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Ocean Carbon Dioxide Removal: Legal Challenges & Opportunities

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OCEAN CDR GOVERNANCE

In-ocean, controlled field trials needed to evaluate efficacy, benefits and risks of different ocean CDR techniques

Effective governance is needed to facilitate in-ocean research and, if deemed appropriate, deployment

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DEEP C—

There's a lot we don't know about ocean CO₂ removal

There are some intriguing ideas, but big questions remain about all of them.

SCOTT K. JOHNSON - 12/14/2021, 1:19 PM



U.S. Department of Energy Announces \$45 Million to Validate Marine Carbon Dioxide Removal Techniques

ARPA-E Launches Program to Develop Marine Carbon Capture Measurement Framework

02/16/2023

— JUNE 17, 2022

Collins, Cantwell Team Up to Boost Carbon Removal Solutions

Bipartisan proposal focuses on ways to harness natural processes to remove and store carbon pollution using geological, biobased, and ocean reservoirs

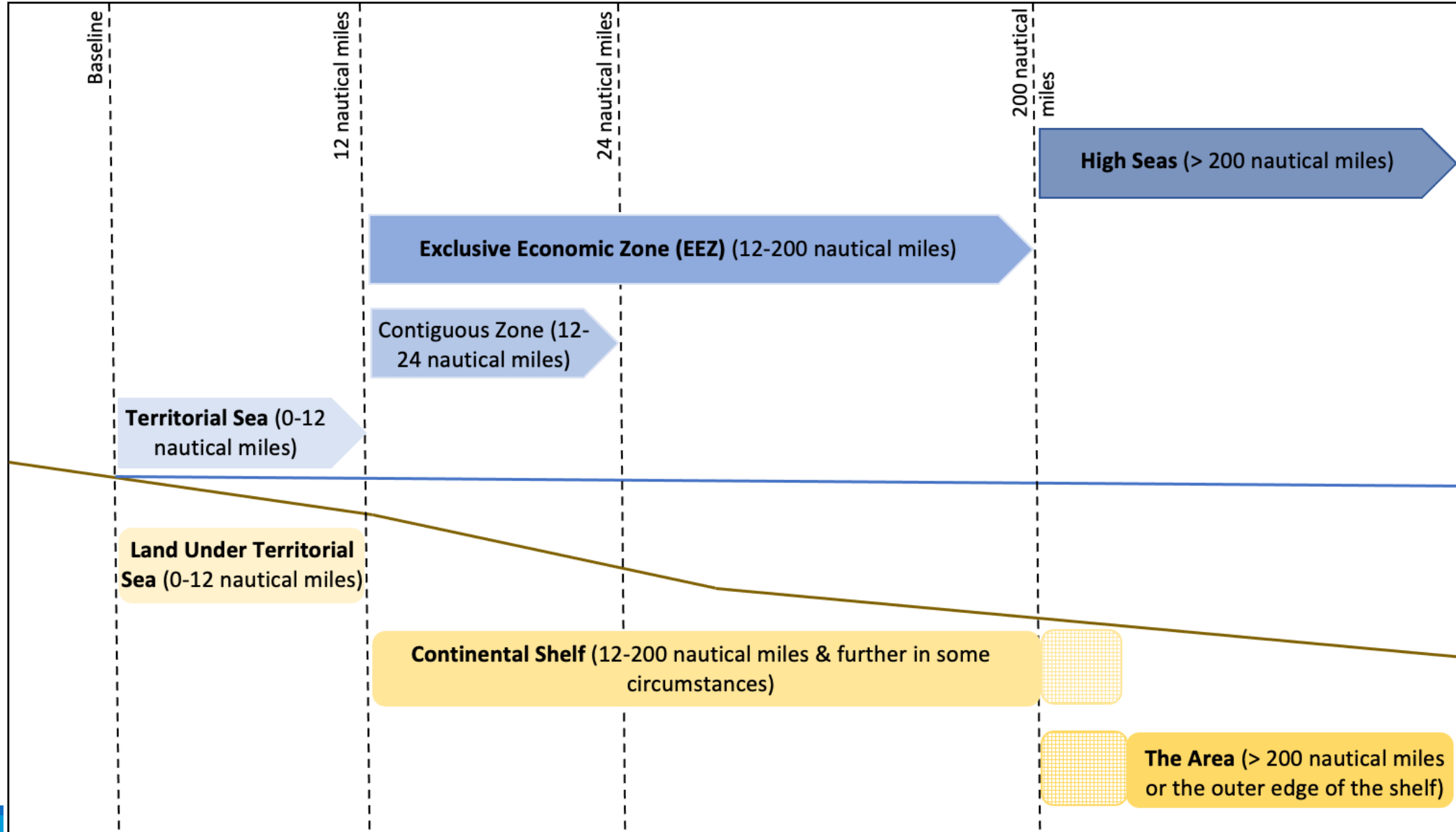
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Ebb Carbon Raises \$20 million Series A, the largest investment in ocean-based carbon removal technology to date

