



April 2021

# MILITARY READINESS

## Department of Defense Domain Readiness Varied from Fiscal Year 2017 through Fiscal Year 2019

Accessible Version



A Century of Non-Partisan Fact-Based Work

# GAO Highlights

Highlights of [GAO-21-279](#), a report to congressional committees

## Why GAO Did This Study

Nearly 2 decades of conflict has degraded military readiness at a time when the *National Defense Strategy* calls for preparedness for great-power competition. The strategy states that DOD should be ready to operate in all warfighting domains—ground, sea, air, space, and cyber.

To assess readiness over time, the John S. McCain National Defense Authorization Act for Fiscal Year 2019 included a provision that GAO report annually through 2022—using 2017 as a baseline—on the readiness of the military in the ground, sea, air, space, and cyber domains. This report describes (1) the extent to which DOD has established a plan with goals and metrics for readiness recovery and (2) how readiness has changed from fiscal year 2017 through fiscal year 2019 in each domain.

This report is a public version of information reported in classified reports that GAO issued from August 2018 through January 2020, with information GAO has updated as appropriate and the most current data available for underlying reports on which this report is based. Information DOD deemed classified has been omitted. GAO reviewed readiness recovery plans and, in consultation with DOD, selected nongeneralizable samples of forces for each domain. GAO grouped the forces into mission areas and analyzed readiness data.

## What GAO Recommends

GAO has previously made five recommendations to improve DOD's readiness recovery efforts that DOD has implemented. GAO has also recommended that DOD establish metrics to measure readiness in each domain, which DOD has not done.

View [GAO-21-279](#). For more information, contact Diana Maurer at (202) 512-9627 or [MaurerD@gao.gov](mailto:MaurerD@gao.gov).

April 2021

# MILITARY READINESS

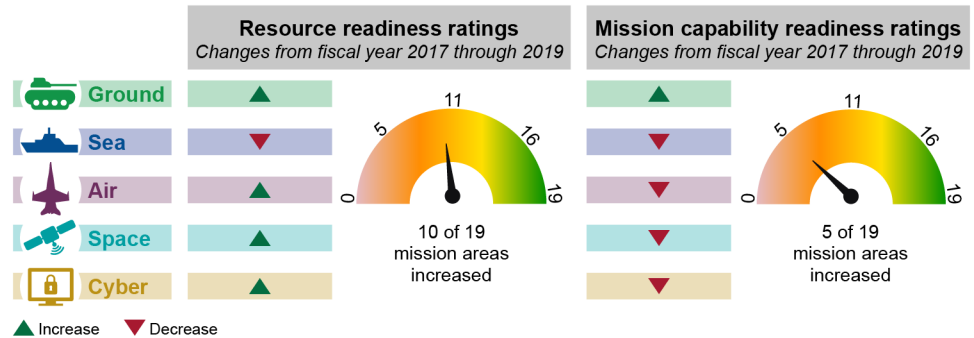
## Department of Defense Domain Readiness Varied from Fiscal Year 2017 through Fiscal Year 2019

### What GAO Found

The Department of Defense (DOD) has developed a plan for readiness recovery—referred to as the Readiness Recovery Framework—which includes goals and metrics to assess progress in addressing primary readiness issues. Since 2018, DOD has revised its readiness recovery goals and metrics to align with the 2018 *National Defense Strategy* according to DOD officials.

Readiness increased in the ground domain and declined in the sea domain from fiscal year 2017 through fiscal year 2019, and rating changes were mixed in the air, space, and cyber domains. The ratings are based on GAO's analysis of data for selected mission areas—groups of similar capabilities from across the services, such as fighter jets—and force elements—subsets of units within each mission area—within each of the five domains.

**Change in Domain Resource and Mission Capability Readiness Ratings from Fiscal Years 2017-2019**



Source: GAO analysis of Department of Defense data. | GAO-21-279

**Data table for Change in Domain Resource and Mission Capability Readiness Ratings from Fiscal Years 2017-2019**

Domain	Resource readiness ratings	Mission capability readiness ratings
Ground	Increased	Increased
Sea	Decreased	Decreased
Air	Increased	Decreased
Space	Increased	Decreased
Cyber	Increased	Decreased

Note: Resource readiness ratings had 10 of 19 mission areas increased. Mission capability readiness ratings had 5 of 19 mission areas increased.

Note: Resource readiness ratings measure the status of personnel, equipment, supplies, and training. Mission capability readiness ratings measure whether a unit can accomplish its designed missions.

GAO found that reported domain readiness did not meet readiness recovery goals identified by the military services. DOD has identified a wide range of challenges it faces as it seeks to improve readiness in each of the five domains. For example, within the sea domain, the Navy identified limited maintenance capacity at private and public shipyards as the primary challenge for recovering ship and submarine readiness. GAO will continue to monitor and report on DOD's domain readiness as required by Congress through 2022.

In May 2019, GAO reported that DOD was not measuring or reporting readiness to perform full-spectrum operations by domain, as required by law, and recommended DOD do so. However, since 2019 the Office of the Secretary of Defense has expressed that the ground, sea, and air domains are captured in the Readiness Recovery Framework, and that instead of developing separate metrics for measuring readiness by domains, it is focused on tracking readiness recovery by military service. GAO continues to believe our recommendation is valid.

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## Abbreviations

Act	John S. McCain National Defense Authorization Act for Fiscal Year 2019
CJCS	Chairman of the Joint Chiefs of Staff
DOD	Department of Defense

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April 7, 2021

The Honorable Jack Reed  
Chairman  
The Honorable James M. Inhofe  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Adam Smith  
Chairman  
The Honorable Mike Rogers  
Ranking Member  
Committee on Armed Services  
House of Representatives

For decades, the United States has enjoyed unchallenged or dominant military advantage, according to the Department of Defense (DOD). DOD could generally deploy forces when it wanted, assemble them where it wanted, and operate how it wanted. In the 2018 *National Defense Strategy*, however, DOD noted that every warfighting domain—ground, sea, air, space, and cyberspace—is now contested as potential adversaries, most notably China and Russia, have developed and enhanced their own capabilities.<sup>1</sup> At the same time, our work has shown that nearly 2 decades of conflict has degraded U.S. military readiness. To maintain the U.S. military’s advantage across all domains in a new security environment characterized by great-power competition, DOD is working to rebuild and restore readiness while also modernizing its forces.

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<sup>1</sup>“Domain” refers to the following operational areas, as defined by DOD: The ground (or land) domain is the area of the Earth’s surface ending at the high water mark and overlapping with the sea/maritime domain in the landward segment of the littorals. The sea (or maritime) domain is the oceans, seas, bays, estuaries, islands, coastal areas, and airspace above these, including the littorals. The air domain is the atmosphere, beginning at the Earth’s surface, extending to the altitude where its effects upon operations become negligible. The space domain is the area above the altitude where atmospheric effects on airborne objects become negligible. Cyber (or cyberspace) is a global domain within the information environment consisting of the interdependent networks of information technology infrastructures and resident data, including the internet, telecommunications networks, computer systems, and embedded processors and controllers.

The Committee on Armed Services of the House of Representatives has stated that the military services should demonstrate measurable readiness recovery with the additional appropriations made in fiscal year 2017 as well as the funding authorized and appropriated for fiscal years 2018 and 2019. Accordingly, the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, §333 (Aug. 13, 2018) (the “Act”), included a provision that the Secretary of Defense shall identify and establish metrics for measuring readiness to conduct full-spectrum operations in the ground, sea, air, space, and cyber domains and for us to evaluate the validity of DOD’s readiness metrics.<sup>2</sup> The Act also included a provision for us to report annually through 2022—using fiscal year 2017 as a baseline—on the readiness of the armed forces to conduct full-spectrum operations in the ground, sea, air, space, and cyber domains in order to assess readiness changes over time. In August 2019, we issued a classified report on readiness changes that occurred from fiscal year 2017 through fiscal year 2018 and in January 2020 we issued a classified report on readiness changes that occurred from fiscal year 2017 through fiscal year 2019.<sup>3</sup>

This report describes (1) the extent to which DOD has established a plan with goals and metrics for readiness recovery and (2) how readiness has changed from fiscal year 2017 through fiscal year 2019 in the ground, sea, air, space, and cyber warfighting domains. We plan to begin work later this year on a separate classified report on readiness changes that occurred from fiscal year 2017 through fiscal year 2020.

To address our objectives, we reviewed DOD and military service documentation and plans for readiness recovery, as well as our previous

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<sup>2</sup>DOD defines full-spectrum superiority as the cumulative effect of dominance in the air, land, maritime, and space domains; electromagnetic spectrum; and information environment (which includes cyberspace) that permits the conduct of joint operations without effective opposition or prohibitive interference.

<sup>3</sup>GAO, *Military Readiness: Readiness Improved in the Ground and Cyber Domains but Declined in the Sea, Air, and Space Domains from Fiscal Year 2017 to Fiscal Year 2018*, GAO-19-499C (Washington, D.C.: Aug. 30, 2019) and *Military Readiness: Improvements Have Been Made in Some Warfighting Domains from Fiscal Year 2017 to Fiscal Year 2019, But Domains Did Not Meet Readiness Goals*, GAO-20-302C (Washington, D.C.: Jan. 2020). Due to the worldwide pandemic that limited consistent access to conduct classified work, the draft report GAO-20-302C is considered the final report.

reports assessing DOD's readiness recovery efforts.<sup>4</sup> We also obtained the views of officials from the Office of the Secretary of Defense, military services, and Joint Staff on readiness reporting.<sup>5</sup> Further, we updated the unclassified portions of our previously issued classified reports and obtained views from officials from the Office of the Secretary of Defense, the Joint Chiefs of Staff, military services, and related commands. Appendix I provides further details on our objectives, scope, and methodology.

This is a public version of classified reports that we issued from August 2018 through January 2020.<sup>6</sup> DOD deemed some of the information in our reports as SECRET, which requires it be protected from public disclosure. Specifically, the previously-issued classified reports included appendixes discussing changes that occurred from fiscal year 2017 through fiscal year 2019 in the readiness of selected forces in the ground, sea, air, space, and cyber warfighting domains, along with challenges DOD has identified for recovering readiness in each domain. Additionally, these classified reports provided detailed information on the readiness ratings of mission areas and force elements, where applicable, in each of the five warfighting domains, along with other information on readiness recovery and challenges. Consequently, this public version excludes those appendixes and detailed readiness ratings. Although the information provided in this report is more limited, this report uses the same methodology as the previously issued classified reports. A list of related classified and unclassified GAO products is provided in the Related GAO Products pages at the end of this report.

We conducted this performance audit from October 2020 to April 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

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<sup>4</sup>See, for example, GAO, *Military Readiness: Update on DOD's Progress in Developing a Readiness Rebuilding Plan*, GAO-18-441RC, (Washington, D.C.: Aug. 10, 2018) and *Military Readiness: Update on DOD's Readiness Recovery and Domain Readiness Assessment*, GAO-19-390C (Washington, D.C.: May 6, 2019).

<sup>5</sup>On December 20, 2019, the National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116-92, established the United States Space Force as a military service within DOD. We did not gather information or data from the Space Force in our previously issued classified reports given its status as a new organization. As a result, throughout this report we refer to only four military services within DOD.

<sup>6</sup>GAO-18-441RC, GAO-19-390C, GAO-19-499C, and GAO-20-302C.



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the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

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### DOD Readiness Reporting

DOD defines “readiness” as the ability of the U.S. military forces to fight and meet the demands of assigned missions. Each of the military services collects and analyzes readiness information on its forces under general readiness reporting guidelines laid out in joint instruction.<sup>7</sup> This instruction requires joint and service unit commands to evaluate, in near real-time, the readiness of forces to accomplish assigned and potential tasks through the Defense Readiness Reporting System (DRRS)—DOD’s system of record for readiness data.<sup>8</sup> Specifically, the instruction requires that the commanders of each unit assess and report on the readiness of units, at least monthly, in two primary ways:<sup>9</sup>

- The first readiness assessment and reporting requirement is the C-level, which is the unit commander’s assessment of their units’ ability to undertake the wartime or primary missions for which the unit is organized or designed. C-levels include the status of four distinct resource indicators—personnel (P), equipment availability (S), equipment readiness (R), and how well the unit is trained to conduct its missions (T). The status of each resource indicator is rated on a scale of 1 (highest) to 4 (lowest) and then reported in an overall C-level (see figure 1). A unit’s C-level is equal to the lowest of the reported levels for the four resource indicators. Units that are undergoing service-directed resource actions, such as major equipment changes, may be rated as a 5, but they are not considered to be available for deployment for their primary missions. Throughout

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<sup>7</sup>Chairman of the Joint Chiefs of Staff Instruction 3401.02B, *Force Readiness Reporting* (May 31, 2011).

<sup>8</sup>According to the Department of Defense Directive 7730.65, *Department of Defense Readiness Reporting System (DRRS)* (May 31, 2018), DRRS provides the means to monitor the readiness of DOD components to provide capabilities to support the *National Military Strategy* consistent with DOD priorities and planning direction.

<sup>9</sup>Reporting units vary in size and composition. For example a fighter unit—specifically, an F-22 unit—reports readiness by squadron and each squadron contains a minimum of 20 total aircraft.

this report we refer to a unit’s reported C-level as its “resource readiness” rating.

**Figure 1: Department of Defense’s Resource Readiness Definitions**

Rating	Definition
C-1	The unit possesses the required resources and is trained to undertake the <b>full</b> wartime mission(s) for which it is organized or designed.
C-2	The unit possesses the required resources and is trained to undertake <b>most</b> of the wartime mission(s) for which it is organized or designed.
C-3	The unit possesses the required resources and is trained to undertake <b>many, but not all</b> , portions of the wartime mission(s) for which it is organized or designed.
C-4	The unit <b>requires additional resources or training</b> to undertake its wartime mission(s), but it may be directed to undertake portions of its wartime mission(s) with resources on hand.
C-5	The unit is undergoing a Service, Combatant Commander, Defense Agency, or other Department of Defense-directed resource action and <b>is not prepared</b> , at this time, to undertake the wartime missions for which it is organized or designed.

Source: GAO analysis of Department of Defense information. | GAO-21-279

**Text of Figure 1: Department of Defense’s Resource Readiness Definitions**

Rating	Definition
C-1	The unit possesses the required resources and is trained to undertake the <b>full</b> wartime mission(s) for which it is organized or designed.
C-2	The unit possesses the required resources and is trained to undertake <b>most</b> of the wartime mission(s) for which it is organized or designed.
C-3	The unit possesses the required resources and is trained to undertake <b>many, but not all</b> , portions of the wartime mission(s) for which it is organized or designed.
C-4	The unit <b>requires additional resources or training</b> to undertake its wartime mission(s), but it may be directed to undertake portions of its wartime mission(s) with resources on hand.
C-5	The unit is undergoing a Service, Combatant Commander, Defense Agency, or other Department of Defense-directed resource action and <b>is not prepared</b> , at this time, to undertake the wartime missions for which it is organized or designed.

- The second readiness assessment and reporting requirement is the Y/Q/N assessment, (hereafter referred to as the “mission capability readiness” ratings), in which joint and service unit commands evaluate the readiness of forces to accomplish assigned and potential tasks. This reporting requirement is meant to allow commanders, military service chiefs, and agency directors to assess the ability of their organizations to accomplish a task to standard, based on their capabilities, under conditions specified in their joint mission-essential

task list or agency mission-essential task list.<sup>10</sup> This assessment should be informed by observed performance, resource availability, and military judgment, and it is measured on a scale that includes three ratings: “Y” or “yes” (highest), “Q” or “qualified yes,” and “N” or “no” (lowest) (see figure 2).

**Figure 2: Department of Defense’s Mission Capability Readiness Definitions**

Rating	Definition
Y	Unit can accomplish task to established standards and conditions.
Q	Unit can accomplish all or most of the task to standard under most conditions. The specific standards, conditions, and shortfalls impacting the unit’s task must be clearly detailed in the mission essential task assessment.
N	Unit is unable to accomplish the task to prescribed standard and conditions at this time.

Source: GAO analysis of Department of Defense information. | GAO-21-279

**Text for Figure 2: Department of Defense’s Mission Capability Readiness Definitions**

Rating	Definition
Y	Unit can accomplish task to established standards and conditions.
Q	Unit can accomplish all or most of the task to standard under most conditions. The specific standards, conditions, and shortfalls impacting the unit’s task must be clearly detailed in the mission essential task assessment.
N	Unit is unable to accomplish the task to prescribed standard and conditions at this time.

DOD uses readiness data from DRRS to produce two key readiness reports:

- The Semiannual Readiness Report to Congress—prepared by the Office of the Under Secretary of Defense for Personnel and Readiness and containing information contributed by the military

<sup>10</sup>Mission-essential tasks range from conducting assessments of the ability to conduct air refueling operations for the air domain to the ability to conduct sustainment operations for the ground domain.

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services, combatant commands, and Joint Staff, and detailing military readiness on a semiannual basis.<sup>11</sup>

- The Semiannual Joint Force Readiness Review—prepared by the Chairman of the Joint Chiefs of Staff and assessing the armed forces' capability to execute their wartime missions under the *National Military Strategy*.<sup>12</sup>

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## GAO's Approach to Evaluating Domain Readiness

In 2018, Congress directed us to report annually on the readiness of the armed forces in the ground, sea, air, space, and cyber domains in order to monitor and assess DOD's rebuilding readiness efforts over time. To do so, we reviewed DOD and military service documentation to identify the forces for each domain that DOD prioritized for readiness improvement or considered critical to executing wartime plans, or that are main components of that domain. We obtained the views of officials from the Office of the Secretary of Defense, military services, and Joint Staff on our selections, and we revised our samples as appropriate.

Based on that information, we selected mission areas within each domain in order to group similar capabilities from across the services. For example, in the air domain we selected the mission area fighters, which includes fighter jet units from across DOD. Further, we selected specific force elements or subset of units within each mission area. We define a force element as equivalent to a military unit, and the composition of a military unit varies according to its type and function. For example, under the mission area fighters we include the force element, F-35, which is used by the Air Force, Navy, and Marine Corps, although each service's

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<sup>11</sup>This report was completed quarterly prior to passage of section 361 of the National Defense Authorization Act for Fiscal Year 2020, Pub. L. No 116-92 (2019), which amended sections 117 and 482 of Title 10 by requiring the Secretary of Defense to provide Congress with a report on the readiness of the armed forces (among others) not later than 30 days after the end of the second and fourth calendar year quarters.

<sup>12</sup>This report was completed quarterly prior to passage of Section 361 of the National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116-92 (2019), which amended sections 117 and 482 of Title 10 and required the Chairman of the Joint Chiefs of Staff to provide Congress, not later than 30 days after the first and third quarter of each calendar year, a written report on the capability of the armed forces (among others) to execute their wartime mission based on their posture and readiness as of the time the report is conducted.

