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## searching for solutions for Carbon-sequestration in coastal ecosystems: an international and interdisciplinary approach

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Climate change-mitigation requires immediate and long-lasting drastic reductions in anthropogenic greenhouse gas emissions. As some of these emissions are considered hard-to-abate, the net-zero emissions aim can only be reached through carbon dioxide removal (CDR) strategies. Many of these rely on technical, physical or chemical approaches that are promising but not yet fully implementable nor fully accepted by society (<https://cdrmare.de/en>). Nature-based Solutions (NbS), by contrast, may be less efficient but enjoy high societal desirability and methodological feasibility. sea4soCiety (<https://sea4society.cdrmare.de/en>) aims at developing innovative approaches to enhance the potential for Blue Carbon sequestration in mangrove forests (and other blue carbon ecosystems: saltmarshes, seagrass meadows, kelp beds) through expanding their spatial extent into new areas, if and where ecologically feasible, in an environmentally sound, legally and ethically unobjectionable, socially acceptable, and economically viable manner. With the first phase (2021-2024) of the long-term project ending, I will critically shed light on the general concept, progress. Based on first findings -specifically with respect to methodology, organic matter stability and origin, faunal effects on carbon fluxes, and societal perception and acceptance-, an outlook to the second phase (2024-2027) will provide a glimpse at future plans and directions towards Blue Carbon-based climate change-mitigation through the (re-)establishment of coastal vegetated ecosystems.

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