



APPENDIX A CAPABILITY ASSESSMENT

This appendix includes detailed information that supports the Capability Assessment discussion presented in Section 5 (Capability Assessment) of this document.

A.1 State Capability Assessment Detailed Tables

The following sections include the detailed capability assessment that is summarized in Section 5 (Capability Assessment) of the HMP. The reader should note that the goal of this assessment was not to identify all capabilities an agency may have, but only those that are currently used or could be used to support mitigation efforts. Capabilities are generally arranged by agency; however, in some instances, capabilities listed are closely associated with the agency/department, but do not fall under their explicit authority. Information is provided for each capability as appropriate:

- **Description**—Brief, succinct description of the capability
- **Notable changes**—Description of any significant changes that have impacted the capability since the 2013 HMP was developed. Changes include but are not limited to plan updates, change in staff/resources, change in administrative rules or amendment to law, etc.
- **Challenges**—Describes any issues with implementing the capability, capability effectiveness or any aspects of the capability that conflict with hazard mitigation goals. Challenges include but are not limited to a lack of staffing or funding for implementation, outdated information or protocols, etc.
- **Opportunities**—Describes identified opportunities to address challenges, integrate mitigation goals, or otherwise enhance capabilities
- **Hazards**—Lists the hazard(s) of concern that the capability addresses
- **Type of Hazard Management Capability**—Indicates whether the capability applies pre- or post-disaster
- **Effect on Loss Reduction**—Indicates if the capability supports, facilitates or conflicts with hazard mitigation goals.

A.1.1 Department of Accounting and General Services

Table A.1-1 includes information on hazard mitigation related capabilities for the Department of Accounting and General Services (DAGS). Table A.1-2 includes information on hazard mitigation related capabilities for the Structural Engineers Association of Hawai'i (SEAOH).



Table A.1-1. Department of Accounting and General Services Capabilities

Capability	Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
Description: DAGS, is headed by the State Comptroller, who concurrently serves as the director of DAGS. The department is responsible for managing and supervising a wide range of State programs and activities.					
State-owned Building Insurance	Description:	DAGS works with the insurance industry to make sure that the state-owned buildings and facilities (more than 7,500) have insurance in case of emergencies and hazards, and works with FEMA, Hawai'i Emergency Management Agency (HI-EMA), and the insurance industry during declared disasters to conduct damage assessments.			
	Notable Changes:	None identified.			
	Challenges:	None identified.			
	Opportunities:	None identified.			
	Hazards:	Chronic Coastal Flooding, Earthquake, Event-based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆
Land Acquisition Program	Description:	The Public Works Division of DAGS plans, coordinates, organizes, directs and controls a variety of engineering and architectural services for the State including land acquisition. Funds for land acquisition are appropriated by the legislature through the Capital Improvement Program. Land acquisition is conducted in partnership with the DLNR Land Division.			
	Notable Changes:	None identified.			
	Challenges:	DAGS does not have funding budgeted for this purpose, so all funding would need to come from the legislature.			
	Opportunities:	Properties that have experienced repetitive losses from hazard events could be acquired through willing seller programs.			
	Hazards:	Drought, Climate Change, Tsunami, Event-based flood		◆	◆
Shelter Upgrade Program^b	Description:	The Public Works Division of DAGS takes the lead in implementing sheltering upgrades for public facilities to withstand disasters. Funds for shelter upgrades are appropriated by the legislature through the Capital Improvement Program.			
	Notable Changes:	None identified.			



Capability		Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Hurricane	◆		◆	◆	
Damage Assessments ^b	Description:	The Public Works Division of DAGS has architectural and engineering staff capable of supporting damage assessments to buildings and structures damaged after an event.					
	Notable Changes:	None identified.					
	Challenges:	Staff workload would need to be managed for this additional task. Staff time would need to be reimbursed.					
	Opportunities:	None identified.					
	Hazards:	Earthquake, Hurricane		◆	◆	◆	
Building Code Council ^c	Description:	<p>The State Building Code Council (the Council) which is administratively attached to the Department of Accounting and General Services and is authorized by Section 107-22, Hawai'i Revised Statutes. The purpose of the Council is to establish a state building code through the timely adaptation of national building codes and would include the latest fire code as adopted by the State Fire Council, the latest edition of the International Building Code, the latest edition of the Uniform Plumbing Code, and Hawai'i design standards to implement Act 5, Special Session Laws, 2005 as applicable to emergency shelters and essential government facilities.</p> <p>HAR §3-180 sets forth the State Building Code. Counties may make local amendments</p>					
	Notable Changes:	None identified.					
	Challenges:	Work on the adoption and implementation of modern building codes for all counties is still ongoing. The 2012 IBC is still pending for some counties. The 2012 codes have some HI-specific amendments that are focused on wind that are important. DAGS has a mitigation grant to facilitate the adoption of amendments. Challenges have involved some changes in legislation that impact the logistical aspects of the adoption process. Adoption is expected to move forward in the short-term.					
	Opportunities:	The American Society of Civil Engineers (ASCE)'s 2016 edition of ASCE 7 Standard Minimum Design Loads and Associated Criteria for Buildings and Other Structures includes a unified set of analysis and design methodologies for tsunami forces and effects on critical and essential facilities, and tsunami evacuation centers for the states of Alaska, Washington, Oregon, California, and Hawai'i. The standards can also be applied to other multi-story buildings, as determined by the local jurisdiction. The standard's methods are consistent with state-of-the-art tsunami physics, and utilizes probabilistic hazard					



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation	
			Pre-Disaster	Post-Disaster	Conflict		
			Support	Facilitate			
		analysis and structural target reliability analysis similar to the methods underlying earthquake design in ASCE 7. In addition to the standards, ASCE developed Tsunami Design Zone Maps which graphically depict the extent of inundation for up to a 1 in 2,500 annual chance Maximum Considered Tsunami (MCT) flooding for the coastlines of the five applicable states, including the State of Hawai'i (ASCE 2016). These maps provide the default design maps, which in turn should be produced in finer spatial resolution as local Hawai'i map amendments for application in state building codes (Chock, 2016). These provisions will be required in the State of Hawai'i by the next version of the Hawai'i State Building Code (Wei et al, 2017).					
	Hazards:	Earthquake, Event-based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆	◆	

- a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.
- b. Identified by the department/agency as one of the most effective capabilities for achieving mitigation goals.
- c. Identified by a stakeholder group as presenting an opportunity to improve effectiveness at meeting hazard mitigation goals. In this instance, opportunity primarily lies with adoption and enforcement at the local level.

Table A.1-2. Structural Engineers Association Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Conflict	
			Support	Facilitate		
Description: SEAOH is the Structural Engineers Association of Hawai'i, a charter member of the National Council of Structural Engineers Association (NCSEA). SEAOH is a non-profit, member-driven organization that pursues the common interests of practicing structural engineers and others sharing an interest in the activities of structural engineers (SEAOH, 2018).						
Disaster Response Committee	Description:	The purpose of the SEAOH Disaster Response Committee (DRC) is to consider and coordinate activities the structural engineering community can do before and after disasters occur. The DRC maintains a list of SEAOH member volunteers who: (1) want to participate in Pre-disaster Organization and Training and (2) can be called upon to act as Post-Disaster Volunteer Engineers.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				



Capability			Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Opportunities:	None identified.						
	Hazards:	Dam Failure, Earthquake, Event-based flood, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆		◆		
Building Code Committee	Description:	One member of the State Building Code Council is a member of the SEA0H. The committee reviews the International Building Code and International Residential Code in support of this role.						
	Notable Changes:	None identified.						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Chronic Coastal Flooding, Dam Failure, Earthquake, Event-based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆	◆		

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

A.1.2 Department of Budget and Finance

Table A.1-3 includes information on hazard mitigation related capabilities for the Department of Budget and Finance (DBF).

Table A.1-3. Department of Budget and Finance Capabilities

Capability			Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Description: The Department of Budget and Finance (DBF), headed by the Director of Finance, administers the State budget, develops near- and long-term financial plans and strategies for the State, and provides programs for the improvement of management and financial management of State agencies.								



Capability	Description:	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Capital Improvements Budget	Description:	<p>Project appropriation proposals submitted by state and county agencies are reviewed, prioritized, and evaluated to ensure conformity with statewide planning goals and objectives and executive priorities, and an estimate of the operational costs for each proposed capital improvement project is provided to the governor for consideration for possible inclusion in the executive capital improvement project budget that is to be presented to the legislature. The department also reviews, analyzes, and reports on state and county capital improvement project appropriation proposals that extend over wide geographical areas of the State and that have significant impacts upon economic development, land use, environmental quality, construction employment, and executive policy directions.</p> <p>Act 286 (HRS § 226-109) adopting Climate Change Adaptation Priority Guidelines as a policy of the Hawai'i State Planning Act (see Table A.1-7 below) mandates that all county and state agency actions consider climate change adaptation in capital improvement.</p>					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	<p>Projects identified in capital budgets can be submitted for consideration in federal grant programs. Opportunities to integrate hazard mitigation goals, should be included in capital project review and development.</p> <p>This source of funding may be used for mitigation, including:</p> <ul style="list-style-type: none"> • Wildfire <ul style="list-style-type: none"> ○ nursery improvements needed to provide native plants for green breaks, which help shade out grass to break the grass fire cycle, by replacing non-native, invasive grasses and shrubs with mostly native plants and trees; and ○ development of water sources, including installation of water storage structures and improvements to existing water storage structures • Rockfall <ul style="list-style-type: none"> ○ Rockfall and slope stabilization projects are included in the capital budget. 					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, High Wind Storms, Hurricane, Landslide/ Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆	◆	



a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

A.1.3 Department of Business, Economic Development and Tourism

The Department of Business, Economic Development and Tourism (DBEDT) is a large department with many mitigation-related capabilities. Table A.1-4 includes information on hazard mitigation related capabilities for the Hawai'i Community Development Authority (HCDA), Table A.1-5 includes information for the Hawai'i Tourism Authority (HTA), Table A.1-6 includes information for the Hawai'i State Energy Office, and Table A.1-7 includes information for the Office of Planning (OP).

Table A.1-4. Hawai'i Community Development Authority Capabilities

Capability	Description	Type of Hazard Management Capability			Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster		Support	Facilitate	Conflict	
<p>Description: The Hawai'i Community Development Authority (HCDA) is a public entity created by the Hawai'i State Legislature to establish community development plans in community development districts; determine community development programs; and cooperate with private enterprise and the various components of federal, state, and county governments to bring community development plans to fruition. The HCDA's work should result in economic and social opportunities and aim to meet the highest needs and aspirations of Hawaii's people.</p>								
Community Development District Program	Description:	At the time of this plan update there are three community development districts in the State: Kaka'ako, Kalaheo and He'eia						
	Notable Changes:	None identified. Annual reports are available online at: http://dbedt.Hawai'i.gov/hcda/hcda-annual-reports/						
	Challenges:	None identified.						
	Opportunities:	As a community development planning agency, HCDA has the opportunity to integrate natural hazard mitigation goals and strategies into its development programs and districts.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆			◆	◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.



Table A.1-5. Hawai'i Tourism Authority Capabilities

Capability	Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	
Description: HTA works closely with state and county safety and security agencies to ensure visitor safety remains a top priority. To accomplish this, HTA utilizes technology to reach and deliver safety messages directly to visitors in times of danger or potential danger. Visitor Assistance Programs (VAPs) in all four counties provide assistance with aloha to visitors in need.					
GoHawai'i Mobile App	Description:	In 2016 HTA developed the GoHawai'i mobile app – the State of Hawaii's first destination app – which offers safety information available in English, Chinese, Korean, Japanese and German to educate visitors on enjoying the Hawaiian Islands safely. Additionally, the app's push notification capability enables HTA to send messages directly to users, alerting them of dangerous or hazardous situations (HTA, 2016).			
	Notable Changes:	This is a new capability.			
	Challenges:	None identified.			
	Opportunities:	Expand the GoHawai'i mobile app information to address all hazards of concern for Hawai'i.			
	Hazards:	Chronic Coastal Flooding, Earthquake, Event-based flood, Health Risks, Hurricane, Landslide/Rockfall, Tsunami,	◆	◆	◆

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

Table A.1-6. Hawai'i State Energy Office Capabilities

Capability	Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	
Description: As the designated agency for energy, HSEO works closely with many government and industry emergency management and security partners to lower vulnerabilities, deter threats, minimize the consequences of energy disruptions, and enhance recovery of Hawaii's energy systems.					
	Description:	Hawaii's Energy Assurance Program provides organizational and planning support for energy emergency management. The program aims to facilitate the rapid restoration of Hawaii's energy systems and mitigate the impact of energy shortages. The			



Capability			Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Energy Assurance Program		concept of operations for the program includes energy emergency preparedness; response and restoration; monitoring, reporting, and analysis; coordination and outreach; and energy assurance planning.						
	Notable Changes:	None identified.						
	Challenges:	None identified.						
	Opportunities:	HSEO has established relationships with private and public industry owners and operators of the state's energy infrastructure, as well as state and county agencies. HSEO should consider looking for opportunities to partner with the private sector to reduce vulnerability of lifelines and other critical facilities and infrastructure, potentially, through FEMA mitigation grant programs.						
	Hazards:	Climate Change, Dam Failure, Earthquake, Event-based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆		◆		

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

Table A.1-7. Office of Planning Capabilities

Capability			Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation ^b
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
STATE LAND USE LAW^d								
Description: The State Land Use Law (Chapter 205, Hawai'i Revised Statutes) was adopted in 1961, establishing a framework of land use management and regulation in which all lands in the State of Hawai'i are classified into one of four land use districts. The Land Use Division of the Office of Planning represents the state's interests as they pertain to District Boundary Amendments, Special Permits, and Important Agricultural Lands. Land Use Division staff ensure petitions for boundary amendments meet the land use commission decision-making criteria, address impacts to state infrastructure, and evaluate whether the proposed project complies with the Hawai'i State Plan.								



Capability	Description:	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation ^b	
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
Land Use Districts	Description:	All lands in Hawai'i are classified in one of the four land use districts: urban, rural, agricultural and conservation. County government have regulatory authority over Urban District lands and shared authority over Agricultural and Rural District Lands. Conservation District lands are reserved for the State						
	Notable Changes:	Since 2013, statewide land use classifications have mostly remained static. A total of 261 acres statewide were reclassified from the Agricultural District to the Urban District (OP, 2017). Changes to rules include an allowance of solar farms on agricultural lands with B and C rated soils with a Special Permit.						
	Challenges:	Increasing use of agricultural lands for non-farming uses, expansion of permissible uses in Chapter 205 for non-farming uses, subdivision and use of condominium property regimes for residential developments without active farming, unclear definition of what constitutes bona fide farming and farm dwelling.						
	Opportunities:	Bona fide agricultural production task force formed under the Department of Agriculture, pending legislation designed to address challenges.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆			
Five-Year Boundary Review	Description:	Hawai'i Revised Statutes § 205- 18 calls for the periodic "review of the classification and districting of all lands in the state." Such reviews have been conducted in 1969, 1974, and 1990.						
	Notable Changes:	A five-year boundary review process was started in 2013. The review was expected to include two phases (1) conduct the periodic review without pursuing any boundary amendments and (2) Review the State Land Use District Boundary Amendment process and provide recommendations to the Land Use Commission, Governor and the Legislature to improve its efficiency and effectiveness without compromising the original intent of the law (Office of Planning, 2014b). The Five-Year Boundary Review report is nearing completion and should be published in 2018. Phase 2 of the project has been terminated as there is no consensus from an advisory group called by OP to move forward on amendments to the Land Use District Boundary Amendment process.						
	Challenges:	Review being done with in-house staff resources. Boundary amendments are precluded due to lack of resources to initiate petitions for district boundary amendments.						
	Opportunities:	Future Reviews can include issues such as sustainability and climate change issues.						



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation ^b
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Hazards:	Event-based flood, Landslide/Rockfall, Tsunami, Volcanic Hazards	◆		◆	
Land Use Commission	Description:	The Land Use Commission (LUC) administers the Land Use Law. The LUC is composed of nine members, one from each county and five members appointed at large. The Land Use Commission Rules outline standards for determining district boundaries, which include consideration of some natural hazards.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Event-based flood, Landslide/Rockfall, Tsunami, Volcanic Hazards	◆		◆	
COASTAL ZONE MANAGEMENT PROGRAM^{c, d}						
<i>Description: The Hawai'i Coastal Zone Management Program (CZM Program) was approved in 1977 and is responsive to the Federal CZM Act of 1972. It serves as the State's resource management policy umbrella and the guiding perspective for the design and implementation of allowable land and water use activities throughout the state. All agencies must assure their statutes, ordinances, rules and actions comply with the CZM's ten objectives and related policies. The coastal zone in the State of Hawai'i consists of the entire State and the area extending seaward to the limit of the state's police power and management authority. The Office of Planning administers the Coastal Zone Management Law through the Coastal Zone Management Program and sub-programs; however, 14 agencies have responsibilities relating to marine and coastal zone management.</i>						
Hawai'i CZM Program Document	Description:	Approved by NOAA in 1990, the Hawai'i Coastal Zone Management Program document provides a description of the Hawai'i Coastal Zone Management Program including links between the Federal, State, and County governments, Hawaii's land use and environmental management systems, and special components of the Hawai'i CZM program (Office of State Planning, 1990). In 2011 a supplemental document describing the CZM program as it existed in 2011 was produced, but it is not intended to be a replacement for the 1990 program document. Reducing hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution is a stated objective of the program and four policies have been developed to support this objective (Office of Planning, 2011).				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	Expand coastal hazards to include explicit discussion of sea level rise.				



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation ^b		
			Pre-Disaster	Post-Disaster	Support		Facilitate	Conflict
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆		◆			
Coastal Nonpoint Pollution Control Program (CNPCN)	Description:	The purpose of this program is “to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters.” Projects to address polluted runoff control are outlined in the Coastal Nonpoint Pollution Control Management Plan and Hawai'i Nonpoint Source Management Plan and are eligible for Clean Water Act section 319 funding. Hawai'i's CNPCP is co-implemented by the Department of Health and is a requirement of the 1990 Coastal Zone Act Reauthorization Amendments (16 U.S.C. – 1455b).						
	Notable Changes:	Hawai'i's Nonpoint Source Management Plan was updated over the performance period of the 2013 HMP and will next be updated in 2020. Updated Management Measures for Hawai'i's CNPCP were last developed in 2010.						
	Challenges:	319 grant funding is limited with \$167.9 million available in 2017 and projects must meet pollution reduction objectives						
	Opportunities:	While the focus of the program is on pollution control, some projects, such as those addressing urban stormwater runoff and water source protection, may also help meet mitigation goals and objectives. There may be an opportunity to align and leverage program objectives at the time of the next update.						
	Hazards:	Climate Change, Event-based flood, Health Risks	◆				◆	◆ (F)
Marine and Coastal Zone Advocacy Council (MACZAC)	Description:	MACZAC is a public advisory body to assist the Hawai'i CZM Program toward the implementation of an integrated and comprehensive management system for marine and coastal zone resources, consistent with the objectives and policies or the Hawai'i Coastal Zone Management Act. Comprised of twelve advisory members recruited from the islands of Kaua'i, O'ahu, Maui, Moloka'i, Lāna'i, and Hawai'i, MACZAC members have diverse backgrounds in business, environment, native Hawaiian practices, terrestrial and marine commerce, recreation, research, and tourism. The council's mission statement is “Advocate for a comprehensive management system which restores, preserves and protects Hawai'i's marine and coastal environment.”						
	Notable Changes:	None identified.						
	Challenges:	Capabilities are limited to the statutory role to advise and evaluate the CZM program.						
	Opportunities:	MACZAC may be a venue to have community discussion(s) on coastal hazards.						



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation ^b	
			Pre-Disaster	Post-Disaster	Support		Facilitate
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆			◆	
Special Management Area (SMA) Permits	Description:	<p>The SMA permit is a management tool designed to assure that developments in the SMA are designed and carried out in compliance with the CZM objectives, policies, and SMA guidelines. The SMA permitting system regulates development within county designated SMAs extending from the shoreline inland (Office of Planning, 2012). OP plays a lead role in the administration and management of the program, oversees the consistency of the permit system, provides training sessions to county SMA personnel and the County Planning Commissions, provides SMA permit guidance, and conducts SMA use review and approval for development within the SMA of community development districts. SMA permits were established as part of the Shoreline Protection Act of 1975. County authorities administer SMA permits and may amend their boundaries as necessary; however, boundary contractions are subject to OP's review.</p> <p>Trainings are generally offered for Planning Commissions and City/County Councils, particularly when there are new members. Trainings are requested by the County Planning Department and are typically conducted as a portion of a public meeting and are, therefore, open to the public. In general, these trainings are requested once per year and focus on the SMA basics, including the review criteria regarding coastal hazards.</p>					
	Notable Changes:	None identified.					
	Challenges:	Not all development in the SMA is required to obtain an SMA permit. SMA permitting excludes agriculture, inferior alterations or non-structural improvements, single family homes, and underground utilities.					
	Opportunities:	Hazard mitigation training can be integrated into SMA trainings offered by OP. County authorities may amend its county SMA boundaries as necessary; however, any contraction of the boundary is subject to OP's review and determination.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆		◆		
Federal Consistency	Description:	<p>The State CZM Program reviews federal actions affecting any coastal use or resource to ensure that proposed activities are consistent with state enforceable policies. Specifically, actions are assessed for consistency with National Flood Insurance Program flood hazard requirements and maps and tsunami inundation areas and subsidence hazards are considered (State of Hawai'i, 2013). Federal consistency is required under the national Coastal Zone Management Act (CZMA), Section 307. Procedures and requirements are established in the Code of Federal Regulation, 15 CFR 930.</p>					
	Notable Changes:	Annual, routine program change requests as well as a list of current federal license, permit, and financial assistance activities subject to federal consistency are available on the Office of Planning website.					



