CLIMATE CHANGE RISKS TO THE MARINE AND COASTAL ENVIRONMENT IN SRI LANKA

This is a summary of the first climate change review and risk assessment of the marine environment in Sri Lanka. It presents evidence of changes in key environmental variables, as well as evidence of impacts on marine biodiversity and ecosystem services.

The aim of this study is to guide further research, and strengthen climate policy, preparedness and action in Sri Lanka. The findings from this assessment can also guide adaptation interventions where action is urgently needed to protect vulnerable nature and people.

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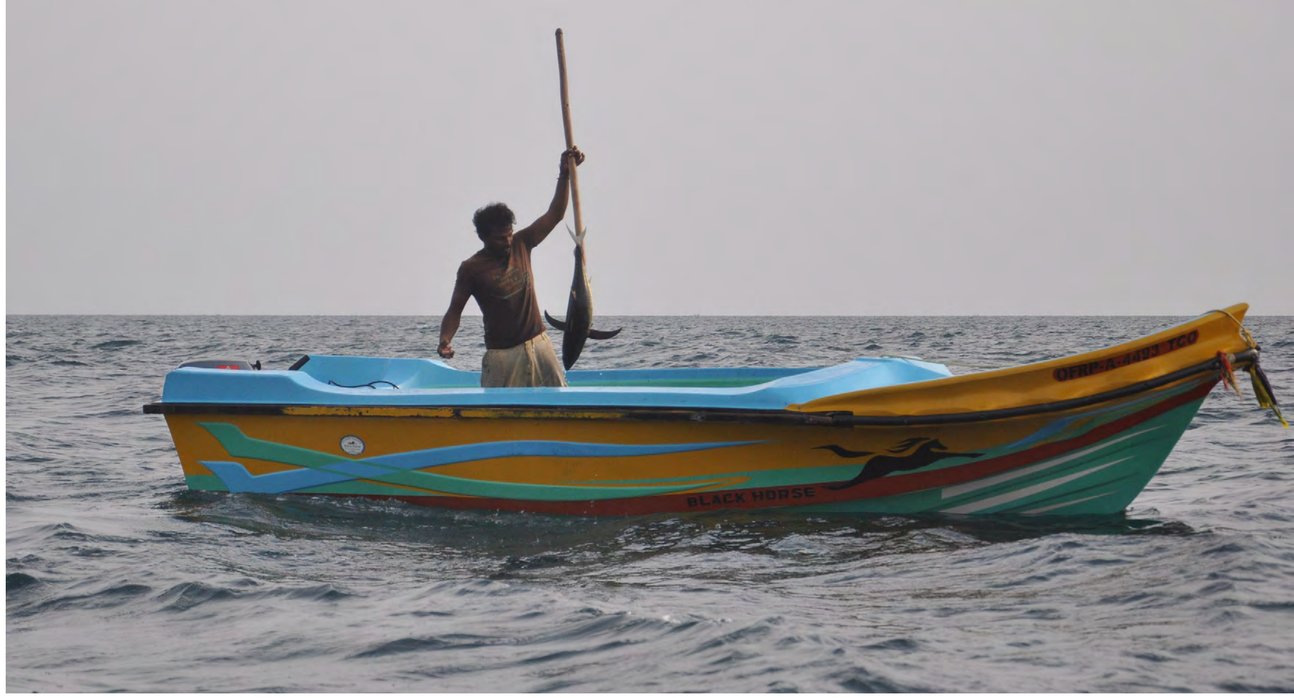
INTRODUCTION

POLICY CONTEXT

Sri Lanka is particularly exposed to marine climate change impacts. A significant proportion of the island's population and infrastructure are located on low-laying coastal plains. The marine Exclusive Economic Zone is six times larger than the land area and provides the island with vital goods and services including food, energy, tourism, commerce and communication. But these marine and coastal ecosystems and services are at risk from shifting and severe environmental conditions.

In Sri Lanka, temperature warming is a key climate change variable, which is having the strongest effect on marine biodiversity and social and economic sectors, while increasing severity of weather events and changes to monsoon patterns are having the most widespread effects, followed by extreme sea level surges and changes in rainfall and oceanic circulation patterns.

Effective climate adaptation measures must be underpinned by a robust scientific evidence base, even more so given the challenges and complexities of marine systems. In this regard, national policies, strategies and actions have already been introduced in Sri Lanka to address climate vulnerability and weather-related hazards and impacts. Sri Lanka also aims to establish accurate oceanographic forecasting and monitoring systems, and high resolution coastal inundation risk maps, and is committed to the protection and restoration of coastal habitats.



CLIMATE RISK ASSESSMENT METHOD

The key marine climate risks for Sri Lanka were extracted following a comprehensive literature review.

Sources of quantitative and qualitative evidence and information were collated, from across different **geographical scales** (see symbols below). The assessment involved determining key variables of marine climate change and identifying risks to biodiversity and to socio-economic sectors. These risks were assessed in terms of **proximity, magnitude** and **confidence** (see symbols below).

The risk ranking and prioritisation was carried out during a workshop event in Colombo in August 2024, with the participation of stakeholders and experts from Sri Lanka.

The following pages summarise the evidence in terms of climate change in marine and coastal environments in Sri Lanka, and the main risks to biodiversity and socio-economic sectors.

The symbols below represent the overall confidence of each risk, based on the amount of, and consensus between, the supporting evidence sources.

LOW CONFIDENCE

MEDIUM CONFIDENCE

HIGH CONFIDENCE

The symbols below represent the type of geographical scale covered by the available evidence supporting each risk.

SITE-SPECIFIC STUDIES

LOCAL STUDIES

REGIONAL STUDIES

GLOBAL STUDIES

KEY CLIMATE RISKS TO THE MARINE ENVIRONMENT IN SRI LANKA

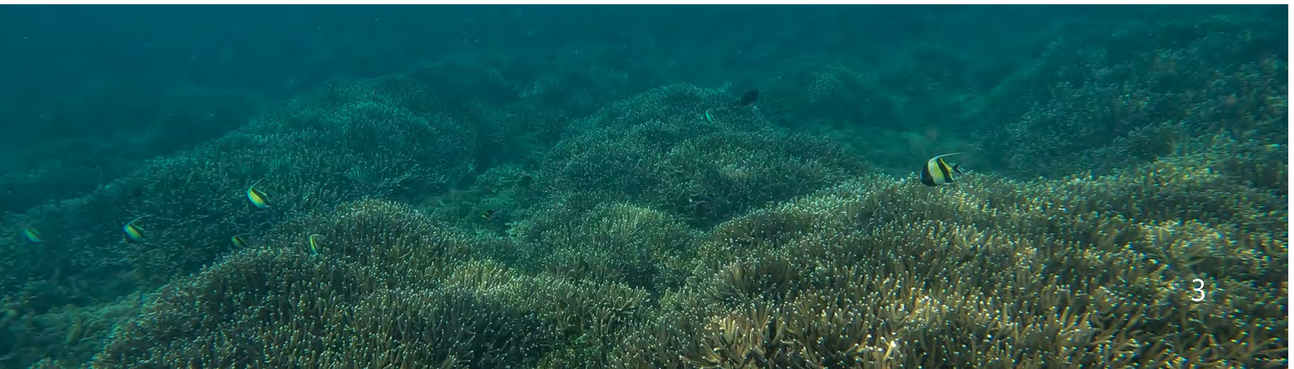
This assessment identified the most significant threats to key marine species and habitats and to important societal and economic sectors in Sri Lanka, which are listed below. The principal climate change hazards represent those most likely responsible for each risk, although other secondary hazards can also contribute.

