

The ozone layer has just appeared a new concern

Ozone hole perforation is a problem that never seems to disappear.

And right in the middle of the COVID-19 pandemic, we got another bad news: a second hole just appeared above the North Pole.

The ozone hole we've known before is slowly recovering, albeit slowly. The United Nations announced that the hole above the Antarctica is likely to close by the 2060s, and the size of the hole has also been reduced to the smallest ever recorded in 2019.

Clearly, mankind has done many things to make the situation better, but the weather also contributes to that recovery. And ironically, it was the weather - particularly here the polar vortex - that caused a new, relatively rare hole, in the ozone layer above the Arctic!

Ozone levels in the atmosphere above the south pole have been fluctuating throughout the year. The chemical content we emit is the reason for this. Humans haven't been able to reduce the use of chlorofluorocarbon and hydrochlorofluorocarbon, the group of greenhouse gases present in ancient air conditioners and refrigerators, that caused ozone depletion in the atmosphere.

But the region's weather conditions also play a role. Reactions between the aforementioned chemicals, cold temperatures, and sunlight have affected the ozone layer. The ozone layer has the function of preventing dangerous ultraviolet radiation from reaching the Earth's surface and increases the risk of skin cancer and other diseases.

The ozone hole in the Arctic through each year (you can see the blue hole appears at the end of the video)

However, this chemical reaction rarely occurs in the Arctic. Antarctica is often colder than the North Pole. The temperatures in the spring there are often reduced to levels that can affect ozone depletion even in the absence of sunlight. In the Arctic, spring temperatures are often warmer and are influenced by the Arctic Ocean's restraint, making chemical reactions that degrade ozone less likely.

This year, things are a little different. Extreme vortices constantly occur in the Arctic, cold air gathers, creating the perfect formula to open a hole in the ozone layer. The rather strong vortex that exists constantly on the North Pole accidentally causes winter this year in the US and elsewhere to be colder than ever.

In 2011, a similar hole was formed in the North of Vietnam due to many factors, including cold temperatures, stagnant atmosphere, and ozone depleting chemicals. But the 2011 breach is small compared to the losses in Antarctica. And this year, unfortunately for us, the hole seems bigger. And even though ozone depletion - measured by something called the "Dobson Unit" - is not as strong as in Antarctica, the fact that such a hole appears in the North Pole is still quite strange. The smaller the Dobson number, the greater the hole. In the

Arctic, the amount of chemicals in the atmosphere is still stagnant, enough to cause further damage to the ozone layer.

Scientists are currently observing this hole. This is a rare event, but it is human actions that make it worse. The more dangerous chemicals we release into the atmosphere, the more random events like this will get worse.

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