



Section 1. Introduction



CONTENTS

SECTION 1. INTRODUCTION1-1

1.1 State Hazard Mitigation Plan Overview..... 1-1

 1.1.1 History of the State hazard mitigation plan 1-1

 1.1.2 State’s Commitment to mitigation and resilience..... 1-2

1.2 Authority, Assurances, and References..... 1-2

1.3 Summary of Changes from the 2018 SHMP to 2023 SHMP Update 1-5

 1.3.1 Section 2 - Planning Process 1-5

 1.3.2 Section 3 – State Profile..... 1-5

 1.3.3 Section 4 - Risk Assessment..... 1-6

 1.3.4 Section 5 - Capabilities 1-6

 1.3.5 section 6 - Mitigation Strategy 1-7

 1.3.6 Emergency Management Accreditation Program 1-7

1.4 Adoption 1-7

1.5 Emergency Management Accreditation Program 1-8

¹ Section Cover Photo: Sunrise near Kaloli Point, Hawai’i Island. Photo by Megan Brotherton





SECTION 1. INTRODUCTION

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. The state's island-based communities have experienced numerous federal, state, and local declarations and are currently experiencing the impacts of the changing climate. The state is committed to protecting its communities through ongoing efforts to reduce risk from future hazard events. The Federal Emergency Management Agency (FEMA) approval and state adoption of each update to the Hawai'i State Hazard Mitigation Plan (SHMP) qualifies the State of Hawai'i to obtain federal assistance for hazard mitigation and for the repair and replacement of infrastructure damaged in natural disasters.

1.1 STATE HAZARD MITIGATION PLAN OVERVIEW

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**—A plan that 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. The purpose of mitigation planning is to identify hazards that impact the state, conduct a robust risk analysis of current hazards to guide risk-informed decision-making, identify actions and activities to reduce losses from those hazards, and establish a coordinated process to implement the plan. 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).

1.1.1 HISTORY OF THE STATE HAZARD MITIGATION PLAN

On October 27, 2004, the first approved Multi-Hazard Mitigation Plan for the State of Hawai'i went into effect. The plan was subsequently updated in 2007, 2010, 2013, and 2018. As required by Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (the Stafford Act; Public Law 100-707), the state continues to review and update the SHMP on a five-year cycle. This is the fifth update to the SHMP (2023 SHMP Update).





1.1.2 STATE'S COMMITMENT TO MITIGATION AND RESILIENCE

The state is committed to updating and implementing its long-term strategy for reducing the risks of hazards as documented in the 2023 SHMP Update. The 2023 SHMP Update presents a robust risk assessment of the hazards that present the greatest threat to Hawaii's communities and stresses an integrated, multi-level, multi-sector, collaborative approach to risk reduction with an emphasis on building community resilience. 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.

The 2023 SHMP Update demonstrates the State of Hawaii's commitment to achieving the following:

- Identify, evaluate, and reduce risks from hazards, including climate change
- Serve as a guide for both state and local decision makers as they commit resources to equitably reducing the effects of hazards on lives and property and conserving natural, historical, and cultural assets
- 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 state eligibility to participate in all FEMA funding programs
- Amend the SHMP whenever necessary to reflect changes in state or federal laws and statutes as required in 44 CFR 13.11(d).

The State of Hawaii's HMP will continue 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.

