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SECTION 1. INTRODUCTION

1.1 OVERVIEW

The State of Hawai'i has experienced a range of climate, hydrological, seismic, geological, and technological hazard events that have resulted in great costs to lives, property, and the economy. Disaster risk reduction requires an integrated, multi-level, multi-sector, collaborative approach with additional emphasis on building community resilience.



Key Terms

- **Hazard Mitigation**—Sustained action to reduce or eliminate the long-term risk to human life and property from hazards.
- **State Hazard Mitigation Plan**—Demonstrates the State's commitment to reduce risks from natural hazards and serves as a guide for decision makers for reducing the effects of natural hazards as resources are committed.

Source: FEMA State Mitigation Planning Policy Guide, effective April 2023.

Mitigation is the effort to reduce loss of life and property by lessening the impacts of disasters. It creates safer communities and helps maintain the quality of life. To be effective, we must understand all risks and invest in long-term community well-being through the implementation of short- and long-term strategies before the next disaster (FEMA 2022).

The purpose of mitigation planning is to identify hazards that impact the State of Hawai'i, identify actions and activities to reduce losses from those hazards, and establish a coordinated process to implement the plan. On October 27, 2004, the State of Hawai'i's first approved Multi-Hazard Mitigation Plan went into effect. The 2010 revision became effective on October 4, 2010. The 2013 update became effective on October 3, 2013. The 2018 update became effective on October 2, 2018. The State is committed to updating and implementing its long-term strategy for reducing the risks of hazards as documented in the 2023 State of Hawai'i Hazard Mitigation Plan Update (2023 SHMP Update). The Federal Emergency Management Agency (FEMA) approval and State adoption of the 2023 SHMP Update qualify the State of Hawai'i to obtain federal assistance for hazard mitigation and for the repair and replacement of infrastructure damaged in natural disasters.

The 2023 SHMP Update demonstrates the State of Hawai'i's commitment to:

- Reduce risks from hazards;
- Serve as a guide for both state and local decision makers as they commit resources to reducing the effects of hazards on lives and property;





- Provide assurances that the State of Hawai'i will comply with all applicable federal statutes and regulations during the periods for which it receives grant funding, in compliance with the Code of Federal Regulations [44 CFR 13.11(c)];
- Maintain its eligibility to participate in all FEMA funding programs; and
- Amend the SHMP whenever necessary to reflect changes in state or federal laws and statutes as required in 44 CFR 13.11(d).

1.2 AUTHORITY, ASSURANCES, AND REFERENCES

Element S20 and 44 CFR § 201.4(c)(7): The State plan must include assurances that the State will manage and administer FEMA funding in accordance with applicable federal statutes and regulations. The State must amend and update its plan whenever necessary to reflect changes in State or Federal laws and statutes.

Authority for this plan originates from the following federal sources:

- Robert T. Stafford Disaster Relief and Emergency Assistance, 42 U.S.C., Section 322, as amended
- Code of Federal Regulations (CFR), Title 44, Parts 79.4, 201 and 206
- Disaster Mitigation Act (DMA) of 2000, Public Law 106-390, as amended

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law 100-707, signed into law in 1988, amended the Disaster Relief Act of 1974 (Public Law 93-288). The Stafford Act constitutes the statutory authority for most federal disaster response activities.

The DMA 2000 is the current federal regulation addressing hazard mitigation planning. It amended the Stafford Act to require the preparation of hazard mitigation plans (HMPs) by state and local governments emphasizing planning for disasters before they occur. The requirement for a state HMP is continued as a condition for disaster assistance.

The State of Hawai'i will continue to comply with all applicable federal statutes and regulations during the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c), and will amend its plan whenever necessary to reflect changes in State or Federal laws and statutes as required in 44 CFR 13.11(d).

The following FEMA guides and reference documents were used to prepare the 2023 SHMP Update. Refer to the References section for a complete list of resources used to prepare the plan.

- State Mitigation Planning Policy Guide, April 2023
- State Mitigation Planning Key Topics Bulletins: Planning Process, October 2022
- State Mitigation Planning Key Topics Bulletins: Risk Assessment, October 2022
- State Mitigation Planning Key Topics Bulletins: Mitigation Capabilities, November 2022
- State Mitigation Planning Key Topics Bulletins: Mitigation Strategy, October 2022





1.3 ADOPTION

Element S19 and 44 CFR § 201.4(c)(6): The State plan must include documentation that the plan has been formally adopted by the highest elected official or designee.

Adoption of the SHMP signifies Hawai'i's commitment to implementing the mitigation strategy and utilizing the SHMP and its contents to guide hazard mitigation and resilience efforts over the next 5 years. The SHMP is the culmination of information provided by numerous stakeholders from local, indigenous, state, and federal government agencies, nonprofits, private entities, and the community. The goals, objectives, and actions identified in the SHMP serve to communicate the State's priorities for reducing vulnerability and building resilience.

