

Press Release



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Fossil carbon dioxide emissions reach record high in 2023

GEOMAR contributes to Global Carbon Budget 2023 report launched today

05.12.2023/Kiel. In its new report launched today, the Global Carbon Project shows that fossil carbon dioxide emissions will reach a record high in 2023. If emissions continue at these levels, the remaining carbon budget to stay within the internationally agreed limit of 1.5 degrees Celsius global warming is expected to be exhausted in seven years. Researchers from GEOMAR Helmholtz Centre for Ocean Research Kiel contributed observational data from sailing yachts and merchant ships to this year's report.

The time to achieve the climate targets of the Paris Agreement is running out faster and faster. This is shown by the annual assessment of the Global Carbon Project (GCP). According to the report, fossil carbon dioxide (CO₂)

in order to at least meet the 2-degree target,” says Professor Dr Julia Pongratz, Professor of Physical Geography and Land Use Systems at Ludwig Maximilian University of Munich (LMU).

CO₂ removal reported for the first time

“Although emissions from deforestation have decreased slightly, they are still too high to be offset by renewable forests and reforestation,” says Dr. Clemens Schwingshackl, who, together with Pongratz, led the estimates of land use emissions in the GCP report. Currently, around half of the emissions from deforestation are offset by CO₂ uptake in renewable forests and reforestation. Technical solutions such as Direct Air Capture and Carbon Storage (DACCS), which function independently of vegetation, currently only remove a negligible amount of CO₂ from the atmosphere. “Massive efforts to reduce emissions are essential for the 'net-zero' emissions targets. To compensate for emissions that are difficult to avoid, a strong expansion of CO₂ removal processes will also be necessary,” says Dr Schwingshackl.

El Niño makes itself felt

For 2023, the scientists estimate that around half of the CO₂ emitted will be absorbed by sinks on land and in the sea. The rest will be released into the atmosphere, whose CO₂ content will rise to an

<https://www.geomar.de/der-ozean-als-klimaschuetzer> Der Ozean als Klimaschützer

Images:

Images are available for download at <http://www.geomar.de/n9218-e>

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