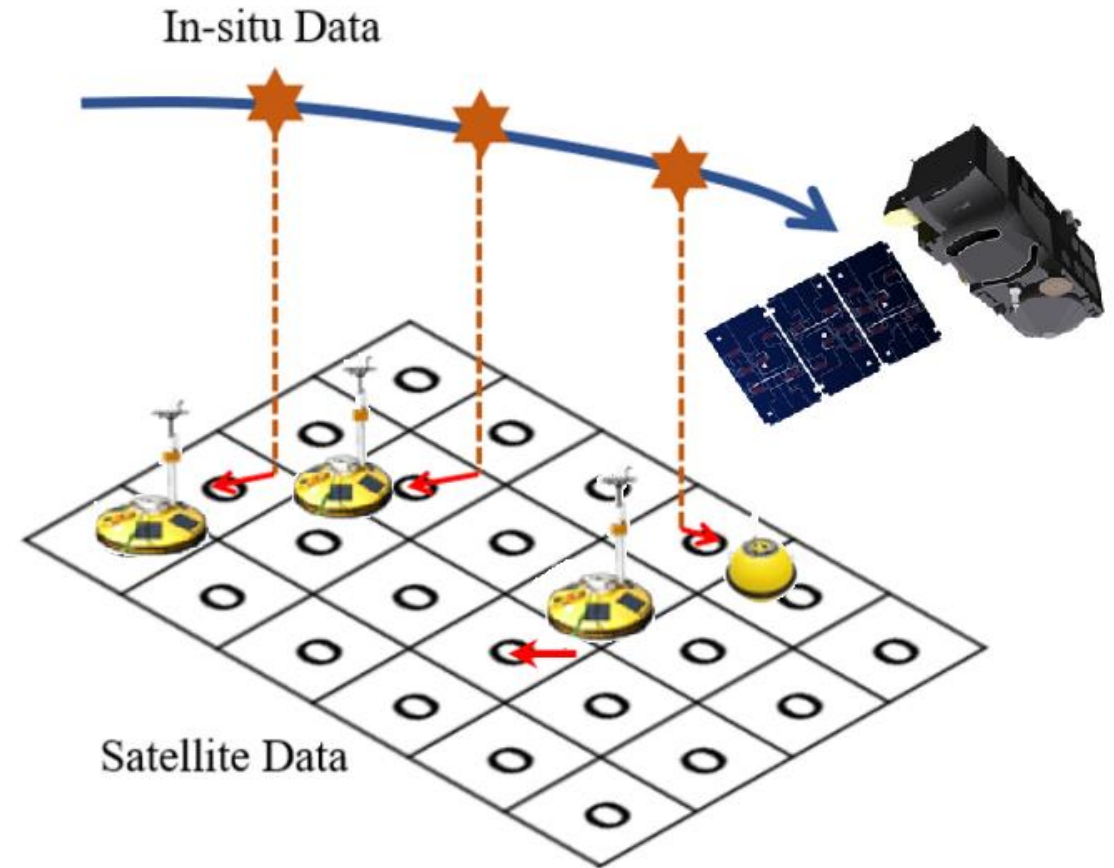
