

# HIGHLIGHTS FROM C2SM

## The Swiss Climate Summer School 2021 discusses vegetation, land surface and climate interactions.

### SWISS CLIMATE SUMMER SCHOOL 2021

The Swiss Climate Summer School (SCSS) is a joint venture of C2SM (ETH Zurich) and the Oeschger Centre for Climate Change Research (University of Bern). The 2021 school was organised by C2SM and led by Professor Werner Eugster. Eleven presentations were given by internationally renowned experts on the interactions between climate and the land surface including vegetation, soil, and forest ecosystems to 46 participants from all over Europe. In four workshops, tree ring growth, nature-based solutions, machine learning for modelling ecosystem fluxes, and ecosystem flux measurements were discussed. A guided feedback discussion in the end confirmed our impression that the attendees had rated the school contents, the atmosphere, place, and organisation outstanding.

The SCSS 2022 will focus on «Extreme weather and climate: from atmospheric processes to impacts on ecosystems and society».

 MORE INFORMATION  
[climateresearch.ch](https://climateresearch.ch)



The participants of the Swiss Climate Summer School 2021.

### PAPER: OFFSETTING UNABATED AGRICULTURAL EMISSIONS WITH CO<sub>2</sub> REMOVAL TO ACHIEVE AMBITIOUS CLIMATE TARGETS

About 30 percent of climate forcing results from greenhouse gases (GHGs) other than CO<sub>2</sub>, with agricultural activities being the largest source. There are no technologies that can completely decouple these emissions from agriculture, and so current scenarios to limit warming to 1.5 degrees Celsius foresee a major shift in dietary preferences towards less meat consumption. In this paper, we investigate how much CO<sub>2</sub> removal (CDR), at what cost, would be required to offset agricultural emissions and hold the world to 1.5 degrees Celsius warming if dietary preferences do not shift. First, we find these quantities of CDR to vary by a factor of two, depending on the precise trajectory of agricultural emissions. In terms of costs, we find these to be equivalent to 41 percent of the current retail price in the United States for beef, 40 percent for milk, and 14 percent for rice. Relative to higher food prices in Switzerland, the values would be lower.

### REFERENCE

Brazzola N, Wohland J, Patt A (2021) Offsetting unabated agricultural emissions with CO<sub>2</sub> removal to achieve ambitious climate targets. PLOS ONE 16(3): e0247887v doi.org/10.1371/journal.pone.0247887

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### ABOUT C2SM

C2SM aims to improve the understanding of the climate system and strengthen the predictive skill of climate and weather models. It is a joint initiative of ETHZ, MeteoSwiss, Empa, WSL, and Agroscope.