

In Antarctica, scientists study extent of microplastics

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Humpback whales swim in the Gerlache Strait.

In remote Antarctica, Colombian marine biologist Paulo Tigreros dips a net into the icy waters in his hunt for microplastics in what should be one of the best-preserved ecosystems in the world.

Like a sieve, the net lets water pass through as it retains the small solid

particles that float in the Gerlache Strait, a natural corridor approximately 160 kilometers (99 mile) long separating the Palmer Archipelago and the end of the Antarctic Peninsula.

Microscopic studies and other tests on the samples will allow the team of scientists to determine the level of microplastics they contain.

Microplastics are particles made of polymers and other toxic compounds that are smaller than five millimeters, and have come under increasing global attention as they have been found in oceans, clouds, food and throughout the bodies of animals and humans.

Tigreros, 51, and his colleagues are aboard the ARC Simon Bolivar, a Colombian navy vessel carrying out a scientific expedition in the Antarctic and have no doubt that they will detect microplastics on their mission.

Research carried out in 2019 by New Zealand's University of Canterbury revealed the existence of microplastics in Antarctic snow.

More than 430 million tonnes of plastic are produced each year worldwide, according to the UN.



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Microplastics come from the breakdown of products such as synthetic car tires, textiles, and ordinary consumer products.

Little is yet known about their impact on human health and the environment.

Tigeros said microplastics are already "omnipresent" in the oceans and their effects can be fatal for animals and ecosystems.

"We consider Antarctica as a continent totally isolated" from human activity, but "it reflects the environmental problems" of the planet, said

Jorge Tadeo Lozano, a researcher at the University of Bogota, who is taking part in the expedition.

He said microplastics may have arrived in the region via ocean currents. They can also be transported in the atmosphere and through the excrement of marine animals and fish.

With tweezers, Tigreros picks up a krill and some algae from his sample.



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"When a whale feeds on this krill, the microplastic most likely enters its intestines," affecting its lung system, reproductive system and even its ability to swim, said Tigreros.

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The International Atomic Energy Agency (IAEA), in cooperation with Argentina, this month launched its first scientific research expedition to investigate the extent of microplastics in Antarctica.

According to the IAEA, microplastics could further damage the great white continent "by reducing ice reflectivity, altering surface roughness, promoting microbial activity, acting as thermal insulators, and contributing to mechanical weakening of the ice structure."

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