



*Scrubbing the Skies: NOAA CDR Task Force Panelists (December 20, 2022). From left: Dr. Jessica Cross (Research Oceanographer, NOAA Pacific Marine Environmental Laboratory), Dr. Gabriella Kitch (International Policy Fellow, NOAA Knauss Program) and Dr. Libby Jewett (Director, NOAA Ocean Acidification Program).*

## NOAA's Carbon Dioxide Removal Task Force Gains Momentum in Developing Research Strategy

By Mark Fogarty

NOAA staffers briefed attendees of the recent Institute for Carbon Removal Law and Policy webinar “Scrubbing the Skies: The Role of Carbon Dioxide Removal in Combating Climate Change” at American University.

Host Wil Burns, visiting professor in the Environmental Policy & Culture Program at Northwestern University and co-founder of the Institute said that

in November 2020 the senior research council of the NOAA’s Office of Ocean and Atmospheric Research charged scientists with devising a CDR research strategy.

“In response, NOAA formed the Carbon Dioxide Removal Task Team, with expertise in climate and carbon issues, open ocean and coastal science and aquaculture development and ocean conservation,” Burns said. The team then came up with a white paper.

Dr. Gabriella Kitch, International Policy Fellow at NOAA’s Knauss Program said the team looked into developing a governance structure so CDR can scale to operation. It also wanted to develop clear guidance for safe and effective permitting procedures and international agreements, similar to the London Convention and Protocol and the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP).

“The community is also calling for a code of conduct to guide CDR research in a coherent way,” said Kitch. “The international landscape is a bit fragmented at the current moment.”

In the United States, the current Administration views carbon management as a key priority, Kitch said, noting it specifically mentioned CDR as a game changing technology and pushed for Congressional support, in the infrastructure, CHIPS and inflation reduction bill, with much of the funding going to the Department of Energy.

“It highlights that CDR is necessary to achieve climate goals, CDR supports markets, and CDR must be deployed at scale. Such large-scale deployment requires federal support,” she said. Kitch said NOAA has been directed to partner with DOE in some of the recent bills. “The current administration has also made it a clear priority for science

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Credit: American University

agencies to address CDR research,” she noted.

The permitting pathways and policies around marine CDR in the United States remain opaque, she told the webinar. Permitting legislation has been done around environmental review, species protection, coastal and ocean management, ocean dumping and seabed use laws, across many federal agencies.

“NOAA has contributed to the implementation of many of these rules as a consultant to ensure we have productive and sustainable fisheries, safe sources of seafood, recovery and conservation of protected resources, and healthy ocean ecosystems,” Kitch said.

Libby Jewett, Director of NOAA’s Ocean Acidification Program, told attendees legislation for NOAA’s Ocean Acidification Program passed in 2009 and has been reauthorized recently.

“In there is language requesting that NOAA focus on research into OA mitigation approaches. CDR activity in the ocean has the potential to mitigate

ocean acidification and may have co-benefits that positively affect local coastal carbon saturation states.”

In addition, “We’ve identified a number of tools already developed by NOAA which will benefit CDR efforts.”

One example she cited is the Aquaculture Opportunity Areas program in the coastal aquaculture planning portfolio.

“Cross agency collaboration is critical for CDR research,” Jewett said.

NOAA wants to expand federal investment in CDR research, resulting in an interagency notice of funds opportunity on marine CDR.

CDR intersects with several key elements of NOAA’s mission, she said.

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NOAA’s contributions to the global carbon budget will underpin its understanding of the global effectiveness of CDR, according to Jewett.

“NOAA is dedicated to making sure funding, experimentation and implementation is properly monitored, reported and validated and more importantly, assessed for its long term impact and scalability to the global carbon cycle.”

NOAA’s stewardship and service missions will also underpin sound carbon removal strategies. But a key risk of climate adaptation actions is implementing them poorly, she concluded.

Dr. Jessica Cross, Research Oceanographer in NOAA Pacific Marine Environmental Laboratory and lead author of the white paper on research, told the webinar it consists of four parts:

- A federal motivation for CDR research at NOAA.
- A review of CDR techniques and science.
- A synopsis of NOAA’s key assets for CDR research.
- A vision of CDR research.

