



Yemen fisheries and climate change

Cal Costa, H el ene Donnat, Saleh Fadhl, Amna Mahmood, Austin L. Wright

- Yemen's extensive coastline supports rich marine biodiversity and productive fisheries, essential for the national economy, food security, and local livelihoods, yet faces severe threats from climate change and prolonged internal conflict.
- The report analyses climate-driven impacts on marine ecosystems, including seasonal variability, long-term environmental trends, and extreme events such as Cyclone Tej in 2023.
- It also evaluates Yemen's fisheries sector, identifying historical trends, disruptions caused by conflict, and critical gaps in current monitoring and management practices.
- Leveraging satellite remote sensing, computer vision, and collaborative field data, the study proposes a dynamic framework for revitalising marine research and fisheries management.
- The report emphasises the urgent need for targeted, adaptive, evidence-based policies to safeguard Yemen's coastal ecosystems and dependent communities.

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Yemen's extensive coastline, which encompasses the southern Red Sea, the Gulf of Aden, and the northwest Arabian Sea, is home to a rich marine biodiversity and historically productive fisheries, crucial for the nation's economy, food security, and livelihoods. However, the intersection of global climate change and a prolonged internal conflict has significantly disrupted marine ecosystems and fisheries management, exacerbating already critical challenges.

This policy brief summarises findings from the "Yemen Fisheries and Climate Change" report that provides an in-depth analysis of the climate-driven changes affecting Yemen's marine ecosystem as well as gaps in fisheries monitoring practices, and proposes a framework for revitalising marine research and management.

Figure 1: Map of the Yemen coastline



Climate-driven changes in marine ecosystem health

Yemen's coastal waters cover the southern Red Sea, the Gulf of Aden, and the northwest Arabian Sea. These areas face clear impacts from global climate change that influence marine ecosystems, fisheries, and coastal livelihoods. Rising sea temperatures, shifting patterns of phytoplankton productivity, changes in surface salinity, and emerging concerns about ocean acidification are central issues. Over the past decade, research in the nearby waters of the Red Sea, the Gulf of Aden, and the Arabian Sea has accelerated, driven by the need to assess climate change effects on marine resources. Since 2014, however, conflict-related constraints have significantly limited direct sampling and fieldwork in Yemen's waters. This situation has created gaps that satellite-based tools, computer vision techniques, and in situ collaborations can help address. Below, recent findings on sea temperature trends, salinity changes, phytoplankton

productivity, and ocean acidification are reviewed in the context of Yemen's fisheries and marine health. The discussion then shifts to a closer look at slow-onset climate factors, such as warming and shifting productivity, and extreme events, such as severe cyclones, to illustrate the range of climate impacts now affecting Yemen's coasts.

1.1 Introduction

Yemen sits at the intersection of diverse marine zones: the southern Red Sea, characterised by exceptionally high salinity and warming trends; the Gulf of Aden, influenced by strong monsoonal cycles and upwelling; and the northwestern Arabian Sea, known for seasonal productivity peaks. These waters support coral reefs, upwelling-driven fisheries, and critical habitats for migratory species. Climate change has raised sea surface temperatures (SST) above historical norms, with warming patterns exceeding the global average. The analysis both confirms and expands observations of changes in chlorophyll-a (Chl-a) levels that mirror shifts in phytoplankton productivity, as well as modifications in salinity that may reflect altered precipitation, evaporation, and ocean exchange. Ocean acidification concerns persist due to limited direct observations in Yemen, although global studies suggest that Yemen's seas, much like other tropical and subtropical zones, are following the global trend of decreasing pH. This overall climate picture has major implications for fisheries, livelihoods, and ecosystem health. Monitoring these indicators has been challenging in the Red Sea and Arabian Sea, due to interrupted data collection, but remote-sensing and collaborative field strategies have become essential tools for filling in knowledge gaps.

1.2 Indicators of marine ecosystem health

Four indicators were identified as holistic features of changing ocean conditions: SST, Chl-a, sea surface salinity (SSS), and ocean acidification metrics such as pH or aragonite saturation. In Yemen's coastal context, these variables reveal how climate forcing affects ecosystems. SST exerts a broad influence by determining thermal stress and habitat suitability. Chl-a serves as a proxy for phytoplankton biomass, essential to the marine food web. Salinity regulates buoyancy, water circulation, and the survival range of many species. Ocean acidification, prompted by increased carbon dioxide uptake, poses risks for corals, shellfish, and planktonic calcifiers. Existing scientific literature underscores the critical function of these four variables in understanding marine ecosystem vitality. Although data availability for Yemen has been limited, regional satellite analyses and collaborative research have demonstrated that any prolonged changes in SST, SSS, or Chl-a can reshape fisheries. Acidification lingers as a less-measured threat, but global trends suggest it will grow more important over time, especially for reef systems.

