

Deep Seabed Mining and Alaska: Overview and Status

Alaska State Legislature

Bobbi-Jo Dobush

Salt Horizon, LLC

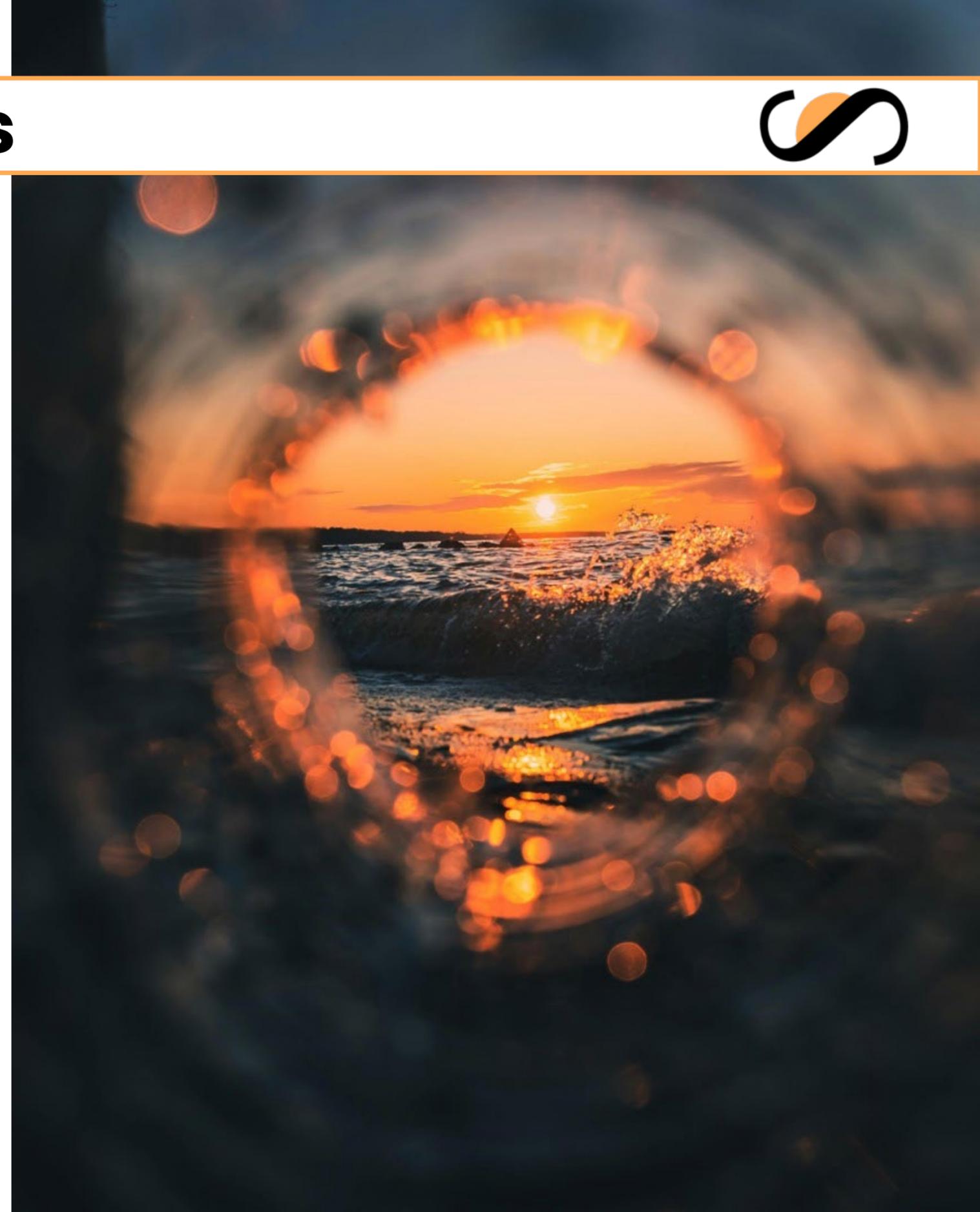
March 18, 2026



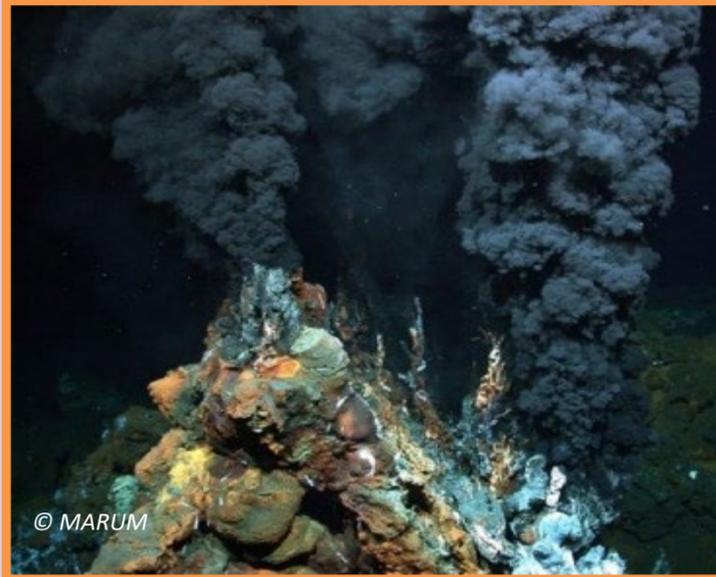
Questions and Considerations



- What is Deep Seabed Mining
- US Executive Order / Interest in DSM
- DSM and Alaska
- Unresolved Concerns
- State of Play

