



ACQUISITION  
AND SUSTAINMENT

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
3500 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3500

June 7, 2022  
Incorporating Change 1, July 21, 2023

MEMORANDUM FOR SENIOR PENTAGON LEADERSHIP  
DEFENSE AGENCY AND DOD FIELD ACTIVITY DIRECTORS

SUBJECT: Directive-type Memorandum (DTM) 22-003, "Flood Hazard Area Management for DoD Installations"

References: See Attachment 1.

Purpose. This DTM:

- In accordance with the authority in DoD Directive 5135.02, establishes policy, assigns responsibilities, and prescribes procedures to incorporate flood hazard management practices stipulated by Section 2805 of Public Law 115-232 and Section 2806 of Public Law 116-92.
- Implements flood hazard requirements in Executive Order (EO) 11988, EO 13690, and EO 14030.
- Cancels the Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, "Floodplain Management on Department of Defense Installations," February 11, 2014.
- Incorporates and supersedes the February 24, 2020 Under Secretary of Defense for Acquisition and Sustainment Memorandum.
- Is effective June 7, 2022; it must be incorporated into DoD Instruction (DoDI) 4165.70. This DTM will expire effective June 7, 2024.

Applicability. This DTM applies to:

- OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, all other organizational entities within the DoD (referred to collectively in this issuance as the "DoD Components"), and any entity engaging in any form of construction on a military installation.
- All military installations worldwide except contingency locations.

- All leasing by a DoD Component and all forms of construction, including repair, on military installations.

Definitions. See Glossary.

Policy. It is DoD policy that:

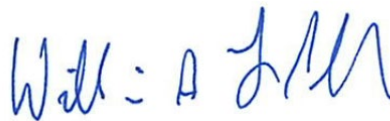
- Flood hazard areas be delineated for all installations worldwide consistent with law, Federal policy, and mission requirements.
- The Military Departments and WHS with respect to the Pentagon Reservation will maintain digital flood hazard area maps for all its installations using the most current installation geospatial information and services (IGI&S) standards.
- DoD Components will, to the maximum extent practicable, avoid development, siting, or leasing of facilities or infrastructure within flood hazard areas.
- DoD Components will use comprehensive master planning and, in the United States, follow the processes of Section 4321 et. seq., Title 42, United States Code, also known and referred to in this DTM as the “National Environmental Policy Act of 1969,” to avoid development, siting, or leasing of facilities or infrastructure within flood hazard areas to the maximum extent practicable.
- When no practicable alternative exists to executing a project or entering into a lease within a flood hazard area, project sponsors will work with project and installation engineers to mitigate flood risk to acceptable levels.

Responsibilities. See Attachment 2.

Procedures. See Attachment 3.

Summary of Change 1. This change extends the expiration date for the DTM to June 7, 2024.

Releasability. Cleared for public release. Available on the Directives Division Website at <https://www.esd.whs.mil/DD/>.



William A. LaPlante  
Under Secretary of Defense for  
Acquisition and Sustainment

Attachments:  
As stated

ATTACHMENT 1

REFERENCES

DoD Directive 5135.02, “Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)),” July 15, 2020

DoD Instruction 4165.70, “Real Property Management,” April 6, 2005, as amended

DoD Instruction 8130.01, “Installation Geospatial Information and Services (IGI&S),” April 9, 2015, as amended

DoD Instruction 8320.03, “Unique Identification (UID) Standards for Supporting the DoD Information Enterprise,” November 4, 2015, as amended

Executive Order 11988, “Floodplain Management,” May 24, 1977

Executive Order 13690, “Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input,” January 30, 2015

Executive Order 14030, “Climate-Related Financial Risk,” May 20, 2021

Public Law 115-232, Section 2805, “John S. McCain National Defense Authorization Act for Fiscal Year 2019,” August 13, 2018, as amended

Public Law 116-92, Section 2806, “National Defense Authorization Act for Fiscal Year 2020,” December 20, 2019

Under Secretary of Defense for Acquisition and Sustainment Memorandum, “Improving Defense Installation Resilience to Rising Sea Levels,” February 24, 2020<sup>1</sup>

Unified Facilities Criteria 3-201-01, “Civil Engineering,” April 1, 2018, as amended

United States Code, Title 42, Section 4321 et. seq., also known as the “National Environmental Policy Act of 1969”

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<sup>1</sup> Document can be found at: [https://www.acq.osd.mil/eie/FIM/FIM\\_Library.html](https://www.acq.osd.mil/eie/FIM/FIM_Library.html)

ATTACHMENT 2  
RESPONSIBILITIES

1. UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT. The Under Secretary of Defense for Acquisition and Sustainment establishes flood hazard-related policy for the DoD.

