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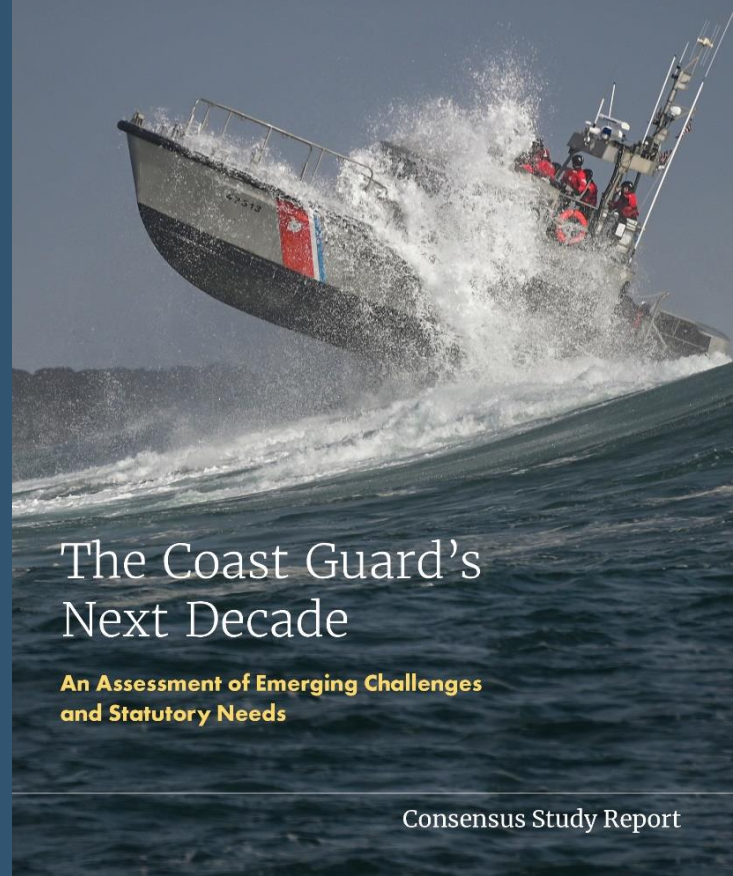
U.S. Coast Guard Briefing

May 22, 2023

National Academies
Marine Board and
Transportation Research Board
in collaboration with the
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The Coast Guard's Next Decade

**An Assessment of Emerging Challenges
and Statutory Needs**

Consensus Study Report

Overview

- The Coast Guard will face **new or increasing challenges** from **climate change, technological and industry innovation**, and **global strategic competition**.
- The Committee identified **10 foreseeable developments** in the coming decade and a total of **34 different types of actions** that the Coast Guard would likely need to take in response to these developments.
- The Committee concludes that the Coast Guard **likely has sufficient statutory authority** to take the needed actions in **all but two instances**.
- Even with statutory authority, the **Coast Guard will need sufficient mission support capabilities**, such as data, technology, and workforce, to meet the challenges of tomorrow. Continued attention to **legal foresight** is also needed.

Briefing Outline

- Study origin and statement of task
- The study committee's process
- Findings, conclusions, and recommendations

Section 8249: Coast Guard Authorities Study

William M. (Mac) Thornberry National Defense Authorization Act for
Fiscal Year 2021, Public Law 116-283

“(1) an examination of emerging issues that may require Coast Guard oversight, regulation, or action; (2) a description of potential limitations and shortcomings of relying on current Coast Guard authorities to address emerging issues; and (3) an overview of adjustments and additions that could be made to existing Coast Guard authorities to fully address emerging issues.” “Emerging issues” are described in the legislation as “changes in the maritime industry and environment that ... are reasonably likely to occur within 10 years..., including (1) the introduction of new technologies in the maritime domain; (2) the advent of new processes or operational activities in the maritime domain; and (3) changes in the use of navigable waterways.”

Statement of Task

- “**examine emerging issues** that are likely to demand Coast Guard services over the next decade and **consider whether the Service’s existing statutory authorities are sufficient** to meet this demand”
- “**survey foreseeable developments** that could affect the Coast Guard’s missions and authorities, including changes in **technological capabilities, industry trends, cybersecurity risks, climate and environmental conditions, and geopolitical factors** that could affect governance and activities in the maritime domain and how and where the Coast Guard needs to operate.”

Statement of Task (cont'd)

- “In the context of its examination of emerging issues, the committee will **review the Service's existing authorities and related abilities** (such as force levels, asset mix, and training).”
- “Informed by consultations with the Coast Guard and other experts and interested parties, the committee will **identify those issues likely to have the greatest relevance** to and effect on the Coast Guard's missions and authorities.”
- “The committee will then **consider any adjustments or additions to Coast Guard authorities** where it finds potential limitations and shortcomings in these authorities and related abilities. The committee will provide its recommendations to Congress and the Coast Guard.”