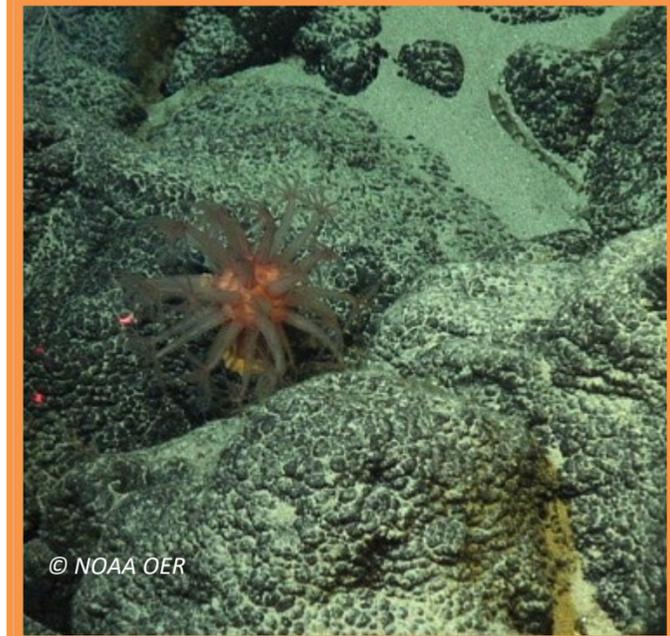


DSM: Prospective Industry Targets



SULFIDES: Polymetallic sulfides (also known as seafloor massive sulfides, or simple sulfides), found around **hydrothermal vent** sites where mineral-laden fluids are expelled from underwater geothermal activity, are abundant in **copper, zinc, gold, and silver**.

CRUSTS Ferromanganese crusts (also known as cobalt-rich crusts, or simply crusts), located on **seamounts** or underwater mountains, consist of a slow accretion of metallic oxides over several million years and contain **cobalt, manganese, nickel, tellurium, and various rare earth elements**.



NODULES (also known as polymetallic nodules or manganese nodules), which are scattered across vast areas of the abyssal plains and are rich in **nickel, cobalt, manganese, and copper**.

