Flash Talk Session Part 2
Theme 2 & 4

5 talks (theme2) & 1 talk (theme4)

Flash Talk Presenter Guidelines

Bell Signals

- **2:00**:
  30 seconds remaining. Please begin concluding your talk.
- **2:30 II:**
  End of presentation time. Please finish immediately.

On-Deck Speakers

- Please wait near the stage during the presentation prior to yours.
- Ensure a smooth transition by moving promptly when called.

Remote Presenters

- Slide advancement will be operated by the **LOC** (Local Organizing Committee).
- Please provide a clear verbal signal (e.g., *"Next slide, please"*) when ready to advance.

Theme 2:
Evaluation of the impact of ocean observations on ocean, weather and climate predictions and other applications

2.1 Amandine Schaeffer



BluebottleWatch: Understanding Bluebottles (*Physalia*) along Australia's Coast

- Turning observations into coastal safety.

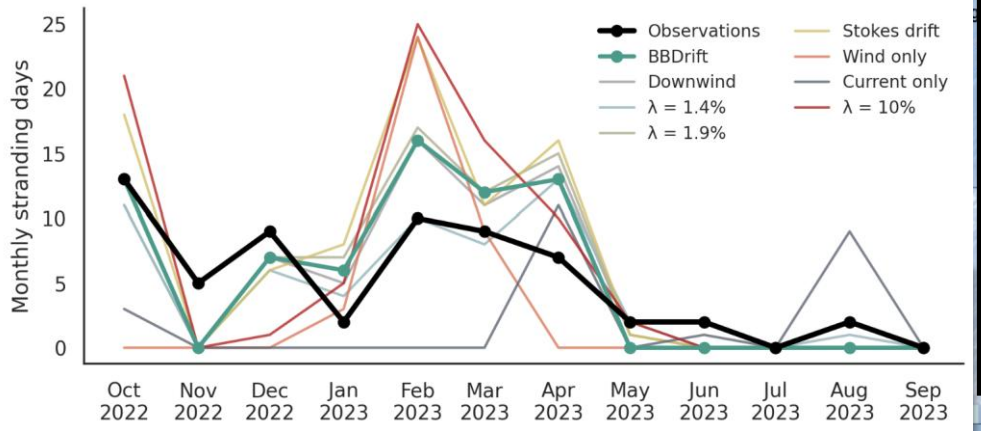
Bluebottle predictions are based on 14 years of lifesaver sting reports and AI models.

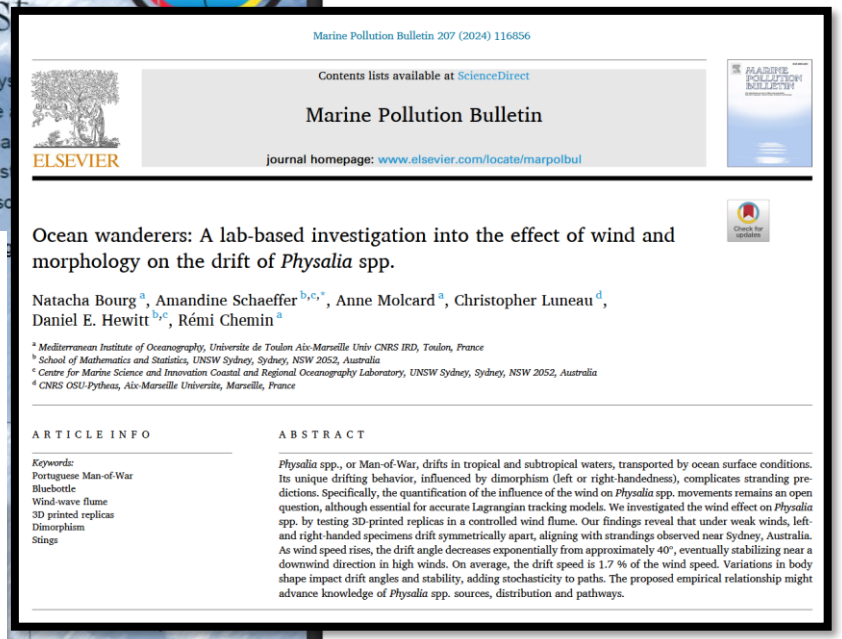
- The project is co-designed with
  - lifesavers to help manage periods of higher sting risk.
  - swimmers / surfers to make informed decisions before entering the water.

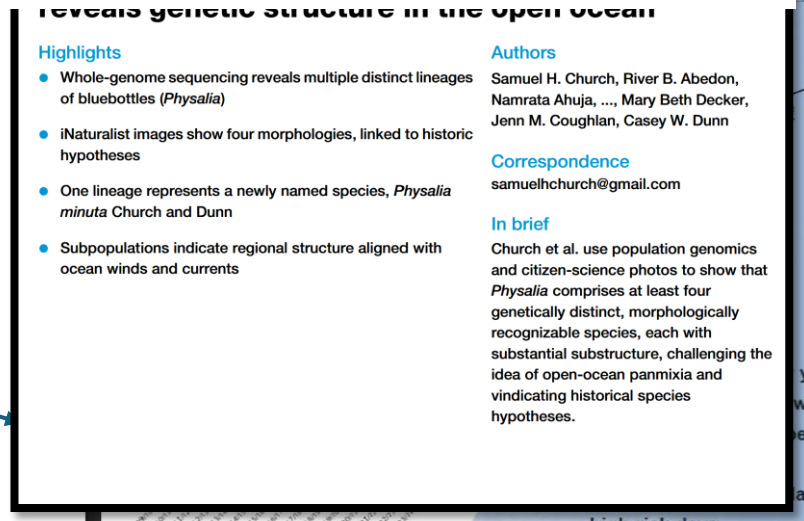
It makes marine science relevant and encourages citizen science.