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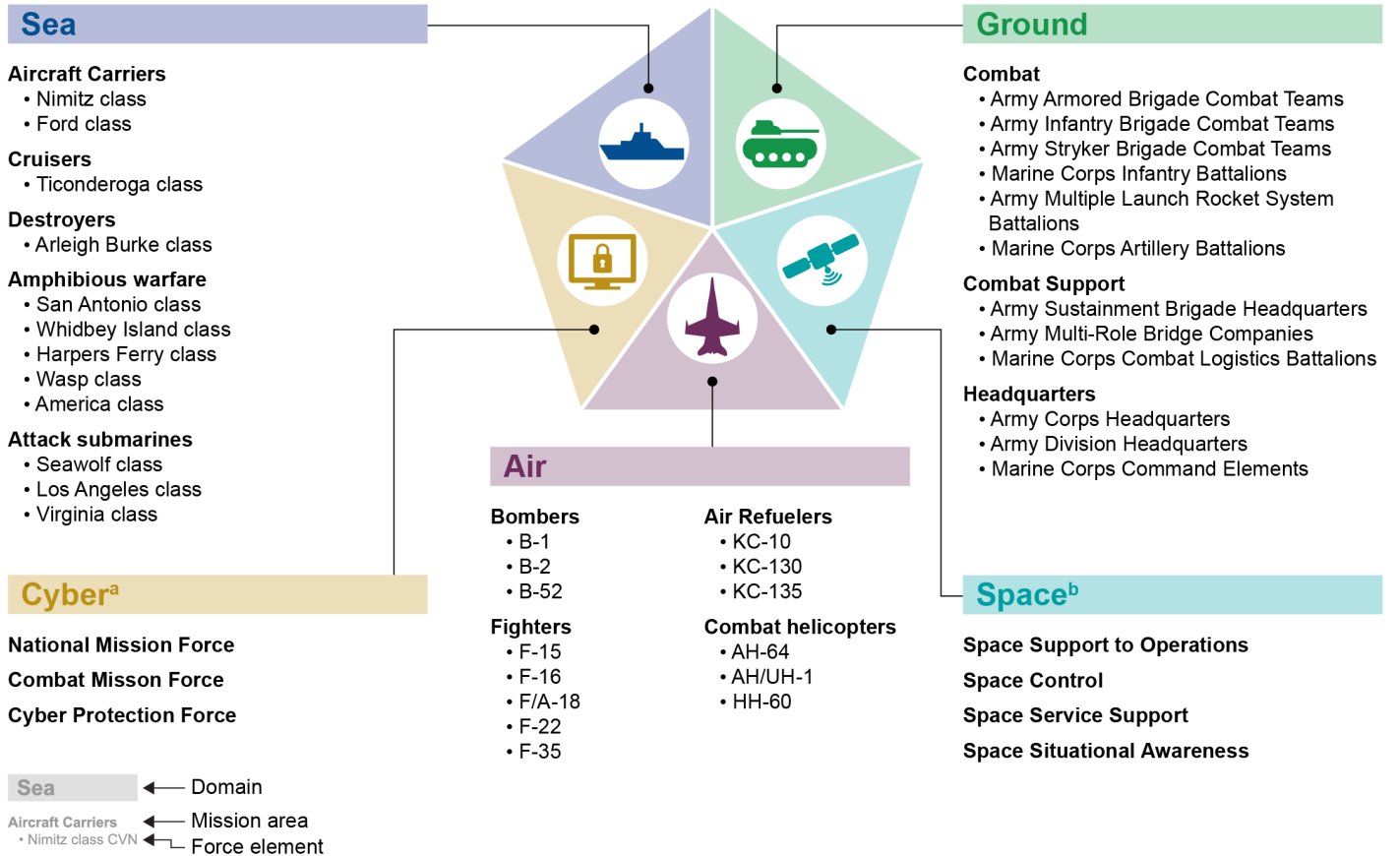
F-35 unit may vary in composition.<sup>13</sup> See figure 3 for all warfighting domains, mission areas, and force elements that we selected to analyze and report on within our congressionally mandated reports on DOD domain readiness.<sup>14</sup>

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<sup>13</sup>We selected a nongeneralizable sample of force elements within the ground, sea, air, and cyber domains for analysis. Our methodology for identifying space domain forces was designed to identify all operational space units. However, we know that our list of units does not include all of the units operating as part of the space domain. For example, the National Reconnaissance Office has responsibilities that include space operations but does not report readiness information in DRRS and so could not be included in our analysis. Our analysis of these samples does not provide a comprehensive assessment of DOD's readiness to conduct operations in these domains, but it provides an indication of readiness across each of the five warfighting domains. We vetted the list of operational units through each service for any additions and deletions.

<sup>14</sup>GAO-19-499C and GAO-20-302C.

**Figure 3: GAO’s Selection of Force Elements and Mission Areas within the Ground, Sea, Air, Space, and Cyber Warfighting Domains**



Source: GAO analysis of Department of Defense (DOD) information. | GAO-21-279

<sup>a</sup>DOD classified the force elements for the cyber domain.

<sup>b</sup>The space domain does not include any force elements.

To create a baseline of readiness data that could be consistently tracked over time to identify changes in domain readiness, we used DOD’s system of record for readiness data, DRRS.<sup>15</sup> Specifically, we analyzed

<sup>15</sup>In isolated instances, changes in force structure during the scope of our review resulted in slight changes in the number of reporting units. Also, under DOD readiness reporting requirements, the Chairman of the Joint Chiefs of Staff can grant waivers allowing units to go without reporting in any particular reporting period.

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resource readiness ratings (C-ratings) and mission capability readiness ratings (Y/Q/N-ratings).<sup>16</sup>

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## DOD Has Developed a Readiness Recovery Plan with Goals and Metrics

DOD has developed a plan for readiness recovery, as we have previously reported, referred to as the Readiness Recovery Framework, which includes goals and metrics to assess progress in addressing identified primary readiness issues for the military services. DOD has revised its readiness recovery goals and metrics, most recently in December 2020 to continue to align with the 2018 *National Defense Strategy* and DOD priorities according to DOD officials.

We have reported on DOD historic readiness levels for many years, observing a decline in readiness as overall demand for the joint force remains high and is likely to remain high in order to support global needs. In September 2016, we found that the military services had reported persistently low readiness levels, which they attributed to emerging and continued demands on their forces, reduced force structure, and increased frequency and length of deployments. In that report, we reviewed DOD and the military services' plans to rebuild readiness, finding that these efforts may be at risk without a comprehensive plan for moving forward. We made five recommendations relating to implementation and oversight of readiness rebuilding efforts.<sup>17</sup> In August 2018, we reported that DOD had made department-wide progress in developing a plan to rebuild readiness.<sup>18</sup> Specifically, we reported that the Office of the Secretary of Defense had developed a Readiness Recovery Framework that the department was using to guide the military services'

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<sup>16</sup>We obtained DRRS data to determine average readiness ratings by domain, by mission area within domains, and by force element for fiscal years 2017 through 2019. We determined readiness fiscal year average ratings by totaling the number of instances that all reporting units in the domain, mission areas, and force elements respectively had reported particular readiness levels (for example, C1 and C2) and dividing that number by the total number of instances that all reporting units had reported during that time period.