2. ASSISTANT SECRETARY OF DEFENSE FOR ENERGY, INSTALLATIONS, AND ENVIRONMENT. Under the authority, direction, and control of the Under Secretary of Defense for Acquisition and Sustainment, the Assistant Secretary of Defense for Energy, Installations, and Environment:

- a. Develops flood hazard-related policy.
- b. Oversees implementation of flood hazard-related policy, including development of metrics and appropriate program review.

3. DOD COMPONENT HEADS. The DoD Component heads:

- a. Ensure effective planning, siting, and design for projects and leases that must be located within or partially within flood hazard areas.
- b. Complete reporting as detailed in Attachment 3 of this DTM.

4. SECRETARIES OF THE MILITARY DEPARTMENTS AND DIRECTOR, WASHINGTON HEADQUARTERS SERVICES. In addition to the responsibilities in Paragraph 3 of this attachment, the Secretaries of the Military Departments and the Director, Washington Headquarters Services (only with respect to the Pentagon Reservation):

- a. Ensure flood hazard areas are delineated for installations as detailed in Attachment 3 of this DTM.
- b. Use comprehensive master planning and processes to minimize the development, siting, or leasing of facilities within flood hazard areas and, in the United States, to conduct that planning and those processes in accordance with the National Environmental Policy Act of 1969.
- c. Collaborate with project sponsors to mitigate flood risk for construction and repair projects that must be located in a flood hazard area.

## ATTACHMENT 3

### PROCEDURES

#### 1. FLOOD HAZARD AREA DELINEATION.

a. There are three types of flood hazard areas covered by this DTM:

(1) Those that reflect the 1-percent annual chance event (ACE), also known as the area with a 100-year flood return interval.

(2) Those that reflect the 0.2 percent ACE, also known as the area with a 500- year flood return interval.

(3) Those that, using a climate informed science approach, reflect projected environmental changes in accordance with EO 11988, Section 2805 of Public Law 115-232, and Section 2806 of Public Law 116-92.

b. Except as provided in Paragraph 3.1.c., the Military Departments and WHS (only with respect to the Pentagon Reservation) will:

(1) Ensure flood hazard areas are delineated for all their respective installations, as follows:

(a) When available, use a climate-informed science approach to delineate flood hazard areas based on projected environmental changes in accordance with EO 11988, Section 2805 of Public Law 115-232, and Section 2806 of Public Law 116-92;

1. For all installations, include flood hazard areas that account for projected future environmental changes (e.g., rainfall and watershed development resulting in increased impervious area) based upon authoritative data sources as they become available.

2. For coastal or tidally-influenced installations, ensure flood hazard areas account for projected future sea level rise using the DoD Regional Sea Level database (<https://drsl.serdp-estcp.org/site>) in accordance with the planning horizon and regional scenario appropriate to the mission and tolerance for risk, and apply the vertical datum (such as the North American Vertical Datum of 1988) appropriate to the location.

(b) Seek current Federal Emergency Management Agency (FEMA) 1-percent ACE and 0.2 percent ACE flood hazard area delineations for areas comprising their installations;

(c) Where FEMA delineated hazard areas are not available within an installation but are available in contiguous areas, use FEMA flood hazard data to delineate the 1-percent ACE and 0.2 percent ACE flood hazard areas within their installations; or

(d) Where neither FEMA delineated hazard areas nor FEMA flood hazard data are available, or where available FEMA maps do not include observed environmental changes impacting flood hazard, delineate the 1-percent ACE and 0.2-percent ACE flood hazard areas using a risk analysis that is in accordance with the standards used to inform Federal flood risk assessments.

(2) Maintain digital flood hazard area maps using the most current IGI&S standards. These maps may include underlying topography, hydrography, or bathymetric data.

(a) Installations will store these maps in an authoritative data source for each installation in accordance with DoDI 8130.01 using the unique identification standards of DoDI 8320.03.