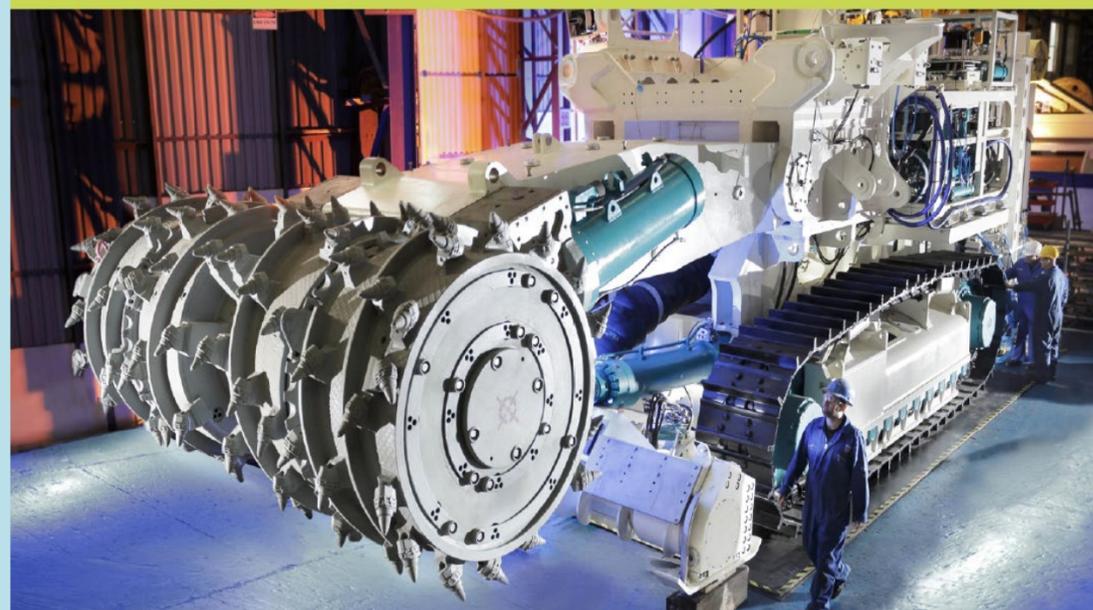
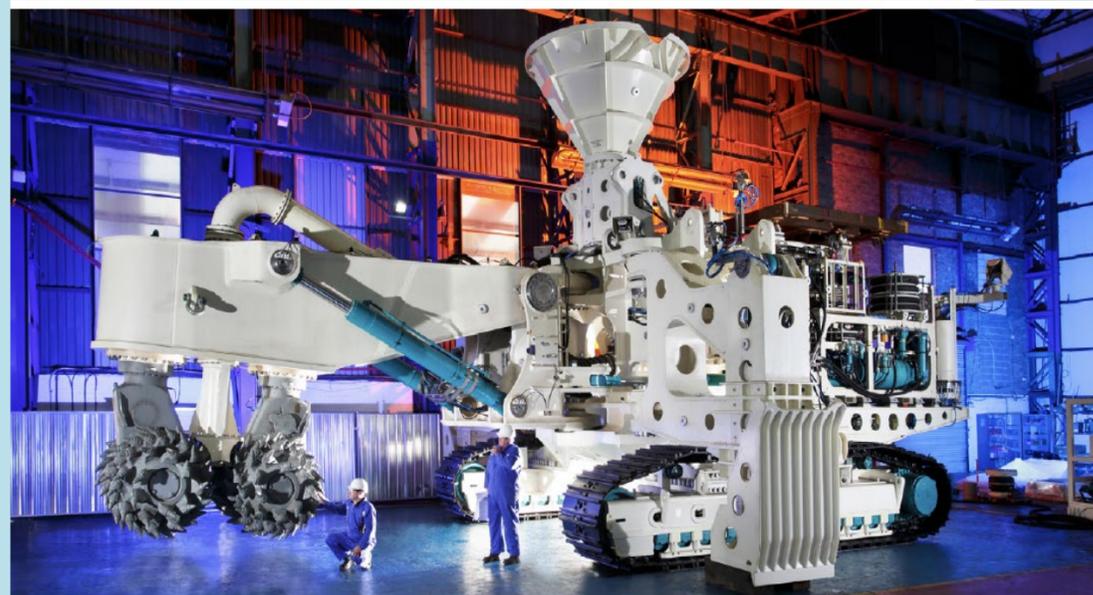
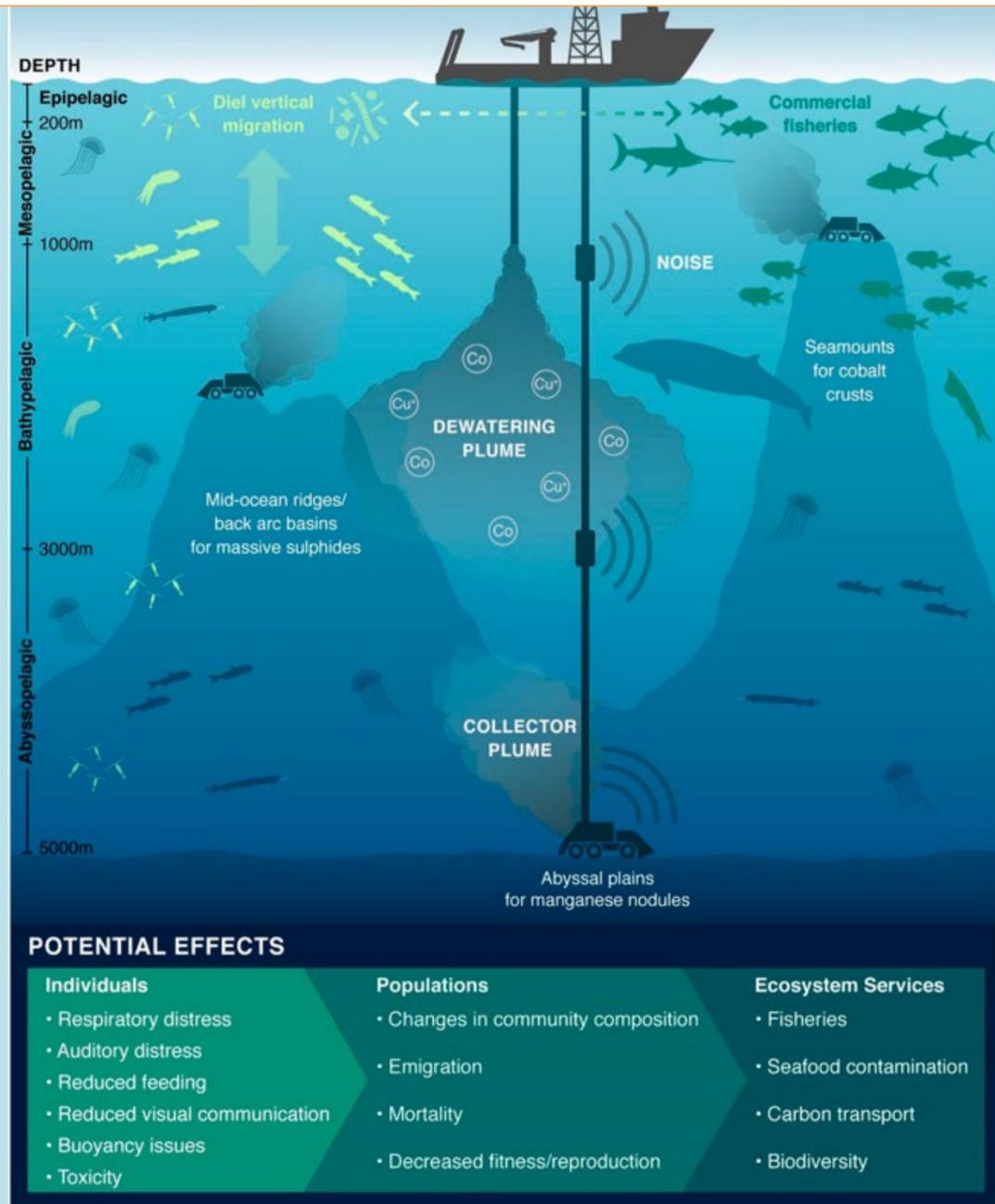


DSM has never occurred except in small scale tests

DSM Technology



Image credit: Amanda Dillon (graphic artist), image published in Drazen et. al, Midwater ecosystems must be considered when evaluating environmental risks of deep-sea mining.