1.3 Regional studies on climate change impacts

Recent analyses of the Red Sea emphasise that this body of water is warming at some of the fastest rates documented worldwide. Satellite time series indicate an average rise of roughly 0.17°C per decade from 1982 to 2015, with parts of the northern Red Sea warming at even steeper rates. This warming outpaces the global mean, spurring concerns about coral reef bleaching and altered fish stocks. The Arabian Sea similarly shows a strong warming trend tied to more frequent marine heatwaves since around 2016. Although many broad-scale studies lump Yemen's south coast in with other portions of the Indian Ocean, the consensus is that waters along Yemen's Gulf of Aden and Arabian Sea coasts are also warming quickly. Warmer conditions can drive fish species to deeper depths or to higher latitudes, possibly changing the timing or strength of seasonal upwelling that underpins local fisheries.

Yemen's coastal productivity is closely tied to the monsoon cycle. The Gulf of Aden experiences two main phytoplankton bloom periods, one in mid-summer and another around November, correlated with shifts in monsoonal winds. These blooms can markedly increase fish catch in years when nutrient upwelling is strong. The Arabian Sea is among the planet's most productive ocean regions, but studies now suggest that persistent warming may be reducing chlorophyll in certain coastal areas, possibly lowering fish yields. Some parts of the region do show modest Chl-a increases, underscoring the variability of these trends.

Information on ocean acidification in this region remains sparse, though the Red Sea's naturally high alkalinity could mitigate pH changes to a degree. Global models predict continued declines in pH, which can restrict the ability of corals and molluscs to build calcium carbonate structures. This loss of reef framework, coupled with bleaching episodes caused by rising temperatures, endangers biodiversity and fish habitats. The shortage of direct acidification measurements in Yemeni waters represents a critical data gap, but existing global and regional studies imply that corals near Socotra and along Yemen's southern coast may face mounting stress from acidification in the near future.

Salinity patterns add further complexity. The Red Sea is already one of the most saline open-ocean areas. The Gulf of Aden and Arabian Sea are typically fresher, thanks to water exchange with the Indian Ocean. Climate change is intensifying these gradients, as high-evaporation zones tend to get saltier while regions with more precipitation become fresher. In Yemen's case, pockets of freshening appear linked to shifts in rainfall and ocean currents, although actual field measurements in Yemeni waters are not always available to validate satellite-based findings.

1.4 Expansion and filling the gaps

Given the limited field data for Yemen, especially after 2014, the report applied new tools to gauge climate-driven changes in local waters. Data streams included NASA MODIS-Aqua for SST and Chl-a, as well as NASA's Soil Moisture Active Passive (SMAP) mission for salinity. The study focused on Yemen's Exclusive Economic Zone (EEZ) in the Red Sea, Gulf of Aden, and Arabian Sea, thereby covering a cross-section of environmental conditions. Analysis of monthly composite data allowed researchers to observe not only average annual trends but also spatial and temporal variations.

Results showed that from 2014 to 2024, SST in Yemen's EEZ rose by around 0.5°C, confirming the rapid warming documented in earlier Red Sea and Arabian Sea studies. There was also a slight decline in salinity across the area, a finding that might reflect higher rainfall or shifts in evaporation and freshwater inflow. Chl-a levels exhibited a small overall increase, although closer inspection revealed a patchy pattern: chlorophyll rose in some areas off the eastern Arabian Sea coast, possibly supported by strong monsoon upwelling, while it declined in parts of the Gulf of Aden and the northern Red Sea. The spatial variation was tied to how warming influenced stratification and how monsoon dynamics varied between years.

Since in situ measurements of pH, alkalinity, and aragonite saturation remain unavailable, salinity patterns served as a partial proxy for ocean acidification risk. Although this method does not replace direct carbonate chemistry observations, it can offer early indications of where buffering capacity might be dropping. Areas that experience freshening over many years may be more susceptible to acidification impacts, especially in combination with warming.

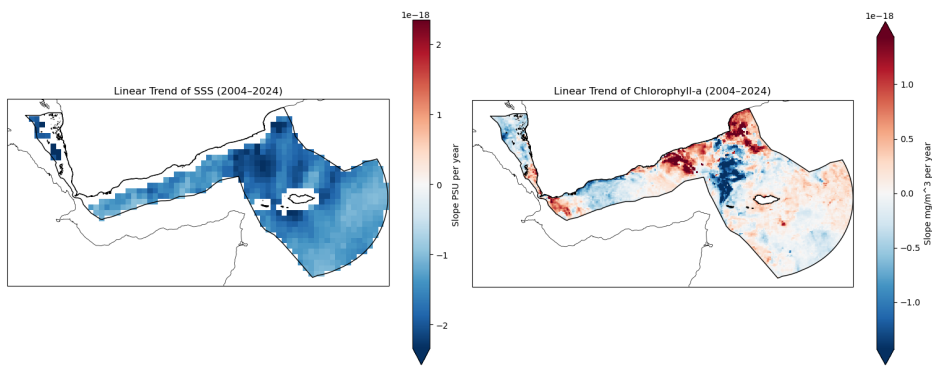
Researchers also conducted correlation analyses among SST, SSS, and Chl-a, with a particular focus on lag effects. Findings suggested that when SST rises sharply in the short term, phytoplankton blooms can be inhibited, presumably because warm surface waters block nutrient mixing. However, in subsequent months, warmer conditions sometimes led to stronger Chl-a if monsoonal or wind-driven mixing overcame stratification and delivered an infusion of nutrients. These lagged links underscore the complicated cause-and-effect process in dynamic upwelling zones.

