Transcrime Research in Brief
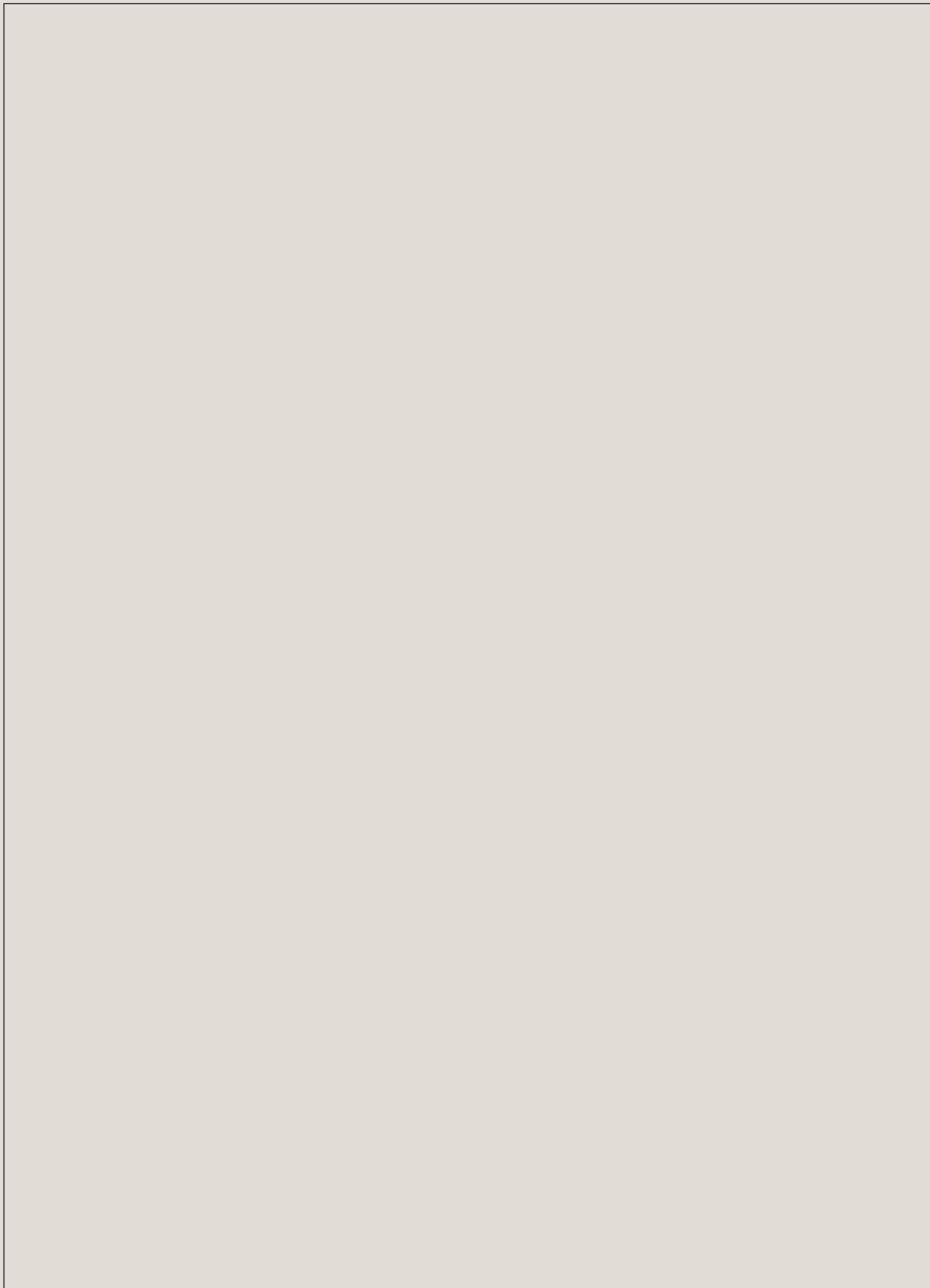
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Maritime piracy worldwide

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This study has been coordinated by Ernesto U. Savona.

Introduction

- The phenomenon of maritime piracy dates back to the beginning of seafaring.[1]

- Since the 1980s, maritime piracy has re-emerged as an international problem because of a significant rise in the recorded attacks.

- The security of maritime routes is a matter of concern for national governments, ship owners and trade companies whose vessels face the risk of being robbed of their cargo or hijacked for a ransom.

- Maritime piracy is a complex phenomenon that, according to the definition used, comprises different criminal behaviours (e.g., theft, robbery, kidnapping), modus operandi (e.g., massive armed attacks, insiders, use of skiffs and mother ships) and targets (e.g., the goods carried on the ship, the belongings of the crew, the ship itself).

- These features may change over time and over space. Looking at the evolution and peculiarities of this phenomenon in different areas can help to identify regularities and implement more effective countermeasures.

