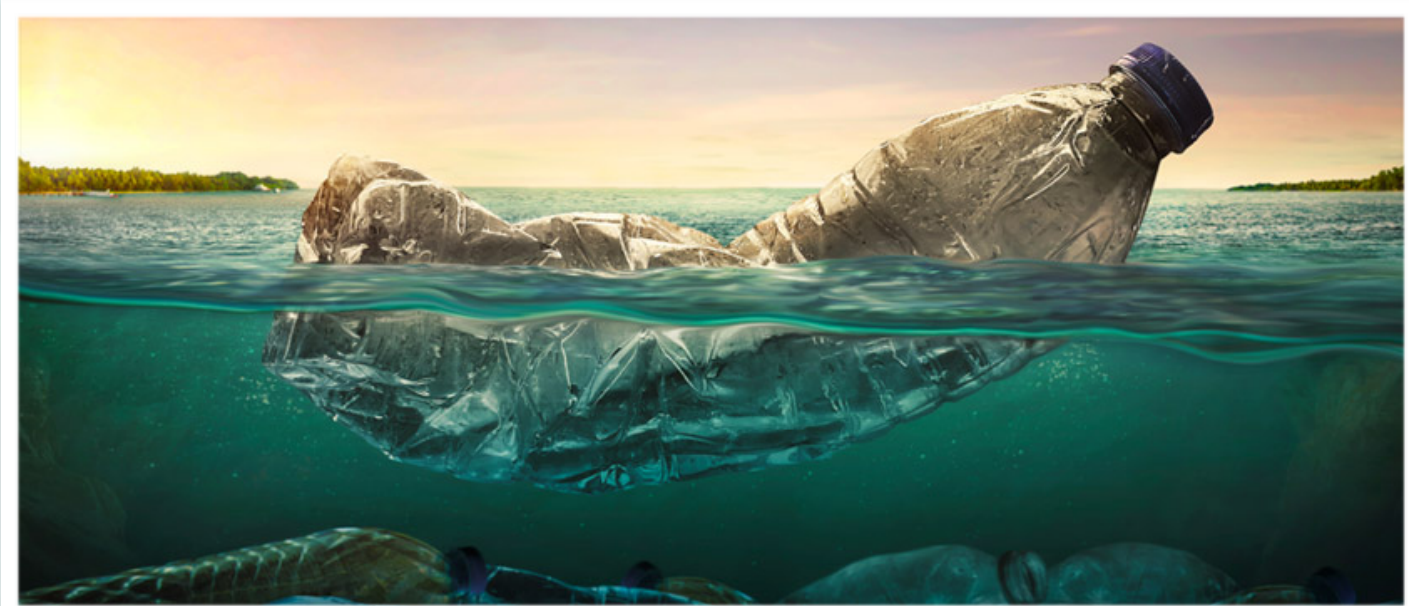




Plastic islands

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What is a plastic island?

As our global population expands, so does the amount of trash we produce, and a

great portion of that trash ends up in the ocean.

Due to oceanic currents much of the trash is carried to areas where the currents meet, and these collections of trash have been referred to as marine trash/ plastic islands.

They are formed by rotating ocean currents called “gyres”.

There are 5 gyres in the ocean. One in the Indian Ocean, 2 in the Atlantic Ocean and 2 in the Pacific Ocean.



What is a plastic island?

Most of these trash islands are almost invisible to the eye. There are a few patches

around the world where trash accumulates into platforms of 15-300

feet large, often near certain coasts, but they are minuscule compared to the vast

garbage patches located in the middle of the oceans.

These are predominantly composed of microscopic plastic particles.

The plastic in the patches consist of all sorts of plastic items (bottles, cups, bags)

but also nets, ropes, barrels.



What is a plastic island?

The majority of the plastic in the ocean is made up billions of pounds of microplastic.

microplastic is a product of photodegradation , process during which plastic breaks apart into smaller pieces due to sunlight and air, but don't disappear.

When plastic is on land it is more easily heated and breaks down faster. In the ocean the plastic is cooled by water and becomes coated with algae which shields it from sunlight.

Because of this plastic in the ocean lasts for a very long time.

