

The Great Pacific Garbage Patch

'It took us a week to get across and there was always some plastic thing bobbing by,' says Moore. 'Bottle caps, toothbrushes, Styrofoam cups, detergent bottles, pieces of polystyrene packaging and plastic bags. Half of it was just little chips that we couldn't identify. It wasn't a revelation so much as a gradual sinking feeling that something was terribly wrong here. Two years later I went back with a fine-mesh net, and that was the real mind-boggling discovery.' – Charles Moore

What is the Great Pacific Garbage Patch?

Way out in the Pacific Ocean is an area of ocean once known as the doldrums. It is an area that sailors have long avoided due to a particular combination of high pressure and ocean currents that often leave it without any wind. It is here that we find the Great Pacific Garbage Patch, an enormous floating mass of plastic.

The Patch was discovered in 1997 by a Californian sailor, surfer and volunteer environmentalist called Charles Moore. Heading home from a sailing race in Hawaii he decided to turn on the engine and take a shortcut across the edge of the North Pacific Subtropical Gyre.

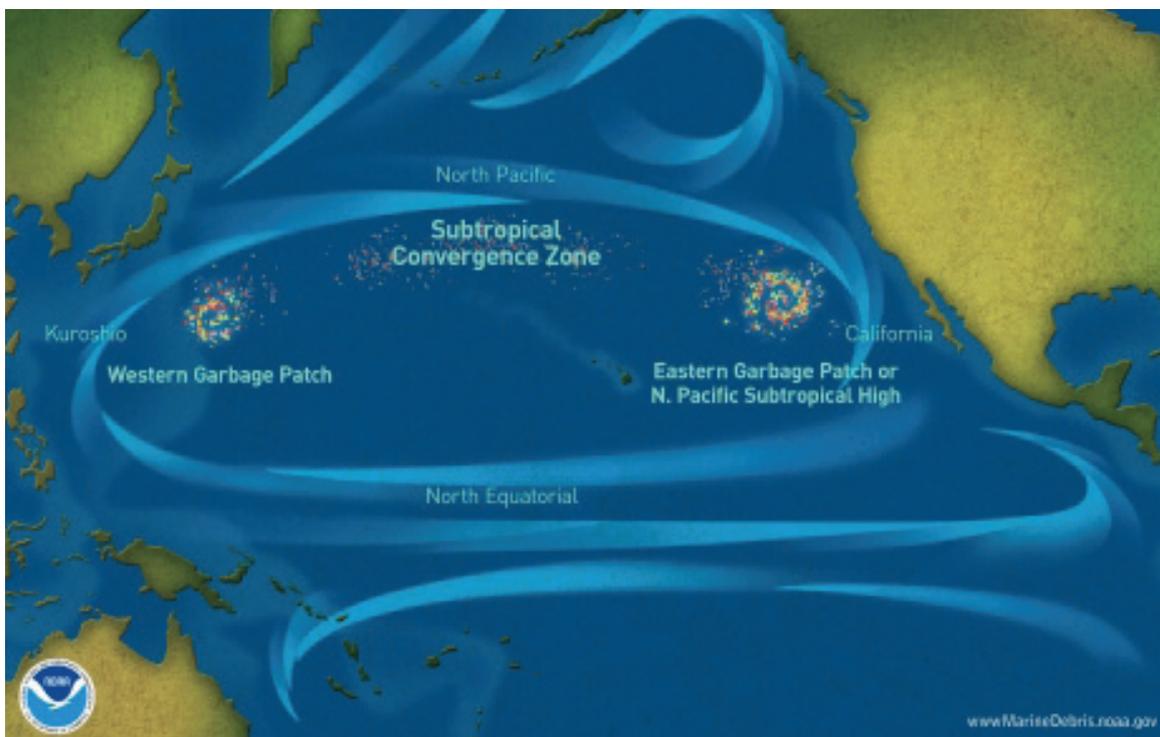


Image source: <https://marinedebris.noaa.gov/info/patch.html>

Rather than being a solid mass of plastic (like a landfill site in the sea), it is more like a marine soup whose main ingredient is floating plastic debris. Much of the debris found in the Great Pacific Garbage Patch are small bits of plastic (microplastics) that are suspended throughout the water column, some large enough to hold, others merely flecks and particles almost too small to see.

What is marine debris? Marine debris (or marine litter) is described as any persistent, manufactured or processed solid material that has been discarded, disposed of or abandoned in the marine and coastal environment.

How big is the Great Pacific Garbage Patch?

A recent investigation into the scale of the Great Pacific Garbage Patch suggests that the heart of the Garbage Patch is thought to be around 1 million square kilometers, with the periphery spanning a further 3.5 million square kilometers. According to the UN environmental program, it is now growing so fast that it is becoming visible from space!

In addition, it has been estimated that if marine debris continues to enter the ocean at the rate it has been, then by the year 2050 there will be more pieces of plastic in the ocean than there are fish.

Where does all this plastic come from?

Although poorly understood by scientists the Great Pacific Garbage Patch can be considered a legacy of modern society's love of plastic. And it's not ocean-going vessels that are to blame for all this plastic: scientists have concluded that 60% - 80% of marine plastic is initially discarded on land. Wind blows plastic rubbish out of littered streets and landfills, and from trucks and trains on their way to landfills. It gets into rivers, streams and storm drains and then gets carried by tides and currents out to sea. Litter dropped by people at the beach is also a major source.

The other 20% of the marine debris found in the ocean comes from boats, offshore oil rigs and large cargo ships that dump or lose debris directly into the water. The majority of this debris is fishing nets.

Studies have shown that rubbish discarded from the coast of North America takes about six years to reach the Great Pacific Garbage Patch, while rubbish from countries in Asia takes about a year.

Look around you. Start counting things made of plastic. Don't forget your buttons, the stretch in your underwear, the little caps on the end of your shoelaces. What about microplastics? They can be found in everything from face scrubs to fleece jackets. Plastic is everywhere and we depend on it for so much of what we do. Then we just throw it away. But there is no 'away'.