- SEA-LEVEL RISE AND EXTREME SEA-LEVEL EVENTS
- CHANGES TO OCEAN CURRENTS
- RAISING TEMPERATURE
- CHANGES TO STORMINESS
- OCEAN ACIDIFICATION
- CHANGES TO SALINITY
- CHANGES TO DISSOLVED OXYGEN
- CHANGES TO RAINFALL AND RUNOFF
- CHANGES TO MONSOON

Principal climate change hazard

Secondary climate change hazard

	SEA-LEVEL RISE AND EXTREME SEA-LEVEL EVENTS	CHANGES TO OCEAN CURRENTS	RAISING TEMPERATURE	CHANGES TO STORMINESS	OCEAN ACIDIFICATION	CHANGES TO SALINITY	CHANGES TO DISSOLVED OXYGEN	CHANGES TO RAINFALL AND RUNOFF	CHANGES TO MONSOON
Decline in phytoplankton biomass and productivity									
Disruption of sea turtle habitat suitability									
Increased risk of severe coral bleaching									
Decline in the structure and functioning of coral reefs									
Reduction of coastal mangroves around Sri Lanka									
Decline and retreat of seagrass habitats									
Degradation of sandy shorelines									
Declines in inshore fishery catch potential									
Declines in lagoon fishery catch potential									
Reductions in offshore fisheries catch potential									
Damage and deterioration of critical coastal infrastructure									
Increased risk to ports and maritime transport									
Risk to wildlife-based eco-tourism									
Degradation of natural coastal barriers									



MARINE CLIMATE CHANGE

WHAT IS ALREADY HAPPENING?

Temperature: The Indian Ocean is warming rapidly compared to other oceans. Average air and sea temperatures around Sri Lanka are increasing, and marine heatwaves are also becoming more frequent.

Ocean Acidification & pH: Surface ocean pH has declined by about 0.1 units across the Indian Ocean, more markedly over the western basin where a strong upwelling draws up deep water enriched with anthropogenic CO_2. In shallow coastal waters however, freshwater discharges and warmer sea temperatures increase alkalinity and therefore the buffering capacity of those areas to resist acidification.

Rainfall: The precipitation regime is complex and spatially variable, making it difficult to establish long-term changes.

Sea-level: Average sea-level has risen over 12 mm along the northern Indian Ocean coastal margins in the past decade. In Sri Lanka, sea-level is also rising rapidly, due to the thermal expansion effect of the Indo-Pacific warm pool.

Monsoon & ocean circulation: Shifts in the monsoon winds, and a strengthening northeast monsoon current, are forcing changes in ocean circulation and the influx of low salinity waters into the eastern Arabian Sea.

Dissolved oxygen: Permanent hypoxic zones in deep ocean layers of the Arabian Sea and the Bay of Bengal are causing coastal hypoxia when they interact with the upwelling system, causing oxygen-poor, nutrient-rich waters to spill upwards over the continental shelf and towards the shore.

Severe weather: There is growing evidence that global warming is inducing higher frequency of severe weather events. Historically, moderate storms used to make landfall over northern Sri Lanka, but in recent years severe cyclones are reaching eastern and western coasts more often, particularly between November and December.

WHAT COULD HAPPEN IN THE FUTURE?

Temperature: Temperatures over Sri Lanka will continue to rise, regardless of the emissions scenario. The future risk of extreme heatwave events is significant, and days with temperatures surpassing 35° will become more likely. Sea surface temperatures will continue to increase, up to +3.2°C under a high emissions scenario by 2100.

Ocean Acidification & pH: Around Sri Lanka and regardless of carbon emissions pathways, ocean acidification will continue to intensify, although future spatial patterns are still unclear.

Rainfall: Overall, the likelihood of average rainfall is projected to increase in the future, particularly over southern and western provinces.

Sea-level: The likelihood of 1-in-100-year coastal flooding is projected to increase, especially during storm surges. Along with population growth, this risk could expose up to half a million people to severe flooding every year by 2060.

Monsoon & ocean circulation: Monsoon patterns, wind stress, and ocean circulation will continue to shift over the Indian Ocean, although some of these climate and ocean dynamics are not yet fully understood.

Dissolved oxygen: Global models suggest a decline of dissolved oxygen across all oceans generally, but projections for the northern Indian Ocean are uncertain. It is possible that there will be a deoxygenation of the upper subtropical Indian Ocean, leading to a decrease in primary productivity, while a small increase in oxygenation may be plausible for the western tropical Indian Ocean. Overall, there is a higher risk of oceanic hypoxia for Sri Lanka in the future.

Severe weather: Future projections of changes in cyclonic intensity and frequency are not very confident, although cyclones and rainfall could intensify over the northern Indian Ocean. For Sri Lanka, non-cyclonic heavy rainfall events may become more plausible.

BIODIVERSITY RISKS

PHYTOPLANKTON

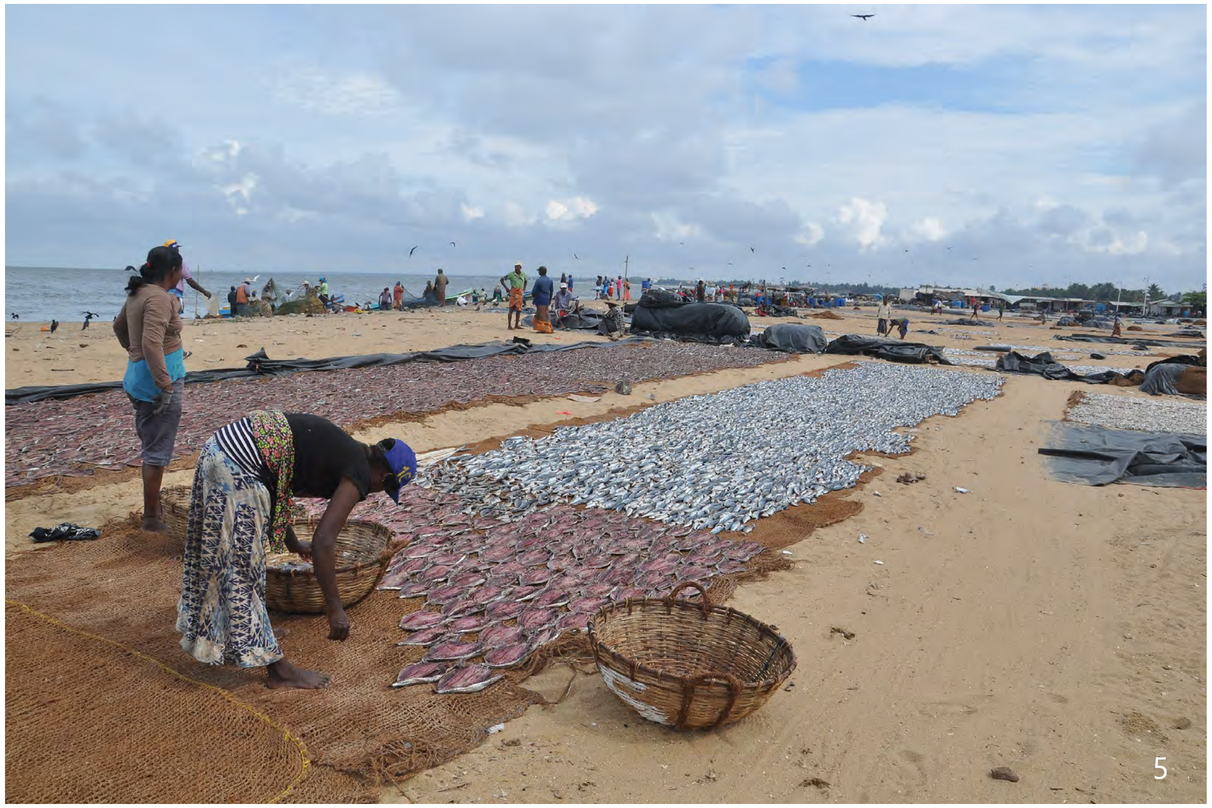
Phytoplankton productivity has declined significantly across the western Indian Ocean since the early 2000s. In the Bay of Bengal and around Sri Lanka, this decrease is correlated with lower wind speeds and warming sea surface temperatures, influenced by long-term climate change and intensified by natural oceanic fluctuations such as the Indian Ocean Dipole.