<sup>17</sup>GAO, *Military Readiness: DOD's Readiness Rebuilding Efforts May Be at Risk without a Comprehensive Plan*, [GAO-16-841](#) (Washington D.C.: Sept. 7, 2016). We made five recommendations and DOD has implemented all recommendations.

<sup>18</sup>GAO, *Military Readiness: Update on DOD's Progress in Developing a Readiness Rebuilding Plan*, [GAO-18-441RC](#) (Washington, D.C.: Aug. 10, 2018).

efforts and planned to regularly assess, validate, and monitor readiness recovery. The Readiness Recovery Framework is intended to identify primary readiness issues that each of the military services face, actions to address identified issues, and milestones and metrics to assess progress in addressing identified issues.

Within the Readiness Recovery Framework, each of the four services has established metrics and goals to track progress toward their most significant identified readiness issues.<sup>19</sup> Readiness recovery efforts were organized by military service and by combatant command.<sup>20</sup> The Office of the Secretary of Defense has reported its Readiness Recovery Framework in the second and fourth quarter editions of the Quarterly Readiness Report to Congress since the quarter ending in December 2017 and continues to do so in the Semiannual Readiness Report to Congress.<sup>21</sup> Prior to each update of the Readiness Reports to Congress, the services review and revise their respective readiness issues, metrics, and timelines.

The Office of the Secretary of Defense and the services have worked to align the Readiness Recovery Framework with the priorities of the January 2018 *National Defense Strategy*. The changes in the Readiness Recovery Framework largely constitute a refocus on rebuilding the readiness of major force elements, such as the Army's armored brigade combat teams, the Air Force's F-16 aircraft, the Marine Corps' heavy helicopters, and the Navy's attack submarines, needed to meet the primary threats identified in the strategy. Each of the services continually makes substantial changes to its respective Readiness Recovery Framework section by adding and removing measures and goals and highlighting additional readiness issues. For example, from December 2017 to December 2018, the Navy removed its lost operational days metric, which tracked the total number of days in which ships and submarines could not operate due to maintenance delays. The Navy

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<sup>19</sup>According to officials in the Office of the Secretary of Defense for Personnel and Readiness, Space Force specific readiness goals and metrics will be included in future iterations of the *Semiannual Readiness Report to Congress*.

<sup>20</sup>Combatant commanders are also responsible for reporting readiness and status in the *Quarterly and Semiannual Readiness Report to Congress*.

<sup>21</sup>This report was completed quarterly prior to passage of section 361 of the National Defense Authorization Act for Fiscal Year 2020, Pub. L. No 116-92 (2019), which amended sections 117 and 482 of Title 10 by requiring the Secretary of Defense to provide Congress with a report on the readiness of the armed forces (among others) not later than 30 days after the end of the second and fourth calendar year quarters.



replaced it with a new duration index metric, a number indicating the ratio of time taken by the public and private shipyards to complete maintenance (with 1.0 indicating maintenance completed as scheduled). According to DOD officials, DOD's continued efforts to implement the 2018 *National Defense Strategy* will likely continue to affect the goals and metrics in the Readiness Recovery Framework.

While DOD continues evaluating readiness progress by military service through its Readiness Recovery Framework, Section 333 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. No. 115-232) required the Secretary of Defense to identify and establish metrics for measuring readiness to conduct full-spectrum operations in the ground, sea, air, space, and cyber domains. In May 2019, we reported that DOD was not measuring or reporting readiness to perform full-spectrum operations by domain.<sup>22</sup> We recommended that DOD identify and establish metrics for measuring readiness to conduct full-spectrum operations in the ground, sea, air, space, and cyber domains or propose to Congress alternative approaches for measuring readiness across these domains. While DOD partially concurred with our recommendation, since 2019 officials in the Office of the Secretary of Defense have expressed that the ground, sea, and air domains are captured in the Readiness Recovery Framework, and that instead of developing separate metrics for measuring readiness in the domains, the department has been focused on tracking readiness recovery by military service and implementing various readiness reporting reforms.

We continue to believe our recommendation is valid because cross domain operations include capabilities from all five domains that are no longer owned by any single military service. Each service operates across multiple domains. For example, each of the services uses cyberspace; all conduct or depend on space operations; Army and Marine Corps forces operate from the air; Navy forces can influence land battles; and Air Force operations routinely have an effect on multiple domains. Monitoring readiness recovery only at the service level may miss key readiness issues in the capabilities of the joint force.<sup>23</sup> We have previously reported

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<sup>22</sup>GAO, *Military Readiness: Update on DOD's Readiness Recovery and Domain Readiness Assessment*, GAO-19-390C (Washington, D.C.: May 6, 2019).

<sup>23</sup>In the January-June 2020 *Semiannual Readiness Report to Congress*, DOD added a brief summary of key readiness challenges in the ground, sea, air, space, and cyber domains, as well as for special operations. However, in this summary DOD did not identify or establish domain specific metrics for measuring readiness.

that examining force structure and readiness-related issues through a service-centric lens has many limitations. For example, in March 2019, we reported that there was not a mechanism in place for DOD to routinely assess joint force needs and force structure tradeoffs across the military services.<sup>24</sup> Instead, force structure analyses were generally done by the services, largely reflected the programmed force structure, and had not resulted in any significant changes to force structure and resource allocations. This is particularly problematic in light of the *National Defense Strategy's* call for urgent change at a significant scale.