1.5 Decadal trends (2004–2024)

Although the main satellite dataset for salinity began in 2014, older records for SST and Chl-a go back to 2004. By merging these data sources, it was possible to detect multi-year trajectories. SST has increased throughout Yemen's waters, consistent with the region-wide warming rate that is among the highest globally. Chl-a trends reveal localised gains along parts of the Gulf of Aden and Arabian

Sea coasts, but some decreases where stratification has become stronger, especially in the northern Red Sea. Across the EEZ, salinity appears to be edging downward over the latter part of the study period, suggesting that atmospheric moisture shifts and ocean exchange processes are not uniformly pushing salinity higher.

Figure 2: Linear trend of Chl-a and SSS



These new insights confirm that Yemen's marine environment is not experiencing a uniform, one-dimensional response to climate change. Rather, temperature, productivity, salinity, and acidification processes vary by location and season. While domain-wide averaging is helpful, it can mask pockets of pronounced warming or nutrient decline. Continuous monitoring at the resolution used in this analysis (approximately four km) can offer a clearer view of climate stress hotspots and help identify where fisheries or habitats might be most at risk.

1.6 Seasonal variance

Seasonal patterns in Yemen's waters align with the broader behaviour of the Red Sea, Gulf of Aden, and Arabian Sea. SST tends to be lower in winter and higher in summer, with a secondary warm phase in early autumn. Chl-a peaks align with the monsoon cycles, reaching maximum levels in late summer or early autumn when upwelling is most vigorous. A smaller bloom sometimes occurs in autumn, driven by changing winds and nutrient inputs. Salinity, in contrast, has no single sharp seasonal maximum or minimum. Instead, it reflects the balance of evaporation, rainfall, and current exchange, leading to modest fluctuations across the year. The presence or absence of strong seasonal upwelling events, combined with shifts in local wind regimes, shapes how these variables move through the calendar year.

