



BOEM BUREAU OF OCEAN
ENERGY MANAGEMENT

Outer Continental Shelf (OCS) Mineral Leasing

Commonwealth of the Northern Mariana Islands (CNMI)
& Guam

February 2026

BOEM Pacific Region

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Presentation Topics

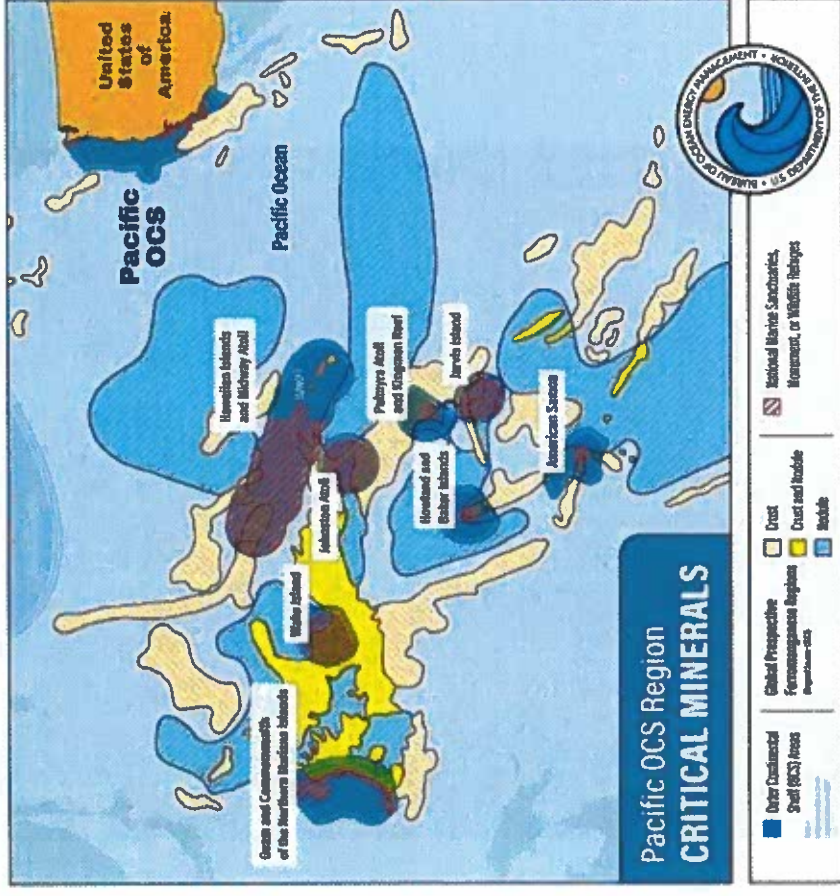
1. Overview of BOEM's Role
2. Overview of the OCS Minerals Lease Sale Process
3. Request for Information and Interest (RFI) Comments Received
4. Ongoing/Planned U.S. Pacific Seabed Mineral-Related Studies
5. Next Steps

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Bureau of Ocean Energy Management (BOEM) Overview

- BOEM manages the development of energy, mineral, and geological resources on nearly 3.2 billion acres of the U.S. Outer Continental Shelf (OCS) in an environmentally and economically responsible way.
- BOEM is one of the 11 Bureaus of the U.S. Department of the Interior (DOI) and has three regional offices.
- BOEM's Pacific OCS Region includes:
 - All submerged lands lying beneath the ocean within the U.S. exclusive economic zone (EEZ) beyond coastal waters off California, Oregon, Washington, and Hawai'i (3 miles from the coastline to approximately 200 miles offshore).
 - Submerged lands within the EEZ adjacent to all U.S. territories included in the definition of OCS in the Outer Continental Shelf Lands Act in the Inflation Reduction Act of 2022.



Seabed Minerals

The infographic features a central map of the world's oceans with five callout boxes pointing to different seabed locations. Each box contains a small circular image of the mineral type, a title, and descriptive text. The locations are: 1. Abyssal plains (top left), 2. Seamounts and ridges (middle left), 3. Seafloor spreading centers and arcs (center), 4. Continental margins and shelves (middle right), and 5. Coastal environments (bottom right).