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Committee Process

- 12 meetings, most included public information-gathering from Coast Guard officials and outside experts
- Written input from Coast Guard specialists
- More than 50 experts from outside the Coast Guard
 - Representatives from maritime shipping and other maritime-related industries
 - Government agencies in the United States and abroad
 - Nongovernmental organizations
 - Experts in technology, policy, and maritime law
 - Experts in foresight and forecasting, including the Coast Guard's Evergreen process

Approach to Identifying Statutory Needs



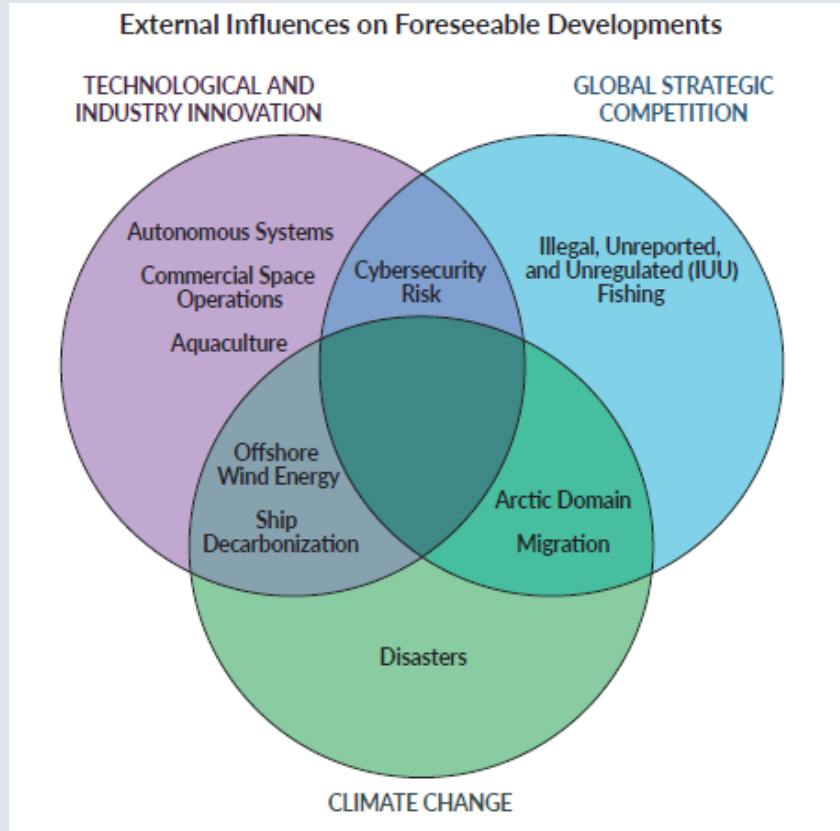
Report Organization

- 1 INTRODUCTION
- 2 IDENTIFYING FUTURE DEVELOPMENTS AND ASSESSING STATUTORY AUTHORITY
- 3 FUTURE DEVELOPMENTS, COAST GUARD RESPONSES, AND IMPLICATIONS FOR STATUTORY AUTHORITY
- 4 ENSURING THE CAPACITY AND CAPABILITY TO ACT ON FUTURE DEVELOPMENTS
- 5 OVERALL ASSESSMENT AND RECOMMENDATIONS

Key Findings, Conclusions, and Recommendations



Ten Foreseeable Developments



1. Autonomous systems
2. Cybersecurity risk
3. Commercial spaceflight
4. Offshore wind energy
5. Aquaculture
6. The Arctic domain
7. Ship decarbonization
8. Disasters
9. Migration
10. Illegal, unreported, and unregulated (IUU) fishing

Notes on future developments

- Some developments are foreseeable; others are difficult if not impossible to anticipate.
- Coast Guard may face simultaneous occurrence and interaction of multiple new developments.
- Our study will not preclude the need to keep monitoring for future developments, identifying needed Coast Guard actions in response, and assessing statutory authority.