JURISDICTION OVER THE OCEAN

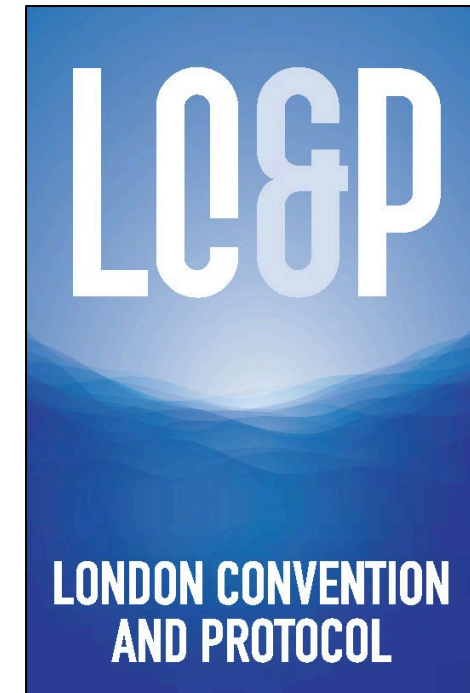
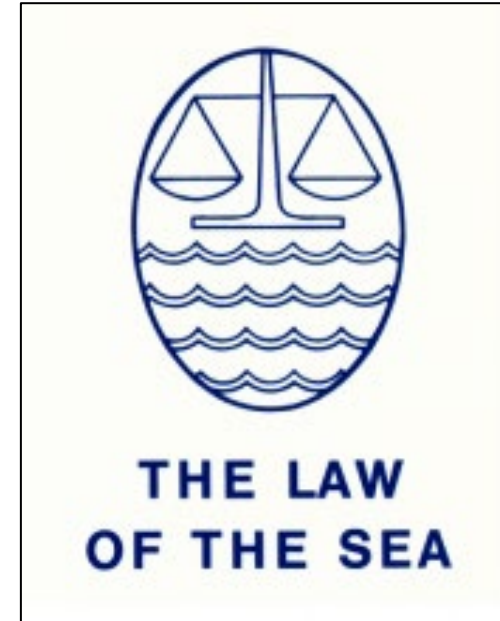


RELEVANT INTERNATIONAL AGREEMENTS

No international agreements dealing specifically with ocean CDR

BUT existing agreements dealing with, e.g., ocean access and marine pollution could apply