The plan serves as the State of Hawai'i Hazard Mitigation Plan and is formally adopted by the Governor of Hawai'i, as required by 44 CFR 201.4(c)(6). On [Month Day, Year], the Governor adopted the SHMP after receiving "Approvable Pending Adoption" status from FEMA on [Month Day, Year]. Once adopted by the Governor, the adoption resolution was submitted to FEMA and FEMA provided full approval of the SHMP on [Month Day, Year], making the SHMP effective as of [Month Day, Year].

Copies of the adoption resolution and FEMA approval letter are included in [specify where the documents are included in the plan], documenting the successful completion of the 2023 SHMP Update.

1.4 EMERGENCY MANAGEMENT ACCREDITATION PROGRAM

The Emergency Management Accreditation Program (EMAP) provides emergency management programs an opportunity to be evaluated and recognized for compliance with standards certified by the American National Standard Institute and recognized by the industry and for compliance with EMAP's mission to build safer communities through standards of excellence. EMAP demonstrates accountability and focuses attention on areas and issues where resources are needed to heighten preparedness efforts for any disaster that may affect communities.

Applicants must demonstrate through self-assessment, documentation, and peer assessment verification that their programs meet the Emergency Management Standard. An emergency management program uses the accreditation to prove the capabilities of its disaster preparedness and response systems. Accreditation is valid for 5 years. The program must maintain compliance and be reassessed to maintain accredited status.

The EMAP process accredits an overall emergency management program, of which hazard mitigation is one component. This SHMP Update has been developed to be in full compliance with EMAP standards and criteria. EMAP is a voluntary program; its components that deviate from FEMA requirements are contained in Appendix I (Emergency Management Accreditation Program).





1.5 ORGANIZATION OF THE PLAN

The 2023 SHMP Update follows the same format as the 2018 SHMP. The State of Hawai'i's HMP continues to be a "living document" that supports relationship building, promotes resiliency and sustainability, aids in consistent evaluation, and provides a means to reduce the costs associated with response and recovery.

The outline of the 2023 SHMP Update is presented below with a brief summary of each section's contents.

- **Section 1: Introduction**—This section defines mitigation and the planning requirements for the State of Hawai'i HMP. It also discusses the 2023 SHMP Update organization and a summary of changes made during the 2023 SHMP update.
- **Section 2: Planning Process**—This section documents the planning process; the agencies, stakeholders, and subject matter experts (SMEs) involved; and the manner of their involvement. It highlights the extended outreach efforts conducted to encourage participation and increased involvement during this 2023 SHMP update. This section also describes how the planning process has been integrated into ongoing federal and state programs and initiatives.
- **Section 3: State Profile**—This section provides a description of the State of Hawai'i's physical setting, demographics, economy, state assets and critical facilities, cultural assets, natural resources, and land use and development.
- **Section 4: Risk Assessment**—
 - **Section 4.1: Overview**—This section provides an overview of the risk assessment, including the identification of hazards and update process, the asset inventories collected and utilized, and the hazard-specific data and methodologies used in the vulnerability assessment.
 - **Sections 4.2 through 4.16: Risk Assessment for Each Hazard**—The risk assessment for each hazard is divided into two parts: (1) hazard profile and (2) vulnerability assessment. The vulnerability assessment now follows the hazard profile so that all information about a hazard is found in one concise section.
 - All hazard profiles and vulnerability assessments have been updated and enhanced to include more detailed and current technical information. The hazard profile includes a hazard description, location, extent, warning time, previous occurrences and losses, discussions on each hazard's probability of future occurrence, and potential effects of climate change.
 - The vulnerability assessment includes qualitative and quantitative assessments of state assets and counties, including state buildings, state roads, community lifelines, and critical facilities; socially vulnerable and total population; the built environment; land use; environmental resources; cultural assets; and projected development.
 - **Section 4.17: Vulnerability Summary**—A hazard ranking methodology was developed to rank all hazards, both statewide and for each county. The methodology was expanded beyond an examination of impacts to include hazard event probability, warning time, spatial extent, duration, adaptive capacity, and future conditions.