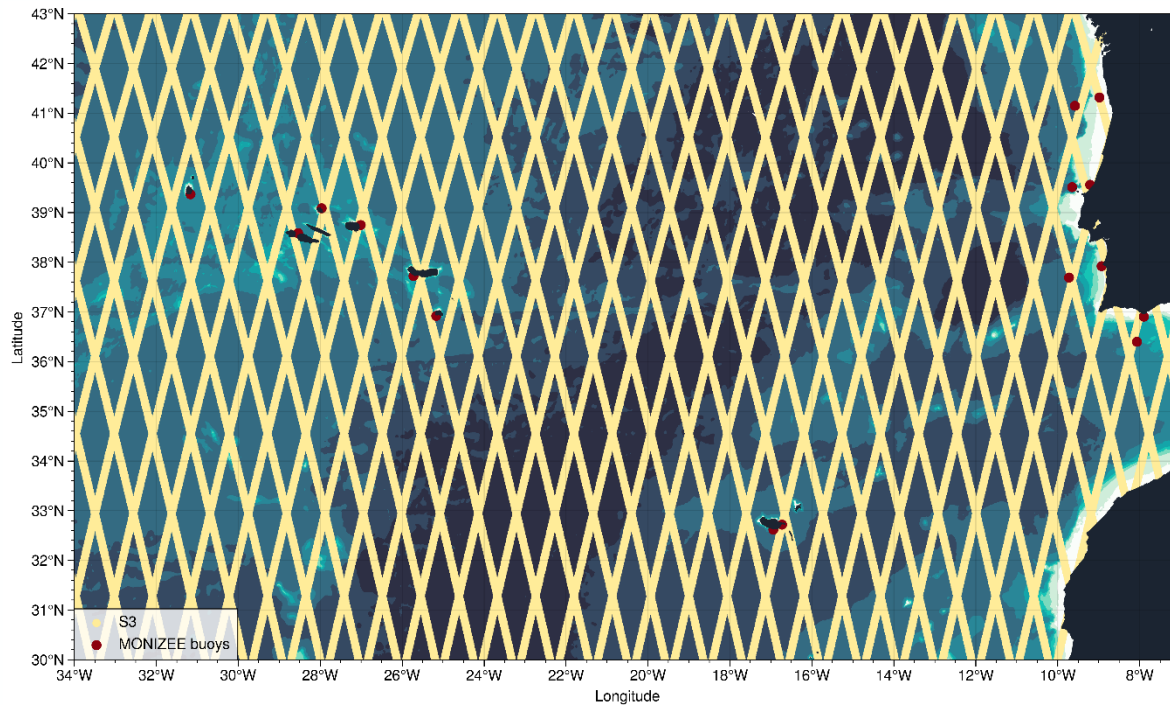
MOTIVATION

