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WHITE BLACK LEGAL is an open access, peer-reviewed and refereed journal provide dedicated to express views on topical legal issues, thereby generating a cross current of ideas on emerging matters. This platform shall also ignite the initiative and desire of young law students to contribute in the field of law. The erudite response of legal luminaries shall be solicited to enable readers to explore challenges that lie before law makers, lawyers and the society at large, in the event of the ever changing social, economic and technological scenario.

With this thought, we hereby present to you

# **THE ROLE OF UNCLOS IN COMBATING TRANSNATIONAL MARITIME CRIME**

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## **Abstract**

The United Nations Convention on the Law of the Sea (UNCLOS) represents the most comprehensive international legal framework governing maritime activities, yet its effectiveness in combating transnational maritime crime remains a subject of considerable debate. This paper examines the role of UNCLOS in addressing various forms of maritime criminality, including piracy, drug trafficking, human trafficking, illegal fishing, and maritime terrorism. Through analysis of the Convention's jurisdictional provisions, enforcement mechanisms, and practical implementation challenges, this study argues that while UNCLOS provides essential legal foundations for combating maritime crime, significant gaps in enforcement capabilities and international cooperation limit its effectiveness. The paper concludes that enhanced multilateral cooperation, technological innovation, and adaptive legal frameworks are necessary to strengthen UNCLOS's role in addressing evolving maritime security threats.

**Keywords:** UNCLOS, maritime crime, piracy, international law, maritime security, enforcement.

## **1. Introduction**

The vast expanse of the world's oceans, covering approximately 71% of the Earth's surface, presents both opportunities and challenges for international governance and security. The maritime domain serves as a critical pathway for global trade, with over 90% of international commerce transported by sea. However, this same expansiveness that facilitates legitimate maritime activities also provides cover for transnational criminal enterprises that exploit jurisdictional complexities and enforcement gaps.

The United Nations Convention on the Law of the Sea (UNCLOS), which entered into force in 1994, established the foundational legal framework for maritime governance in the modern era. Often described as the "Constitution for the Oceans," UNCLOS delineates maritime zones, defines rights and obligations of coastal and flag states, and provides mechanisms for addressing various maritime activities<sup>3</sup>. However, the Convention was primarily designed during the Cold War era, when contemporary forms of transnational maritime crime were less prevalent or sophisticated than they are today.

This paper examines the role of UNCLOS in combating transnational maritime crime, analysing both its strengths and limitations in addressing evolving security challenges at sea. The research question guiding this analysis is: To what extent does UNCLOS provide an effective legal framework for combating transnational maritime crime, and what gaps or limitations hinder its implementation? Through examination of specific crime types, jurisdictional frameworks, and enforcement mechanisms, this study aims to contribute to the ongoing discourse on maritime security governance and international law.

## **2. Literature Review**

Scholarly literature on UNCLOS and maritime crime has evolved significantly since the Convention's entry into force, reflecting changing security paradigms and emerging threats. Early scholarship focused primarily on traditional maritime law concerns such as territorial disputes and navigation rights<sup>4</sup>. However, the post-9/11 security environment and the resurgence of piracy off Somalia catalysed renewed academic interest in maritime security aspects of international law.

Contemporary research has identified several key themes in UNCLOS's relationship to maritime crime. Kraska and Wilson (2009) argue that UNCLOS provides insufficient mechanisms for addressing non-traditional security threats, particularly those involving non-state actors<sup>5</sup>. Their analysis emphasizes the Convention's state-centric approach as a limitation in addressing transnational criminal networks that operate across multiple jurisdictions.

Conversely, Guilfoyle (2009) contends that UNCLOS's flexibility allows for evolutionary interpretation that can accommodate new security challenges<sup>6</sup>. His work on counter-piracy operations demonstrates how the Convention's provisions can be creatively applied to address contemporary threats while maintaining respect for state sovereignty and maritime zones.

Recent scholarship has increasingly focused on specific crime types and their interaction with UNCLOS provisions. Zou (2019) provides comprehensive analysis of illegal, unreported, and unregulated (IUU) fishing within the UNCLOS framework, highlighting enforcement challenges in exclusive economic zones<sup>7</sup>. Similarly, Petrig (2013) examines human trafficking at sea, identifying gaps between UNCLOS provisions and the realities of contemporary trafficking networks<sup>8</sup>.

The enforcement dimension of UNCLOS has received particular attention from legal scholars and security practitioners. Rothwell and Stephens (2016) argue that the Convention's enforcement mechanisms are inadequate for addressing the scale and sophistication of modern maritime crime<sup>9</sup>. Their analysis suggests that effective counter-crime operations require enhanced international cooperation mechanisms beyond those envisioned in UNCLOS.