Poster designed for outreach, not research!









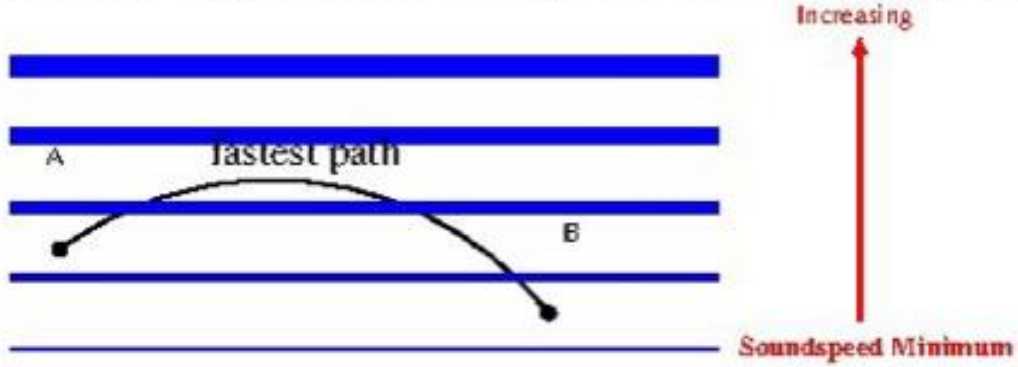
Fun fact: bluebot… right-… handed!

Stats: you're not the only who got stung…

Bluebottles might have travelled 1000 km before getting to you.

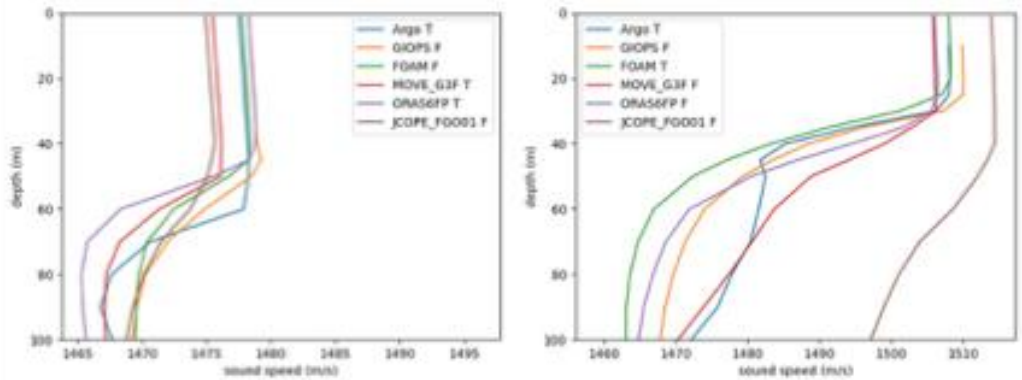
2.2 Andrew Peterson

Flashtalk: A System Intercomparison of Data Withholding Impacts on the Detection of Proxies for Near Surface Sound Channels in the Ocean



