Building Arctic Resilience through Citizen Science and Artificial Intelligence in Marine Pollution Control

This presentation participates in OSPP
Outstanding Student & PhD candidate Presentation contest

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Sharing is encouraged

Let the journey begin

1 ICEBERG is an EU-funded project assessing types, sources, distributions, and impacts of pollution on ecosystems and coastal communities in the Arctic. The citizen science aspect of ICEBERG focuses on marine beach litter.

2


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We are using time-lapse cameras and drones for AI-driven monitoring and mapping of marine beach litter in collaboration with local and Indigenous communities.

3


© Apostolos Papakonstantinou

We held community consultation meetings for jointly exploring citizen science collaborations with Indigenous rightsholder and local stakeholders including farmers, fishermen, tourism operators, schools, NGOs among others.

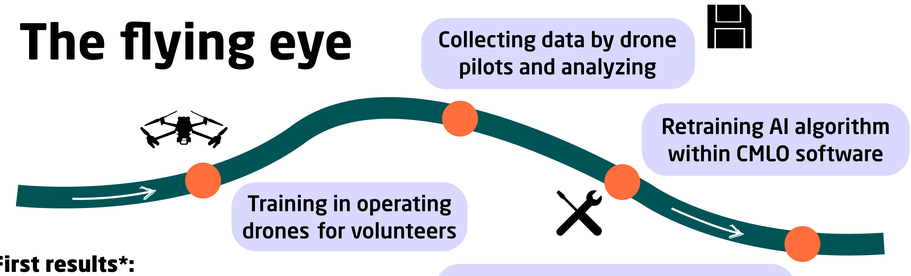
Where?

Iceland

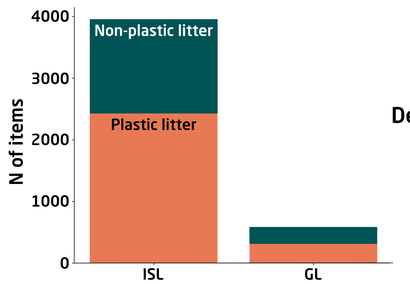
Greenland

Svalbard

The flying eye



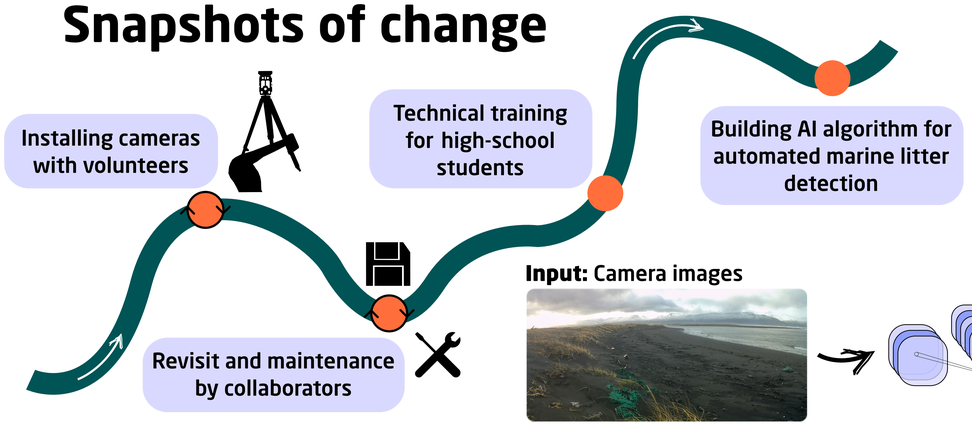
First results*:

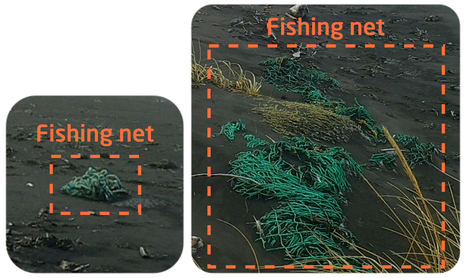


Output: Detected/labeled beach litter

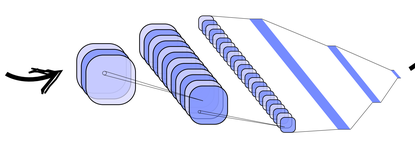
*based on 3 drone surveys for each region, covering a total area of 1202 ac with 595 sub-centimeter resolution images.

Snapshots of change





Input: Camera images



Output: Detected/labeled beach litter

Take part!

1 Report your observations of environmental disturbances and pollution on ICEBERG's community monitoring platform. Access the platform:

2 The essence of citizen science: citizens and scientists working hand in hand to make the world a better place.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Let's connect!

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ICEBERG
EOM Kiel University Earth Observation and Modelling
University of Oulu
Funded by the European Union
UFZ Helmholtz Centre for Environmental Research
SCIDRONES
CAU Christian-Albrechts-Universität zu Kiel Mathematisch-Naturwissenschaftliche Fakultät
forScience

Abstract: