

# Peatlands trap carbon dioxide, even during droughts

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*Sphagnum flexuosum*. Image credit: Wikipedia

Although peatlands make up only 3 percent of the Earth's surface, they store one third of the soil carbon trapped in soils globally. Preserving peatlands is therefore of paramount importance for mitigating climate change, provided that these vulnerable environments are not themselves threatened by global warming.

To better determine this risk, two French scientists, including Vincent Jasse, a CNRS researcher at the Laboratoire Ecologie Fonctionnelle et Environnement (CNRS/Université Toulouse III—Paul Sabatier/INP

Toulouse), studied carbon uptake by the two main species of moss that make up the Le Forbonnet peatland in Frasné (Jura). They discovered that when temperatures were high and also during droughts, the two *Sphagnum* species behaved in opposite ways: *Sphagnum medium* resists drought, whereas the photosynthesis of *Sphagnum fallax* is negatively impacted; conversely, in very hot but humid weather, photosynthesis, and thus [carbon uptake](#), in *Sphagnum fallax* increases, whereas there is a negligible effect on [photosynthesis](#) in *Sphagnum medium*. In both cases, then, the peatland survives.

These results show that peatlands can withstand future [climate change](#), provided they are not disturbed. Making [peatland](#) conservation a priority would therefore help to limit the impacts of climate change in the future. The study was published on September 9, 2019 in *Global Change Biology*.

**More information:** Vincent E. J. Jasseby et al. Effects of climate warming on *Sphagnum* photosynthesis in peatlands depend on peat moisture and species-specific anatomical traits, *Global Change Biology* (2019). [DOI: 10.1111/gcb.14788](https://doi.org/10.1111/gcb.14788)

Provided by CNRS

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