

Revista Sextante

ISSN : 2665-3923

Vol: 33 No: 01 (2025)

Emerging Maritime Threats and Their Implications for Regional Security Cooperation

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Article History

Received Dec, 09th , 2025

Accepted Dec, 10th , 2025

Published Dec, 11th, 2025



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Abstract

The maritime domain is central to trade, energy, communications and the security of states, yet it is increasingly exposed to threats that cross national boundaries and the traditional divisions between defence, law enforcement and environmental protection. This article examines emerging maritime threats and their implications for regional security cooperation. Drawing on maritime security studies, regional security complex theory, cooperation theory and policy research, it analyses piracy and maritime crime, illegal fishing and resource competition, cyber and technological threats, grey-zone activity, and environmental hazards, and it reviews the institutions through which states cooperate. The analysis indicates that threats are diverse, interconnected and evolving faster than many cooperative arrangements, and that effective regional responses depend on trust, inclusive institutions, information sharing, capacity building and risk-reduction measures. Limitations include divergent threat perceptions, great-power rivalry, uneven capacity and limited evidence of effectiveness. An illustrative figure summarises the expected gap between threat severity and cooperation capacity.

Keywords: maritime threats, regional security cooperation, maritime security, grey-zone activity, maritime cybersecurity

INTRODUCTION

The maritime domain is central to the prosperity and security of modern states. Seaborne trade carries most of the world's goods, undersea cables carry a large share of international data, coastal waters support fisheries and energy production, and strategic straits and sea lanes link economies and shape military planning. As dependence on the sea has grown, so has the diversity of threats that originate in or pass through it, and these threats increasingly cross national boundaries and the traditional divisions between security, economic and environmental concerns (Bueger & Edmunds, 2017). Traditional maritime security thinking concentrated on interstate naval competition and the defence of national waters. Contemporary security agendas are broader, and include piracy and armed robbery, trafficking and

smuggling, illegal fishing, cyber attacks on ships and ports, disputes over maritime boundaries and resources, ambiguous coercion below the threshold of open conflict, and environmental hazards intensified by climate change. Many of these threats are transnational, involve non-state actors and cannot be managed by any single state acting alone, which makes regional cooperation a practical necessity as well as a policy preference. This article examines emerging maritime threats and their implications for regional security cooperation. It reviews conceptual foundations, the changing security environment, the main categories of threat and the institutions through which states cooperate, and it considers the obstacles that limit effective collaboration. The analysis is conceptual and integrative, and the figure presented is an illustrative synthesis rather than a report of new empirical data.

Conceptual Foundations of Maritime Security and Regional Cooperation:

Maritime security is a broad and contested concept. Bueger (2015) argues that it can be understood through its relationships to other concepts, namely marine safety, seapower, the blue economy and human security, and that it functions as a framework linking diverse issues rather than as a single precisely bounded field. This breadth reflects the reality that the same ship, port or sea lane may be relevant simultaneously to trade, defence, law enforcement, environmental protection and the livelihoods of coastal populations. Security studies has also moved beyond a narrow military focus. The securitisation approach emphasises that issues become security issues when they are presented and accepted as existential threats requiring extraordinary measures, and it distinguishes several sectors of security, including military, political, economic, societal and environmental (Buzan et al., 1998). This perspective is useful in the maritime domain, where fisheries depletion, pollution or cyber disruption may be framed as security concerns, with consequences for who responds and what instruments are used. Regional security complex theory argues that security interdependence is strongest among geographically proximate states, whose threats and responses are so interlinked that their security cannot be considered apart (Buzan & Wæver, 2003). Maritime regions such as the Gulf of Guinea, the Indian Ocean, the South China Sea, the Mediterranean and the Caribbean display these patterns. Cooperation theory adds that institutions can help states to share information, reduce transaction costs and build reciprocity even without a dominant power (Keohane, 1984). Together, these perspectives provide the conceptual basis for analysing regional maritime cooperation.

Evolving Maritime Security Environment:

The security environment at sea is being reshaped by several overlapping trends. Global trade and offshore activity have intensified, concentrating traffic and economic value in a small number of chokepoints and ports. Technological change, including digital navigation, automation, autonomous vessels, drones and satellite systems, has created new capabilities and new vulnerabilities. Geopolitical competition among major powers has increased the strategic importance of sea control, access and presence, while many coastal states have expanded their naval and coast guard forces. Non-state and hybrid threats have become more prominent. Criminal networks exploit the vastness of the ocean and gaps in governance to traffic people, drugs, weapons and wildlife, to conduct illegal fishing and to launder money. Armed groups may use small boats and modern communication to threaten shipping, and states may use ambiguous instruments, including maritime militia, coast guard forces and commercial vessels, to pursue strategic aims without triggering open conflict. The boundaries between crime, terrorism, state coercion and economic competition are increasingly blurred. Environmental change adds a further layer of insecurity. Rising seas, intensified storms, warming and acidifying waters and shifting fish stocks threaten coastal communities, alter navigation conditions and may provoke competition over resources. The combined effect of these trends is a security environment that is more complex, interconnected and unpredictable than in the past, and that demands responses combining military, law enforcement, economic and diplomatic tools (Till, 2013).

