

Carbon Dioxide Reaches Highest Recorded Levels In Human History

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CO₂ is at the highest levels ever experienced in human history Pixabay / NASA Public Domain

We are in an unprecedented era, at no point in human history has carbon dioxide levels been this high, presenting concerning questions over what lies ahead.

This week the World Meteorological Organization published their [yearly report](#) on the “State of Greenhouse Gases in the Atmosphere,” compiling data up to 2018.

The report, unsurprisingly, found that carbon dioxide reached an all-time high in 2018 since pre-industrial amounts. The highest recorded measurement in 2018 was [415.70 ppm](#) on May 15, 2019, [higher than it has ever been during human history](#).

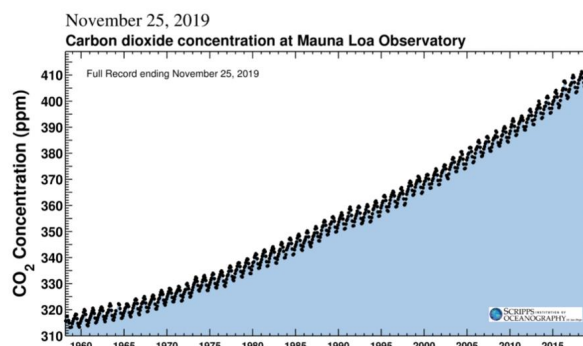
[Yale’s Environment 360](#) reports that “based on current emissions, scientists estimate CO₂ levels could hit 500 ppm in as little as 30 years,” well within many people’s lifetime.

Wasn’t CO₂ higher in Earth’s History?

Today In: [Innovation](#)

Earth has experienced carbon dioxide levels much higher than current levels, which was discovered by the same climate scientists who now warn of the dangers associated with current greenhouse gas emissions.

Latest CO₂ reading: **410.45 ppm**



The Keeling Curve with the latest CO₂ levels. <https://scripps.ucsd.edu/programs/keelingcurve/>

Forbes

Carbon dioxide has been as high as [4,000 ppm during the Cambrian](#), about 500 million years ago and as low as 180 ppm in the Quaternary glaciation (the most recent “ice age” on Earth).

So, why are scientists concerned with the current levels of CO2?



Miami sits just 6.5 feet above sea level. Education Images/Universal Images Group via Getty Images

If Earth has seen an order of magnitude higher carbon dioxide levels than present, why are we to worry?

Generally speaking, there are two reasons why humans should be concerned over the recent unprecedented rise in carbon dioxide levels.

1. We've seen CO2 levels rise faster in the past century than ever before in natural history. The annual increase in [CO2 levels is increasing about 100](#) times faster than recorded during natural increases in Earth's history.
2. Humans have largely built our world around Earth's current climate state and a widespread change in climate will inevitably lead to hardship, economic loss, and death.

Uncharted territory makes people nervous



Louis Sass, a physical scientist with the United States Geological Survey, uses a tape to measure ... [+] Getty Images

Imagine you're driving west across the country with no map, no GPS, no smartphone and in the middle of the night. Humans are at their best when we're able to predict the outcomes of our actions, however, the current rate of CO2 rise leaves scientists worried as there is no blueprint or map of where we're headed in the coming decades. We are “driving blind” into an unknown climate future.

Geologists and climate scientists can look at ice cores, tree rings, ocean sediment, etc. to reconstruct what our climate looked like in the past. However, there are [no records of CO2 rising at the current rate](#), meaning that while we generally know we're driving west (in the above analogy), we have no idea what we will encounter on our way.

“We suggest that such a ‘no-analogue’ state represents a fundamental challenge in constraining future climate projections,” says Richard E. Zeebe from the [University of Hawaii at Manoa](#) in a [Nature](#) paper.

Forbes

What happens when an environment changes around a static human environment?



Houseboats sit in the drought lowered waters of Oroville Lake, near Oroville, Calif. ASSOCIATED PRESS

The other key concern is that humans have built our world expecting a largely static environment. Our infrastructure, agriculture, areas of concentrated populations, and energy systems are all built to serve humans in a relatively static environment.

- What do we do when an entire geographic region sees decades-long drought where rain was once present? Do those people migrate to

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new areas, do cities shrink, do we engineer our environment to redirect water? [Well, it's already happening.](#)

- What do we do when cities become increasingly inundated with ocean water from rising sea levels? As tides and storms increasingly flood coastal cities do we build walls or do we abandon infrastructure near the coast and build more inland? [Well, it's already happening.](#)
- What do we do when mosquitoes migrate farther north than they have ever been able to live? How does that change epidemiology and the spread of diseases throughout the world? [Well, it's already happening.](#)

There are countless examples where climate change can throw a wrench in how we operate our daily lives.

That is why scientists are concerned and increasingly sounding the alarm for where we are currently headed. Reducing carbon dioxide emissions can slow and halt these changes, but it's yet to be seen how quickly humans will proactively change in the face of a looming climate crisis.