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation ^b	
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
	Challenges:	None identified.						
	Opportunities:	The State CZM Program attempts to review statues and ordinances to ensure that they are enforceable policies so that they can be included as part of the CZM program and be considered during the federal consistency review.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆		◆			
Coastal Zone Enhancement Program	Description:	State CZM program changes addressing one or more enhancement areas (wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts, special area management planning, ocean/great lakes resources, energy and government facility siting, and aquaculture) are eligible for Section 309 funding once an approved Assessment and Strategy has been completed. Past projects included education and outreach materials developed for distribution at community fairs and other public events. In addition, a tsunami inundation modeling project for the Island of Hawai'i is ongoing at the time of this plan update.						
	Notable Changes:	The Assessment and Strategy was updated over the performance period of the plan for FY 2016-2020, approved on July 1, 2015. Strategies for implementation in the updated plan include Probabilistic Tsunami Design Zone Maps for the State of Hawai'i and Ocean Resources Management Planning (Hawai'i CZM Program, 2015).						
	Challenges:	This is a NOAA incentive program and is not administered by the State.						
	Opportunities:	An update of the Assessment and Strategy will be required during the performance period of the HMP. There will be an opportunity to identify additional strategies that meet both CZM and hazard mitigation goals and objectives.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆			◆		◆ (F)
	Description:	Document that provides easy to follow guidance on assessing stormwater impacts in the planning phase of project development and suggests the incorporation of appropriate mitigation strategies (Office of Planning, 2013).						
Cumulative & Secondary Impact: Stormwater Impact Assessment	Notable Changes:	This is a new capability – final document completed in May of 2013.						
	Challenges:	The guidance document does not impose any legally binding requirements on county, state or federal agencies.						
	Opportunities:	Document could be updated/amended to include guidance on how to incorporate expected/possible changes in stormwater impacts because of climate change.						
	Hazards:	Event-based flood	◆		◆			



Capability		Description:	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation ^b
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Hawai'i Coastal and Estuarine Land Conservation Plan	Description:	The Hawai'i Coastal and Estuarine Land Conservation Plan (CELCP) serves as the initial action toward eligibility for the federal Coastal and Estuarine Land Program, which enables permanent protection of coastal and estuarine lands by providing matching funds for community based projects to acquire property from willing sellers through fee simple purchases or conservation easements.						
	Notable Changes:	The plan received final approval from NOAA in June 2014 during the performance period of the 2013 HMP.						
	Challenges:	President's budget has not funded CELCP program at the federal level for approximately four years straight.						
	Opportunities:	Although the focus on the program is on protecting resource value associated with ecological value, conservation value, cultural value, recreational value and aesthetic value, there may be overlap between these values and mitigation goals.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆		◆	◆		◆ (F)
Hawai'i Community Stewardship Directory	Description:	Developed as an implementation tool for the Hawai'i Ocean Resources Management Plan to help community groups and organizations connect with each other to share their experiences and lessons learned in natural and cultural resources management. The 2015 directory includes 95 organizations (Hawai'i CZM Program, 2015b).						
	Notable Changes:	The directory was updated over the performance period of the 2013 HMP in December of 2015. The number of organizations listed declined from 114 in the 2010 version.						
	Challenges:	Organizations in the Directory have no official capacity to address natural hazards in terms of emergency management.						
	Opportunities:	None identified.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆			
Low Impact Development: A Practitioner's Guide	Description:	This workbook provides information on better site design principles, along with best management practices (BMPs) for stormwater and wastewater management that minimize the impacts to environmental resources. The design requirements for stormwater BMPs are based on the climate and rainfall characteristics experienced in Hawai'i, taking into account the variability in rainfall with elevation and with the windward and leeward sides of the islands (Hawai'i CZM Program, 2006).						



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation ^b
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	Workbook could be amended/updated to incorporate design considerations for the likely impacts of climate change.					
	Hazards:	Drought, Event-based flood	◆		◆		
Shoreline Setback Area	Description:	Establishes minimum shoreline setbacks of 40 feet from the shoreline, with allowances to 20 feet under certain circumstances. Counties may expand the setback area beyond the minimum requirements. Established under HRS Section 205A-43					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	Some counties have chosen to expand setback area requirements above the minimum set forth by the State. The State could consider expanding the minimum requirements Statewide.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆	◆		◆	
Ocean Resources Management Plan	Description:	Statewide plan that sets forth the State's ocean and coastal resources management priorities. The ORMP works by identifying eleven Management Priorities for the next five-year planning period, by identifying responsible agencies and resources, and by providing a method for performance measures and reporting. The ORMP is required under HRS Section 205A-62(1). The current plan was completed in July 2013 and includes coastal hazards, sea level rise, and coastal erosion as well as climate change adaptation: disaster preparedness and community resilience as pressures on the ocean and critical issues that need to be addressed (Hawai'i CZM Program, 2013).					
	Notable Changes:	The ORMP Dashboard was recently launched and provides information on the progress of implementing the ORMP. See the following sites: https://dashboard.Hawai'i.gov/stat/goals/25ji-kwv7/ http://planning.Hawai'i.gov/czm/ocean-resources-management-plan-ormp/ocean-resources-management-plan-dashboard/					
	Challenges:	None identified.					



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation ^b
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Opportunities:	The plan will be updated during the performance period of the 2018 HMP Update, which provides opportunity for continued plan integration.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆		◆	
Council on Ocean Resources	Description:	Established in 2013 by directors of state and county agencies, with unanimous support of federal and community partners, the Council facilitates greater coordination and implementation of the State's shared ocean and coastal resource management priorities (Hawai'i CZM Program, 2013b).				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, Hurricane, Tsunami	◆		◆	
HAWAI'I STATE PLANNING ACT						
Description: All state agencies are guided by the Hawai'i State Planning Act, which is a broad policy document that sets the table for all activities, programs, and decisions made by local and state agencies. The Hawai'i State Planning Act was signed into law in 1978 to "improve the planning process in this state, to increase the effectiveness of government and private actions, to improve coordination among different agencies and levels of government, to provide for wise use of Hawaii's resources and to guide the future development of the state" (HRS § 226-1). The Act is codified under HRS Chapter 226. The State Plan is divided into three parts: Overall theme, goals, objectives and policies; planning coordination and implementation; and priority guidelines.						
Statewide Planning System	Description:	Coordinates and guides all major state and county activities and implements the overall theme, goals, objectives, policies and priority guidelines. The system implements the state plan through the development of functional plans and county general plans.				
	Notable Changes:	The State has developed 17 functional plans. Of these only one has been developed and/or updated since 1991. The <i>Housing State Functional Plan</i> was completed in February 2017 (Hawai'i Housing Finance and Development Commission, 2017).				
	Challenges:	None identified.				
	Opportunities:	As functional plans are updated, they can be reviewed and enhanced to ensure consistency with hazard mitigation goals.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-	◆		◆	



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation ^b
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
		based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire				
Priority Guidelines	Description:	As art of the Statewide Planning System, the guidelines establish priorities to address areas of statewide concern: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education. Established in HRS § 226-59				
	Notable Changes:	During the performance period of the 2013 HMP, the priority guidelines were updated to include climate change adaptation.				
	Challenges:	Priority guidelines serve primarily as aspirational or advisory and do not have any clear enforcement mechanisms from which to derive authority.				
	Opportunities:	None identified.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	
Hawai'i State Plan Update Phase I	Description:	A comprehensive review of the State Planning Act is underway. Phase 1 of the update involves inventorying and reviewing all state department plans, strategic plans, functional plans, and capital improvement plans; identifying common themes and policy directions; developing findings as to the overall status of the plans and preparing findings and recommendations for next steps in the update of the State Planning Act.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	The update of the State Plan provides an opportunity to fully integrate the hazard mitigation plan with the State Plan.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	



Capability	Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation ^b
		Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
HAWAI'I STATEWIDE GEOGRAPHIC INFORMATION SYSTEM PROGRAM					
Hawai'i Statewide Geographic Information System Program	Description:	The program leads a multi-agency effort to establish and promote the use of GIS technology in State Government. A centralized database enables agencies to share information while reducing the development of redundant databases, helps standardize the information being analyzed by decision makers and serves as a means for collecting and distributing the best available databases. The program includes the Hawai'i Open Data Portal, map tools and applications, and other resources.			
	Notable Changes:	None identified.			
	Challenges:	None identified.			
	Opportunities:	Map tools and applications can continue to be expanded to support statewide planning efforts as well as support hazard mitigation related education and outreach activities. Program capabilities could also be expanded to help support mitigation activities through projects such as maintaining the Hazus-MH model developed as a part of this plan update.			
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	

- a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.
- b. (F) = Federal grant funding
- c. Identified by the department/agency as one of the most effective capabilities for achieving mitigation goals.
- d. Identified by a stakeholder group as presenting an opportunity to improve effectiveness at meeting hazard mitigation goals.



A.1.4 Department of Commerce and Consumer Affairs

Table A.1-8 includes information on hazard mitigation related capabilities for the Department of Commerce and Consumer Affairs (CCA).

Table A.1-8. Department of Commerce and Consumer Affairs Capabilities

Capability	Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
HAWAI'I INSURANCE DIVISION					
Description: <i>The Insurance Division is responsible for overseeing the insurance industry in the State of Hawai'i, which includes insurance companies, insurance agents, self-insurers and captives. The division ensures that consumers are provided with insurance services meeting acceptable standards of quality, equity and dependability at fair rates by establishing and enforcing appropriate service standards.</i>					
Hawai'i Hurricane Relief Fund	Description:	Created in 1993, the fund is used to provide hurricane property insurance policies in Hawai'i in the event they are not available in the private market. Due to increased availability of hurricane property insurance coverage from the private sector, the fund ceased writing hurricane property insurance policies effective December 1, 2000. The HRS creating the Hawai'i Hurricane Relief Fund (HRS 431P) established a board of directors as the policy making body of the fund. If at any time the board determines that the private insurance market is not making property insurance reasonably available, the fund may offer policies of hurricane property insurance for sale in Hawai'i.			
	Notable Changes:	None identified.			
	Challenges:	None identified.			
	Opportunities:	None identified.			
	Hazards:	Hurricane		◆	◆
REAL ESTATE BRANCH					
Description: <i>The Real Estate Branch, as part of the Professional and Vocational Licensing Division, assists the Real Estate Commission in carrying out its responsibility for the education, licensure and discipline of real estate licensees; registration of condominium projects, condominium associations, condominium managing agents, and condominium hotel operators; and intervening in court cases involving the real estate recovery fund.</i>					
Mandatory Seller Disclosures in Real Estate Transactions	Description:	Requires seller disclosures in residential real property sales including if the residential property lies within the boundary of a special flood hazard area and/or within the anticipated inundation areas designated on the department of emergency management tsunami inundation maps. (HRS §508D)			
	Notable Changes:	None identified.			
	Challenges:	None identified.			
	Opportunities:	Legislation could be amended to require mandatory disclosure of location in a sea level rise exposure area.			
	Hazards:	Event-based flood, Tsunami	◆		◆

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.



A.1.5 Department of Hawaiian Home Lands

Table A.1-9 includes information on hazard mitigation related capabilities for the Department of Hawaiian Home Lands (DHHL).

Table A.1-9. Department of Hawaiian Home Lands Capabilities

Capability	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
<p>Description: <i>The primary responsibilities of the Department of Hawaiian Home Lands (DHHL) are to serve its beneficiaries and manage its extensive land trust. The land trust consists of over 200,000 acres on the islands of Hawai'i, Maui, Moloka'i, Lāna'i, O'ahu, and Kaua'i. These lands are developed and distributed to native Hawaiian beneficiaries by way of residential, agricultural, and pastoral leases for 99-year terms with lease payments of \$1.00 per year. Some parcels are designated for income-producing purposes and are general leased for industrial, retail, or other uses.</i></p>						
DHHL Land Trust	Description:	<p>Much of the properties originally designated as Hawaiian Home Lands were in remote or otherwise undesirable locations, and prone to natural and man-made hazards. Therefore, during the planning and design of subdivisions, the department evaluates the potentials for hazards, (such as flooding, rockfalls, lava flows, contamination from prior agricultural uses, unexploded ordinance (UXO) from former military uses) and ensures that proper mitigation measures are taken before awarding leases.</p> <p>DHHL coordinates with other federal, state and county agencies to address problems that span beyond the boundaries of Hawaiian Home Lands. Examples are the Waianae Coast Emergency Access Road and Secondary Access Road; flooding in Mapunapuna, O'ahu, and Kalamaula, Moloka'i; reservoir and dam inspections and repairs in Anahola, Kaua'i and elsewhere.</p> <p>DHHL is not subject to State Land Use Laws and County zoning regulations. Otherwise development complies with Federal, State, and County requirements – especially where health and safety are concerned.</p>				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.



A.1.6 Department of Health

The Department of Health is a large department with many mitigation-related capabilities. Table A.1-10 includes information on hazard mitigation related capabilities for the Environmental Management Division (EMD), Table A.1-11 includes information for the Health Resources Administration (HRA), Table A.1-12 includes information for the Office of Environmental Quality Control.

Table A.1-10. Environmental Health Administration Capabilities

Capability	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
ENVIRONMENTAL MANAGEMENT DIVISION						
Description: EMD is responsible for implementing and maintaining statewide programs for controlling air and water pollution, for assuring safe drinking water, and for the proper management of solid and hazardous waste. The division also regulates the state's wastewater.						
CLEAN WATER BRANCH						
Description: The Clean Water Branch (CWB) protects the public health of residents and tourists who enjoy playing in and around Hawaii's coastal and inland water resources. The CWB also protects and restores inland and coastal waters for marine life and wildlife. This is accomplished through statewide coastal water surveillance and watershed-based environmental management through a combination of permit issuance, monitoring, enforcement, sponsorship of polluted runoff control projects, and public education.						
NPDES Wastewater Discharge Permits	Description	Issues National Pollution Discharge Elimination System (NPDES) wastewater discharge permits for industries discharging wastewater/ process water to surface waters of the state to ensure compliance with state and federal water quality standards for environmental health and recreation purposes.				
	Notable Changes:	Office moved to 2827 Waimano Home Road, Pearl City, HI 96782.				
	Challenges:	Establish and fill vacant positions. Permits contested by permittees. Finish workplan commitments.				
	Opportunities:	Standardize procedures, process, requirements, and conditions; Factor in considerations of sea level rise and updated flood plain and storm surge maps into the development of permit conditions to reduce instances of illicit discharge of wastewater pollutants because of flooding.				
	Hazards:	Event-based flood, Hazardous Materials, Health Risks	◆		◆	
Clean Water Act Section 401 Water Quality Certifications	Description	Issues Clean Water Act Section 401 water quality certifications for federal permit for construction in nearshore and inland waters. Identifies sources of water pollution through area surveillance, routine inspections, and compliant investigations.				
	Notable Changes:	Notify public when beach fecal testing result exceeds 130 CFU/100ml by email, website update and posting sign.				
	Challenges:	Establish and fill vacant positions. Permits contested by permittees. Finish workplan commitments.				
	Opportunities:	None identified				
	Hazards:	Event-based flood, Hazardous Materials, Health Risks		◆	◆	



Capability		Description	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Polluted Runoff Control Program	Description:	The Polluted Runoff Control Program’s mission is to protect and improve the quality of Hawaii’s water resources by preventing and reducing nonpoint source pollution. To achieve its mission, the PRC Program updates and implements Hawaii’s Nonpoint Source Management Plan (2015-2020). Each year, the PRC Program uses Clean Water Act Section 319(h) funds to provide grants for polluted runoff projects in Hawai’i.						
	Notable Changes:	None identified.						
	Challenges:	Grant recipients must provide 25% matching funds or in-kind contributions from non-federal sources for the 319(h) grant program.						
	Opportunities:	Although primarily focused on water quality, runoff control projects may also aid in mitigation-related goals.						
	Hazards:	Drought, Event-based flood	◆			◆		◆ (F)
SOLID AND HAZARDOUS WASTE BRANCH								
Description: <i>The Solid and Hazardous Waste branch oversees several programs including the hazardous waste section and underground storage tank section.</i>								
Hazardous Waste Section Regulations	Description:	Regulates the generation, transportation, treatment, storage, and disposal of hazardous waste.						
	Notable Changes:	During the 2017 regular session, the Legislature passed Act 125, which bans all further permitting of cesspools and requires the replacement of all cesspools by 2050.						
	Challenges:	Legacy cesspools – State recently identified 88,000 cesspools across the state that pose a significant risk to safe drinking water quality standards and are impacting near shore marine ecosystems						
	Opportunities:	None identified.						
	Hazards:	Hazardous Materials	◆		◆			
Underground Storage Tank Section Regulations	Description:	Regulates underground storage tanks that store petroleum or hazardous substances.						
	Notable Changes:	None identified.						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Drought, Event-based flood	◆		◆			
SAFE DRINKING WATER BRANCH								
Description: <i>Assess and determine the integrity of drinking water supply and distribution system infrastructure, ensure drinking water supplies comply with safe drinking water quality standards, and identify alternative safe drinking water supplies if water quality is compromised.</i>								
Safe Drinking Water Emergency FAQs	Description:	Frequently asked questions pertaining to drinking water during emergencies.						
	Notable Changes:	Developed emergency-based FAQs and posted on the SDWB website back in July 2013 in response to numerous public inquiries during Hurricane Flossie. These FAQs are periodically updated.						
	Challenges:	During a large scale statewide disaster, limited technical staff (8 engineers+ 5 EHS, almost all staff (12/13) are on O’ahu.						
	Opportunities:	The SDWB has proactively developed disaster FAQs (coordinated with County water supply entities) relating to drinking water treatment, use of alternative supplies, and posted them on their website: http://health.Hawai'i.gov/sdwb/files/2014/08/DrinkWaterFAQinEmergency.pdf						
	Hazards:	Health Risks		◆		◆		
ENVIRONMENTAL HEALTH SERVICES DIVISION/HEALTH SERVICES DIVISION (EHSD)								
Description: <i>EHSD is responsible for implementing and maintaining statewide programs to assure the safety of food and drugs, control noise and radiation, and improve indoor air quality. The division is also responsible for lead abatement, sanitation, and vector control (rats, mosquitoes, and other public health threats).</i>								



Capability	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
SANITATION BRANCH						
Description: <i>Protects and promotes the health and well-being of Hawaii's residents and visitor with professionalism, integrity and fairness through education and regulation in the areas of food safety, disease prevention, community sanitation and emergency response</i>						
Mass Feeding Operations	Description:	Ensure sanitation of food supply and handling for mass feeding operations as a function of emergency shelter support				
	Notable Changes:	All files for licensed food establishments in the state are now electronic as well as inspection results. All staff have surface PRO's, smart phones, and mobile hot spots. Public web-site/GIS mapping of food facilities live since 2014. Use of tech has allowed us to post inspection results to the public in real time. Food Safety staff has increased from 12 in 2013 to 31 at present due to 400% increase in revenue generated by the food safety program.				
	Challenges:	Procurement and HR systems need improvement and no improvements have been made since 2013.				
	Opportunities:	Opportunities may present themselves as political climates change.				
	Hazards:	Health Risks		◆		◆
INDOOR AND RADIOLOGICAL HEALTH BRANCH						
Description: <i>The Indoor and Radiological Health Branch is responsible for the implementation of diverse, statewide programs in community noise, radiation control, air-conditioning/ventilation, indoor air quality, asbestos, and lead-based paint."</i>						
Radiation Section-Radiation Assessment Team (RAT)	Description:	Radiological emergency response, WMD/CBRNE emergency response and rapid assessment of radiation exposure and environmental contamination. Assist in radiological decontamination.				
	Notable Changes:	In process of developing radiological response public health emergency response annex to the Department of Health's All-Hazards Emergency Response Plan				
	Challenges:	None identified				
	Opportunities:	None identified				
	Hazards:	Hazardous Materials, Health Risks (Radiological exposure and contamination)		◆	◆	
VECTOR CONTROL BRANCH						
Vector Control Program	Description:	Strategically aims to lessen risks of arboviral and vector borne diseases by suppressing vector populations (organisms capable of transmitting disease or parasites from one animal to another)				
	Notable Changes:	Since the State's response to the 2015 Dengue outbreak on the Big Island, HDOH has created a total of 30 new positions statewide to restore the capabilities of the Vector Control Program that had been substantially impacted by budget cuts in 2008. The program has additionally upgraded its inventory of pesticidal abatement products and various types of equipment used for vector control. Additionally, the program has expanded its preventative measures to include routine larval breeding source reduction and surveillance at ports of entry, vector suppression activities in weeks preceding major events that attract large and international crowds, door-to-door public education, and mosquito suppression activities in areas of high concentrations of elderly populations and around schools.				
	Challenges:	Public perception and resistance to pesticide applications utilized in vector control efforts; Conflicts of interest with organic farmers				
	Opportunities:	Increased availability of pesticides for mosquito abatement that meet organic certification requirements				



Capability			Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Hazards:	Health Risks (Vector borne diseases)	◆	◆	◆	◆		
HAZARD EVALUATION AND EMERGENCY RESPONSE OFFICE (HEER)								
Description: <i>The HEER Office is responsible for responding to releases, threats of releases, or discoveries of hazardous substances, including oil, that present a substantial endangerment to public health or the environment. Maintains environmental response programs for planning for, responding to, and preventing releases of hazardous substances into the environment</i>								
Hawai'i Emergency Planning and Community Right to Know Act (HEPCRA)	Description:	HEPCRA establishes requirements for State, local and industry regarding emergency planning and “Community Right-to-Know” reporting required on hazardous and toxic chemicals. There are four major provisions: Emergency Response Planning, Emergency Release Reporting, Hazardous Chemical Storage and Tier II Reporting, and Toxic Release Inventory Reporting. The HEPCRA establishes the Hawai'i State Emergency Response Commission and the Local Emergency Planning Committees.						
	Notable Changes:	None identified						
	Challenges:	None identified						
	Opportunities:	None identified						
	Hazards:	Hazardous Materials	◆	◆	◆	◆		