- **Section 5: Capability Assessment**—This section provides a comprehensive review and evaluation of state and local capabilities used to support and facilitate mitigation activities and describes the process utilized by the State of Hawai'i to support, promote, and coordinate mitigation planning at the county level.
- **Section 6: Mitigation Strategy**—This section provides a description of the review and update of the State's goals and mitigation actions. Previously identified mitigation actions were updated by each lead agency, and new actions were developed to enhance the State's resiliency to disasters.
- **Section 7: Plan Maintenance**—This section describes the 2023 implementation process. For the 2023 SHMP Update, changes to this section are based on an evaluation of the effectiveness of the plan maintenance strategy in the 2018 SHMP.
- **Appendices:**
 - Appendix A – Planning Process Documentation
 - Appendix B - State Hazard Mitigation Forum Bylaws
 - Appendix C – Capability Assessment Supplement
 - Appendix D – Map Atlas
 - Appendix E – Hazard Profile Supplement
 - Appendix F – State Profile and Risk Assessment Supplement
 - Appendix G – Mitigation Strategy Supplement
 - Appendix H – Annual Progress Reports
 - Appendix I – FEMA Region IX State Hazard Mitigation Plan Review Tool
 - Appendix J – Emergency Management Accreditation Program

1.6 OVERVIEW OF CHANGES FROM THE 2018 SHMP TO 2023 SHMP UPDATE

The HI-EMA State Hazard Mitigation Officer's vision for the 2023 SHMP Update is to continue refining the streamlined structure of the 2018 plan resulting in a practical, readable document for the public and an implementable document for the State to support future risk reduction. In addition, the 2023 SHMP Update will serve as a technical reference for the next round of local SHMP updates with a robust risk assessment that expands the assets assessed and integrates best available climate science.

With that in mind, the 2023 SHMP Update included a comprehensive update to the 2018 SHMP risk assessment. Highly technical information has been simplified, with lengthy tables, maps, and support text moved to the appendices.

The 2023 SHMP Update includes references to the Code of Federal Regulations (CFR) and the specific requirements for state hazard mitigation plans to provide the reader with context. Where possible, these references provide specific section and subsection notations. CFR citations for state hazard mitigation planning in this SHMP Update are found in the light blue text boxes as seen in an example below:

44 CFR 201.4(a): States must have an approved Standard State Mitigation Plan meeting the requirements of this section as a condition of receiving non-emergency Stafford Act assistance and FEMA mitigation grants.





Section numbering changes from the 2018 SHMP to the 2023 SHMP Update are minimal and only affect Section 4 (Risk Assessment) due to the combination of two existing hazards and the addition of two new hazards.

At the beginning of each section, there is a bulleted summary of changes made. The following highlights the significant changes and enhancements made for the 2023 SHMP Update organized by key topic.

1.6.1 PLANNING PROCESS

- One of the HI-EMA's priorities for the 2023 SHMP Update was to ensure increased outreach and collaboration among various sectors and members of the public to ensure a comprehensive update. The following sectors were engaged throughout the planning process: emergency management, economic development, land use and development, housing, health and social services, infrastructure, natural and cultural resources, academia, and the private sector. Public meetings were held virtually and in-person on each of the main islands: Kaua'i, O'ahu, Maui, Moloka'i, Lāna'i, and Hawai'i.

1.6.2 RISK ASSESSMENT

- **Assessed Hazards**—To align with HI-EMA's Threat and Hazard Identification and Risk Assessment (THIRA) and Hazards and Vulnerabilities Overview documents, hazard sections are updated as follows:
 - Flood (Section 4.6) combines both chronic coastal flooding and event-based flooding.
 - Dam failure is assessed as the primary hazard under Infrastructure Failure (Section 4.10).
 - Qualitative discussions of Cyber Threat (Section 4.3) and Terrorism (Section 4.12) are added as new hazards.
- **Community Lifelines and Critical Facilities**—An enhancement to the 2023 SHMP Update risk assessment is the analysis of community lifelines defined by FEMA along with additional critical facilities.
- **Socially Vulnerable Populations**—The enhanced risk assessment not only evaluates the population as a whole but also analyzes the location of socially vulnerable populations in relation to mapped hazards.
- **Cultural Resources**—In addition to assessing Hawaiian Home Lands, the 2023 SHMP adds six types of cultural resources (archaeology, burial sensitivity area, historic building, historic district, historic object, and historic structure) to the vulnerability assessment.
- **Environmental Resources**—Reefs (both artificial and coral) are analyzed in their own category for all the natural hazards.

1.6.3 CAPABILITIES

- A detailed scoring criterion for funding prioritization is included in the 2023 SHMP.
- State and local capabilities for building codes and standards are overviewed.

1.6.4 MITIGATION STRATEGY

- Mitigation goals have been revised and objectives added using a linear approach that emphasizes multi-objective strategies.





- The 2023 mitigation actions include a focus on mitigating the impacts of climate change, providing equitable measures for socially vulnerable communities, and addressing potential impacts from high hazard potential dams.

1.6.5 EMERGENCY MANAGEMENT ACCREDITATION PROGRAM

HI-EMA received conditional EMAP accreditation in January 2023. This update includes mitigation objectives to comply with requirements for full accreditation.

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