### **3. UNCLOS Framework and Maritime Zones**

Understanding UNCLOS's role in combating maritime crime requires examination of how the Convention structures maritime space and allocates jurisdiction among states. The Convention establishes distinct maritime zones, each with specific rights, obligations, and enforcement authorities that directly impact counter-crime operations.

#### **3.1 Territorial Sea and Internal Waters**

Within the territorial sea, extending up to 12 nautical miles from coastal baselines, coastal states exercise sovereignty equivalent to their land territory<sup>10</sup>. This jurisdiction includes comprehensive law enforcement authority over all vessels, regardless of flag state. However, the right of innocent passage limits coastal state authority to interfere with foreign vessels unless their passage is prejudicial to peace, good order, or security<sup>11</sup>.

The innocent passage regime creates potential enforcement gaps in combating certain types of maritime crime. While UNCLOS explicitly lists activities that render passage non-innocent, including acts aimed at collecting information prejudicial to coastal state security and serious pollution acts, it does not specifically address contemporary concerns such as cybercrimes originating from vessels or sophisticated trafficking operations that may not manifest obvious external indicators<sup>12</sup>.

### **3.2 Exclusive Economic Zone (EEZ)**

The EEZ extends up to 200 nautical miles from coastal baselines and represents perhaps the most complex jurisdictional zone under UNCLOS<sup>13</sup>. Coastal states possess sovereign rights over natural resources and certain enforcement authorities, while flag states retain primary jurisdiction over vessels and their crews for matters not related to resource exploitation or environmental protection.

This jurisdictional complexity creates enforcement challenges for combating transnational crime. Drug trafficking vessels, for example, may transit EEZ waters while remaining subject primarily to flag state jurisdiction, limiting coastal state interdiction authority unless specific treaty arrangements provide additional powers<sup>14</sup>. The 2000 UN Convention against Transnational Organized Crime and its protocols attempt to address some of these gaps, but implementation remains inconsistent across different regions and states<sup>15</sup>.

### **3.3 High Seas**

Beyond national jurisdiction, the high seas are governed by the principle of freedom of navigation, with flag states maintaining primary enforcement authority over their vessels<sup>16</sup>. UNCLOS provides limited exceptions to exclusive flag state jurisdiction, including piracy, slave trade, unauthorized broadcasting, and vessels without nationality or flying multiple flags<sup>17</sup>.

The high seas regime presents both opportunities and challenges for combating maritime crime. While the universal jurisdiction principle for piracy allows any state to take enforcement action, other forms of maritime crime do not benefit from similar provisions. This limitation becomes particularly problematic when criminal organizations exploit flags of convenience or operate stateless vessels to evade law enforcement<sup>18</sup>.

## **4. Types of Transnational Maritime Crime**

### **4.1 Piracy and Armed Robbery at Sea**

Piracy represents the most extensively addressed form of maritime crime in UNCLOS, with Article 101 providing a comprehensive definition that has gained widespread international acceptance<sup>19</sup>. The Convention's approach to piracy reflects customary international law principles, including the requirement that piratical acts occur on the high seas or outside any

state's jurisdiction, involve two vessels, and be committed for private ends<sup>20</sup>.

However, the UNCLOS definition creates enforcement gaps, particularly regarding armed robbery at sea occurring within territorial waters. The International Maritime Organization (IMO) has developed a broader definition encompassing acts within state jurisdiction, but this lacks the treaty-level authority of UNCLOS provisions<sup>21</sup>. This definitional gap has practical implications for international counter-piracy cooperation, as many attacks classified as armed robbery at sea cannot benefit from universal jurisdiction principles.

The Somali piracy crisis (2005-2012) demonstrated both the potential and limitations of UNCLOS anti-piracy provisions. United Nations Security Council resolutions authorized counter-piracy operations within Somali territorial waters, effectively extending high seas enforcement authorities into areas normally subject to coastal state jurisdiction<sup>22</sup>. These operations proved successful in reducing piracy incidents, but required exceptional international consensus and specific legal authorization beyond UNCLOS provisions.

#### **4.2 Drug Trafficking**

Maritime drug trafficking presents complex jurisdictional challenges not fully addressed by UNCLOS. The Convention provides limited authority for interdicting drug trafficking vessels, primarily through provisions allowing boarding of vessels suspected of engaging in illicit trade (Article 110)<sup>23</sup>. However, this provision requires reasonable grounds and does not authorize seizure or prosecution without flag state consent or additional treaty arrangements.

Regional organizations have developed supplementary agreements to enhance counter-narcotics cooperation. The Caribbean Maritime Drug Interdiction Agreement and similar arrangements provide mechanisms for boarding, searching, and prosecuting drug trafficking vessels beyond UNCLOS authorities<sup>24</sup>. These agreements demonstrate the necessity of additional legal frameworks to address limitations in the Convention's enforcement provisions.