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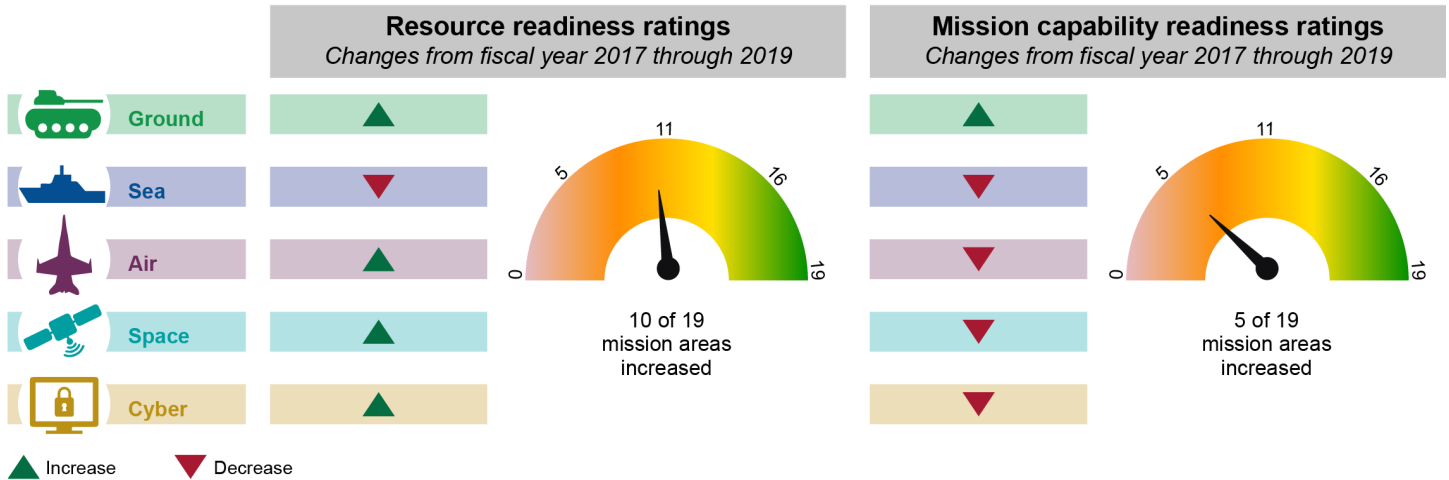
## Ground Domain Readiness Has Increased While Sea Domain Readiness Has Declined from Fiscal Year 2017 through Fiscal Year 2019, with Mixed Changes in Air, Space, and Cyber Domains

Based on our analysis of readiness data for selected force elements and mission areas within each of the five domains, readiness increased in the ground domain, declined in the sea domain, and had mixed changes in the air, space, and cyber domains from fiscal year 2017 through fiscal year 2019 (see figure 4).

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<sup>24</sup>GAO, *Defense Strategy: Revised Analytic Approach Needed to Support Force Structure Decision-Making*, [GAO-19-385](#) (Washington, D.C.: March 14, 2019).

**Figure 4: Change in Domain Resource and Mission Capability Readiness Ratings from Fiscal Years 2017-2019**



Source: GAO analysis of Department of Defense data. | GAO-21-279

**Data table for Figure 4: Change in Domain Resource and Mission Capability Readiness Ratings from Fiscal Years 2017-2019**

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Ground	Increased	Increased
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Note: Resource readiness ratings had 10 of 19 mission areas increased. Mission capability readiness ratings had 5 of 19 mission areas increased.

Note: Resource readiness ratings measure the status of personnel, equipment, supplies, and training. Mission capability readiness ratings measure whether a unit can accomplish its designed missions.

DOD has identified a wide range of challenges it faces as it seeks to recover readiness across the warfighting domains, for example:

- **Sea domain.** The Navy cited limited maintenance capacity at private and public shipyards as the primary challenge for recovering ship and submarine readiness.
- **Air domain.** The services reported a variety of challenges related to air domain force elements including the effects of Hurricane Michael and its associated infrastructure limitations on the Air Force’s F-22 fighter jets; the effects of trained pilot shortages on the Army’s AH-64 attack helicopter; and the effects of limited depot repair capacity on the Marine Corps’ light attack helicopters.

- Space domain. The services reported a variety of challenges regarding the space domain. These included (1) readiness reporting not being required of all space units resulting in DOD not tracking the readiness of units conducting unique space missions, (2) DOD not having clear readiness goals for space units, and (3) unit-level readiness reporting not accurately conveying the readiness of key space capabilities.<sup>25</sup>

We reported in August 2018 that, as part of DOD’s respective readiness recovery efforts, three of the four military services had established resource readiness goals for their forces that ranged from 66 percent C-1/C-2 to 80 percent C-1/C-2.<sup>26</sup> In the absence of DOD readiness goals at the domain level and recognizing that the mission areas and force elements we selected for each domain include forces from multiple military services, in January 2020 we applied the 66 to 80 percent C-1/C-2 readiness recovery goal range to each of the domains. We found that gaps exist between this readiness recovery goal range and reported domain readiness. We will continue to monitor and report on DOD’s classified domain readiness as required by Congress through 2022 and make any related recommendations as appropriate.

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## Agency Comments

We provided a draft of this report to DOD for review and comment. In written comments on a draft of this report, DOD concurred with the report. DOD’s comments are reprinted in their entirety in appendix II. DOD also provided technical comments, which we incorporated as appropriate.

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<sup>25</sup>GAO has an ongoing engagement examining the readiness and force structure of space control operations. These operations ensure freedom of action in space for the United States and its allies and deny an adversaries freedom of action in space.

<sup>26</sup>The Navy had established a readiness recovery goal based on operational availability requirements for various force types (e.g., two carrier strike groups deployed and three ready within 30 days) rather than a C1/C2 goal. To provide context for our reporting on readiness changes over time, we identified a readiness recovery goal range—from 66 to 80 percent C1/C2—using the resource readiness goals of the Army (active forces), Marine Corps (active forces), and Air Force (all forces) when discussing C1/C2 trends at the domain level. According to officials, the military services did not have mission capability readiness goals. On December 20, 2019, the National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116-92, established the United States Space Force as a military service within DOD. We did not gather information or data from the Space Force in our previously issued classified reports given its status as a new organization. Throughout this report we refer to only four military services within DOD.

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We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, and the Acting Secretary of the Air Force, the Acting Secretary of the Army, and the Acting Secretary of the Navy. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff has any questions about this report, please contact Diana Maurer at (202) 512-9627 or [maurerd@gao.gov](mailto:maurerd@gao.gov). Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff that made key contributions to this report are listed in appendix III.

A handwritten signature in black ink that reads "Diana Maurer". The signature is written in a cursive, flowing style.

Diana Maurer  
Director, Defense Capabilities and Management

## Appendix I: Objectives, Scope and Methodology

This report describes (1) the extent to which the Department of Defense (DOD) has established a plan with goals and metrics for readiness recovery and (2) how readiness has changed from fiscal year 2017 through fiscal year 2019 in the ground, sea, air, space, and cyber warfighting domains.