1.2 AUTHORITY, ASSURANCES, AND REFERENCES

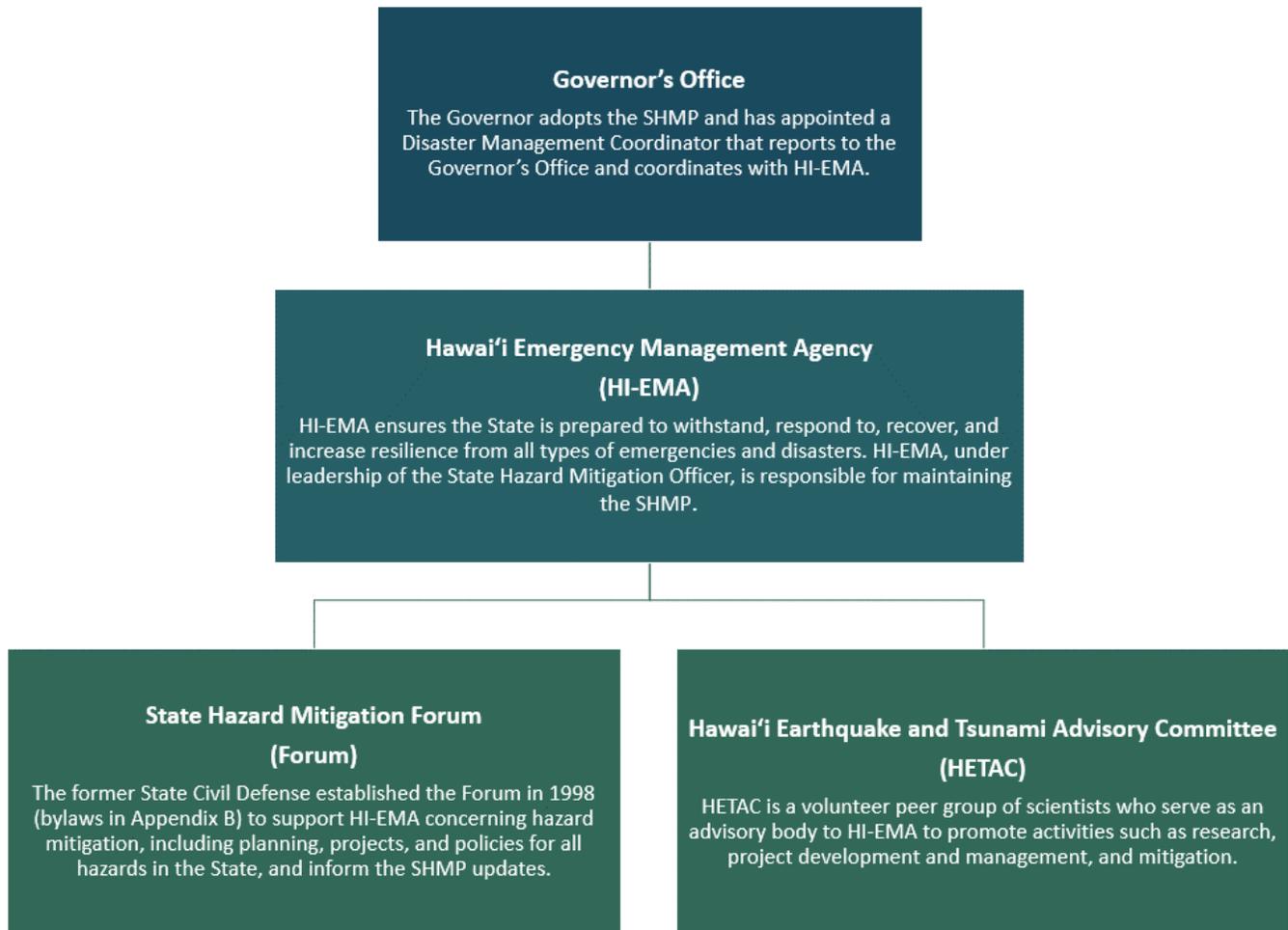
Element S20 and 44 CFR § 201.4(c)(7): The state plan must include assurances that the state will manage and administer FEMA funding in accordance with applicable federal statutes and regulations. The state must amend and update its plan whenever necessary to reflect changes in state or federal laws and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

The Hawai'i Emergency Management Agency (HI-EMA), formerly Hawai'i State Civil Defense, is responsible for coordinating disaster loss reduction programs, initiatives, and policies throughout the state. HI-EMA serves as the coordinating agency for the county emergency management agencies and as the State Warning Point. HI-EMA administers the state's hazard mitigation program, with the State Hazard Mitigation Officer (SHMO) serving as the official point of contact and leading mitigation efforts, including development of the SHMP and implementation of both state and local hazard mitigation plans (HMPs). Figure 1-1 identifies the state entities that are primarily responsible for hazard mitigation in Hawai'i.





