Dark Oxygen

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Dark Oxygen Latest News

Scientists exploring the Pacific Ocean seafloor have reported the presence of what they describe as “dark oxygen” in an environment where sunlight does not reach.

About Dark Oxygen

- It is the **oxygen** that is being **produced thousands of feet below the ocean surface, without any light or photosynthesis.**
- The phenomenon was **first observed in 2013 while studying the Clarion-Clipperton Zone,** an area in the **Pacific Ocean** between Mexico and Hawaii.

Why is the Discovery Important?

- **Until now**, it was **thought that oxygen was created only through photosynthesis,** a process that **requires sunlight.**

- Oceanic plankton, drifting plants, algae, and some bacteria are the primary elements attributed to the production of oxygen in the ocean. All these organisms are capable of photosynthesis.
- The production of oxygen **at such depths** is thought to be impossible because **there isn't enough sunlight for plants to do photosynthesis.**
- However, **in this case, oxygen is not being produced by plants.**
- The oxygen **comes out of polymetallic nodules** that are similar in resemblance to lumps of coal.
- These nodules, **made up of metals like manganese, iron, cobalt, nickel, copper,** and lithium, produce oxygen without the process of photosynthesis.
- These **nodules generate enough electricity to drive electrolysis,** which **splits water molecules apart and releases oxygen.**
- The **researchers think the same process**-battery-powered oxygen production that requires no light and no biological process – **could be happening on other moons and planets**, creating oxygen-rich environments where life could thrive.

Source: **TOI**
