

Climate Change and Maritime (in)Security: Options for the Royal Navy

The 2021 *Defence Command Paper* stressed that climate change is a ‘threat multiplier’, since it “will drive instability, migration, desertification, competition for natural resources and conflict” (p.7). Climate change affects security in the maritime domain. This will increasingly impact on the Royal Navy’s missions, operations, and procurement. Decisions shall be made today to enable the future Navy to remain at the forefront of the defence of Britain’s interests in a rapidly changing world.

Climate change, maritime crime and the (instable) global maritime order

Climate change affects marine ecosystems (e.g., sea-level rise, ocean salinity, sea temperatures, extreme weather events). This, in turn, impacts negatively on human systems/maritime communities, either directly (e.g., change in fish stocks, coastal erosion) or indirectly (e.g., via food shortages, poverty, health issues, and inequalities, which then fuels resentment and grievance). In turn, this can trigger, facilitate, or contribute to, the occurrence of maritime crime (e.g., IUUF, piracy) or contribute to human trafficking¹.

Climate change and maritime crime further interact via two feedback loops: 1) The proliferation of one form of maritime crime (e.g., illegal fishing) can contribute to the emergence of other forms of maritime crime (e.g., piracy). 2) The occurrence of maritime crime can in turn negatively impact on natural and human systems by reinforcing existing issues such as resource scarcities, poverty, and grievance, then feeding back the loop of maritime crime. In other words, the impacts of climate change on maritime (in)security are cumulative, multiplicative and/or synergistic².

In addition to maritime crime, climate change-induced resource scarcities (or abundance in the case of the Arctic) can prompt competitors to claim sovereignty rights, disrupt freedom of navigation or facilitate IUUF in the areas under their control. This increases instability along sea lanes of communication, choke points and maritime areas of strategic importance (e.g., in the Arctic).

Why does it matter to the UK?

The impacts of climate change on maritime (in)security will be more virulent where the effects of climate change on marine ecosystems are acute, where populations are already vulnerable (e.g., poverty, inequalities, social unrest or conflicts), where bad governance prevails (e.g., weak states, corruption), where populations depend directly on the sea for their livelihood (in particular fish), and where there are already clusters of maritime crime and/or other incentives to migrate (e.g., existing conflicts, repression).

The climate change-maritime security nexus will be more virulent in the areas already identified as being of high security risk that include the world’s main fishing zones, major sea lanes of communication and choke points. The impacts of climate change on maritime crime will further increase maritime instability and security challenges in areas of strategic importance to the UK and/or to our closest allies (e.g., Arctic, Mediterranean, Indo-Pacific). In addition, climate change-induced maritime crime and instability will combine with current geopolitical tensions between the UK/West and China/Russia (e.g., in the Arctic and South China Sea).

Key climate-induced maritime security threats and their impacts on the Royal Navy

1. IUUF (further driven by climate change) resulting in additional depletion of marine resources, including in areas where the UK fishing fleet operates. IUUF can also lead to fisheries conflicts. This is likely to increase the need for constabulary operations in support of good order at sea.
2. Maritime migration/human trafficking (further driven by climate change via an increase in resource scarcity, poverty, and instability/conflicts). This is likely to increase the ‘small boat’ phenomenon.
3. Foreign Powers (including UK competitors) interfering with freedom of the seas to assert exclusive rights over resources and/or maritime areas (either due to resource scarcity or abundance – both reinforced by the effects of climate change). This is likely to increase the need for FONOPs, forward presence and other forms of support to allies.

For example, in the Arctic, climate change creates commercial opportunities (e.g., resources exploitation and new sea routes) but also environmental, safety and security challenges as well as geopolitical tensions. The impacts of climate change necessitate cooperative governance to address economic and environmental issues (including increased risks of IUUF, notably with the presence of Chinese fishing fleets) but Russia's hostile behaviour prevents cooperation and increases tensions at sea³.

With overstretched resources and growing demands put on the Navy, climate change and its impacts on maritime security will further increase pressures on the Royal Navy that will be solicited to address maritime crimes, to police distant waters, and to exercise freedom of navigation. This is likely to require investments in assets at the lower end of the missions' spectrum (including for constabulary roles, e.g., to address IUUF, human trafficking) and for operations in the High North and distant waters in support of allies and partners within the solidaristic society of maritime nations⁴.

Opportunities and recommendations

There is a nexus of instability and insecurity resulting from four interrelated processes: 1) Climate change and its effects on the oceans, 2) Depletion of marine resources, 3) Proliferation of criminal actors and illegal activities at sea, 4) Foreign competitors contesting freedom of the seas. It is not possible to address any of these issues in isolation. The response shall be comprehensive. The long-term tensions with hostile states and competitors at sea will be reinforced by the effects of climate change. In the short-term, the MoD/RN should pay attention to the following:

- To facilitate further research on the topic to produce a complete mapping of the climate change-maritime security nexus to identify areas for targeted interventions and inform the Navy's investment strategy for the coming 5-15 years.
- One area that should immediately be prioritized is the Arctic. This should start with an evaluation of the capabilities for operations in extreme cold weather environments (e.g., snow removal and de-icing equipment, icebreakers) considering rapid and synergistic environmental and geopolitical changes in the Arctic.
- It is recommended to invest in artificial intelligence (AI) modelling of risky zones and timing for intervention that will help devising targeted strategies and long-term investments.
- The Council for Science and Technology advocated the need to harness the synergies between science/innovation and national security⁵. Accordingly, the UK should capitalize on its dual scientific and maritime power to explore ways to foster science-security dialogues with like-minded states and to strengthen Western leadership of the corporate maritime sector to remain at the forefront of the fight against the cumulative, multiplicative, and synergistic effects of climate change and maritime insecurity. The RN is in a position to be at the forefront of this strategy.

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Lancaster University, 15.06.23

¹ Basil Germond & Antonios Mazaris (2019), "Climate Change and Maritime Security", *Marine Policy*, 99, pp.262-266.

² Germond & Mazaris, *ibid*; M.L. Pinsky et al. (2018), "Preparing ocean governance for species on the move", *Science*, 360/6394, pp.1189-1191; Robert Pomeroy et al. (2016), "Drivers and impacts of fisheries scarcity, competition, and conflict on maritime security", *Marine Policy*, 67, pp.94-104.

³ Basil Germond, Oral evidence to the House of Commons' Environmental Audit Sub-Committee on Polar Research, 25.05.2023 (accessed [here](#)).

⁴ Basil Germond (2022), "The Solidaristic Society of Maritime Nations", *Australian Naval Review*, 2022(1), pp.72-85; see also Basil Germond Response to the Call for evidence: "Update to the UK's Integrated Review of Security, Defence, Development and Foreign Policy", House of Commons, Foreign Affairs Committee (accessed [here](#)), para 2.2.-2.3.

⁵ Council for Science and Technology (2021), "Strengthening the UK's Position as a Global Science and Technology Superpower" (accessed [here](#)).