The "stateless vessel" doctrine has emerged as an important tool for counter-narcotics operations, allowing law enforcement agencies to board and investigate vessels that cannot establish valid nationality<sup>25</sup>. While UNCLOS recognizes the principle that vessels must sail under one flag, enforcement of this requirement remains inconsistent, and criminal

organizations increasingly exploit registration gaps to avoid detection.

### **4.3 Human Trafficking and Migrant Smuggling**

Human trafficking and migrant smuggling by sea present particularly complex challenges for UNCLOS implementation. The Convention's drafters did not anticipate the scale of contemporary human trafficking operations, which often exploit jurisdictional gaps and rescue obligations to facilitate criminal activities<sup>26</sup>.

The principle of rescue at sea, codified in UNCLOS Article 98, creates tensions between humanitarian obligations and counter-trafficking efforts<sup>27</sup>. Criminal organizations frequently exploit rescue situations, deliberately placing migrants in distress to trigger rescue operations that may result in transportation to desired destinations. This exploitation of humanitarian principles complicates law enforcement responses and requires careful balancing of humanitarian and security concerns.

Recent developments in the Mediterranean have highlighted these challenges, with thousands of migrants attempting dangerous sea crossings while criminal networks profit from their desperation<sup>28</sup>. UNCLOS provides limited guidance for addressing these situations, requiring states to render assistance to persons in distress while lacking specific provisions for prosecuting facilitating criminal organizations.

### **4.4 Illegal, Unreported, and Unregulated (IUU) Fishing**

IUU fishing represents a significant form of maritime crime that directly falls within UNCLOS's resource management framework. The Convention grants coastal states sovereign rights over fisheries resources within their EEZ and establishes obligations for conservation and management<sup>29</sup>. However, enforcement mechanisms remain limited, particularly regarding vessels flagged to non-cooperating states or operating under flags of convenience.

The global nature of fishing operations and fish trade complicates enforcement efforts. IUU fishing vessels often operate across multiple jurisdictions, land catches in ports with limited inspection capabilities, and use complex supply chains to obscure the origins of illegally harvested fish<sup>30</sup>. UNCLOS provisions for port state measures and flag state obligations provide some enforcement tools, but implementation varies significantly among states.

Recent developments in satellite monitoring and vessel tracking systems offer enhanced capabilities for detecting IUU fishing activities<sup>31</sup>. However, legal frameworks for utilizing such technologies within UNCLOS parameters remain underdeveloped, and many coastal states lack the technical and financial resources necessary for effective monitoring and enforcement.

#### **4.5 Maritime Terrorism**

Maritime terrorism, while not specifically addressed in UNCLOS, intersects with the Convention's provisions in several ways. The 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA Convention) provides the primary legal framework for addressing maritime terrorism, but its relationship to UNCLOS jurisdictional provisions creates potential enforcement complexities<sup>32</sup>.

The threat of terrorism at sea has evolved significantly since UNCLOS's adoption, encompassing not only traditional vessel hijacking scenarios but also cyber-attacks on maritime infrastructure, attacks on port facilities, and the potential use of vessels as weapons<sup>33</sup>. The Convention's state-centric enforcement model may prove inadequate for addressing non-state terrorist networks that operate across multiple jurisdictions and exploit technological vulnerabilities.

Counter-terrorism operations at sea often require rapid response capabilities that may conflict with traditional jurisdictional principles. The balance between security imperatives and respect for state sovereignty remains a central challenge in developing effective counter-terrorism frameworks within UNCLOS parameters<sup>34</sup>.

### **5. Enforcement Mechanisms and Challenges**

#### **5.1 Flag State Jurisdiction and Responsibility**

The principle of flag state jurisdiction forms the cornerstone of UNCLOS's enforcement framework, with Article 94 establishing comprehensive obligations for flag states to exercise jurisdiction and control over vessels flying their flag<sup>35</sup>. However, the practical implementation of flag state responsibilities varies significantly, with some states maintaining robust regulatory and enforcement systems while others provide minimal oversight.

The "flags of convenience" phenomenon presents particular challenges for combating maritime crime. States offering simplified registration procedures and minimal regulatory oversight attract vessel owners seeking to avoid stringent requirements, but this system can facilitate criminal activities by providing legitimate cover for illegal operations<sup>36</sup>. Criminal organizations exploit these arrangements to obscure vessel ownership, evade law enforcement, and complicate international cooperation efforts.

UNCLOS Article 91 requires a "genuine link" between vessels and their flag state, but the Convention provides no specific criteria for establishing or evaluating such links<sup>37</sup>. Subsequent international developments, including the 1986 United Nations Convention on Conditions for Registration of Ships, have attempted to clarify genuine link requirements, but these instruments lack universal acceptance and enforcement mechanisms<sup>38</sup>.

