

Plastics keep falling on our heads

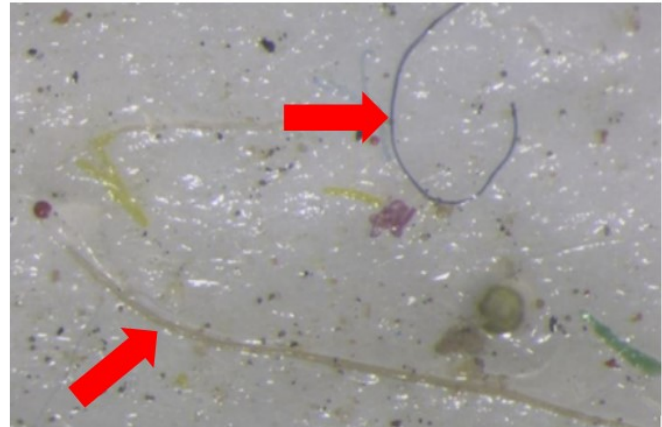
By Jill Emerson

There are a lot of songs out there that talk about precipitation. From the gentle timbre of “Singin’ in the Rain”, to more seasonal fare like “Let it Snow”, to the classic dance anthem “It’s Raining Men”, there are a lot of songs that talk about things falling from the sky (okay maybe “It’s Raining Men” doesn’t fit into that category since I doubt The Weather Girls meant this literally). But these songs never talk about another thing that is literally raining down on us: microplastics.

We’ve talked about microplastics before in our surface water but research is finding that microplastics have disturbingly infiltrated our air as well. Monitoring that occurred at 11 different wilderness and national park areas in the western USA showed over 1,000 metric tons of plastic were discovered to have fallen on these lands in a single year (1). The route of contamination? Most likely the atmosphere. Researchers found that during rainstorms when wind blew from the direction of heavily populated places, the pieces of microplastics were larger. During dry conditions microplastics carried in by dust tended to be smaller in size but greater in number. The plastics carried by dust are hypothesized to have travelled from farther away – similar to how dust from the Sahara has been found in places like the southern United States and the Caribbean.

Due to their small size, microplastics are able to travel to far reaches of the planet via air currents and weather patterns. New research shows that plastic particles are being found in remote and unpopulated reaches of the arctic. In the Fram Strait, an area between Greenland and Svalbard (an island of Norway), microplastics have been found in snow collected from the tops of ice floes (2). On average, over 1,800 particulates were found in each 34 oz. sample, with a high of 14,000 at one site. This shows that in the arctic, an area of the world that conjures images of pristine nature, the contamination was significant. For comparison, snow was collected in more urban areas of Europe with 24,600 pieces per 34 oz.

Knowing that plastics can travel by air shows just how deeply they have permeated every location on the planet. There is no part of the world that



Above: Microplastics found in arctic ice core sample (Duncan Clark via REUTERS)

remains unaffected by human activity, which is a pretty sobering thought. Science has yet to determine the health impacts of eating, drinking, or inhaling microplastics on the human body. We are only beginning to scratch the surface in understanding how plastic contamination impacts other organisms. While many of our plastic contamination photos are of oceans and landfills, it is important to remember that plastic pollution is everywhere, even in the most remote places on Earth.

1 <https://www.scientificamerican.com/article/thousands-of-tons-of-microplastics-are-falling-from-the-sky/>

2 <https://www.nationalgeographic.com/environment/2019/08/microplastics-found-in-arctic-snow/>

Looking for something to do this winter?! Get involved with these (social distanced) citizen science programs!

- 1) Bird counting: Project FeederWatch, Cornell Lab of Ornithology. Visit feederwatch.org
- 2) Backyard snow depth measurements: The Community Collaborative Rain, Hail and Snow (CoCoRaHS) network. Visit cocoahs.org
- 3) Turkey observers: NH Fish and Game Turkey Watch. Visit wildlife.state.nh.us/surveys/turkey
- 4) Mountain snowpack measurements, CSO: Visit communitysnowobs.org