- In recent years, Transcrime has been active in promoting the idea that actual reductions of complex crime phenomena can be reached through specific prevention strategies. This approach relies on accurate analyses of the available data to identify regular patterns and risk factors.

- This study summarises some of the findings that emerged from the research Transcrime conducted on maritime piracy, using a comparative approach.

1. What is maritime piracy?

- The United Nations Convention on the Law of the Sea, adopted by the International Maritime Organization (IMO), distinguishes between piracy and armed robbery, and it provides a definition of maritime piracy that includes only attacks perpetrated in international waters.[i]

- The International Maritime Bureau (IMB) of the International Chamber of Commerce instead defines maritime piracy as 'any act of boarding or attempting to board any ship with the apparent intent or capability to use force in the furtherance of the act'.[2]

- This study adopts the IMB's broad definition, as the distinction between piracy and armed robbery is not particularly relevant in terms of analysis and comparison of patterns of maritime piracy.

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[i] Article 101 of the 1982 United Nations Convention on the Law of the Sea UNCLOS, United Nations Convention on the Law of the Sea, 1982. defines piracy as any of the following acts:
(a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship of a private aircraft, and directed:
  (i) on the high seas, against another ship or aircraft, or against persons or property on board of such ship or aircraft;
  (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;
(b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;
(c) any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).

2. What do we know on maritime piracy?

• The academic literature on piracy varies in scope and methods. Most contributions come from the political sciences and law adopting a qualitative approach. Empirical or quantitative studies analysing data on piracy incidents are less common, although their number has increased in recent years.[3]

• Piracy incidents show a spatial and temporal variation.[4] However, most studies analyse worldwide patterns of piracy incidents or focus on specific areas (e.g., Somalia, Indo-Pacific region) rather than comparing patterns and trends across regions.

• A comparative approach could help understand such variations across regions in terms of frequency and trends of piracy incidents, victimised vessels' characteristics and pirates' *modus operandi*.

3. The dataset

• Data on piracy incidents used in this research originate from the Global Integrated Shipping Information System of the International Maritime Organization (IMO).

• The IMO has been collecting data on acts of piracy and armed robbery, both actual and attempted, since 1983.

• The IMO database includes information on the time and location of the incident, the targeted vessel, the raiding party and the attack's consequences.

• The IMO database collects reports by masters and ship owners, and problems of underreporting could exist.

• Reasons for non-reporting include costs related to the increase in insurance premiums and to staying in port during the police investigations, as well as damage to the company's reputation.

• Although this limitation should be taken into account in the interpretation of the results, the literature does not identify any specific patterns of non-reporting.

• This analysis considers 2,493 attacks occurred from January 2006 to May 2014.[ii]

[ii]The available data before 2006 are scarce and present a large number of missing information.

4. Maritime piracy: a global but concentrated phenomenon

- Maritime piracy is a global phenomenon. Recorded attacks occurred in the seas of 62 countries in four out of the five continents.

- Maritime piracy is also highly concentrated. Almost 68% of attacks occurred near only seven countries (Indonesia, Yemen, Malaysia, Somalia, Nigeria, Oman, Bangladesh and India). Meanwhile, the seas surrounding Oceania, the North Atlantic Ocean and the largest part of the Pacific Ocean did not experience any attack in the period considered.

- The analysis of these concentrations allows to identify three main risky areas:

1) The Malacca strait and the seas around Malaysia and Indonesia;
2) The Gulf of Guinea in the Atlantic Ocean;
3) The East African seas from the Gulf of Aden and the Arabic sea to Kenya and Tanzania all along Somalia's coastline.

- In East and West Africa, the areas highlighted correspond almost entirely to the high-risk areas defined by the BMP4[5] and the Interim Guidelines for Owners, Operators and Masters for protection against piracy in the Gulf of Guinea region.[6]

- Some relevant concentrations are also present close to ports in India, Bangladesh, Vietnam and South-Central America (Figure 1).

Figure 1. Concentrations of maritime piracy attacks from 2006 to 2014 (May)