Piracy, Armed Robbery and Maritime Crime:

Piracy and armed robbery against ships remain significant threats in several regions, even where international naval operations have reduced attacks. Pirate groups exploit weak governance ashore, poverty, limited maritime enforcement and the ease of attacking slow and lightly defended merchant ships. Studies of piracy and maritime terrorism emphasise that the problem is rooted in conditions on land, including state weakness and lack of economic opportunity, and that sustained suppression requires attention to those underlying factors as well as to patrols at sea (Murphy, 2009). The international legal framework defines piracy and gives all states certain authority to suppress it on the high seas, but jurisdictional gaps arise in territorial waters, where primary responsibility lies with the coastal state, and in the practical difficulties of prosecuting suspects. Analysts have examined the strategy, law and diplomacy of counter-piracy, noting the importance of coordinated naval operations, information sharing, regional legal frameworks for prosecution and industry self-protection measures (Kraska, 2011). Successful campaigns have combined these elements rather than relying on any one. Wider maritime crime, including drug and arms trafficking, human smuggling and kidnapping, often involves the same networks and routes. Criminal adaptation is rapid, so that suppression in one area may displace activity to another. Effective responses therefore depend on regional information fusion centres, harmonised laws, joint

patrols and cooperation among navies, coast guards, customs and police. Capacity building for weaker coastal states is essential, since gaps in any one state's enforcement can be exploited to the detriment of the entire region.

Illegal, Unreported and Unregulated Fishing and Resource Competition:

Illegal, unreported and unregulated fishing undermines the sustainability of fish stocks, damages marine ecosystems, deprives coastal states of revenue and harms the livelihoods of small-scale fishers. Global assessments have documented the depletion of fisheries and the large scale of fishing pressure on marine ecosystems, pointing to the need for effective management (Pauly et al., 2002). Illegal fishing is also frequently linked to other crimes, such as forced labour, document fraud and trafficking, and its association with transshipment at sea and flags of convenience makes enforcement difficult. The competition for marine resources, including fish, oil, gas and seabed minerals, is a growing source of tension. Overlapping maritime claims, uncertain boundaries and the movement of fishing fleets into the waters of other states can generate incidents involving coast guard vessels and fishing fleets that escalate into diplomatic disputes. Where fisheries decline, coastal communities may turn to illicit activities, creating a connection between resource depletion and wider insecurity. Regional responses include cooperative monitoring, control and surveillance, shared vessel registries and tracking systems, port state measures that deny entry or services to suspected illegal vessels, and regional fisheries management organisations that set quotas and rules. The principal challenge is aligning the interests of states, since distant-water fishing nations, coastal states and flag states have different incentives. Transparent data, capacity assistance to developing coastal states and credible sanctions are needed to make collective management effective.

Maritime Cyber and Technological Threats:

The digitalisation of shipping and ports has created vulnerabilities that were unimaginable in an earlier era. Ships rely on satellite navigation, electronic charts, automated engine and cargo systems and networked communications, and ports rely on integrated logistics and terminal operating systems. Policy analyses of maritime cybersecurity show that evolving technology has expanded the attack surface of the international shipping sector and that governance of cyber risk remains fragmented (Tam & Jones, 2019). A successful attack could delay cargo, disrupt supply chains, endanger safety or compromise sensitive information. Specific threats include interference with satellite navigation signals through jamming and spoofing, ransomware attacks on port operators and shipping companies, manipulation of identification data, intrusion into onboard networks and risks to undersea cables and offshore energy infrastructure. Such attacks may be conducted by criminals, activists or state-linked actors, and attribution is often difficult, which complicates deterrence and response. The potential for cascading effects across the global economy elevates cyber resilience to a strategic priority. Cyber threats are inherently transnational and therefore call for regional cooperation, which may include shared threat intelligence, common reporting channels, joint exercises, harmonised standards for ships and ports and coordination of responses to incidents. Emerging technologies such as autonomous ships and drones also create new security questions, including how to authenticate vessels, secure communications and regulate the use of unmanned systems in shared waters. Regional frameworks that anticipate these developments will be better prepared than those that respond after incidents occur.