POLYMETALLIC NODULES
also known as manganese nodules, spherical, ranging from 2-15 cm, found on the seafloor
nickel, copper, cobalt, manganese, rare earth elements, possibly titanium, tellurium, lithium
3,500 to 6,000 meters deep
Occur on or near the top of soft sediments of abyssal plains

COBALT-RICH FERROMANGANESE CRUSTS
also known as polymetallic crusts, layered encrustations forming on rocks, typically less than 25 cm thick
manganese, cobalt, nickel, copper, rare earth elements, possibly tellurium, scandium, platinum
400 to 7,000 meters deep
Occur on the sides and summit of seamounts and ridges

POLYMETALLIC SULFIDE DEPOSITS
also known as seafloor massive sulfide deposits, occur as chimneys, mounds, and accumulations below the seafloor. They form at oceanic spreading centers and in arcs and back-arc and generally have seafloor footprints on the order of 100-1000 m
copper, zinc, gold, silver, and potentially antimony, bismuth, gallium, tellurium, germanium
100 to 7,000 meters deep
Occur globally along active tectonic boundaries

HEAVY MINERAL SANDS
NEARSHORE MINERALS
also called placer deposits, sedimentary deposits that accumulate within sand, silt, and clay in coastal environments
ilmenite, magnetite, rutile, monazite, zircon

PHOSPHORITES
NEARSHORE MINERALS
also called phosphorite rock, derived from invertebrate shells, vertebrate bones, and upwellings near continental margins and shelves
Carbonate-fluorapatite, rare earth metals

Seabed minerals are mineral deposits that may contain critical minerals (e.g., nickel, cobalt, manganese, and rare earth elements).

BOEM Regulatory Pathway for OCS Mineral Leasing



Territorial Government and community engagement occurs throughout the process

★ = Current step in the process for the CNMI

Authorized Activities on a Lease and Additional Approvals

Authorized Activities on a Lease (30 CFR 582):

- o Conduct Preliminary Activities (582.21(d))
 - o Perform bathymetric, geological, geophysical, mapping, and other surveys to support development of a comprehensive Delineation, Testing, or Mining Plan(s)
- o Submit Plan(s) (582.21(b) and (c)) for Technical and Environmental Reviews and Receive BOEM Approval Prior to Conducting Activities
 - o Plans include:

Delineation Plan

Activities to locate leased OCS minerals, characterize the quantity and quality of the minerals, and generate other information needed for the development of a comprehensive Testing or Mining Plan.

Testing Plan

For any of the following activities:

- To collect more information to develop a detailed Mining Plan,
- To prepare feasibility studies,
- Pilot program(s) to evaluate processing techniques or technology or mining equipment,
- To determine environmental effects by a pilot test mining operation.

Mining Plan

Comprehensive detailed descriptions, illustrations, and explanations of the proposed OCS mineral development, production, and processing activities and lessee's proposed plan of operation.



CNMI Request for Information and Interest (RFI)

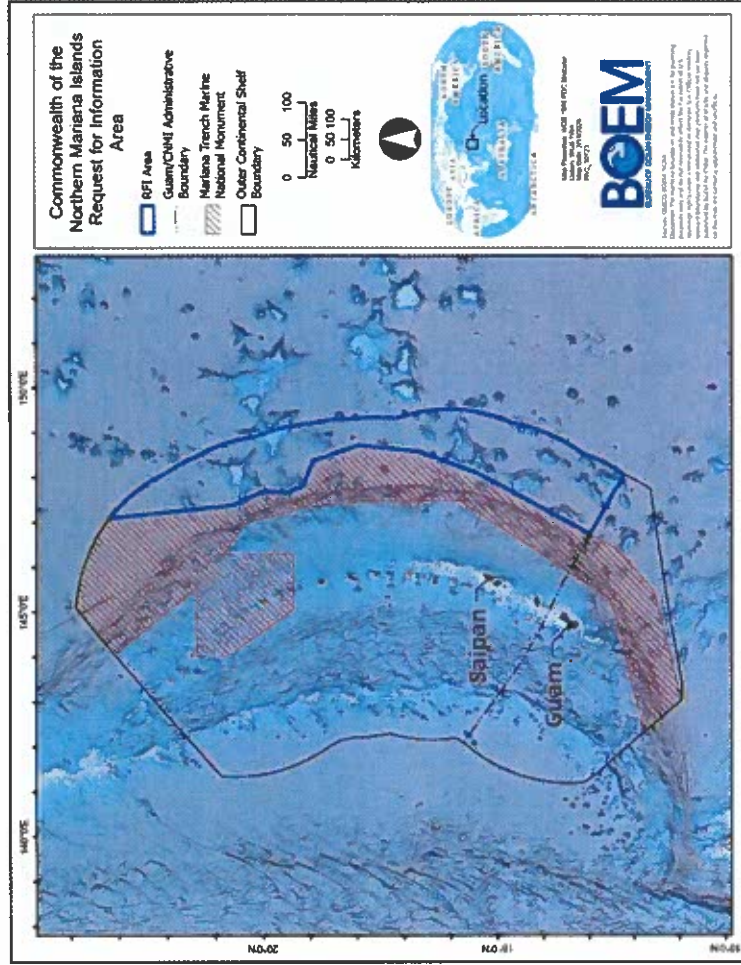
RFI published in the Federal Register (November 12, 2025)

