

## Peak CO2 level in Atmosphere

### What is the issue?

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- Recently, the Carbon dioxide levels in the atmosphere scaled another psychologically important and immensely worrying peak, **going past 410 parts per million (ppm)**.

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- At the end of September 2016, scientists announced that CO2 levels were likely to stay above 400 ppm “for the indefinite future”.

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### What did the statistics say?

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- Levels measured at Mauna Loa have risen every year since 1959, going from 315.97 ppm that year to 404.21 in 2016.

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- The US National Oceanic and Atmospheric Administration (NOAA) noted that this year that CO2 had **risen by 2 ppm or greater for a record five years in a row**.

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- The rate of CO2 growth over the last decade is 100 to 200 times faster than what the Earth experienced during the transition from the last Ice Age.

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- Atmospheric carbon dioxide concentrations are now at the highest levels they have been in at least 3 million years.

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- More importantly, over the past couple of years, they have increased faster than probably ever before.

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## Why is an increased level of CO2 bad for the Earth?

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  - CO2 is one of several gases that trap heat in the atmosphere, creating **the “greenhouse effect”** that keeps the Earth from getting too cold for life.
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    - But if the CO2 increases, **extra heat is trapped in the atmosphere**, and global average temperatures begin to rise.
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      - The more the CO2, the greater the atmosphere’s capacity to trap heat.
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        - For the last several years, global emissions of fossil fuel CO2 appear to have levelled off. However, this happened while it is at a record high. As a direct result, the rate of atmospheric CO2 increase also remains at a record high.
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          - The main reason is that the **extra CO2 cannot be removed from the ocean-atmosphere system for thousands of years.**
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            - Also increasing CO2 concentration is vegetation. There is a roughly 7 ppm swing between the peak and trough values in a year, mainly because in winter in the northern hemisphere, **the dormant vegetation doesn’t remove CO2 from the air.**
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              - Similarly, a drought caused by a strong **El Niño event could trigger a spike in CO2 levels.**
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                - A minor comfort is that concentration levels could fall below the 410 ppm mark as daily measurements fluctuate — but if there is no drastic action, there could be no reversal.
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                  - The concentration is not expected to fall below 400 ppm any time soon in any case.
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## Are there any efforts taken to control this?

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  - The Paris Agreement, considered an achievement of global action in which all nations came together and vowed to keep global temperature rise to below 2 degrees Celsius above pre-industrial levels, also resolved to pursue

**efforts to limit temperature increase further to 1.5 degrees Celsius.**

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- Some scientists say that to do that, the upper limit for CO2 concentrations would have to be 450 ppm.

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\n**Source: Indian Express**

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