

Oceans Great Dying 2.0

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In news- Recently, scientists from Stanford University have warned of an imminent mass annihilation of marine species similar to the extinction of the **Permian era**.

What is Permian era extinction?

- **The Permian era, a period spanning 298.9 million-252.2 million years ago, was a time before the dinosaurs ruled the planet.**
- The planet's biggest mass extinction of species had **wiped out most newly evolved lives in the oceans.**
- **The scientists have found that global ocean temperatures were 10 degrees higher than today** and Oxygen levels were 80 percent lower.
- During this period, **land masses collided to form the supercontinent Pangaea.**
- The **supercontinent was arid and** only a few parts received rainfall round the year.
- However, the large Panthalassic Ocean, which covered much of Earth, was home to many sponge and coral species, ammonites (tiny shelled organisms), brachiopods (invertebrate animals closely related to starfish) and fusulinid foraminifera (single-celled organisms closely associated with modern amoebas). Reptiles began to flourish. Sharks and bony fishes also thrived.
- **Towards the end of the era, a series of volcanic eruptions occurred** in central Siberia, **injecting massive amounts of greenhouse gases (GHG)** into the atmosphere and the **uncontrolled GHG emissions triggered climatic changes.**
- The change in climate after the volcanic eruptions was a death knell for the flourishing and diverse life forms.
- **Roughly 96 per cent of marine species and 70 per cent of land species went extinct. Thus, scientists refer to this period as the 'Great Dying'.**

- Life has bounced back since the Permian extinction. Oceans are the planet's largest ecosystem accounting for 95 per cent of all spaces available for life and hosting 90 per cent of the planet's total species.

Great Dying 2.0-

- Now the scientists have warned that climate change that happened at the end of the Permian era is similar to the one that is unfolding now and called it a Great Dying 2.0.
- Because, oceans are in a churn in the **current era fuelled by human-induced global warming.**
- Scientists have also said that if emissions continue to climb and temperatures reach around 4.9 degrees Celsius by the end of this century, close to about 8% of marine genera could perish by 2100 and 40% by 2300.