ABOUT THE BOARD

The mission of the Naval Studies Board (NSB), created in 1974 at the request of the Chief of Naval Operations (CNO), is to be a source of independent, long-range, scientific and technical planning advice for the naval forces. As mutually agreed upon between the CNO and the President of the National Academy of Sciences (NAS) and with the appropriate attention to the influence of the domestic economy, national objectives, social imperatives, and anticipated military requirements, the NSB will conduct and report upon surveys and studies in the field of scientific research and development applicable to the operation and function of the Navy.

SELECTED RECENT REPORTS


This restricted report, conducted at the request of the CNO, assesses the potential of unmanned undersea vehicles (UUVs) in enhancing future U.S. naval operations. The terms of reference were as follows: (1) Identify the missions and environments in which UUVs might be called upon to operate, as well any issues or barriers (e.g., policy, operational, technical) that might inhibit mission success; (2) For each of the identified missions, assess desired UUV size, quantity, and level of coordination with other unmanned and manned counterparts; (3) Review the Department of the Navy’s efforts for UUVs in comparison to (1) and (2); (4) Evaluate the Department of the Navy’s technology activities for UUVs, including its vision documents and its science and technology roadmaps (e.g., in areas of autonomy, endurance, communications, sensor capabilities, weaponry, launch and recovery) against criteria selected by the committee, such as the relevance for conducting future missions, cost and time scale for deployment, scientific and technical quality, and related technology activities outside of the Navy; and (5) Recommend operational, technical, and acquisition approaches, excluding organizational changes, that would lead to mainstreaming UUVs into future U.S. naval operations at a faster deployment schedule—to the extent needed—than currently planned.


This classified report, conducted at the request of the CNO, reviews U.S. Navy cyber defense capabilities. In addition to reviewing cyber defense-related studies conducted within and outside the U.S. government, the terms of reference of the study are to (1) Review U.S. Navy information technology modernization plans and processes with respect to the evolving threat and robustness to cyber attack, and identify any shortcomings; (2) Recommend any immediate operational and technical mitigation strategies needed to address any shortcomings identified above, as well as recommend any future mitigation strategies, including any architectural and procedural changes that would lead to more resilient naval systems and more robust network and communications capabilities given the evolving threat; (3) Review and assess the adequacy of current Department of the Navy policies, strategies, approaches, and investments in comparison to the findings and recommendations to both (1) and (2) above; and (4) Identify any other critical issue—not addressed in this study—that the U.S. Navy should consider in subsequent studies.


This report, conducted at the request of the CNO, examines the issues surrounding capability surprise, both operational and technical, facing the U.S. Navy, Marine Corps, and Coast Guard. The report selects a few surprises from across a continuum of surprises, from disruptive technologies, to intelligence-inferred capability developments, to operational deployments, and assess what the Naval Forces are doing (and could do) about them while being mindful of future budgetary declines. The report then examines which processes are in place or could be in place in the Navy, the Marine Corps, and the Coast Guard to address such surprises.
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