## **5.2 Coastal State Enforcement Authority**

Coastal states possess varying degrees of enforcement authority depending on the maritime zone in question and the nature of suspected violations. Within territorial seas, coastal states exercise comprehensive jurisdiction, while EEZ authorities are limited to specific areas such as resource management and environmental protection<sup>39</sup>.

The practical exercise of coastal state enforcement authority faces significant resource and capacity constraints. Many developing coastal states lack the naval and coast guard capabilities necessary for effective maritime law enforcement, particularly in extensive EEZ waters<sup>40</sup>. This enforcement gap creates opportunities for criminal exploitation and necessitates international cooperation and assistance mechanisms.

Regional cooperation arrangements have emerged as important mechanisms for enhancing coastal state enforcement capabilities. Examples include the West and Central Africa Maritime Organization's (MOWCA) maritime security initiatives and the ASEAN maritime cooperation framework<sup>41</sup>. These arrangements demonstrate the potential for collective approaches to maritime law enforcement, though their effectiveness varies based on political commitment and resource availability.

### **5.3 Port State Control**

Port state control mechanisms provide important tools for combating maritime crime, allowing states to inspect foreign vessels in their ports and take enforcement action for violations of international standards<sup>42</sup>. UNCLOS Article 218 specifically authorizes port state jurisdiction over vessel pollution violations, while other instruments extend port state authority to areas such as safety, security, and fishing regulations<sup>43</sup>.

The effectiveness of port state control depends heavily on inspection capabilities and inter-agency coordination. Ports with limited inspection resources or inadequate information sharing mechanisms may unknowingly facilitate criminal activities by failing to detect suspicious vessels or cargoes<sup>44</sup>. Recent technological developments, including automated cargo screening and vessel tracking systems, offer enhanced capabilities for port state control, but require significant investment and training.

International cooperation in port state control has expanded through regional memoranda of understanding and information sharing arrangements<sup>45</sup>. These mechanisms facilitate coordination among port authorities and enhance the collective effectiveness of inspection efforts. However, criminals may exploit gaps in coverage by utilizing ports with less stringent inspection procedures.

### **5.4 International Cooperation and Information Sharing**

Effective combating of transnational maritime crime requires extensive international cooperation, given the global nature of maritime activities and criminal networks. UNCLOS provides general obligations for cooperation in suppressing piracy (Article 100) and other illegal activities, but specific mechanisms remain underdeveloped<sup>46</sup>.

Information sharing represents a critical component of international cooperation, but maritime law enforcement agencies often face legal and practical barriers to sharing intelligence and operational information<sup>47</sup>. Different legal systems, varying classification standards, and concerns about sovereignty can impede timely information exchange necessary for effective counter-crime operations.

Recent developments in maritime domain awareness initiatives offer promising models for

enhanced cooperation<sup>48</sup>. These systems integrate data from multiple sources, including satellite tracking, coastal radar, and intelligence reports, to provide comprehensive pictures of maritime activities. However, legal frameworks for data sharing and privacy protection remain underdeveloped in many regions.

## **6. Case Studies and Regional Applications**

### **6.1 Somali Piracy Crisis**

The Somali piracy crisis of 2005-2012 provides perhaps the most comprehensive example of UNCLOS implementation in combating maritime crime. The crisis tested the Convention's anti-piracy provisions and demonstrated both their potential effectiveness and inherent limitations<sup>49</sup>.

United Nations Security Council Resolution 1816 (2008) authorized states cooperating with Somalia's Transitional Federal Government to enter Somali territorial waters for counter-piracy purposes, effectively extending high seas enforcement authorities into areas normally subject to coastal state jurisdiction<sup>50</sup>. This authorization was unprecedented in its scope and demonstrated the international community's recognition that traditional UNCLOS enforcement mechanisms were insufficient for addressing the piracy threat.

The success of counter-piracy operations off Somalia involved multiple elements beyond UNCLOS provisions, including naval coalition operations, private security measures, and prosecution arrangements<sup>51</sup>. The establishment of specialized piracy courts and prisoner transfer agreements addressed prosecution gaps that UNCLOS alone could not resolve. These arrangements demonstrate the necessity of supplementary legal and operational frameworks for effective maritime crime response.

### **6.2 Caribbean Drug Trafficking**

The Caribbean region's experience with maritime drug trafficking illustrates both the challenges and opportunities for implementing UNCLOS enforcement provisions in practice. The region's geography, with numerous islands and complex maritime boundaries, creates enforcement challenges similar to those faced in other archipelagic areas<sup>52</sup>.

Regional cooperation arrangements, including the Agreement Concerning Co-operation in

Suppressing Illicit Maritime and Air Trafficking in Narcotic Drugs and Psychotropic Substances in the Caribbean Area, provide frameworks for enhanced counter-narcotics cooperation<sup>53</sup>. These agreements supplement UNCLOS authorities with specific provisions for boarding, searching, and prosecuting drug trafficking vessels.