- Gathered information on and interest in leasing OCS minerals in and around the RFI Area:
 - Industry interest, geologic conditions, potential environmental and cultural impacts, and multiple uses (e.g., navigation, fishing); See Section 6 of the RFI (Types of Information and Comments Requested)
- RFI Area: located east of the Mariana Trench National Monument along the eastern edge of the U.S. Exclusive Economic Zone (Northern Mariana Islands).

RFI Comment Period (November 12, 2025 – January 12, 2026)

- Comment period was extended at the request of the Governors of the CNMI and Guam.
- Total of 65,585 comments received (1,672 unique; 58,592 copies associated with 29 form letter campaigns; and 5,321 duplicate/non-germane).
- Several indications of interest in leasing OCS minerals received.
- Submissions included information to inform the leasing process.

Additional information: <https://www.boem.gov/Northern-Mariana-Islands>



Summary of Comment Themes – Environmental, Studies



Environmental

- Concerns about potential irreversible damage to deep-sea ecosystems and potential threats to marine life, fisheries, and ecosystems.
- Concerns about the slow recovery of benthic communities and suggested mitigation measures (e.g., plume elimination, selective harvesting, third-party monitoring, spatial restrictions, avoidance zones and buffers).
- Concerns about sediment plumes and potential impacts on benthic communities.
- Concerns about potential transboundary impacts across neighboring islands.
- Requests that BOEM considers Guam's Resolution No. 132-38 (COR), which is a moratorium on deep-sea mining and opposes BOEM's offshore mineral leasing proposal near the CNMI.

Studies

- Concerns about the lack of comprehensive baseline data and ongoing environmental monitoring.
- Requests for full environmental surveys of potential environmental, ecological, and economic impacts.
- The Governments of both the CNMI and Guam, and other commenters, requested comprehensive scientific data, research, baseline environmental information, and an Environmental Impact Statement (EIS).

Summary of Comment Themes – Culture, Socioeconomic



Chamorro and Carolinian Culture

- The CNMI Government and others requested meaningful government-to-government consultation and community engagement.
- The Government of Guam shared joint opposition to the proposed commercial leasing of OCS minerals offshore the CNMI, and requested a halt to the leasing process, inclusion of Guam in further discussion and decisions, and assurance that any future policy aligns with U.S. commitments to Indigenous rights and environmental protection.
- Requested that BOEM fully consult with the Indigenous people of the CNMI.
- Concerns that deep-sea mining would destroy underwater cultural heritage sites.

Socioeconomic

- The CNMI Government requested clear economic benefit pathways prior to any leasing decisions.
- Concerns that current proposals do not guarantee local job creation, investment in infrastructure, or meaningful benefit sharing frameworks with the CNMI or Guam.
- Concerns about potential impacts to commercial and subsistence fisheries, including commercially important fish species.
- Concerns about potential impacts on tourism and recreation in the CNMI and Guam.



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Summary of Comment Themes – Technology, Deep-Sea Mining Industry

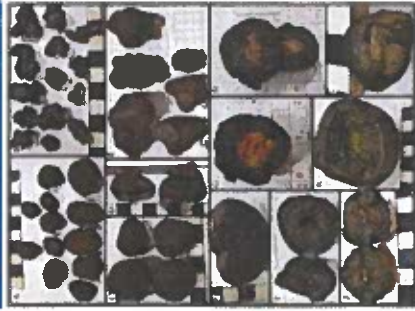


Technology and Industry Readiness

- Support that leasing could mitigate national security risks, provide large quantities of critical minerals, and support ocean resources economy initiatives.
- Concerns that deep-sea mining is economically unfeasible due to falling demand and prices for critical minerals, rising operational costs, and advances in battery technology.