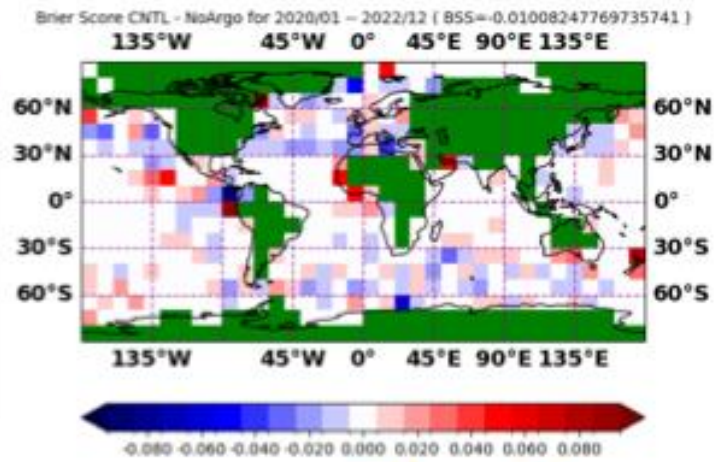


Reference Argo Profile



Atlantic

Pacific



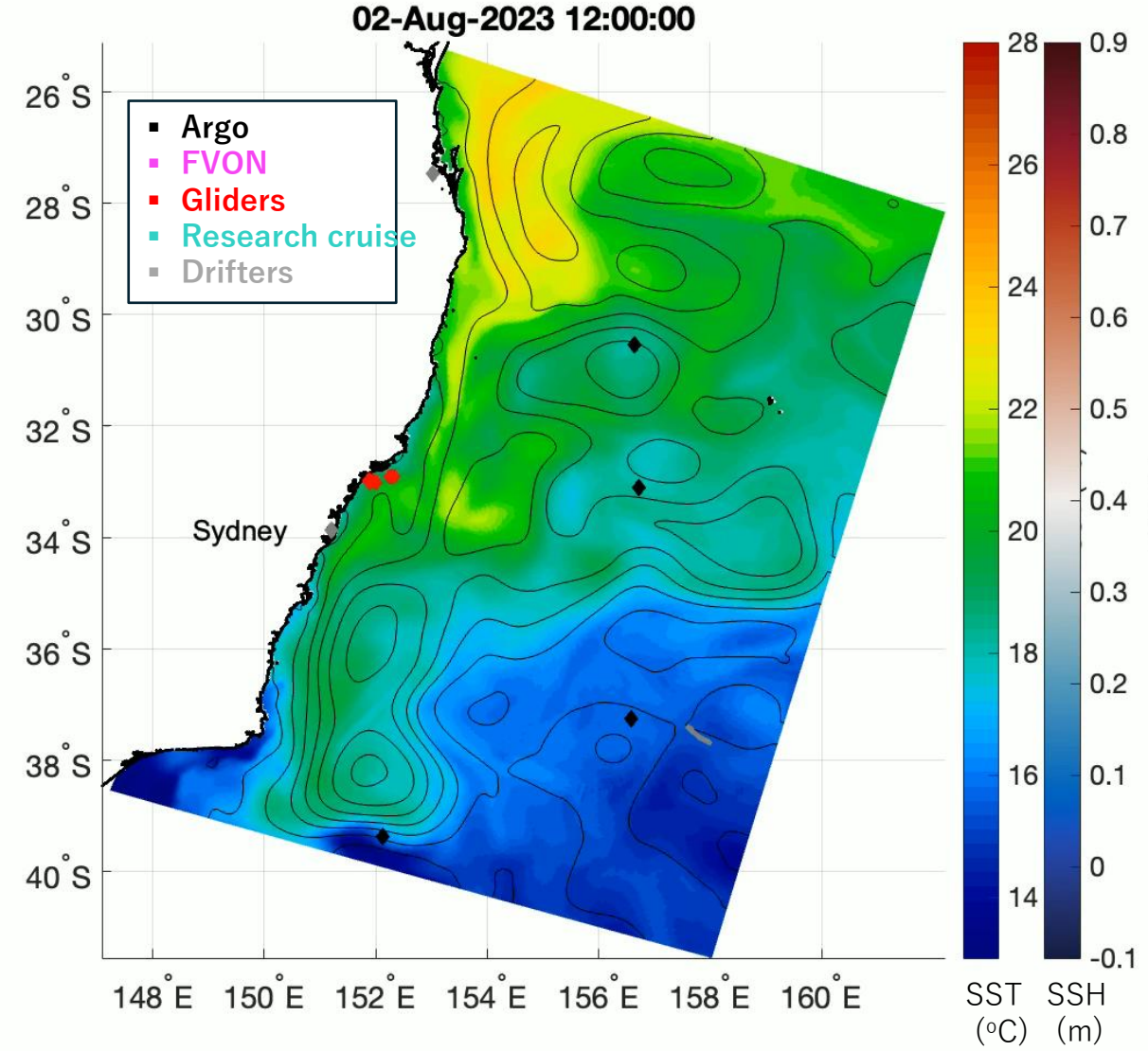
Results: Blue: No Argo Degrades

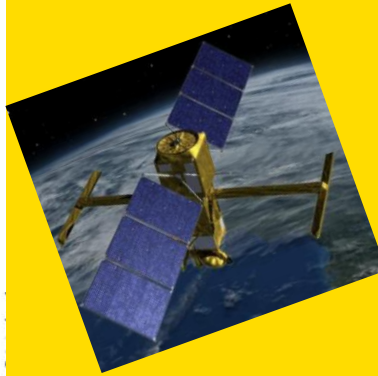
2.3 Colette Kerry (remote) presented by Moninya Roughan

Wide-swath satellite altimetry and novel subsurface observations improve predictions in a dynamic western boundary current

Colette Kerry[1] , Shane Keating[1], **Moninya Roughan[2]** , Marina Azaneu[2], Gary Brassington[3]
1. School of Mathematics and Statistics, UNSW Sydney, 2. School of Biological, Earth and Environmental Sciences, UNSW Sydney, 3. Flowershift Pty Ltd (previously at Bureau of Meteorology, Sydney, Australia)

- OSSEs - to assess the impact of assimilating SWOT and FVON observations in the dynamic East Australia Current system
- SWOT data improves prediction of the mesoscale (>100km) and improves model representation (but not prediction) of the submesoscale (fronts and vertical motions)