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

b. (F) = Federal grant funding supports in full or in part

Table A.1-11. Health Resource Administration Capabilities

Capability			Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
DISEASE OUTBREAK CONTROL DIVISION								
Description: <i>The Disease Outbreak Control Division (DOCD) comprises the Disease Investigation Branch, Immunization Branch, and Public Health Preparedness Branch. These programs work together to monitor, investigate, prevent, and control infectious diseases in Hawai'i, especially those preventable through immunizations, and to ensure Hawai'i's ability to respond to emergencies that threaten the public's health. Toward these goals, DOCD works to strengthen the relationships between the Department of Health and other partners including laboratories, hospitals, schools, emergency response agencies, private organizations, and the military.</i>								
Hospital Preparedness Program (HPP)	Description:	Supports the continuity of healthcare system operations during emergencies that exceed the day-to-day capacity of health and emergency response systems through the development and sustainment of a regional health care coalition that incentivizes healthcare organizations to work together to maintain essential capabilities of statewide healthcare services.						
	Notable Changes:	None identified						
	Challenges:	Unstable federal funding – 2018 Presidential Budget Proposal considering zeroing out Hawai'i's HPP funding allocation						
	Opportunities:	None identified						
	Hazards:	Health Risks	◆	◆		◆		◆ (F)



Capability		Type of Hazard Management						Provides Funding for Mitigation
		Capability		Effect on Loss Reduction ^a				
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
Laboratory Preparedness and Response Program	Description:	Conducts analysis in support of laboratory preparedness programs for bioterrorism and chemical terrorism, environmental health and communicable disease monitoring and control activities and investigations						
	Notable Changes:	None identified						
	Challenges:	Aging physical infrastructure						
	Opportunities:	None identified						
	Hazards:	Hazardous Materials and Health Risks (Bioterrorism, chemical terrorism, infectious disease, and environmental health risks)	◆	◆		◆		
DISEASE INVESTIGATION BRANCH								
Epidemiological Surveillance	Description:	Conducts surveillance monitoring, investigation, and control of infectious diseases and potential acts of terrorism throughout the State (conducted jointly with the CDC)						
	Notable Changes:	<ul style="list-style-type: none"> Implementation of Meaningful use stage 2 and initiation of stage 3 Continued improvement of the Hawai'i Electronic Disease Surveillance System (HI-EDSS/Maven) Continued improvement of the Hawai'i Electronic Laboratory Reporting System (ELR) Establishment of a federally-funded Healthcare Associated Infections Collaborative Coordinator position Establishment of a federally-funded Antimicrobial Resistance Surveillance Coordinator position Establishment of a federally-funded Arbovirus Disease Surveillance Coordinator position Establishment of a federally-funded Entomology Specialist position Establishment of a federally-funded Arbovirus Information Technology Specialist position Establishment of a federally-funded Arbovirus Health Educator position (0.5 FTE) 						
	Challenges:	<ul style="list-style-type: none"> Position vacancies Fluctuations in federal funding Lack of adequate fiscal/administrative support personnel Lack of adequate investigative personnel Competing priorities of disease outbreaks 						
	Opportunities:	<ul style="list-style-type: none"> State funding for key personnel currently federally-funded - e.g., surveillance coordinators, information technology specialists, biostatistician State funding for additional fiscal/administrative support personnel State funding for additional investigative personnel State funding for maintenance, support, and improvements to information technology systems - e.g., HI-EDSS, ELR 						
	Hazards:	Health Risks (Infectious Diseases)	◆		◆			
PUBLIC HEALTH PREPAREDNESS BRANCH								
Description: Responsible for coordinating the department's all-hazards emergency preparedness and response planning efforts; facilitating training and exercising for the entire department to ensure the department's ability to respond to and support recovery from public health emergencies.								



Capability		Description:	Type of Hazard Management Capability					Provides Funding for Mitigation
			Effect on Loss Reduction ^a		Support	Facilitate	Conflict	
			Pre-Disaster	Post-Disaster				
Department of Health All-Hazards Training and Exercise Program	Description:	Facilitates training and exercises for the entire department to ensure the department's ability to respond to and support recovery from public health emergencies						
	Notable Changes:	None identified						
	Challenges:	Staffing vacancies, unstable funding						
	Opportunities:	Public Health Preparedness Branch is internally being reorganized as an office under the Director of Health						
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	◆		◆
Medical Countermeasure (MCM) Points of Distribution (PODs)	Description:	HDOH Public Health Preparedness Branch manages the receipt and distribution of the Strategic National Stockpile (SNS), a repository of antibiotics, vaccines, chemical antidotes, antitoxins, and other critical medical equipment necessary for a public health emergency (e.g. infectious disease outbreak or chemical attack)						
	Notable Changes:	HDOH has increased the number of partnerships with key business sectors and industries across the state to provide Closed Points of Distribution (PODs) to enhance the efficiency of prophylaxis distribution, reduce volume of population reliant upon Open PODs operated by the state, and increase the continuity and resilience of key businesses and sectors during a public health emergency (i.e. infectious disease outbreak)						
	Challenges:	Limited HDOH staff resources available for rapid distribution and staffing of PODs						
	Opportunities:	Continue to build partnerships and establish Closed PODs for major industries and sectors necessary to maintain critical functions of government and commerce necessary for emergency response and recovery efforts. Expand inventory of locations capable of supporting Open PODs and agreements with other agencies for staffing.						
	Hazards:	Health Risks (Infectious disease/ chemical-biological attack response)		◆	◆			
IMMUNIZATIONS BRANCH								
<i>Description: Promotes immunization of public, both adults and children, against vaccine preventable diseases.</i>								
Immunization Programs	Description:	Facilitates access to vaccines for protection of persons not able to pay for vaccines. Conducts annual Stop Flu at School campaign to prevent the spread of influenza within grade schools across the state.						
	Notable Changes:	The annual Stop Flu at School program has been scaled back. It is no longer offered to all schools statewide. Selected schools have been chosen based on students with the greatest need for assistance, which allowed us to maximize the benefit to the public while utilizing the limited funds and resources available.						
	Challenges:	Unstable funding – 2018 Presidential Budget Proposal reduces/removes funding allocations for the Prevention and Public Health Fund (PPHF), which is a significant funding source in the Immunization Grant (approximately 47.7% for FY2017 grant award). Competing priorities with huge outbreaks of vaccine-preventable diseases, such as hepatitis A and mumps, which divert staff resources to concentrate on the outbreak leaving little time to concentrate fully on other immunization activities.						



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Opportunities:	The Immunization Branch is working with the Maternal and Child Health Branch to expand immunization education to pregnant women enrolled in the Home Visiting Services Unit. A key strategy for this program is to reduce preterm births and promote healthy pregnancies. Providing immunization education to the mother will reinforce the importance of the mother receiving her vaccinations to provide her protection, but to also provide protection through maternal antibodies for her baby against vaccine-preventable diseases. In addition, once the baby is born, the immunization education provided to the mother will hopefully have her vaccinate her baby to ensure protection against vaccine-preventable diseases.				
	Hazards:	Health Risks (Infectious diseases)	◆		◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

Table A.1-12. Office of Environmental Quality Control Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
Hawai'i Environmental Policy Act (HEPA)	Description:	Requires an environmental review process for state agency actions. This review process includes consideration of sensitive areas (such as floodplains and geologically hazardous areas).				
	Notable Changes:	None identified				
	Challenges:	None identified				
	Opportunities:	None identified				
	Hazards:	Chronic Coastal Flooding, Earthquake, Event-based flood, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

A.1.7 Department of Labor and Industrial Relations

The Tables below includes information on hazard mitigation related capabilities for the Department of Labor and Industrial Relations (DLIR). Table A.1-13 includes information for the Office of Community Services (OCS) and Table A.1-14 includes information for the State Fire Council (SFC).



Table A.1-13. Office of Community Services Capabilities

Capability	Description:	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Weatherization Assistance Program	Description:	The OCS administers the Weatherization Assistance Program (WAP) under a grant from the U.S. Department of Energy (DOE). WAP helps low-income families and individuals reduce their energy bill by installing weatherization measures into their homes and by providing education to the participants and community about energy efficiency.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	Low-flow showerheads and faucet aerators are pre-approved on the Hawaii's Weatherization Assistance Program Priority List for Single-Family Homes.					
	Hazards:	Drought	◆		◆	◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

b. (F) = Federal grant funding supports in full or in part

Table A.1-14. State Fire Council Capabilities

Capability	Description:	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
State Fire Council	Description:	<p>The State Fire Council (SFC) is an administrative agency attached to the State of Hawai'i, Department of Labor and Industrial Relations and recognized, for all intents and purposes, as Hawaii's equivalent of the State Fire Marshal's Office. Comprised of the four county Fire Chiefs and an administrative support staff, the SFC's primary mission is to develop and support a comprehensive fire service emergency management network for the protection of life, property, and the environment for the State. Through a collaborative and unified approach, the SFC promotes the standardization of fire service reporting, training, sharing of technology, resources, and best practices.</p> <p>In accordance with Hawai'i Revised Statutes (HRS) §132, the SFC is tasked with the adoption of the State Fire Code and the support and assistance with federal grant programs for the fire service in Hawai'i. The SFC may advise and assist the county fire departments where appropriate; prescribe standard procedures and forms related to inspections, investigations, and reporting of fires; and advise the Governor and State Legislature on issues relating to fire prevention and protection, life safety, and other functions or activities of the various county fire departments.</p>					
	Notable Changes:	None identified					
	Challenges:	None identified					
	Opportunities:	The SFC has identified several continuous improvement initiatives including several that are particularly relevant for hazard mitigation:					



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
		<ul style="list-style-type: none"> Develop or adopt a Statewide Interagency Wildfire Mitigation Plan, which may include mutual aid agreements, hazard identification and monitoring systems, training, and public awareness/education programs Develop or update as needed mutual aid plans and agreements to assist the fire service during statewide technological and/or natural disasters. 				
	Hazards:	Wildfire	◆	◆	◆	◆

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

A.1.8 Department of Land and Natural Resources

The Department of Land and Natural Resources is a large department with many mitigation-related capabilities. Table A.1-15 includes information on hazard mitigation related capabilities for the Commission on Water Resource Management (CWRM), Table A.1-16 includes information for the Division of Forestry and Wildlife, Table A.1-17 includes information for the Engineering Division, Table A.1-18 includes information for the Historic Preservation Division (SHPD), Table A.1-19 includes information on the Land Division, Table A.1-20 includes information on the Office of Conservation and Coastal Lands, and Table A.1-21 includes information on the State Board of Land and Natural Resources.

Table A.1-15. Commission on Water Resources Management Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
Commission on Water Resources Management	Description:	The CWRM works to preserve and enhance water resources. It provides staffing and technical support for the Hawai'i Drought Council and its various task forces and committees and works with the Board of Water Supply, the counties, and the DOFAW to develop drought and wildland fire response, preparedness, and mitigation plans.				
	Notable Changes:	The Hawai'i Drought Plan was updated in 2017				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Drought, Wildfire	◆	◆	◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.



Table A.1-16. Division of Forestry and Wildlife

Capability	Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
Description: <i>The mission of DLNR's Division of Forestry and Wildlife is to responsibly manage and protect watersheds, native ecosystems, and cultural resources and provide outdoor recreation and sustainable forest products opportunities, while facilitating partnerships, community involvement and education. Mālama i ka 'āina.</i>					
FORESTRY PROGRAM					
Forest Reserve System (FRS)	Description:	The Forest Reserve System (FRS) was created by the Territorial Government of Hawai'i through Act 44 on April 25, 1903. It accounts for more than 678,612 acres of state management land. The Division of Forestry and Wildlife (DOFAW) provides recreational and hunting opportunities; aesthetic benefits; watershed restoration; native, threatened, and endangered species habitat protection and management; cultural resources; and fire protection among many other things. Freshwater replenishment is a key component of the FRS.			
	Notable Changes:	Growth in FRS through acquisitions of private lands.			
	Challenges:	Nearly half of Hawaii's native forests have been lost due to invasive species (DOFAW 2017). Forest loss continues due to conversion to other uses and/or impact by grazing animals.			
	Opportunities:	Carbon sequestration for climate change mitigation. Protection of watersheds			
	Hazards:	Climate Change, Drought, Hurricane, Wildfire	◆	◆	
Hawai'i Forest Action Plan	Description:	The DLNR-DOFAW is the lead agency in the development of the Hawai'i Forest Action Plan. The plan identifies nine priority areas for Hawaii's forests that include: water quality and quantity; forest health, invasive species, insects and disease; wildfire; urban and community forestry; climate change and sea level rise; conservation of native biodiversity; hunting, nature-based recreation, and tourism; forest products and carbon sequestration; and US tropical island state and territorial issues (DOFAW, 2016).			
	Notable Changes:	The Hawai'i Statewide Assessment of Forest Conditions and Trends (2010) was updated and renamed the Hawai'i Forest Action Plan (2016)			
	Challenges:	Data gaps			
	Opportunities:	Plan will be revisited in 2021.			
	Hazards:	Climate Change, Drought, Event-based flood, Hurricane, Landslide/Rockfall, Tsunami, Wildfire	◆	◆	
Conservation Reserve Enhancement Programs (CREP)	Description:	The Conservation Reserve Enhancement Program (CREP) is a federal-state natural resources conservation program that addresses state and nationally significant agricultural related environmental concerns. Through CREP, program participants receive financial incentives from U.S. Department of Agriculture (USDA) and the State to voluntarily enroll in the Conservation Reserve Enhancement Program in contracts of 15 years. Participants are asked to convert degraded lands to native trees, shrubs, and grasses. The primary goals of the project are to enhance wildlife habitat and control invasive species, as well as improve water quality and quantity, increase groundwater recharge, improve near shore coral reef health and diversity by filtering agricultural runoff and increasing water condensation in the uplands.			



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation		
			Pre-Disaster	Post-Disaster	Support		Facilitate	Conflict
	Notable Changes:	The program seeks to enroll 15,000 acres of eligible land in 15-year agreements within the following counties: Hawai'i, Maui, Kaua'i, and City and County of Honolulu. As of January 2017, 1,168 acres of land have been enrolled in the program.						
	Challenges:	Flooding, landslides, climate change						
	Opportunities:	Agricultural diversification, climate mitigation through carbon sequestration						
	Hazards:		◆		◆	◆ (F)		
Hawai'i Forest Legacy Program	Description:	Protects private forestlands from being converted to non-forest uses via a federal grant program. This program provides willing private landowners the opportunity to sell fee simple property, or conservation easement use-rights on their land to the State of Hawai'i for the purpose of preserving or restoring uniquely forested areas. The Forest Legacy Program targets forest land as identified in the Assessment of Needs (AON).						
	Notable Changes:	The AON was first established in 1994, amended in 2004 and again in 2017 and is in the final draft form at the time of the hazard mitigation plan update (DOFAW, 2017b).						
	Challenges:	Volunteer program, competing land uses, funding						
	Opportunities:	Preservation of threatened forest land from conversion						
	Hazards:	Climate Change, Wildfire	◆		◆	◆ (F)		
Kaulunai Urban & Community Forestry Program	Description:	Focuses on improving the health and viability of trees in Hawai'i communities through educational programs; financial support in the form of cost-share grants; technical training; Arbor Day promotions and public/private partnerships. Funding comes from the State and Private Forestry Branch of the USDA Forest Service. Since its inception in Hawai'i as of 1992, Kaulunani has awarded more than \$2.6 million to more than 400 organizations across the state, in the form of cost-share grants that were matched with \$7.1 million in cash and in-kind contributions. The program is guided by the Forest Action Plan.						
	Notable Changes:	The Forest Action Plan details all of the notable changes in program strategies (Issue 4 pg 128-155) including discussion on wildland-urban interface, emergency management and response, hazards, climate change.						
	Challenges:	Green Infrastructure and trees are often not considered in preparations for emergency response or during emergency response; significant loss of urban tree cover in the City and County of Honolulu in the past 4 years (approximately 5% loss)						
	Opportunities:	An urban Forestry Emergency operations Planning Guide for Storm Response if Available and could be used to develop emergency response plans/procedures in Hawai'i - http://www.smarttreespacific.org/urban-forestry-emergency-operations-planning-guide/ Urban Tree Canopy Assessment was completed in May of 2012 - http://www.smarttreespacific.org/projects/honolulu-urban-tree-canopy-assessment/						
	Hazards:	Climate Change, Drought, High Wind Storms, Tsunami, Wildfire	◆		◆	◆ (F)		
Forest Stewardship Program (FSP)	Description:	Hawaii's Forest Stewardship Program (FSP), administered by the Department of Land and Natural Resources, Division of Forestry and Wildlife (DLNR-DOFAW), provides technical and financial assistance to owners of nonindustrial private forest land that are interested in conservation, restoration, and/or timber production. Management objectives include fire pre-suppression, watershed, riparian, and/or wetland protection and improvement, windbreaks, among others.						



Capability	Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
		The Forest Stewardship Program leverages from \$80,000 to \$200,000 per year in U.S. Forest Service funding support to administer the program. Further, since 1990 State funds for this program have leveraged a total of \$6,639,847 in private funds as a direct match spent on sustainable forest management.				
	Notable Changes:	In Fiscal year 2017, the State, through support by the Hawai'i Association of Conservation Districts, received a contribution agreement award from NRCS to continue the existing Hawai'i CREP Planner position. The Hawai'i CREP Planner position was created as a solution to address the need for dedicated positions to alleviate the backlog of potential projects, engage landowners, and increase participation in the program.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Drought, Event-based flood, High Wind Storms, Wildfire	◆		◆	◆ (F)
FIRE PROGRAM						
Fire Management Program	Description:	<p>DLNR-DOFAW is statutorily mandated by the Land Fire Protection Law, Chapter 185, Hawai'i Revised Statutes, to take measures for the prevention, control, and extinguishment of wildfires on lands managed by DOFAW, which accounts for 26% of the land statewide. DOFAW is also required to cooperate for these purposes with county fire departments and federal agencies to an additional 32% which is determined by Mutual Aid Agreements and Memoranda of Agreement or Understanding.</p> <p>DOFAW supports prevention, presuppression, and suppression activities, including mitigation, such as maintaining fire and fuel breaks/access roads, reducing and/or converting hazard fuels through the green breaks, living breaks, managed grazing, and as necessary, prescribed burns. DOFAW is also the State Liaison to the Firewise USA program, which encourages residents to work with neighbors to reduce home ignition potential and increase home survivability leading to the prevention of wildfire disasters. DOFAW staff also participates in:</p> <ul style="list-style-type: none"> • Wildfire outreach and education events; • CWPP development; and • WUI Grant Program administration • The maintenance of 25 Remote Automated Weather Stations (RAWS) for fire weather reporting 				
	Notable Changes:	<ul style="list-style-type: none"> • Water storage structures including portable catchment tanks, reservoirs and dip tanks have been installed since 2013. • See other sections for notable changes related to community risk reduction. 				
	Challenges:	<ul style="list-style-type: none"> • Limited funds and staff capacity - although Chapter 185, HRS, mandates DLNR-DOFAW to prevent, control, and extinguish wildfires, DOFAW personnel are primarily natural resource managers, foresters, biologists, and technicians and do not focus solely on fire management activities, including mitigation. There is no permanent Wildfire Mitigation Specialist dedicated solely to wildfire risk reduction at the state level to coordinate multi-sector, interagency mitigation actions. • Six water storage structures are needed for County of Maui. 				