This is a public version of classified reports that we issued between August 2018 and January 2020.<sup>1</sup> DOD deemed some of the information in our reports as SECRET, which must be protected from public disclosure. Therefore, this report omits classified information about the readiness ratings of mission areas and force elements, where applicable, in each of the five warfighting domains, along with other information on readiness recovery and challenges. Although the information provided in this report is more limited, the report uses the same methodology.

To assess our first objective, we reviewed DOD and military service documentation and plans for readiness recovery, as well as our previous reports assessing DOD's readiness recovery efforts. We also obtained the views of officials from the Office of the Secretary of Defense, the military services, and Joint Staff on readiness recovery and reporting. Further, we updated the unclassified portions of our previously issued classified reports and obtained views from officials within the Office of the Secretary of Defense, the Joint Chiefs of Staff, the military services, and related commands.

In the previous reports, we selected nongeneralizable samples of force elements in the ground, sea, air, and cyber domains for analysis. Our

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<sup>1</sup>Our previously issued classified reports are GAO, *Military Readiness: Update on DOD's Progress in Developing a Readiness Rebuilding Plan*, GAO-18-441RC (Washington, D.C.: Aug. 10, 2018); *Military Readiness: Update on DOD's Readiness Recovery and Domain Readiness Assessment*, GAO-19-390C (Washington, D.C.: May 6, 2019); *Military Readiness: Readiness Improved in the Ground and Cyber Domains, but Declined in the Sea, Air, and Space Domains from Fiscal Year 2017 to Fiscal Year 2018*, GAO-19-499C, (Washington, D.C.: Aug. 30, 2019); *Military Readiness: Improvements Have Been Made in Some Warfighting Domains from Fiscal Year 2017 to Fiscal Year 2019, but Domains Did Not Meet Readiness Goals*, GAO-20-302C (Washington, D.C.: Jan. 2020). Due to the worldwide pandemic that limited consistent access to conduct classified work, the draft report GAO-20-302C is considered the final report.

methodology for identifying space domain forces was designed to identify all operational space units. However, we know that our list of units does not include all of the units operating as part of the space domain. For example, the National Reconnaissance Office has responsibilities that include space operations but does not report readiness information in DOD's readiness reporting system and so could not be included in our analysis. Our analysis of these samples does not provide a comprehensive assessment of DOD's readiness to conduct operations in these domains, but it provides an indication of readiness across each of the five warfighting domains.

To choose our samples in the ground, sea, and air domains, we reviewed and analyzed readiness reports from 2016 through 2019, including Quarterly Readiness Reports to Congress, Joint Force Readiness Reviews, and military service readiness reviews, as well as related documents, such as Chairman of the Joint Chiefs of Staff (CJCS), Office of the Secretary of Defense, and military service guidance on generating readiness and readiness reporting and requirements.<sup>2</sup> On the basis of this analysis and discussions with military service, CJCS, and other cognizant officials, we identified force elements that the department had targeted for readiness recovery, including force elements tracked by DOD and reported in the semi-annual readiness reports to Congress that focus on the department's Readiness Recovery Framework. For these three domains, we also selected force elements that are critical to executing operational plans based on pacing threats assigned to each service in the Fiscal Year 2020-2024 Defense Planning Guidance or that constitute major portions of their respective services. We obtained the views of military service and DOD officials on our initial selections and revised our samples as appropriate.

In addition, for each of these domains we applied specific criteria in selecting force elements for analysis and grouped them by mission

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<sup>2</sup>These included, for example, Chairman of the Joint Chiefs of Staff Instruction 3401.02B, *Force Readiness Reporting*, (May 31, 2011); Secretary of Defense Memorandum, *NDS Implementation - Mission Capability of Critical Aviation Platforms* (Sept. 17, 2018); U.S. Army, *Army Strategic Readiness Assessment 4QTR FY18* (2018); Chief of Naval Operations Instruction (OPNAVINST) 3501.383, *Fleet Readiness Reporting Guidance* (Oct. 20, 2010); and U.S. Air Force, *United States Air Force Readiness Review, Final Report* (March 2018).

areas.<sup>3</sup> We again vetted the list of operational units through each service for any additions and deletions.

- For the ground domain, we limited our scope to the Army and Marine Corps—the primary ground forces. In addition to the criteria discussed above, we also chose force elements, for example, that had analogous purposes across both services. We grouped our final sample of force elements into three mission areas: (1) headquarters (three force elements); (2) combat (six force elements); and (3) combat support (three force elements).<sup>4</sup> Together, these mission areas comprise 216 reporting units.
- For the sea domain, we categorized force elements into five mission areas: aircraft carriers, cruisers, destroyers, amphibious warfare ships, and attack submarines. Together, these mission areas comprise 180 reporting units, with each reporting unit consisting of an individual ship or submarine. We omitted air domain-related assets—such as carrier air wings that are typically associated with these force elements. The aircraft elements of the carrier air wings, such as an F/A-18, are included in the air domain.
- For the air domain, we categorized force elements into four mission areas: bombers, fighters, air refuelers, and combat helicopters. The fighter mission area had one change in 2019 and included an additional force element of F-16s. The F-16 was included in our report issued in January 2020, based on discussions with DOD officials and information contained in the Quarterly Readiness Reports to Congress. We included force elements from across the services in the

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<sup>3</sup>We independently defined specific mission areas within the ground, sea, and air domains, rather than adopting DOD or military service terminology to group force elements in accordance with their primary missions. For example, we included Marine Corps artillery as part of the combat mission area rather than as combat support, which is the service's description of these units according to Marine Corps officials.

<sup>4</sup>On the basis of discussion with Marine Corps officials, we analyzed three levels of Marine Corps command elements as a single force element: Marine Expeditionary Unit command elements, Marine Expeditionary Brigade command elements, and Marine Expeditionary Force command elements.



air domain, as applicable, for our analysis. Together, these mission areas comprise 217 reporting units.<sup>5</sup>

We limited our scope to fiscal years 2017 through 2019 in accordance with Pub. L. No. 115-232, §333 (Aug. 13, 2018), which mandated that we assess DOD's domain readiness using fiscal year 2017 as a baseline. We analyzed the Defense Readiness Reporting System (DRRS) data we obtained to determine average readiness ratings by domain, by mission area within domains, and by force element for fiscal years 2017 through 2019.<sup>6</sup> We analyzed both resource readiness ratings (C-levels) and mission capability readiness ratings (Y/Q/N).<sup>7</sup> For selected force elements, we also analyzed differences in readiness by active and reserve components. Unit identification codes are the primary identifier used in the Defense Readiness Reporting System-Strategic to record unit-specific readiness data, although the system also includes unit names and descriptors, which also were provided in the data we received. In isolated instances, changes in force structure during the scope of our review resulted in slight changes in the number of reporting units. Also, under DOD readiness reporting requirements, the Chairman of the Joint Chiefs of Staff can grant waivers allowing units to go without reporting in any particular reporting period. We met with Joint Staff and service readiness officials with responsibility for these data and discussed their respective internal controls, including manual and automated system controls; the processes they follow for transferring data from other systems (for example, DRRS-Army and DRRS-Marine Corps) to DRRS-Strategic; and any concerns they have about DRRS-Strategic. We also attended a class on DRRS-Strategic that included a hands-on introduction to using the system. On the basis of our assessment, we concluded that the data from DRRS-Strategic were sufficiently reliable for our purposes.