(b) The maps will include metadata identifying the year of definition of the flood hazard area and the date(s) when the underlying data were acquired. This metadata will also conform to the current IGI&S standards, and will be made discoverable within the Joint Information Enterprise pursuant to DoDI 8130.01.

(3) Re-validate accuracy of flood hazard area delineations every 5 years and update mapping as appropriate.

c. Flood hazard area delineations are not required for installations without capital improvements or where no capital improvements are planned until a project is proposed at those locations.

## 2. ANALYSIS FOR SITING, LEASING, AND CONSTRUCTING WITHIN A FLOOD HAZARD AREA.

The order of precedence in applying the flood hazard area delineations for a specific project is as follows:

a. When available, the project sponsor will use the flood hazard area delineated using a climate-informed science approach.

b. When a climate-informed science approach is not available, the project sponsor will use the 0.2 percent ACE as the flood hazard area within an installation or for a particular project.

c. When neither the climate-informed science approach nor the 0.2 percent ACE flood hazard area is available, the project sponsor will use a freeboard value which is applied to both the vertical elevation and the corresponding horizontal extent of the floodplain. The freeboard value will be:

(1) At least the 1-percent ACE plus 2 feet.

(2) For essential actions, the 1-percent ACE plus 3 feet.

### 3. PLANNING, SITING, AND DESIGN OF PROJECTS.

a. DoD Components will, to the maximum extent practicable, avoid leasing or development (including repair) of facilities or infrastructure within flood hazard areas.

b. For projects that must be located within, or partially within, a flood hazard area, the project sponsor will:

(1) Determine the mission essentiality of new or repaired facilities.

(2) In collaboration with the installation host and project engineers, determine the appropriate design flood elevation and appropriate flood risk mitigation based upon the mission essentiality, as described in Unified Facilities Criteria 3-201-01.

(3) Report the following flood hazard information on both the project DD Form 1391, "Military Construction Project Data" (available at: <https://www.esd.whs.mil/Directives/forms/>), provided to Congress, and with the congressional notification required by the applicable project authority, as appropriate:

(a) An assessment of flood vulnerability for the proposed project.

(b) A description of the flood hazard area and the rationale for the project's site selection.

(c) Information concerning alternative construction sites that were considered and an explanation why those sites did not satisfy mission requirements.

(d) A description of planned flood mitigation measures.

c. Each DD Form 1391 will include a certification statement regarding the project's siting with respect to flood hazard areas.

(1) Projects not within a flood hazard area will include the certification statement, "This project is not within a flood hazard area."

(2) Projects within or partially within a flood hazard area will include a certification statement in accordance with Figure 1.

Figure 1. Flood Hazard Area Certification Statement

"This project falls <within/partially within> a flood hazard area representing <Summary description of the defining flood event or cause>. This is a <non-mission essential/mission essential> facility. The design flood elevation is approximately <XXX.X> feet above the existing site elevation at its lowest point. This flood risk will be mitigated as described in the description of construction."

## GLOSSARY

### PART I. ABBREVIATIONS AND ACRONYMS

<b>ACRONYM</b>	<b>MEANING</b>
ACE	annual chance event
DD	Department of Defense (form)
DoDI	DoD instruction
DTM	directive-type memorandum
EO	Executive order
FEMA	Federal Emergency Management Agency
IGI&S	installation geospatial information and services

### PART II. DEFINITIONS

These terms and their definitions are for the purpose of this issuance.

<b>TERM</b>	<b>DEFINITION</b>
<u>climate-informed science approach</u>	The elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding and tidally-influenced inundation based on climate science. This approach will also include an emphasis on whether the action is a critical action as one of the factors to be considered when conducting the analysis.
<u>flood hazard area</u>	<p>A geographic area that can be flooded by one or more specific events.</p> <p>Flood hazard area types include:</p> <p>1 percent ACE or 100-year floodplain.</p> <p>0.2 percent ACE or 500-year floodplain.</p> <p>Past flooding events (e.g., storm of significant impact).</p> <p>Future flooding (e.g., projected sea level or rainfall changes).</p> <p>A single physical location can be subject to more than one flood hazard area (e.g., the 100-year floodplain is included entirely within the 500-year floodplain).</p>