

ESA satellites help combat plastic pollution



Keeping our oceans clean is important for the health of our planet – and us!
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With its beautiful blue oceans, it is no wonder that Earth is known as the Blue Planet. Water is vital for life, so it is important that we take good care of our seas, oceans, rivers and lakes.

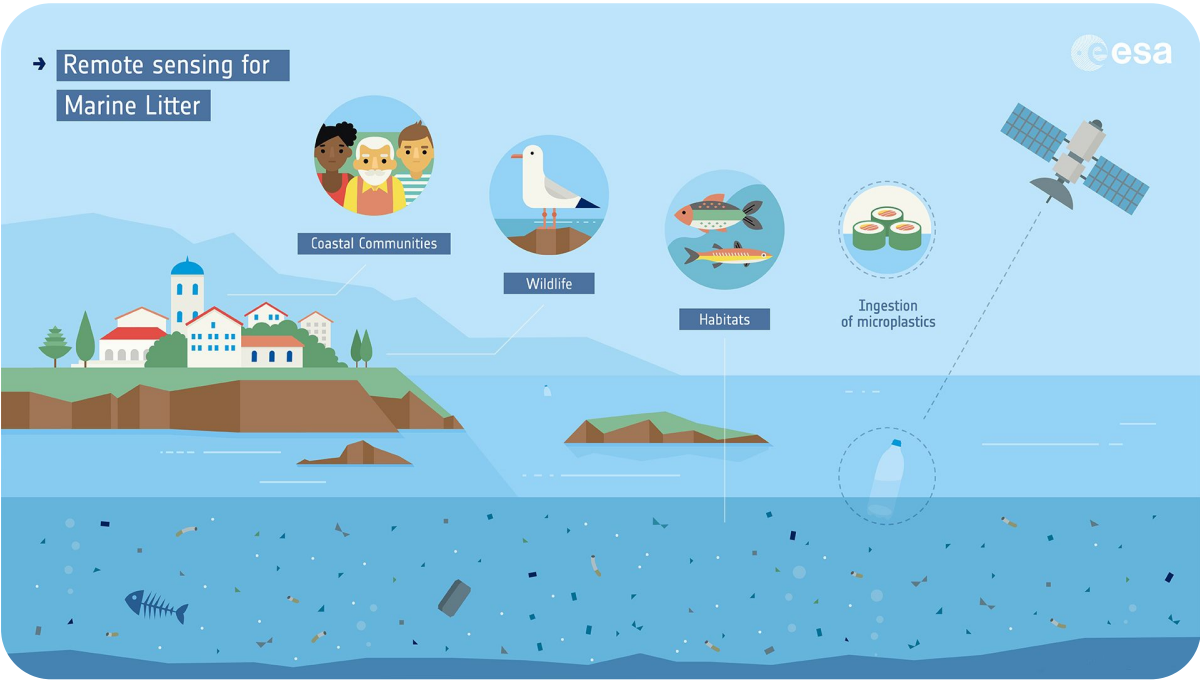
To help, ESA have launched spacecraft like the Sentinels in orbit around Earth. They are designed to watch Earth from space and send pictures to scientists on the ground. The information they gather is used to track water levels, plan for floods, and ensure that there is enough water for everybody to use.

Now we are becoming more aware of a big problem faced by our oceans: plastic pollution. Around 10 million tonnes of waste plastic is dumped into Earth's oceans every year. It is easy to see waste plastic when it washes up on beaches, but litter can also be found far out at sea. Some has even been discovered in frozen polar ice!



Find out how ESA satellites help to manage water supplies. Copyright: EO4SD-Water consortium.

The plastic in our oceans is gradually broken down by waves. It can then be accidentally eaten by fish and other sea creatures. As well as being bad for those animals, the plastic enters the food chain, meaning that other life – including humans – are affected.



Satellites could spot plastic pollution that may enter the food chain
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Satellite maps of ocean currents are already being used to predict where litter will gather within the Pacific, Atlantic, and Indian Oceans. Scientists hope to take this a step further by testing if satellites can directly detect plastic pollution floating in Earth's seas. ESA satellites would try to do this by studying infrared light reflected by the litter, looking for a special “fingerprint” showing that plastic is present. This technology is already used in recycling factories to separate out different types of plastic.

If this works well then we can make an accurate map of Earth's oceans showing where plastic litter is floating. Once we know the true size of the problem, we can come up with the best plans for solving it!

Cool fact:

The Sentinel satellites get their name from soldiers whose job is to watch out for danger. The ESA Sentinels keep watch over our planet.