The impact of plastic islands on earth

The impact of plastic islands on the sea and on land

The disintegration and accumulation of plastic causes pollution of plastic in the environment causing flora and fauna problems. Plastic pollution can occur in various forms, including waste left on land and at sea. Plastic products contain different types of chemicals, depending on the type. A large percentage of plastic produced every year is used only once and then thrown away. Plastic is an organic substance generated from chemical products derived from oil, natural gas and coal, all "dirty" and non-renewable resources. Not just production, but the whole life cycle of plastics which contributes to climate change. The chemicals released by the plastic penetrate deeply reaching aquifers or other sources of water. The damage is very serious for the living species that take on this polluted water. The areas used as landfills are constantly filled with plastic waste. In these areas there are many microorganisms that accelerate the biological degradation of plastics. As for biodegradable plastics, as soon as they are thrown away, methane, a dangerous greenhouse gas contributes significantly to global warming, is released.

The impact of plastic islands on earth

The effects on animals

Pollution from plastic is potentially dangerous for animals, which could adversely affect human food supplies. In the first place it is harmful to large marine mammals, in the stomach of some, such as the sea turtle, pieces of plastic have been found, which unfortunately caused their death. When it happens, animal death is generally caused by hunger, as these materials block their digestive tract. Marine mammals get trapped in plastic products, as if they were nets, risking to be killed. In fact, when an animal gets caught, its movement capacity is severely reduced, making it very difficult to find food