Figure 3: Monthly SSS by year

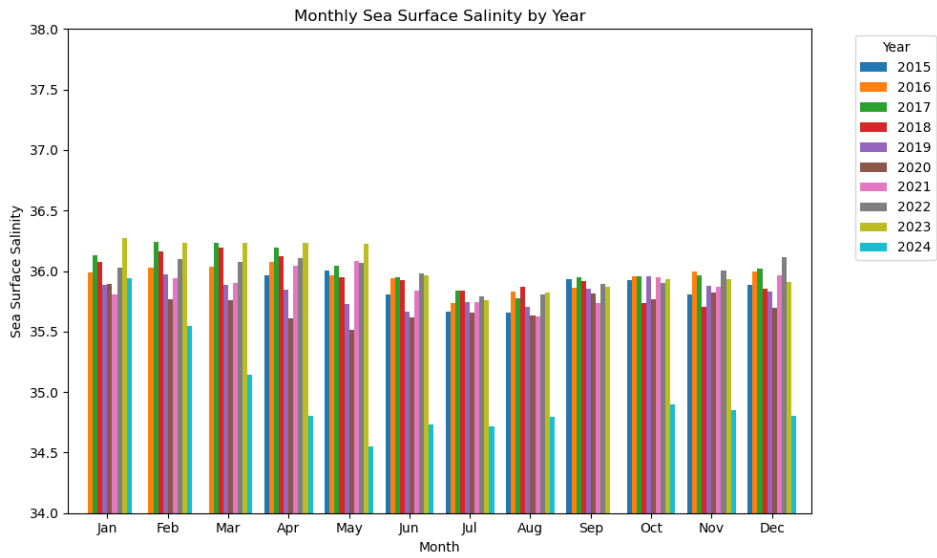


Figure 4: Monthly Chl-a by year

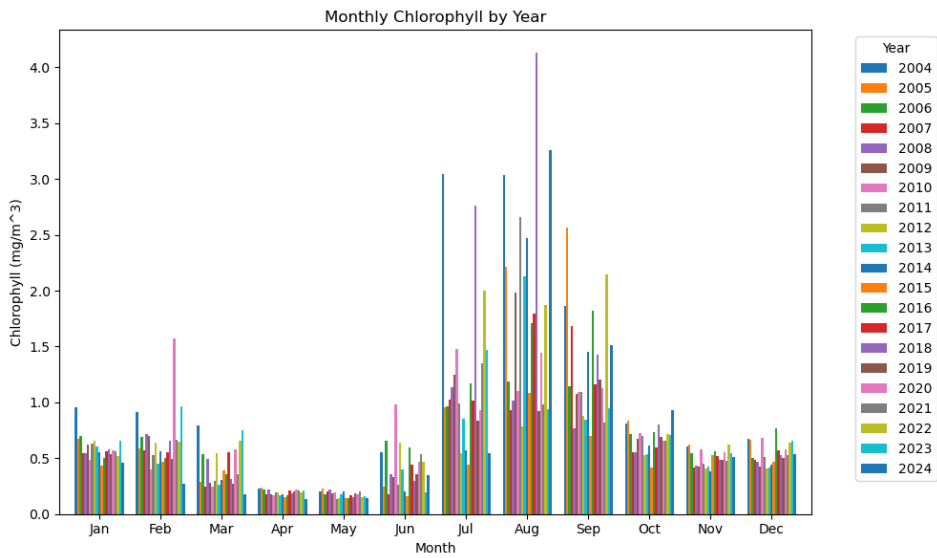
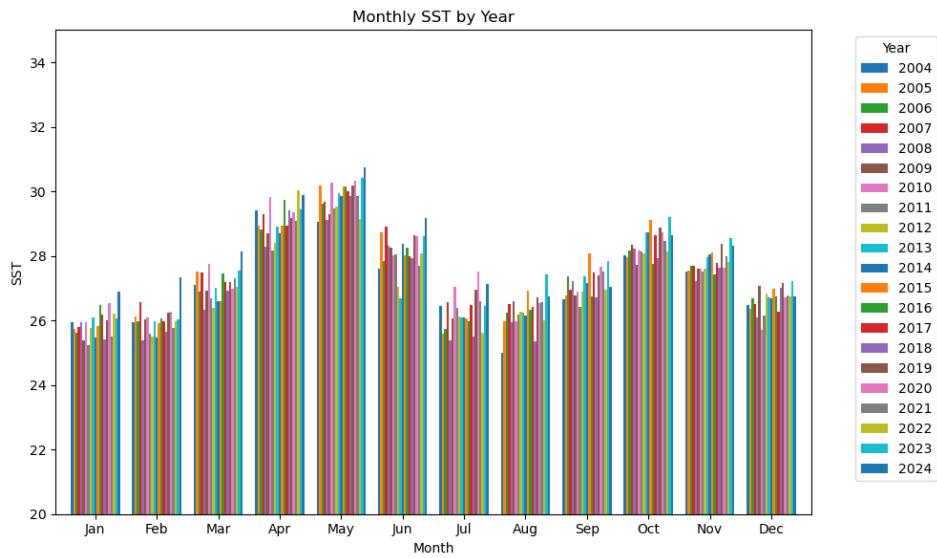


Figure 5: Monthly SST by year



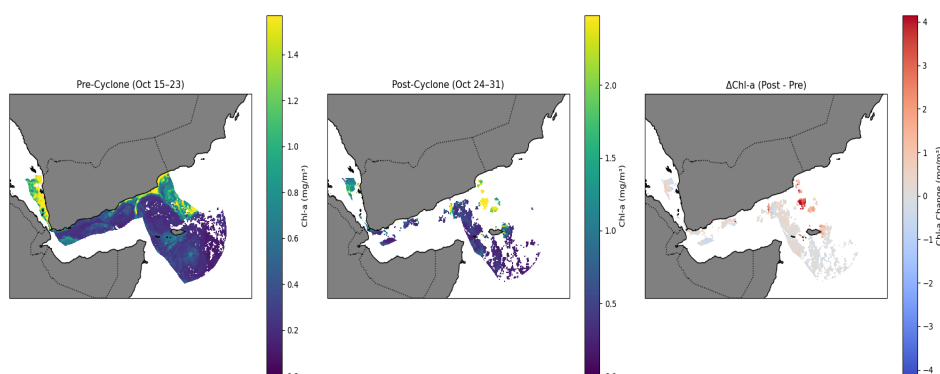
1.7 Correlation matrix and lag effects

Annual means can indicate long-term trends, but climate factors often operate at monthly or even weekly scales. Data analysis showed a marked inverse relationship between SST and SSS in many years, which might stem from episodes of increased rainfall or ocean inflows that coincide with higher surface temperatures. The report also noted a more complex set of relationships between SST and Chl-a. In the short term, warm spells tend to reduce phytoplankton levels, but over a three- to four-month lag, the correlation turns strongly positive. One explanation is that initially, warm temperatures raise stratification, preventing nutrients from reaching surface waters, but later, monsoon-driven mixing or oceanic shifts triggered by seasonal winds can boost nutrient availability, leading to elevated Chl-a. This phenomenon was evident in certain years when a warm spring and early summer gave way to a vigorous late-summer bloom.

