

New technology will identify sources of plastic in the ocean

8 April 2021



Starting next year, people in Norway will be able to use their mobile phones to photograph plastic objects they find along the shore. A new app is being designed to recognize the source of the plastic. Credit: Børge Sandnes

Worldwide, eight million tons of plastic end up in the ocean every year, despite greater awareness of recycling and the use of disposable plastic.

How should we tackle the problem, and where does the plastic actually come from?

"Actions to clean up plastic don't do much good if you don't deal with the sources of the plastic at the same time," says Ph.D. candidate Christina Hellevik.

Hellevik is one of the researchers at the Norwegian University of Science and Technology (NTNU) in Ålesund who is working to create a model that will show where plastic collects and determine where in the region it comes from. The researchers are collaborating with the Ålesund region's Port Authority, Ålesund municipality and Møre og Romsdal county.

The goal is to generate more targeted measures for the clean-up and collection of [waste](#).

"One of the things we're developing is an app that recognizes plastic from an image," says Hellevik.

"When you're out cleaning up marine waste, you photograph the plastic objects you find with your mobile and register the product in the app," she says.

In the past, clean-up operations have weighed and photographed the waste afterwards, without being able to register it in detail and efficiently.

The researchers are in the process of developing the database for the app, and are collaborating with students who are doing a master's program in simulation and visualization at NTNU in Ålesund.

Around 100 people will test the app when they are out on clean-up actions in the future, and the team includes the Norwegian Center for Oil Spill Preparedness and Marine Environment, Runde Environmental Center and volunteer organizations.

"The technology will become widely available starting in the spring of 2022, and anyone will be able to take a picture of plastic articles and get information," says Ricardo Da Silva Torres, the professor who is responsible for the technical tool.

"People will also need to register where the object was found," says Torres.

The goal is for the app to help predict which areas are magnets for plastic pollution and where it comes from, and to facilitate better grounds for decision-making for the municipality and the port authority.

Clean-up events show that the sources of plastic in the Ålesund region often tend to be materials from fish farms, industrial areas or boats.

Recently, a particular type of waste has been cropping up. "Activists all over the world have

registered an increase in waste that can be traced to disposable plastic products from infection control," Hellevik says. "So it's urgent to find the sources of the [plastic](#), and to make good decisions."

Provided by Norwegian University of Science and Technology

APA citation: New technology will identify sources of plastic in the ocean (2021, April 8) retrieved 12 May 2021 from <https://phys.org/news/2021-04-technology-sources-plastic-ocean.html>

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