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<sup>5</sup>GAO, *Military Readiness: Improvements Have Been Made in Some Warfighting Domains from Fiscal Year 2017 to Fiscal Year 2019, but Domains Did Not Meet Readiness Goals*, GAO-20-302C (Washington, D.C.: Jan. 2020). Due to the worldwide pandemic that limited consistent access to conduct classified work, the draft report GAO-20-302C is considered the final report.

<sup>6</sup>We determined these fiscal year average ratings by determining the total number of instances that all reporting units in the domain, mission areas, and force elements respectively had reported particular readiness levels (for example, C1/C2) and dividing that number by the total number of instances that all reporting units had reported during that time period.

<sup>7</sup>Resource readiness ratings (C-levels) are determined by the lowest resource rating(s) for personnel, equipment availability, equipment condition, and training.

DRRS-Strategic constitutes the system of record for DOD readiness data and is used to compile readiness reports for decision makers in the department and for Congress. The data we obtained included resource readiness ratings (C-levels), mission capability readiness ratings (Y/Q/N), Mission Essential Task assessments, and other data related to these ratings. C-ratings are determined by the status of four distinct resource indicators: personnel (P), equipment availability (S), equipment condition (R), and how well the unit is trained to specified standards (T). The status of each resource indicator is rated on a scale of 1 (highest) to 4 (lowest) and then reported in an overall C-rating. Mission assessment data are based on a commander's subjective assessment of that unit's readiness, within guidance. A rating of "Y" indicates that a unit can accomplish tasks to established standards and conditions. A rating of "Q" indicates that a unit can accomplish all or most of its tasks to standard under most conditions. A rating of "N" indicates that a unit is unable to accomplish the task to prescribed standard and conditions at this time.

In the course of our performance audit, we interviewed officials from the organizations listed below to discuss military readiness, readiness challenges, and recovery efforts in late 2019 we assessed the reliability of readiness data from the:

- Office of the Secretary of Defense, Personnel and Readiness
- Office of the Joint Chiefs of Staff, J35, Readiness Division
- U.S. Cyber Command
- Headquarters Department of the Air Force, A3, Operations, Plans, and Requirements
- Headquarters Department of the Army, G-3/5/7, Readiness Division
- Headquarters Marine Corps, Plans, Policies, and Operations
- Chief of Naval Operations, OPNAV N83, Navy-Fleet Readiness

We conducted this performance audit from October 2020 to April 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Appendix II: Comments from the Department of Defense



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
4000 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-4000

Ms. Diana Maurer  
Director-Defense Capabilities and Management  
U.S. Government Accountability Office  
441 G Street, NW  
Washington DC 20548

Dear Ms. Maurer:

This is the Department of Defense response to the Government Accountability Office (GAO) Draft Report, GAO-21-279, "MILITARY READINESS: Department of Defense Domain Readiness Varied from Fiscal Year 2017 to Fiscal Year 2019," dated February 25, 2021 (GAO Code 104563).

The Department concurs with GAO Draft Report, GAO-21-279, as written. Thank you for the opportunity to collaborate on this important work.

Should you require additional information, please have your action officers contact Ms. A. Love Rutledge, (703) 693-8638, or [augusta.l.rutledge.civ@mail.mil](mailto:augusta.l.rutledge.civ@mail.mil).

Sincerely,

CONSTABLE.THOM  
AS.A.1022745863  
Thomas A. Constable  
Acting

Digitally signed by  
CONSTABLE.THOMAS.A.1022745863  
Date: 2021.03.25 16:36:55 -04'00'

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## Text of Appendix II: Comments from the Department of Defense

Ms. Diana Maurer

Director-Defense Capabilities and Management

U.S. Government Accountability Of-vice 441 G Street, NW

Washington DC 20548

Dear Ms. Maurer:

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Sincerely,

Thomas A. Constable Acting

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## Appendix III: GAO Contact and Staff Acknowledgements

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### GAO Contact

Diana Maurer, (202) 512-9627 or [maurerd@gao.gov](mailto:maurerd@gao.gov)

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### Staff Acknowledgements

In addition to the contact named above, Chris Watson (Assistant Director), Nicole Volchko (Analyst in Charge), Steven Banovac, Vincent Buquicchio, Chris Cronin, Nicolaas Cornelisse, Chad Hinsch, Jim Krustapentus, Alberto Leff, Patty Lentini, Amie Lesser, Kevin O'Neill, Michael Silver, Suzanne Wren, and Matthew Young made key contributions to this report.

## Related GAO Products

Report numbers with a C or RC suffix are classified. Report numbers with a SU suffix are sensitive but unclassified. Classified and sensitive but unclassified reports are available to personnel with the proper clearances and need to know, upon request. Report numbers with a T suffix are testimonies.

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### Readiness Recovery

*Navy and Marine Corps: Services Continue Efforts to Rebuild Readiness, but Recovery Will Take Years and Sustained Management Attention.* [GAO-21-225T](#). Washington, D.C.: December 2, 2020.

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*Army Modernization: Steps Needed to Ensure Army Futures Command Fully Applies Leading Practices.* [GAO-19-132](#). Washington, D.C.: January 23, 2019.

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*Army Weapon Systems Requirements: Need to Address Workforce Shortfalls to Make Necessary Improvements.* [GAO-17-568](#). Washington, D.C.: June 22, 2017.

*Supply Chain Management: DOD Could More Efficiently Use Its Distribution Centers.* [GAO-17-449](#). Washington, D.C.: June 21, 2017.

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*Military Aviation: DOD Should Take Actions to Conduct More Comprehensive Analyses of Rotary-Wing Mishaps.* [GAO-19-236C](#). Washington, D.C.: September 11, 2019.

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