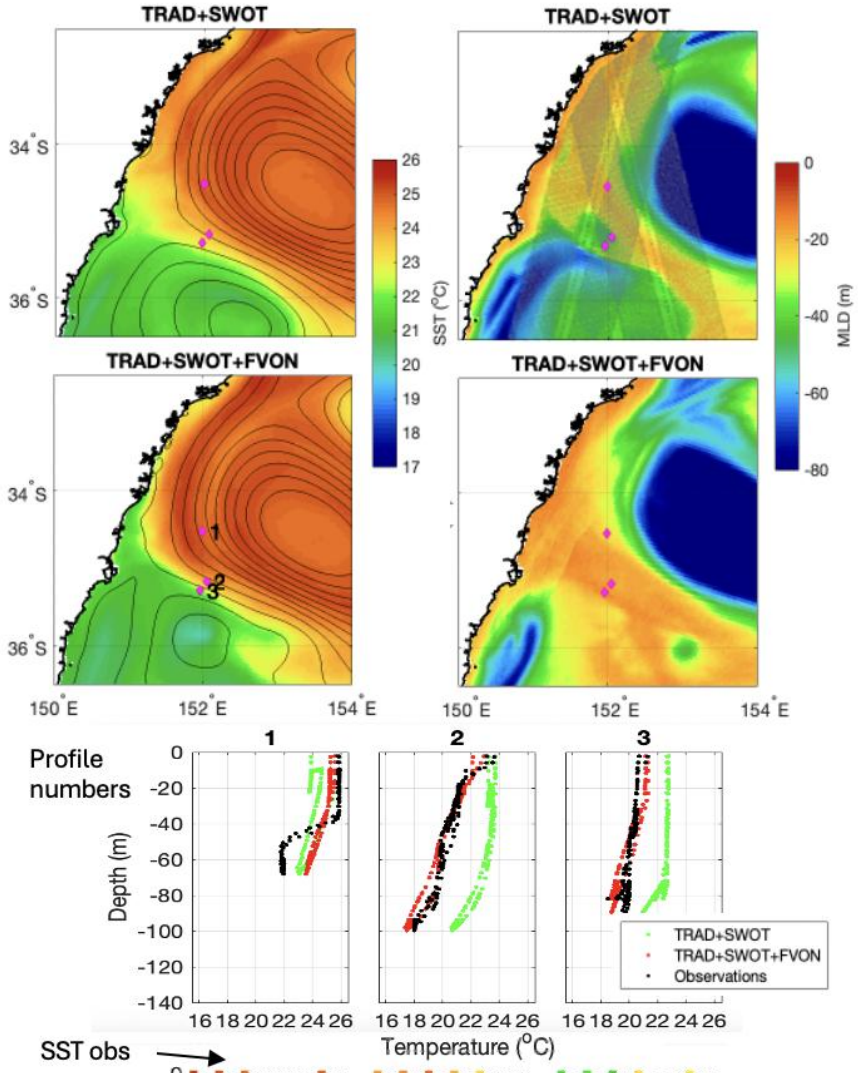




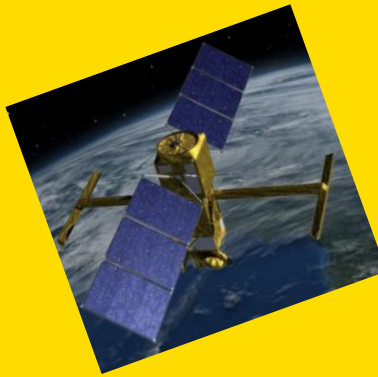
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- SWOT data improves prediction of the mesoscale (>100km) and improves model representation (but not prediction) of the submesoscale (fronts and vertical motions)
- Assimilation of FVON data improves representation of subsurface temperature in the (previously under-observed) near-coast/shelf regions and across fronts



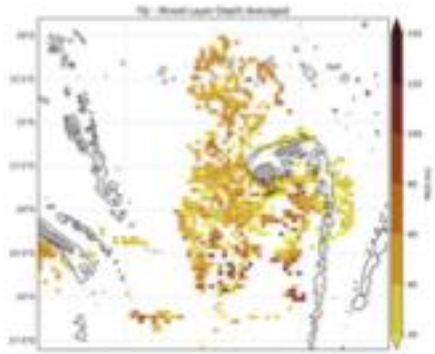
SST (°C) SSH (m)

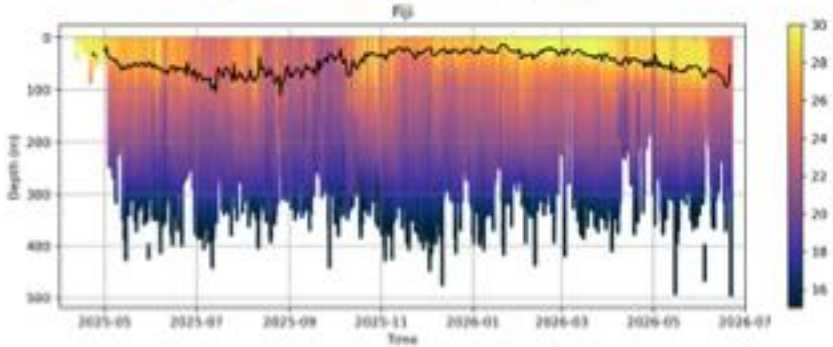


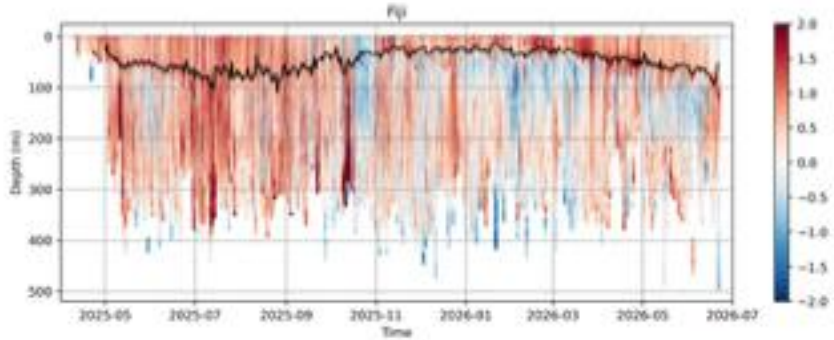
2.4 Fernando Sobral (remote)

