



CTA-078-Plastics in Sea Salt

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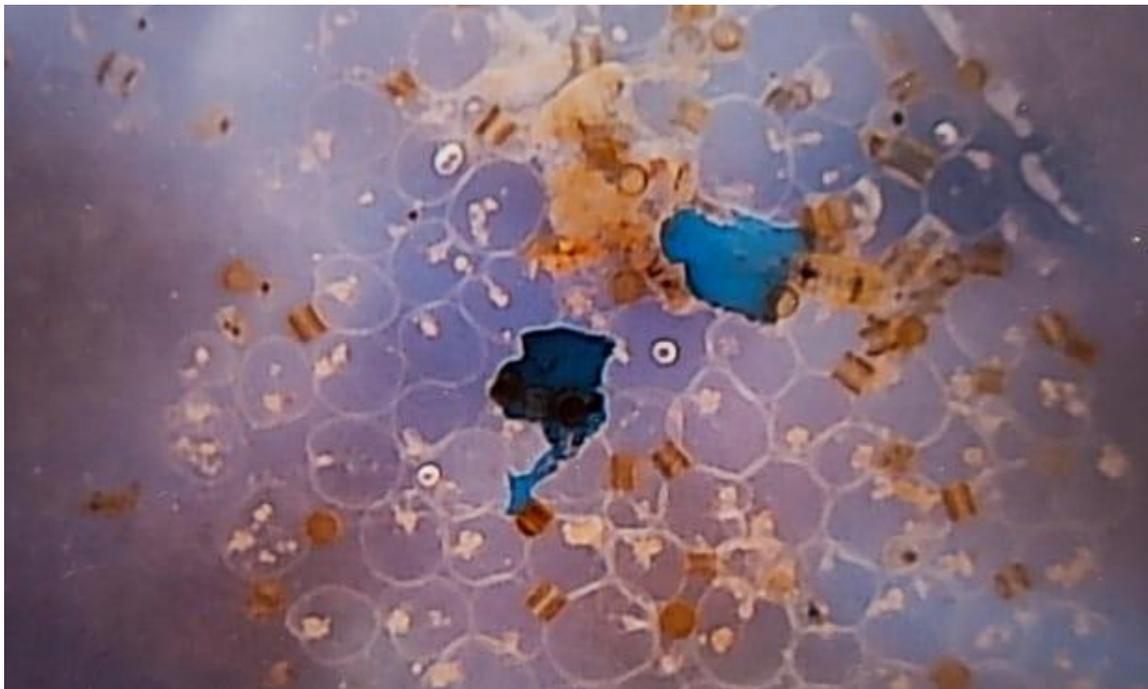
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Sea salt around the world is contaminated by plastic, studies show

Exclusive: New studies find microplastics in salt from the US, Europe and China, adding to evidence that plastic pollution is pervasive in the environment

[We are living on a plastic planet. What does that mean for our health?](#)

Two fragments of blue microplastic surrounded by diatom phytoplankton (seen under a microscope) after being collected from the sea in a fine mesh trawl net.



Photograph: Alex Hofford/EPA

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Sea salt around the world has been contaminated by plastic pollution, adding to experts' fears that microplastics are becoming ubiquitous in the environment and finding their way into the food chain via the salt in our diets.

Following [this week's revelations in the Guardian about levels of plastic contamination in tap water](#), new studies have shown that tiny particles have been found in sea salt in the UK, France and Spain, as well as China and now the US.

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Researchers believe the majority of the contamination comes from [microfibres](#) and single-use plastics [such as water bottles](#), items that comprise the majority of plastic waste. Up to 12.7m tonnes of plastic enters the world's oceans every year, equivalent to dumping one garbage truck of plastic per minute into the world's oceans, according to the [United Nations](#).