Density of maritime piracy attacks

High

Low

0   600   1.200 Nml
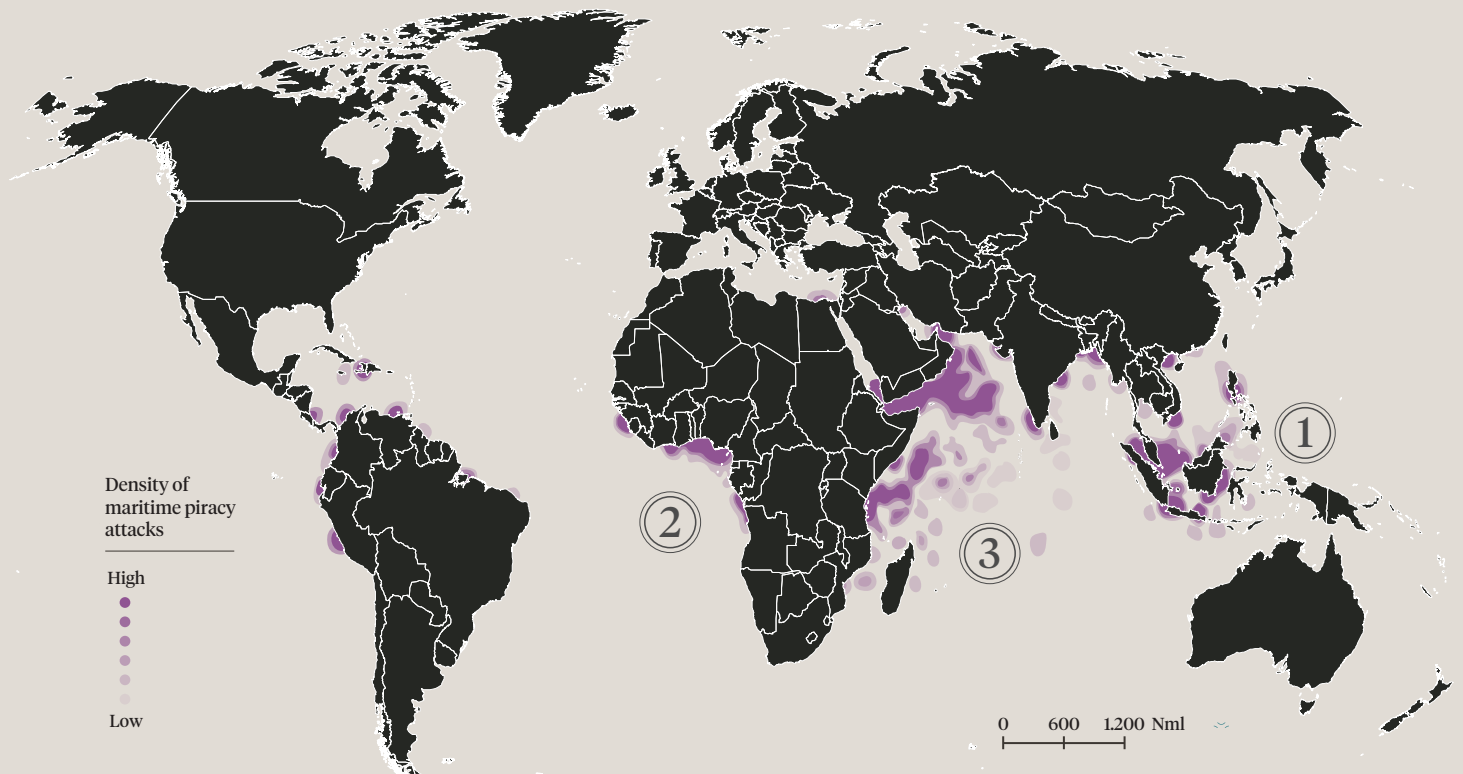
5. How is maritime piracy changing?

• The number of attacks has an irregular trend. From 2006 to 2011, there was a boom in the number of events recorded. During these five years, the number of attacks increased more than five times. In the following two years, the number dropped significantly but remained higher than in 2006.

• This general trend is largely due to the attacks occurred in the East African seas and in the Indian Ocean (Figure 2).

• In 2011, these waters accounted for more attacks than all of the other areas combined. In 2013, they comprised about half of the events that occurred in West Africa.

• The trends in West African and South East Asian areas are more constant over time. Despite some little variations, the number of attacks increased constantly from 2006 to 2013.

• The number of events in international waters dropped in 2012 in connection with the reduction of the attack in the Arabic sea.

• This trend relates to the *modus operandi* of the Somali pirates who are more likely to attack steaming vessels in the high seas.

• The West African pirates are more prone to attack anchored or berthed ships.

• The increasing number of attacks in the Gulf of Guinea largely explains the rise in the events reported in port areas from 2010 onward.