1.8 Extreme events

Studies of extreme weather events show that tropical cyclones can rapidly alter SST and nutrient levels through turbulence and upwelling. Cyclone Tej, which struck Yemen's Al Mahrah coast in October 2023, provided a recent example of how such storms can disrupt marine conditions. In the days after Tej, remote sensing data suggested higher Chl-a levels in some offshore regions, presumably caused by mixing of deeper, nutrient-rich waters. Nearshore waters, however, appeared to lose productivity. Turbidity, runoff, and sediment-laden stormwater likely reduced light penetration, overshadowing any nutrient benefit. This contrast between offshore boosts in primary productivity and coastal drops in Chl-a has also been observed after other major cyclones in the Arabian Sea, confirming that storm-driven gains in plankton growth can be highly site-specific.

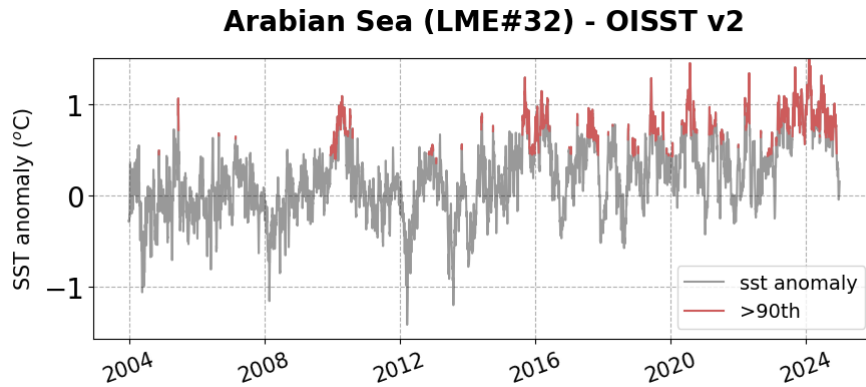
Figure 6: Cyclone Tej chlorophyll changes



Harmful algal blooms (HABs) remain another climate-associated threat. Although not always triggered by storms, temperature anomalies and nutrient surges can create conditions in which certain toxic or oxygen-depleting algae proliferate. These blooms have been recorded elsewhere in the Red Sea and Arabian Sea

and have led to fish kills or contamination of shellfish. Rising temperatures and changing monsoon strengths may make HAB occurrences more frequent over time. Marine heatwaves, defined by abnormally high surface temperatures that persist for several days, have increased in the region since about 2015, with related episodes of coral bleaching and changes in fish abundance.

Figure 7: Marine Heatwaves in the Arabian Sea



1.9 Interactions among temperature, salinity, productivity, and acidification

These four indicators are often assessed separately, but they work in tandem to shape marine ecosystems. Warming can thicken the surface layer and hamper nutrient mixing, which influences phytoplankton abundance. Meanwhile, changes in salinity can modify circulation patterns and water column density, which also affect nutrient flux and oxygen levels. Acidification has a quieter but long-term impact by weakening corals, molluscs, and other calcifiers that form the backbone of coastal marine habitats. Repeated coral bleaching events and gradual dissolution of reef frameworks can reduce fish biodiversity and change species compositions in ways that directly affect artisanal fisheries. Although the Red Sea's elevated alkalinity might delay severe acidification effects, the situation in the Gulf of Aden and the Arabian Sea may prove more problematic over the next few decades as these waters absorb more atmospheric carbon dioxide.

1.10 Limitations and next steps

Due to the ongoing conflict in Yemen, field-based oceanographic campaigns remain rare, leaving researchers heavily reliant on satellite products for temperature, productivity, and salinity data. Remote sensing accuracy can be reduced near coasts, where suspended sediments and shallow reefs confound measurements. Direct tracking of ocean acidification is also lacking, and salinity alone cannot adequately predict pH. Long-term in situ monitoring of pH, total alkalinity, and dissolved inorganic carbon would clarify the true course of

acidification in Yemen's seas. The limited number of years in the dataset for salinity also restricts definitive statements about multi-decadal trends. Expanding data coverage and installing regional observatories or deploying research vessels on a regular basis would help scientists confirm emerging signals of warming, freshening, and productivity declines that could threaten the local fisheries sector. A more robust collaboration between local experts, international institutions, and coastal communities would also help refine climate adaptation strategies.