Capability		Type of Hazard Management Capability					Provides Funding for Mitigation	
		Effect on Loss Reduction ^a		Support	Facilitate	Conflict		
		Pre-Disaster	Post-Disaster					
		<ul style="list-style-type: none"> There may be a need to analyze prescribed fire liability laws in other states to determine if it would be appropriate to amend HRS. Some agencies lack prescribed fire training. Rainfall and mild temperatures that occur throughout the year contribute to a year-round growing season, thus requiring continual maintenance. Native ecosystems in Hawai'i evolved with little or no fire. Wildfire is a threat to native forests, including watersheds and threatened and endangered species. Hawai'i has the highest number of species listed as threatened and endangered in the U.S. Over 25% of the state is covered by invasive, fire prone grasses and shrubs. Each time fire burns into native forest, this percentage increases. Wildfires in the WUI have been carried rapidly by invasive grasses into forested watersheds, which recharge water supplies, control erosion and run off, and supply culturally important plants. There has also been an increase in the amount of fallow agricultural land. Abandoned agricultural land is susceptible to invasive, fire prone grasses and shrubs, thereby increasing fire risk to nearby communities and conservation land. Preventing ignitions through effective public education (nearly all fires in the State of Hawai'i are human caused). 						
	Opportunities:	<ul style="list-style-type: none"> Establish DLNR-DOFAW fire crews at each district to focus solely on fire management activities, including mitigation. Establish a Wildfire Mitigation Specialist dedicated solely to wildfire risk reduction at the state level to coordinate multi-sector, interagency mitigation actions. Federal funding for fuel mitigation is available. 						
	Hazards:	Drought, Wildfire	◆		◆	◆		◆
Wildfire Related Public Education and Outreach Events	Description:	<p>A number of wildfire-related public outreach events are conducted on a regular basis including:</p> <ul style="list-style-type: none"> An all-agency, unified wildfire and drought awareness campaign was launched in 2016. An annual unified multi-agency Wildfire LOOKOUT! campaign was launched the following year to raise awareness about the threat of wildfire to Hawaii's natural resources and to private and public property. Over two dozen state, county, and federal agencies have committed to this effort to educate and inform residents about the threat of wildfires in Hawai'i. Elected officials, government agencies, NGOs, and the public participate in the National Fire Protection Association's (NFPA) national initiative to better prepare communities for wildfires by holding multiple Wildfire Community Preparedness Day events throughout the State, including a photo contest. Wildfire risk reduction workshops, trainings, and field tours are offered locally through the National Fire Academy, NFPA, HWMO, PFX, Hawai'i Conservation Conference, and Pacific Risk Management 'Ohana Conference for government agencies, large landowners, and the public. DLNR-DOFAW features wildfire prevention information at Fire Prevention Week events alongside county and federal agencies. DLNR-DOFAW sponsors Smoky Bear visits and HWMO sponsored Kaleo the Pueo visits at schools. 						
	Notable Changes:	<ul style="list-style-type: none"> Most of these public education and outreach efforts are offered regularly, but the all-agency, unified wildfire and drought awareness campaign was launched in 2016, and the following year, that campaign turned into the unified 						



Capability		Type of Hazard Management Capability					Effect on Loss Reduction ^a	Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
		multi-agency Wildfire LOOKOUT! campaign. Participation in the Wildfire Community Preparedness Day events started after 2013. Also, most wildfire risk reduction workshops, trainings, and field tours started after 2013.						
	Challenges:	Limited funds and staff capacity.						
		<ul style="list-style-type: none"> Some DLNR-DOFAW District Offices lack permanent Outreach and Education Specialists for the entire Division. Over 98% of wildfires in Hawai'i are human caused, which means many are preventable. Preventable wildfires cause losses which exceed the cost of prevention education. There is no permanent Wildfire Prevention Specialist at the state level to focus on prevention education. While under-publicized, the percentage of land area burned per year in Hawai'i exceeds the national average, and some years surpasses the western states. 						
	Opportunities:	The US Forest Service can provide technical assistance in creating a statewide wildfire prevention plan. ^d						
	Hazards:	Drought, Wildfire	◆		◆			
Community Wildfire Protection Plans (CWPPs)	Description:	CWPPs help communities address wildfire response, hazard mitigation, and community preparedness as well as identify hazard reduction priorities. Newly established CWPPs have made additional lands eligible for funds available through the Wildland Urban Interface (WUI) Grant Program. There are 13 CWPPs established throughout the State of Hawai'i, which cover over half of the State. Each county has at least one CWPP.						
	Notable Changes:	One new plan (Western Maui) was completed in 2015 (1 in County of Maui), 6 new plans (Kaua'i, Western O'ahu, Moloka'i, South Maui, Upcountry Maui, and North Kona) were completed in 2016 (1 covering County of Kaua'i, 1 in the City and County of Honolulu, 3 in County of Maui, and 1 in Hawai'i County), 5 plans (Northwest Hawai'i Island, South Kona, Ocean View, Kau, and Volcano) were updated in 2016 (5 in Hawai'i County), and 1 plan (Kahikinui) was slated to be updated during 2017/2018 (1 in County of Maui).						
	Challenges:	There is no permanent funding to develop CWPPs. HWMO has updated plans and created new plans with WUI grant funding.						
	Opportunities:	By establishing CWPPs to cover additional lands, those lands will be eligible for funds available through the WUI Grant Program.						
	Hazards:	Drought, Wildfire	◆		◆			
Firewise USA™	Description:	Firewise USA™ is a recognition program that encourages residents to work with neighbors to reduce home ignition potential and increase home survivability leading to the prevention of wildfire disasters.						
	Notable Changes:	There are 11 Firewise USA recognized sites in Hawai'i County and County of Maui. The State's first community was recognized by Firewise in 2004, and 10 more communities have gained recognition since 2013 thereby increasing risk reduction investments by \$554,402.09 in the home ignition zone.						
	Challenges:	There is no permanent funding to promote this program and establish new Firewise USA recognized sites. HWMO has increased the number of Firewise USA recognized communities with WUI grant funding. There is no permanent Wildfire						



Capability		Type of Hazard Management Capability					Effect on Loss Reduction ^a	Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
		Mitigation Specialist dedicated solely to wildfire risk reduction at the state level to coordinate multi-sector, interagency mitigation actions.						
	Opportunities:	The City and County of Honolulu and Kaua'i County both have multiple prospects for recognition as Firewise USA sites. These communities are projected to be recognized in 2018 at the earliest, which would establish recognized Firewise USA sites in all counties. Additional prospects have been identified for County of Maui and Hawai'i County.						
	Hazards:	Wildfire	◆		◆			
Wildland Urban Interface (WUI) Grant Program^d	Description:	U.S. Forest Service funds to mitigate risk from wildland fire within the WUI are available and awarded annually through a competitive process with emphasis on (1) hazardous fuel reduction in the WUI; (2) information and education; and (3) planning. In Hawai'i, funding is delivered through DOFAW to communities, organizations, and agencies to implement WUI risk reduction projects.						
	Notable Changes:	WUI funds were allocated for: <ul style="list-style-type: none"> FY14 to HWMO for \$114,000 to create five new and one updated CWPPs in addition to six related community-led hazard reduction projects based on CWPP priorities; FY15 to: <ul style="list-style-type: none"> HWMO for \$300,000 to establish recognition for 10 new Firewise USA communities with 10 related community-led hazard reduction projects, provide 24 Ready, Set, Go! workshops/events, and implement West Maui and Leeward Haleakala fuels reduction projects; and County of Maui Department of Fire and Public Safety for \$22,137.50 to implement a firebreak in West Maui. FY17 to: <ul style="list-style-type: none"> HWMO for \$300,000 to provide six public service announcements, hold a two-day fire workshop, provide 16 Ready, Set, Go! workshops/events, establish recognition for four new Firewise USA communities, purchase and install 10 phenocams, and implement fuel breaks in West Hawai'i and West Maui; DOFAW Kaua'i Branch for \$155,100 to implement a Kokee fuel reduction project and to hold two Ready, Set, Go! workshops conducted by HWMO; and Heleakala Ranch for \$82,600 to install firebreaks in Maui. 						
	Challenges:	<ul style="list-style-type: none"> Applications must be covered by a CWPP. There is no permanent Wildfire Mitigation Specialist dedicated solely to wildfire risk reduction at the state level to promote, write, review, and manages these grants. State funds must be available to match these grants. Hawai'i competes against the western states for these funds. 						
	Opportunities:	Multi-sectors are eligible for this grant program.						
	Hazards:	Wildfire	◆		◆	◆	◆ (F)	
	Description:	Remote automated weather stations (RAWS) ensure that microclimate data is captured to help rate fire danger and monitor fuels. They also provide DOFAW with up to date data that can be used to close areas in event of hazardous						



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
Remote Automated Weather Stations (RAWS)		weather conditions. RAWS are maintained on an ongoing basis. There are 66 RAWS statewide maintained by federal and state agencies, including 25 operated by DOFAW, 16 operated by the Department of Defense, 16 operated by the National Park Service, 6 operated by US Fish and Wildlife Service, 1 operated by Bureau of Land Management, and 2 operated by unidentified agencies.				
	Notable Changes:	None identified.				
	Challenges:	Some RAWS are located in remote area, which may make maintenance challenging.				
	Opportunities:	Six RAWS are needed for County of Maui; further data analysis				
	Hazards:	Drought, Hurricane, Wildfire	◆		◆	
NATIVE ECOSYSTEMS AND MANAGEMENT						
Legacy Lands Conservation Program	Description:	The State of Hawai'i dedicates a portion of its annual revenue from real estate conveyance taxes to the Land Conservation Fund. Each year the State Legislature provides the Legacy Land Conservation Program with some of the money held in the Fund. The Legacy Land Conservation Program distributes this money through a competitive grants process—for purchasing land and conservation easements and for paying the debt service on state financial instruments (such as bonds)—for the protection of land that shelters exceptional, unique, threatened, and endangered resources.				
	Notable Changes:	None identified.				
	Challenges:	Natural resources can be damaged by hazards, such as wildfires. Native ecosystems in Hawai'i evolved with little or no fire. Wildfire is a threat to native forests, including watersheds and threatened and endangered species. Hawai'i has the highest number of species listed as threatened and endangered in the U.S. Over 25% of the state is covered by invasive, fire prone grasses and shrubs. Each time fire burns into native forest, this percentage increases. Wildfires in the WUI have been carried rapidly by invasive grasses into forested watersheds, which recharge water supplies, control erosion and run off, and supply culturally important plants.				
	Opportunities:	This program can prevent development in hazard-prone areas.				
	Hazards:	Climate Change, Drought, Event-based flood, Hurricane, Wildfire	◆		◆	◆
Watershed Partnership Program	Description:	The Watershed Partnerships Program provides technical and financial support for the implementation of watershed management plans. The Watershed Partnerships Program is funded by the Natural Area Reserve Special Fund, established by HRS §195-9. These funds come from a portion of the conveyance tax, which is levied each time real estate property is bought or sold. The mission of the program is to “increase the effective management and protection of mauka watershed areas by raising the capacity of watershed partnerships, facilitating sharing of watershed management expertise, building public support for protecting watershed values, and developing sustainable funding sources.” Watershed protection measures relevant to mitigation goals include recharging water supplies, controlling erosion and runoff, mitigating flooding, and mitigating the impacts of climate change (DOFAW, no date).				
	Notable Changes:	None identified.				
	Challenges:	Natural resources can be damaged by hazards, such as wildfires. Native ecosystems in Hawai'i evolved with little or no fire. Wildfire is a threat to native forests, including watersheds and threatened and endangered species. Hawai'i has the				



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation		
			Pre-Disaster	Post-Disaster	Support		Facilitate	Conflict
		highest number of species listed as threatened and endangered in the U.S. Over 25% of the state is covered by invasive, fire prone grasses and shrubs. Each time fire burns into native forest, this percentage increases. Wildfires in the WUI have been carried rapidly by invasive grasses into forested watersheds, which recharge water supplies, control erosion and run off, and supply culturally important plants.						
	Opportunities:	By protecting forests, additional moisture is captured, preventing drought. Forest also absorb carbon, reducing climate change. Forests hold the soil, reducing erosion and flooding. The Governor's Hawai'i Sustainable Initiative aims to protect 30% of priority watersheds by 2030.						
	Hazards:	Climate Change, Drought, Event-based flood, Hurricanes, Wildfires	◆		◆		◆	
Natural Area Partnership Program	Description:	The Natural Area Partnership Program (NAPP) was established in 1991 by the state Legislature and the Governor authorizing the Department of Land & Natural Resources (DLNR) to "provide state funds for the management of private lands that are dedicated to conservation." Lands and waters that might qualify include areas with intact native Hawaiian ecosystems, essential habitat for endangered species, and areas within the protective (P) subzone of the Conservation District.						
	Notable Changes:	None identified.						
	Challenges:	Natural resources can be damaged by hazards, such as wildfires. Native ecosystems in Hawai'i evolved with little or no fire. Wildfire is a threat to native forests, including watersheds and threatened and endangered species. Hawai'i has the highest number of species listed as threatened and endangered in the U.S. Over 25% of the state is covered by invasive, fire prone grasses and shrubs. Each time fire burns into native forest, this percentage increases. Wildfires in the WUI have been carried rapidly by invasive grasses into forested watersheds, which recharge water supplies, control erosion and run off, and supply culturally important plants.						
	Opportunities:	By protecting forests, additional moisture is captured, preventing drought. Forest also absorb carbon, reducing climate change. Forests hold the soil, reducing erosion and flooding. This is a program that helps private landowners mitigate hazards.						
	Hazards:	Climate Change, Drought, Event-based flood, Hurricane, Wildfire	◆		◆	◆	◆	
Natural Area Reserves System (NARS)	Description:	The statewide NARS was established to preserve in perpetuity specific land and water areas which support communities, as relatively unmodified as possible, of the natural flora and fauna, as well as geological sites, of Hawai'i. The system presently consists of 21 reserves on five islands, encompassing 123,810 acres of the State's most unique ecosystems. The Strategic Plan for Hawaii's Natural Area Reserves System (2008) includes objectives and sub-objectives that support mitigation goals, such as "employ appropriate fire management strategies" (DOFAW NARS Program, 2008).						
	Notable Changes:	None identified.						
	Challenges:	Natural resources can be damaged by hazards, such as wildfires. Native ecosystems in Hawai'i evolved with little or no fire. Wildfire is a threat to native forests, including watersheds and threatened and endangered species. Hawai'i has the highest number of species listed as threatened and endangered in the U.S. Over 25% of the state is covered by invasive, fire prone grasses and shrubs. Each time fire burns into native forest, this percentage increases. Wildfires in the WUI have been carried						



Capability		Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
		rapidly by invasive grasses into forested watersheds, which recharge water supplies, control erosion and run off, and supply culturally important plants.					
	Opportunities:	By protecting forests, additional moisture is captured, preventing drought. Forest also absorb carbon, reducing climate change. Forests hold the soil, reducing erosion and flooding.					
	Hazards:	Climate Change, Drought, Event-based flood, Hurricane, Wildfire	◆		◆		◆

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

b. (F) = Federal grant funding supports in full or in part

c. HWMO provides Ready Set Go!, preparedness, or hazard reduction workshops (6-12 workshops per island per year each on O'ahu and Kaua'i, 12-15 in County of Maui, and 20+ across Hawai'i Island. Total: 44-59 workshops a year on average the last couple of years).

d. Identified by the department/agency as one of the most effective capabilities for achieving mitigation goals.

Table A.1-17. Engineering Division Capabilities

Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
DAM SAFETY PROGRAM							
Description: The objectives of the dam safety program include encouraging high safety standards and regulations in the practices and procedures for dam site investigation, design, construction, operation and maintenance and emergency preparedness; maintaining updated and accurate inventory of dams, physical conditions, and potential hazard classifications; promoting a continuous, dynamic process where guidelines, practices, and procedures are examined periodically and updated; cooperating with all public and private agencies involved in dam safety activities including owner training and dissemination of information to the public, and emergency preparedness.							
Emergency Action Plans (EAP)	Description:	HRS 179D-30 requires the owners of State-regulated high and significant hazard potential dams and reservoirs to establish an EAP to assist the local community in effectively responding to a dam safety emergency. Owners are required to have established protocols for flood warning. The Dam Safety program works with owners to develop or update their EAPs. The program's website includes an EZ-EAP instructional video, EAP development guidelines, EAP template, and internet quick links (DLNR Engineering, 2017).					
	Notable Changes:	None identified.					
	Challenges:	There are federal, state, county, and privately-owned dams in Hawai'i.					



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Opportunities:	None identified.					
	Hazards:	Dam Failure	◆		◆	◆	
Dam Safety Permits	Description:	The DLNR Engineering Division administers the State Dam and Reservoir Program as authorized under HRS Chapter 179D and HAR Title 13, Sub-Title 7, Chapter 190.1. A permit must be obtained from the program for the construction, enlargement, repair, alteration or removal of dams (DLNR Engineering, 2016).					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Dam Failure	◆		◆	◆	
Certificate of Approval to Impound (CAI)	Description:	Requirements for obtaining a CAI for the impoundment of water at a dam or reservoir in the State of Hawai'i are outlined in HAR, Title 13, Sub-Title 7, Chapter 190.1. Completed applications are submitted to the Dam Safety Program (DLNR Engineering, 2013).					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Dam Failure	◆		◆	◆	
Training Events and Materials	Description:	The Dam Safety program offers training events and materials including overview workshops and technical seminars on dam evaluation and rehabilitation, and operation and maintenance training.					
	Notable Changes:	Training topics are decided internally and are generally provided on a rotating basis. Three one-day overview workshops and one two-day technical seminar on dam evaluation and rehabilitation training were offered in March and April 2017; EAP training was offered in 2015; Dam safety Inspection training was offered in 2014 and operation and maintenance training was offered in 2012. A dam safety grant is used to hire contractor to do a training for selected topics. Maui and Kaua'i have most dams and dam owners					
	Challenges:	None identified.					



Capability		Type of Hazard Management Capability					Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Opportunities:	Incorporate information from the hazard mitigation planning risk assessment into future trainings.					
	Hazards:		◆		◆		
Dam Inundation and Evacuation Maps	Description:	DLNR in partnership with the US Army Corps and the PDC engaged in the development of dam failure inundation maps and individual assessment reports for 140 dams within the State of Hawai'i. These inundation maps and reports were then released for the development of dam evacuation plans by the counties.					
	Notable Changes:	According to the 2013 HMP, eight evacuation maps had not yet been completed. These were completed over the performance period of the 2018 plan and information on evacuation is available on the Flood Hazard Awareness Tool (FHAT).					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Dam Failure	◆		◆	◆	
NATIONAL FLOOD INSURANCE PROGRAM (NFIP)							
<i>Description: DLNR has been designated as the State Coordinating Agency responsible for assisting the coordination of the NFIP between the Federal and County agencies in Hawai'i</i>							
Flood Hazard Assessment Tool (FHAT)	Description:	The FHAT is an online map viewer where residents can view effective digital flood insurance rate map (DFIRM) information, historic FIRM and DFIRM information, obtain information on letter of map changes, and auto generate from fields for a FEMA elevation certificate. In addition, a report can be printed that provides parcel-specific flood hazard information as well as tsunami and dam evacuation zone information.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	The FHAT could be expanded to include information on other hazards.					
	Hazards:	Dam failure, Event-based flood, Tsunami	◆		◆		
Wai Halana	Description:	Wai Halana is a Hawai'i Flood newsletter published several times a year by the DLNR Engineering division. It is available on the department's website and emailed to a listserv. The newsletter contains information on flood and flood related hazards including topics such as flood insurance, emergency warning information, and tips on hurricane season.					
	Notable Changes:	None identified.					



Capability			Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Challenges:	None identified.						
	Opportunities:	Wai Halana could be used as a component in a state-wide Community Rating System program for public information. Public outreach could be conducted to expand the number of recipients.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Event-based flood, Hurricane	◆		◆			
Maintenance of channels, streambeds, streambanks, and drainageways	Description:	<p>HRS § 46-11.5 stipulates that it is “the responsibility of the county to maintain all channels, streambeds, streambanks, and drainageways unless such channels, streambeds, streambanks, and drainageways are privately owned or owned by the State, in which event such channels, streambeds, streambanks, and drainageways shall be maintained by their respective owners.”</p> <p>County responsibility accounts for the vast majority of this maintenance and counties also bear responsibility for enforcement. If maintenance is needed on State owned land, the appropriate department is identified and the maintenance is conducted.</p>						
	Notable Changes:	None identified.						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Event-based flood	◆	◆	◆	◆		
	Description:	<p>HRS § 179 sets forth flood control and flood water conservation statutes, the purpose of which is to “provide for the coordination by the State of all federal and state flood control projects undertaken in Hawai'i and for such technical or financial assistance to its political subdivisions as may be desirable or necessary to assure maximum benefits to the people of the State from the expenditure of state funds for flood control purposes.” These statutes designate the BLNR as the implementation authority for flood control and water conservation.</p>						
	Notable Changes:	None identified.						
Challenges:	None identified.							
Opportunities:	None identified.							
Hazards:	Drought, Event-based flood	◆			◆			



Capability	Description:	Type of Hazard Management Capability					Provides Funding for Mitigation
		Effect on Loss Reduction		Support	Facilitate	Conflict	
		Pre-Disaster	Post-Disaster				
Community Assistance Program – State Support Services Element (CAP-SSSE) ^c	<p>This program provides funding to states to provide technical assistance to communities in the National Flood Insurance Program (NFIP) and to evaluate community performance in implementing NFIP floodplain management activities. DLNR participates in this program and conducts an array of activities to support the mission of the program including:</p> <ul style="list-style-type: none"> • Conduct Community Compliance Audits (a.k.a. CAVs) • Conduct Training Workshops and Public Outreach • Attend National and Regional NFIP related conferences • Publish a quarterly newsletter (Wai Halana) • Provide Technical Assistance to community officials and the public • Conduct V zone properties audits • Maintain an Internet Website dedicated to NFIP awareness <p>Monitoring compliance with NFIP is accomplished, in part, by requiring FEMA Elevation Certificates (pre- and post-construction submittals), which help assure buildings within SFHA are constructed in compliance with laws; reviewing applications for subdivisions and related construction plans, building permits and grading/grubbing permits for compliance; responding to complaints, and taking appropriate actions to correct noncompliance. This includes reviewing, approving, preparing, and submitting to FEMA and maintaining a Letter of Map Changes, which are used to update FEMA's FIRMs.</p>						
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Dam Failure, Event-based flood, Hurricane, Tsunami	◆		◆	◆	
State General Flood Control Plan (SGFCP)	<p>The SGFCP was developed in 1983 to coordinate floodplain management initiatives. The goal of the State General Flood Control Plan (SGFCP) is to assist the State in decision-making regarding flood hazards and prioritize areas to best focus limited resources. The last Statewide inventory of flood history and flood studies was performed in 1994. HRS 179 outlines the purpose, mandates and mission of the SGFCP.</p>						
	Notable Changes:	The State General Flood Control Plan is currently being updated and will utilize digital database and website technologies to provide educational information and public awareness tools on flood risks, flood histories, hydrologic data, mitigation initiatives, a library for flood studies and post-flood reports, and other related information. In addition, through the update DLNR is interested in identifying building footprints within floodplains throughout the entire State.					
	Challenges:	None identified.					



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation	
			Pre-Disaster	Post-Disaster	Support		Facilitate
	Opportunities:	The SGFCP update will also implement geospatial and internet technologies that will allow partner agencies to share, communicate, and utilize collected information.					
	Hazards:	Event-based flood	◆		◆	◆	
RISK MAP							
Risk Mapping, Assessment, and Planning Program (Risk MAP)	Description:	FEMA is working with federal, state, tribal and local partners across the nation to identify flood risk and promote informed planning and development practices to help reduce that risk through the Risk MAP program. Risk MAP provides high quality flood maps and information, tools to better assess the risk from flooding and planning and outreach support to communities to help them take action to reduce (or mitigate) flood risk. Each Risk MAP flood risk project is tailored to the needs of each community and may involve different products and services.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Event-based flood, Hurricane, Tsunami	◆		◆	◆	
SILVER JACKETS							
Description: <i>Silver Jackets teams in states across the country bring together multiple state, federal, and sometimes tribal and local agencies to learn from one another and apply their knowledge to reduce the risk of flooding and other natural disasters in the United States and enhance response and recovery efforts when such events do occur (Silver Jackets, 2018). Silver Jackets are supported by the USACE Flood Risk Management Program.</i>							
Silver Jackets Interagency Projects	Description:	A competitive process through the Silver Jackets program where multiple Federal agencies are involved in contributing towards a shared outcome. No specific cost-share or funding limit, although there is an expectation that the non-Federal sponsor will contribute either cash or work in-kind. Submittal deadlines are typically in the spring, around February-March.					
	Notable Changes:	This is a new capability. State of Hawai'i Silver Jackets Program Coordination Meetings began in November 2017. The Hawai'i State DLNR will be leading meeting efforts.					
	Challenges:	None identified.					
	Opportunities:	None identified.					