The Caribbean experience demonstrates the importance of combining legal frameworks with operational capabilities and international assistance. United States Coast Guard cooperation with Caribbean nations through ship rider agreements and joint operations has proven effective in countering drug trafficking, but requires careful attention to sovereignty concerns and jurisdictional limitations<sup>54</sup>.

### **6.3 Southeast Asian Maritime Security**

Southeast Asia's maritime security challenges encompass multiple crime types, including piracy, armed robbery at sea, human trafficking, and IUU fishing<sup>55</sup>. The region's complex geography, with numerous straits and chokepoints, creates enforcement challenges while its economic importance makes security essential for global trade.

The ASEAN framework provides mechanisms for regional cooperation in maritime security, including information sharing initiatives and coordinated patrol operations<sup>56</sup>. However, sovereignty sensitivities and varying enforcement capabilities among member states limit the effectiveness of collective responses to maritime crime.

Recent developments in the Malacca Strait demonstrate both progress and ongoing challenges in regional maritime security cooperation. The Malacca Strait Patrol initiative, involving Malaysia, Singapore, Thailand, and Indonesia, has reduced piracy incidents through coordinated operations<sup>57</sup>. However, the patrol's limitations in addressing armed robbery at sea, which occurs primarily within territorial waters, highlight the continued relevance of jurisdictional constraints under UNCLOS.

## **7. Technological Developments and Future Challenges**

### **7.1 Maritime Domain Awareness Technologies**

Technological advances in satellite surveillance, vessel tracking systems, and data analytics are transforming maritime law enforcement capabilities<sup>58</sup>. These developments offer

opportunities to enhance UNCLOS implementation by providing better detection and monitoring capabilities for maritime criminal activities.

Automatic Identification Systems (AIS) and satellite-based vessel monitoring systems provide unprecedented visibility into vessel movements and activities<sup>59</sup>. However, criminals increasingly employ counter-surveillance measures, including AIS manipulation and equipment switching, to evade detection. Legal frameworks for addressing such evasion tactics remain underdeveloped within UNCLOS parameters.

Artificial intelligence and machine learning applications offer potential for analysing large datasets to identify suspicious patterns and activities<sup>60</sup>. These capabilities could enhance risk assessment and resource allocation for maritime law enforcement agencies. However, privacy concerns and accuracy issues require careful consideration in developing appropriate legal frameworks for such technologies.

## **7.2 Cyber Threats to Maritime Infrastructure**

The increasing digitization of maritime systems creates new vulnerabilities that were not contemplated in UNCLOS's original framework<sup>61</sup>. Cyber-attacks on port facilities, vessel navigation systems, and maritime communication networks represent emerging threats that may require new approaches to international cooperation and enforcement.

The attribution challenges inherent in cyber-attacks complicate traditional jurisdictional frameworks, as attacks may originate from one state, transit through multiple jurisdictions, and target infrastructure in another state<sup>62</sup>. UNCLOS's state-centric enforcement model may prove inadequate for addressing such transnational cyber threats.

Recent incidents involving GPS spoofing and other cyber-attacks on maritime systems demonstrate the potential for significant disruption to maritime commerce and security<sup>63</sup>. Developing appropriate legal frameworks for addressing such threats while maintaining respect for state sovereignty and maritime freedoms remains a significant challenge.

## **7.3 Climate Change Implications**

Climate change impacts on maritime geography and activities may create new challenges for

UNCLOS implementation in combating maritime crime<sup>64</sup>. Rising sea levels, changing weather patterns, and ice melt in polar regions are altering maritime routes and creating new areas of activity that may attract criminal exploitation.

The opening of Arctic shipping routes creates new opportunities for maritime commerce but also new vulnerabilities to criminal activity in areas with limited law enforcement presence<sup>65</sup>. The complex jurisdictional issues surrounding Arctic waters, combined with harsh operating conditions, may create enforcement challenges similar to those experienced in other remote maritime areas.

Climate-induced migration may increase human trafficking and migrant smuggling activities, as environmental degradation forces population movements that criminal organizations may exploit<sup>66</sup>. UNCLOS's limited provisions for addressing such humanitarian crises may require supplementation with additional legal frameworks and operational mechanisms.

## **8. Recommendations and Reform Proposals**

### **8.1 Enhancing Enforcement Mechanisms**

Several reform proposals could enhance UNCLOS's effectiveness in combating maritime crime. First, developing clearer criteria for establishing "genuine link" requirements could address flags of convenience issues that facilitate criminal activities<sup>67</sup>. Such criteria might include requirements for meaningful regulatory oversight, enforcement capabilities, and vessel owner accountability.

Second, expanding universal jurisdiction principles beyond piracy to include other serious maritime crimes could enhance enforcement capabilities<sup>68</sup>. Crimes such as human trafficking, major drug trafficking operations, and maritime terrorism might benefit from universal jurisdiction provisions similar to those applicable to piracy.