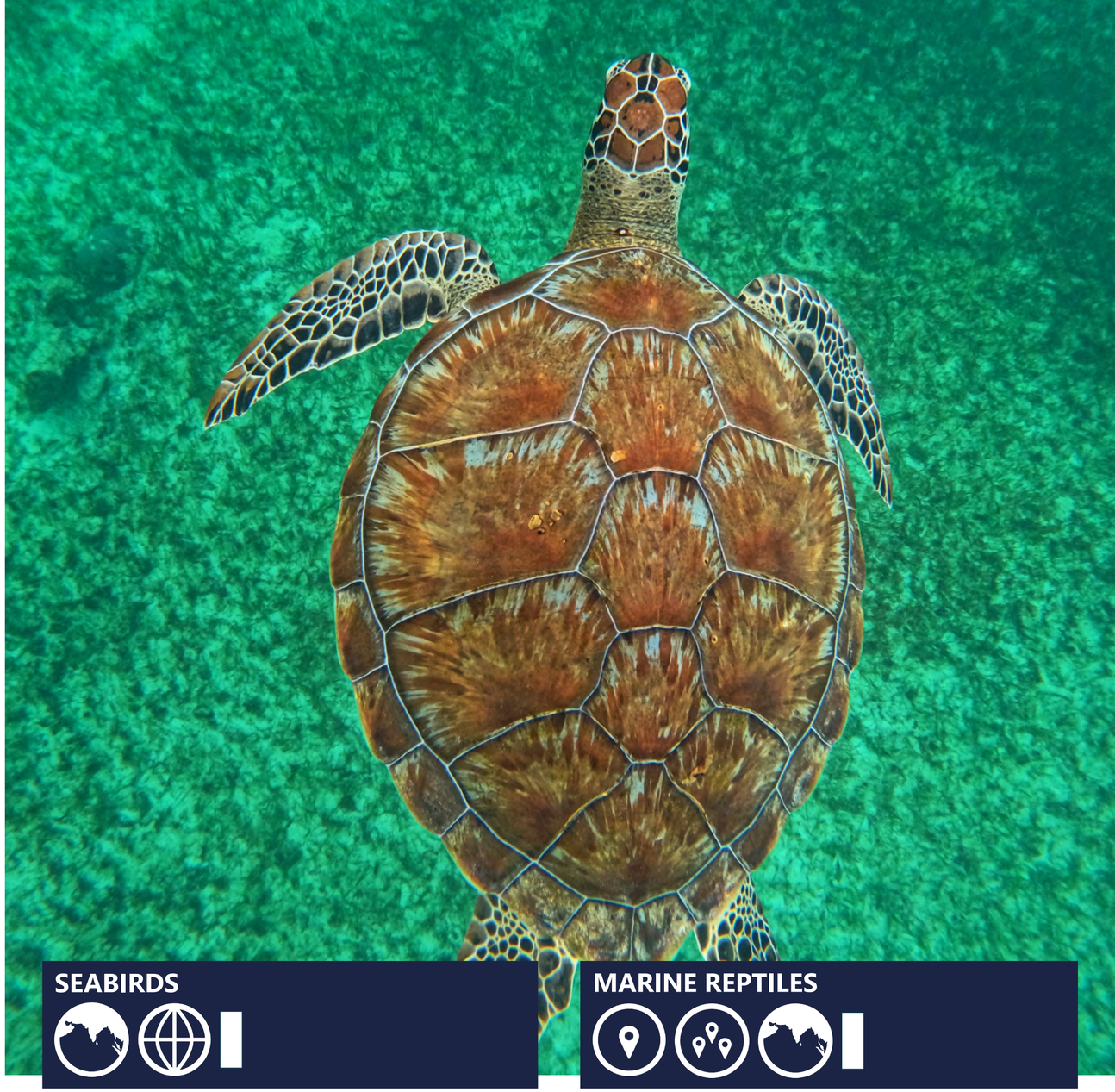
This trend is expected to continue into the future, particularly under a high carbon emissions scenario.

FISH

Evidence of climate-related effects on marine fish populations is lacking for Sri Lanka, although coral reef health is known to be a strong determinant for reef-associated species. Globally, there is evidence that declining plankton productivity is impacting marine fish populations, and distributions of pelagic species are being affected by changing oceanic conditions including temperature and currents.

Fish abundance in the central Indian Ocean is expected to decline significantly by 2050 under high emissions scenarios. For example, climate models suggest that the northern Indian Ocean may become less suitable for skipjack, while the spawning ground range for yellowfin tuna may diminish due to warming sea temperatures.





SEABIRDS

The main threats to nesting seabirds in Sri Lanka are habitat encroachment by expansion of shrimp farms and salt pans, and direct mortality due to fisheries bycatch, but future climate change is likely to aggravate these pressures.

Climate impacts on wetland areas, coastal inundation, severe weather events, shifts in oceanographic conditions, and declining prey abundance, are expected to drive further population declines of seabirds in the future. While seabirds are generally opportunistic and able to exploit different prey species, some of the more sensitive species are highly vulnerable to predator-prey mismatches. Climate change will also contribute to the spread of non-natives species and pathogens that can affect fitness and survival.

MARINE REPTILES

Five sea turtle species breed in Sri Lanka, with nesting beaches found in the south and northwest. Whilst the main threats to sea turtles are non-climatic, including bycatch, hunting and pollution, future warming average temperatures will increase the risk of feminisation of hatchlings, putting in question the survival of sea turtle populations globally. Beach litter is known to exacerbate this risk by further increasing daytime sand temperatures.

The fate of key turtle habitats, such as seagrasses, and the effect of severe weather events will also determine the future of sea turtle populations. Little is known about the risk of climate change to other marine reptiles such as sea snakes and the Saltwater crocodile.

CETACEANS

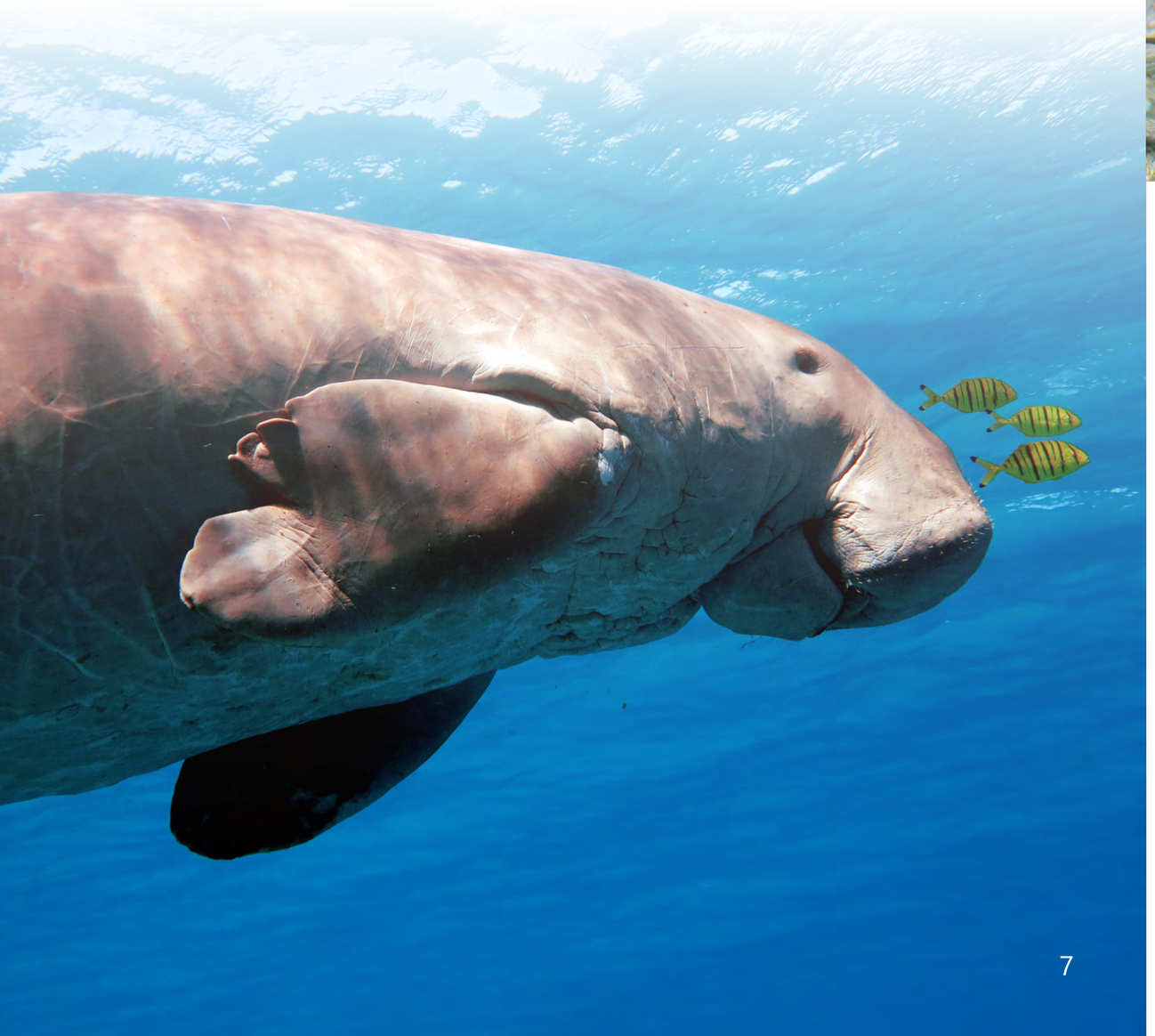
Native cetaceans of Sri Lanka include numerous dolphin and whale species including Sperm whale and Blue whale. While cetaceans are highly intelligent and adaptable, they are facing pressures due to their interaction with human activities causing direct mortality and in some cases population declines, making them more vulnerable to climate change impacts.