Capability	Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation		
		Pre-Disaster	Post-Disaster	Support		Facilitate	Conflict
Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Event-based flood, Hurricane, Tsunami	◆	◆	◆	◆	◆	◆ (F)

- a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.
- b. (F) = Federal grant funding supports in full or in part
- c. Identified by a stakeholder group as presenting an opportunity to improve effectiveness at meeting hazard mitigation goals.

Table A.1-18. Historic Preservation Division Capabilities

Capability	Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation		
		Pre-Disaster	Post-Disaster	Support		Facilitate	Conflict
Description: The Historic Preservation Division works to preserve and sustain reminders of earlier times which link the past to the present. SHPD's three branches, History and Culture, Archaeology, and Architecture, strive to accomplish this goal through many different activities.							
Historic Preservation	Description:	The division's work includes maintaining the Hawai'i Register of Historic Places and coordinating nomination procedures for the National Register of Historic Places. The division's statewide Inventory of Historic Properties contains information on more than 38,000 historic sites in Hawai'i. The National Register contains more than 350 places in Hawai'i.					
	Notable Changes:	None identified.					
	Challenges:	Historic preservation objectives can conflict with mitigation goals as a historic designation may exempt structures from certain building requirements, such as local flood damage prevention ordinance requirements. In recent years there have been efforts to preserve the historic integrity of structures, while also incorporating mitigation strategies such as elevating or floodproofing structures in floodplains and conducting seismic retrofits.					
	Opportunities:	Federal tax incentives are available for mitigation of historic places in some instances.					
	Hazards:	N/A	◆			◆	

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- b. (F) = Federal grant funding supports in full or in part



Table A.1-19. Land Division Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation	
			Pre-Disaster	Post-Disaster	Support		Facilitate
Description: <i>The Land Division is responsible for the management of State-owned lands in ways that will promote the well-being of Hawaii's people and insure that these lands are used in accordance with the goals, policies and plans of the State. Lands that are not set aside for use by other government agencies come within the direct purview of the division.</i>							
Shoreline Certification	Description:	Applications for shoreline certification are submitted to the land division. Shoreline is defined as “the upper reaches of the wash of the waves, other than storm or seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves” in HAR §13-10. The certified shoreline establishes jurisdictional authority between the state and the county governments and establishes the line from which shoreline setbacks are established.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	Dynamic shoreline certification may provide a mechanism through which to address some of the impacts of sea level rise.					
	Hazards:	Chronic Coastal Flooding, Climate Change	◆	◆	◆		

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.
 b. (F) = Federal grant funding supports in full or in part

Table A.1-20. Office of Conservation and Coastal Lands Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	
COASTAL LANDS PROGRAM						
Description: <i>OCCL is responsible for management of coastal resources including beaches, dunes, and rocky shorelines seaward of county jurisdictions and/or within the State Conservation District. The Program supports the complementary long-term goals of conserving coastal resources and mitigating risks from natural and human-induced hazards</i>						



Capability	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
<i>for coastal communities. The Program develops and implements innovative shoreline management techniques, including alternatives for coastal erosion management through a long-standing cooperative relationship with the University of Hawai'i (UH) Sea Grant College Program.</i>						
Coastal Erosion Management Program	Description:	The Coastal Lands Program supports sustainable alternatives for coastal erosion management including programs for beach and dune restoration and guidelines for other “soft” approaches to shoreline protection through the DLNR Coastal Erosion Management Plan (COEMAP), which identifies 7 broad goals, 20 recommendations and 21 implementing actions for improving the erosion management system in Hawai'i. The Program works closely with coastal communities, resource management and regulatory agencies, and university researchers to improve management of coastal areas through science-based decision making. The Program also conducts public education, and outreach and distributes information and guidelines on best management practices, erosion control and construction practices for Hawai'i’s coastal areas in partnership with UH Sea Grant and other organizations.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Chronic Coastal Flooding	◆		◆	
Small Scale Beach Nourishment (SSBN) Program	Description:	The SSBN program is intended to provide a viable alternative to shoreline hardening through development and enhancement of beach restoration programs – encouraging landowners to consider beach restoration over hard shoreline armoring. The SSBN program provides a streamlined application process for beach restoration projects within the DLNR under a programmatic Conservation District Use Permit and Environmental Assessment. SSBN authorizations allow placement of compatible beach sand within the State Conservation District and may be submitted under one of two Categories: SSBN Category I – (up to 500 cubic yards of sand), or SSBN Category II – (up to 10,000 cubic yards).				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	OCCL is developing an updated statewide programmatic environmental assessment for SSBN and exploring the possibility of an agreement with the U.S. Army Corps of Engineers, Department of Health, and Coastal Zone Management Program to re-establish a streamlined inter-agency programmatic permitting process for SSBN projects. This is anticipated to take place over the next couple years.				
	Hazards	Chronic Coastal Flooding, Hurricane	◆	◆	◆	◆



Capability	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
CLIMATE 21C						
Description: <i>The Hawai'i Climate Adaptation Initiative Act of 2014 (Act 83; House Bill 1714) is designed to address the effects of climate change through 2050 to protect the State's economy, health, environment, and way of life. The initial focus of the Initiative will be on the effects of sea level rise on the islands.</i>						
Hawai'i Climate Adaptation Portal	Description:	A website that includes a vast wealth of information on climate change and how it is impacting Hawai'i and other coastal states and locations around the world as well as all things related to the Hawai'i Climate Change Mitigation & Adaptation Commission. The website includes links to the Hawai'i Sea Level Rise Vulnerability and Adaptation Report, Hawai'i Sea Level Rise Viewer, and announcements and archives of meetings for the State Interagency Climate Mitigation and Adaption Commission.				
	Notable Changes:	This is a new capability. The website was established in 2015.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Climate Change	◆		◆	
Hawai'i Climate Change Mitigation & Adaptation Commission (Climate Commission)	Description:	It is anticipated that the Climate Commission will provide direction, facilitation, coordination and planning among state and county agencies, federal agencies, and other partners about climate change mitigation (reduction of greenhouse gases) and climate change resiliency strategies, including but not limited to, sea level rise adaptation, water and agricultural security, and natural resource conservation.				
	Notable Changes:	This is a new capability. The Climate Commission was established under HRS § 225P in 2014. In 2017 the name of the Commission was changed from the Interagency Climate Adaptation Commission to the current name of Hawai'i Climate Change Mitigation & Adaptation Commission.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Climate Change	◆		◆	
Hawai'i Sea Level Rise Vulnerability and Adaptation Report	Description:	The Sea Level Rise Vulnerability and Adaptation Report (SLR Report) provides the first state-wide assessment of Hawai'i 's vulnerability to sea level rise and recommendations to reduce exposure and sensitivity to sea level rise and increase the capacity to adapt.				



Capability			Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Notable Changes:	This is a new capability. The SLR Report was adopted by the Climate Commission in December 2017 (Hawai'i Climate Change Mitigation and Adaptation Commission, 2017).						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Chronic Coastal Flooding, Climate Change	◆		◆	◆		
Hawai'i Sea Level Rise Viewer	Description:	The Hawai'i Sea Level Rise Viewer was developed by through a partnership between UH Sea Grant, PaCIOOS, and DLNR. The Hawai'i Sea Level Rise Viewer is intended to provide an online atlas to support the Hawai'i Sea Level Rise Vulnerability and Adaptation Report. The Viewer provides map data depicting projections for future hazard exposure and assessing economic and other vulnerabilities due to rising sea levels.						
	Notable Changes:	Made publicly available in December 2017 with the Hawai'i Sea Level Rise Vulnerability and Adaptation Report						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Chronic Coastal Flooding, Climate Change, dam Failure	◆		◆			

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b. (F) = Federal grant funding supports in full or in part

Table A.1-21. State Board of Land and Natural Resources Capabilities

Capability			Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Shoreline Determination Rules	Description:	The BLNR is authorized by HRS §205A to adopt rules for determining the shoreline and appeals of shoreline determination and to enforce the established rules.						
	Notable Changes:	None identified.						



Capability		Type of Hazard Management Capability					Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster		Post-Disaster		Support	Facilitate	Conflict		
and Enforcement Rules	Challenges:	None identified.								
	Opportunities:	Shoreline certification rules and procedures may present an opportunity to address some aspects of sea level rise.								
	Hazards:	Chronic Coastal Flooding, Climate Change	◆	◆		◆				
Conservation District	Description:	The Board of Land and Natural Resources has adopted and administered land use regulations for the Conservation District pursuant to the State Land Use Law (Act 187) of 1961. The Conservation District has five subzones: Protective, Limited, Resource, General and Special. The first four subzones are arranged in a hierarchy of environmental sensitivity, ranging from the most environmentally sensitive (Protective) to least sensitive (General). The Special subzones defines a unique land use on a specific site. The use of Conservation District lands is regulated by Title 13 Chapter 5 of the HARs and Chapter 183C of the HRS.								
	Notable Changes:	None identified.								
	Challenges:	None identified.								
	Opportunities:	None identified.								
	Hazards:	Chronic Coastal Flooding, Drought, Event-based flood	◆		◆					

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.
 b. (F) = Federal grant funding supports in full or in part



A.1.9 Department of Transportation

Table A.1-22 includes information on hazard mitigation related capabilities for the Department of Transportation (DOT). Table A.1-23 includes information on hazard mitigation related capabilities for the O’ahu Metropolitan Planning Organization (OahuMPO).

Table A.1-22. Department of Transportation Capabilities

Capability		Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
<p>Description: The Hawai'i Department of Transportation (HDOT) is responsible to plan, design, construct, operate, and maintain State facilities in all modes of transportation, including air, water, and land. Coordination with other State, County, and Federal programs is maintained to achieve these objectives.</p>							
Roadside Fuel Reduction Program	Description:	HDOT has a program to reduce or convert fuel load along roadsides and community open areas.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Wildfire	◆		◆	◆	
Hazardous Materials Risk Management Program	Description:	Information on unintentional releases of hazardous materials and the consequences are collected and analyzed.					
	Notable Changes:	None identified.					
	Challenges:	Identifying low probability, high consequence events (which may not be apparent from incident data) and providing appropriate levels of protection are among the more demanding aspects of this risk management program. A further challenge is to strike a proper balance between levels of safety and costs that result from regulations, special permits, and approvals.					
	Opportunities:	None identified.					
	Hazards:	Hazardous Materials	◆		◆		
Bridge Inspection Program	Description:	The bridge inspection program creates reports on the conditions of all HDOT bridges every two years.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					



Capability	Hazards:	Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Dam failure, earthquake, event-based flood, landslide/rockfall, tsunami		◆		◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

Table A.1-23. O'ahu Metropolitan Planning Organization Capabilities

Capability	Description:	Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
Description: OahuMPO is responsible for coordinating transportation planning on O'ahu. Although OahuMPO serves as the metropolitan planning organization for the two urbanized areas on O'ahu (Honolulu and Kailua-Kaneohe), OahuMPO coordinates transportation planning for the entire island.						
Transportation Asset Climate Change Risk Assessment Project	Description:	OahuMPO was selected by the Federal Highway Administration (FHWA) as one of five pilots nationwide to perform and evaluate a risk assessment of climate change on important transportation assets. Inventory assets were integrated with climate information and vulnerability was determined in two dimensions: the impact to the asset itself and, importantly, the socioeconomic consequences of that impact (SSF, 2011). While the report focuses on only several essential components of the Island of O'ahu's transportation infrastructure, the workshops, field work, and assessment looked at a far broader range of both transportation assets as well as climate change factors. Those assets selected for the report were deemed by those senior engineers, senior planners, and climate change experts, involved in the study to be the most at risk in 2011.				
	Notable Changes:	Climate change science has advanced since the assessment. Near-term risks to assets should now be assumed to be understated by the project. The study focused primarily on shoreline transportation assets and later advancements make it clear that the effects of climate change in the Hawaiian Islands are not limited to the shoreline.				
	Challenges:	Climate change science has advanced since the assessment and near-term risks to assets may now be understated by the project.				
	Opportunities:	Updated sea level rise information is available to reevaluate and plan for near and long-term risks not only to those assets identified in the study, but a broader range of effects that will result from temperature and rainfall (rockfall hazards), the need to address not only harbor infrastructure (Honolulu Harbor gantries) but also wastewater systems, oil refinery, and visitor industry assets, all of which are currently at shoreline.				
	Hazards:	Climate change and other factors	◆		◆	



a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

A.1.10 Hawai'i Emergency Management Agency

Table A.1-24 includes information on hazard mitigation related capabilities for the Hawai'i Emergency Management Agency (HI-EMA).

Table A.1-24. Hawai'i Emergency Management Agency Capabilities

Capability	Description	Type of Hazard Management Capability			Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
<p>Description: The Hawai'i Emergency Management Agency (HI-EMA) is the emergency management agency for the State of Hawai'i. HI-EMA serves as the coordinating agency between the four county emergency management agencies (County of Hawai'i Civil Defense, County of Maui Emergency Management Agency, City and County of Honolulu Department of Emergency Management, and Kaua'i Emergency Management Agency) and as State Warning Point. The five core capabilities that guide HI-EMA are Prevention, Protection, Mitigation, Response, and Recovery. The branches in the HI-EMA organization address these capabilities: Preparedness, Operations, Telecommunications, Logistics, and Finance/Administration.</p>								
Hawai'i Earthquake & Tsunami Advisory Committee (HETAC)^b	Description:	HETAC is a volunteer peer group of scientists who has served as an advisory body to HI-EMA for over 25 years (est. September 1990). HETAC meets quarterly to promote activities such as research, project development and management, and mitigation (HI-EMA, 2014). HETAC also supports the Pacific Tsunami Museum in their public outreach efforts.						
	Notable Changes:	No significant changes over reporting period						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Earthquake, Tsunami	◆		◆			◆ (F)
Western States Seismic Policy Council (WSSPC)	Description:	Hawai'i is a member of the WSSPC, which develops seismic policies and shares information to promote programs intended to reduce earthquake related losses. WSSPC also hosts a Tsunami Center.						
	Notable Changes:	WSSPC continues to support several mitigation initiatives in Hawai'i including HHARP, printing 3,000 copies of the Natural Hazards Preparedness Wheel, and general outreach initiatives.						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Earthquake, Tsunami	◆		◆	◆		◆



Capability	Description:	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Hawai'i Advisory Council on Emergency Management (HACEM)	Description:	Hawai'i Revised Statutes §127A-4 authorizes HACEM. Originally established in 1951, the Advisory Council was known as the Civil Defense Advisory Council until July 1, 2014 when HRS 127A became effective. The council consists of seven members nominated by the Governor and serves as a resource to the Governor and the Director of the Emergency Management Agency.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	◆	
Get Ready Website	Description:	This website is a key outreach tool that provides links and information to county-specific Get Ready Hawai'i websites; information on preparing for hurricane, tsunami, flash flood, earthquake, and wildfire; and tips for preparing your family, home, and business.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	Expand website to provide information on all hazards addressed by the hazard mitigation plan.					
	Hazards:	Earthquake, Event-based flood, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆			◆	
Hawai'i Hazards Awareness and Resilience Program (HHARP)^b	Description:	The aim of HHARP is to help communities prepare to be self-reliant during and after natural hazard events, improve their ability to take care of their own needs, and reduce the negative impacts of disasters. HHARP can enhance community resilience through education and outreach sessions that build awareness and understanding of hazard mitigation, preparedness, response and recovery.					



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Notable Changes:	This was established in 2014. As of December 2017, six communities have reached recognition level in the program and another six communities are on the verge of program recognition. This program won the <i>2016 National Award in Excellence for Educational Outreach to the General Public</i> from WSSPC.					
	Challenges:	None identified.					
	Opportunities:	Engage more communities to participate in and complete the program.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆			◆	
State of Hawai'i Emergency Operations Plan (HI-EOP)	Description:	The HI-EOP establishes the shared framework for the state's response to, and initial recovery from emergencies and disasters. It outlines the state's hazard vulnerabilities and planning assumptions, and establishes the authorities, responsibilities, operational priorities and general strategies for state emergency operations that apply regardless of the specific type of emergency or disaster.					
	Notable Changes:	The HI-EOP base plan was last updated in May 2017 (HI-EMA, 2017c). HI-EMA currently is updating the Emergency Support Function (ESF) Annexes					
	Challenges:	None identified.					
	Opportunities:	The hazard mitigation plan is considered the hazard assessment section of the HI-EOP. The information on Hawaii's hazard profile can be updated once the 2018 HMP Update is completed.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆		



Capability		Type of Hazard Management Capability					Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict				
Hawai'i Catastrophic Hurricane Plan	Description:	The 2015 Hawai'i Catastrophic Hurricane Plan/FEMA Region IX Hawai'i outlines scalable and coordinated strategies to execute a joint state and federal response to catastrophic damage before, during, and following a catastrophic hurricane event (HI-EMA and FEMA Region IX, 2015).								
	Notable Changes:	This is a new capability. The plan was developed in 2015.								
	Challenges:	None identified.								
	Opportunities:	The Cat Plan provides the basis for the development of other operational plans (e.g. Critical Systems Vulnerability Assessment) that highlight mitigation opportunities.								
	Hazards:	Hurricane	◆		◆					
Training & Exercise Plan (TEP)	Description:	The TEP is updated annually. It is the product of the Training and Exercise Planning Workshop (TEPW), which is hosted by HI-EMA and attended by stakeholders from all levels of government, the non-profit and private sectors. The TEP is informed by the input provided by this diverse group of agencies and is the roadmap for Hawai'i to accomplish the training, exercise and planning priorities described within this document.								
	Notable Changes:	This is capability aligns with the Emergency Management Performance Grant and Homeland Security Grant Program guidance. The following have been identified as the state's program priorities for the 2016 to 2018 training cycle: mass care; planning and operations; logistics; cybersecurity; physical protective measures; and risk assessment.								
	Challenges:	None identified.								
	Opportunities:	The annual hurricane (Makani Pahili) exercise hot-wash provide an opportunity to discuss mitigation opportunities of identified vulnerabilities								
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆					
Department Emergency	Description:	Each state department is required to have a Department Emergency Operations Plan that is consistent with the state plan. A template is provided by HI-EMA.								
	Notable Changes:	None identified.								



Capability		Type of Hazard Management Capability					Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Operations Plan Template	Challenges:	Significant out-reach required for Departments that do not regularly participate in emergency exercises and events.					
	Opportunities:	Out-reach provides opportunity to discuss mitigation actions					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆		
Department Operations Center (DOC) Planning Guidance and Resources	Description:	Every state department should have a DOC, which is the location where their key personnel will gather in an emergency to coordinate support requested by the State Emergency Operations Center, and to address impacts to critical agency functions. This document provides guidance on supplies and back-up communications assets a DOC should be equipped with and contains templates that can be used to organize operations when the DOC is activated.					
	Notable Changes:	This is an operations/response plan.					
	Challenges:	None identified.					
	Opportunities:	Post-event Hot-wash provides an opportunity to discuss mitigation opportunities of identified vulnerabilities.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	◆	
Hawai'i Weather Impacts Advisory Committee	Description:	N/A					
	Notable Changes:	This committee is no longer active. Some duties have been absorbed by HETAC.					
	Challenges:	N/A					
	Opportunities:	N/A					
	Hazards:	N/A	N/A	N/A	N/A	N/A	N/A



Capability	Description:	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
State Mitigation Forum (Forum)	Description:	The Hawai'i State Hazard Mitigation Forum was formerly established in 1998. The forum serves in an advisory capacity relative to the incorporation of hazard mitigation in policy in Hawai'i. Forum members (17 in total) come from a broad spectrum of State and County agencies, and the private sector. The Forum also includes ex officio representatives from all four County Emergency Management Agencies, and FEMA. Two of the most important Forum duties are to assist in the development of the State Hazard Mitigation Plan, and to make mitigation project recommendations to the Emergency Management Agency Director. Two committees of the forum have been established: education and emergency shelter criteria. The Form bylaws can be found in Appendix X (State Hazard Mitigation Forum Bylaws).					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	◆	
Critical Systems Vulnerability Assessment	Description:	The Critical Systems Vulnerability Assessment is a holistic systems evaluation (rather than component by component) of the implications of a large natural disaster on key systems (e.g. ports, food & water, power). The gap analysis leads to a 9-step resiliency strategy, that lead to response, recovery and mitigation actions strengthen those systems and reduce response/recovery times					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Earthquake, Hurricane, Tsunami	◆		◆	◆	
Natural Disaster Economic Recovery Strategy	Description:	This Hawai'i Natural Disaster Economic Recovery Strategy (NDERS) addresses pre-disaster business continuity planning and post-disaster recovery actions for both public and private sectors. This strategy especially focuses on small business and economic recovery since small businesses are the major driver of Hawaii's economy. The process to develop a strategy sought input from multiple stakeholders and resulted in 49 recommended implementation strategies grouped in four types (1) State					



Capability		Type of Hazard Management Capability					Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	<p>or Federal legislative action is needed to change statutes and ordinances, or provide funding; (2) State government agency action could change administrative rules, policies, or programs; (3) public-private partnerships; and (4) private sector initiatives and actions (Office of Planning, 2014).</p> <p>Notable Changes: None identified.</p> <p>Challenges: None identified.</p> <p>Opportunities: None identified.</p> <p>Hazards: Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire</p>						
Threat Hazard Identification and Risk Assessment	Description:	The THIRA process helps communities identify capability targets and resource requirements necessary to address anticipated and unanticipated risks.					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	The HI-EMA will be conducting a comprehensive update to the State THIRA in 2018					
	Hazards:	Earthquake, Event-based flood, Health Risks, Hurricane, Tsunami, Volcanic Hazards	◆		◆	◆	
HAWAI'I WING CIVIL AIR PATROL							
Description: <i>Hawai'i Wing Civil Air Patrol (CAP) has three primary missions: emergency services, cadet programs, and aerospace education. Hawai'i Wing Units are located on O'ahu, Hawai'i, Kaua'i, and Maui.</i>							
Aircraft Alert System	Description:	CAP aircraft are capable of night flights with instrument-rated pilots equipped with speakers and sirens on the islands of Kaua'i, O'ahu, Maui, and Hawai'i are deployed to alert areas where any land-based sirens have malfunctioned. CAP has eleven aircrafts.					
	Notable Changes:	None identified.					