The machine will draw ground up rock from the surface into the pumps that carry it up to the ship.
Minerals

SMD

The US: “Unleashing America’s Offshore Critical Minerals and Resources”



April 24, 2025 Executive Order

NOAA to expedite process for reviewing and issues DSM exploration and commercial exploitation leases in ABNJ

- 10+ companies have applied or are applying
- The Metals Company, Inc. received a notice of “substantial compliance” on their exploration/exploitation application (March 2026)
- Revised regulations (DSHMRA) to

BOEM to do the same on the US OCS

- Completed “Area Identification” for American Samoa in January 2026
- RFI issued for Guam / CNMI (closed January 12, 2026)
- RFI issued for Alaska OCS (closes April 1, 2026)
- Proposed revision to regulations (OCSLA) to streamline (comment period closes April 27, 2026)

Federal Government-Wide Directive to Accelerate DSM Leasing

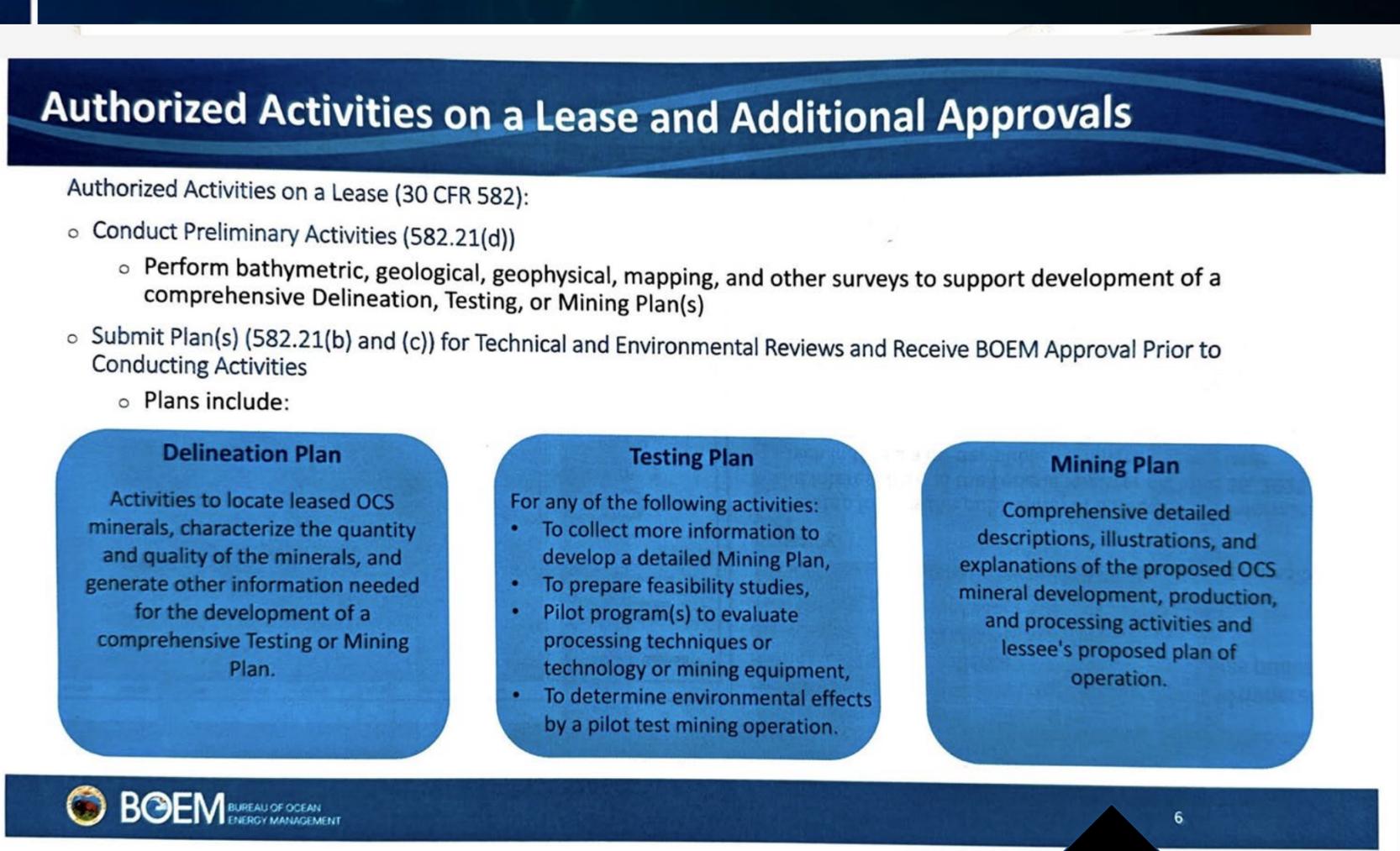
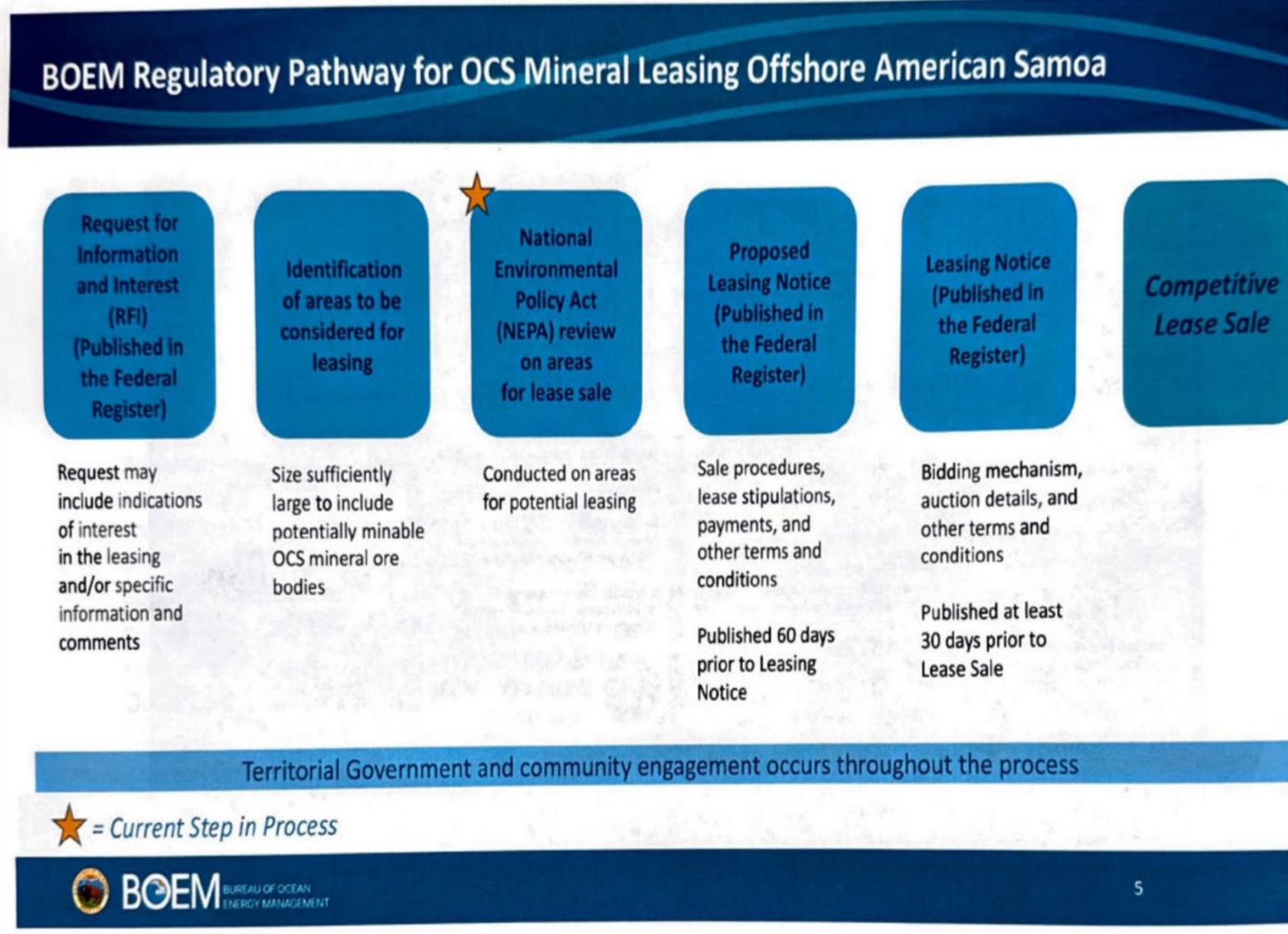
BOEM: proposed “revisions aim to foster industry interest in OCS leasing and expedite the responsible recovery of seabed minerals”; removed requirement to notify adjacent state Governors