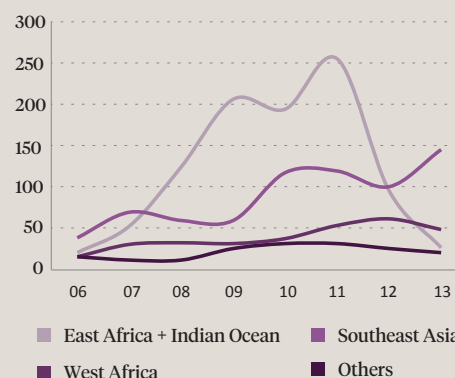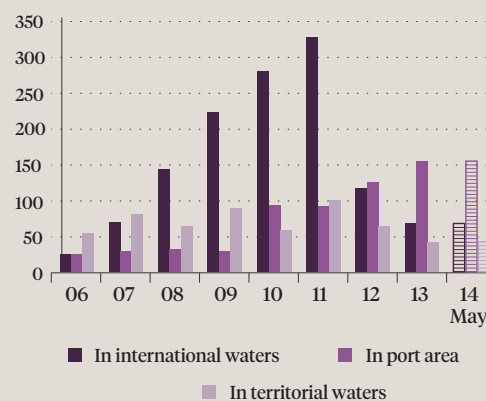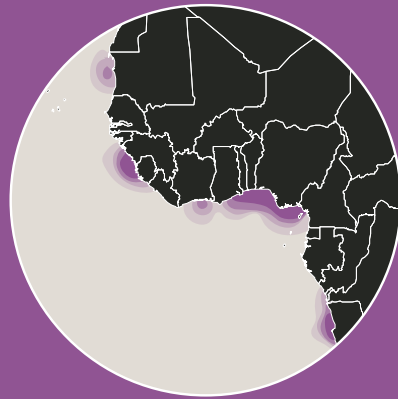**Figure 2. Number of attacks by geographic area from 2006 to 2013**

East Africa + Indian Ocean   Southeast Asia
West Africa   Others

Figure 3. Number of attacks by location from 2006 to 2014 (May)

In international waters   In port area
In territorial waters

Spatio-temporal evolution of maritime piracy hot areas

2006-2007

The only relevant hot spot was the area around the straits of Sunda, Karimata and Malacca close to Indonesia. Sporadic attacks occurred close to the Somalian coasts and in the Gulf of Aden.
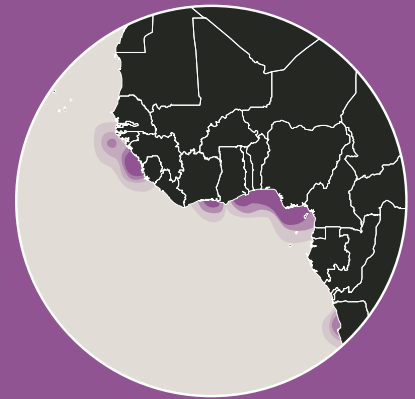
2008-2009

Considerable increase in the number of attacks in the Gulf of Aden and in the waters off the coast of Somalia
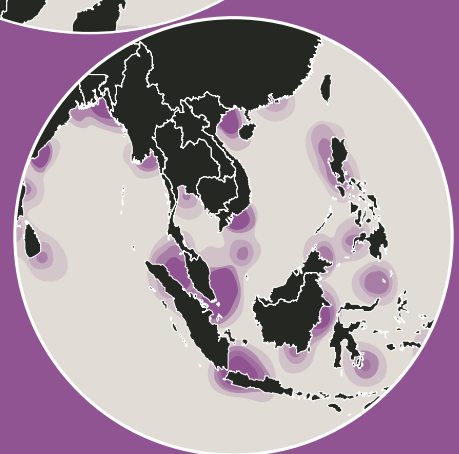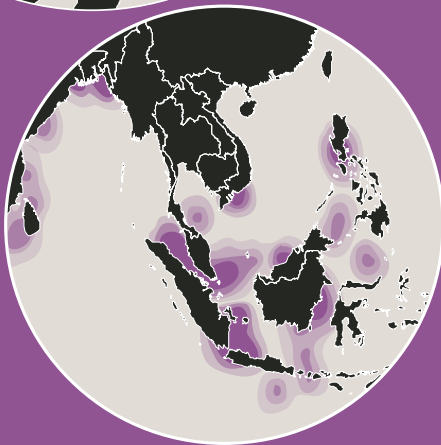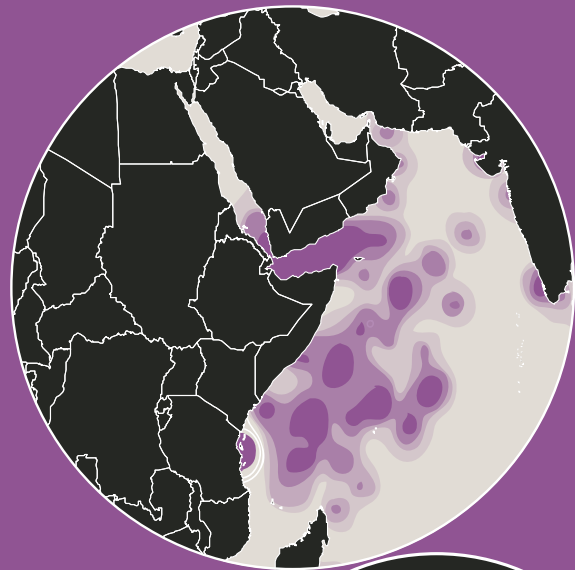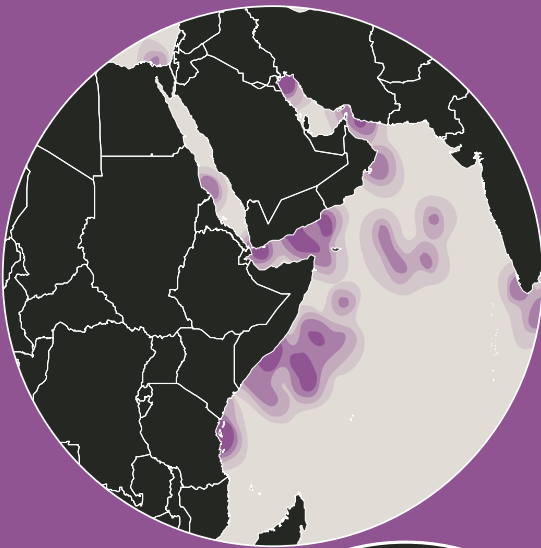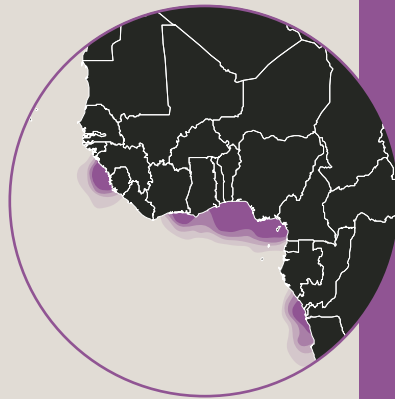
2010-2011