Deep-Sea Mining Industry

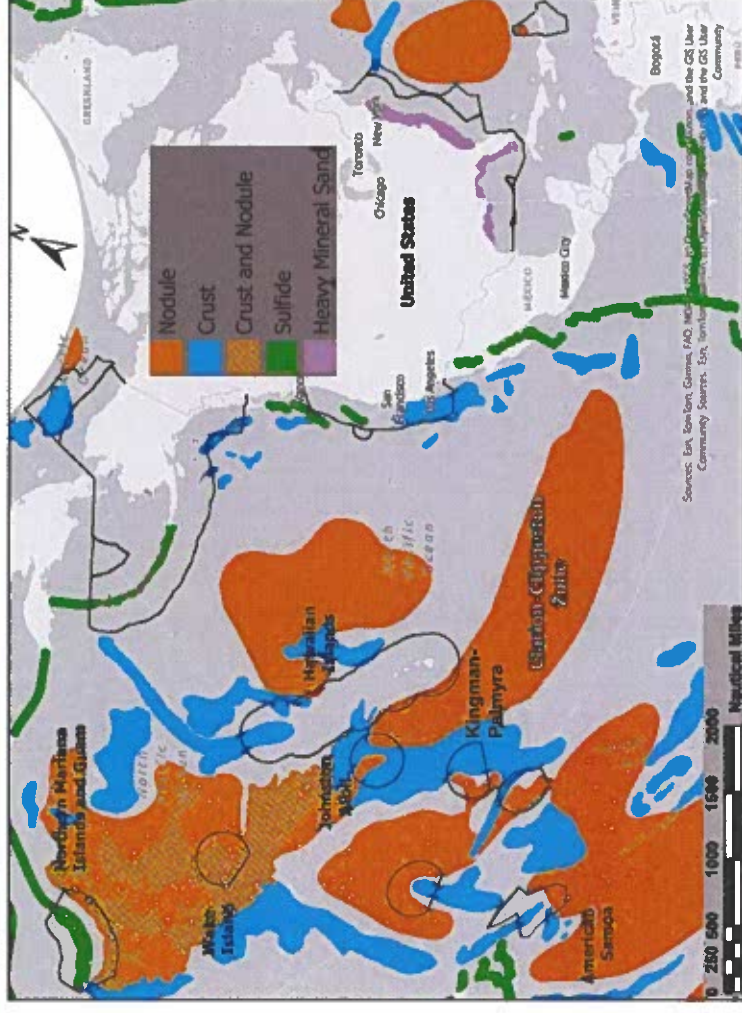
- Comments that support advancing exploration and evaluation of potential commercial leasing.
- Indications of interest identified areas of interest in the RFI Area for polymetallic nodules as well as interest in polymetallic sulfides.
- Comments that the area may contain ferromanganese crusts and nodules and could be suitable for development, and recommendations for excluding seafloor sulfide and crust resources from future leasing.
- Comments regarding rent and royalty rates, lease size, lease contraction, and auction format.
- Requests for a clear leasing schedule to allow for the incorporation of ongoing data collection efforts.



Implementing the U.S. Offshore Critical Minerals Mapping Plan as Defined by E.O. 14285

Planned 2026 U.S. Pacific Ocean interagency survey efforts. Typically, NOAA-led but planned and executed in collaboration with USGS and BOEM:

- o **American Samoa** – Major mapping and box core survey effort currently underway. Planning summer/fall ROV operations using NOAA Ship *Okeanos Explorer*.
- o **Guam and the CNMI** – Spring 2026 Saildrone mapping effort. Planned summer E/V *Nautilus* expedition with ROV and AUV operations.
- o **Kingman-Palmyra** – Planning potential multibeam and benthic AUV surveys.



Map of areas of the U.S. OCS and USGS prospective areas of higher mineral concentrations (NOAA/USGS)

Additional Ongoing/Planned U.S. Pacific Seabed Mineral-Related Studies

Characterization of Water Column Habitats

- Opportunistic collection of baseline data led by University of Alaska-Fairbanks

Socioeconomic Description and Analysis of Pacific Island Fisheries

- Summarize and analyze existing information on commercial and non-commercial fisheries in the U.S. Pacific Islands. (In procurement)

Sediment Plumes and Potential Environmental Impacts

- Initiating a sediment plume study program that includes several component pilot efforts. Anticipate expanding the effort in FY2027. (In procurement)

Sea Turtle Distribution

- Partner with PIFSC to expand sea turtle tagging efforts. Potential future expansion for marine mammals. (In procurement)

Ports Assessment

- Assess near-term ports capabilities to support prospective seabed mineral development. (In procurement)

Technology Assessment

- Current and future deep-sea mining-related exploration and extraction technology, led by MITRE Corporation. (In procurement)



AUV *Orpheus* deployment from E/V *Nautilus* in May 2024.
Image courtesy of Ocean Exploration Trust.

Next Steps

- Review of public comments from the RFI
- Consider areas for potential leasing
- NEPA review on areas considered for potential leasing
- Continue coordination with the Government of the CNMI, Government of Guam, and other key partners
- Continue planning potential environmental and technical study ideas
- Collaborate with federal and regional partners on science and policy needs



Photo credit: USGS



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