

The National Oceanic and Atmospheric Administration (NOAA) is reviewing applications from The Metals Company (TMC USA) for a license to conduct seabed mining exploration activities within the Clarion-Clipperton Zone (CCZ). Public comments are part of this process.

There are two applications. Click Application A or Application B to download it.

- Application A: amended application received 7/27/2025.
- Application B: second amended application received 7/28/2025.

**Written comments** must be received by **February 23, 2026**. All public written comments must be submitted via the government e-portal links provided. Submit a comment on Application A or Application B or submit two comments to respond to both.

- For TMC USA [Application A](https://www.regulations.gov/docket/NOAA-NOS-2025-0702), go to: <https://www.regulations.gov/docket/NOAA-NOS-2025-0702>
- For TMC USA [Application B](https://www.regulations.gov/docket/NOAA-NOS-2025-1330), go to: <https://www.regulations.gov/docket/NOAA-NOS-2025-1330>

To enter your comment, click the link for Application A or Application B above. Then click the blue **Open for Comments** button. On the next page, click the **Comment** button in the lower right.

Note that your personal information (e.g. name, address) will be publicly accessible; do not submit confidential or sensitive data. (Enter N/A if you wish to remain anonymous.)

**Oral comments** can be made at virtual public hearings via Adobe Connect, on January 27 or January 28, 2026. Attendance is limited to 1000 for each date; therefore, register for one hearing only. Indicate when you register that you want to speak. At the hearing, you will be asked to refer to Application A or B or both. Speakers have three minutes, on a first come/first served basis. NOAA will not respond to oral comments or questions. Hearings will be recorded and transcribed, including names provided by each speaker.

- Use this link to register for either hearing, to receive an Adobe Connect link to the hearing. link: [https://noaabroadcast.adobeconnect.com/evxcqr87egzq/event/event\\_info.html](https://noaabroadcast.adobeconnect.com/evxcqr87egzq/event/event_info.html).

The complete instructions are available at the Federal Register website [HERE](#).

## DEEP-SEA MINING – BACKGROUND

Polymetallic nodules are targets of deep-sea mining. These potato-sized accretions of manganese, nickel, copper, cobalt are strewn across abyssal plains and are especially rich in the Clarion-Clipperton Zone (CCZ), a 1.7-million-square-mile stretch from Hawaii to Mexico. The nodules form very slowly, over millions of years, and are not just rocks but rich ecosystems.[1]

Proponents of deep-sea mining say minerals are needed for green technology and can lessen the need for damaging terrestrial mining, with little environmental impact underwater. But deep-sea mining is not needed, not easy, and not risk-free. Too little is known about the deep sea to say what might be lost. Perhaps 90% of CCZ species are new to science.[2] A moratorium is backed by many scientists and at least 48 countries.[3]

## ARGUMENTS AGAINST DEEP SEA MINING[4]

- The mining process involves a seafloor collector, vertical transport to a surface vessel, and discharge of sediments and water back into the ocean. There would be direct damage to the seabed and its life. Carbon stored in the seafloor could be disturbed. Sediment plumes and noise could harm delicate animals in midwater ecosystems that are key to ocean food webs and carbon export.[5]
- Long-term effects are hard to predict, but habitat and diversity loss could linger for decades.[6]
- There are technical and financial challenges to operating heavy machinery in the deep sea.[7]
- Other terrestrial sources of minerals exist. Recycling can improve. Evolving technology may turn to alternate minerals.[8]

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## REFERENCES:

[1] The Deep Sea, Huang S, Dec 2025 (<https://cloudyclimate.org/?p=1533>)

[2] Deep sea life and biodiversity

- Rabone M et al, 2023. How many metazoan species live in the world's largest mineral exploration region? (<https://doi.org/10.1016/j.cub.2023.04.052>)
- Paulus E, 2021. Shedding Light on Deep-Sea Biodiversity—A Highly Vulnerable Habitat in the Face of Anthropogenic Change (<https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2021.667048/full>)

[3] Calls for a moratorium

- Momentum for a moratorium (<https://deep-sea-conservation.org/solutions/no-deep-sea-mining/>)
- Marine expert statement calling for a pause to deep-sea mining (<https://seabedminingsciencestatement.org>)

[4] General references

- Deep-sea mining factsheets (<https://deep-sea-conservation.org/solutions/no-deep-sea-mining/deep-sea-mining-factsheets/>) such as “the ecosystems at risk and potential impacts”
- Chandrasekhar A et al, 2024, updated Nov 2025. Carbon Brief Q&A: What does deep-sea mining mean for climate change and biodiversity loss? (<https://interactive.carbonbrief.org/deep-sea-mining/index.html>)

- Alberts EC, Jul 2025. Challenges persist in TMC's bid to mine the deep sea, even after boost from Trump (<https://news.mongabay.com/custom-story/2025/07/challenges-persist-in-tmcs-bid-to-mine-the-deep-sea-even-after-boost-from-trump/>)
- Roberts CM et al, Jun 2025. Why we should protect the high seas from all extraction, forever (<https://www.nature.com/articles/d41586-025-01665-0>)

[5] Midwater ecosystems

- Dowd MH et al, Nov 2025. Deep-sea mining discharge can disrupt midwater food webs (<https://doi.org/10.1038/s41467-025-65411-w>)
- Drazen JC et al, 2020. Midwater ecosystems must be considered when evaluating environmental risks of deep-sea mining (<https://doi.org/10.1073/pnas.2011914117>)

[6] Long-term effects

- Mulkey SK, Dec 2025. What scientists found when a deep sea mining company invited them in [paywall] (<https://www.nytimes.com/2025/12/05/climate/deep-sea-mining-ecosystem.html>).
- Three scientific papers:
  - Jones DOB et al, Mar 2025. Long-term impact and biological recovery in a deep-sea mining track (<https://doi.org/10.1038/s41586-025-08921-3>) [Impacts persist after four decades]
  - Stewart ECD et al, Dec 2025. Impacts of an industrial deep-sea mining trial on macrofaunal biodiversity (<https://doi.org/10.1038/s41559-025-02911-4>) [After 2 years, the number of macrofaunal species decreased by 37% and variety also declined]
  - Vonnahme TR et al, 2020. Effects of a deep-sea mining experiment on seafloor microbial communities and functions after 26 years (<https://doi.org/10.1126/sciadv.aaz5922>) [Still visible plough tracks and reduced microbial activity]

[7] Technical and financial challenges

- Barnard M et al, Aug 2025, National Ocean Protection Coalition report. A techno-economic assessment of seabed mining (<https://www.oceanprotectioncoalition.org/dsmfeasibility>)
- Alberts EC, Jul 2025. Challenges persist in TMC's bid to mine the deep sea, even after boost from Trump (<https://news.mongabay.com/custom-story/2025/07/challenges-persist-in-tmcs-bid-to-mine-the-deep-sea-even-after-boost-from-trump/>)

[8] Deep-sea mining not needed

- Crane R et al, 2024. Deep-sea mining poses an unjustifiable environmental risk ([https://www.researchgate.net/profile/Kathryn-Moore-10/publication/379866153\\_Deep-sea\\_mining\\_poses\\_an\\_unjustifiable\\_environmental\\_risk/links/67fce5c860241d51400be17d/](https://www.researchgate.net/profile/Kathryn-Moore-10/publication/379866153_Deep-sea_mining_poses_an_unjustifiable_environmental_risk/links/67fce5c860241d51400be17d/))
- Amon DJ et al, 2022. Heading to the deep end without knowing how to swim: do we need deep-seabed mining? (<https://doi.org/10.1016/j.oneear.2022.02.013>)