More than 170 trillion plastic particles are afloat in the world's ocean.

**SUMMARY**

Many of the original leaders in ocean plastic research came together to determine an updated estimate of marine plastic pollution. Using previously published and new data (11,777 samples) from 1979 to 2019, the researchers estimate there are more than 170 trillion plastic particles, weighing approximately 2 million tonnes, afloat in the world’s oceans.

**KEY POINTS**

- Plastic harms at every stage of its life cycle, from extraction to disposal.
- Our new research found 170 trillion plastic particles in the surface water in the world’s ocean (Figure 1).
- A time trend of ocean plastic shows a rapid increase since the millennium.
- We need to implement upstream solutions, rather than focus on cleanup and recycling.
- We need a strong, legally binding global treaty on plastic pollution.

The exponential increase in microplastics across the world’s oceans is a stark warning that we must act now at a global scale. Cleanup is futile if we continue to produce plastic at the current rate, and we have heard about recycling for too long while the plastic industry simultaneously rejects any commitments to buy recycled material or design for recyclability. It’s time to address the plastic problem at the source.

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