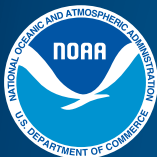
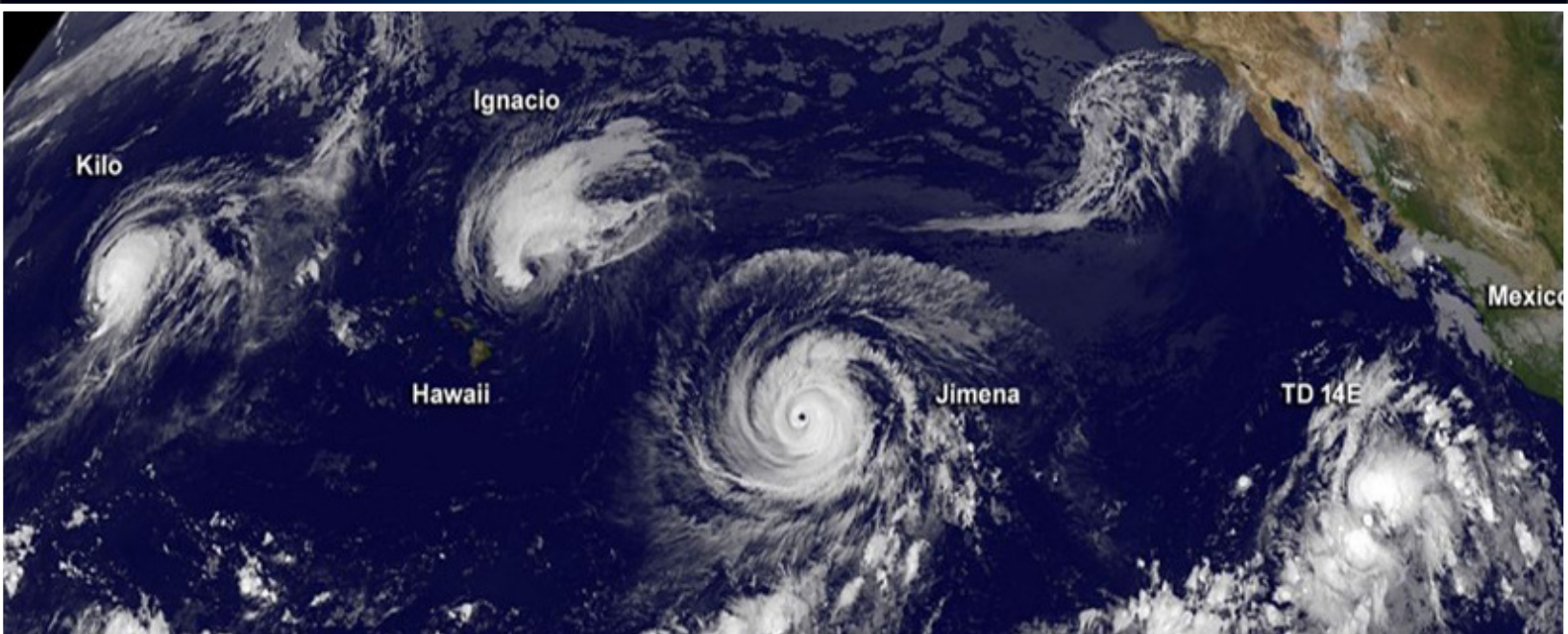


# Guidance for Disaster Recovery Preparedness in Hawai'i



Funding from: NOAA FY16  
Regional Coastal Resilience  
Grants Program



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**Guidance for Disaster Recovery Preparedness in  
Hawai‘i**

**REVIEW DRAFT – November 1, 2018**

DRAFT

## 9 Preface

10 Through a National Oceanic and Atmospheric Administration Regional Coastal Resilience Grant, the  
11 Hawai'i Sea Grant College Program together with the Hawai'i Department of Land and Natural  
12 Resources, Office of Planning, and Tetra Tech, Inc., developed statewide guidance documents and tools  
13 to improve resilience to coastal hazards with sea level rise and to support implementation of the  
14 recommendations of the *Hawai'i Sea Level Rise Vulnerability and Adaptation Report* (Hawaii Climate  
15 Mitigation and Adaptation Commission 2017). These statewide guidance documents and tools include:

- 16     ▪ **Hawai'i Sea Level Rise Viewer:** An online interactive atlas supporting the Hawai'i Sea Level  
17       Rise Vulnerability and Adaptation Report, providing map data depicting projections of future  
18       hazard exposure and vulnerabilities due to rising sea levels.
- 19     ▪ **Guidance for Addressing Sea Level Rise in Community Planning:** A guidance document and  
20       outreach to build capacity, particularly in county government, to address climate change, sea  
21       level rise, and coastal hazards through appropriate entry points in the comprehensive community  
22       planning process.
- 23     ▪ **Guidance for Disaster Recovery Preparedness in Hawai'i:** This project works with state and  
24       county government to establish resilience-focused recovery practices before a disaster hits to  
25       enable communities recover quickly while also protecting sensitive coastal environments through  
26       a guidance document, model resources, and outreach.

