



RSTC3 Meeting  
26-28 Jan 2026  
Phú Quốc

# Are marine habitats in the South China Sea and Gulf of Thailand at risk?

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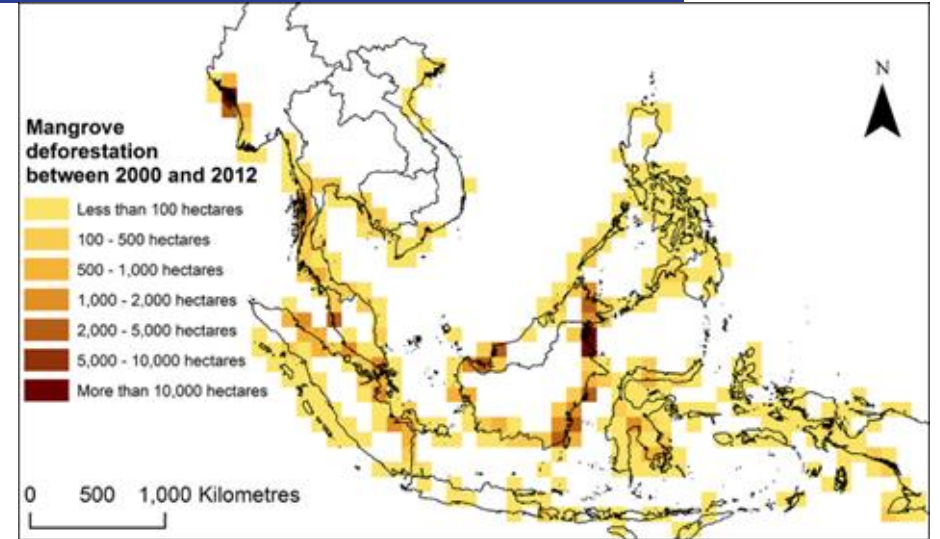
# Trends of changes between the years of 2000s and 2020s

Rate of mangrove loss reduced but still remained

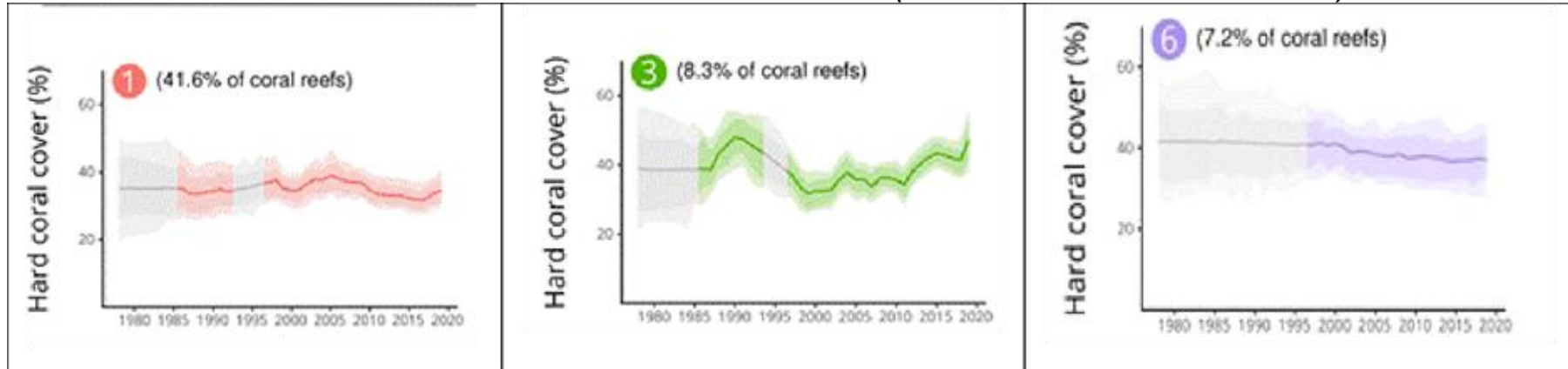
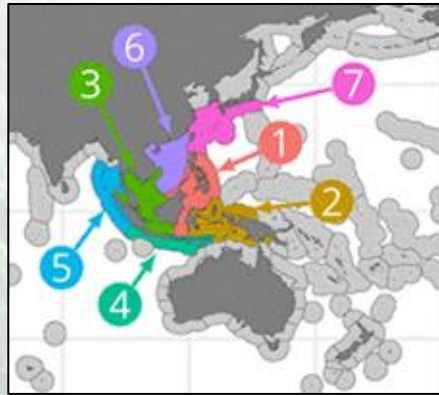
Reduction of the extent and quality of coastal wetland considered a challenge

