Marine Carbon Dioxide Removal (mCDR) - An intro for Alaskans

A new field of research and industry is emerging that could affect Alaska's waters and communities: marine carbon dioxide removal (mCDR). The term mCDR encompasses a variety of experimental strategies to store excess carbon dioxide (CO_2) from the atmosphere in the ocean for long periods of time with the goal of reducing the impacts of climate change.

Examples of proposed mCDR techniques

ALKALINITY ENHANCEMENT
Adding crushed minerals to or removing acid from seawater to help it absorb more CO_2.

OCEAN FERTILIZATION
Adding nutrients, like iron, to encourage phytoplankton blooms that pull CO_2 from the atmosphere.

SEAWEED FARMING FOR CARBON STORAGE
Growing kelp or seaweed at large scales, then sinking it into deep ocean areas, or creating durable goods to store the carbon it absorbed.

If successful, mCDR could provide benefits for Alaska's marine ecosystems and coastal livelihoods. If done irresponsibly, it could also result in environmental and economic risks and pose complex tradeoffs. There is a need for coastal Alaskans to have a voice in shaping the emerging field.

https://aoan.aoos.org/marine-carbon-dioxide-removal/

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What is the current status of mCDR?

Ideas for mCDR projects in Alaska waters are starting to get attention from researchers, industry, and funders. If grown to scale globally, this could be a trillion-dollar investment sector rivaling the oil economy. No large-scale mCDR projects have been permitted in Alaska yet but some early testing is proposed in the North Pacific. Alaska is seen as a possible site for future projects, however, public awareness is currently low.

Why does this matter for Alaskans?

Alaska's coastal communities have a lot at stake. Commercial fishing, subsistence activities, and local economies all rely on healthy marine ecosystems. If mCDR methods are used here, we do not know how they could affect the ecosystem and existing ocean uses.

There may also be opportunities. mCDR research could support community-based monitoring, local job creation, or marine restoration efforts. This will only happen if coastal community leaders help shape the direction from the start.

Why are local voices needed?

Coastal communities are the first to notice changes in their waters. You know these waters best. Your knowledge is essential for spotting red flags, asking good questions, and identifying what needs to be protected. You can shape the rules.

Where is mCDR being discussed?

The Alaska Dialogue on mCDR project is bringing together coastal community leaders to learn about mCDR and discuss what it could mean for Alaska. So far, we have hosted local workshops in Kodiak, Cordova and Anchorage with the intent to build understanding, gather input, and support informed decision-making in the region. Participants have helped identify what's at stake, how communities would like to be involved, and what policy guidance should be developed for the future. More activities will be planned in the coming year.

Want to get involved?

The Alaska Dialogue on mCDR will share updates and announcements to join community outreach events, workshops, and conversations. Even if you can't attend, we'll keep you in the loop with summaries and resources.

Questions?

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