Dead Zone

March 26, 2020

- Why in news?
 - Scientists from the National Oceanic and Atmospheric Administration (NOAA) and Louisiana State University have predicted that this spring's record rainfall would produce one of the largestever "dead zones" in the Gulf of Mexico.
- What is a dead zone?
 - Oxygenated "dead zones" occur in waterways wherever algae are overfed by runoff from human activities such as urbanization and agriculture by a phenomenon called eutrophication.
 - Dead zones can be **found worldwide**.
 - Marine dead zones can be found in the Baltic Sea, Black Sea, off the coast of Oregon, and in the Chesapeake Bay.
 - Dead zones may also be found in lakes, such as Lake Erie.
 - The Gulf of Mexico dead zone is the second largest in the world.
 - What causes the dead zone in the Gulf of Mexico?
 - The dead zone is caused by nutrient enrichment from the Mississippi River, particularly nitrogen and phosphorus which come from major farming states in the Mississippi River Valley.
 - These nutrients enter the river through upstream runoff of fertilizers, soil erosion, animal wastes and sewage.
 - •With anthropogenic ally increased nitrogen and phosphorus input, algal blooms develop and the food chain is altered, and dissolved oxygen in the area is depleted.
 - The size of the dead zone fluctuates seasonally, as it is exacerbated by farming practices.

- It is also affected by weather events such as flooding and hurricanes.
- Effects
 - Nutrient overloading and algal blooms lead to eutrophication, which has been shown to reduce biomass and biodiversity.
 - Hypoxic water supports fewer organisms and has been linked to massive fish kills in the Black Sea and Gulf of Mexico.
 - As the Gulf of Mexico is a major source area for the seafood industry, the hypoxic zone results in reduced catch of commercial and recreational fisheries, leading to smaller harvests and more expensive seafood, thus impacting fishermen and coastal state economies.