- IH manages the largest national database of ocean data
- Real-time monitoring of key ocean parameters



METHODOLOGY

- Match-up strategy definition



Hidrografico+ : Marine Data Infrastructure geomar.hidrografico.pt

hidrografico+

Procurar

- Modelos Batimétricos (25 m)
- Isobatimetria
- Mapa Base - Modelo Batimétrico
- Modelo Batimétrico ZEE de PT Cont. e Ilhas
- Catálogo de Cartas do IH
- Catálogo Internacional de CEN
- Unidades Administrativas Marítimas
- Corredores de Tráfego (Marítimo)
- Toponímia Marítima
- Cobertura Superficial Sedimentar - PT Cont.
- Pontos Coordenados
- Rede de Bóias
 - Boias Ondografo
 - Boias Multiparamétricas
 - Boias Spotter
- Rede Maregráfica

Selecionadas

Boias Ondografo

Boias Multiparamétricas

Carregar camada

Boia Oceânica de Faro

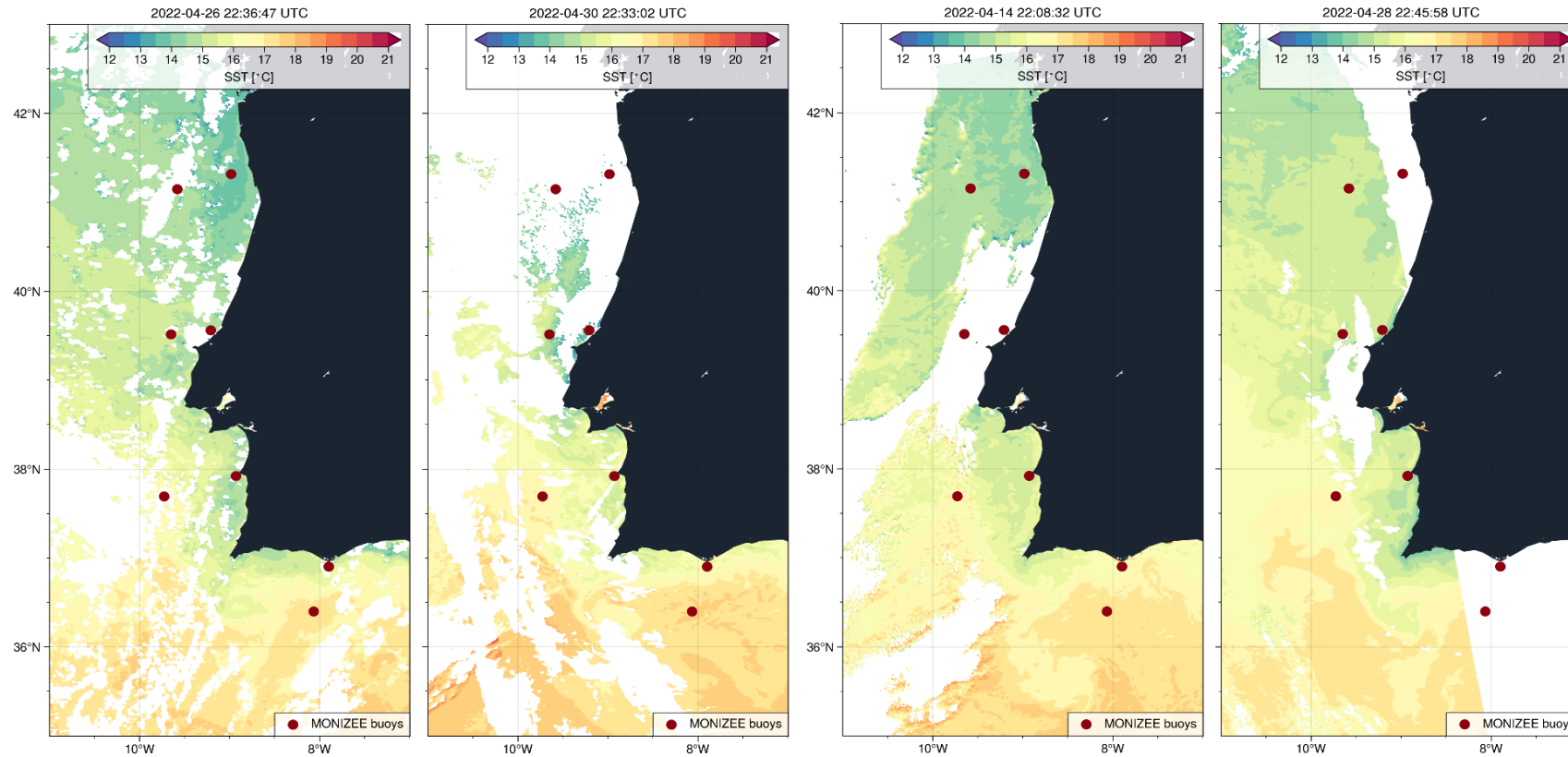
Temperatura

Nota: poderá ser necessário iniciar sessão para aceder a determinados dados.