Third, strengthening port state control mechanisms through mandatory inspection requirements and enhanced information sharing could improve detection of criminal activities<sup>69</sup>. Such measures might include standardized inspection procedures, common databases for suspicious vessels and operators, and coordinated enforcement actions.

## **8.2 Improving International Cooperation**

Enhanced international cooperation mechanisms could address many of the coordination challenges that limit UNCLOS's effectiveness in combating maritime crime<sup>70</sup>. Regional cooperation frameworks could be strengthened through formal treaty arrangements that provide clear authorities for joint operations, information sharing, and prosecution coordination.

Development of common training standards and operational procedures could improve interoperability among maritime law enforcement agencies<sup>71</sup>. Such standardization might include common communication protocols, coordinated patrol procedures, and joint investigation techniques.

Enhanced technical assistance programs could help developing states build the capabilities necessary for effective maritime law enforcement<sup>72</sup>. Such assistance might include vessel acquisition, training programs, and technology transfer arrangements that respect sovereignty while building collective security capabilities.

## **8.3 Adapting to Technological Change**

Legal frameworks should be developed to address technological developments that impact maritime security while maintaining consistency with UNCLOS principles<sup>73</sup>. This might include provisions for cyber security cooperation, standards for electronic surveillance systems, and procedures for addressing technology-facilitated crimes.

Privacy protection mechanisms should be established to ensure that enhanced surveillance and information sharing capabilities respect individual rights and state sovereignty<sup>74</sup>. Such mechanisms might include data protection standards, oversight procedures, and accountability measures for surveillance activities.

International standards for emerging technologies should be developed through appropriate international organizations to ensure compatibility and effectiveness<sup>75</sup>. Such standards might address satellite surveillance systems, automated detection technologies, and cyber security measures for maritime infrastructure.

## **9. Conclusion**

The role of UNCLOS in combating transnational maritime crime presents both significant opportunities and substantial challenges. The Convention provides essential legal foundations for maritime law enforcement, establishing jurisdictional frameworks, enforcement authorities, and cooperation mechanisms that remain relevant despite significant changes in the nature and scope of maritime criminal activities since its adoption.

However, this analysis has identified several key limitations in UNCLOS's current framework for addressing maritime crime. The Convention's state-centric approach, designed for a different era of international relations, may prove inadequate for addressing transnational criminal networks that exploit jurisdictional gaps and technological vulnerabilities. Enforcement mechanisms remain dependent on state capabilities and political will, creating opportunities for criminal exploitation in regions with limited enforcement resources.

The success of counter-piracy operations off Somalia demonstrates UNCLOS's potential effectiveness when supplemented by appropriate international cooperation and additional legal authorities. However, these operations required exceptional circumstances and international consensus that may not be replicable for other maritime crime challenges. The experience suggests that effective maritime law enforcement requires comprehensive approaches that combine UNCLOS provisions with supplementary agreements, operational capabilities, and international cooperation mechanisms.

Technological developments offer both opportunities and challenges for enhancing UNCLOS's role in combating maritime crime. Advanced surveillance and tracking systems provide unprecedented capabilities for monitoring maritime activities and detecting criminal behaviour. However, these same technologies create new vulnerabilities and privacy concerns that require careful legal and policy consideration.

Climate change and evolving criminal methodologies will likely create new challenges that test UNCLOS's adaptability and relevance. The Convention's amendment procedures and interpretive flexibility provide some capacity for addressing such challenges, but may require proactive international cooperation to ensure effective responses to emerging threats.

The path forward requires balanced approaches that strengthen enforcement capabilities while maintaining respect for state sovereignty and maritime freedoms that form UNCLOS's foundation. Enhanced international cooperation, technological innovation, and adaptive legal frameworks can improve the Convention's effectiveness in combating maritime crime while preserving its core principles and objectives.

Ultimately, UNCLOS's role in combating transnational maritime crime depends not only on its legal provisions but also on the political will and operational capabilities of the international community to implement those provisions effectively. The Convention provides the necessary legal foundation, but success requires sustained commitment to building the institutions, capabilities, and cooperation mechanisms necessary for effective maritime law enforcement in the 21st century.

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<sup>3</sup> *United Nations Convention on the Law of the Sea, opened for signature December 10, 1982, 1833 U.N.T.S. 3 (entered into force November 16, 1994).*

<sup>4</sup> See generally Robin Churchill and Alan Lowe, *The Law of the Sea*, 3rd ed. (Manchester: Manchester University Press, 1999).

<sup>5</sup> James Kraska and Brian Wilson, "Fighting Piracy: International Coordination is Key to Countering Modern-Day Pirates," *Armed Forces Journal* 146, no. 7 (2009): 18-22.