Figure 1-1. Entities and Roles for Hazard Mitigation in the State of Hawai'i



Authority for this plan originates from the following federal sources:

- The Stafford Act
- 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 Stafford Act of 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 is the current federal regulation addressing hazard mitigation planning. It amended the Stafford Act to require the preparation of 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. States must have an approved standard SHMP meeting the requirements in 44 CFR 201.4 as a condition of receiving the Stafford Act assistance and FEMA mitigation grants listed in Table 1-1.





Table 1-1. Non-Emergency Stafford Act Assistance Programs

Program	Description
Public Assistance Categories C-G	Post-disaster reimbursement of response and recovery costs
Fire Management Assistance Grants	Mitigation, management, and control of fires on publicly or privately owned forests or grasslands that threaten destruction that would constitute a major disaster
Building Resilient Infrastructure and Communities (BRIC)	Pre-disaster funding for proactive mitigation and community resilience projects and plans
Hazard Mitigation Grant Program (HMGP)	Post-disaster funding for mitigation and community resilience projects and plans
HMGP-Post Fire	Assistance to help communities implement hazard mitigation measures after wildfire disasters
Flood Mitigation Assistance (FMA)	Pre-disaster funding for flood hazard mitigation and community resilience activities that benefit properties insured under the National Flood Insurance Program (NFIP)
Rehabilitation of High Hazard Potential Dams	Technical, planning, design, and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams.

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.

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 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, effective April 19, 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 SUMMARY OF CHANGES FROM THE 2018 SHMP TO 2023 SHMP UPDATE

The state'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 HMP 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. An internal review of the 2018 SHMP was conducted and compared against FEMA's new guidance to determine edits and enhancements. Highly technical information has been simplified, with lengthy tables, maps, and support text moved to the appendices.

One of HI-EMA's priorities was to ensure increased outreach and collaboration among a wide-range of stakeholders. HI-EMA identified and invited partners across all levels of government, private sector, subject matter experts, and the public to contribute to the plan. In addition, focus groups were established and numerous workshops held to ensure a robust risk assessment based on best available data, an extensive review of capabilities and mitigation progress, and a comprehensive updated mitigation strategy.

At the beginning of each plan 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 section.

1.3.1 SECTION 2 - PLANNING PROCESS

- One of 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, and Hawai'i.

1.3.2 SECTION 3 – STATE PROFILE

- All data presented is updated as appropriate, including demographic information and land use and development statistics.
- An enhanced discussion of socially vulnerable populations is included in the 2023 SHMP Update. The Social Vulnerability Focus Group chose to use the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC) for the analysis.
- Climate change is acknowledged as a factor that will increase average air and ocean temperatures in the state.
- Expanded discussion on community lifelines is included to provide additional context for understanding risk and identifying mitigation strategies.





1.3.3 SECTION 4 - RISK ASSESSMENT

A comprehensive update was performed to assess state and local vulnerability to the identified hazards of concern. In addition, a new feature to Section 4 is the inclusion of mitigation success stories in the state. These projects highlight risk reduction implementation using FEMA and other funding sources.

- 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.
 - Enhanced qualitative discussion is included for extreme heat for air and sea surface temperatures in Climate Change and Sea Level Rise (Section 4.2).
- Assets Evaluated:
 - **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.
 - **State and Local Assets:**
 - The risk assessment included a statewide assessment using state-owned and leased assets, and all buildings statewide.
 - The risk assessment was performed for the County of Maui also includes the County of Kalawao.
 - Mapping includes judicial districts to provide higher resolution of risk assessment results
- **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**— The environmental resources evaluated were expanded. Reefs (both artificial and coral) are analyzed in their own category for all the natural hazards.