In future, climate change is expected to impact cetaceans through changes to or lack of foraging resources, resulting in nutritional stress, although direct scientific evidence is still lacking. Climate change is also likely to drive distribution range shifts and distortion of navigation and migration cues, which could result in higher risk of exposure to shipping, pollution or fishing.

DUGONGS

Global populations of dugong are declining, and Sri Lanka is no exception, with dugong sightings now mostly restricted to Palk Bay and the Gulf of Mannar.

While the main threats and factors of decline are non-climatic, such as illegal hunting, boat strikes, pollution, and fishing gear entanglement, the future of dugong in Sri Lanka will likely be strongly determined by the condition of seagrass habitats, particularly near populated coastal areas, and any climate change impacts on those.



SANDY SHORELINES

Beaches, estuaries and sand dunes are important habitats but in Sri Lanka there are concerns that unregulated and improper uses are accelerating environmental degradation. As coastal inundation and erosion processes are aggravated, low-lying coastlines, lagoons and estuaries are becoming increasingly exposed to the impact of surges, swells, and high waves.

A full characterisation of these habitats is needed to understand and manage local pressures as well as future climate risks.

CORAL REEFS

True stony coral reefs are limited to the north-west and east, with higher coral diversity in the Gulf of Mannar and Palk Bay. Most other reef areas consist of patchy coral colonies on sandstone and rocky boulders. Freshwater runoff and turbidity in coastal waters during the monsoon limits coral growth, which has also been significantly impacted by severe bleaching events. In addition to thermal stress, other threats to coral reefs in Sri Lanka include pollution, destructive fishing and tourism activities.

Globally, coral reefs are projected to be at severe risk by 2050, and over 90% of reefs could be lost by 2100, depending on the carbon emissions pathway. A very significant reduction in species richness is anticipated for the western Indian Ocean, even under a low emissions scenario.

DEEP-SEA HABITATS

The open waters around Sri Lanka comprise a variety of deep-sea environments, including large submarine canyons, rocky reefs, and diverse abyssal communities, but the deep regions of the central Indian Ocean are poorly studied compared to other ocean basins. It is not possible to confidently assess climate risks to Sri Lanka's deep-sea due to a lack of information.

Globally, deep-sea ecosystems comprise sensitive species and habitats highly vulnerable to the effects of warming, ocean acidification and deoxygenation. Importantly, deep-sea ecosystems rely on food sources of particulate organic matter from surface ocean layers, which in the Indian Ocean are predicted to decline due to climate change.

SEAGRASSES

Diverse seagrass meadows are found along the north, east and west, with smaller meadows occurring in the lagoons of the south coast, although they have yet to be properly mapped. Species include the rare *Halophila beccarii*. There have been sharp declines in the condition and extent of seagrass meadows linked to runoff after heavy rain events, compounded by destructive fishing and pollution.

Exposure to poor water quality significantly undermines the resilience of seagrasses, increasing their vulnerability to climate change.

MANGROVES

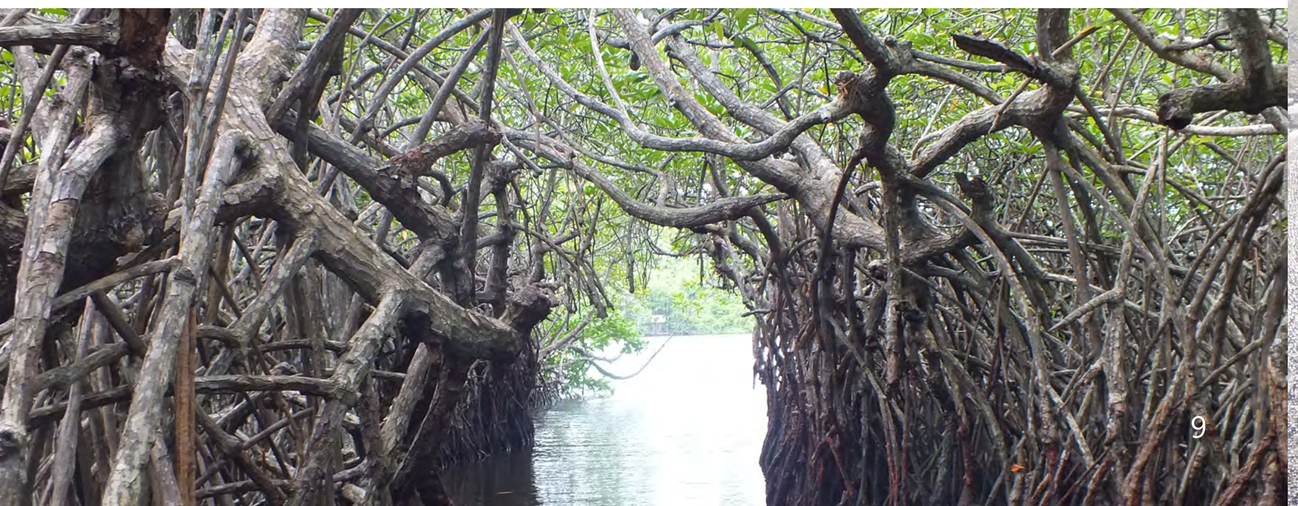
Sri Lanka's mangroves are largely fragmented and restricted to narrow tidal fringes. Some of the mangrove species found in Sri Lanka are endemics, although a detailed map and inventory has yet to be completed. Shifts in rainfall and riverine discharges, sea-level rise, changes to the monsoon, and propagule overgrazing by invasive invertebrates, are affecting the extent and species composition of mangroves.

The cumulative effects of climate change together with deforestation, coastal development and pollution are driving a worrying decline, suggesting that mangroves are at severe risk of collapse in Sri Lanka.

OTHER WETLANDS

Saltmarshes and intertidal mud flats occur in the northwest, north and southeast arid zones, although their distribution has not yet been fully documented. These are vital habitats for many animal species, but are under threat of desiccation and erosion from pollution, improper catchment management, construction of barrages and salterns, and overgrazing.

Sea-level rise and storm erosion are causing retreat of the seaward edge of marshes, and landward migration is often blocked by hard-built structures. Future changes in rainfall and hotter temperatures are likely to cause a transition to more arid and fragmented marshes dominated by hardier vegetation, accelerating the loss of these important wetlands, unless action is taken to limit local pressures.



ENDEMIC SPECIES

Sri Lanka has few marine endemic species, which include fish and corals. Evidence from other marine regions of the world shows that climate change induces a disproportionately higher risk of extirpation or displacement of endemic species compared to native or introduced species, which is even higher in the case of islands.

