Congressional Research Service
Informing the legislative debate since 1914

IN FOCUS

Updated July 3, 2024

# Defense Primer: Navy Distributed Maritime Operations (DMO) Concept

## Introduction

Distributed Maritime Operations (DMO) is the operating concept of the Department of the Navy (or DON, which includes the Navy and Marine Corps) for using U.S. naval (i.e., Navy and Marine Corps) forces in combat operations against an adversary, particularly China, that has substantial capabilities for detecting and attacking U.S. Navy surface ships with anti-ship missiles and other weapons. An issue for Congress is whether Congress has sufficient information about DMO to assess its merits, and whether DON has adequately aligned its programs and budget with DMO.

## Terminology: Operating Concept

An operating concept is a general idea for how to use certain military forces (in this case, U.S. naval forces) to conduct operations, particularly in combat situations. An operating concept can support the implementation of a strategy or war plan for fighting a specific conflict, and the tactics used by individual military units (such as Navy ships and aircraft) can reflect an operating concept.

## DMO: A Brief Description

A 2022 document from the Chief of Naval Operations refers to DMO as "the Navy's foundational operating concept" (Chief of Naval Operations, *Navigation Plan 2022*, p. 8). DON has not released a detailed unclassified description of DMO. Statements by DON officials indicate that a key aim of DMO is to improve the ability of U.S. naval forces to counter China's maritime anti-access/area-denial (A2/AD) systems (i.e., its capabilities for detecting and attacking U.S. Navy surface ships and aircraft) and thereby permit U.S. naval forces to operate effectively during a conflict with China in waters that are within range of China's A2/AD systems. Key features of DMO appear to include the following:

- Dispersing Navy units over a larger area within the theater of operations, so as to make it harder for an adversary to detect and target Navy units, while still permitting Navy units to support one another and concentrate their fires on adversary targets.
- Spreading the Navy's sensors and weapons across a wider array of ships and aircraft, so as to reduce the fraction of the Navy's sensors and weapons that would be lost due to the destruction of any one Navy ship or aircraft (i.e., avoid "putting too many eggs into one basket").
- Making greater use of longer-ranged weapons, unmanned vessels, and unmanned aircraft in support of the previous two points.
- Using resilient communication links and networking technologies to knit the resulting widely dispersed force of manned and unmanned ships and aircraft into a coordinated battle force that can withstand and adapt to enemy attacks on Navy communications and networks.

One observer writing about DMO (see the first Filipoff citation in the Other Resources box below) states that "the concept suffers from a wide variety of interpretations across the service and needs more specificity regarding what warfighting approaches it is concentrating on. While the concept describes mass fires and decision advantage as core themes, DMO lacks sufficient coherence and concrete focus to effectively guide the Navy's development."

## Other U.S. Military Service Operating Concepts

Other U.S. military services have operating concepts for conducting their own operations in potential future conflicts. The Air Force concept is Agile Combat Employment (ACE), and the Army concept is Multi-Domain Operations (MDO). Within DON, the Marine Corps has a concept called Expeditionary Advanced Base Operations (EABO) that is complementary to DMO. The services' operating concepts have certain elements in common, including increased use of unmanned systems and the use of communications and networking technology to knit dispersed units together into coordinated battle forces. For more on these concepts, see the CRS Products box below.

## Some Navy Acquisition Programs Associated with DMO

Some examples of Navy acquisition programs that appear associated with DMO include the following:

- Programs for acquiring longer-ranged weapons, such as the Maritime Strike Tomahawk (a new anti-ship variant of the Tomahawk cruise missile) and the Long-Range Anti-Ship Missile (LRASM).
- The Large Unmanned Surface Vessel (LUSV), which is to be equipped with a Vertical Launch System (VLS) for storing and firing anti-ship missiles and other weapons. LUSVs are intended to act as adjunct missile magazines for manned Navy surface combatants.
- The Medium Unmanned Surface Vessel (MUSV), which is to be equipped with radars or other sensors. MUSVs are intended to help form a distributed sensor network for supporting Navy operations.

- The light replenishment oiler (TAOL) shipbuilding program for building a new class of smaller oilers. TAOLs are intended to enhance the Navy's ability to provide fuel and supplies to Navy ships that are operating in a more distributed manner across a wider sea area.