Major concentrations appeared in the international waters of the Arabic sea and close to the coasts of Kenya and the Republic of Tanzania. The Gulf of Guinea became a relevant hot area.

2012-2013

Dramatic reduction of the attacks in the Arabic Sea and in all East African waters. The Gulf of Guinea and the Malacca strait remained relevant hot spots.

High

Low

6. How do pirates attack?

- The organisation of pirates varies, ranging from small groups to complex organisations with up to 200 members each.[7]

- Differences exist both within and across regions.

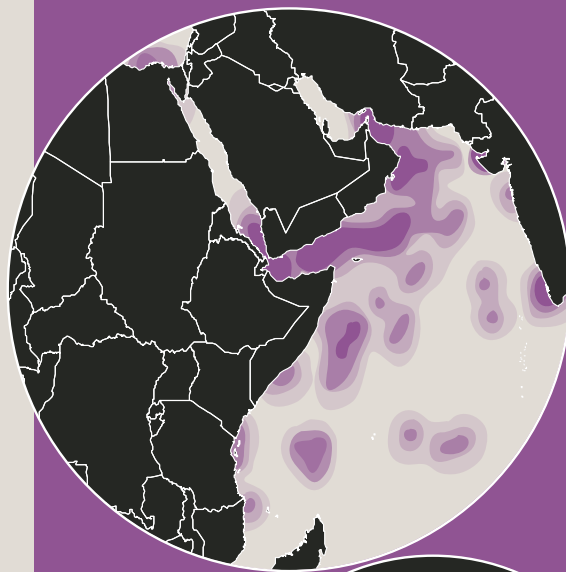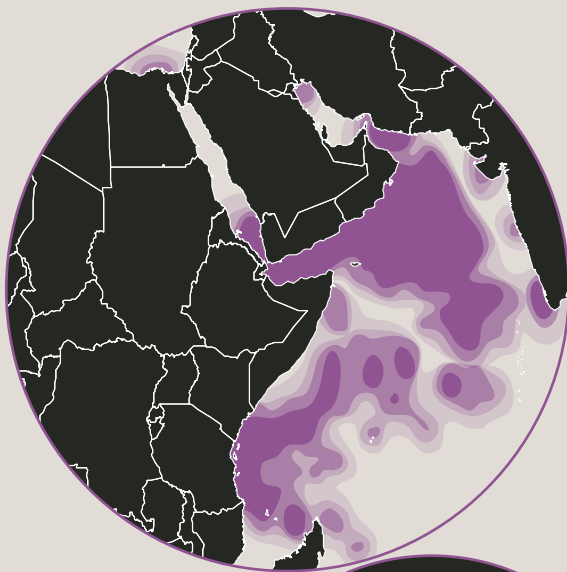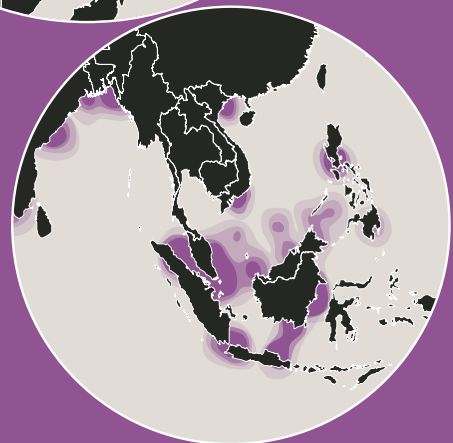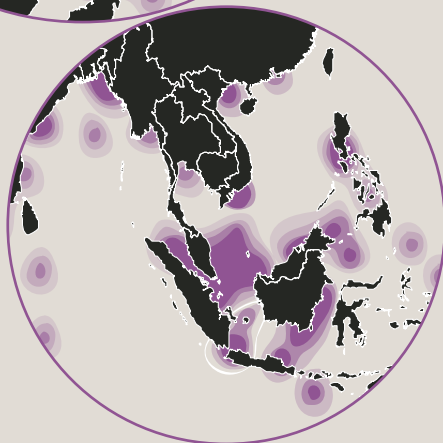- Pirates around the Horn of Africa tend to be well-organised, and this influences the type of attacks conducted, which often consist in the hijacking of the entire vessel.