Grey-Zone Activities and Territorial Tensions:

Grey-zone activities, which involve coercive actions below the threshold of armed conflict, are a distinctive feature of contemporary maritime competition. They may include the deployment of coast guard and maritime militia vessels to assert claims, harassment of foreign fishing or survey vessels, construction of features on disputed reefs, restrictions on navigation and the use of legal and administrative measures to strengthen claims. Because such actions fall short of open aggression, they challenge conventional deterrence and make responses difficult to calibrate. Disputes over maritime boundaries and entitlements remain a source of tension in many regions. The law of the sea provides a comprehensive framework for maritime zones, navigation rights and dispute settlement (United Nations, 1982), but differing interpretations, historical claims and strategic interests complicate its application. The principle of freedom of navigation and the rights of states in exclusive economic zones are central to debates, and the way in which states interpret and apply the rules influences regional stability. Regional cooperation in this area focuses on risk reduction rather than on resolving the underlying disputes. Measures include communication channels and hotlines, codes of conduct for unplanned encounters, joint declarations, confidence-building measures such as transparency about exercises, and dialogue among coast guards and navies. Acharya (2014) has argued that regional communities can develop shared norms of restraint and consultation over time, although such processes are gradual and depend on political will. Preventing miscalculation at sea is a pragmatic objective that is achievable even when sovereignty questions remain unresolved.

Environmental Hazards, Climate Change and Human Security:

Environmental hazards are increasingly recognised as maritime security concerns because of their effects on human wellbeing, economic stability and state capacity. Oil spills, hazardous cargo accidents, plastic pollution, harmful algal blooms and the destruction of coastal habitats damage fisheries, tourism and public health. Extreme weather events and

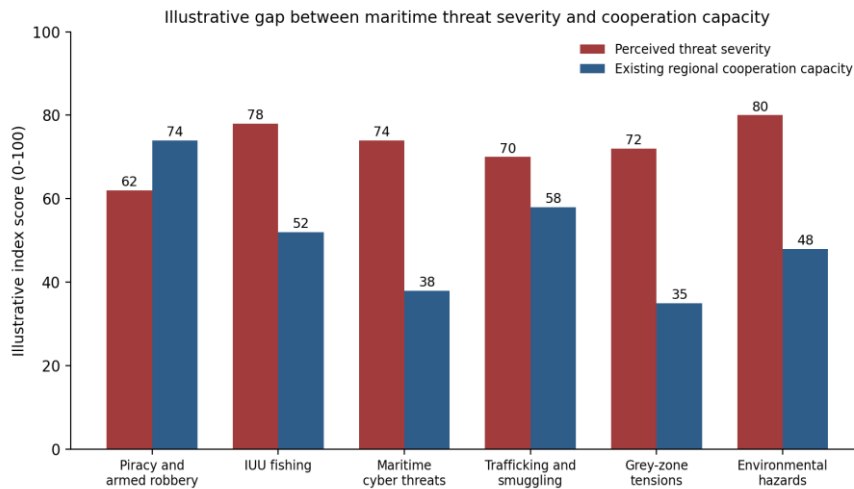
rising sea levels threaten ports, coastal cities and low-lying island states, and may displace populations, creating humanitarian emergencies that demand rapid maritime response. Human security, which focuses on the protection of individuals and communities from threats to their survival and dignity, provides a useful lens in this context. Coastal communities dependent on the sea face risks from loss of livelihood, migration pressure, dangerous sea journeys and exploitation. Search and rescue, humanitarian assistance and disaster relief are among the most practical areas of maritime cooperation, since they serve shared interests and rarely provoke sensitivities about sovereignty, and they offer a way of building trust among navies and coast guards. The security implications of environmental change will be unevenly distributed, with small island states and developing coastal nations most exposed and least equipped. Regional cooperation can pool resources for early warning, hydrographic and oceanographic data, pollution response and disaster preparedness. Integrating environmental considerations into security planning also encourages a more preventive approach, in which the protection of marine ecosystems and sustainable resource management are understood as contributions to long-term stability.