Climate projections suggest that, under a high emissions pathway, many Indo-Pacific communities of native (and endemic) species will likely be replaced by no-analogue invasive species.

HARMFUL ALGAL BLOOMS

There has been a sharp increase in the occurrence of harmful algal blooms (HABs) in the region, although this is likely linked to nutrient runoff. While HABs monitoring in Sri Lanka is mostly restricted to Colombo Port, harmful species have been detected.

Climate change is expected to influence HABs in the future, although whether it will increase their frequency, distribution, seasonality, or persistence, remain as yet unclear.

INVASIVE SPECIES

Sri Lanka is exposed to bio-invasions from shipping and coastal aquaculture. Data is currently limited but the catalogue of invasive marine species include red-tide dinoflagellates, European green crab (*Carcinus maenas*), and the recently discovered Black mussel (*Mytella strigata*). While other factors control their arrival, climate change can modulate and accelerate the spread of invasive marine species through altering wind and current regimes.

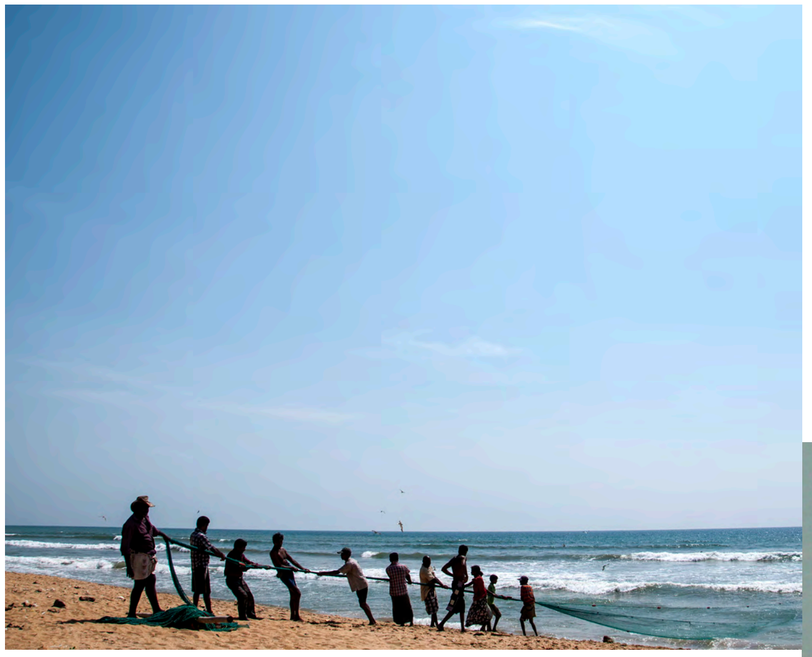
Future climate change will likely continue to modify the conditions that determine the success of aquatic bio-invasions, exacerbating the success of opportunistic non-native species to the detriment of more sensitive native species.

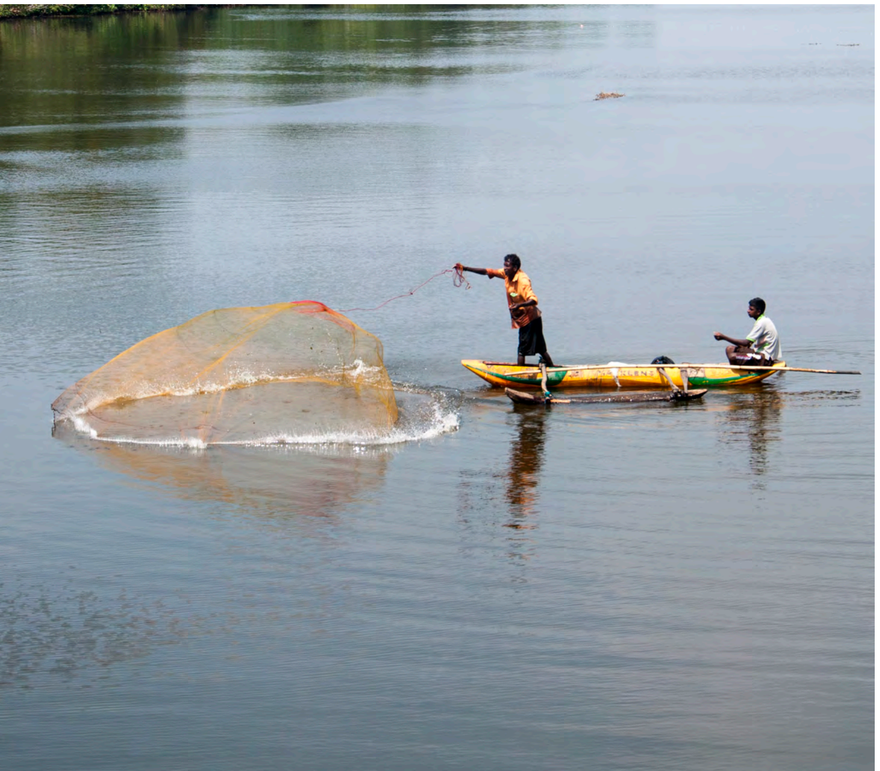
SOCIOECONOMIC RISKS

FISHERIES

Ocean warming is significantly affecting distribution and abundance of commercial fish stocks. Sri Lankan fisheries, particularly artisanal coastal fisheries, are highly vulnerable to climate change, and have a low adaptive capacity as a sector.

The fisheries catch potential of Sri Lanka is projected to decline by 55% by the middle of this century, and by as much as 69% by the end of the century, under a high emissions climate scenario. The main climate variable driving this long-term decline is sea temperature, but severe weather can also inflict acute damages that significantly affect the livelihood of fishing communities.





AQUACULTURE

Seafood farming in Sri Lanka is a limited but relatively stable sector that contributes over half of total fisheries exports, consisting mostly of Black Tiger prawn but recently diversified to include Pacific White shrimp and oyster. Although the climate vulnerability of Sri Lankan aquaculture is not yet fully understood, climate hazards include droughts and heatwaves, as well as heavy rain and sea-level rise, which result in poor yields, water contamination, and damage to ponds and canals.

It is likely that the future sustainability and economic viability of this sector will be closely determined by impacts from disease outbreaks, changes in rainfall and severe weather events.

SEAPORTS & SHIPPING

Seaports are a lifeline of food and energy security, connectivity, trade, and tourism for Sri Lanka. Severe weather can impede vessel entry to Colombo Port and cause damage within the harbour, although there are no accounts of storm surges.

Future climate projections suggest an increase in the likelihood of storm damage to cargo, vessels and infrastructure, and higher risk of disruption to navigation, collisions, and hazardous marine spills. It is also likely that seasonal storm tracks will shift and extend cyclone risk to the eastern and southern coasts (Oluvil, Galle and Hambantota). Small rural communities that rely on artisanal fishing will be especially vulnerable.

WASTE DISPOSAL

Waste disposal is an issue of national concern in Sri Lanka, due to the precariousness of systems, and the enormous amounts of waste generated and collected in large-scale and poorly managed open dump sites. Climate-induced flooding and erosion are aggravating this environmental and public health risk through litter mobilisation and spills, and by causing further damage to waste and sanitation infrastructure and services.

These risks are being compounded by a rapid urban and industrial expansion, and there are concerns that they are likely to become pervasive in Sri Lanka. Around the Gulf of Mannar, reefs and other coastal habitats are already subject to chronic environmental degradation from wastewater and litter pollution, including plastics.