- In Southeast Asia, most attacks are instead petty thefts from anchored and berthed vessels, and they require less organised and smaller groups.[8]

- Pirates generally conduct their attacks in one or two skiffs—i.e., small and fast-moving boats. Off of Somali coasts, the use of mother ships—larger ships carrying skiffs and equipment—is common, especially in the case of attacks occurring far from the shore.[9]

- Pirates usually attack at a speed between 20 and 30 knots, and they conduct their attacks for about 30–45 minutes before taking control of the targeted vessel.[10]

- Pirates usually carry weapons, although the use of violence depends on the attack's aim (kidnap for ransom or robbery) and on their interaction with the crew (Figure 4).

- Somali pirates are more involved in hijackings and generally use weapons to intimidate people on board the targeted vessel, but actual violence is not common.[11]

- Nigerian pirates are instead more violent and are responsible for the highest amount of physical violence and number of killings.[12]

Figure 4. Consequences for the crew during the attack, by geographic area
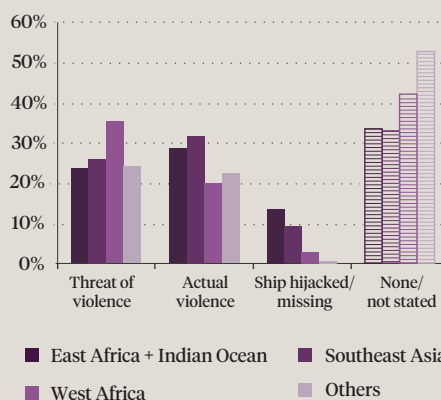
- Somali pirates usually conduct their attacks armed with guns and rocket-propelled grenades (RPG). The use of guns is frequent in West Africa (34.2%). Pirates in Southeast Asia and in other regions prefer to use knives during attacks (Figure 5).

- The types of attacks characterising the various regions affect this difference.

- In Southeast Asia, pirates mainly target ships in port or at anchor and the interaction with the crew is less frequent. They rarely need to use weapons unless when spotted on board of the ship.

- The pirates need weapons – and guns in particular– when the aim of an attack is to hijack the ship and to threaten the kidnapped crew until a ransom is paid.

Figure 5. Weapons used during the attack, by geographic area
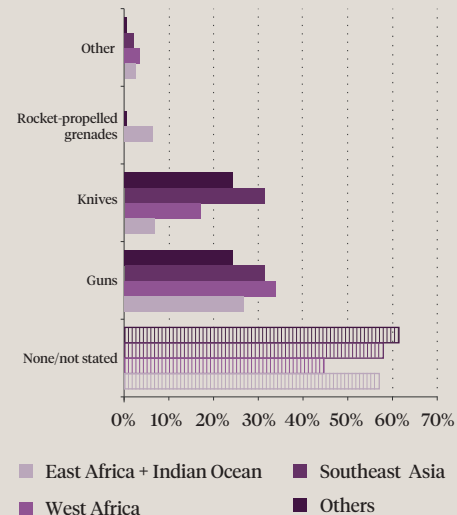
7. Which ships are more at risk?

- Several factors influence ships' vulnerability to pirate attacks.

- The vessels' characteristics play a relevant role in terms of both likelihood of attack and probability of success.

- The type of ship is relevant to identify vulnerable vessels. In general, slow-moving and old vessels are more vulnerable to attacks.[14]

- Pirates particularly target bulk carriers and general cargo vessels. Containerships, tankers, chemical and products tankers, and liquid gas carriers follow.[15]

- Differences across regions emerge. In particular, pirates attack carriers in all regions except for West Africa, where this type of ship accounts for only 12.4% of all attacks.

- Container ships are particularly victimised in non-traditional piracy regions (e.g., South America), whereas pirates target barge carriers and tugboats in Southeast Asia more than in other regions (Figure 6).

- Different pirate strategies and different types of vessels sailing particular sea routes can explain these dissimilarities.