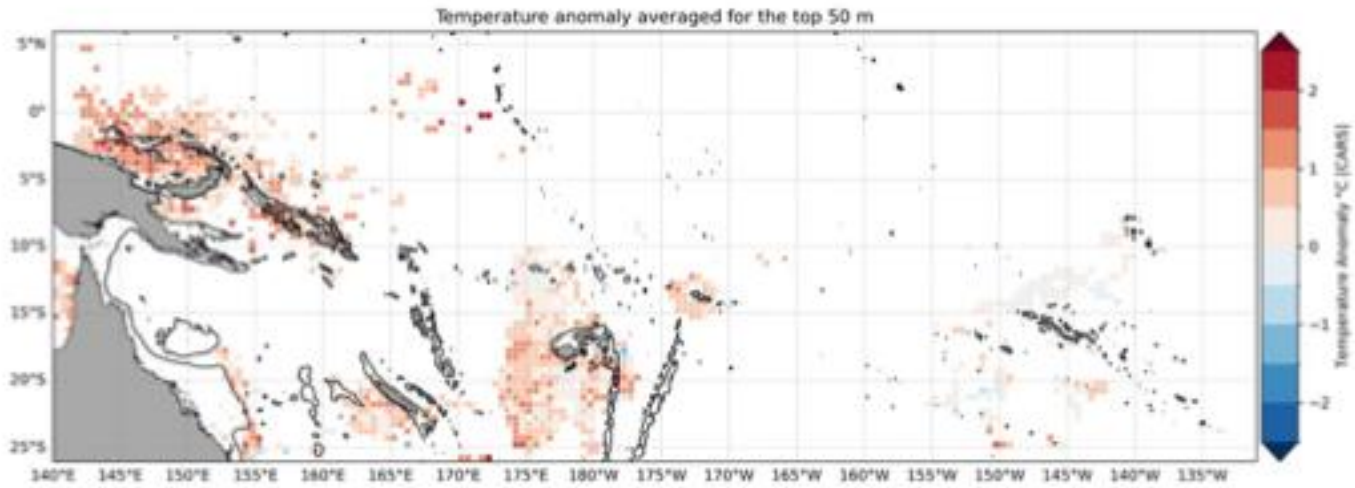
From hooks to heat: novel fishing vessel observations reveal subsurface temperature variability and extremes around Pacific Countries

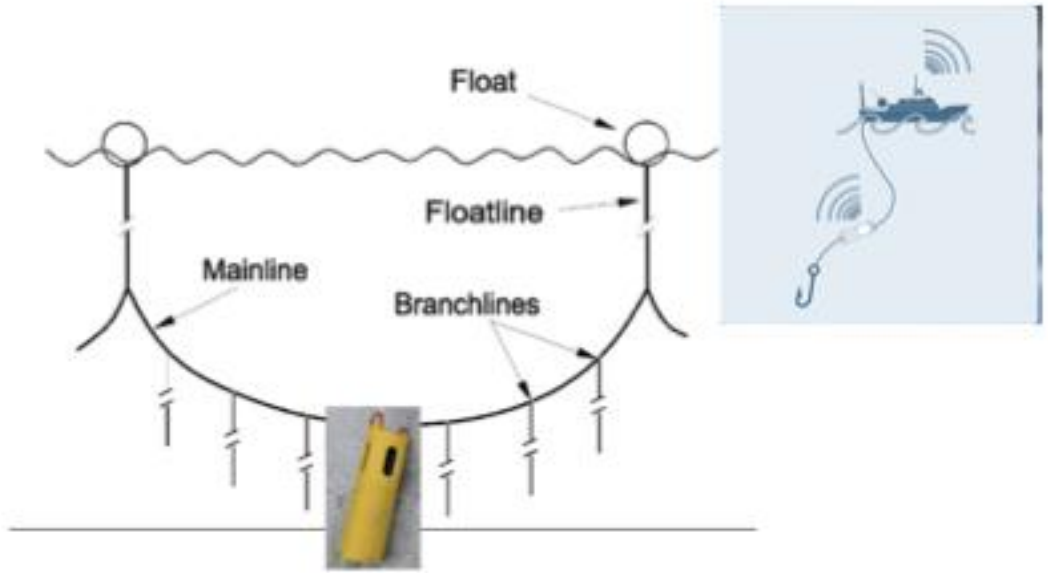
Fernando Sobral, Moninya Roughan, Véronique Lago, Cynthia Wickhan, Simon Nicol, Andrew Wright











2.5 Marina do V C Azaneu (remote)

Disentangling shelf dynamics in the East Australian Current System at SWOT scales

Marina Azaneu · Cuong Tran · Moninya Roughan · Amandine Schaeffer · Shane Keating

University of New South Wales

The challenge

Submesoscale eddies, fronts and filaments evolve over roughly 0.1–10 km and days — scales that are difficult to observe consistently.

The opportunity

SWOT measures sea-surface height at much finer spatial scales than conventional satellite altimetry, making these structures visible.