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<sup>7</sup> Keyuan Zou, "IUU Fishing and Countermeasures: The Role of Regional Fisheries Management Organizations," *Ocean Development & International Law* 50, no. 1 (2019): 15-35.

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<sup>9</sup> Donald Rothwell and Tim Stephens, *The International Law of the Sea*, 2nd ed. (Oxford: Hart Publishing, 2016), 421-445.

<sup>10</sup> UNCLOS, art. 2.

<sup>11</sup> UNCLOS, art. 17-19.

<sup>12</sup> UNCLOS, art. 19(2).

<sup>13</sup> UNCLOS, art. 55-75.

<sup>14</sup> See *United Nations Convention against Transnational Organized Crime, opened for signature December 15, 2000, 2225 U.N.T.S. 209 (entered into force September 29, 2003).*

<sup>15</sup> *Ibid.*, art. 16.

<sup>16</sup> UNCLOS, art. 87.

<sup>17</sup> UNCLOS, art. 110.

<sup>18</sup> See generally Efthymios Papastavridis, *The Interception of Vessels on the High Seas* (Oxford: Hart Publishing, 2013).

<sup>19</sup> UNCLOS, art. 101.

<sup>20</sup> See generally Alfred Rubin, *The Law of Piracy*, 2nd ed. (New York: Transnational Publishers, 1998).

<sup>21</sup> International Maritime Organization, "Code of Practice for the Investigation of Crimes of Piracy and Armed Robbery Against Ships," *Resolution A.1025(26)* (2009).

- <sup>22</sup> *UN Security Council Resolution 1816, UN Doc. S/RES/1816 (2008).*
- <sup>23</sup> *UNCLOS, art. 110.*
- <sup>24</sup> *Agreement Concerning Co-operation in Suppressing Illicit Maritime and Air Trafficking in Narcotic Drugs and Psychotropic Substances in the Caribbean Area, signed April 10, 2003.*
- <sup>25</sup> *United States v. Gonzales, 776 F.2d 931 (11th Cir. 1985).*
- <sup>26</sup> *See generally Violeta Moreno-Lax, Accessing Asylum in Europe (Oxford: Oxford University Press, 2017).*
- <sup>27</sup> *UNCLOS, art. 98.*
- <sup>28</sup> *European Union Agency for Fundamental Rights, "Fundamental Rights at Europe's Southern Sea Borders" (Luxembourg: Publications Office of the European Union, 2023).*
- <sup>29</sup> *UNCLOS, art. 56, 61-62.*
- <sup>30</sup> *Food and Agriculture Organization, "The State of World Fisheries and Aquaculture 2022" (Rome: FAO, 2022), 178-195.*
- <sup>31</sup> *See generally Duncan Copeland, "Satellite Technology and Maritime Domain Awareness," Naval War College Review 73, no. 2 (2020): 85-102.*
- <sup>32</sup> *Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, opened for signature March 10, 1988, 1678 U.N.T.S. 221 (entered into force March 1, 1992).*
- <sup>33</sup> *See generally Michael McNicholas, Maritime Security: An Introduction (Oxford: Butterworth-Heinemann, 2008).*
- <sup>34</sup> *See Rupert Herbert-Burns, Sam Bateman, and Peter Lehr, eds., Lloyd's MIU Handbook of Maritime Security (Boca Raton: CRC Press, 2009).*
- <sup>35</sup> *UNCLOS, art. 94.*
- <sup>36</sup> *See generally Rodney Carlisle, Sovereignty for Sale: The Origins and Evolution of the Panamanian and Liberian Flags of Convenience (Annapolis: Naval Institute Press, 1981).*
- <sup>37</sup> *UNCLOS, art. 91.*
- <sup>38</sup> *United Nations Convention on Conditions for Registration of Ships, opened for signature February 7, 1986, UN Doc. TD/RS/CONF/23 (not yet in force).*
- <sup>39</sup> *UNCLOS, art. 56, 73.*
- <sup>40</sup> *See generally Christian Bueger and Timothy Edmunds, "Beyond Sea blindness: A New Agenda for Maritime Security Studies," International Affairs 93, no. 6 (2017): 1293-1311.*
- <sup>41</sup> *See Zou Keyuan, "ASEAN's Role in Regional Maritime Security," Asia-Pacific Journal of Ocean Law and Policy 3, no. 1 (2018): 98-125.*
- <sup>42</sup> *UNCLOS, art. 218-220.*
- <sup>43</sup> *See generally Moira McConnell, Port State Jurisdiction (Oxford: Oxford University Press, 2019).*
- <sup>44</sup> *International Maritime Organization, "Port State Control Procedures," Resolution A.1138(31) (2019).*
- <sup>45</sup> *See Paris Memorandum of Understanding on Port State Control, January 26, 1982, and similar regional arrangements.*
- <sup>46</sup> *UNCLOS, art. 100.*
- <sup>47</sup> *See generally Michael Jacobson, The West at War: US and European Counterterrorism Efforts, Post September 11 (Washington: Washington Institute, 2006).*
- <sup>48</sup> *See Robert Work, "Building Maritime Domain Awareness," Naval War College Review 59, no. 3 (2006): 23-42.*
- <sup>49</sup> *See generally Martin Murphy, Somalia, the New Barbary? Piracy and Islam in the Horn of Africa (New York: Columbia University Press, 2011).*
- <sup>50</sup> *UN Security Council Resolution 1816, UN Doc. S/RES/1816 (2008).*
- <sup>51</sup> *See generally James Kraska, Contemporary Maritime Piracy: International Law, Strategy, and Diplomacy at Sea (Santa Barbara: Praeger, 2011).*
- <sup>52</sup> *See Griffith Iqbal, "Maritime Drug Trafficking in the Caribbean: Challenges and Responses," Caribbean Security Review 15, no. 2 (2018): 45-67.*
- <sup>53</sup> *Agreement Concerning Co-operation in Suppressing Illicit Maritime and Air Trafficking, supra note 23.*
- <sup>54</sup> *See Agreement between the Government of the United States and the Government of Jamaica Concerning Cooperation in Suppressing Illicit Maritime Drug Trafficking, signed March 5, 1997.*
- <sup>55</sup> *See generally John Bradford, "The Growing Prospects for Maritime Security Cooperation in Southeast Asia," Naval War College Review 58, no. 3 (2005): 63-86.*
- <sup>56</sup> *ASEAN Declaration on the Conduct of Parties in the South China Sea, November 4, 2002.*
- <sup>57</sup> *See Kwa Chong Guan and John Skogan, eds., Maritime Security in Southeast Asia (London: Routledge, 2007).*
- <sup>58</sup> *See generally National Research Council, Maritime Security Partnerships (Washington: National Academies Press, 2008).*
- <sup>59</sup> *International Maritime Organization, "Revised Guidelines for the Onboard Operational Use of Shipborne Automatic Identification Systems," Resolution A.1106(29) (2015).*
- <sup>60</sup> *See Michael Rowley, "Artificial Intelligence and Maritime Domain Awareness," Naval War College Review 72, no. 2 (2019): 112-130.*