Coordenadas: 40,076838° N, 7,701416° W
Escala 1 : 4 613 998

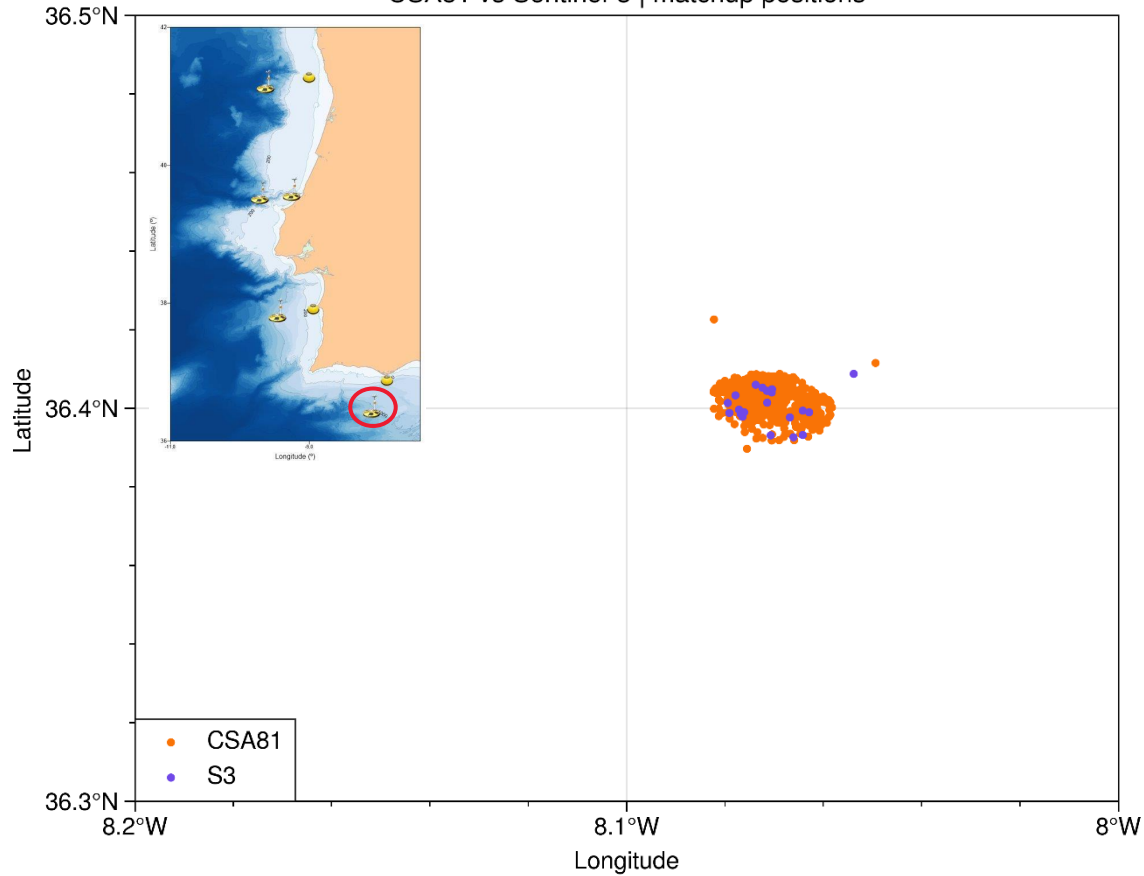


Validation Service: Coverage | S3 NRT images superimposed with buoys location