Reduction of the regional decadal rate of degradation in live coral cover from the 16% to 7%

Seagrass loss remained quite severe, and may even increased in the region



Less severe mangrove deforestation in the SCS and GoT compared with other regions of the SEA (Richards and Friess, 2016)



(Redrawn from Souter et al., 2020)

Figure 1. Trends of changes of coral covers in SCS eco-regions based on long term data collected in monitoring sites (% - portion compared with total EAS reef area)

# Habitat modifications

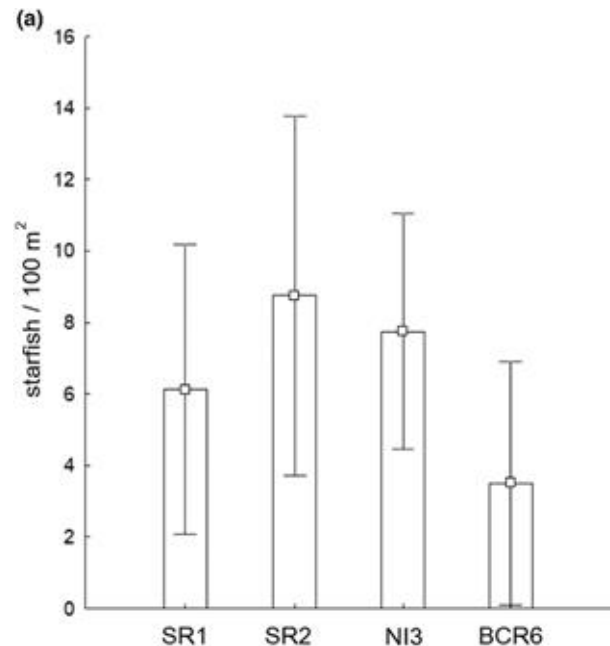


- Changes of communities, including the decline of abundance of habitat-building species and species richness
- Reduction in biomass & fishery resources
- Fragmentation of mangroves
- Loss or decline of endangered, threatened and migrating species
- Outbreaks of coral predators (Crown of thorn starfish)

### Reported deaths of Dugong:

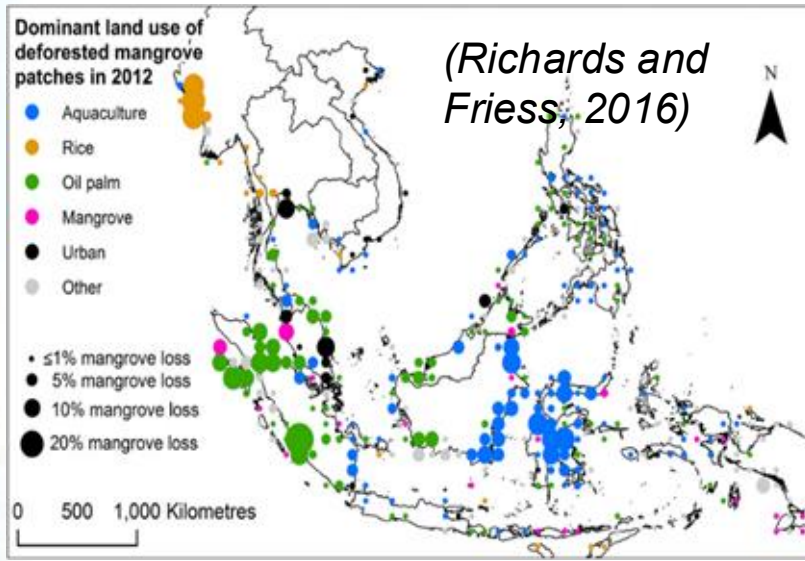
- Thailand (mainly in Andaman Sea): 18 (2022); 40 (2023); 40-48 (2024); >12 (until April 2025)
- Con Dao islands (Vietnam): 1-2 per year (before 2025); 7 (2025); 2 (Jan. 2026)

*Abundance of crown-of-thorns starfish *Acanthaster planci* (±SD) on study sites (2020) in Spratly (Tkachenko & Hoang, 2022)*



