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Scientist goes fishing for deadly nets in sea

Boulder expert works to remove abandoned debris before it harms ocean life

By [Katy Human](#)
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Abandoned fishing nets drift through the world's oceans like ghosts, trapping sea turtles and snagging birds that dip down for a quick meal.

Often nearly invisible, old netting kills thousands of marine animals each year.

And while locating these "ghostnets" in millions of square miles of ocean is no easy task, Boulder researcher James Churnside believes he can find them from space.

Churnside is using a variety of satellite sensors to locate areas where ocean currents and winds pile the debris in "convergence zones."

In the Pacific, for example, from January through March, winds push surface waters - and trash - into a strip hundreds of miles long, called the subtropical convergence zone.

"That is a region of a huge amount of convergence," said Churnside, a scientist with the National Oceanic and Atmospheric Administration. "If the stuff is dense enough, then it makes sense for someone to go out and pick it up."

Next month, the scientist and his colleagues will travel to Hawaii to test the technique. Guided by satellite images of the convergence zone, the team will survey long sections of the Pacific by airplane, snapping detailed images, hoping to capture precise locations of marine debris.

If the results are promising, Churnside's team believes that it can help develop an ocean-cleanup strategy. Already, the approach is gaining support, as Churnside and a colleague in Maryland won the NOAA Silver Medal last month for outstanding research.



Post / John Epperson

James Churnside works in his Boulder lab Monday on one of two telescopes that will be mounted in aircraft and flown over suspected areas of "ghostnet" accumulations in the North Pacific. The researcher will travel to Hawaii next month to test his idea.

The nets that concern Churnside's team vary from a few pieces of monofilament line "lost" overboard to giant mounds of tangled net discarded illegally at sea.

"One found in the northwest Hawaiian islands, they called it 'Monofilament Island.' It was big enough to get out and walk on," Churnside said.

When nets snare on reefs or rocky shorelines, they can be especially destructive and difficult to remove, Churnside said. "Then, you have to have divers going down with knives. It's very time-consuming."

Finding the nets at sea is just the first step, said Tim Veenstra, president of Airborne Technologies (& Ocean Trek Research) in Wasilla, Alaska, who helps direct the NOAA Ghostnet project.

"We envision an ongoing annual survey in March or April, combined with using vessels in the general vicinity," he said.

Off-season fishing boats could be sent to satellite-tracked debris, perhaps incinerating it at sea or hauling it back to shore for disposal, Veenstra said.

In addition, Veenstra's company is pioneering an effort to create 25- pound, solar-powered buoys that could transmit location by satellite.

Any ship could carry a buoy or two, so if crew members saw a ghostnet but couldn't haul it up, they could attach a buoy.

"We, then, could track it for years," Veenstra said. "Then, if a vessel's in the area that can remove it, we can direct it to the debris. Or if the debris moves toward a sensitive area, a reef ... something could be sent to pick it up."

He and Churnside hope NOAA will take on the funding, but that's yet to be decided.

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High Seas Ghostnet – www.highseasghost.net

Airborne Technologies – www.atiak.com

Ocean Trek Research – www.oceantrekresearch.com

NOAA ETL Ghostnet Team -

<http://www.etl.noaa.gov/about/hotitems/2004/041118.html>