



SBDI workshop: Towards a national Platform for Analysis of Subsea Images



Date, Time, Place

Thursday 2023-03-02, 9.00-16.00, [Wallenberg conference center](#), room Antarktis

Summary

The increasing access to autonomously operated technologies offers vast opportunities to sample large volumes of biological data, including image data. However, these technologies also impose novel demands on ecologists to apply efficient tools for data management and processing. In the past two years we developed a system that combines several essential analytical functions for processing large volumes of subsea image data for marine ecological research and monitoring. The functionalities include i) manage and archive subsea movies and images, ii) involve citizen scientists to accurately classify footage or images, and iii) train and test machine learning algorithms for the detection of biological objects. The functions are made available through a series of Jupyter notebooks allowing users to upload image/movie data, explore, format and manage classifications, as well as train and test object detection models.

The objective of this workshop is to explain the current state of the image analysis system, present scientific use cases, and discuss plans for further development and integration with research infrastructures. Discussions will focus on how to improve current functionality and develop robust infrastructure services for ecological research and biological monitoring in Sweden.

The development of the system is financed by the FORMAS project [PLAN SUBSIM](#), the VINNOVA project [Ocean Data Factory](#), the VR infrastructure program Swedish Biodiversity Data Infrastructure ([SBDI](#)), and the European Digital Twin of the Ocean program ([DTO](#)).

Registration

Please send an email to matthias.obst@marine.gu.se to confirm your participation and mention any dietary restrictions.

Program

Time	Topic	Speaker
9.00	Welcome, and introduction to the workshop and background	M. Obst / T. Linders, (UGOT)
9.15	Architectural overview and presentation of modules	J. Germishuys (Combine AB)
9.45	Demo of Jupyter notebooks	E. Burman (KSO) / J. Germishuys (Combine AB)
10.15 Short break		
11.00	Discussion & feedback	All
11.15	Scientific use cases & applications: <ul style="list-style-type: none">• Invasive fish• Benthic habitat maps• Fathom net comparison• Marine citizen science	M. Obst / L. Green (UGOT) Jose B. /G. Kågesten (SGU) E. Burman (KSO) tba
12.00 Lunch		
12.30	<ul style="list-style-type: none">• Trawling impact on sea pens• (Sharks fishing impact)	A. Emanuelsson (Medins AB) M. Obst (GU)
13.00	Discussion & feedback	All
13.15	Examples of how and where to publish data products <ul style="list-style-type: none">• DwC observations, export module notebook• Models and versions• Reference libraries• Movie metadata	V. Anton (Wildlife.ai) J. Germishuys (Combine AB) M. Obst (GU) M. Obst (GU)
13.45	Documentation, tutorials, training events, community development	V. Anton (Wildlife.ai)
14.15	e-Service development and user interfaces	Alexander Thomte Andell Combine AB)
14.45	RI relations beyond 2024	M. Obst
15.00	Open discussion and suggestions of use cases	All
15.20	Wrap up, outlook, and conclusion	All