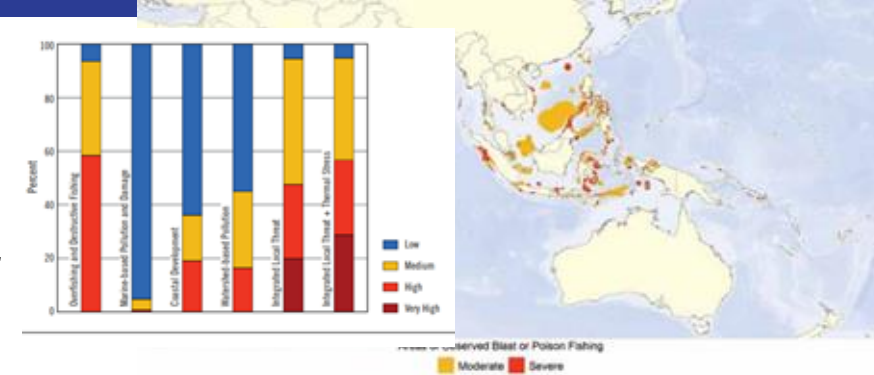


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## Threats and impacts

Table: Ranking risks of human activities to coastal habitats in the SCS & GoT



*Destructive fishing popular & remained severe in the SEA (Burke et al., 2002, 2011)*

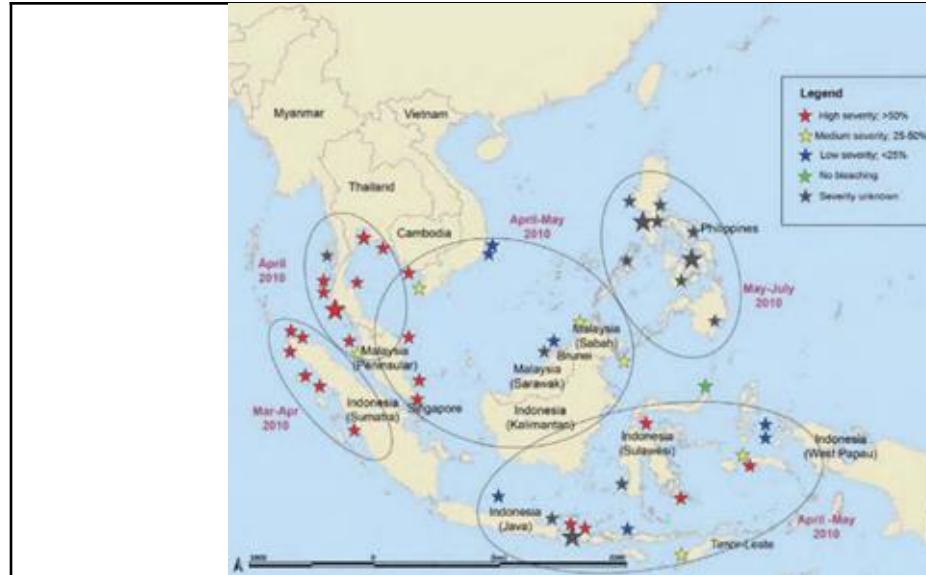
Landfill, sedimentation, eutrophication	2	3	2	1
Reclamation, physical damage, eutrophication, sedimentation	1	2	4	2
Reclamation, pollution	3	1	5	5
Landfill, physical damage, sedimentation	4	4	3	4
Overfishing/ destructive fishing, physical damage	5	5	1	3

## Extreme weather increased and now occurring more frequently in the SCS

- Typhoon
- Flooding
- Catastrophic fire

## Increased SST

**Reduction and loss of resilience to climate change under cumulative pressures of human impacts**



*Status of 2010 coral bleaching in the South East Asia (GCRMN, 2010)*

The impacts of ocean warming on coral reefs are accelerating, with the near certainty that ongoing warming will cause large-scale, possibly irreversible, degradation of these essential ecosystems (Eakin et al., 2025)

During the 3<sup>rd</sup> Global Mass Bleaching Event (2014-2017), the impact on coral reefs in SEA was widespread with the greatest bleaching severity reported in 2016. The bleaching levels varied significantly among eco-regions (Kimura et al., 2018):

- Low in South Vietnam;
- Medium in Southwestern Vietnam,
- Low to medium in Cambodia;
- Low to high in Thailand;
- Medium to high in Singapore;
- Medium in Indonesian SCS.



## Recommended Regional Actions

- Support the effective management of biodiversity hotspots and sensitive areas in the SCS-GoT countries, through guiding management measures and restoration technologies which are appropriate to habitat status, impacts, and resilience at the local levels
- Development and operation of marine protected areas (MPAs) and Other Effective Area-Based Conservation Areas (OECM) networks, and provide support to improve their management effectiveness and ensure ecological connectivity
- Establishment of a regional network for conservation of migrating species, exchanging innovation techniques and management practices across their nesting and feeding areas and preventing bycatch fishing along their migrating routes
- Provision of support to implement measures to ensure resilience to climate change, reducing long term cumulative impacts from anthropogenic threats and planning for unpredictable events
- Improvement of monitoring and evaluation, reporting and policy briefing to enable adaptive management at all levels
- Multiple cooperation for transboundary management of habitat conservation, fisheries refugia, blue carbon, transboundary pollution and protection of migratory species

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