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Tsunami	◆			◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

b. Identified by the department/agency as one of the most effective capabilities for achieving mitigation goals.

c. (F) = Federal grant funding supports in full or in part; HETAC tsunami work is funded by NOAA

A.1.11 Hawai'i State Legislature

Table A.1-25 includes information on hazard mitigation related capabilities for the Hawai'i State Legislature

Table A.1-25. Hawai'i State Legislature Capabilities

Capability		Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Hawai'i State Legislature Grant-in-Aid (GIA) Program	Description:	Pursuant to Chapter 42F, Hawai'i Revised Statutes (HRS), the Legislature may award state funds on an annual basis as a grant by an appropriation to a specified recipient, to support the activities of the recipient and permit the community to benefit from those activities. These activities may include hazard mitigation. An appropriation for a grant shall be disbursed by a contract between the state agency designated the expending agency for the appropriation by the legislature, and the recipient of the grant. During the Regular Legislative Session of 2016, the Hawai'i State Legislature appropriated \$158,000 as a grant to Hawai'i Wildfire Management Organization (HWMO) to support wildfire prevention and hazardous fuel reduction measures, including: <ul style="list-style-type: none"> • Create all-agency unified wildfire prevention messaging, related materials, and a public awareness campaign to maximize public protection and preparedness; and • Develop cross-boundary fuel reduction priorities, maps, and projects for all four counties in Hawai'i. DLNR-DOFAW was the designated expending agency for the grant to HWMO.					
	Notable Changes:	Funds were appropriated to HWMO as a grant pursuant to Chapter 42F, HRS, during the Regular Legislative Session of 2016. A contract was executed and funds were encumbered in 2017. The contract is currently open and the Statewide initiative is ongoing. This grant was used to distribute wildfire outreach materials endorsed by all fire agencies to schools on all islands					



Capability		Type of Hazard Management Capability					Provides Funding for Mitigation
		Effect on Loss Reduction ^a					
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	<p>and help to coordinate the annual unified multi-agency Wildfire LOOKOUT! campaign to raise awareness about the threat of wildfire to Hawaii's natural resources and to private and public property. This grant will also fund HWMO to develop cross-boundary fuel reduction priorities, maps, and projects for all four counties in the State of Hawai'i. HWMO has started holding workshops on County of Maui and County of Hawai'i to develop these fuel reduction priorities, maps, and projects.</p> <p>There may be other grants pursuant to Chapter 42F, HRS, that are funding other hazard mitigation projects with other state agencies designated as expending agencies.</p>						
Challenges:	The Hawai'i State Legislature decides on which recipients and the type of activities to fund as long as the grants support the activities of the recipient and permit the community to benefit from those activities.						
Opportunities:	This is a funding source for mitigation activities performed by the non-governmental sector						
Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire (As long as the grant supports the activities of the recipient and permit the community to benefit from those activities)	◆	◆	◆			◆

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

b. (F) = Federal grant funding supports in full or in part

A.1.12 University of Hawai'i

Table A.1-26 includes information on hazard mitigation related capabilities for the University of Hawai'i (UH). The Pacific Disaster Center (PDC) is managed under a Cooperative Agreement with the Office of the Undersecretary of Defense and its capabilities are included in Table A.1-27. Table A.1-28 includes information on the Pacific Regional Integrated Sciences and Assessments (Pacific RISA) program. Table A.1-29 includes information on the Pacific Risk Management 'Ohana (PRiMO).



Table A.1-26. University of Hawai'i Capabilities

Capability	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
SCHOOL OF OCEAN AND EARTH SCIENCE TECHNOLOGY						
Description: <i>The School of Ocean and Earth Science and Technology (SOEST) at the University of Hawai'i at Mānoa is a world-class research and academic institution focused on informing solutions to some of the world's most vexing problems. Through an integrated, comprehensive, and sustained system of Earth and planetary observations, research, and education, SOEST staff work to transform the way people live on Earth by enabling a healthy public, economy, and planet.</i>						
SOEST Public Resources	Description:	<p>SOEST's website includes a number of publicly available resources including a video archive, publications, K-12 resources, and a data access portal. Among the programs generating hazard related information are:</p> <ul style="list-style-type: none"> Mauna Kea Weather Center provides realtime data, model output, and forecasts for Mauna Kea including blizzard conditions and high winds at the summits. The model output covers the <u>state</u> at a 900 meter resolution and provides 2-day forecast output of clouds, winds, and storm conditions, including hurricanes and kona lows, etc. VMAP, a weather modeling program provides 2-day web-based ongoing forecasts of atmospheric concentrations of sulfur dioxide and sulfate aerosols using initial conditions from the Flyspec Array developed by Keith Horton of SOEST and maintained by the USGS. The Hawai'i Beach Safety website was developed by Dr. Fletcher. Using current weather, surf, public safety alerts and beach conditions we calculate hazard levels at thirty-three O'ahu beaches. Hazard ratings may vary between nearshore and offshore. Pacific Islands Ocean Observing System (PacIOOS) empowers ocean users and stakeholders in the Pacific Islands by providing web-based and on-demand accurate and reliable coastal and ocean information, tools, and services that are easy to access and use, including products wave hazard, currents, shoreline impacts, water characteristics, and weather. (see details below) The Department of Meteorology maintains the Weather Server (Department of Meteorology, 2017), which provides real time weather observations and forecasts for Hawai'i, the central Pacific region and the US Mainland. 				
	Notable Changes:	None identified.				
	Challenges:	Supported internally and through grant funds; subject to availability of agency funding				
	Opportunities:	None identified.				



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Hazards:	Chronic Coastal Flooding, Climate Change, Event-based flood, High Wind Storms, Hurricane, Volcanic Hazards	◆		◆	◆	
SOEST Research	Description:	SOEST faculty and staff are recognized as international leaders in research, innovation, and education on topics as varied as renewable energy, oceanography, coral reef ecology, volcanology, remote sensing, cosmochemistry, tropical meteorology and climate modeling, and projection of future climate change for Hawai'i. SOEST faculty work with community groups and agencies at local, state, and federal levels, to perform the fundamental research that underlies policy development in water quality, renewable energy, natural hazard management, natural hazards and climate variability (e.g., El Niño, Pacific Decadal Oscillation), climate change impacts, and sustainable ecosystems. SOEST includes several research centers, labs, programs and groups. Particularly relevant for hazard mitigation goals include: <ul style="list-style-type: none"> • The Sea Level Center • The Coastal Geology Group • The State Climatologist • The Department of Ocean and Resources Engineering maintains tsunami modeling capabilities for determination of tsunami inundation and run-up projections as well as for modeling ocean and harbor currents and water levels over the course of tsunami events. • The Department of Geology and Geophysics maintains research programs on public risk perception, volcano hazards management and training programs for crisis response. 					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Drought, Event-based flood, High Wind Storms, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆		◆	◆	
Sea Grant	Description:	Hawai'i Sea Grant supports an innovative program of research, extension, education, and communication services directed to the improved understanding and stewardship of coastal and marine resources. Realizing the necessity of collaboration to address coastal resource issues, Hawai'i Sea Grant also provides links between academia, federal, state, and local government agencies, industries, and local community members. Hawai'i Sea Grant has five focus areas: (1) sustainable coastal development, (2) hazard resilience in coastal communities (3) sustainable coastal tourism (4) indigenous cultural heritage (5) water resource sustainability; and six centers of excellence: (1) smart building and					



Capability	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	community design (2) sustainable coastal tourism (3) marine science education (4) coastal and climate science and resilience (5) integrated science, knowledge, and culture; and (6) water resource sustainability.					
	With capacity and concentration working in these focal areas for more than 10 years, the Center for Coastal and Climate Science and Resilience (CCCSR) was formally established in 2016 to increase support for collaborative and transdisciplinary coastal and climate research, outreach, and education in the service of communities and decision-makers to understand and address impacts of coastal hazards, climate change, and sea-level rise in Hawai'i and the Pacific region. University of Hawai'i researchers and Hawai'i Sea Grant extension faculty working through the CCCSR significantly amplify project impacts and outcomes through increased collaboration and involvement of multidisciplinary center faculty. The CCCSR engages a broad range of regional stakeholders involved in coastal community resilience and coastal ecosystem management to inform the CCCSR's research agenda, advise decision-makers on potential impacts of climate change and the implementation of adaptation measures, and improve sustainable management of public coastal resources and shoreline land use.					
Notable Changes:	Projects particularly relevant for hazard mitigation initiated over the performance period of the 2013 HMP include: Hawai'i and Pacific Island King Tides Project; Hawaiian Islands Sentinel Site Cooperative Project; Building Resilience to Coastal Hazards and Climate Change in Hawai'i Project including the Hawai'i Sea Level Rise Viewer, and contributions to the Hawai'i Sea Level Rise Vulnerability and Adaptation Report; Maui based project Post-disaster Reconstruction Guidelines and Protocols for the Conservation of Coastal Resources and Protection of Coastal Communities; and the following publications: Third edition of <i>Homeowner's Handbook to Prepare for Natural Hazards</i> (Sea Grant, 2017; Hwang and Okimoto, 2014), <i>Climate Change Impacts in Hawai'i</i> , <i>Kaua'i Climate Change and Coastal Hazards Assessment</i> . Additional publications that support hazard mitigation goals include: <i>Natural Hazard Considerations for Purchasing Coastal Real Estate in Hawai'i: A Practical Guide of Common Questions and Answers</i> (Eversole and Norcross-Nu'u, 2006) and <i>Hawai'i Coastal Hazard Mitigation Guidebook</i> (Hwang, 2003).					
Challenges:	None identified.					
Opportunities:	Partnerships leveraged between counties, state departments (e.g. DLNR) and the University to support staff in county planning agencies that participate directly in hazard mitigation activities and planning.					
Hazards:	Chronic Coastal Flooding, Earthquake, Tsunami	Event-based flood, Hurricane	Climate Change			
		◆	◆	◆	◆	
Description:	The Pacific Islands Ocean Observing System (PacIOOS) provides coastal and ocean data and information to promote a safe, healthy and productive ocean and resilient coastal zone. PacIOOS collects real-time data on ocean conditions, forecasts future events, and develops user-friendly tools to access this information. Based within the School of Ocean					



Capability		Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Pacific Islands Ocean Observing System (PacIOOS)		and Earth Science and Technology (SOEST) at the University of Hawai'i at Mānoa, PacIOOS is part of the U.S. Integrated Ocean Observing System (IOOS).					
	Notable Changes:	<ul style="list-style-type: none"> Installed a number of wave buoys around the islands; 10 wave buoy locations now maintained by PacIOOS around Kaua'i, O'ahu, Maui, Lāna'i, and Hawai'i Islands. Provides six-day High Sea Level forecasts for six harbors in the islands. Provides two 6-day wave run-up forecasts provided: for Waikiki and North Shore, O'ahu. Provides the Haleiwa Harbor Surge Forecast. Provides high resolution wave and wind forecasts for the islands. Developed and hosts the Hawai'i Sea Level Rise Viewer as the online atlas to support the Hawai'i Sea Level Rise Vulnerability and Adaptation report. Developed and now hosts a map viewer for Honolulu Sea Level Rise Inundation Risk, which illustrates risk of inundation from a Hurricane and/or Tsunami with 1-meter of sea level rise. Developed the Hawai'i Shoreline Change tool, which displays scenarios of sea level rise, historical shorelines, and erosion rates by parcel. 					
	Challenges:	PacIOOS is mostly federally funded, and while funding has been fairly level for the past decade, it is insufficient to address all the needs expressed by stakeholders.					
	Opportunities:	Advancements in the wave run-up forecast are currently being made with funding from multiple agencies and organizations.					
	Hazards:	Chronic Coastal Flooding, Climate Change, Earthquake, Event-based flood, High Wind Storms, Hurricane, Tsunami					
	High Surf, Wave Run-up, High Water Levels, High Winds; Tools provided via PacIOOS (e.g., PacIOOS data portal: Voyager) also address Tsunami, Sea Level Rise, and Earthquakes	◆		◆			

THE CENTER FOR THE STUDY OF ACTIVE VOLCANOES

Description: *The Center for the Study of Active Volcanoes (CSAV) operates out of the University of Hawai'i at Hilo. The Center is a training and outreach program founded by Robert W. Decker. CSAV's mission is to provide information on volcanic and natural hazards that occur in Hawai'i and worldwide. CSAV has been operating since 1989, and is a cooperative program of the University of Hawai'i at Hilo, the Hawaiian Volcano Observatory (HVO), and the Hawai'i Institute of Geophysics and Planetology at the University of Hawai'i at Mānoa (UHM).*



Capability	Description:	Type of Hazard Management Capability					Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict				
CSAV Public Education and Outreach Program on Natural Hazards	Description:	Includes website with information on natural hazards, YouTube and Vimeo channels, Facebook page, Visiting Schools Program, Public Seminar, Community Association Visits, and Teacher Training Workshops								
	Notable Changes:	None identified.								
	Challenges:	Outreach program is funded on an annual basis and will vary according to agency funding available in a given year.								
	Opportunities:	There is a significant need for comprehensive, web-based on-demand hazard mitigation guidance that could be met with University capabilities if resources were available for their development.								
	Hazards:	Earthquake, Event-based flood, Hurricane, Tsunami, Volcanic Hazards	◆		◆					
CSAV Cooperative Research Program	Description:	Includes monitoring and assessment of volcanoes, internship program, deformation studies, seismic analysis, volcanic hazards and society, geotechnical monitoring, geology and mapping, and public outreach								
	Notable Changes:	None identified.								
	Challenges:	Funded annually and subject to resource availability from funding agency.								
	Opportunities:	None identified.								
	Hazards:	Volcanic Hazards	◆		◆	◆				
GEOGRAPHY DEPARTMENT										
Hawai'i Climate Data Websites	Description:	Hosts a family of websites that provides data on the climate of Hawai'i including: Rainfall Atlas, Evapotranspiration, Solar Radiation and Climate (Geography Department, 2014).								
	Notable Changes:	None identified.								
	Challenges:	None identified.								
	Opportunities:	None identified.								
	Hazards:	Event-based flood	◆		◆					
HAWAI'I INSTITUTE OF GEOPHYSICS AND PLANETOLOGY										



Capability	Description	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
Description: <i>The Hawai'i Institute of Geophysics and Planetology is a research institute within the School of Ocean and Earth Sciences and Technology specializing in basic and applied research in earth and space sciences</i>							
HIGP Research	Description:	Research faculty conduct research in a variety of technologies related to natural and technological hazards including: <ul style="list-style-type: none"> • Satellite remote sensing and quantification of volcanic and trace gases and aerosols • Multispectral remote sensing of lava flows • Geodetic modeling and tsunami detection • Remote sensing and spectroscopy of contaminants in the atmosphere and oceanic environment • Infrasound (acoustic) monitoring of volcanic events and nuclear testing for nuclear test ban treaty verification • Engineering and development of satellite instrumentation for remote sensing of earth and atmospheric processes. 					
	Notable Changes:	None identified.					
	Challenges:	Supported extramurally through grant funds; subject to availability of agency funding					
	Opportunities:	None identified.					
	Hazards:	Tsunami, Volcanic Hazards, Technological (nuclear and chemical) hazards	◆		◆		
State Climatologist	Description:	Research focus on the impact of climate variability and climate change on natural hazards such as hurricane, flood, drought, vog, and wild fire in Hawai'i. Use a high-resolution regional climate model and advanced statistical methods for studying future changes in natural hazards. <ul style="list-style-type: none"> • Hurricane risk assessment • Hurricane intensity forecasts • Seasonal hurricane frequency forecasts • El Niño, La Niña, and rainfall changes in Hawai'i • A high resolution numerical model for assessing current and future weather hazards in Hawai'i • Projection of future flooding and drought events for Hawai'i using dynamical and statistical downscaling approaches • Estimating return levels of extreme precipitation using an extreme value theory • Long-term changes in trade winds over the Hawaiian Islands and their impact on society • Vog dispersion under various weather systems using numerical models 					



Capability	Type of Hazard Management Capability		Effect on Loss Reduction			Provides Funding for Mitigation
	Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	<ul style="list-style-type: none"> Seasonal and monthly prediction of temperature and precipitation using the Bayesian inference Seasonal prediction of wildland fire activity for Hawai'i Sea level forecasting 					
	Notable Changes:	None identified.				
	Challenges:	Funded internally but need extramural funds to carry out the tasks outlined in Description; subject to availability of agency funding				
	Opportunities:	None identified.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Event-based flood, Health Risks, High Wind Storms, Hurricane, Volcanic Hazards	◆		◆	
NATIONAL DISASTER PREPAREDNESS TRAINING CENTER (NDPTC)						
<p>Description: The NDPTC is a member of the National Domestic Preparedness Consortium (NDPC), which was expanded in 2007 to address all-hazards capabilities by the addition of the University of Hawai'i. The NDPTC is authorized to develop and deliver training and educational programs related to homeland security and disaster management, with a specific focus on natural hazards, coastal communities, and the special needs and opportunities of islands and territories. The NDPTC actively engages internally with FEMA and the University of Hawai'i, as well as with external partners across the region to integrate the delivery of its trainings, products, and services.</p>						
NDPTC Training Programs	Description:	The Center has trained more than 35,000 first responders across the nation. In addition to emergency managers and first responders, the Center works closely with urban planners and transportation agencies. The Center has built a nationwide network of subject matter experts, instructors, and training support personnel to facilitate training and adoption of new technologies.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	are				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane,	◆	◆	◆	◆



Capability		Type of Hazard Management Capability	Effect on Loss Reduction			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	
	Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire					

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

Table A.1-27. Pacific Disaster Center Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support	
<p>Description: PDC provides the most powerful, global decision support technology, as well as risk and vulnerability assessments, preparedness expertise, training and exercise support, and response capabilities. Our early warning and decision support technology, DisasterAWARE, is being used by decision makers and disaster management practitioners in Hawai'i and worldwide for disaster risk reduction, planning and preparedness, operational response, and recovery. PDC provides a number of technical capabilities described below.</p>						
DisasterAWARE™^b	Description:	Through DisasterAWARE, practitioners have access to PDC's vast data holdings and tools, in a single platform, including: <ul style="list-style-type: none"> ▪ Customizable early warning notifications and real-time hazard updates ▪ Mapping and visualizations for at-a-glance decision making ▪ Impact, damage, and needs assessment ▪ Risk and vulnerability analysis ▪ Civilian/Military/Interagency sharing and collaboration capabilities ▪ Hundreds of Hawai'i-specific data layers and thousands globally (e.g. hazard risk areas, critical infrastructure, vulnerable populations, observations and forecasts, etc.) ▪ Historical hazard impact information Custom version for disaster management and humanitarian assistance practitioners: https://emops.pdc.org/emops/ Version accessible to the public: https://disasteralert.pdc.org/disasteralert/				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆	
Risk and Vulnerability Assessment^b	Description:	PDC's RVA enhances the ability of decision makers to anticipate and characterize potential risk and shocks by making visible the socioeconomic, political, cultural, and environmental factors that contribute to risk and resilience. Our RVA methodology is hazard independent and can be run for any hazard type.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆		◆	
Training and Exercise Support^b	Description:	PDC provides DisasterAWARE™ training and exercise support to help disaster managers coordinate and test complex networks of response activities—simulating real-world events to ensure stakeholders respond effectively under high-pressure circumstances. We support scenario-based training, tabletop exercises, functional exercises, and full-scale exercises. Exercise capabilities include: <ul style="list-style-type: none"> ▪ Scenario development, design, and simulation ▪ Event scripting and data integration ▪ Communications and information sharing through DisasterAWARE™ ▪ Subject matter expertise (e.g. best practices, hazard risk, etc.) 				
	Notable Changes:	None identified.				
	Challenges:	None identified.				



Capability		Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict	
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆		◆		
Response Support^b	Description:	<p>With a global mission, PDC supports disaster managers in Hawai'i and worldwide with timely and accurate hazard information. Through custom products, PDC can assess potential impact and needs allowing communities to quickly mobilize the right resources to protect lives and reduce losses.</p> <p>Response capabilities include:</p> <ul style="list-style-type: none"> ▪ Early warning notification (Email & SMS) ▪ Decision support (DisasterAWARE™) ▪ Custom mapping and products ▪ Hazard modeling ▪ Pre-impact needs assessments ▪ Interagency and civilian/military information sharing ▪ Subject matter expertise (SME; e.g. Comprehensive Disaster Management (CDM), Risk and Vulnerability Assessment (RVA), and Global health hazard evaluation) <p>Decision makers and disaster management practitioners may request PDC response support at response@pdc.org.</p>					
	Notable Changes:	None identified.					
	Challenges:	None identified.					
	Opportunities:	None identified.					
	Hazards:	Chronic Coastal Flooding, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆		



Capability	Description:	Type of Hazard Management Capability			Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
Pre- and post-impact modeling^b	Description:	Access modeled data through DisasterAWARE™ layers and analytical reports, including pre- and post-impact data, estimated losses and needs estimates for a variety of hazards including but not limited to: tsunami travel times, earthquake shaking and intensity, tropical cyclone storm surge, rainfall, and wind impacts, and volcanic ash cloud impacts. PDC's Hazus modeling expertise includes earthquakes, hurricane, flood inundation, and tsunami events. Our capabilities include Hazus modeling for damage and loss estimates, impacts to infrastructure and population, and direct economic losses. We also leverage Hawai'i-specific data for Hazus earthquake modeling that incorporates information about the state's unique built environment.						
	Notable Changes:	None identified.						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Earthquake, Event-based flood, Hurricane, Tsunami, Volcanic Hazards, Wildfire	◆	◆	◆			

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

b. Identified by the department/agency as one of the most effective capabilities for achieving mitigation goals.

