Chinese Researchers Link Greenhouse Gases to Ocean Circulation



A research team from the Institute of Oceanology of the Chinese Academy of <u>Sciences</u> has found that greenhouse gas emissions have played an important role in the acceleration of global ocean circulation, <u>Xinhua</u>, a Chinese news agency, reported. The study found that the global average ocean circulation has accelerated significantly in the past 20-plus years, which may lead to the reshaping of the global marine environment, the report said. A paper on the findings has been published in <u>Science Advances</u>, a subsidiary publication of the journal Science, the report said.

The researchers made the findings by integrating various data of ocean circulation and sea surface wind speed, and analyzing changes in ocean circulation on a global scale, the report said. "Wind is the main power source of ocean circulation," said Hu Shijian, a

researcher with the institute and the first author of the paper. "The speeding-up of sea surface wind has given rise to the acceleration of global average ocean circulation."

Average Sea Surface Wind Speed

"With increasing greenhouse gas emissions, more than 20 sets of numerical simulations show that the global average sea surface wind speed has significantly increased, indicating that greenhouse gas emissions are the main reason for the acceleration of ocean circulation," Hu added. Wang Fan, director of the institute, said the acceleration of ocean circulation will lead to greater material and energy transport, potentially reshaping the global marine environment and exerting a significant impact on marine ecology and the Earth's biochemical system.

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