27 [For Consideration: This document has been [endorsed/adopted] by the Hawai'i Climate Mitigation and  
28 Adaptation Commission to support implementation of specific recommendations in the Hawai'i Sea Level  
29 Rise Vulnerability and Adaptation Report (SLR Report) adopted by the Hawai'i Climate Change Mitigation  
30 and Adaptation Commission (Climate Commission) in December of 2017. This document will be reviewed  
31 and updated every 5 years by [name of organization] as needed to improve the guidance based on the  
32 experiences and lessons of the counties and state in disaster recovery preparedness.]

**Recommendations in the Hawai'i Sea Level Rise Vulnerability and Adaptation Report (Hawaii Climate Mitigation and Adaptation Commission 2017) addressed in the Hawai'i Disaster Recovery Preparedness Guidance**

Sea Level Rise Report Recommendations	Intersection with this Document
<b>Recommendation 1: Support sustainable and resilient land use and community development</b>	
<b>1.5.</b> Integrate sea level rise adaptation plans and policies into state, county and community plans	Addressed in development of Disaster Recovery Framework and Model Reconstruction Ordinance with additional potential nexus to long-term planning that addresses coastal hazards and sea level rise
<b>Recommendation 3: Incentivize improved flood risk management</b>	
<b>3.1.</b> Adopt higher flood standards to account for sea level rise	Addressed in the Model Reconstruction Ordinance through consideration of higher regulatory standards in underlying legislation
<b>3.2.</b> Consider adopting V zone construction standards in the Coastal A zone.	Addressed in Model Reconstruction Ordinance through consideration of higher regulatory standards in underlying legislation
<b>3.7.</b> Develop pre-disaster recovery frameworks at the state and county levels that incorporate opportunities to adapt to sea level rise through disaster recovery.	Addressed in all aspects of the guidance and model resources
<b>Recommendation 6: Protect nearshore water quality from sea level rise impacts</b>	
<b>6.2.</b> Review existing environmental regulations, guidance documents, and best management practices	Addressed via Model Reconstruction Ordinance in Nonconforming Structures and Uses
<b>Recommendation 7: Develop innovative and sustainable financing and incentives to support adaptation to sea level rise</b>	
<b>7.5.</b> Consider the feasibility of a buy-out program for residential property owners vulnerable to sea level rise	Addressed in Disaster Recovery Framework
<b>Recommendation 8: Support research, assessment, and monitoring to support adaptation to sea level rise</b>	
<b>8.1.</b> Update coastal hazards modeling and vulnerability assessment as needed based on new climate science, sea level rise projections, and methods.	Addressed in Model Reconstruction Ordinance via perishable data capture provisions
<b>Recommendation 9: Promote collaboration and accountability for adapting to sea level rise</b>	
<b>9.3.</b> Develop a multi-agency, multi-media, and multi-stakeholder education and outreach program as part of a long-term commitment to building an informed and active constituency on climate change mitigation and adaptation	Addressed in Disaster Recovery Framework, Model Reconstruction Ordinance and Public Messaging