Figure 6. Type of victimised vessels, by geographic area

Legend:
- Others
- West Africa
- Southeast Asia
- East Africa + Indian Ocean

Categories (top to bottom): NA; Yatch, leisure craft, passenger ship; Barge or tug; Other; Fishing boat, trawler or vassel; LNG, LPG, oil tanker; Chemical tanker; General cargo; Container ship; Tanker, product tanker; Carrier
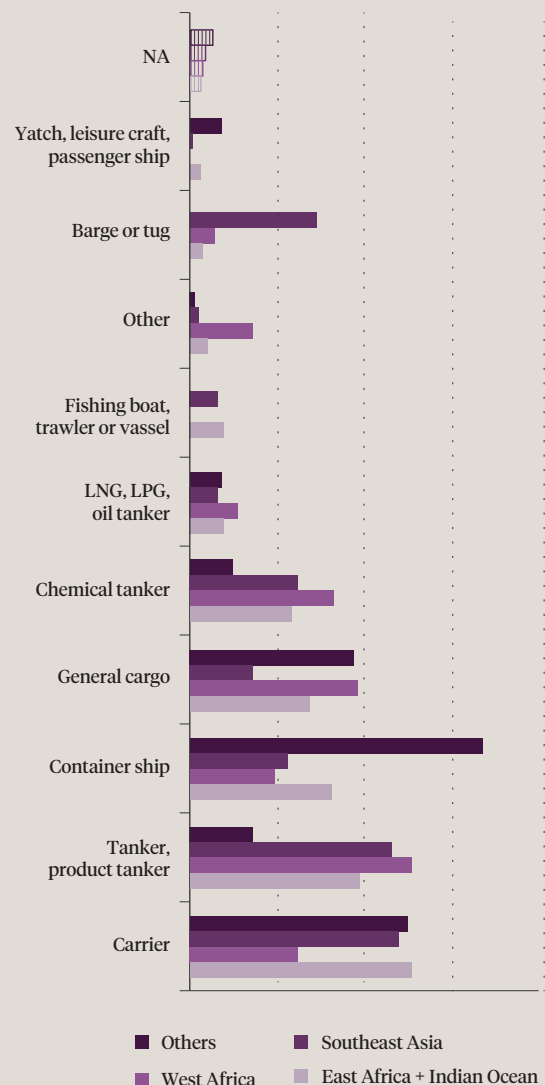
8. Are there risky areas or risky targets?

- The percentage of attempted attacks rises with the increase of ship speed, with no successful attacks against vessels sailing at more than 18 knots.

- The flag of the vessel also helps to explain the probability of being attacked, and so does the size, with small vessels being more vulnerable to attacks because of the smaller freeboard and the smaller number of crew members.

- Finally, the ship's status when it is attacked also influences its vulnerability.

- Stationary vessels (anchored or in ports) are more vulnerable to attacks, as they are easier to board and require slower skiffs and less organisation (Figure 7).

- The choice of the target also depends on the typical behaviour of vessels in specific areas. Indeed, vessels tend not to anchor in high-risk areas. Consequently, attacks off of the Somali coast occur mainly against steaming ships (79.1%). On the contrary, most piracy incidents in Southeast Asia (54.9%) occur against stationary vessels.

Figure 7. Status of the ship when attacked, by geographic area
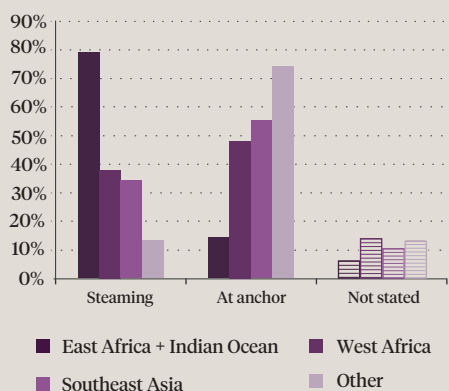
- According to available data, only about 11% of the ships suffered more than one attack in the period considered.

- On average, more than one year (402 days) passed between two repeated attacks.

- These figures are likely to be underestimated due to underreporting. However, the results are reasonable, considering that a pirate's attack is not a regular event and also considering the large number of ships that sail the seas daily.

- Therefore, focusing on areas rather than on ships is advisable to find regularities in victimization patterns.

- In all of the geographic areas considered, evidences exist of repeated victimization in the same location.

- When an event occurs in a specific place, the likelihood of a subsequent attack in the same area is extremely high on the same or on the next day, and it remains significantly higher up to five days from the initial incident.

- The pirates' *modus operandi* may explain these different patterns of victimization (Figure 8).

- In East Africa and Southeast Asia, the risk of future attacks is clustered in time but not in space. The high probability of a repeated event during the following week affects a large area (up to 7 nml in East Africa and up to 9 nm in Southeast Asia). Pirates are more dynamic and operate in larger areas than in West Africa.