HERITAGE

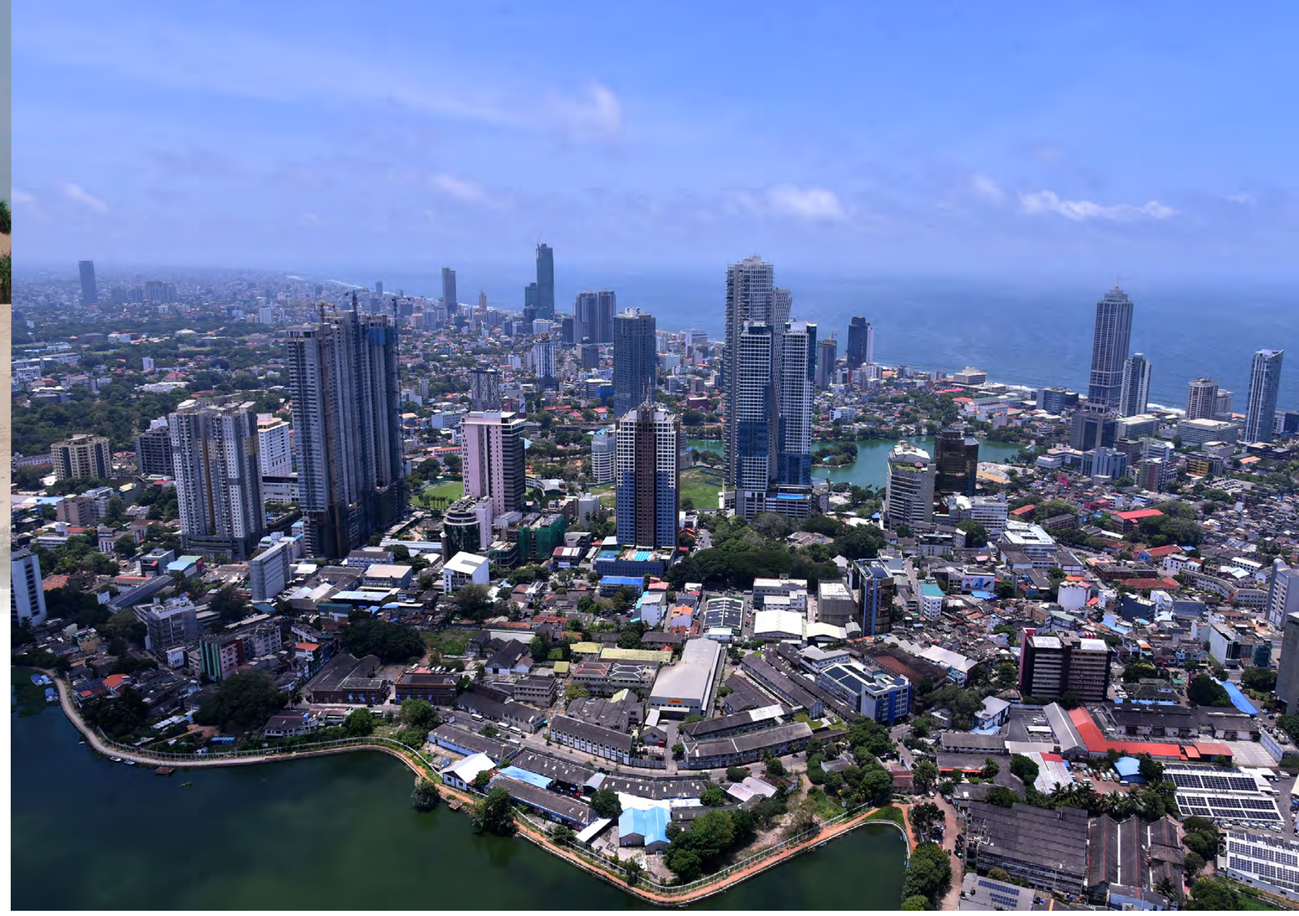
Archaeological and heritage sites are often integral part of natural landscapes facing environmental degradation from climate change and other human activities.

While Sri Lanka is looking to protect some of its vulnerable historic assets and improve the resilience of local rural communities, there is also a recognition that adaptation measures to protect these sites in low- and middle-income countries is limited in comparison to Europe and North America.

COASTAL & MARINE MINING

The demand for construction materials in Sri Lanka is growing, and marine deposits from shallow areas are being considered for suction dredging. Reefs and coral rubble are also extracted for lime for construction and agriculture, mostly targeting inland fossilised reefs although the mining of some fringing reefs is raising concerns of aggravated coastal erosion.

There is no information on current climate impacts on this industry but sea-level rise will likely increase the risk of coastal flooding and erosion, making it even more important that these extracting activities are managed sustainably.



CRITICAL INFRASTRUCTURE & SERVICES

Coastal infrastructure and services, including energy, telecommunications, transport, housing, and water, are at risk from climate change. Power plants and substations supplying Colombo and the surrounding area are exposed to extreme sea-level and weather events. During heatwaves, there is a higher demand for air-cooling, which can put pressure on the power grid, while lines, transformers, switchgear and cables can overheat. Widespread floods and landslides cause severe damage to both underground and overhead power lines and assets, as well as telecommunications infrastructure, often requiring international assistance and deployment of emergency satellite equipment.

Most sectors are dependent on telecommunications, which in turn rely on key services such as water, energy, and transport, multiplying the risk and building structural fatigue into assets and services, particularly in remote rural areas. Climate risks to key transport links will likely worsen in future, and damages to housing are a big concern, as a third of Sri Lanka's surface is now at risk of landslides. Health and education centres, which are often used as evacuation shelters, often sustain direct damage during climate disasters. The low-lying coastal belt including Colombo is highly vulnerable to contamination from sea-level rise and salinity intrusions.

BLUE CARBON HABITATS

Mangroves, seagrasses and saltmarshes, also known as blue carbon habitats, absorb and store large quantities of carbon in the form of organic matter within the sediment. Carbon storage capacity by these habitats is poorly studied in Sri Lanka, although estimates from some estuarine mangrove forests suggest values similar to global average, around 995 tonnes of total carbon per hectare, higher for mangroves with high density of seedlings and fine roots. Estimates from saltmarsh indicate 73 tonnes of total carbon per hectare, in the upper 50 cm, while no reliable data was found for seagrasses.

As these wetlands are degraded, they can release additional carbon emissions, and lose carbon sequestration capacity as well as other important ecosystem functions, including protection from coastal flooding and erosion.

TOURISM & RECREATION

Climate hazards are impacting coastal tourism in Sri Lanka and causing cascading negative effects on residents. Communities in touristic areas often benefit from better public services, infrastructure, and living standards, but they may miss out on these opportunities due to the impact of extreme weather, inundation, erosion and coral bleaching, which at the very least spoil the visual appeal of these areas, but can also create public health risks, straining establishments and emergency services, and putting visitors off.