<sup>61</sup> See generally Lars Jensen, "Cybersecurity in Maritime Transportation," *Maritime Economics & Logistics* 20, no. 2 (2018): 123-142.

<sup>62</sup> See Eneken Tikk-Ringas, "Developments in the Field of Information and Telecommunications in the Context of International Security," *UN Doc. A/68/98* (2013).

<sup>63</sup> See Dana Goward, "GPS Spoofing: A Growing Threat to Maritime Operations," *Maritime Executive*, June 15,

<sup>64</sup> See generally Clive Schofield and Ian Townsend-Gault, "Choppy Waters Ahead: Maritime Security in a Changing Climate," *Ocean Development & International Law* 44, no. 3 (2013): 288-305.

<sup>65</sup> See Arctic Council, "Arctic Marine Shipping Assessment 2009 Report" (Tromsø: Arctic Council, 2009), 145-167.

<sup>66</sup> See Koko Warner et al., "In Search of Shelter: Mapping the Effects of Climate Change on Human Migration and Displacement" (Bonn: United Nations University Institute for Environment and Human Security, 2009).

<sup>67</sup> See International Transport Workers' Federation, "Flags of Convenience: Shipping's Dirty Secret" (London: ITF, 2020), 34-56.

<sup>68</sup> See M. Cherif Bassiouni, "Universal Jurisdiction for International Crimes: Historical Perspectives and Contemporary Practice," *Virginia Journal of International Law* 42, no. 1 (2001): 81-162.

<sup>69</sup> See International Maritime Organization, "Guidelines for Port State Control," *Resolution A.787(19)* (1995), as amended.

<sup>70</sup> See generally Barry Hart Dubner, *The Law of International Sea Piracy* (The Hague: Martinus Nijhoff, 1980), 234-267.

<sup>71</sup> See United Nations Office on Drugs and Crime, "Maritime Crime Programme: Capacity Building Guidelines" (Vienna: UNODC, 2022), 78-95.

<sup>72</sup> See International Maritime Organization, "Technical Cooperation Programme: Maritime Security Capacity Building" (London: IMO, 2023).

<sup>73</sup> See generally Ryan Calo, "Robotics and the Lessons of Cyberlaw," *California Law Review* 103, no. 3 (2015): 513-563.

<sup>74</sup> See European Union, "General Data Protection Regulation," *Regulation 2016/679*, *Official Journal of the European Union* L119 (2016): 1-88.

<sup>75</sup> See International Telecommunication Union, "Maritime Mobile and Radiodetermination Services," *Radio Regulations*, Article 5 (Geneva: ITU, 2020).

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