Table A.1-28. Pacific Regional Integrated Sciences and Assessments Capabilities

Capability	Description:	Type of Hazard Management Capability			Effect on Loss Reduction ^a			Provides Funding for Mitigation
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
Description: The RISA program created in 1995 to pioneer innovative mechanisms for enhancing the value of climate information and products for understanding and responding to a variety of challenges associated with climate variability and change at the regional scale. The Pacific RISA program supports Pacific island and coastal communities in adapting to the impacts of climate variability and change. We strive to enhance Pacific communities' abilities to understand, plan for, and respond to changing climate conditions. Our work is conducted through interdisciplinary research and partnerships with local, national, and regional stakeholders.								
Pacific RISA Projects	Description:	Pacific RISA is engaged in many projects to support mitigation goals including but not limited to work on regional climate projections, human dimensions of drought, and integrating climate and disaster risk assessments.						
	Notable Changes:	None identified.						



Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Climate Change, Drought	◆		◆	
Pacific RISA Education & Outreach	Description:	The Pacific RISA website includes a number of education and outreach materials including case studies, “documoments,” and a newsletter.				
	Notable Changes:	None identified.				
	Challenges:	None identified.				
	Opportunities:	None identified.				
	Hazards:	Climate Change, Drought, Wildfire	◆		◆	

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.

Table A.1-29. Pacific Risk Management ‘Ohana Capabilities

Capability		Type of Hazard Management Capability	Effect on Loss Reduction ^a			Provides Funding for Mitigation
			Pre-Disaster	Post-Disaster	Support Facilitate Conflict	
	Description:	<i>PRiMO began in 2003 as an effort to explore opportunities to enhance communication and collaboration among the “Ohana, or family, of local, national, and regional organizations involved in risk management. PRiMO has since transformed into a true collaborative effort governed by a coordinating council of navigators. These key representatives from the region provide leadership, resources, and policy guidance to PRiMO as well as seek institutional support for PRiMO from within their respective organizations.</i>				
Hui	Description:	Hui members are experts in their field and together the members bridge the information gaps between science and service providers, decisions makers and other stakeholders. These working groups represent the heart of the PRiMO effort, where the various organizations come together to develop and implement actions plans that improve the resilience of the Pacific region. Hui include: Communications, Health Security, Indigenous Knowledge and the Environment, Information Access and Geospatial technology, Risk Assessment and Planning, and Training and Education.				



Capability		Type of Hazard Management Capability		Effect on Loss Reduction ^a			Provides Funding for Mitigation	
		Pre-Disaster	Post-Disaster	Support	Facilitate	Conflict		
	Notable Changes:	None identified.						
	Challenges:	None identified.						
	Opportunities:	None identified.						
	Hazards:	Chronic Coastal Flooding, Climate Change, Dam Failure, Drought, Earthquake, Event-based flood, Hazardous Materials, Health Risks, High Wind Storms, Hurricane, Landslide/Rockfall, Tsunami, Volcanic Hazards, Wildfire	◆		◆	◆		

a. Support is defined as programs, plans, policies, regulations, funding, or practices that help the implementation of mitigation actions, while facilitate is defined as programs, plans, policies, regulations, funding, or practices that make implementing actions easier.



A.2 State Funding Capabilities Detailed Tables

The following sections provide detailed information for discussions presented in Section 5 (Capability Assessment) of the 2018 HMP Update.

A.2.1 Projects Submitted for FEMA Funding

Table 5-A.2-1 shows projects submitted for funding during the performance period of the 2013 HMP. It should be noted that those projects whose status is listed as “withdrawn” or “submitted” are not included in the totals shown in Section 5 (Capability Assessment).

Table 5-A.2-1. Projects Submitted for Funding during Performance Period of 2013 HMP

Grant	DR# or Fiscal Year	Project Name	Subapplicant	Activity Type	Status	Total Project Cost
HMGP	1743	County of Hawai'i Critical Facility Retrofit-Waiakea High Gym	Department of Education	Retrofit	Closed	\$430,523
HMGP	1743	State Management Costs 1743	HI-EMA	Management Costs	Closed	\$22,385
HMGP	1967	Facility Exterior Hardening-Community Clinic of Maui	Community Clinic of Maui	Facility Exterior Hardening	Closed	\$45,306
HMGP	1967	Harden State Civil Defense Warehouse Phase II ^a	HI-EMA	Hardening	Closed	\$730,000
HMGP	1967	Siren Upgrade Project-5% ^a	HI-EMA	Warning Systems	Closed	\$59,980
HMGP	1967	State Management Costs	HI-EMA	Management Costs	Closed	\$40,801
PDM	2014	Hawai'i State Civil Defense PDM Management Costs	HI-EMA	Management Costs	Closed	\$0.00
PDM	2014	County of Hawai'i Multihazard Mitigation Plan	County of Hawai'i Civil Defense	Local Mitigation Planning	Closed	\$81,000
PDM	2016	State Hazard Mitigation Plan Update	HI-EMA	State Mitigation Planning	Ongoing	\$267,000
PDM	2016	City and County of Honolulu Mitigation Plan Update	C&C Department of Emergency Management	Local Mitigation Planning	Ongoing	\$200,000
PDM	2016	State Management Costs PDM 2016 ()	HI-EMA	Management Costs	Ongoing	\$16,600



Grant	DR# or Fiscal Year	Project Name	Subapplicant	Activity Type	Status	Total Project Cost
HMGP	4062	State Mgmt. Costs 4062	HI-EMA	Management Costs	Closed	\$34,575
HMGP	4062	Hawai'i SCD Tsunami Hazard Maps	HI-EMA	State Mitigation Planning	Closed	\$50,000
HMGP	4062	County of Kaua'i Local Wind Amendments for Adoption (5%)	County of Kaua'i	Local Mitigation Planning	Closed	\$36,000
HMGP	4201	Hawai'i State Building Code Administrative Rules to Implement Updated Standards for Hurricane Mitigation – 7%	Department of Accounting and General Services	State Mitigation Planning	Ongoing	\$100,000
HMGP	4201	University of Hawai'i System-Wide Multi-Hazard Mitigation Plan Update	University of Hawai'i	University Mitigation Planning	Withdrawn	\$196,000
HMGP	4201	Maui Food Bank Generator Installation	Maui Food Bank	Generator	Withdrawn	\$40,000
HMGP	4282	C&C Board of Water Supply Generator- Barbers Point Booster	C&C Board of Water Supply	Generator	Submitted	\$300,000
HMGP	4282	Maui Dept. of Public Works Baseyard Generator	Maui Department of Public Works	Generator	Submitted	\$150,000
HMGP	4282	Hardening of Waikiki Fire Station #7- Doors	Honolulu Fire Department	Hardening/ Retrofit	Submitted	\$105,000
HMGP	4282	Generator Hook-Ups for Hawi, Piihonua #3, Honokohau, and Panaewa Wells	Hawai'i Department of Water Supply	Generator Hook-Ups	Submitted	\$300,000
HMGP	4282	Hanakapiai Stream Gage-Warning	County of Kaua'i	Stream Gage-Warning	Submitted	\$37,500
HMGP	4282	Hardening of the Kaua'i War Memorial Convention Hall-Hurricane Sheltering	County of Kaua'i	Hardening for Hurricane Sheltering	Submitted	\$200,000
PDM	2017	Update of County of Maui Mitigation Plan	Maui Emergency Management Agency	Local Mitigation Planning	Submitted	\$75,000
PDM	2017	Update of County of Kaua'i Mitigation Plan	Kaua'i Emergency Management Agency	Local Mitigation Planning	Submitted	\$100,000



Grant	DR# or Fiscal Year	Project Name	Subapplicant	Activity Type	Status	Total Project Cost
PDM	2017	Update of County of Hawai'i Mitigation Plan	Hawai'i Civil Defense Agency	Local Mitigation Planning	Submitted	\$153,000
PDM	2017	State Management Costs	HI-EMA	Management Costs	Submitted	\$31,500
PDM	2017	Hardening of the Olomana Fire Station	Honolulu Fire Department	Generator	Submitted	\$70,000
PDM	2017	Hardening of the Wilcox Medical Center	HI-EMA	Generator	Submitted	\$12,816,075

a. CIP Funding provided local match for project

DRAFT

A.2.2 Federal Pre- and Post-Disaster Funding Resources

Table A.2-2 shows the evaluation of federal funding resources that the state has access to or is eligible to use to fund mitigation efforts.

Table A.2-2. Evaluation of Funding Resources for Mitigation Efforts

Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
Hazard Mitigation Grant Program (HMGP)	FEMA		◆
	<i>Description: To provide funds to states, territories, Indian tribal governments, and communities to significantly reduce or permanently eliminate future risk to lives and property from natural hazards. HMGP funds projects in accordance with priorities identified in state or local hazard mitigation plans, and enables mitigation measures to be implemented during the recovery from a disaster.</i>		
Pre-Disaster Mitigation Grant (PDM)	FEMA	◆	
	<i>Description: To provide funds to states, territories, tribal governments, and communities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations.</i>		
Flood Mitigation Assistance Grant (FMA)	FEMA	◆	
	<i>Description: To implement cost-effective measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the National Flood Insurance Program (NFIP).</i>		
Post-Disaster Economic Recovery Grants and Assistance	Economic Development Administration		◆
	<i>Description: Grant funding to assist with the long-term economic recovery of communities, industries, and firms adversely impacted by disasters.</i>		
U.S. Small Business Administration Loan Programs	Small Business Administration		◆
	<i>Description: Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, business of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, economic injury, machinery and equipment, and inventory and business assets. Funding: Homeowners may apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to \$40,000 to replace or repair personal property-such as clothing, furniture, cars, and appliances – damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations.</i>		
Public Assistance Grants	FEMA		◆
	<i>Description: Grants for the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain private nonprofit organizations. Mitigation funding is available for work related to damaged components of eligible buildings/structures.</i>		
Community Development Block Grants Program (Non-entitled Counties)	U.S. HUD	◆	
	<i>Description: In Hawai'i, three counties qualify for this program - Hawai'i, Kaua'i, and Maui. Funds are allocated using a formula based on population, poverty, and housing overcrowding, with the poverty factor carrying a double weight. CDBG funds may be used for activities which include, but are not limited to:</i> <ul style="list-style-type: none"> ▪ Acquisition of real property ▪ Relocation and demolition ▪ Rehabilitation of residential and non-residential structures 		

Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
	<ul style="list-style-type: none"> Construction of public facilities and improvements, such as water and sewer facilities, streets, neighborhood centers, and the conversion of school buildings for eligible purposes Public services, within certain limits Activities relating to energy conservation and renewable energy resources Provision of assistance to nonprofit and profit-motivated businesses to carry out economic development and job creation/retention activities <p><i>Each activity must meet one of the following national objectives for the program: benefit low- and moderate-income persons, prevention or elimination of slums or blight, or address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available</i></p>		
Community Development Block Grants/ Entitlement Grants	U.S. HUD <i>Description: The City and County of Honolulu qualifies for this program. Grants to entitled cities and urban counties to develop viable communities (e.g., decent housing, suitable living environments, expanded economic opportunities), principally for low- and moderate-income persons. Activities as the same as for the non-entitled counties.</i>	◆	
Community Development Block Grant Disaster Recovery Program	U.S. HUD <i>Description: HUD provides flexible grants to help cities, counties, and States recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. In response to Presidentially declared disasters, Congress may appropriate additional funding for the Community Development Block Grant (CDBG) Program as Disaster Recovery grants to rebuild the affected areas and provide crucial seed money to start the recovery process.</i>		◆
Public Housing Capital Fund Emergency/Natural Disaster Funding	U.S. HUD <i>Description: Funding to public housing agencies that confront an emergency situation or a natural disaster.</i>		◆
Single Family Housing Repair Loans and Grants (Section 504 Rural Housing Loans and Grants)	U.S. Department of Agriculture <i>Description: Repair loans, grants, and technical assistance for very low-income homeowners living in rural areas to repair their homes and remove health and safety hazards.</i>	◆	◆
Guaranteed Single Family Housing Loans (Section 502 Rural Housing Loans)	U.S. Department of Agriculture <i>Description: Also known as the Section 502 Direct Loan Program, this program assists low- and very-low-income applicants obtain decent, safe and sanitary housing in eligible rural areas by providing payment assistance to increase an applicant's repayment ability.</i>	◆	
Farm Ownership Loans	U.S. Department of Agriculture <i>Description: Direct loans, guaranteed/insured loans, and technical assistance to farmers to develop, construct, improve, or repair farm homes, farms, and service buildings and to make other necessary improvements.</i>	◆	
HOME Investment Partnerships Program	U.S. HUD <i>Description: Grants to states, local government, and consortia for permanent and transitional housing (including support for property acquisition, improvements, demolition, and relocation) for very low and low-income persons.</i>	◆	
Rural Development Assistance—Housing	U.S. Department of Agriculture <i>Description: Grants, loans, and technical assistance for addressing rehabilitation and health and safety needs in primarily low-income rural areas. Declaration of major disaster necessary.</i>		◆

State of Hawai'i

2018 | Hazard Mitigation Plan

Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
Rural Development Assistance—Utilities	U.S. Department of Agriculture	◆	
	<i>Description: Direct and guaranteed rural economic loans and business enterprise grants to address utility issues and development needs.</i>		
Assistance—Community Facility Direct Loans/Grants	U.S. Department of Agriculture	◆	
	<i>Description: Grants, direct and guaranteed loans, and technical assistance to construct, enlarge, or improve community facilities for healthcare, public safety, and public services in primarily low-income rural areas.</i>		
Community Development Block Grant—Section 108 Loan Guarantees	U.S. HUD	◆	
	<i>Description: Loan guarantees to public entities for economic development, housing rehabilitation, public facilities, and large-scale physical development projects (including mitigation measures).</i>		
Homeland Security Grant Program	FEMA	◆	
	<i>Description: Grants to enhance the ability of states, territories, and urban areas to prepare for, prevent, and respond to terrorist attacks and other major disasters. Includes State Homeland Security Program, Urban Areas Security Initiative, Law Enforcement Terrorism Prevention Program, Metropolitan Medical Response System, and Citizen Corps Program grant programs.</i>		
Infrastructure Protection Program	FEMA	◆	
	<i>Description: Grants to strengthen the nation's ability to protect critical infrastructure facilities and systems. Includes Transit Security Grant Program, Port Security Grant Program, Intercity Bus Security Grant Program, Trucking Security Program, and Buffer Zone Protection Program grant programs.</i>		
Assistance to Firefighters Grant Program	FEMA	◆	
	<i>Description: Grants to local fire departments to protect citizens and firefighters against the effects of fire and fire-related incidents</i>		
Fire Prevention and Safety Grant Program	FEMA	◆	
	<i>Description: Grants for projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury.</i>		
Fire Management Assistance Grant Program	FEMA		◆
	<i>Description: Grants for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster.</i>		
Hazardous Materials Emergency Preparedness Program	U.S. Department of Transportation	◆	
	<i>Description: Project grants and technical assistance to enhance hazardous materials emergency planning and training</i>		
Nonstructural Alternatives to Structural Rehabilitation of Damaged Flood Control Works	U.S. Army Corps of Engineers		◆
	<i>Description: Direct planning and construction grants for nonstructural alternatives to the structural rehabilitation of flood control works damaged in floods or coastal storms.</i>		
Reimbursement for Firefighting on Federal Property	U.S. Fish and Wildlife Service		◆
	<i>Description: Provides reimbursement only for direct costs and losses over and above normal operating costs.</i>		
National Dam Safety Program	FEMA	◆	
	<i>Description: National Dam Safety Program (NDSP). The NDSP, which is led by FEMA, is a partnership of the states, federal agencies, and other stakeholders to encourage individual and community responsibility</i>		

State of Hawai'i

2018 | Hazard Mitigation Plan

Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
	<i>for dam safety. Grant assistance to the States: Provides vital support for the improvement of the State dam safety programs that regulate most of the dams in the United States.</i>		
Land and Water Conservation Fund	Land and Water Conservation Fund	◆	
	Description: Funding to states for outdoor recreational development, renovation, land acquisition, and planning. Funding: The fund is authorized at \$900 million annually, a level that has been met only twice during the program's 40-year history. The program is divided into two distinct funding pots: state grants and federal acquisition funds.		
The Forest Legacy Program	U.S. Forest Service	◆	
	Description: Federal program in partnership with states supports efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, Forest Legacy is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. Forest Legacy helps states develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most Forest Legacy Program conservation easements restrict development, require sustainable forestry practices, and protect other values. Funding: To qualify, landowners are required to prepare a multiple resource management plan as part of the conservation easement acquisition. The federal government may fund up to 75% of project costs, with at least 25% coming from private, state, or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use.		
Transportation Trust Fund	Federal Highway Administration	◆	
	Description: Transportation Trust Fund funds grants through a competitive application-based process administered by the Local Aid District Offices. County Aid Program- Administer the County Aid Program for road and bridge infrastructure improvements under county jurisdiction. Each County receives an annual formula based allotment that takes into consideration county road lane mileage and population. The County Aid Program is funded through the Transportation Trust Fund and provides funding for eligible costs of projects included in the county's approved Annual Transportation Program.		
Department of Homeland Security Grant Program (HSGP)	Department of Homeland Security	◆	
	Description: The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. HSGP is composed of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration.		
Emergency Management Performance Grant Program (EMPG)	Department of Homeland Security	◆	
	Description: Grants are available to State, local, territorial, and tribal governments in preparing for all hazards. The Federal Government, through the EMPG Program, provides necessary direction, coordination and guidance, and provides necessary assistance, as authorized so that a comprehensive emergency preparedness system exists at all levels for all hazards.		
Coastal Resilience Grants	NOAA	◆	
	Description: The NOAA Coastal Resilience Grants program supports projects that increase coastal resilience and restore habitat.		

Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
Small Civil Works Projects; Continuing Authorities Program (CAP)	U.S. Army Corps of Engineers	◆	
	<p><i>Description:</i> The Secretary of the Army has been delegated the authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization. Each authority has its own requirements and strict limits on responsibilities and financial contributions of the federal partners: (Section 14—Emergency Streambank and Shoreline Erosion; (2) Section 103—Hurricane and Storm Damage Reduction; (3) Section 107—Small Navigation Improvements; (4) Section 111—Shore Damage Attributable to Federal Navigation Projects; (5) Section 204—Regional Sediment Management & Beneficial Uses of Dredges Materials; (6) Section 205—Small Flood Damage Reduction Projects; (7) Section 206—Aquatic Ecosystem Restoration; (8) Section 208—Snagging and Clearing for Flood Control; (9) Section 1135—Project Modification for Improvement of the Environment (USACE, no date). Submittal deadlines are typically in May-June.</p> <p>Cost shares are typically 50% for feasibility and 65% for construction. Most projects are less than \$15,000,000.</p>		
Cooperative Forestry State Fire Assistance	US Forest Service	◆	
	<p><i>Description:</i> The Cooperative Forestry program manages a number of programs including The Forest Stewardship Program, The Forest Legacy Program, The Community Forest Program, The Urban and Community Forestry Program, Ecosystem Services and Markets, and Wood Innovations</p>		
Floodplain Management Services	U.S. Army Corps of Engineers, Honolulu District (USACE)	◆	
	<p><i>Description:</i> Modeling, delineation and mapping of floodplains. There is no limit on funding although typical projects are \$100,000 or less. Submittal deadlines are typically in June-July. There are no state or local cost shares.</p>		

A.3 State Pre- and Post-Disaster Capabilities and Core Mitigation Capabilities

The National Preparedness Goal (FEMA, 2015) identifies seven core capabilities for the mitigation mission area:

- **Threats & Hazard Identification**—Identify the threats and hazards that occur in the geographic area; determine the frequency and magnitude; and incorporate this into analysis and planning processes so as to clearly understand the needs of a community or entity (FEMA, 2016)
- **Risk & Disaster Resilient Assessment**—Assess risk and disaster resilience so that decision makers, responders, and community members can take informed action to reduce their entity’s risk and increase their resilience (FEMA, 2016)
- **Planning**—Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or tactical-level approaches to meet defined objectives (FEMA, 2016)
- **Community Resilience**—Enable the recognition, understanding, communication of, and planning for risk and empower individuals and communities to make informed risk management decisions necessary to adapt to, withstand, and quickly recover from future incidents (FEMA, 2016)
- **Public Information & Warning** —Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically

appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available (FEMA, 2016)

- **Long-term Vulnerability Reduction**—Build and sustain resilient systems, communities, and critical infrastructure and key resources lifelines so as to reduce their vulnerability to natural, technological, and human-caused threats and hazards by lessening the likelihood, severity, and duration of the adverse consequences (FEMA, 2016)
- **Operational Coordination**—Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities (FEMA, 2016).

Table A.3-1 shows the State of Hawai'i mitigation capabilities and the mitigation mission area core capability that they support. This information is included to support the development and enhancement of the State of Hawai'i THIRA and State Preparedness Report.