Plastic fibers found in tap water around the world, study reveals

“Not only are plastics pervasive in our society in terms of daily use, but they are pervasive in the environment,” said Sherri Mason, a professor at the State University of New York at Fredonia, who led the latest research into plastic contamination in salt. Plastics are “ubiquitous, in the air, water, the [seafood we eat](#), the beer we drink, the salt we use – plastics are [just everywhere](#)”.

Mason collaborated with researchers at the University of Minnesota to examine microplastics in salt, beer and drinking water. Her research looked at 12 different kinds of salt (including 10 sea salts) bought from US grocery stores around the world. The Guardian received an exclusive look at the forthcoming study.

Analysis Q&A: our plastic addiction is out of control. How can we consume less?

Our air, water, salt and seafood are contaminated by plastic and the impact on our health is unknown. While we wait for the findings, here are ways to reduce plastic use.

Mason found Americans could be ingesting upwards of 660 particles of plastic each year, if they follow health officials' advice to eat 2.3 grammes of salt per day. However, most Americans could be ingesting far more, as health officials believe [90% of Americans](#) eat too much salt.

The health impact of ingesting plastic is not known. Scientists have struggled to research the impact of plastic on the human body, because they cannot find a control group of humans who have not been exposed.

“Everybody is being exposed to some degree at any given time, from gestation through death,” researchers from Johns Hopkins Bloomberg School of Public Health and Arizona State University [wrote in 2013](#). “Detectable levels of [the plastic] [bisphenol A](#) have been found in the urine of 95% of the adult population of the United States.”

“There is no clear effect on human health because there are no studies on that subject,” said Juan Conesa, a professor who conducted research on sea salt at the University of Alicante in Spain. “But the increase of plastics in general in the environment will also [increase exposure],” Conesa said.

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Photograph: MirageC/Getty Images

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The research also comes after a Guardian analysis found [1m plastic bottles](#) are purchased per minute, and that recycling efforts are failing to keep pace with production, which is expected to quadruple by 2050. Some environmentalists have said the threat of plastic pollution now [“rivals climate change”](#).

Analysis We are living on a plastic planet. What does it mean for our health?

New studies reveal that tiny plastic fibers are everywhere, not just in our oceans but on land too. Now we urgently need to find out how they enter our food, air and tap water and what the effects are on all of us

Mason’s work adds to research on plastics in salt from other countries around the world, including in Spain and [China](#).

In August, Spanish researchers concluded “sea products are irredeemably contaminated by microplastics” and there is “a background presence of microplastics in the environment”, in a study published in Scientific Reports in Nature. There, scientists tested 21 types of table salt and found plastic in all of them. The most common type of plastic they found was [polyethylene terephthalate](#), the material used to make plastic bottles.

This spring, a group of scientists from France, the UK and Malaysia [tested 17 types of salt](#) from eight different countries and examined what they believed were plastic particles. They found plastic in all but one sample and found the most of the plastic was from polyethylene and polypropylene.

Scientists first found plastics in [salt in China in 2015](#). Microscopic plastic particles from face scrubs, cosmetics, and shards of plastic bottles were found in samples of 15 salt products found in Chinese grocery stores.

Some researchers, such as Mason, now believe sea salt could be more vulnerable to plastic contamination because of how it is made, through a process of dehydration of sea water.

“It is not that sea salt in China is worse than sea salt in America, it’s that all sea salt – because it’s all coming from the same origins – is going to have a consistent problem,” said Mason. “I think that is what we’re seeing.”

Margaret Atwood: Plastics are poisoning us. We need change, now



She said she believed people would be shocked to know that plastic pollution contaminated multiple foods and beverages that people consume every day, including salt. Mason’s study also looked at how drinking water and beer are contaminated with plastic.



"I hope what comes from this is not that [consumers] just switch brands and try to find something that's table salt or mined salt," Mason said. "People want to disconnect, and say, 'It's OK if I go to Starbucks everyday and get that disposable coffee cup ...' We have to focus on the flow of plastic and the pervasiveness of plastics in our society and find other materials to be using instead."

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