Marine Carbon Dioxide Removal (mCDR)



Today's remarks

- Context: mCDR research needs
- Responsible development and scaling of U.S. mCDR research
- Research governance
- Monitoring, Reporting, & Verification (MRV) Complexities
- Need for a clear regulatory regime

Context: mCDR Research Needs

mCDR research needs to produce multidisciplinary, decision-supporting information!

- Research must inform decision-making challenges facing us:
 - Who makes what decisions?
 - What information is relevant?
 - When should activities be scaled up or closed out?
 - Who's responsible for problems?
 - Who benefits and how? Is anything harmed?
 - How do mCDR activities fit in among other marine uses?
 - How does mCDR interact with the global mitigation portfolio? Any limits?

Responsible development & scaling of U.S. mCDR research



- CoCs used in many fields to encourage responsible research
- Create common norms and shared principles, e.g., regarding transparency, public review, and benefits sharing
- Especially useful for complex issues with potential to affect people and the environment

3 phases of responsible research described in mCDR CoC

- Whether, when, where, and how to conduct research?
 - Project design, possible impacts, identification of stakeholder, siting, permitting

Executing

Planning

- Monitoring positive and negative project impacts, accountability, liability, reporting, transparency, oversight, decisions about scaling up/scaling back
- Moving to next level of development?

Communication of results, remediation of adverse outcomes, fair distribution of benefits, decommissioning.

Research governance

Funders have a key role! They can:

- Require documented use of research CoC
- Require adherence to permits and protocols
- Require and support data sharing & reasonable IP rights
- Tie future funding to past performance on above issues
- Help coordinate research community and develop joint activities and resources

MRV complexities

- MRV is central to counting mCDR's contributions to GHG mitigation.
- MRV is more straightforward for some mCDR methods than others.
- There is no mCDR MRV protocol now; developing one will depend on modeling and observational investments.



Need for a clear regulatory regime

- Research governance and permitting are evolving quickly
- Guidance is needed about what constitutes experiments vs. implementation and rogue/unregulated behavior
- Guidance is needed about who holds authority/has final say
- Who is liable for experiments? For deployment?