The impact of plastic islands on earth

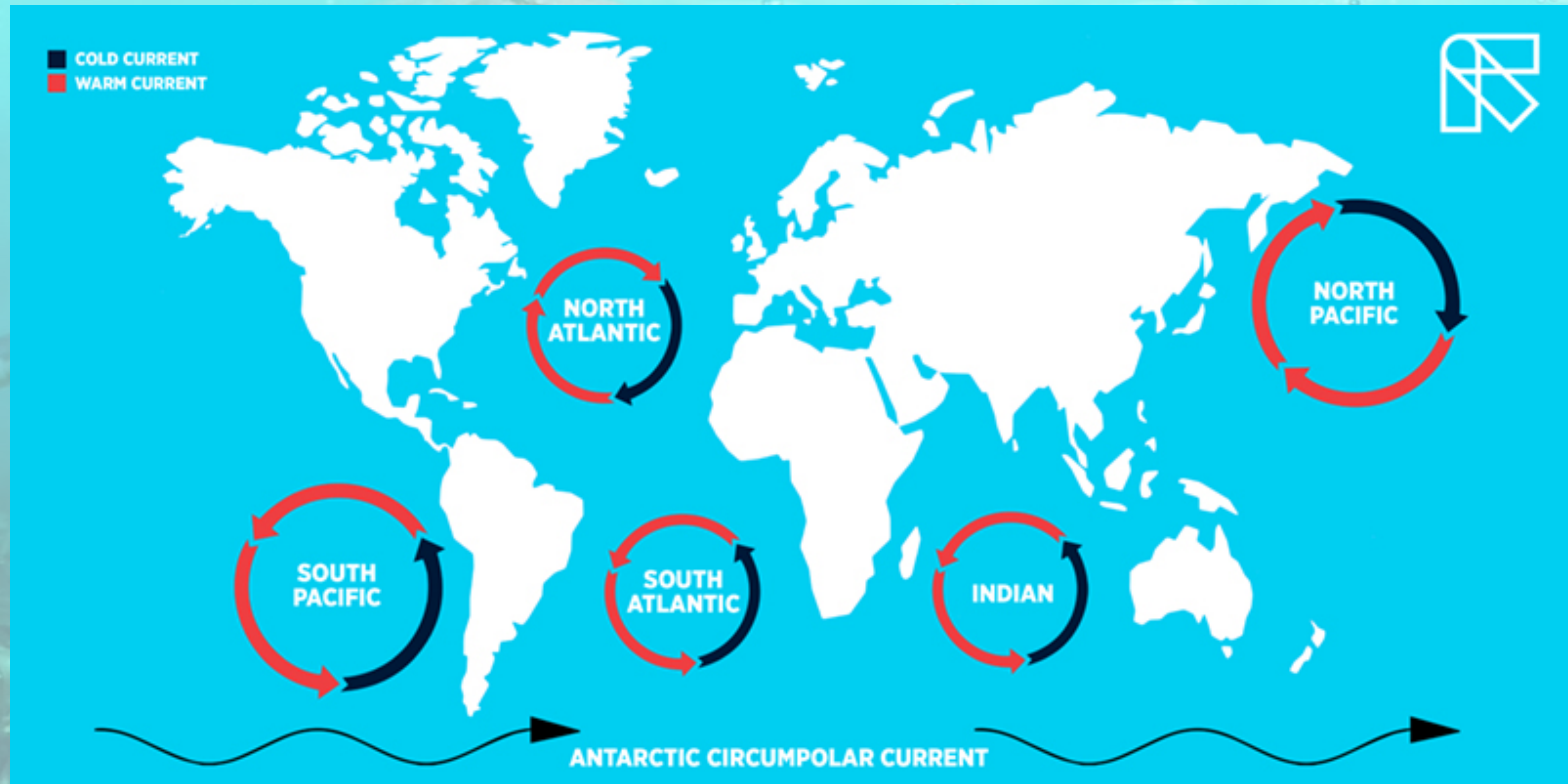
The effects on humans

In addition to being a serious risk for our environment and the animals that populate it, plastic is also a danger for humans. Plastics present different risks to human health: from dangerous chemicals released during the extraction of oil and the production of raw materials, to end with the pollution of the environment and food that can result from the release of plastic into the environment. Due to the small size of the microplastics, which can enter the human body through contact, generating impacts on humans, also due to the release of dangerous chemicals.



Where are the plastic islands?

There are a total of five plastic islands (North Pacific, North Atlantic, South Pacific, South Atlantic, Indian Ocean). These five massive, slow rotating whirlpools accumulate marine debris and especially plastics which do not break down; they simply break into tinier and tinier pieces, that will remain in the ocean for decades or longer.



The Great Pacific Garbage Patch

The Great Pacific Garbage Patch (GPGP) is the largest of the five offshore plastic accumulation zones in the world's oceans. It is located halfway between Hawaii and California.

Every day a lot of plastic is thrown into the oceans. Once these plastic enters the gyre, it is unlikely to leave the area until it degrades into smaller microplastics under the effects of sun, waves and marine life. As more and more plastic is discarded into the environment, microplastic concentration in the Great Pacific Garbage Patch will only continue to increase.



The Great Pacific Garbage Patch

SIZE

The GPGP covers an estimated surface area of 1.6 million square kilometers, an area twice the size of Texas or three times the size of France.

To formulate this number, the team of scientists behind this research conducted the most elaborate sampling method ever coordinated.

This consisted in a fleet of 30 boats, 652 surface nets and two flights over the patch to gather aerial imagery of the debris.

Sampling different locations within the same time period allowed a more accurate estimate of the size of the patch and the plastic drifting in it.

LOCATION

It is located roughly from 135°W to 155°W and 35°N to 42°N. The collection of plastic and floating trash originates from the Pacific Rim, including countries in Asia, North America, and South America. The patch is actually "two enormous masses of ever-growing garbage". What has been referred to as the "Eastern Garbage Patch" lies between Hawaii and California, while the "Western Garbage Patch" extends eastward from Japan to the Hawaiian Islands.



A way to help

- THE OCEAN CLEAN UP IS A PROJECT USED TO CLEAN THE OCEAN FROM PLASTIC. THE GOAL IS TO ELIMINATE 90% OF THE PLASTIC.
- Slat explained the long floating barrier, consisting of a large rubber tube tied to an anchor, capable of dropping down to 600 meters, captured and retained the waste from the Great Pacific Garbage Patch the large patch of Pacific garbage.
- The cleaning system is designed both for collection of abandoned fishing nets and large plastic objects and for microplastics. The floating barrier has a retina that reaches up to three meters below it, and which serves to capture the plastic without disturbing the marine life below. It is also equipped with satellites and sensors, so that it can communicate its position to a ship that will collect the collected waste.



Earth day

Every year on April 22, Earth Day marks the anniversary of the birth of the modern environmental movement in 1970.

In 1990 Earth Day went global, mobilizing 200 million people in 141 countries and lifting environmental issues onto the world stage. Earth Day 1990 gave a huge boost to recycling efforts worldwide.

Today, Earth Day is widely recognized as the largest secular observance in the world, marked by more than a billion people every year as a day of action to change human behavior and create global, national and local policy changes.

Now, the fight for a clean environment continues with urgency, as the ravages of climate change become more and more apparent every day.

Today there are even more people who care about the environment's issues. A fresh generation of young people is refusing to settle for platitudes, instead taking to the streets by the millions to demand a new way forward. Digital and social media are bringing these, protests, strikes and mobilizations to a global audience, catalyzing generations to join together to take on the greatest challenge that humankind has faced.

