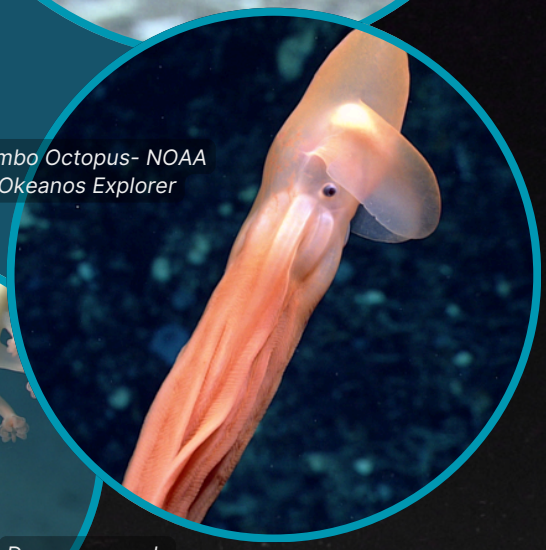
Sargasso Sea Deep Sea Ecosystems

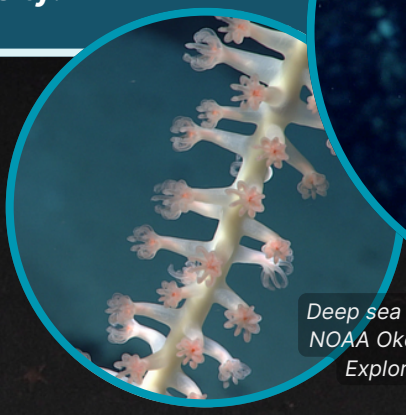
The Sargasso Sea supports a thriving deep sea ecosystem fed by the Atlantic Meridional Overturning Circulation and other water movements and organic matter fluxes.

Viperfish - NOAA Okeanos Explorer

Sargasso Sea seamounts support incredible biodiversity, including the New England and Corner Rise Seamounts, which are described as ecologically or biologically significant areas by the parties to the Conveniton on Biological Diversity.



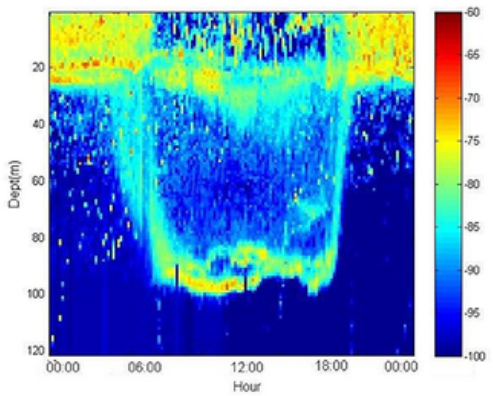
Dumbo Octopus- NOAA Okeanos Explorer



Deep sea coral- NOAA Okeanos Explorer

Photo credit: NOAA Okeanos Explorer

Diel vertical migration



Credit: Danovaro et al 2016

Every day, billions of organisms migrate to the surface of the ocean at night and descend back to the depths during the day. Vertically migrating fishes, cephalopods, crustaceans, and gelatinous organisms transport organic carbon from surface waters into the ocean interior through respiration, excretion, and predation at depth. Movements of these animals in the Sargasso Sea are a big contributor to the ecosystem's carbon sequestration services.

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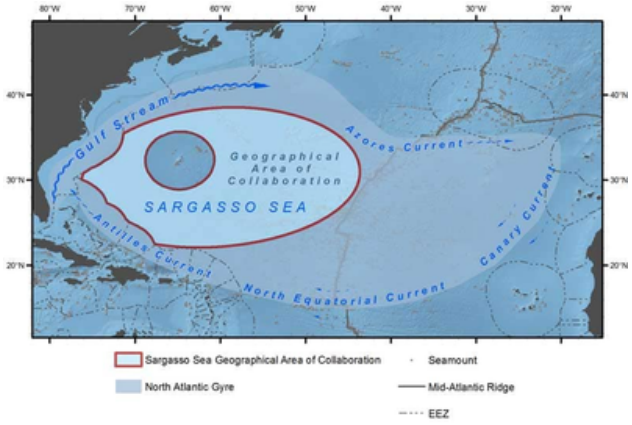
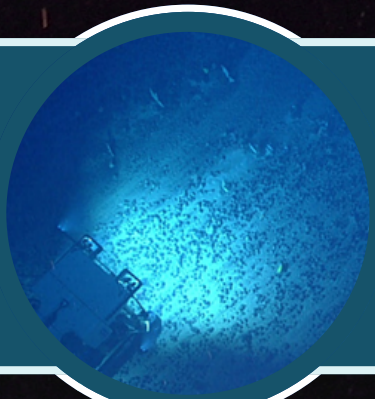
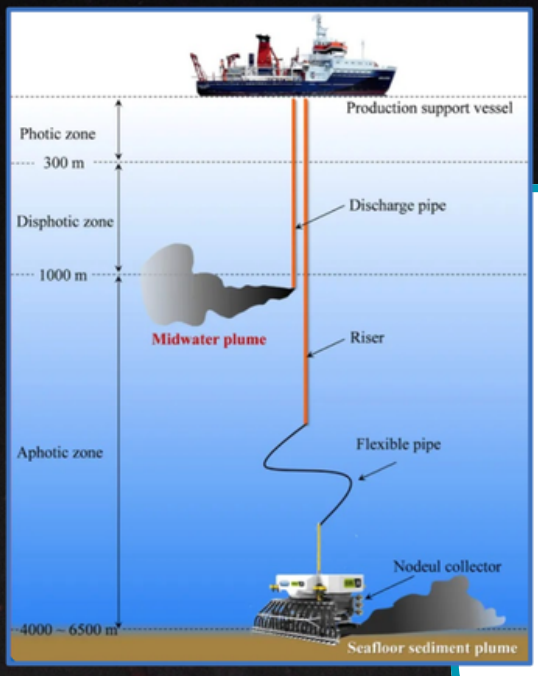
Seabed activity is currently limited in the Sargasso Sea, but deep sea mining poses potential future risks.



Polymetallic sulphides and cobalt-rich crusts are present in the Sargasso Sea.



ROV illuminating ferromanganese nodule field on Gosnold Seamount, New England Seamount Chain. From NOAA, 2021, Dive 17: Gosnold Seamount



Credit: Guo et al 2023

Extraction could have catastrophic effects.

- Deep sea ecosystems are slow growing and fragile. It would take centuries for these ecosystems to recover from the direct damage that comes with deep sea mining.
- Deep sea mining also creates a sediment plume that remains suspended in the water column, which could have knock-on effects for photosynthetic plankton that form the basis of the ecosystem.

Preserving deep sea ecosystem function is essential to the Sargasso Sea's carbon sequestration services. The Sargasso Sea should be protected from potential future threats under the BBNJ agreement.

Photo credit: NOAA Okeanos Explorer

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