Likely Coast Guard Actions (from Table 5-1)

Foreseeable Development	Likely Coast Guard Actions
Autonomous systems	<ul style="list-style-type: none"> • Regulatory • Confronting nefarious uses • Adoption of autonomous technology • Workforce training and development
Cybersecurity risk	<ul style="list-style-type: none"> • Cyberincident response • Collection of cyberincident data • Threat sharing • Regulatory updates • Cyberrisk management • Clarification of roles and responsibilities
Commercial space operations	<ul style="list-style-type: none"> • Mitigating and responding to risks
Offshore wind energy	<ul style="list-style-type: none"> • Interagency coordination • Port access studies • Search and rescue capabilities • Navigational safety aids and security measures
Aquaculture	<ul style="list-style-type: none"> • Assessment of facility siting proposals • Oversight and management of facilities

Likely Coast Guard Actions (cont'd)

Foreseeable Development	Likely Coast Guard Actions
Arctic Domain	<ul style="list-style-type: none">• Regulatory action• Data and data infrastructure• Expanding and strengthening partnerships
Ship Decarbonization	<ul style="list-style-type: none">• Guidance and regulatory oversight• Workforce training and development• Pollution incident response• Emissions monitoring and reporting• Engagement and collaboration
Disasters	<ul style="list-style-type: none">• National response framework and contingency plans• Surge operations• Mobilizing Coast Guard Reserve• Preparing Coast Guard facilities
Migration	<ul style="list-style-type: none">• Contingency planning
IUU Fishing	<ul style="list-style-type: none">• Data collection, sharing, and analysis• Bilateral fisheries agreements• Nontraditional partnerships• Force and asset deployment

Approach to Identifying Statutory Needs



High-Level Statutory Assessment

- Our aim was to target and prioritize areas in need of more detailed legal assessments.
- For each of the 34 actions, we asked:
 - Does the anticipated action clearly fall under the Coast Guard's existing authority?
 - Is the anticipated action specifically precluded under existing law?
 - Are there obvious instances where an authority to act is missing, insufficient, unduly restricted, or substantially in need of clarification?

Considerations in Assessing Statutory Needs

1. Context matters.

- Nature of action matters, but so does *how* that action is undertaken.
- Only case-specific assessments can provide definitive answers.

2. Legal assessments tend to be probabilistic.

- What is the risk that a court will find a particular action exceeds statutory authority?

3. Statutory interpretation is far from straightforward or formulaic.

- Future challenges can be novel and different from what legislators had in mind when they adopted a statute.
- Continued legal viability of the *Chevron* doctrine, which establishes deference to government agencies, is currently in question.
- Additional changes in the law, such as with the major questions doctrine, may occur.

Conclusions and Recommendations

1. Statutory Authority
2. Mission Support
3. Legal Foresight



Conclusion: Statutory Authority

Having an abundance of statutory authorities that range from those that are narrowly focused to those that are broadly empowering, **the Coast Guard possesses sufficient statutory authority** that can be exercised to allow it **to respond to most developments** foreseeable in the maritime domain over the next decade.

Conclusion: Statutory Authority

The Coast Guard **lacks sufficiently clear authority** to respond fully to foreseeable developments **in two areas**:

- Manning requirements for vessels currently call for human operators to be on board all vessels and may thus limit the Coast Guard's ability to approve, as appropriate, **vessels that use autonomous systems** in lieu of an onboard crew.
- Limitations on the authority to establish **spaceflight-related safety zones** that are binding on foreign-flagged vessels in the exclusive economic zone (EEZ) may impede the Coast Guard's ability to protect both those vessels and commercial spaceflight operations in the EEZ.



Recommendation 1: Statutory Authority

As part of a broader, ongoing effort to ensure that Coast Guard statutory authority is sufficiently clear, up to date, and adequate to meet future demands, **Congress should closely analyze two foreseeable statutory limitations:**

- (a) constraints on the ability of the Coast Guard to approve vessels that use **fully autonomous systems** in lieu of an onboard crew, and
- (b) limitations on the Coast Guard's authority and jurisdiction to establish **offshore safety zones for commercial spaceflight operations** that apply to foreign-flagged vessels in the exclusive economic zone.

Furthermore, Congress should examine whether to make legislative changes affirming the Coast Guard's authority to address **cybersecurity risks**.

TABLE 5-3 Needed Mission Support Capabilities

Foundational Area	Needs
Data management and analysis	<ul style="list-style-type: none">• New sources of data, management infrastructure, and analytic tools• More data sharing and integration• Protections for critical data and systems
Acquisition and procurement	<ul style="list-style-type: none">• Rapid prototyping and fielding• Use and strengthening of pilot authority• Multiyear funding for modernizing
Workforce	<ul style="list-style-type: none">• Training and skill development for new technologies• Increased scope for recruitment, hiring, retention, and contracting• Flexible Reserve force deployment

Conclusion: Mission Support

Although the Coast Guard must have the requisite statutory authority to respond to foreseeable developments, it also needs the **sustained vision, resources, and leadership commitment to meet future challenges**. All anticipated developments point to growing demands on the Coast Guard to **marshal and exploit data** for decisions, **modernize assets**, deploy **advanced technology**, and **evolve its workforce**.