Parties to existing agreements have viewed ocean CDR with skepticism





Convention on Biological Diversity

Distr.
GENERAL

UNEP/CBD/COP/DEC/X/33
29 October 2010

ORIGINAL: ENGLISH

CONFERENCE OF THE PARTIES TO THE
CONVENTION ON BIOLOGICAL DIVERSITY

Tenth meeting

Nagoya, Japan, 18-29 October 2010

Agenda item 5.6

**DECISION ADOPTED BY THE CONFERENCE OF THE PARTIES TO THE CONVENTION
ON BIOLOGICAL DIVERSITY AT ITS TENTH MEETING**

X/33. Biodiversity and climate change

(w) Ensure, in line and consistent with decision IX/16 C, on ocean fertilization and biodiversity and climate change, in the absence of science based, global, transparent and effective control and regulatory mechanisms for geo-engineering, and in accordance with the precautionary approach and Article 14 of the Convention, that no climate-related geo-engineering activities³ that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks for the environment and biodiversity and associated social, economic and cultural impacts, with the exception of small scale scientific research studies that would be conducted in a controlled setting in accordance with Article 3 of the Convention, and only if they are justified by the need to gather specific scientific data and are subject to a thorough prior assessment of the potential impacts on the environment;

Potentially Applicable Federal Law

Ocean CDR Technique					
Location	Ecosystem Recovery	Seaweed Cultivation	Nutrient Fertilization	Artificial Upwelling/ Downwelling	Ocean Alkalinity Enhancement
U.S. state waters	NEPA ^a	RHA ^b	MPRSA	RHA ^b	MPRSA
	CZMA ^{a,c}	MPRSA ^d	CWA	CZMA ^{a,c}	CWA
	ESA ^e	NEPA ^a	NEPA ^a	ESA ^e	NEPA ^a
	MMPA ^f	CZMA ^{a,c}	CZMA ^{a,c}	MMPA ^f	CZMA ^{a,c}
	NMSA ^g	ESA ^e	ESA ^e	NMSA ^g	ESA ^e
	MSFCMA ^{a,h}	MMPA ^f	MMPA ^f	MSFCMA ^{a,h}	MMPA ^f
		NMSA ^g	NMSA ^g	MPRSA ^d	NMSA ^g
		MSFCMA ^{a,h}	MSFCMA ^{a,h}		MSFCMA ^{a,h}
U.S. federal waters (within territorial sea)	NEPA ^a	OCSLA ⁱ	MPRSA	OCSLA ⁱ	MPRSA
	CZMA ^{a,c}	MPRSA ^d	NEPA ^a	CZMA ^{a,c}	NEPA ^a
	ESA ^e	NEPA ^a	CZMA ^{a,c}	ESA ^e	CZMA ^{a,c}
	MMPA ^f	CZMA ^{a,c}	ESA ^e	MMPA ^f	ESA ^e
	NMSA ^g	ESA ^e	MMPA ^f	NMSA ^g	MMPA ^f
	MSFCMA ^{a,h}	MMPA ^f	NMSA ^g	MSFCMA ^{a,h}	NMSA ^g
		NMSA ^g	MSFCMA ^{a,h}	MPRSA ^d	MSFCMA ^{a,h}
		MSFCMA ^{a,h}			
U.S. federal waters (within EEZ)	NEPA ^a	OCSLA ⁱ	MPRSA	OCSLA ⁱ	MPRSA ^j
	CZMA ^{a,c}	MPRSA ^{d,j}	NEPA ^a	CZMA ^{a,c}	NEPA ^a
	ESA ^e	NEPA ^a	CZMA ^{a,c}	ESA ^e	CZMA ^{a,c}
	MMPA ^f	CZMA ^{a,c}	ESA ^e	MMPA ^f	ESA ^e
	NMSA ^g	ESA ^e	MMPA ^f	NMSA ^g	MMPA ^f
	MSFCMA ^{a,h}	MMPA ^f	NMSA ^g	MSFCMA ^{a,h}	NMSA ^g
		NMSA ^g	MSFCMA ^{a,h}	MPRSA ^{d,j}	MSFCMA ^{a,h}
		MSFCMA ^{a,h}			

Source: [NASEM](#) (2022)

Codes of Conduct and Best Practice Guides



Guidance for Ocean-Based Carbon Dioxide Removal Projects

A PATHWAY TO DEVELOPING A CODE OF CONDUCT



Guiding principles for ocean carbon dioxide removal studies*

Guide to Best Practices in Ocean Alkalinity Enhancement Research