USACE: evaluating nationwide permit for this industry

BOEM Q12026: 3 days in American Samoa, 1 day in Guam (based on best available info)

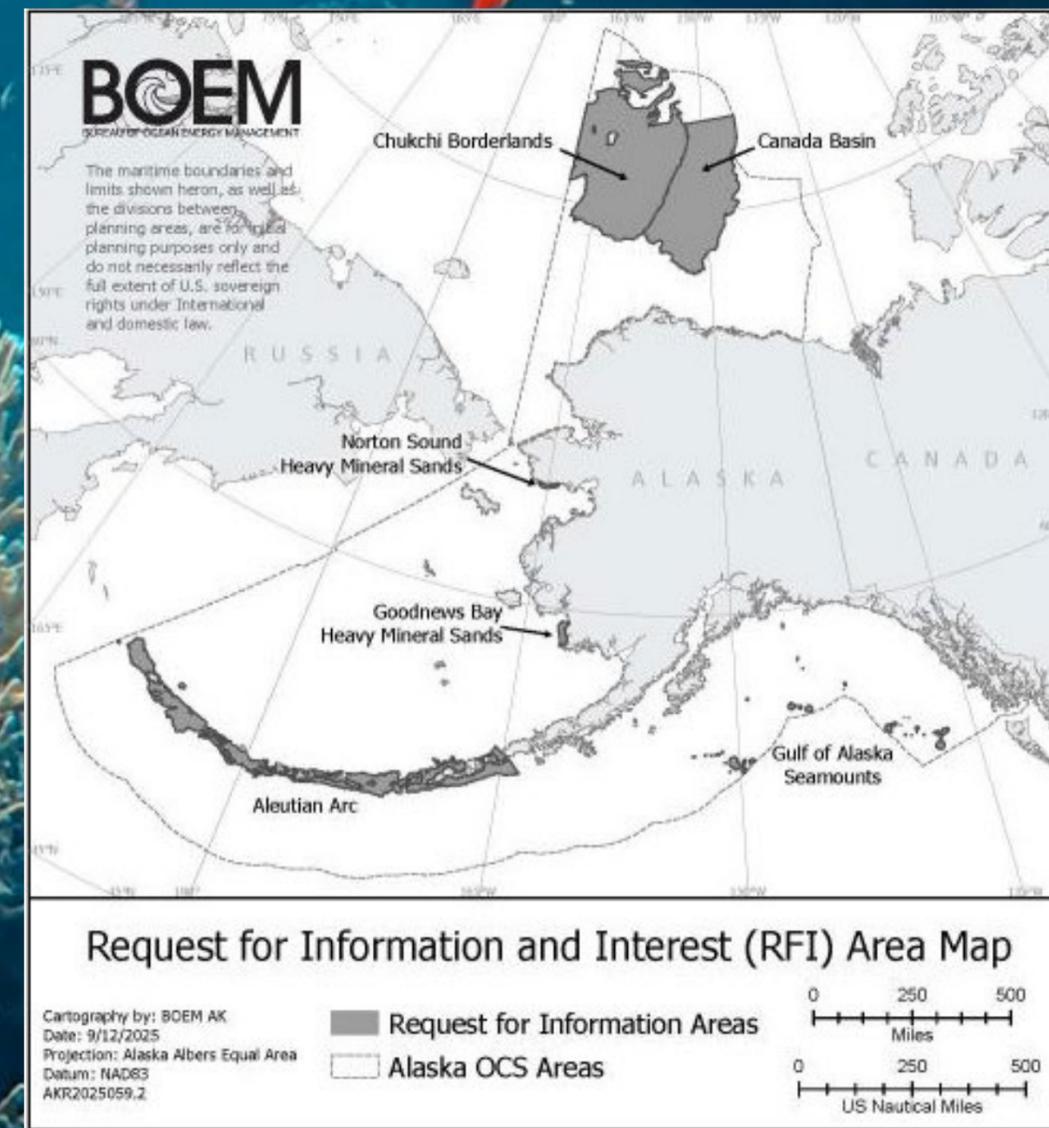
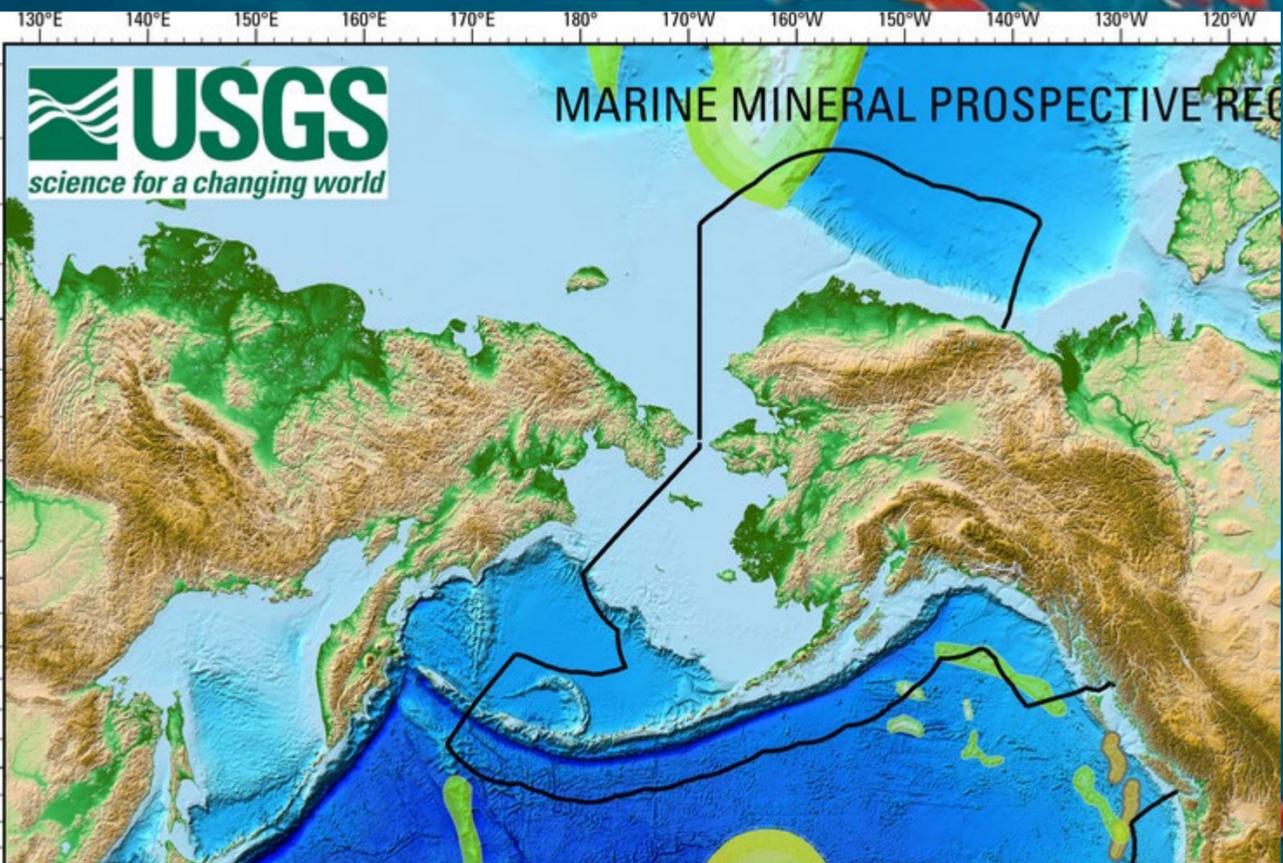
Shifting Commercial Narrative: Green Transition/ Decarbonization to Security and Minerals Independence

BOEM Process (American Samoa Example)



EIS will be required for mining

DSM and Alaska



July 2025 Aleutians Cruise: no seabed mineral data yet

Investigating Potential Seabed Minerals in the Aleutian Arc

Scientists discover thriving corals in unexplored Aleutian waters

DSM and Fisheries



Agenda 6.8: Deep Sea Mining
SC20-EB-WP-14



PRESIDENTIAL ACTIONS

RESTORING AMERICAN SEAFOOD COMPETITIVENESS

Executive Orders | April 17, 2025

Seafood industry joins chorus of groups calling for halt to deep-sea mining plans

Fishers and retailers say mining's impact on tuna fishing in the Pacific might be felt on supermarket shelves around the world

- Physical habitat destruction: endemic species; nurseries, feeding grounds
- Sediment plumes (benthic, midwater, and surface) which will spread up to 100s or 1000s of km
 - carry toxins; clog gills, blind, deter, disorient
- Noise
- Light

