

Ships use clean fuel, which causes the Earth to warm

Ships are using cleaner fuel to reduce air pollution, but they are promoting global warming by reducing the ability of clouds to reflect sunlight into space, according to new research published in the journal *Communications Earth and Environment* on May 30.

Accordingly, from 2020 the transportation industry will switch to using fuel with low sulfur content. However, this could cause the rate of warming to double (or more) this decade, even contributing to record heat levels over the past year.



The reason is that sulfur pollutants contain tiny particles that help reflect sunlight into space. This makes the clouds more mirror-like, creating a temporary cooling effect on Earth.

Previously, scientists also predicted that this reflection effect would be reduced and accelerate the warming process as the transportation industry switched to using cleaner fuels, although the extent was unknown.

According to new research, the International Maritime Organization (IMO) regulation on fuel sulfur reduction that took effect in January 2020 has helped reduce sulfur dioxide emissions from the global shipping industry by 80%. However, this rapid decrease also causes a "shock" effect on Earth, causing clouds to reduce their ability to reflect some solar energy into space, leading to a warming planet.

The rate of warming will essentially double in the 2020s, said Tianle Yuan, lead author of the study and a scientist at NASA's Goddard Space Flight Center.

This effect is not uniform globally, but appears to be stronger in the North Atlantic, leading to warmer sea surface temperatures. It contributed to the unusual warming the world experienced in 2023 and 2024, Yuan said, but scientists could not determine the exact extent.

2023 is the hottest year on record. And according to forecasts, this trend continues through 2024, with temperatures on land and sea reaching new monthly highs.

The main cause of warming is human activity. However, there are other factors that can contribute to this unusual heat such as El Nino, a periodic natural weather pattern over the Pacific Ocean.

New research also provides evidence that the technology of spraying particles into clouds to increase heat reflection can help slow global warming somewhat, but its long-term impact on Earth is still causing concern. argumentative.

Report link: <https://www.sciencemediacentre.org/expert-reaction-to-sulphur-reductions-in-shipping-fuel-and-increased-maritime-warming/>

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