1.3.4 SECTION 5 - CAPABILITIES

- State and local capabilities have been comprehensively reviewed, updated, and reformatted in both Section 5 and Appendix C.
- Discussion of the processes utilized by the state to support and promote mitigation planning at the county level and processes to help counties obtain funding and technical assistance for mitigation planning have been reviewed and updated to reflect current procedures
- An expanded detailed scoring methodology to prioritize planning and project grants was developed in an effort to make the prioritization process easier to understand for the subapplicants and reviewers.





- State and local capabilities for building codes and standards are summarized.
- Mitigation capability challenges and barriers to implement mitigation and build resilience were identified in collaboration with plan stakeholders. These challenges and associated opportunities to overcome these barriers are summarized.
- The state agency/department hazard mitigation capability summaries in Appendix C were expanded to include the following new elements: capability category, effect on future mitigation, equitable outcomes, community lifelines, and 2023 SHMP goal(s) met.

1.3.5 SECTION 6 - MITIGATION STRATEGY

- Mitigation goals have been revised and objectives added using a linear approach that emphasizes multi-objective strategies. This includes expanding goal 1 to include high hazard potential dams and high-risk properties such as repetitive flood loss properties. Further, a new goal 7 was added to build capacity and capabilities and increase disaster resiliency in historically underserved populations.
- The updated action plan only includes projects that state agencies have the authority to implement. Actions that individual counties have the authority to implement will be included in their respective local HMPs.
- 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.

1.3.6 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.

1.4 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 Hawaii's commitment to implementing the mitigation strategy and utilizing the SHMP and its contents to guide hazard mitigation and resilience efforts over the next five years. The SHMP is the culmination of information provided by numerous stakeholders from local, native, 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 September 27, 2023, the Governor adopted the SHMP after receiving "Approvable Pending Adoption" status from FEMA on August 7, 2023. Once adopted by the Governor, the adoption resolution was submitted to FEMA and FEMA provided full approval of the SHMP on September 28, 2023, making the SHMP effective as of that date.





Copies of the adoption resolution and FEMA approval letter are included at the end of this chapter, documenting the successful completion of the 2023 SHMP Update.

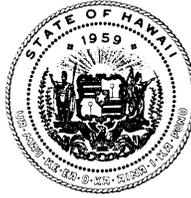
1.5 EMERGENCY MANAGEMENT ACCREDITATION PROGRAM

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 five 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.





EXECUTIVE CHAMBERS
KE KE'ENA O KE KIA'ĀINA

JOSH GREEN, M.D.
GOVERNOR
KE KIA'ĀINA

September 27, 2023

AN ORDER ADOPTING THE 2023 HAWAII STATE HAZARD MITIGATION PLAN

The State of Hawai'i has historically suffered devastating loss of life and property from natural hazards. In the past five (5) years, Hawai'i has experienced destruction due to wildfire, health risks, hurricanes, tsunamis, earthquakes, and volcanic hazards, with many of the hazards exacerbated by the effects of sea level rise and climate change. These hazards have caused considerable human suffering and damage to homes, businesses, critical infrastructure, cultural resources, government buildings, and the economy.

Given Hawai'i's vulnerability to natural hazards and its history of disasters, the State has maintained and implemented a comprehensive, multi-hazard mitigation strategy to reduce the long-term loss of life and property damage. This strategy to strengthen the State's disaster resilience is embodied in the 2023 Hawai'i State Hazard Mitigation Plan (SHMP). The SHMP update meets the mandatory five (5) year timeline for review and update of the State and County core capabilities and efforts to reduce the impacts of natural hazards.

In recognition of the State's strong commitment to reduce or eliminate the long-term risk to human life and property from hazards, I hereby adopt the 2023 Hawai'i SHMP. Also adopted by reference are the hazard mitigation plans for each County.