Fisheries monitoring and management

2.1 Introduction

Yemen's coastal waters have long supported productive fisheries in the Red Sea, Gulf of Aden, and Arabian Sea, forming an essential component of national food security and economic activity. Historically, these waters contained a broad range of fish species, including migratory pelagics and valuable demersal stocks that benefited from the region's upwelling systems and nutrient-rich waters. Despite this potential, fisheries management in Yemen has been constrained by weak data collection practices and escalating overfishing. Conflict-related disruptions since 2014 have further complicated the situation, as key governmental bodies such as the Ministry of Agriculture, Irrigation and Fisheries (MoAIF), and the Marine Science and Biological Research Authority (MSBRA) lost much of their operational capacity. Stock assessments and catch records became sporadic or ceased entirely. To address these limitations, this section presents an approach that combines remote-sensing data, on-the-ground observations, and computer vision for detecting vessel activity. The goal is to produce a near-real-time monitoring system that supports more adaptive fisheries policies in Yemen.

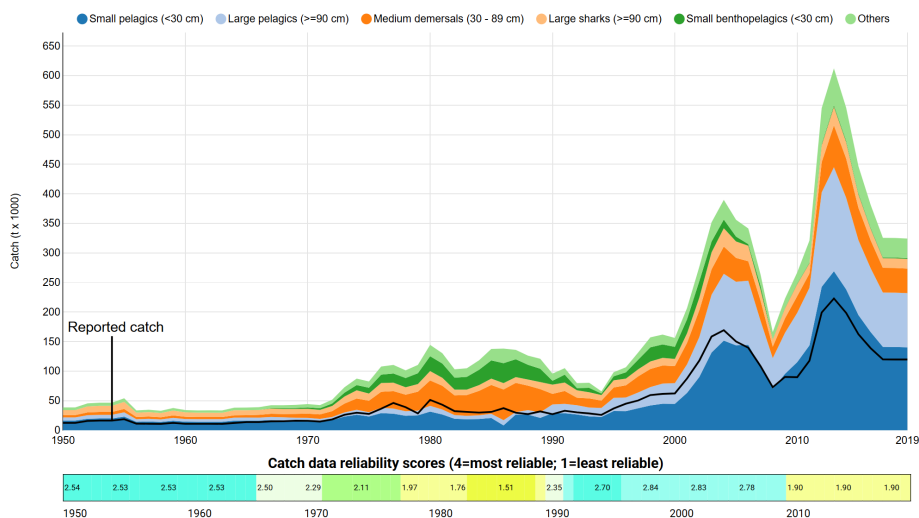
2.2 Background and context

Yemen's marine fisheries are a mainstay for coastal populations and a significant part of the country's economy. Prior to unification in 1990, total annual catches expanded substantially, rising from an estimated 40,000 tonnes in the 1950s to around 175,000 tonnes by the mid-1980s. Following unification, a modernising push caused annual landings to climb further, surpassing 350,000 tonnes in the early 2000s. One study recorded 256,000 tonnes in 2004, and it was noted by the Food and Agriculture Organization (FAO) that fisheries contributed over 15% of Yemen's gross domestic product before the war began in 2014. Fish exports also formed a major share of foreign exchange earnings, as over half of the exported catch was traded with neighbouring Arab markets such as the Kingdom of Saudi Arabia, Egypt, and Oman. By 2013, the country's fish export value had

risen to USD 289 million, though it dropped to USD 170 million in 2014 as the security environment deteriorated.

Yemen's waters contain hundreds of fish species, including nearly a thousand recorded in the Red Sea and Gulf of Aden combined. These species include bony fishes, sharks, and rays, which makes Yemen one of the more biologically diverse fisheries in the region. Migratory pelagic fish such as tuna and mackerel move seasonally between the Gulf of Aden and the Red Sea, passing through Bab-el-Mandeb. This narrow corridor has at times limited the movement of some species, though recent sightings of skipjack tuna in previously unoccupied stretches of the northern Red Sea suggest that warming waters and other environmental shifts may now be affecting fish distribution. Even before the conflict, overall fishery health showed signs of stress. Surveys revealed that actual catches often exceeded official tallies, pointing to widespread under-reporting in artisanal and subsistence sectors. Catch-per-unit-effort had declined for several years, especially in areas such as Socotra, where landings dropped from over 12,000 tonnes in 2000 to about 3,300 tonnes by 2014. Shark populations were under similar pressure due to the fin and meat trade, and rock lobster was heavily targeted in the Red Sea.

Figure 8: FAO Estimated Catch by Type: Gulf of Aden and Arabian Sea



2.3 Regional trends and insights from neighbouring waters

Yemen's fish stocks are part of the broader Red Sea and Indian Ocean systems, which means that events outside Yemen's borders affect local conditions. Neighbouring Red Sea countries had already observed warning signs of overfishing in reef ecosystems. A regional review indicated that many coastal areas were fully or over-exploited by the early 2010s. Stocks such as reef fish and spiny lobster were in decline, and the review called for stepped-up management practices. In the Gulf of Aden and Arabian Sea, oceanographic

features that fuel productive upwelling for sardine, mackerel, and tuna also shape migration patterns. Several post-2014 studies from Oman's waters reported variability in sardine and tuna catches tied to changing climate conditions, suggesting that similar trends likely unfolded in Yemeni waters. Research in Somalia documented a decline in Yemeni fishing effort there due to the war. At the same time, piracy concerns eased in Somali waters, which could have shifted fishing pressure back toward Yemen's zone. The arrival of skipjack tuna in the northern Red Sea in 2021 is another example of cross-regional species movement that may be linked to warming waters. In effect, the combination of overfishing, shifting ocean conditions, and the ongoing conflict has limited Yemen's role in regional fisheries dialogue, making management of migratory stocks more difficult.

