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CDRESM:

Description

The CDRESM project responds to the urgent necessity of reliable science-based recommendations to inform climate policies for the coming decades. In this project, we will implement land- and ocean-based CDR techniques representations in a state-of-the-art Earth System Model.

These new implementations will be thoroughly tested to assess their effectiveness and their potential environmental side effects. To date, research on CDR has focused on terrestrial-based methods. It revealed that achieving the PA 2015 goals with land-based CDR alone will be extremely difficult, if not impossible, due to their side effects, trade-offs with sustainability goals, competition for land use, limited individual potentials, and/or issues of carbon storage permanence.

Much less is known about ocean-based CDR techniques, although some appear promising, especially concerning the potential application scale of application. In this project, we will consider four land-based and three ocean-based CDR techniques that are showing promising results based on the outcomes of ongoing projects and previous research. In CDRESM, we hypothesize that these CDR techniques have the potential to be scaled up and play a role in the pathway towards climate neutrality.

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