Question

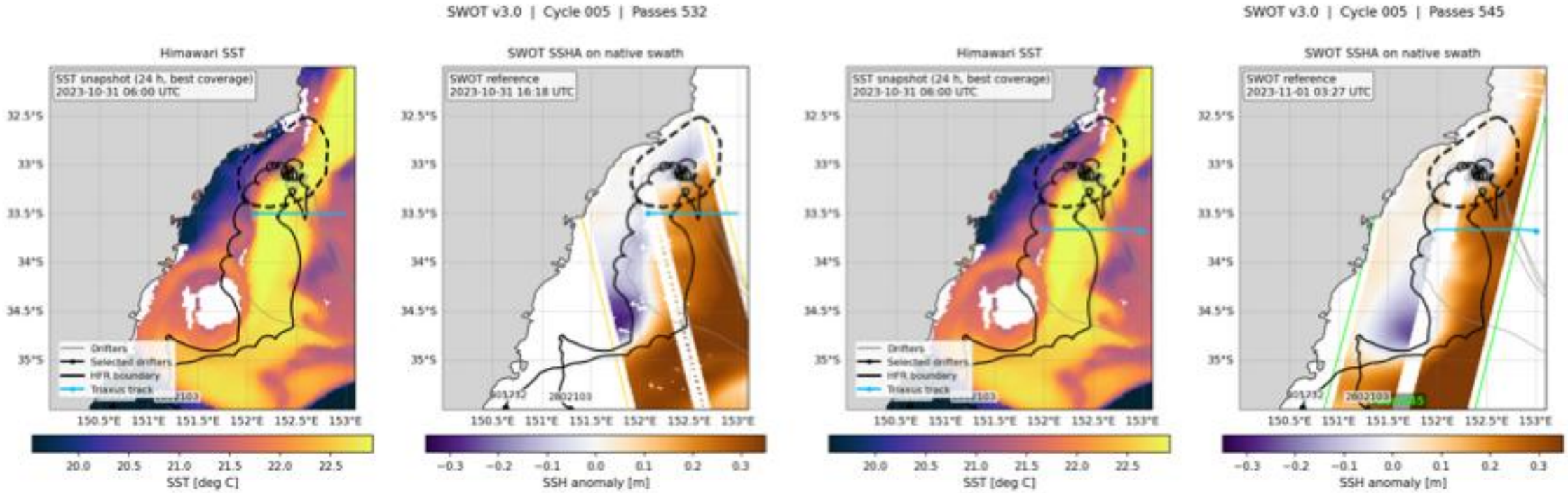
Can SWOT resolve fine scale ocean dynamics in this highly energetic region?



