

5. IUCN study on De-oxygenation of the Oceans

Prelims Level: Pollution and Waste Management

Mains Level: GS-III Conservation, Environment Pollution and Degradation, Environmental Impact Assessment

Why in News?

- The world's oceans have less oxygen today than they did up to, say, 1950 or 1960, according to a new study.

Highlights:

- The report is the work of 67 scientists from 17 countries around the world.
- The IUCN, the global authority on the status of the natural world and the measures needed to safeguard it, released the study at the United Nations Climate Change Conference currently underway in Madrid.
- According to the findings of the study, the levels of oxygen in oceans fell by around 2 per cent from 1960 to 2010.
- The deoxygenation of the oceans occurred due to climate change and other human activities (such as the nutrient runoff from farm fertilizers into waterways), the report said.

Threats posed by Deoxygenation:

- In many parts of the world, including along the western coast of the United States, fish have been dying en masse — a clear illustration of the ways in which deoxygenation is choking the oceans.
- Also, the loss of oxygen in the oceans can affect the planetary cycling of elements such as nitrogen and phosphorous which are essential for life on Earth..
- As oceans lose oxygen, they become more acidic, a phenomenon that has resulted in some places in shellfish having their shells degraded or dissolved — the so called “osteoporosis of the sea”.
- Apart from their declining oxygen content, oceans have, since the middle of the 20th century, absorbed 93 per cent of the heat associated with human-caused greenhouse gas emissions, leading to mass bleaching of coral reefs.
- Also, since warmer water occupies more space than cooler water, NASA estimates that this is the reason for roughly a third of the rise in sea levels.