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Table A.3-1. State of Hawai'i Mitigation Capabilities by Mitigation Mission Area Core Capability

Capability ^a	Mitigation Core Capabilities ^c						
	Threats & Hazard Identification	Risk & Disaster Resilient Assessment	Planning	Community Resilience	Public Information & Warning	Long-term Vulnerability Reduction	Operational Coordination
Aircraft Alert System (HI-EMA)					◆		
Building Code Committee (SEAOH)						◆	
Building Code Council (DAGS)						◆	◆
Capital Improvements Budget (DBF)			◆			◆	
Clean Water Act Section 401 Water Quality Certifications (DOH EHA)					◆		
Climate 21C (OCCL)	◆	◆	◆	◆	◆	◆	
Coastal Lands Program (OCCL)		◆		◆		◆	
Coastal Zone Management Program (OP)	◆		◆	◆		◆	
Commission on Water Resources Management (CWRM)	◆	◆	◆			◆	◆
Community Development District Program (HCDA)			◆				
Critical Systems Vulnerability Assessment (HI-EMA)	◆	◆	◆			◆	
Dam Safety Program (Engineering)		◆	◆		◆	◆	
Damage Assessments (DAGS)		◆		◆			
Department Emergency Operations Plan Template (HI-EMA)			◆				
Department of Hawaiian Home Lands Land Trust (DHHL)	◆		◆	◆			



Capability ^a	Mitigation Core Capabilities ^c						
	Threats & Hazard Identification	Risk & Disaster Resilient Assessment	Planning	Community Resilience	Public Information & Warning	Long-term Vulnerability Reduction	Operational Coordination
Department of Health All-Hazards Training and Exercise Program (DOH HRA)	◆	◆					◆
Department Operations Center (HI-EMA) Planning Guidance and Resources (HI-EMA)			◆				
Disaster Response Committee (SEAOH)		◆		◆			
Energy Assurance Program (HSEO)	◆	◆	◆			◆	
Epidemiological Surveillance (DOH HRA)	◆	◆					◆
Fire Program (DOFAW)	◆	◆	◆	◆	◆	◆	
Forestry Program (DOFAW)	◆	◆	◆	◆		◆	
Geography Department (UH)	◆				◆		
Get Ready Website (HI-EMA)				◆	◆		
GoHawai'i Mobile App (HTA)					◆		
Hawai'i Environmental Policy Act (DOH OEQC)			◆			◆	
Hawai'i Hurricane Relief Fund (DCCA)				◆			
Hawai'i Emergency Planning and Community Right to Know Act (DOH EHA)				◆	◆		
Hawai'i Advisory Council on Emergency Management (HI-EMA)	◆	◆					◆
Hawai'i Catastrophic Hurricane Plan (HI-EMA)			◆				◆



Capability ^a	Mitigation Core Capabilities ^c						
	Threats & Hazard Identification	Risk & Disaster Resilient Assessment	Planning	Community Resilience	Public Information & Warning	Long-term Vulnerability Reduction	Operational Coordination
Hawai'i Earthquake & Tsunami Advisory Committee (HI-EMA)		◆				◆	◆
Hawai'i Hazards Awareness and Resilience Program (HI-EMA)		◆	◆	◆	◆		
Hawai'i Institute of Geophysics and Planetology (UH)	◆	◆			◆		
Hawai'i State Legislature Grant-in-Aid Program (HSL)		◆	◆	◆		◆	
Hawai'i State Planning Act (OP)			◆	◆		◆	◆
Hawai'i Statewide Geographic Information System Program (OP)	◆	◆	◆				◆
Hazardous Materials Risk Management Program (DOT)					◆		
Hazardous Waste Section Regulations (DOH EHA)	◆						◆
Hospital Preparedness Program (DOH HRA)		◆	◆				◆
Immunization Programs (DOH HRA)				◆	◆		
Laboratory Preparedness and Response Program (DOH HRA)		◆	◆				◆
Land Acquisition Program (DAGS)						◆	
Mandatory Seller Disclosures in Real Estate Transactions (DCCA)	◆				◆		
Mass Feeding Operations (DOH EHA)							◆



Capability ^a	Mitigation Core Capabilities ^c						
	Threats & Hazard Identification	Risk & Disaster Resilient Assessment	Planning	Community Resilience	Public Information & Warning	Long-term Vulnerability Reduction	Operational Coordination
Medical Countermeasure Points of Distribution (DOH HRA)			◆				◆
National Disaster Preparedness Training Center (UH)				◆			◆
National Flood Insurance Program (Engineering)	◆	◆	◆	◆		◆	◆
Native Ecosystems and Management (DOFAW)				◆		◆	
Natural Disaster Economic Recovery Strategy (HI-EMA)		◆	◆	◆			
NPDES Wastewater Discharge Permits (DOH EHA)						◆	
Pacific Disaster Center Technical Capabilities (PDC)	◆	◆	◆	◆			
Pacific RISA (Pacific RISA)	◆	◆			◆		
Polluted Runoff Control Program (DOH EHA)						◆	
PRiMO (PRiMO)	◆	◆	◆	◆		◆	
Radiation Section- Radiation Assessment Team (DOH EHA)		◆					
Risk MAP (Engineering)	◆	◆	◆			◆	
Roadside Fuel Reduction Program (DOT)				◆			
Safe Drinking Water Emergency FAQs (DOH EHA)					◆		



Capability ^a	Mitigation Core Capabilities ^c						
	Threats & Hazard Identification	Risk & Disaster Resilient Assessment	Planning	Community Resilience	Public Information & Warning	Long-term Vulnerability Reduction	Operational Coordination
School of Ocean and Earth Science Technology (UH)	◆	◆	◆	◆	◆		
Shelter Upgrade Program (DAGS)				◆			
Shoreline Certification (Land Division)						◆	
Silver Jackets (Engineering)			◆				◆
State Board of Land and Natural Resources (BLNR)						◆	
State Fire Council (SFC)	◆					◆	◆
State Land Use Law (OP)			◆			◆	
State Mitigation Forum (HI-EMA)		◆	◆			◆	◆
State of Hawai'i Emergency Operations Plan (HI-EMA)			◆				◆
State-owned Building Insurance (DAGS)				◆			
The Center for the Study of Active Volcanoes (UH)	◆				◆		
Threat Hazard Identification and Risk Assessment (HI-EMA)	◆		◆				
Training & Exercise Plan (HI-EMA)			◆		◆		◆
Transportation Asset Climate Change Risk Assessment Project (O'ahuMPO)			◆				
Underground Storage Tank Section Regulations (DOH EHA)	◆						
Vector Control Program (DOH EHA)		◆					



Capability ^a	Mitigation Core Capabilities ^c						
	Threats & Hazard Identification	Risk & Disaster Resilient Assessment	Planning	Community Resilience	Public Information & Warning	Long-term Vulnerability Reduction	Operational Coordination
Weatherization Assistance Program (OCS)				◆	◆		
Western States Seismic Policy Council (HI-EMA)		◆				◆	

Acronym in parenthesis refers to the state department detail table under which the capability is discussed (see Section A.1 (State Capability Assessment Detailed Tables)). Listing under a particular department or agency should not be construed to imply that the department is the sole administrator of the capability. Additionally, in some instances the capability is associated with the duties of the department but the department does not have administrative authority over the capability.

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A.4 Criteria for Prioritizing Planning and Project Grants

The following criteria are used by the State Hazard Mitigation Forum (Forum) to rank planning and project proposals for FEMA mitigation grant funding programs. Past practices of the State have been to give the highest priority for funding for HMGP opportunities to the county where the event occurred and to give additional weight to those projects that propose a higher contribution of cost-share. All counties are considered to be equal priorities for other mitigation grant programs and projects are evaluated on their individual merits.

It should be noted that, at the time of the update of the 2018 HMP Update, the HI-EMA was working on revisions to the ranking protocol and criteria described below. It should also be noted the HI-EMA Director has the final authority on those projects that submitted for grant funding after the Forum review and ranking. See Section 5 (Capability Assessment) for more details.

Projects are assigned a numeric value from 1 to 5, where 1 is the lowest and 5 is the highest, for the following ranking criteria:

- **Environmental/Historic Preservation**—Must be environmentally sound and in conformance with Floodplain Management, Historical Preservation, and Protection of Wetlands and Endangered Species laws and regulations.
- **Resolve Significant Problems**—Addresses a problem that has been repetitive or a problem that poses a significant risk to public health and safety if left unresolved.
- **Long-range**—Solution should be long-range.
- **Cost-effective**—Be cost-effective and substantially reduce the risk of future damage, loss, hardship, or suffering from a major disaster.
- **Priority in State Plan**—Types of projects which have been determined high priority for the State of Hawai'i
 - Hardening or retrofit of essential facilities such as fire station, EOCs, communications facilities, schools, shelters, hospitals, etc.
 - Public awareness/education
 - Flood control
 - Development and/or improvement of warning systems.

A.5 Local Capability Assessment Detailed Table

County policies, programs, funding, and other capabilities are used to support and accomplish hazard mitigation goals and objectives. A list of foundational capabilities for hazard mitigation was developed based on FEMA local mitigation planning guidance, professional judgement, and suggestions from the State Hazard Mitigation Forum. This list was not intended to be inclusive of every capability discussed in the local HMPs or every capability that may be used to support hazard mitigation at the local level.

Table A.5-1 includes a summary of foundational capabilities relevant for hazard mitigation in the State and if these capabilities were identified and discussed in the County local HMPs. It is important to note that the absence of a capability does not mean that the capability does not exist in the county. It simply means that no discussion was found describing or identifying the capability in the local HMP. This suggests that the capability may not be being

used to its full potential to support mitigation within the County or it may suggest that the department or agency responsible for implementing the capability may not have been fully involved in the local HMP planning process. In addition, it is important to note that codes, regulations, and/or plans may have been updated since the time of their publication. Notes are provided below the table on some such updates.

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Table A.5-1 - Foundational Capabilities as Identified and Reflected in County Local Hazard Mitigation Plans

Foundational Capability	County of Kaua'i	City and County of Honolulu ^a	County of Kaua'i	County of Maui	County of Hawai'i
Building Code ^b	Yes 2006 IBC	Yes Indicates that the 2003 IBC with wind maps was adopted over the performance period of the 2004 plan	Yes 2006 IBC	Yes 2006 IBC and IRC as amended	Yes Updating of the County Building Code in accordance with HRS Chapter 107 is identified as a county priority
Capital Improvement Program	Yes Considering ways to leverage resources for improving facilities and to partner for improving communication systems in the county	Yes Discusses including hazard mitigation projects in CIP	Yes Considering ways to leverage resources for improving facilities and to partner for improving communication systems in the county	Yes Discusses County of Maui and State CIP and includes an action to include hazard mitigation initiatives in the CIP	Yes Discusses including hazard mitigation projects in CIP
Climate Action/Resilience Plan	Yes County of Kaua'i Multi-Hazard Mitigation and Resilience Plan (2015); Hanalei Watershed Hui Community Disaster Resilience Plan	No	Yes County of Kaua'i Multi-Hazard Mitigation and Resilience Plan (2015); Hanalei Watershed Hui Community Disaster Resilience Plan	No	No
Community Development Plans	Yes Climate change and coastal hazards assessment to be incorporated into three community development plans	Yes Natural hazard policies for Community Development Plans	Yes Climate change and coastal hazards assessment to be incorporated into three community development plans	Yes Risk assessment results presented at Community Plan level so that information can be integrated as appropriate	Yes Incorporation of the local HMP into Community Development Plans to make all natural hazards explicit factors for planning is identified as a county priority
Community Wildfire Protection Plan ^c	Yes Community Wildfire Protection Plan for Kaua'i County (2009); Updates ongoing at time of plan development	Yes Limited details provided in Volume I	Yes Community Wildfire Protection Plan for Kaua'i County (2009); Updates ongoing at time of plan development	Yes West Maui Community Wildfire Protection Plan, June 2014; Upcountry/Central Maui	Yes Indicated there are plans for Ka'u and South Kona, Ocean View, and Hawai'i Volcanoes National Park



Foundational Capability	County of Kaua'i	City and County of Honolulu ^a	County of Kaua'i	County of Maui	County of Hawai'i
				and South Maui plans in development	
Comprehensive Emergency Management Plan/ Emergency Operations Plan	Yes County of Kaua'i Emergency Operations Plan-Basic Plan (2007); Kaua'i County Hurricane Response Logistics Concept of Operations (CONOPS) 2013	Yes City & County Emergency Operations Plan (2007)	Yes County of Kaua'i Emergency Operations Plan-Basic Plan (2007); Kaua'i County Hurricane Response Logistics Concept of Operations (CONOPS) 2013	Yes County of Maui Emergency Operations Plan (2009)	Yes County of Hawai'i Emergency Operations Plan (1989)
Continuity of Operations Plan	Yes Trainings offered to Kaua'i Visitor and Business Industry, considering training for county agency being considered	No	Yes Trainings offered to Kaua'i Visitor and Business Industry, considering training for county agency being considered	No Discusses encouraging critical facility owners to create or enhance continuity of operations plans based on information included in risk assessment	No
County Owned Building Insurance	No	No	No	No	No
Economic Development Plan	Yes Kaua'i Economic Development Plan 2005-2015: Kauai's Comprehensive Economic Development Strategy (Ceds) Report (2004)	No Aspects of economic development are discussed in the context of the General Plan	Yes Kaua'i Economic Development Plan 2005-2015: Kauai's Comprehensive Economic Development Strategy (Ceds) Report (2004)	Yes Maui General Plan 2030, Economic Development Elements; Hawai'i Comprehensive Economic Development Strategy, 2010	No Aspects of economic development are discussed in the context of the General Plan
Firewise ^d	No State Firewise Coordinator mentioned	No Mentioned but does not describe participation	No State Firewise Coordinator mentioned	Yes Not currently participating; however, an action was included to revitalize the program	Yes
Flood Damage Prevention Ordinance	Yes Includes higher standards	Yes	Yes Includes higher standards	Yes Participates in CRS	Yes



Foundational Capability	County of Kaua'i	City and County of Honolulu ^a	County of Kaua'i	County of Maui	County of Hawai'i
		Includes discussion on some compliance challenges			Includes higher standards; Participates in CRS
General Plan	Yes County of Kaua'i General Plan 2015 technical information used to inform the local HMP and hazard mitigation will be incorporated into the General Plan update	Yes Natural hazard policies for General Plan	Yes County of Kaua'i General Plan 2015 technical information used to inform the local HMP and hazard mitigation will be incorporated into the General Plan update	Yes Discusses integration of hazard mitigation into General Plan	Yes Discusses integration of hazard mitigation into General Plan
Get Ready Website	No	No	No	No	No
Hawai'i Hazards Awareness and Resilience Program	No	No	No	Yes Includes action to promote participation	No
Hawai'i State Legislature Grant-in-Aid (GIA) Program	No	No	No	Yes Only the capital improvement project portion is discussed	No
Legacy Lands Conservation Program	No	No	No	No	No
Land Acquisition Plan / Willing Seller Program	No	Yes Kahuku Flood Control Project through acquisition	No	Yes Action identified to develop a flood acquisition/elevation plan	No Discussed generally, but No existing plan or program
Post-Disaster Recovery	Yes Post-Disaster Recovery Plan development identified as ongoing action; County of Kaua'i Disaster Debris Action Manual (2001)	No	Yes Post-Disaster Recovery Plan development identified as ongoing action; County of Kaua'i Disaster Debris Action Manual (2001)	Yes Post-Disaster Reconstruction Guidelines and Protocols for Conservation of Coastal Resources and Protection of Coastal Communities; Natural Disaster Economic	Yes Discussed in the Emergency Operations Plan and County of Hawai'i Disaster Debris Action Manual (2001)



Foundational Capability	County of Kaua'i	City and County of Honolulu ^a	County of Kaua'i	County of Maui	County of Hawai'i
				Recovery Strategy, December 2014	
Public Health Preparedness Plan ^e	Yes State of Hawai'i Health Risk and Vulnerability Assessment (2014)	No	Yes State of Hawai'i Health Risk and Vulnerability Assessment (2014)	No	Yes Discussed in terms of hazardous materials
Real Estate Disclosure ^f	Yes	Yes Real Estate Transactions Act	Yes	Yes Special Flood Hazard Area and Tsunami Inundation Area Exposure	No
Risk MAP Program	No	No	No	No	No
Sea Level Rise Study/Plan	Yes A technical study on sea level rise scenarios was commissioned to inform the General Plan and Community Development Plans; Kaua'i Climate Change and Coastal Hazard Assessment Sea Grant Publication	No Discussed generally	Yes A technical study on sea level rise scenarios was commissioned to inform the General Plan and Community Development Plans; Kaua'i Climate Change and Coastal Hazard Assessment Sea Grant Publication	Yes Sea level rise exposure assessment conducted as part of planning process; action identified to conduct community vulnerability assessments	No Discussed generally
Shoreline Setbacks	Yes Action identified to plan for variable setbacks and to update the Coastal Erosion Mitigation Plan; Erosion-based shoreline building setback ordinance has been adopted since plan development	Yes 60-foot setback for new subdivisions, which may not be adequate for increased erosion rates or longer lifespan facilities	Yes Action identified to plan for variable setbacks and to update the Coastal Erosion Mitigation Plan; Erosion-based shoreline building setback ordinance has been adopted since plan development	Yes Maui has erosion based setbacks that exceed minimum requirements	Yes Standard 40-foot setback is required, suggestion that this may not be sufficient in some areas
Site Plan Review	No	Yes Site Development Division	No	Yes County of Maui Code Title 12 and Title 16	No



Foundational Capability	County of Kaua'i	City and County of Honolulu ^a	County of Kaua'i	County of Maui	County of Hawai'i
Special Management Area Permits ^g	Yes Erosion planning and management activities through administration of the SMA	Yes Erosion planning and management activities through administration of SMA; Discussion of required permitting at different stage of development	Yes Erosion planning and management activities through administration of the SMA	No Discusses coastal zone management act generally	Yes Very limited discussion
State Hazard Mitigation Forum	Yes Extended into the Kaua'i Disaster Management Committee	Yes	Yes Extended into the Kaua'i Disaster Management Committee	Yes Mentioned as an existing program	No
Storm Ready/ Tsunami Ready ^h	No	No	No	Yes Mentions StormReady and TsunamiReady designations	No
Stormwater Management / Low Impact Development	No Drainage systems discussed in limited fashion	Yes Drainage systems approaches discussed	No Drainage systems discussed in limited fashion	Yes County of Maui Code Title 18 and Title 16; Maui Storm Water Management Program Plan	Yes Hilo Drainage and Flood Control Report; Drainage Master Plan for the County of Hawai'i (1971); Current drainage standards are based on a 10-year storm
Subdivision Requirements ⁱ	Yes	Yes Site Development Division; Uniform Land Sales Practices Act	Yes	Yes County of Maui Code Title 18	Yes Notes that Subdivision Chapter needs to be revised to include requirements for subdivisions within SFHAs
Threat & Hazard Identification & Risk Assessment (THIRA) ^j	No	No	No	Yes County of Maui THIRA	No
Water Management Plan	Yes	Yes	Yes	No	Yes



Foundational Capability	County of Kaua'i	City and County of Honolulu ^a	County of Kaua'i	County of Maui	County of Hawai'i
	County of Kaua'i Drought Mitigation Strategies document (2004)	Honolulu Board of Water Supply	County of Kaua'i Drought Mitigation Strategies document (2004)	Discussion included on Water Conservation and Watershed Management Education	County of Hawai'i Drought Mitigation strategies (2004); Indicates this document is being updated pending funding
Zoning Code or Land Use Ordinance^k	Yes	Yes Last update was 2004	Yes	Yes County of Maui Code Title 19	Yes Existing mechanisms within the General Plan and Zoning Code allow the County to direct new development proposals away from known natural hazard locations

Note: Yes =Capability discussed in hazard mitigation plan, No = capability not discussed in hazard mitigation plan; Information presented in this table reflects information as it is presented in the County hazard mitigation plans unless otherwise noted. Codes, regulations, and/or plans may have been updated since the time of their publication.

- a. An interim City and County of Honolulu HMP was developed and approved in 2017; however, this update included only limited information. Volume 1 of the 2012 local HMP was reviewed for this assessment.
- b. The State Building Code is included in HAR §3-180 State Building Code; Counties may make local amendments; At the time of the 2018 HMP Update, not all counties have adopted the current version of the State Building Code, which includes provisions related to the special wind hazard in the State (See Section 4.9 [High Wind Storms] for additional discussion on wind hazards in the state. It should also be noted that the County of Kaua'i implemented a HMGP 5% initiative project to develop and adopt local wind amendments.
- c. Progress on the development of Community Wildfire Protection Plans has occurred since the last updates of the County hazard mitigation plans. One new plan (Western Maui) was completed in 2015 (1 in County of Maui), 6 new plans (Kaua'i, Western O'ahu, Moloka'i, South Maui, Upcountry Maui, and North Kona) were completed in 2016 (1 covering County of Kaua'i, 1 in the City and County of Honolulu, 3 in County of Maui, and 1 in County of Hawai'i), 5 plans (Northwest Hawai'i Island, South Kona, Ocean View, Kau, and Volcano) were updated in 2016 (5 in County of Hawai'i), and 1 plan (Kahikinui) was slated to be updated during 2017/2018 (1 in County of Maui).
- d. As of March 2018 there are 11 Firewise USA recognized sites in County of Hawai'i (8) and County of Maui (3).
- e. There are no county equivalent public health agencies within the state; however, plans have been developed for all counties either directly by the Department of Health (for O'ahu) or via the District Health Offices of the Neighbor Islands (County of Kaua'i, County of Maui, and County of Hawai'i). In addition, the State of Hawai'i Health Risk and Vulnerability Assessment (2014) pertains to the entire state.
- f. Disclosure of hazard risk is required in some real estate transactions by the State Uniform Land Sales Practices Act.
- g. Special Management Area Permits are part of the State Coastal Zone Management Program and are administered at the County level
- h. All four counties are Storm Ready and Tsunami Ready.
- i. Required as part of the Uniform Land Sales Practices Act
- j. County representatives have participated in the development of the State THIRA.
- k. County government have regulatory authority over Urban District lands and shared authority over Agricultural and Rural District Lands. Conservation District lands are reserved for the State.