The 2023 Hawai'i SHMP complies with the *Stafford Act*, the *Disaster Mitigation Act of 2000* (P.L. 106-390), and *44 Code of Federal Regulations Part 201 – Mitigation Planning*. The State will comply with all applicable federal statutes and regulations during the period it receives grant funding and will amend the SHMP whenever necessary to reflect changes in State or federal laws and statutes.

Mahalo,

Josh Green, M.D.
Governor, State of Hawai'i



FEMA

October 10, 2023

James DS. Barros
Administrator of Emergency Management
Hawaii's Emergency Management Agency
4204 A Diamond Head Road
Honolulu, HI 96815

Reference: Approval of the Hawaii State Hazard Mitigation Plan

Dear Administrator Barros,

The Federal Emergency Management Agency (FEMA) Region 9 approves the updated Hawaii State Hazard Mitigation Plan effective September 28, 2023, through September 27, 2028. This plan is approved in accordance with applicable mitigation planning regulations and policy requirements.¹

In addition, this plan meets the requirements to address wildfire risks and mitigation measures and the requirements to address all dam risks.

An approved state hazard mitigation plan is a condition of receiving certain FEMA non-emergency assistance and mitigation grants from the following programs:

- Public Assistance Categories C-G (PA C-G)
- Fire Management Assistance Grants (FMAG)
- Hazard Mitigation Grant Program (HMGP)
- Hazard Mitigation Grant Program Post-Fire (HMGP-PF)
- Building Resilient Infrastructure and Communities (BRIC)
- Flood Mitigation Assistance (FMA)
- Rehabilitation of High Hazard Potential Dams Program (HHPD)
- Safeguarding Tomorrow Revolving Loan Fund (STORM RLF)
- Pre-Disaster Mitigation (PDM)

¹ Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended; the National Flood Insurance Act of 1968, as amended; Title 44 Code of Federal Regulations (CFR) Part 201; and the "Water Infrastructure Improvements for the Nation Act," or the "WIIN Act," on December 16, 2016, which amends the National Dam Safety Program Act (Pub. L. 92-367).

Approval of a state hazard mitigation plan does not guarantee funding under any FEMA program. Please refer to the individual FEMA non-emergency assistance and mitigation grant program policy and/or annual Notice of Funding Opportunities for specific application and eligibility requirements for the FEMA programs listed above.

State hazard mitigation plans must be updated and resubmitted to FEMA Region 9 for approval every five years. If the plan is not updated and approved by September 27, 2028, the plan is considered lapsed, and FEMA will not obligate funds until the mitigation plan is approved.

If at any time over the plan approval period FEMA determines that the state is not complying with all applicable federal statutes and regulations in effect during the periods for which it receives funding or is unable to fulfill mitigation commitments, FEMA may take action to correct the noncompliance (44 CFR §201.3[b][5] and §201.4[c][7]).

FEMA will provide a reminder at least 12 months before the plan expiration date of the consequences of not having an approved state hazard mitigation plan, which is required to apply for and receive funding for FEMA non-emergency assistance and mitigation grant programs. To continue to apply for and receive funding from the programs listed on page 1, the state must submit a draft of the next plan update before the end of the approval period and allow sufficient time for the review and approval process. This includes any revisions, if needed, and formal adoption by the state following the determination by FEMA that the plan has achieved a status of “approvable pending adoption.”

We look forward to working with you to discuss the status of the state hazard mitigation program each year over the approval period of this plan. If you have any questions please contact Kathryn Lipiecki, Mitigation Division Director, by phone at (215) 313-4176, or by email at kathryn.lipiecki@fema.dhs.gov.

Sincerely,



Robert Fenton
Regional Administrator
FEMA Region 9

Enclosure (1)

State of Hawaii Plan Review Tool, dated September 28, 2023

cc: Lorinda Wong-Liu, Resilience Branch Chief, HIEMA
Kelsey Yamanaka, Acting State Hazard Mitigation Officer, HIEMA
Kathryn Lipiecki, Mitigation Division Director, FEMA Region 9
Alison Kearns, Planning and Implementation Branch Chief, FEMA Region 9