The Coast Guard will need to make many choices in balancing and meeting these demands, facilitated where practicable and needed by statutory authority aligned to enable **more efficient procurement and acquisition, greater flexibility in data management**, sharing, and analysis, and enhanced agility in **recruiting, hiring, and retaining personnel**.

Recommendation 2: Mission Support

The Coast Guard **will need the mission support capacity and capabilities** to meet foreseeable demands and to respond quickly and effectively to developments that may not be foreseen. Congress should ensure that the Coast Guard has the requisite statutory authority and flexibility to (a) **manage, share, and analyze data**; (b) **procure and manage assets**; and (c) **support and develop a workforce**, all in a manner that is suited to a fast-changing environment.

Because the Coast Guard already has **many existing broad authorities for mission support**, the **Service should continue to review the latitude afforded by these existing authorities**, including the procedures and processes used to implement them, to make sure that the authorities are being used in the most effective manner, such as to update internal systems and meet evolving workforce needs.

Conclusion: Legal Foresight

It behooves the Coast Guard, with its many responsibilities in the vast and varied maritime domain, to **continue to monitor the horizon** for future developments and assess their likely implications on Coast Guard actions, plans, and preparations—including by placing emphasis on **legal foresight and building stronger connections between legal foresight and operational and strategic planning.**

Legal foresight calls for **regular, systematic assessment of statutory authorities** to ensure that they will be sufficient to allow the Coast Guard to take needed actions and to build the capacity to carry them out. Such legal foresight would seek to **anticipate not only the likely adverse impacts of foreseeable developments, but also the statutory authority needs** that the Coast Guard will require to address them.



Recommendation 3: Legal Foresight

The Coast Guard should **strengthen and deepen its strategic foresight** planning in a manner that can inform decisions across Coast Guard leadership tenures. To obtain additional insight into future developments and plan for responses to challenges, the Coast Guard should leverage experience with its Evergreen process and **continue to innovate in its use of foresight by employing state-of-the-art methods** such as those explicated herein, considering the prospect of multiple developments occurring in close succession or simultaneously and their potential interactions, and **incorporating legal foresight into the strategic foresight** process to account for any future statutory needs.

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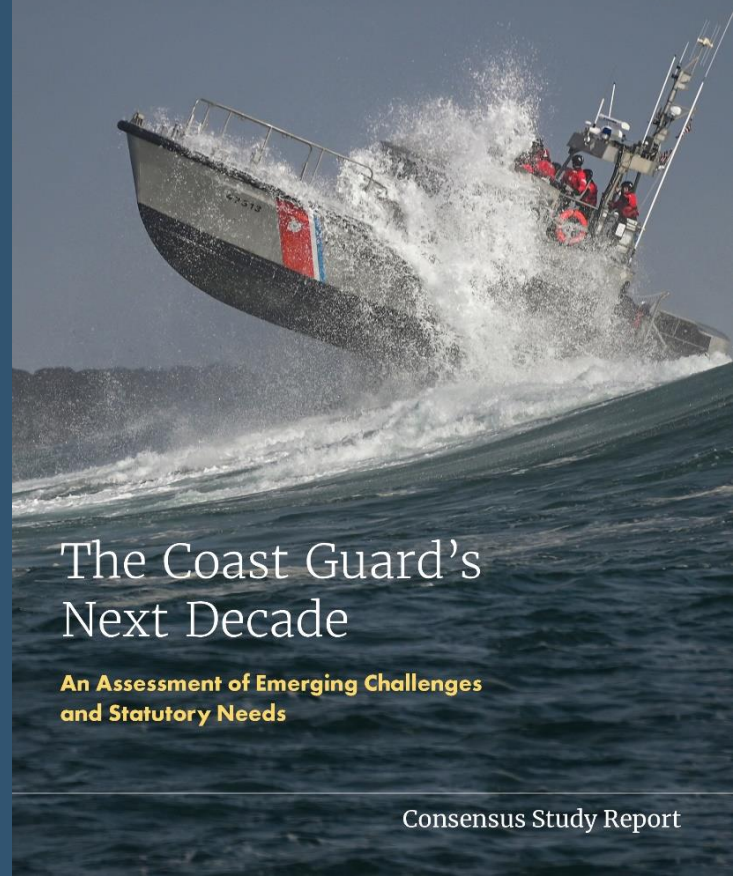
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Acknowledgements – consultations

U.S. Coast Guard (alphabetical)

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