Case study

SWOT was compared with independent observations





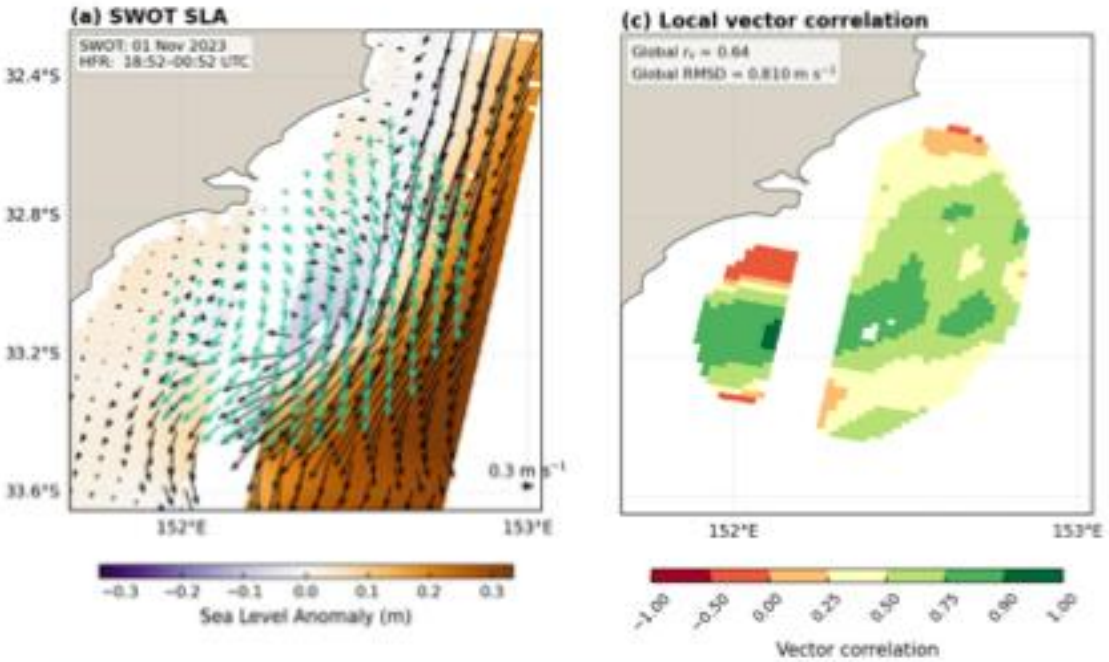
31 October 2023

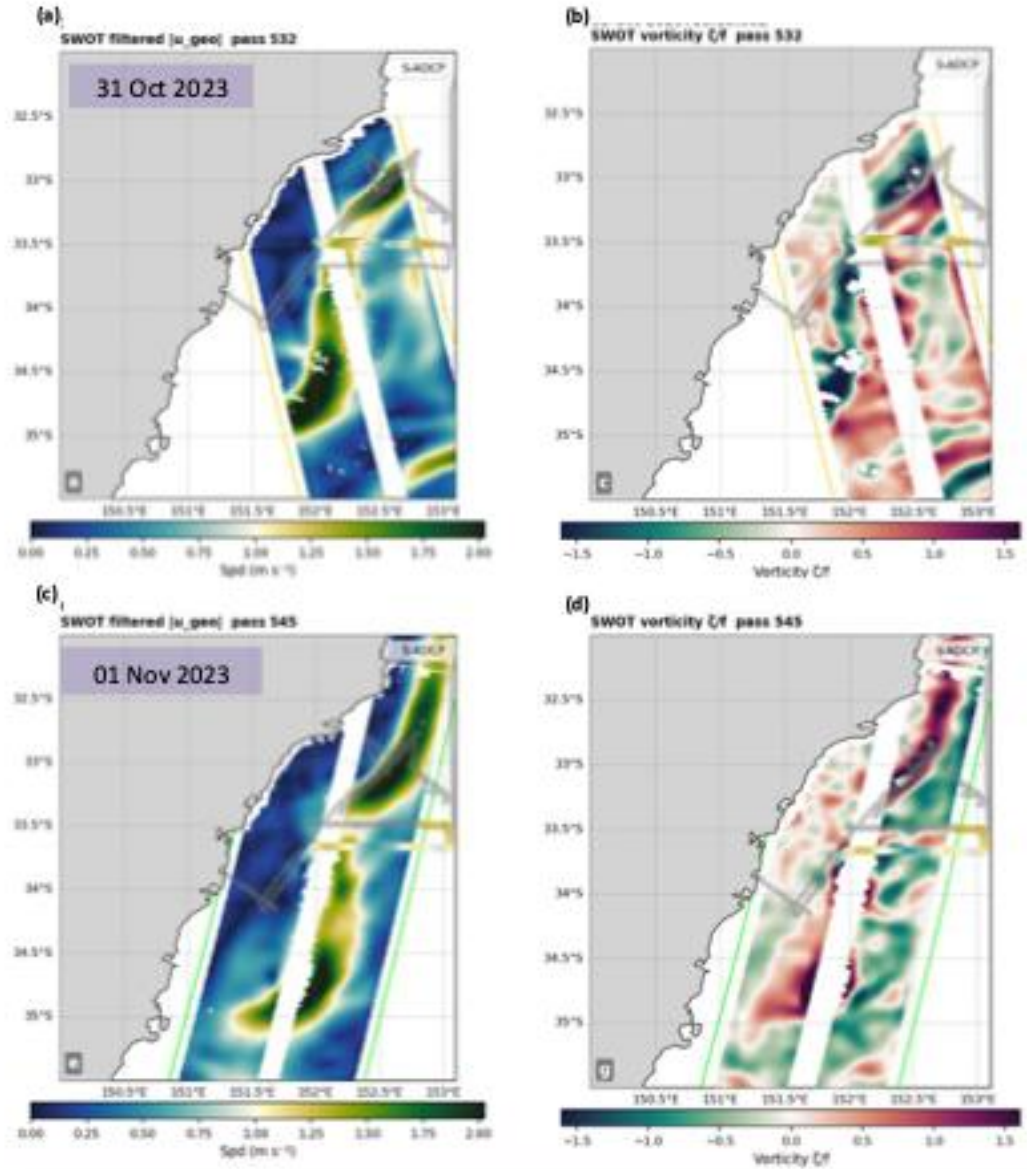
1 November 2023

Independent observations provided the comparison: high-frequency coastal radar for surface velocities, hydrographic transects for temperature/salinity, and shipboard ADCP measurements.

WHAT SWOT RESOLVES

SWOT resolves the surface structure of a frontal eddy and the persistence of a submesoscale front





Agreement with HF radar

Velocity correlation is high (0.5–1), except close to shore where ageostrophic flow is dominant.

Submesoscale frontal persistence over two days

The frontal zone remains coherent, with strong velocity shear and cyclonic vorticity.

TAKE-HOME MESSAGE

SWOT adds a missing view of coastal ocean dynamics

The study shows that SWOT can resolve fine-scale surface currents and frontal structure in the EAC transition zone — and that these observations are consistent with independent in-situ and HF-radar measurements.

Next step

Link the observed surface dynamics to the three-dimensional structure of the front, including vertical stratification and vorticity.

Thank you

Theme 4:
Planning future activities of SynObs and Ocean Observing Co-design and their collaboration

4.1 Tsuyoshi Wakamatsu

Outcomes of the Workshop "*Use of Argo data by European operational users*" organised in Nov 2025 in Rome, Italy

Claire Gourcuff, Yann-Hervé De Roeck (Euro-Argo ERIC)
Emanuele Organelli (CNR ISMAR, Italy)
Elisabeth Rémy (Mercator Ocean international, France)
Tsuyoshi Wakamatsu (NERSC, Norway)
Raphaëlle Sauzède, Hervé Claustre (LOV, France)



SynObs & Ocean Observing Co-design Workshop 2026

This project has received funding from the European Union's Horizon Europe research and innovation programme under project ID: 101188133

Background

- **Context:**
  - In Europe, Euro-Argo ERIC: contact point for key operational users at European level
    - C3S/ECMWF & CMEMS – MoU signed with CMEMS in 2021.
    - Space agencies: ESA & EUMETSAT
  - Participation in projects from the European Environmental Agency in charge of the overall coordination of in situ activities of the Copernicus programme

- **First workshop organised in March 2024 in Toulouse** – report available here
  - Status of Argo data use (which measured parameters, for which applications)
  - Needs in terms of Argo data/observations
  - Common advocacy leads