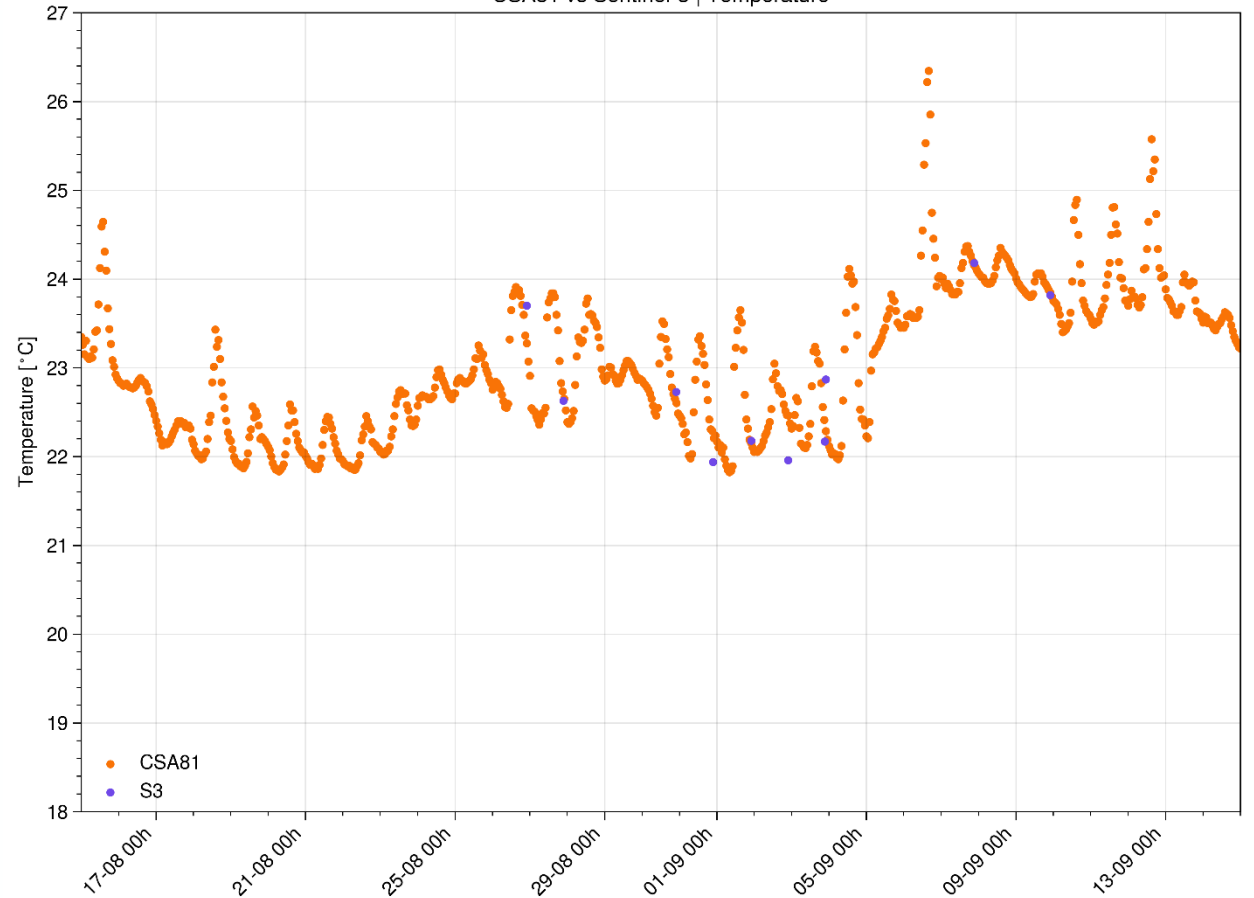


Some examples: Faro offshore buoy data timeseries

CSA81 vs Sentinel-3 | matchup positions