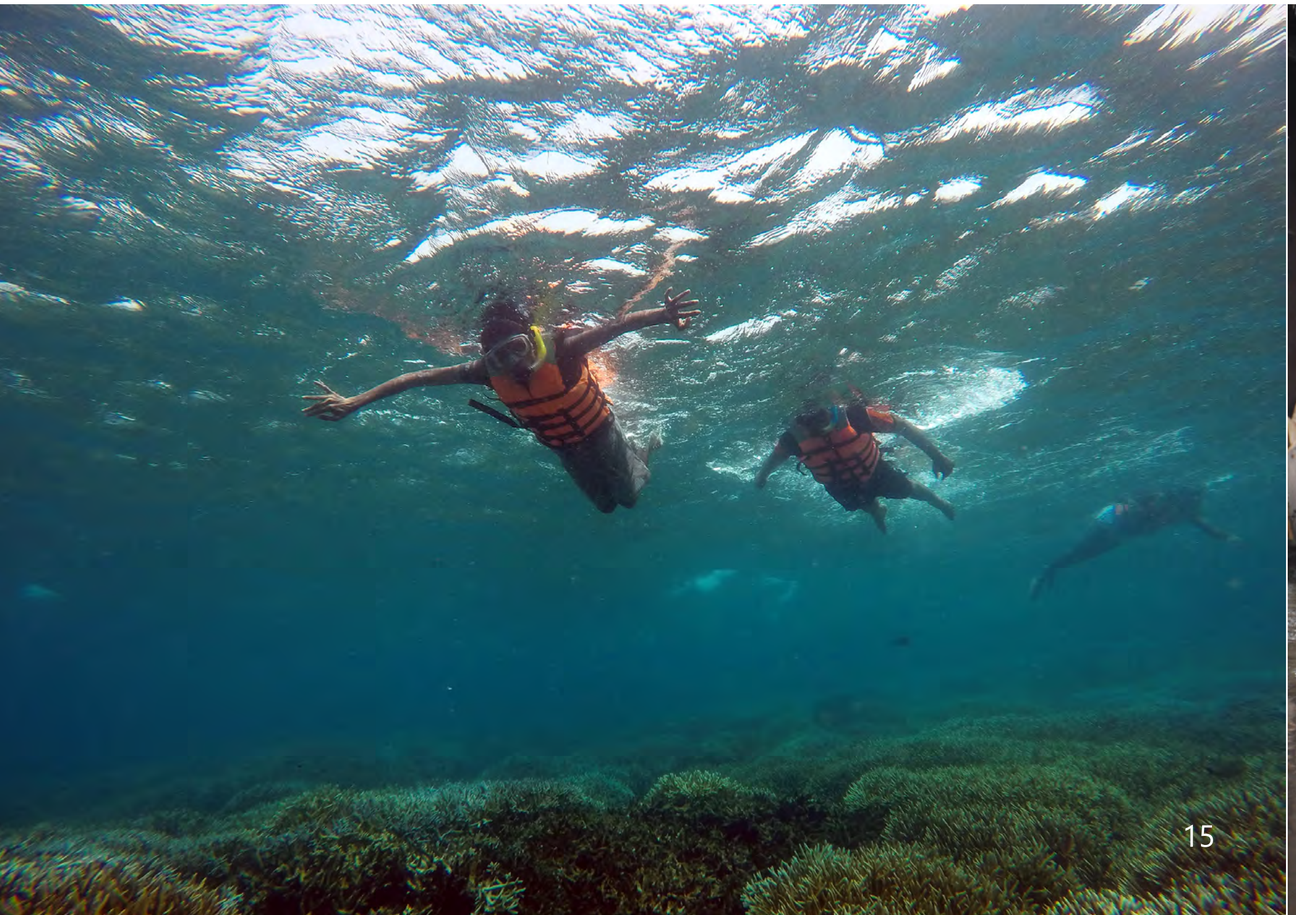
Future seasonal shifts in temperature, humidity, rainfall and wind, will determine the duration of the peak season, one of the main criteria influencing destination choices by tourists. This threat to the tourism potential of some areas around the coastal belt in Sri Lanka is further aggravated due to environmental degradation, pollution, and unsustainable practices.

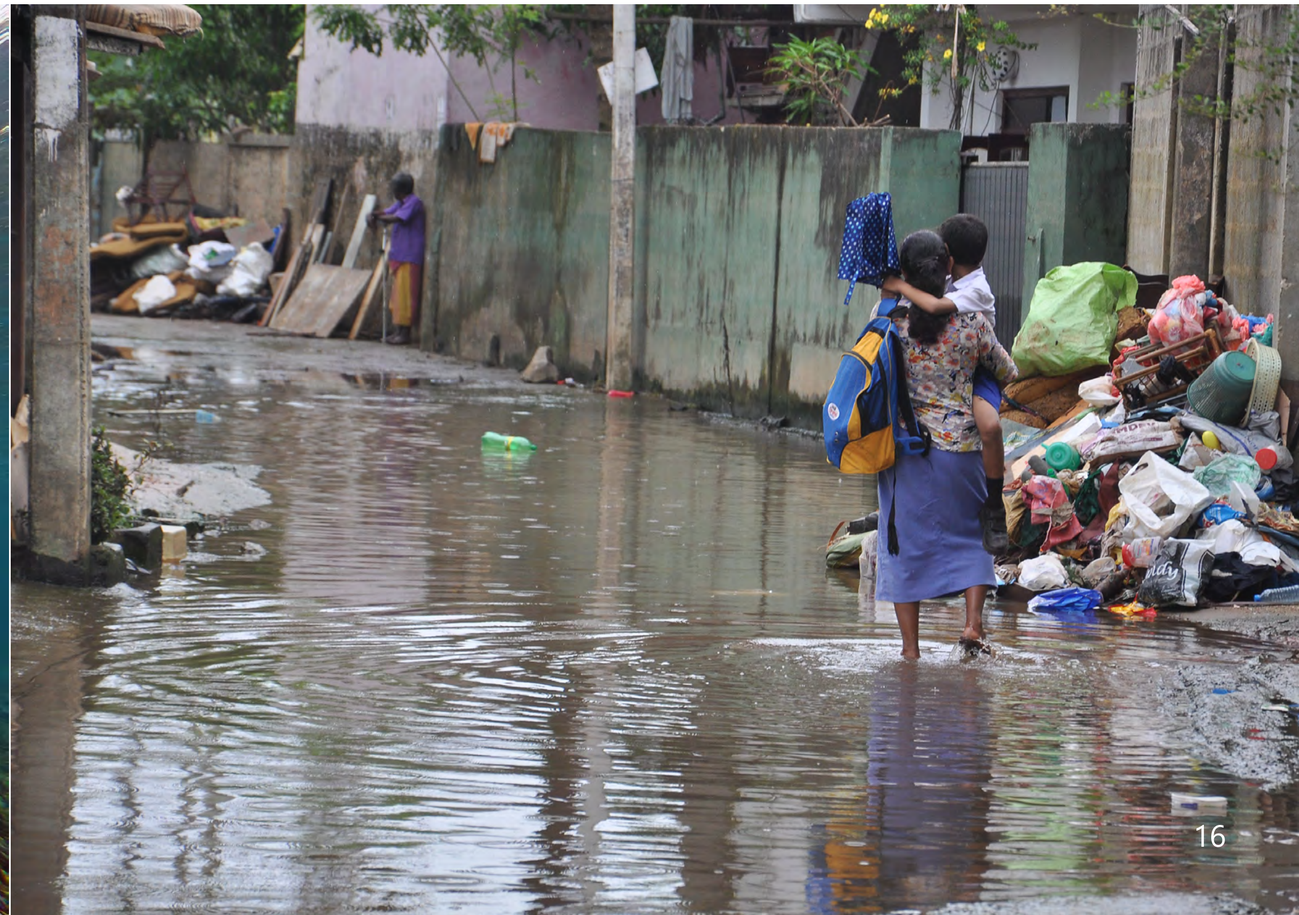
HEALTH & WELLBEING

Severe weather directly threatens life and property, but also has secondary adverse effects on people's physical and mental health through dispossession and loss of access to water, power and medical facilities.

Future trends of extreme weather, such as the expected increase of tropical cyclones, will aggravate these effects. In particular, rainfall is likely increase over the wet zone, leading to more frequent flooding in southern and western provinces. On the other hand, increasing temperatures and severe droughts in the eastern and southeastern districts will become more likely during the northeastern monsoon. These contrasting patterns of extreme weather may aggravate additional risks, including soil erosion, water scarcity, and outbreaks of marine pathogens and HABs.

These risks, in combination with poor land management, are likely to cause additional deforestation and soil erosion along rivers and coastlines. Some interventions, including reforestation and improvements in land uses and water catchment management, could help mitigate some of these risks in the future.





KNOWLEDGE GAPS

There is a lack of information on long-term climate change impacts on the marine and coastal areas for Sri Lanka. This study highlighted four main gaps overall: (i) lack of high-resolution regional projections of key marine variables; (ii) lack of understanding of ecological responses to changing environmental conditions; (iii) lack of understanding of cumulative impacts of climate change and other human pressures; and (iv) lack of understanding of climate impacts on marine goods and services.

Risk-associated gaps: This risk assessment helped identify specific gaps related to the following climate risks, emphasising an urgent need for more information: health risks and threat to life during heatwaves or severe weather; damage and disruption to maritime transport from extreme events; degradation to soft sediment shorelines; and proliferation of harmful marine organisms.