- The Medium Landing Ship (LSM) program for building a class of smaller amphibious ships. The LSM program is central to implementing EABO.

For more on some of these programs, see the CRS Products box below.

## Potential Issues for Congress

Potential oversight issues for Congress regarding DMO include but are not necessarily limited to the following:

- Does Congress have adequate information from the Navy about DMO to assess its merits? Has the Navy provided Congress a classified report describing DMO in detail? Should the Navy release an unclassified description of DMO?

- What analyses did the Navy conduct that led to the Navy's adoption of DMO as its foundational operating concept? To what degree have these analyses been confirmed by Navy exercises?

- Is DMO adequately coordinated with the Air Force's ACE concept and the Army's MDO concept? What steps are the services taking to coordinate their concepts?

- Are DON budgets and programs adequately aligned with DMO? Does Congress have sufficient information about DMO to assess this question? What implications might DMO have for Navy shipbuilding and weapon acquisition programs and associated industrial bases?

- To what degree might the Navy's ability to implement DMO be constrained over the next 5 to 10 years by limits on the number of long-range weapons in the Navy's inventory? Under current Navy plans for procuring new weapons, how quickly would any such constraints be eased?

- What are the technical challenges and risks of the communications and networking technology needed for DMO? Does DMO adequately account for the possibility of wartime degradation in the network due to enemy attacks?

- One observer writing about DMO (see Filipoff in the Other Resources box at the end of this In Focus) states: "Warfighting concepts can be abused, acting as little more than bumper stickers attached to initiatives in service of preconceived interests." How much risk is there of this occurring with DMO?

- To help implement DMO, some observers have suggested adding missile batteries to ships that currently do not have them, such as amphibious or auxiliary ships, or arming Littoral Combat Ships (LCSs) with missiles that have longer ranges than the missiles that LCSs currently carry. What are the relative merits of these proposals?

### CRS Products

CRS In Focus IF11409, *Defense Primer: Army Multi-Domain Operations (MDO)*, by Andrew Feickert.

CRS In Focus IF12694, *Defense Primer: Agile Combat Employment (ACE) Concept*, by Sarah Gee and Luke A. Nicastro.

CRS Report RL33153, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, by Ronald O'Rourke. (This report discusses China's maritime A2/AD systems.)

CRS Report R45757, *Navy Large Unmanned Surface and Undersea Vehicles: Background and Issues for Congress*, by Ronald O'Rourke. (This report discusses the LUSV and MUSV programs.)

CRS In Focus IF11674, *Navy Light Replenishment Oiler (TAOL) (Previously Next-Generation Logistics Ship [NGLS]) Program: Background and Issues for Congress*, by Ronald O'Rourke.

CRS Report R46374, *Navy Medium Landing Ship (LSM) (Previously Light Amphibious Warship [LAW]) Program: Background and Issues for Congress*, by Ronald O'Rourke. (This report discusses both the LSM program and the EABO concept.)

### Other Resources

Dmitry Filipoff, *Distributed Maritime Operations, Solving What Problems And Seizing Which Opportunities?* Atlantic Council, July 2024, 22 pp.

Joslyn Fleming, Bradley Martin, Fabian Villalobos, and Emily Yoder, *Naval Logistics in Contested Environments*, RAND, RRA-1921-1, 2024, 55 pp.

Dmitry Filipoff, "Fighting DMO, Pt. 1: Defining Distributed Maritime Operations and the Future of Naval Warfare," Center for International Maritime Security (CIMSEC), February 23, 2023. (Part 1 of a 10-part series on DMO.)

Harlan Ullman, "Are There Flaws in the US Navy's Distributed Maritime Operations?" *Defense News*, January 23, 2023.

Tom Clarity, "Distribute DMO to Tactical Commanders," *U.S. Naval Institute Proceedings*, January 2023.

Bryan McGrath, "Carrier Air Power Is Essential to Distributed Maritime Operations," *19FortyFive*, July 25, 2022.

Robbin Laird, "Working Synergy Between DMO and Agile Combat Employment: The Logistics Dimension," *Defense.info*, July 15, 2022.

Edward Lundquist, "DMO Is Navy's Operational Approach to Winning the High-End Fight at Sea," *Seapower*, February 2, 2021.

**Ronald O'Rourke**, Specialist in Naval Affairs

IF12599

## Disclaimer