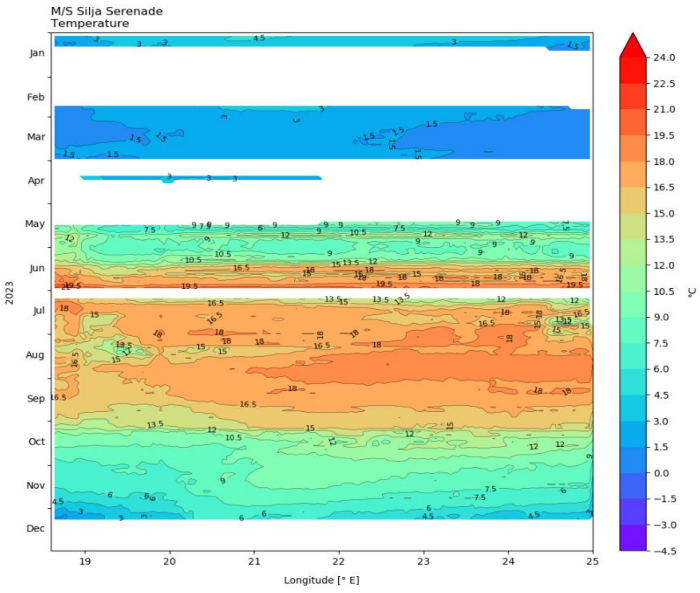
FINMARI news flash

December 2023

Alg@line 30 years

The Alg@line ferrybox network has observed the state of the Baltic Sea and algal blooms since 1993. The ferrybox measures properties of seawater (temperature, salinity, oxygen, carbon dioxide, turbidity, humus, as well as the amount and composition of phytoplankton) every 200 meters along the ship's route and sends the data in real time to data portals.

The Alg@line measurements are ongoing on Silja Serenade between Helsinki - Mariehamn - Stockholm and Finnlines' FinnMaid on the route Helsinki – Travemünde, in collaboration with FMI and IOW. Read more HERE and HERE. Real-time observations can be seen HERE and HERE



Water temperature along the transect between Helsinki and Stockholm in 2023. Link to the real-time observations is HERE.

Who´s who in FINMARI

Aarno Kotilainen
Research Professor, Environmental Solutions Geological Survey of Finland

Aarno´s key research interests include marine geology, paleo-oceanography, sedimentation processes, long-term changes in the Baltic Sea, and quaternary climate change. His wide experience ranges from the Finnish inventory programme for underwater marine diversity (VELMU), and Ocean Drilling (IODP) to European marine observation and data network on geology (EMODnet Geology).

"When I was a little boy, I used to dig up sand and mud on the beach. I still do that, now for a living. And I'm happy about it. I just love mud 😊"

Read more:
https://seamboth.wordpress.com/2019/11/22/behind-the-scenes-aarno-kotilainen/

Upcoming events: FINMARI Researcher Day 2024 on the 7th of March at the Geological Survey of Finland

The Benthic Lander is ready to roll

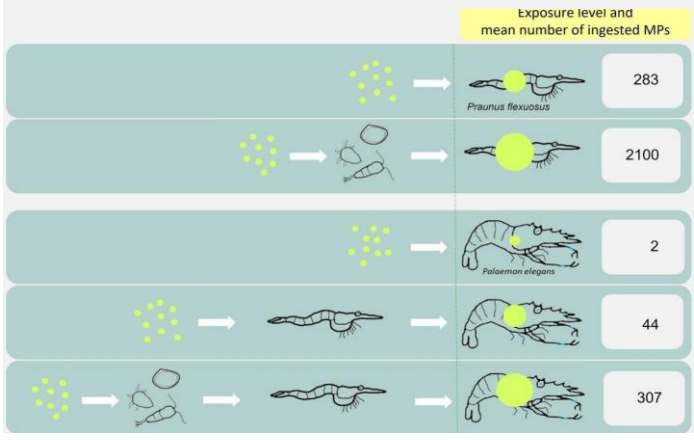
A long investment process to build and equip a benthic lander has been finalized with the first test deployment 10-13 October. The sensors attached to the lander include pCO2, CH4, O, H2S/pH/T, PO4, as well as 3D profiler, ADCP, LISST-100X particle detection and a suspension profiler (see also LINK).

Real measurements will begin in spring 2024, in project PHYTOTRANS, which is funded by the Research Council of Finland. The collaborative project of Syke and GTK focuses on the impacts of phytoplankton community composition on the particle transport and carbon pump in coastal seas.

Deployment of the benthic lander in Tvärminne

New publication: Trophic transfer increases the exposure to microplastics in littoral predators

An experimental study done with littoral animals has shown that trophic transfer plays an important role in the exposure of microplastics (MP) to predators. The trophic transfer of microplastic occurred up to the third trophic level in the study, and the predators ingested >200 times more MPs through prey than directly from water. See the publication in the link:
https://doi.org/10.1016/j.marpolbul.2023.115553



New publication in ocean research: Dynamic carbon cycling in the Japan Trench

Sediment cores collected at the greatest water depth ever from the Japan Trench show that earthquake-triggered turbidites transport large amounts of sediment and carbon to the hadal environment. Intense microbial activity transforms carbon to methane but carbon is also removed from the biosphere to the subduction zone.
See the publication in the link:
https://doi.org/10.1038/s41467-023-41116-w