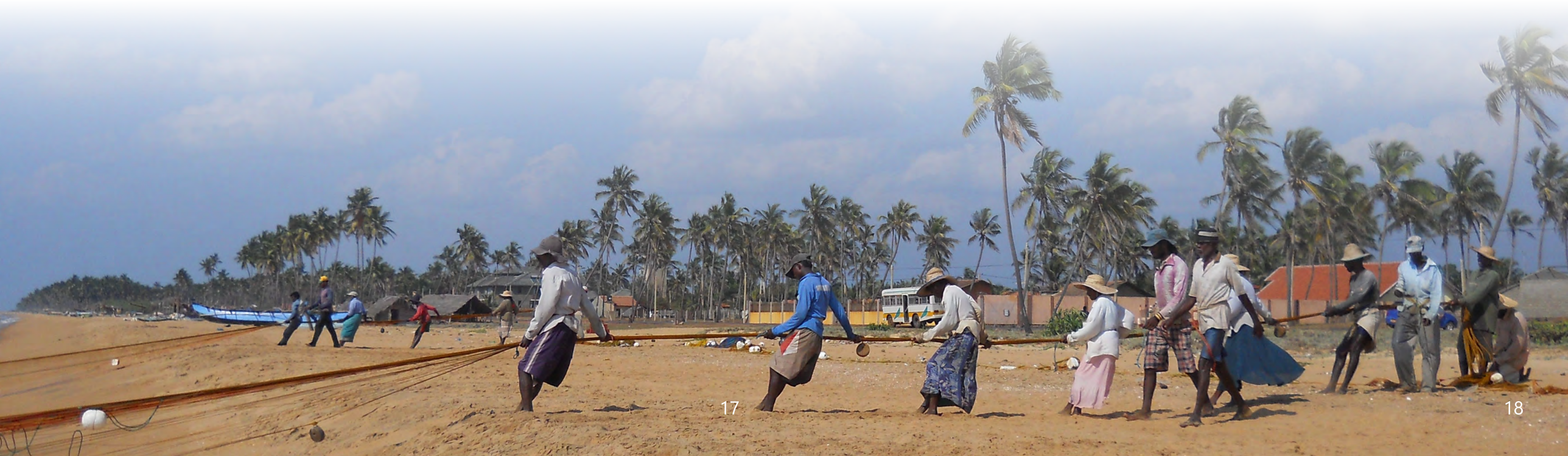
Other evidence gaps: This study also highlighted areas where a lack of oceanographic and atmospheric data is currently limiting the confidence in the assessment of climate risks in Sri Lanka, suggesting priority areas for further research, such as: pH conditions in upwelling zones; rainfall trends and the role of climate change; changes in regional ocean circulation; ocean acidification effects on coral reefs; dissolved oxygen and hypoxia zones; anthropogenic climate change and cyclonic activity.

ADAPTATION OPTIONS

Sri Lanka is introducing national policies and actions to mitigate carbon emissions and address climate vulnerability and impacts, including investments to alleviate coastal erosion, water scarcity, floods and landslides. However, large-scale climate mitigation and adaptation in Sri Lanka can be challenging. Evidence-based climate assessments such as this can help prioritise research, and financial and technological resources, to better tackle the impacts of climate change.

Effective climate adaptation interventions must involve the affected communities themselves. For example, in the case of artisanal fishing, which sustains the livelihood of many rural coastal communities, some social measures are already being applied by the government, such as insurance schemes to help fishers cope with losses and recover from damages. Those could be further consolidated with evidence-based, community-rooted adaptation tools that prioritise the most vulnerable, for example:

- Poverty alleviation frameworks that prevent relapsing following climate impacts.
- Strengthened disaster risk reduction instruments, such as early warning systems.
- Better alignment of governance systems to the UN Sustainable Development Goals.
- A people-first approach to climate resilience, and diversification of resources and livelihoods to prevent climate hazards from exacerbating vulnerability.
- Nature-based solutions that help mitigate climate risks while enhancing vital ecosystem services. Options include protection and restoration of mangroves as a soft coastal defence option; enhancing climate-smart management of marine protected areas; and community stewardship of coral reef areas to safeguard reef-fish populations as well as ecotourism opportunities.



ACKNOWLEDGEMENTS & IMAGE CREDITS

Ocean Country Partnership Programme

The UK Ocean Country Partnership Programme (OCPP) is a bilateral technical assistance and capacity building programme that provides tailored support to countries to manage the marine environment more sustainably, including by strengthening marine science expertise, developing science-based policy and management tools and creating educational resources for coastal communities. The OCPP delivers work under three thematic areas: biodiversity, marine pollution, and sustainable seafood. Funding is provided by UK International Development, through the Department for the Environment, Food and Rural Affairs (Defra) overarching Blue Planet Fund.

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Sri Lankan stakeholder organisations represented at the workshop:

- Blue Resources Trust
- Central Environmental Authority (CEA)
- Department for Fisheries and Aquatic Resources (DFAR)
- Dilmah Conservation
- Disaster Management Centre
- Horizon Campus (HC)
- Janathakshan Guarantee Limited
- Sri Lanka Environment Fund
- Marine Environment Protection Authority
- Ministry of Fisheries
- Ministry of Ports Shipping and Aviation
- National Aquaculture Development Authority (NAQDA)
- National Aquatic Resources Research & Development Agency (NARA)
- Oceanswell
- South Asia Co-operative Environment Programme (SACEP)
- Sri Lanka Wildlife Conservation Society
- The Pearl Protectors
- UK Foreign, Commonwealth and Development Office (FCDO)
- University of Sri Jayewardenepura
- Uva Wellassa University
- Wayamba University
- Wildlife and Nature Protection Society (WNPS)

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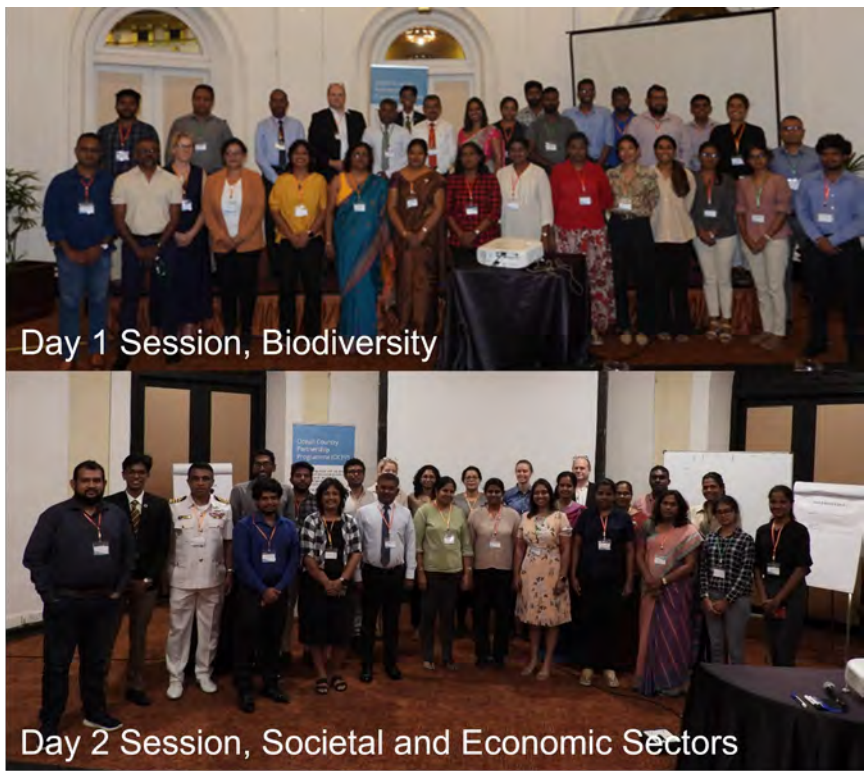
- Ruwan Walpola: pages 2, 5, 11, 14, 15, 16.
- Jamie Small: pages 4, 6.
- RomanMr: page 7.
- Susantha Udagedara: page 9.



Photos of the participants at the OCPP Marine Climate Risk Assessment Workshop held in Colombo, Sri Lanka, August 2024.

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Further information is available from the full technical report:
Lincoln, S., Pinnegar, J., Chowdhury, P., Vanstaen, K. (2025). Sri Lanka Marine Climate Change Evidence Report and Risk Assessment. Ocean Country Partnership Programme (OCPP). The Centre for Environment, Fisheries and Aquaculture Science (Cefas), United Kingdom.

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