

All the Plastic in the World

Volume of the Topsoil in All the Farms in the World

If we could scrape off the top five inches (13 cm) of fertile soil from every farm on Earth and roll it into one large dirt ball it would form a sphere with a radius of 45 km—the distance from JFK airport to the far end of Staten Island. This is the volume of all the natural life-sustaining nutrient-rich soil in the world. Sadly, much of it has been contaminated with microplastics, which work their way into the food we eat.

Volume of All Freshwater Lakes in the World

Our insatiable drive to make disposable consumer products from petrochemical plastics means that 22 million pounds (10 million kg) of plastic flow to the Great Lakes each year where it will remain forever, changing the aquatic environment in irreversible ways that will eventually lead to the mass die-off of life in the lakes. The situation is similar for all the lakes of the world.

If we could take all of the water from all of the lakes of the world—the American Great Lakes, Lake Victoria in Africa, Lake Baikal in Russia, etc.—and create one huge water ball, it would have a radius of 28 km. Here we see this hypothetical water ball floating just east of the city of New Haven, Connecticut.

Volume of Plastic Waste in the World

According to a 2017 study published in the journal *Science Advances*, **6.3 trillion kilograms of plastic waste** have been discarded into rivers, oceans, and landfills since 1950. Plastic does not degrade in nature like paper or metal. It instead breaks down into microplastic particles that permeate the water cycle, working their way into the rain, snow, soils, and the food and the water that sustains all life on Earth.

If we could magically roll up every plastic particle into a ball with landfill density (100 kg/m³), the massive plastic sphere would have a radius of 25 km, the distance from lower Manhattan to Yonkers, NY.

If spread out in a 13 cm layer, the world's plastic waste would cover all of Spain.

Volume of All Riverwater in the World

The volume of all of the river water in the world—the Nile, the Amazon, the Mississippi, the Yangtze, etc.—if magically combined into one large sphere would have a radius of 8 km and would cast a shadow roughly the size of the city of Boston.

The volume of plastic we have discarded into nature exceeds the volume of all the freshwater rivers of the world by 30 times and exceeds the weight of the Great Wall of China by 120 times.

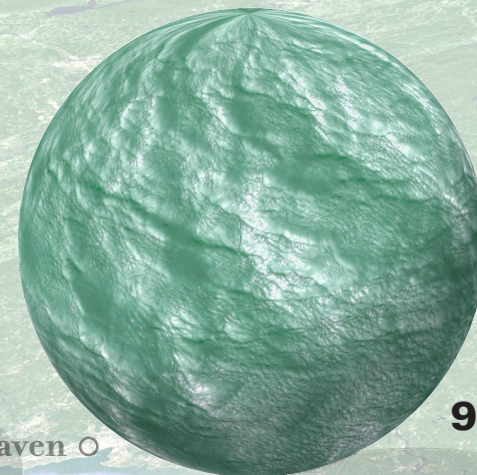
If we want to leave a habitable planet for future generations of humans to enjoy, this unsustainable contamination of our fragile natural systems must not be allowed to continue. This means that we need to radically change the way that we produce and consume goods in the world, and do it as quickly as possible.

Drawing down plastic is as important as the effort to draw down carbon.



384,334 km³

45 km

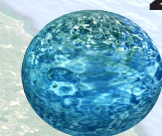


91,000 km³

63,000 km³



2,120 km³



Sources

<https://www.rollingstone.com/culture/culture-features/plastic-problem-recycling-myth-big-oil-950957/>
<https://www.greatlakesnow.org/2018/01/plastic-plagues-the-great-lakes/>
https://en.wikipedia.org/wiki/Agricultural_land
<https://en.wikipedia.org/wiki/Topsoil>
https://en.wikipedia.org/wiki/Water_distribution_on_Earth
<http://www.wrap.org.uk/sites/files/wrap/Bulk%20Density%20Summary%20Report%20-%20Jan2010.pdf>

LAND ART
GENERATOR
RENEWABLE ENERGY CAN BE BEAUTIFUL