



CHINA-SOUTHEAST ASIAN COUNTRIES MARINE COOPERATION FORUM

OCTOBER 26-27, 2021 BEIHAI CHINA

Red tide phenomena along the Eastern Gulf of Thailand

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Thailand has been facing the eutrophication and phytoplankton bloom in several coastal city areas and river mouths that are rich of marine living resources and habitats, similar to other part of the globe. Intensity and often occurrence of the phenomena are more observed during recently years that have been concerning by Government and public. Department of Marine and Coastal Resources (DMCR), Ministry of Natural resources and Environment gives a high priority on the management and mitigation of its impacts including support monitoring water quality and observing phytoplankton bloom programme, particular on the potential biotoxin producing species, to ensure that could assist mitigating the impacts on coastal ecosystem, particular on those related to public health, fisheries, and live and livelihood.

The Eastern Gulf of Thailand is the mainly area of phytoplankton bloom along of Thai coast in 2021 particular Chonburi Province. The microalgae both diatom and dinoflagellate frequently bloom along the coast. Blooms generally dissipate after a rain event. Some beaches can be considered to be potentially eutrophic on the basis of high levels of chlorophyll *a*, phytoplankton density, and nutrients that were measured during the monitoring programme.

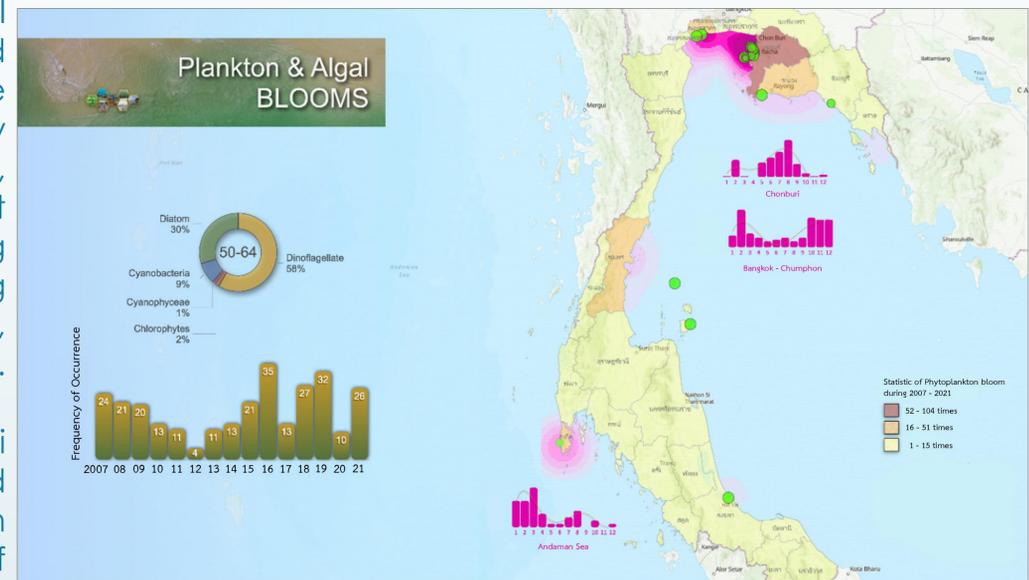


Figure 1. Summary of phytoplankton bloom phenomena were occurred along Thai water, Thailand.



Figure 2. Images of Bangsan Beach, Chonburi Province showing the sea colour change during *Noctiluca scintillans* bloom phenomenon in July 2021 (A) and dominant planktonic organisms, *Noctiluca scintillans* (B), *Chaetoceros* sp. (C), *Thalassionema frauenfeldii* (D), *Tripos furca* (E) during the bloom events (below).

In this monitoring programme, the occurrences of *Noctiluca scintillans*, *Tripos furca*, *Chaetoceros* spp., *Thalassionema frauenfeldii* and *Rhizosolenia* sp. blooming along the Eastern Gulf of Thailand during January – October 2021 were investigated. Those species occurred almost after a rain event (May – September) particularly in Chonburi Province.

With strong support of Thai Government, DMCR will keep work closely with the partners, particular on the multidisciplinary ocean science approach, to build up the our better understand blooming mechanisms that is a basic knowledge for further development of prediction or forecast phytoplankton bloom. It will be benefit to serve the need of the country directly. In this regards, DMCR will keep our active participation in all related to eutrophication and phytoplankton bloom activities of the partners such as HAB, hypoxia, and ocean acidification programmes.

DMCR trust that the strong cooperation in the region could enhance our knowledge and capability through regional capacity development and exchange knowledge to reach our goal to support not only the country need, but also to the region and the globe concerns.

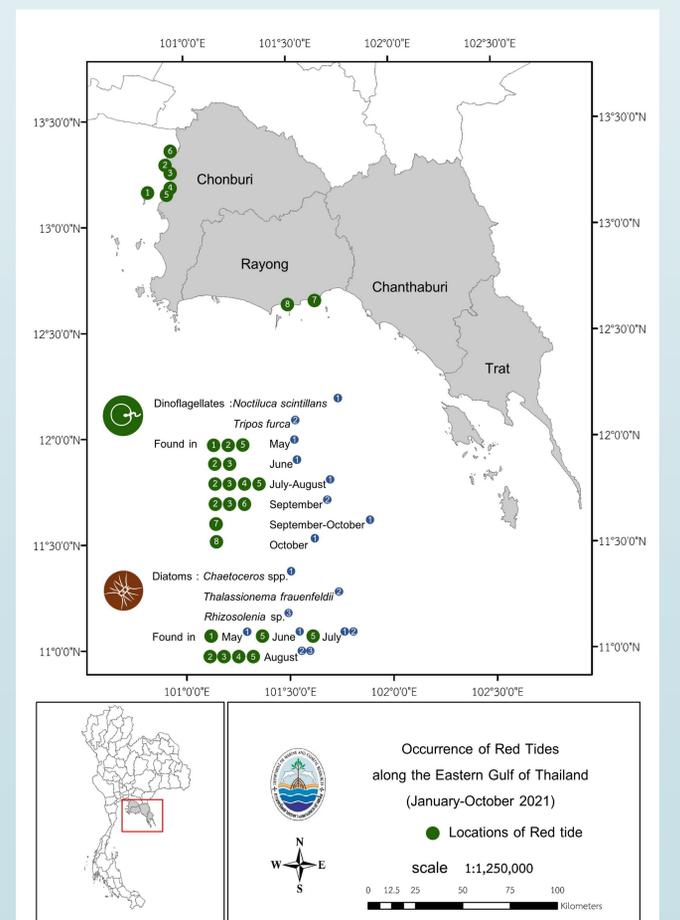


Figure 3. Phytoplankton bloom sites along the Eastern Gulf of Thailand during January – October 2021.