14th Meeting of the IATTC
Scientific Advisory Committee

Potential interactions between deep-sea mining and tuna fisheries

May 2023

© NOAA



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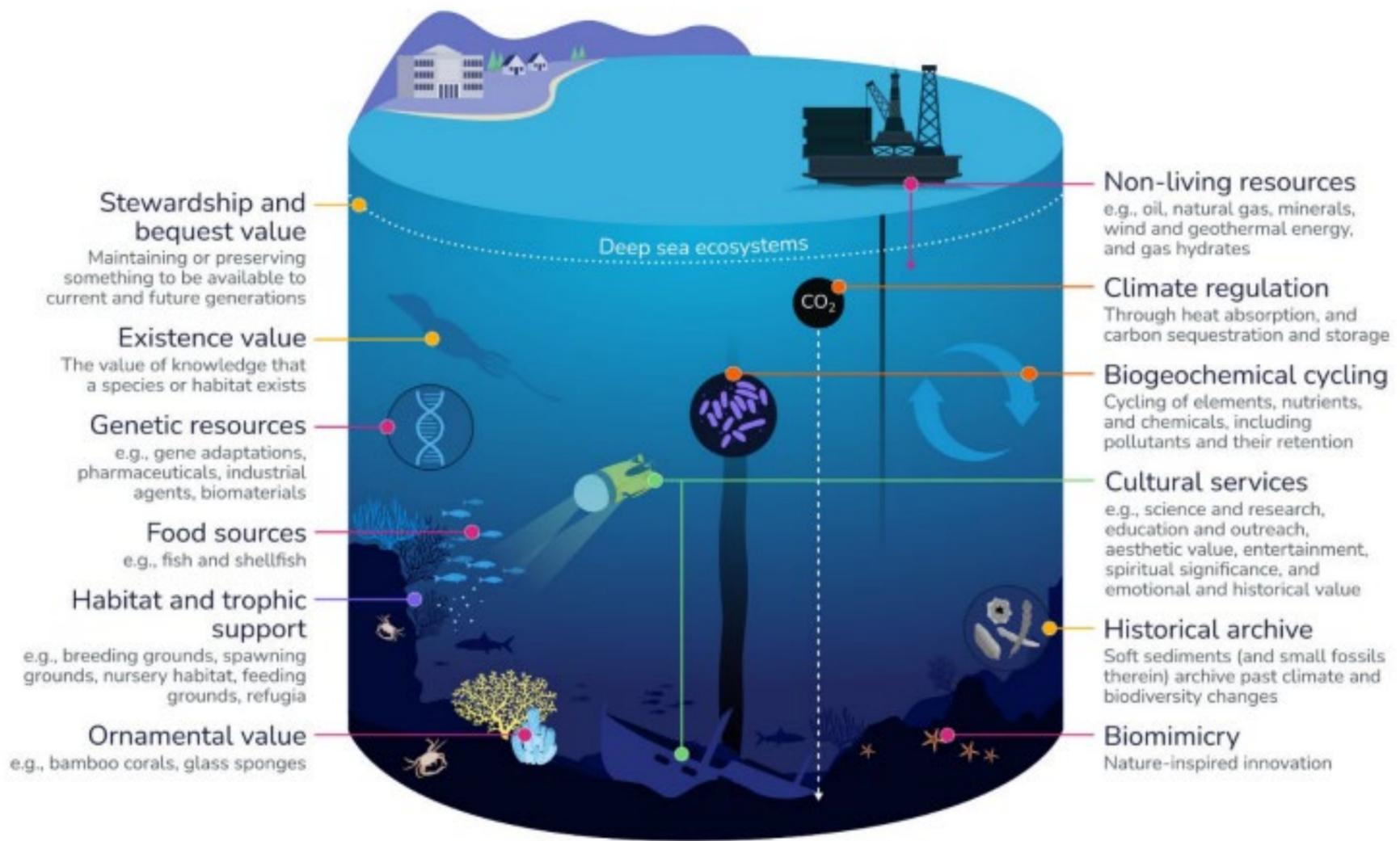
Prepared in collaboration with IATTC Observer, The Ocean Foundation

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DSM and the Marine Environment



Figure 1: Categories of ecosystem services and deep-ocean examples of each category. Illustrated by Stacey McCormack.

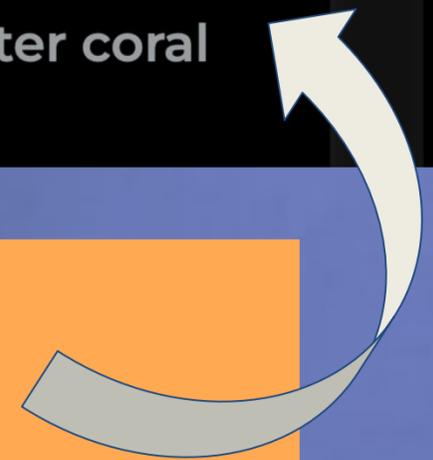


- KEY**
- Provisioning services: result in tangible goods and/or products
 - Regulating services: contribute to the natural production and resilience of habitats and ecosystem processes
 - Supporting services: underlying ecosystem functions that are essential to produce other services
 - Cultural services: non-material benefits deriving from nature
 - Biodiversity values: biodiversity has intrinsic value, but is also the source of most ecosystem services



How close did the world's first deep-sea mining come to the dredging the world's largest cold-water coral reef?

Blake Plateau



Human Rights, Indigenous Rights Holders, UCH



 **Astrid Puentes Riaño** (She/Her) •  • Following
Relatora Especial de la ONU para el derecho humano al ambiente sano, li...
4w • 

Oceans 🌊 are fundamental for our planet 🌍 specially for Indigenous Peoples and everyone that depends more directly from them.

