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Harmful Algal Blooms in Omani and Arabian Sea and Their Effect on Marine Environment

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Abstract : Red tide, one of the harmful algal blooms (HABs) is a natural ecological phenomenon and often this event is accompanied by severe impacts on coastal resources, local economies, and public health. The occurrence of red tides has become more frequent in Omani waters in recent years. Some of them caused fish kill, damaged fishery resources and mariculture, threatened the marine environment and the osmosis membranes of desalination plants. However, a number of them have been harmless. The most common dinoflagellate Noctiluca scintillans is associated with the red tide events in Omani waters. Toxic species like Karenia selliformis, Prorocentrum arabianum, and Trichodesmium erythraeum have also been reported recently. Although red tides in Oman have been considered a consequence of upwelling in the summer season (May to September), recent phytoplankton outbreaks in Oman are not restricted to summer. Frequent algal blooms have been reported during winter (December to March). HABs may have contributed to hypoxia and/or other negative ecological impacts. The effects of HABs on desalination plan were increased in last three years, by blooms of Cochlodinium, noctiluca species, and blooms of jellyfish. Most of these blooms were affected Al Batinah and Muscat coast. These effects include millions of Omani Rials and several shutdowns of desalination plans during these years.

Keywords : red tide, environment, hypoxia, noctiluca
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