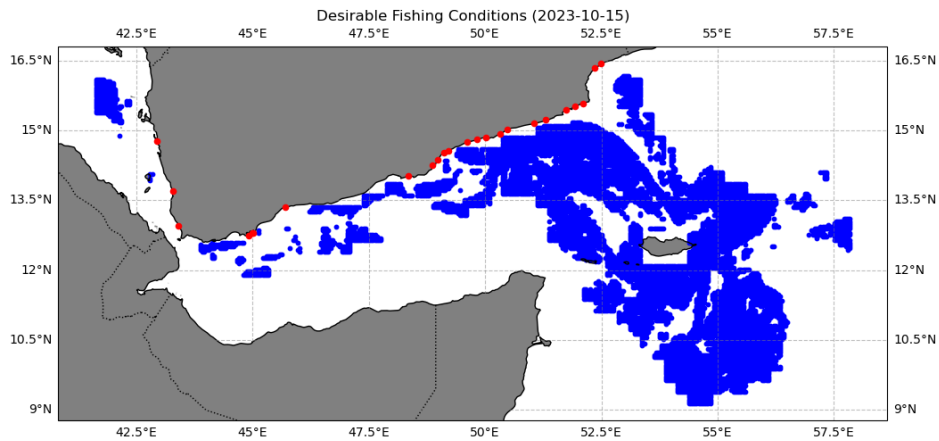
Dynamic fisheries management framework

In order to address research and data gaps, a cohesive framework for revitalising Yemen's marine research and fisheries management is proposed. The aim is to provide a comprehensive understanding of Yemen's fishing value chain by integrating environmental indicators, satellite-based vessel detection methodologies, and ground-based data collection in real time.

The steps towards developing the dynamic framework will be as follows:

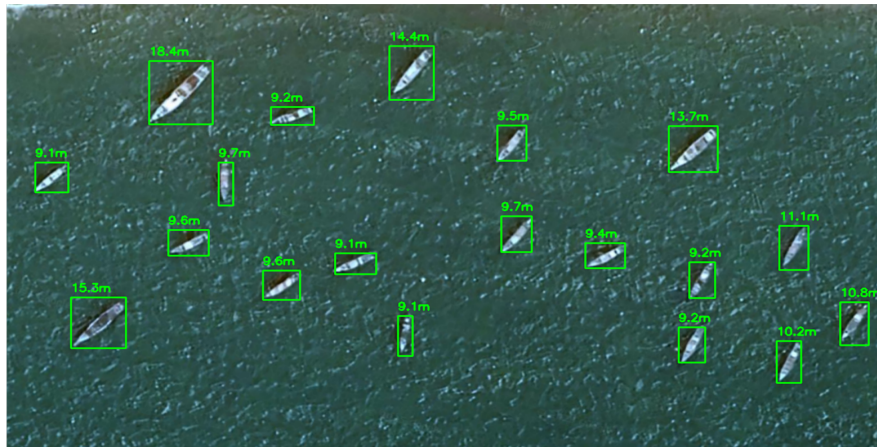
- (i) **Fishing conditions metric construction:** To quantify marine productivity and optimal habitats for pelagic fish, remote sensing data from NASA are leveraged. The optimal thresholds for SST and Chl-a concentrations (based on global/ regional averages) will be identified and overlapped to generate a discrete "fishing conditions", pinpointing areas most likely to yield substantial fish stocks. This comprehensive approach acknowledges not only the seasonal variability of productivity, driven by phenomena like the monsoon cycle, but also the spatial heterogeneity of Yemen's extensive coastline. [Figure 9](#) presents an example of the optimal fishing conditions observed for an eight-day period ending on 15 October 2023.

Figure 9: Optimal Fishing Conditions



- (ii) **Computer vision for vessel detection and capacity estimations:** Applying a real-time object-detection computer model to identifying the type and quantity of fishing vessels in Yemen’s waters. In a validation test at Shuqrah port, the model achieved a 98% accuracy in identifying vessels. Furthermore, once a vessel is detected, its length can also be estimated (Figure 10). By correlating boat size with official catch records from the MoAIF, the likely capacity of each vessel can be inferred, which can support approximating port-wide catch potential in near real time.

