《船只在海上航行会触发雷击》

印度洋和中国南海上空闪电频率增加的区域呈细线状。这是为什么呢？

When lightning sparks across the sky, it sends out low-frequency radio waves that researchers can use to determine its location.

??????????????????????????????????????

Recently, scientists were looking over a map of lightning activity, when they noticed something strange: narrow lines of increased lightning frequency stretching across the Indian Ocean and the South China Sea. Straight features like these are rare on a spherical, spinning planet, except where humans are up to something. In this case, sending ships across the sea.

??

“I had pretty immediately in my mind postulated that this was a result of the pollution from ship exhaust influencing the way the storms develop.” Joel Thornton, an atmospheric chemist at the University of Washington.

“????????????????????????”????????????·??????

“That hypothesis had already been put out generally in the field more than a decade ago. But we had been lacking clear evidence that this was happening on a large-scale, long-time horizon.”

“??”

The new maps changed that. Thornton and his team found that, on average, lightning activity almost doubled over shipping lanes compared to adjacent areas of the ocean.

??

The researchers ruled out natural explanations for the pattern, and concluded it must be related to ship exhaust. Exhaust increases the number of tiny particles in the air, on which water vapor condenses to form cloud droplets. Spreading the same amount of water over more particles leads to smaller droplets, which get lifted by updrafts until they reach altitudes cold enough for them to freeze. For reasons scientists still don’t fully understand, interactions between these ice particles and water droplets inside the cloud builds up electrical charges—and produce lightning.

??

简答网 jiandongshicai.cn