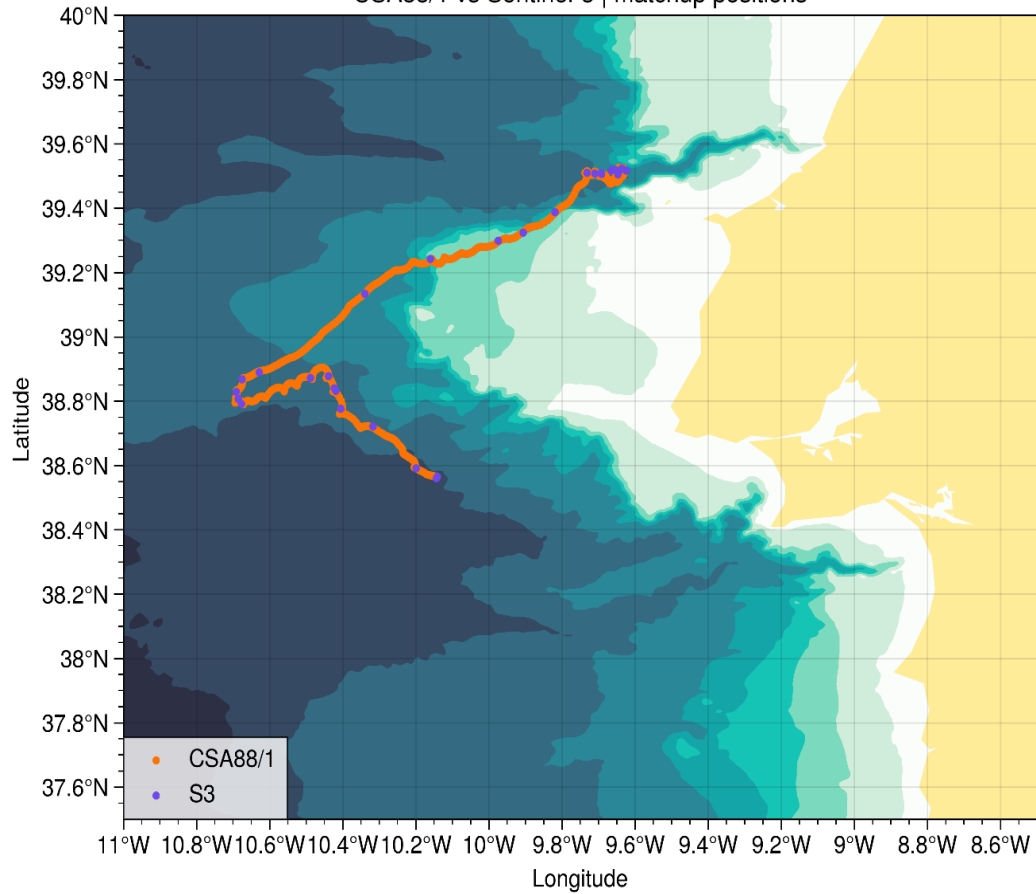


CSA81 vs Sentinel-3 | Temperature

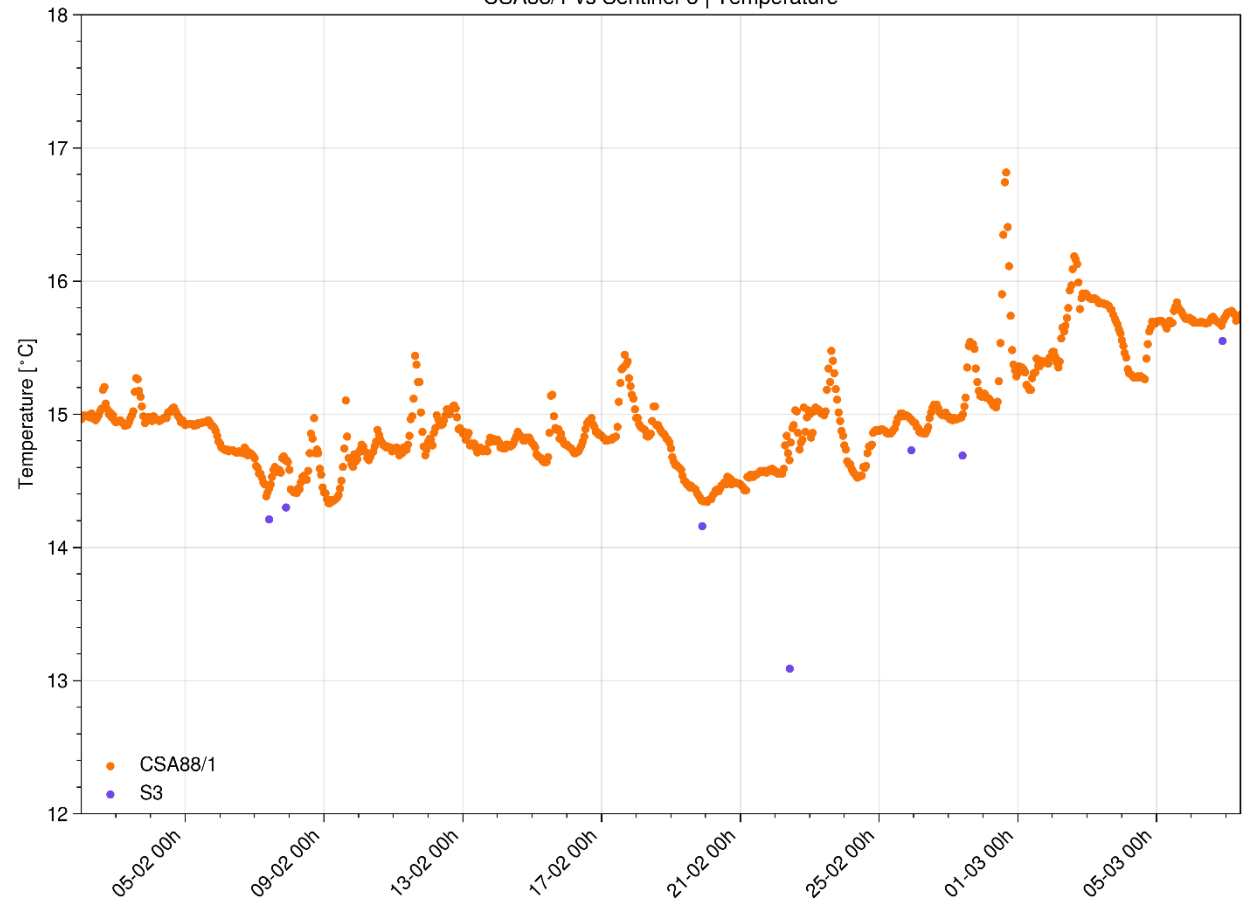


Some examples: Buoy drift can be used as an opportunity...