Regional Security Cooperation Mechanisms and Institutions:

Regional cooperation on maritime security takes many forms. Information-sharing centres and agreements enable states to exchange data on vessel movements, incidents and suspected illegal activity, while coordinated patrols and joint exercises build operational interoperability. Legal agreements establish frameworks for prosecuting offenders, for shiprider arrangements that allow enforcement officials of one state to operate aboard the vessels of another, and for assistance in emergencies. Regional organisations and security dialogues provide political forums in which common norms and priorities are negotiated. The effectiveness of these mechanisms depends on several factors. Trust among participants is essential, particularly for sharing sensitive information, and it is built through repeated interaction, transparency and demonstrated reliability. Institutional design matters, including clear mandates, secure communication systems and funding that does not depend on a single donor. Inclusiveness is also important, since the exclusion of relevant states or agencies leaves gaps that criminals and other threats exploit. The involvement of civil society, the shipping industry and scientific institutions enriches the information and legitimacy of regional arrangements.

Challenges, Limitations and Future Directions:

Regional maritime cooperation faces substantial obstacles. Differences in threat perception, capabilities and strategic alignment can prevent agreement on priorities, and concerns about sovereignty, secrecy and dependence on stronger partners can restrict the sharing of information and the conduct of joint operations. Rivalry among major powers may divide regions and undermine inclusive arrangements, while limited resources and legal and institutional weaknesses in some states reduce their capacity to contribute. Overlapping organisations may also produce duplication and confusion rather than coordination. There are analytical limits as well. Evidence on the effectiveness of cooperative mechanisms is incomplete and often based on case studies, and it is difficult to separate the effect of cooperation from other factors such as changes in economic conditions or the activity of external navies. Threats evolve rapidly, so that mechanisms designed for yesterday's problems may prove inadequate. Policymakers should therefore treat cooperation as an adaptive process that requires continuous assessment and learning. Future directions include broadening cooperation to address cyber, environmental and grey-zone challenges alongside traditional concerns, strengthening information-sharing architectures with appropriate safeguards, investing in capacity building for weaker coastal states, and expanding crisis communication and risk-reduction measures. Closer partnerships among navies, coast guards, civilian agencies, industry and researchers would improve the breadth and quality of analysis. Researchers can contribute by developing comparative studies of regional arrangements and by creating indicators that allow the performance of cooperation to be assessed over time (Bueger & Edmunds, 2017).



Summary:

Emerging maritime threats are diverse, transnational and increasingly interconnected. Piracy and maritime crime persist, illegal fishing and resource competition erode both sustainability and stability, cyber and technological vulnerabilities expose ships and ports, grey-zone activities and territorial tensions challenge established norms, and climate change and environmental hazards add humanitarian and economic risks. Because no state can address these threats alone, regional security cooperation is essential for information sharing, coordinated enforcement, risk reduction and capacity building. The effectiveness of regional cooperation depends on trust, inclusive and well-designed institutions, adequate resources and the ability to adapt to new threats. Obstacles include divergent threat perceptions, strategic rivalry, sovereignty concerns and uneven capacity among states, and the evidence base on cooperative performance remains limited. Future efforts should extend cooperation to cyber, environmental and grey-zone challenges, strengthen safeguards and structures for information sharing, support weaker coastal states and invest in comparative research and indicators so that regional arrangements can learn and improve over time.

References:

- Acharya, A. (2014). *Constructing a security community in Southeast Asia: ASEAN and the problem of regional order* (3rd ed.). Routledge.
- Bueger, C. (2015). What is maritime security? *Marine Policy*, 53, 159–164.
- Bueger, C., & Edmunds, T. (2017). Beyond seablindness: A new agenda for maritime security studies. *International Affairs*, 93(6), 1293–1311.
- Buzan, B., & Wæver, O. (2003). *Regions and powers: The structure of international security*. Cambridge University Press.
- Buzan, B., Wæver, O., & de Wilde, J. (1998). *Security: A new framework for analysis*. Lynne Rienner.
- Keohane, R. O. (1984). *After hegemony: Cooperation and discord in the world political economy*. Princeton University Press.
- Kraska, J. (2011). *Contemporary maritime piracy: International law, strategy, and diplomacy at sea*. Praeger.
- Murphy, M. N. (2009). *Small boats, weak states, dirty money: Piracy and maritime terrorism in the modern world*. Columbia University Press.
- Pauly, D., Christensen, V., Guénette, S., Pitcher, T. J., Sumaila, U. R., Walters, C. J., Watson, R., & Zeller, D. (2002). Towards sustainability in world fisheries. *Nature*, 418, 689–695.
- Tam, K., & Jones, K. (2019). Maritime cybersecurity policy: The scope and impact of evolving technology on international shipping. *Journal of Cyber Policy*, 4(1), 25–60.
- Till, G. (2013). *Seapower: A guide for the twenty-first century* (3rd ed.). Routledge.
- United Nations. (1982). *United Nations Convention on the Law of the Sea*. United Nations.