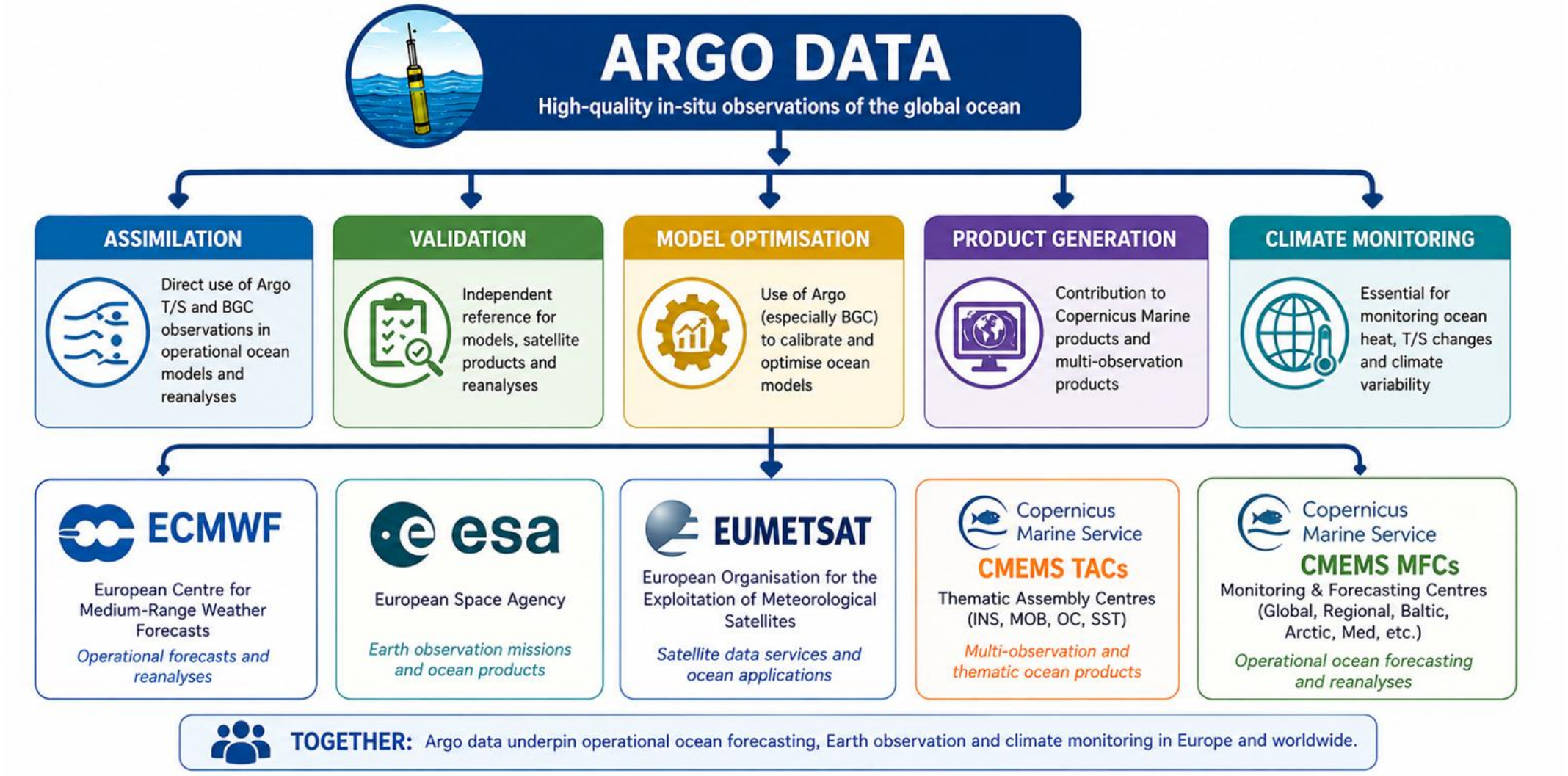
- **A Forum of Environmental Research Infrastructures** is being set-up for a better inclusion and acknowledgement of RIs as in situ data providers for Copernicus (« high level » discussions)



Participants to the Workshop « Use of Argo data by European operational users » in Rome, Italy, 21 November 2025. Hosted by CNR ISMAR.
Credit: Euro-Argo ERIC

- **2nd workshop organised in November 2025 as part of the Euro-Argo ONE EU project - task dedicated to improve links with operational users**
  - Partners: Euro-Argo ERIC, CNR, NERSC, MOi, CNRS
  - Focus discussion on data flows / metadata / products / communication channels

Summary


ARGO DATA
High-quality in-situ observations of the global ocean
ASSIMILATION
Direct use of Argo T/S and BGC observations in operational ocean models and reanalyses
VALIDATION
Independent reference for models, satellite products and reanalyses
MODEL OPTIMISATION
Use of Argo (especially BGC) to calibrate and optimise ocean models
PRODUCT GENERATION
Contribution to Copernicus Marine products and multi-observation products
CLIMATE MONITORING
Essential for monitoring ocean heat, T/S changes and climate variability
ECMWF
European Centre for Medium-Range Weather Forecasts
Operational forecasts and reanalyses
esa
European Space Agency
Earth observation missions and ocean products
EUMETSAT
European Organisation for the Exploitation of Meteorological Satellites
Satellite data services and ocean applications
Copernicus Marine Service
CMEMS TACs
Thematic Assembly Centres (INS, MOB, OC, SST)
Multi-observation and thematic ocean products
Copernicus Marine Service
CMEMS MFCs
Monitoring & Forecasting Centres (Global, Regional, Baltic, Arctic, Med, etc.)
Operational ocean forecasting and reanalyses
TOGETHER: Argo data underpin operational ocean forecasting, Earth observation and climate monitoring in Europe and worldwide.

SESSION CHAIR ANNOUNCEMENT

Thank You to All Speakers!
Please Join the Poster Session after Lunch

That concludes our Flash Talk session. Big thanks to all presenters and attendees! Please be sure to gather at the Poster Room during the designated session to continue the discussions.

POSTER SESSION TIME

13:40 – 15:10