



City experts connect global warming to fish mortality

'Algal Bloom In Arabian Sea Killing Fish'

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Hyderabad: Ocean sciences experts from Hyderabad and the United States of America (USA) have now linked global warming to the unchecked bloom of a special type of algae in the Arabian Sea. The algal bloom is leading to the death of commercially and ecologically important species of fish.

A research conducted by a joint team of Indian and American experts in ocean sciences revealed that harmful Noctiluca blooms in Arabian Sea are thriving due to global warming.

The Indian National Centre for Ocean Information Services (INCOIS) is conducting further research to decode more secrets behind the fish mortality in the Arabian Sea. INCOIS is a premier ocean sciences research institute dealing with changes in the ocean, monsoons, fisheries and tsunami.

The Noctiluca algae is often reported to occur in patches or blooms in the Northern Arabian Sea. These striking green blooms often appear to glow at night due to a special phenomenon called bioluminescence, earning

DECODING SECRET BEHIND DEATH OF FISHES

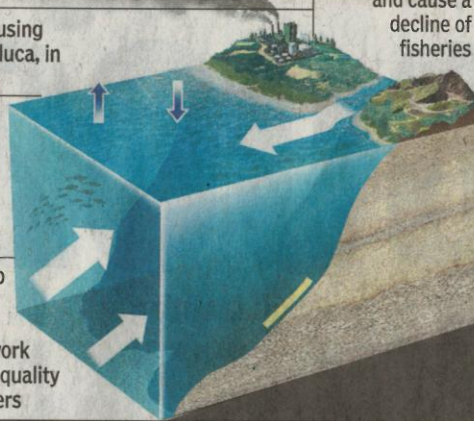
➤ Global warming causing bloom of algae, Noctiluca, in northern Arabian Sea

➤ Warm climate allows seawater layers to stratify more intensely, slowing upward transport of nutrients

➤ INCOIS is setting up Marine Observation System Along Indian Coast (MOSAIC) network for real time study of quality of Indian coastal waters

➤ Global warming may disrupt the fish-food chain and cause a decline of fisheries

Scientists from INCOIS and NOAA used sensors onboard satellites to observe the distribution of diatoms and harmful Noctiluca. In addition, sea conditions, nutrients, and oxygen concentrations were studied with sensors attached to special free-floating and self-propelling Argo floats and chemical analyses of water were collected on board research vessels



them the nickname 'sea sparkle', the study said adding that "unfortunately, these beautiful patches, indicate zones of decline because fish cannot thrive and sometimes die because of these blooms." Noctiluca voraciously eats one of the most important planktonic organisms at the base of the fish-food chain, namely diatoms, and excretes large amounts of ammonia, linked with massive fish mortalities.

According to an official statement here on Wednesday, the success of Noctiluca was previously assumed to be linked with low oxygen and coastal pollution from major Indian cities along west coast. However, this link is stri-

kingly denied by results of a new joint Indo-US study.

Scientists from the city-based INCOIS and National Oceanic and Atmospheric Administration (NOAA) worked together towards 'Development of Predictive Capabilities for Marine Fisheries and Harmful Algal Blooms in Indian Seas' to extensively collect samples and data. The scientists used sensors onboard satellites to observe the distribution of both diatoms and harmful Noctiluca.

In addition, sea conditions, nutrients, and oxygen concentrations were studied with sensors attached to special free-floating and self-propelling Argo floats and chemical analyses of water sam-

ples were collected on board research vessels.

The study suggested that rather than effluents or chemical pollution, it is global warming conditions that are contributing to the observed abundance of Noctiluca in the Northern Arabian Sea. The warming climate will allow seawater layers to stratify more intensely. This will slow the upward transport of nutrients

To further understand the reason behind fish mortalities, the INCOIS is now setting up the MOSAIC (Marine Observation System Along Indian Coast) network of automated moored buoys to monitor and now-cast the quality of the Indian coastal waters.