- In West Africa, the risk is clustered in time and in space. The probability of a future attack is higher during the following week but with a smaller spatial extent. Pirates operate with a limited spatial range (e.g., port areas).

Figure 8. Near repeated patterns in the three areas considered
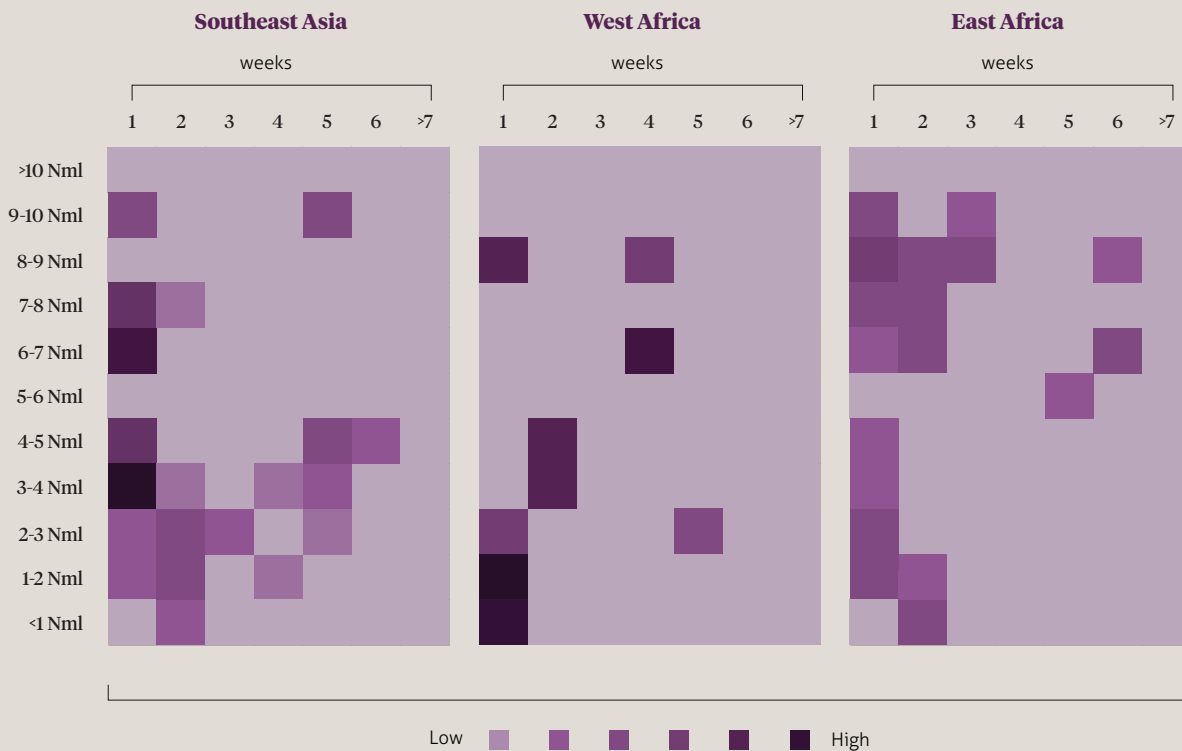
9. Conclusions and next steps

- The results show clearly that the geographical area of the attack influences the likelihood and the characteristics of the event.

- The three main clusters identified (East Africa, West Africa and Southeast Asia) differ in terms of nature of the attack, types of ships victimised, weapons used and pirates' violence.

- These analyses suggest the usefulness of a comparative approach to identify differences and peculiarities of maritime piracy entailing tailored and effective military and non-military counter-piracy measures.

- Currently, Transcrime is involved in the Project IPATCH,[iii] which aims to evaluate and suggest non-military countermeasures against maritime piracy.

- During this project, Transcrime will define a risk assessment model to highlight possible risk scenarios. This outcome will rely on an in-depth analysis of the attacks in order to identify the factors that may generate crime opportunities for pirates.

- As with any kind of analysis, the available data quality and consistency are fundamental to obtain trustable results.

- Instead, data on maritime piracy are often missing, incomplete or unsystematised due to underreporting or to issues connected to the different definitions used.

- More efforts should be made to avoid those problems that affect the analysis reliability, thus hindering the effective prevention of the next evolution of this phenomenon.

[iii] More information can be found here: www.ipatchproject.eu

Endnotes

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11. Rengelink, "Tackling Somali Piracy."

12. Twyman-Ghoshal and Pierce, "The Changing Nature of Contemporary Maritime Piracy: Results from the Contemporary Maritime Piracy Database 2001-10."

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16. Liwång, Ringsberg, and Norsell, "Quantitative Risk Analysis – Ship Security Analysis for Effective Risk Control Options."

17. Mejia Jr., Cariou, and Wolff, "Is Maritime Piracy Random?".

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