#Deepseabed mining risks to cause severe and irreversible damage to oceans, including all biodiversity, and many essential contributions, even unknowns, that oceans and deep seabed has, such as production of dark oxygen.

THE OCEAN FOUNDATION

UNDERWATER CULTURAL HERITAGE (UCH) AT RISK

DEEP SEABED MINING WILL DESTROY UCH:
SHIPWRECKS, HUMAN REMAINS, IMPORTANT CULTURAL PLACES

TMC website (September 16, 2024): Nodule exploitation also means no disruption to Indigenous communities

 **Michel Forst** @ForstMichel · Mar 18

Speaking at @Greenpeace during #ISBA29 to remind that #OceanDefenders:

- 1 Are #EnvironmentalDefenders
- 2 Have a right to #ProtestAtSea
- 3 Face outrageous restrictions to do so from @ISBAHQ

➔ I urge Member States to call on @ISBAHQ SG to stop to stifling #OceansDefenders' voice



This is a message to Member States of the International Seabed Authority

LOURDES A. LEON GUERRERO
GOVERNOR



JOSHUA E. TENORIO
LT. GOVERNOR

UFISINAN I MAGA'HĀGAN GUĀHAN
OFFICE OF THE GOVERNOR OF GUAM

FOR IMMEDIATE RELEASE—February 26, 2026

Tenorio to Feds: "We're Not Interested in Being Guinea Pigs Out Here"
GovGuam leadership tells visiting Department of the Interior officials of opposition to accelerated undersea mining plans in the Marianas



Indigenous Voices Call For a Ban on Deep Sea Mining



American Samoa Governor places moratorium on seabed mining

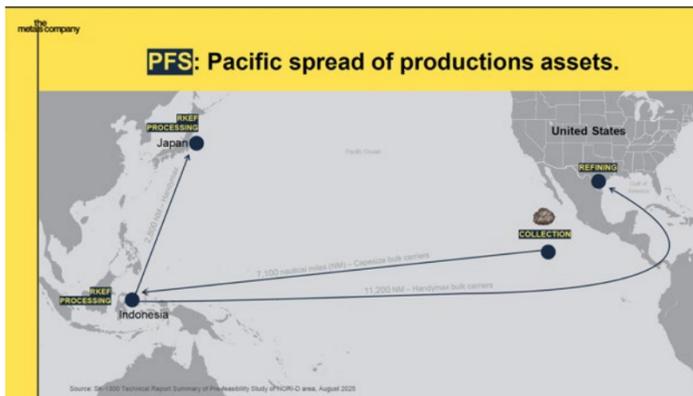
DSM Feasibility Questions

Technical

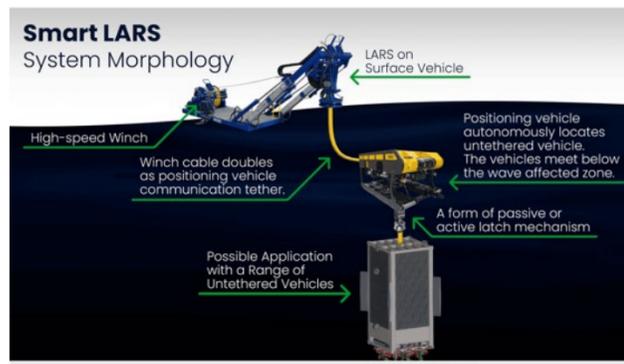


Economic

TMC June 2025: Hidden Gem engineering 21.6% complete; collection system unfinalized and has not been built at scale



- Massive R&D for alternative (cheaper & easier) materials: EV batteries moving from cobalt & nickel
- Metals price fluctuations
- Criticisms of CAPEX and OPEX estimates - 64% of hydrocarbon megaprojects face cost overruns with the average overrun cost for oil and gas projects costing 51% more than the expected budget (why could DSM fare better?)
- Metals have never been extracted at commercial scale from the seabed



Impossible Metals: Eureka IV has not been built; imagines a fleet constantly at sea, and constantly in motion

v6.2 TechnoEconModel - © Copyright 2025, Impossible Metals Inc. All rights reserved.

Parameter	Units	Adjusted	Selected
Vehicle Parameters			
Vehicle_Harvest_Travel_Speed	m/s	0.043	0.043
Width	m	2.430	2.430
Length	m	2.590	2.590
Total_Collection_Weight_Dry	Kg	12000	12000
Horizontal_Drag_coefficient		1.500	1.500

Report

Technical Report Summary of Prefeasibility Study of NORI Area D, Clarion Clipperton Zone
TMC the metals company Inc.

AMC Project 0225054
30 July 2025
Effective Date: 4 August 2025

DSM Industry - Early Stage Companies Seeking Funds



Norway: 4 year pause on DSM licenses; companies either bankrupt or “seeking other markets” (Adepth)

The Metals Company

- TMC stated on investor call Aug 2025 that will be going after US funding and are confident about receiving it

Impossible Metals

- Requesting royalty free lease of OCS off of American Samoa, full rights to transfer that lease, and guaranteed purchase of minerals by US government
- Offering voluntary 1% royalty on profits to American Samoa

GROWING FINANCIAL RESISTANCE TO DEEP-SEA MINING FROM INSTITUTIONS MANAGING €24 TRILLION IN ASSETS



OUT OF OUR DEPTH

Mining the Ocean Floor in Papua New Guinea

Financialization, Indigenous Resistance and the Case of Deep-Sea Mining in American Samoa

Questions?

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Salt Horizon LLC