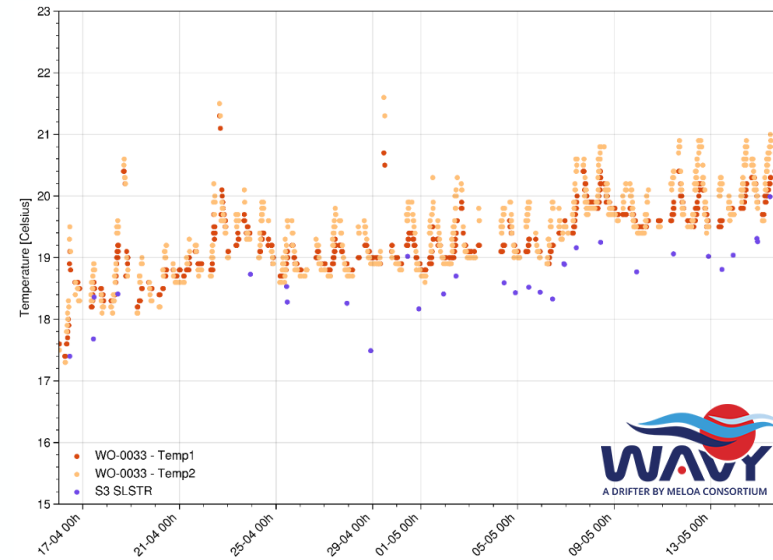
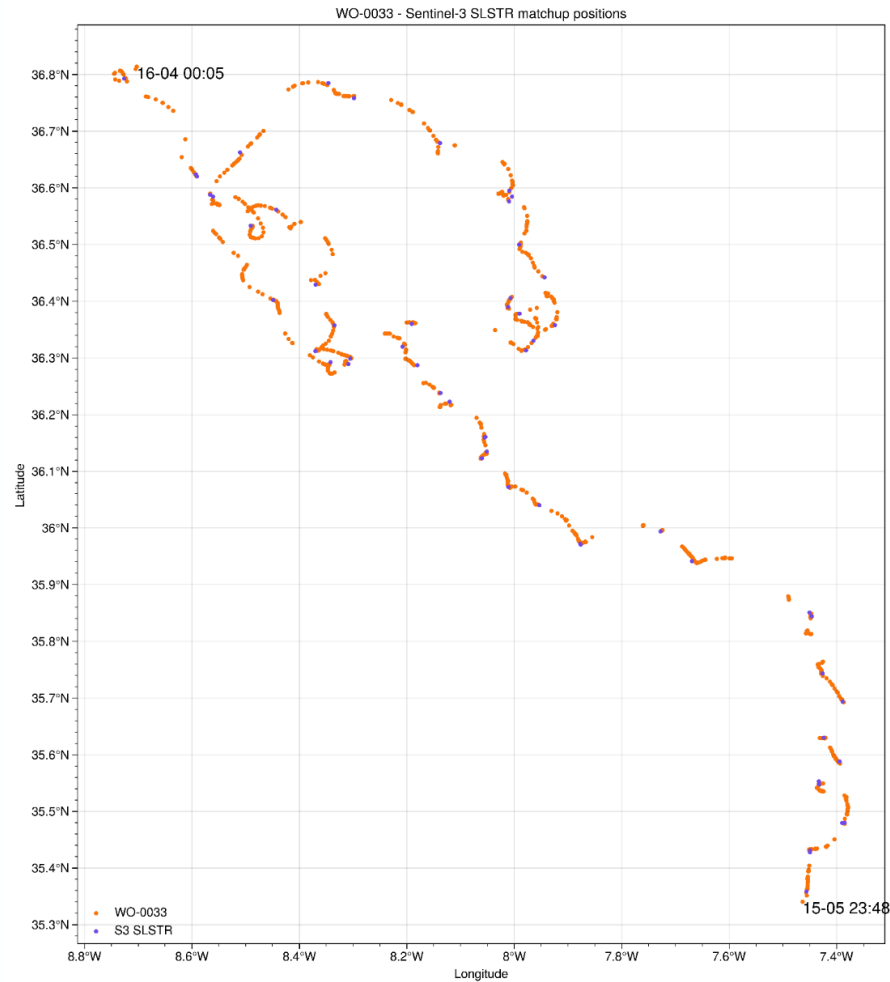
CSA88/1 vs Sentinel-3 | matchup positions



CSA88/1 vs Sentinel-3 | Temperature



Some examples: Validation of drifters thermistors | H2020 MELOA Project





EXPECTED OUTCOMES

- IH S3VT project: "Sentinel 3 SLSTR validation using in-situ data collected by the MONIZEE system (Portugal)"
- IH, as a S3VT member, is expected to contribute to the independent validation of Sentinel 3 SST data products.
- Statistical comparison between in-situ and S3 SST data
- Historical assessment of the accuracy and precision of SLSTR Level-2 WST product for the coastal and oceanic waters off Portugal.
- Implementation of a systematic comparison service between S3 SST and in-situ data obtained by the MONIZEE buoy system, on the Portuguese EEZ.

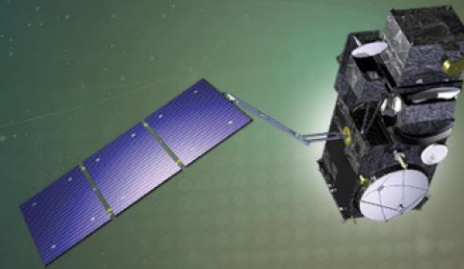




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Thank you

Questions?



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