Figure 10: Boat length identified through object-detection computer model



- (iii) **Data integration and collaborative framework:** To ensure rigorous validation and long-term feasibility, collaboration between MoAIF and MSBRA will be key. They can support with deploying sensors (e.g., temperature, salinity, nutrients) at strategic port locations. The integrated datasets, remote-sensed SST and Chl-a, in situ measurements, automated vessel counts, and official MoAIF records on catch volume will provide a multi-dimensional perspective of the fisheries value chain. Furthermore, the initiative includes monitoring international fishing activity via transponder data from Global Fishing Watch, aiming to quantify the impact of foreign fleets on local fish stocks.

- (iv) **Applications and expected outcomes:** By harmonising environmental suitability metrics with vessel detection and capacity estimates, this will create a dynamic model of Yemen's fishery sector. Ministries and local stakeholders can utilise these findings to allocate resources effectively, identify high-potential fishing zones, and regulate fishing effort to prevent overexploitation. Equally important, the approach can provide near-real-time alerts about shifts in environmental conditions or external fishing pressures. Ultimately, the work aims not only to fill existing data gaps but also to support data-driven policy decisions, encourage sustainable fishing practices, and enhance the resilience of Yemen's fishery-dependent communities.

Policy recommendations

This report's findings on Yemen's shifting marine environment and the current gaps in fisheries data call for well-defined actions to address climate impacts and strengthen infrastructure. These recommendations emphasise the need for integrated environmental monitoring, an ecosystem-based approach to fisheries management, better support for coastal communities, broad regional partnerships, renewed governance systems, and improved financial mechanisms.

Integrated monitoring of key indicators

A robust, long-term program is needed to observe SST, Chl-a, salinity, and pH in Yemen's Red Sea, Gulf of Aden, and Arabian Sea waters. This effort should combine remote-sensing and locally deployed instruments so that broad-scale satellite insights are complemented by in situ measurements from buoys and research cruises. Data from these activities would be stored in a shared repository managed by the MoAIF and MSBRA, linking environmental shifts to ongoing fisheries observations.

Ecosystem-based fisheries management

Fisheries management must reflect the ways that habitat changes and species movements are shaped by warming waters and shifting productivity. Seasonal closures or adjusted catch limits become essential when indicators such as Chl-a levels begin to fall, or when more frequent heat events put fish stocks under stress. Tighter monitoring of illegal fishing in heavily pressured or sensitive areas is also necessary to safeguard overexploited species.

Climate adaptation for coastal communities

Small-scale fishers need reliable information on extreme weather conditions and on methods to adapt their fishing activities when ocean conditions become unfavourable. Investment in cold storage, fish processing, and related infrastructure will help communities cope with sudden disruptions to fishing effort. Local programs to strengthen safety at sea are increasingly important given volatile weather patterns and the hazards these pose for nearshore or offshore trips.

Regional collaboration and research

Cooperation with organisations like Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) and the FAO can facilitate the sharing of data on transboundary fish stocks. Yemen would benefit from joint surveys in the Red Sea and Gulf of Aden to track shifting fish populations and emerging climate stressors. Regional research on phenomena such as cyclones, ocean heat events, and evolving pH conditions can shed light on medium- and long-term threats to fisheries and marine habitats.

Rebuild fisheries governance and data systems

Port-level landing records, catch data, and fishing effort logs must be reinstated to capture vital information on how the fishery is functioning post-conflict. Remote-sensing techniques, including vessel detection, combined with local reporting, can create an up-to-date picture of fishing operations. This framework should be reinforced by re-establishing stock assessments for species such as tuna, sharks, and lobster, as well as habitat surveys that identify critical nursery and feeding grounds.

Facilitate access to finance and insurance

Developing microfinance and insurance solutions will protect fishers from the financial risk of climate shocks. Such models could include schemes supported by international donors to help replace damaged equipment or offset losses during particularly poor fishing seasons. By linking these financial instruments to broader climate adaptation funding, Yemen's fisheries sector could modernise and become more resilient to changing ocean conditions, supporting both food security and economic stability.

Conclusion

Rebuilding structure and monitoring of Yemen's fisheries amid ongoing challenges necessitates a multi-pronged strategy that restores effective data collection, applies advanced analytical tools, and drives evidence-based policy

decisions. This proposed methodology, featuring a fishing conditions metric grounded in satellite-derived oceanic data, coupled with a cutting-edge computer vision model for vessel detection, directly addresses many of the gaps left by the conflict. Crucially, it re-establishes routine monitoring through partnerships with national agencies, ensuring that the MoAIF and MSBRA can expand their data and validate remote-sensing products with on-the-ground measurements.

There is a significant role for international organisations to play to support the development of an evidence-based, dynamic fisheries model in Yemen through financial support and capacity-building initiatives. Global climate funds can play a vital role in unlocking finance for the sustainable management of fisheries, as well as for leveraging technology to improve data collection and dissemination in Yemen, as they have done in other countries.

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