Great Pacific Garbage Patch Now Twice the Size of Texas

According to a new study, there are more than 79,000 tonnes of ocean plastic and other trash (mostly plastic) all within a 1.6 million square kilometer area of the North Pacific Ocean (600,000 square miles). That's 16 times larger than previous estimates. That's twice the size of Texas.

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"The Great Pacific Garbage Patch," is a collection of garbage located halfway between Hawaii and California. Winds and ocean currents form gyres, think of water spiraling down the drain in a vortex. These gyres draw in litter from around the world. Garbage gets trapped in the gyres and eventually large pieces break down into smaller pieces, which are ingested by marine life. The patch is growing at an alarming rate. The patch is not a solid mass of plastic. It's not like the news pictures indicate. Some of the trash is easily visible to the naked eye, but the microplastics make up the bulk of the patch. Satellite imagery doesn't show a giant mountain of garbage. The Great Pacific Garbage Patch looks like a cloudy soup intermixed with larger items, like jugs, fishing gear, and shoes, etc.

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Much of the garbage is rather large. "We were surprised by the amount of large plastic objects we encountered," said Julia Reisser, from the Ocean Cleanup Foundation. "We used to think most of the debris consists of small fragments, but this new analysis shines a new light on the scope of the debris."

A sample that was collected during a 2015 expedition showed the majority of the garbage is microplastics less than 0.5 cm in diameter. The Ocean Cleanup Foundation launched the

expedition to look at the eastern part of the patch. They used 30 vessels and a C-130 Hercules airplane to acquire and catalog more than one million pieces of plastic.

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The new study suggests the total amount of microplastics in the Great Pacific Garbage Patch totals more 1.8 trillion pieces, a number that far exceeds earlier estimates.

The study was based on a three-year mapping effort conducted by an international team of scientists affiliated with the Ocean Cleanup Foundation, six universities, and an aerial sensor company. The Ocean Cleanup Foundation is a non-profit organization that spearheaded this research, which is the most complete and thorough study ever done on the garbage patch. It was published in the peer-reviewed journal *Nature Scientific Reports*.

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https://www.facebook.com/TheOceanCleanup/videos/10104960089834 38/

It's estimated that 80% of the trash in the Great Pacific Garbage Patch is from North America and Asia. The trash from North America's coast takes around six years to reach the Great Pacific Garbage Patch, while Japan's garbage takes about a year.

> *People have been focusing on microplastics, because it's likely to be the one to have the most adverse effects on marine life, because of ingestion. But we need to understand the full-size picture of plastics, starting from the tiniest piece to larger debris." – Laurent Lebreton, lead author of the paper.*
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> *When you go out into the middle of the ocean, you find that there's a lot more fishing gear than was expected."*

A lot of focus has been pushed toward land-based sources of plastic and waste and single-use plastic, and that's fair, but it's also good to remind us that that's not the only source, that fishing and aquaculture and marine-based sources also contribute to the problem."

Sources:

- *The Great Pacific Garbage Patch* – The Ocean Cleanup
- *Evidence that the Great Pacific Garbage Patch is rapidly accumulating plastic* – Nature.com
- *Great Pacific Garbage Patch is 16 times bigger than previously estimated, study finds* – CBC
- *World's largest collection of ocean garbage is twice the size of Texas* – USA Today