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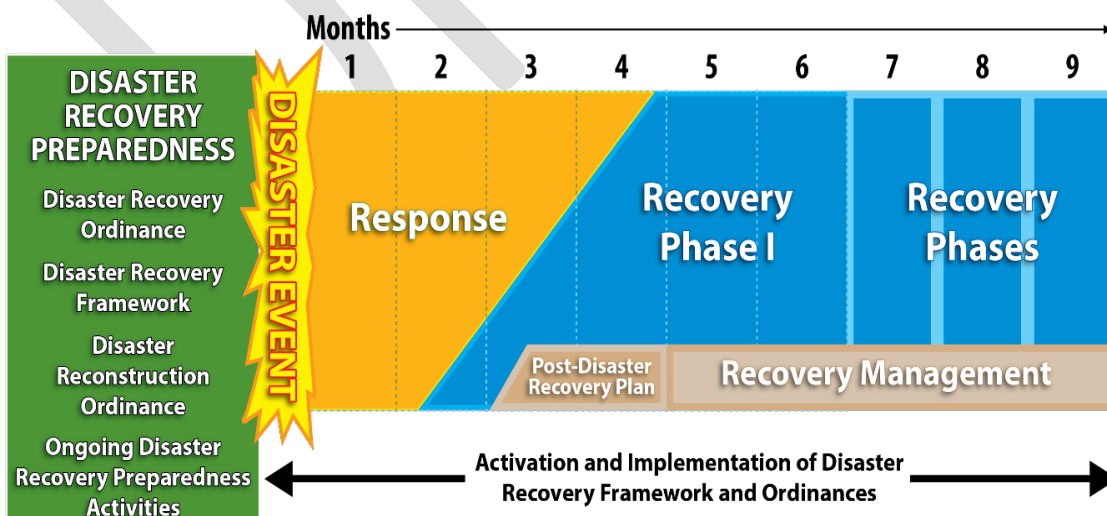
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## Executive Summary

Hawaii's communities have experienced a range of extreme natural hazard events, including hurricanes, tsunamis, and lava flows. Climate change is expected to exacerbate the impacts of many natural hazards thereby increasing the risk of disaster at community, county, and state levels. Disasters disrupt people's lives, the economy, and the environment for months and sometimes years. Disaster recovery is complex involving many different stakeholders for months to years. While emergency responders plan for, practice, and respond to save lives and restore critical infrastructure, little effort has been made to prepare for disaster recovery in a manner that improves community resilience over the long-term.

Resiliency in the context of disaster recovery strives to balance expediting reconstruction and rapid return to normalcy with building back safer, healthier, and more equitable communities that are better able to absorb, recover from, and successfully adapt to future adverse events. Recovery plans and permitting protocols in place before a disaster will help expedite recovery and reconstruction; however, focusing on speed alone may sacrifice resilience to future events. Other mechanisms, such as disaster reconstruction scenarios developed through community planning processes linked to a disaster reconstruction ordinance that requires a pause to consider future risks in areas of catastrophic damage, are needed to improve community resilience. Disaster recovery preparedness activities are undertaken before a disaster event occurs and are activated and implemented to guide recovery and reconstruction after the immediate danger from a disaster event has passed. This Disaster Recovery Preparedness Guidance (Guidance) was developed to:

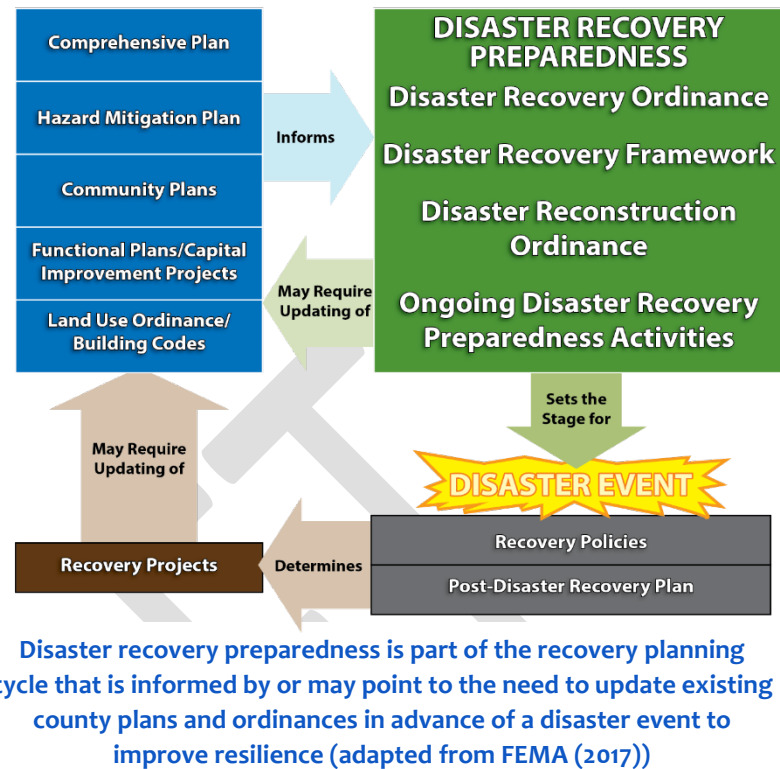
- Help county planners identify a pathway to pursue critical disaster recovery preparedness activities to support resilient disaster recovery and reconstruction
- Encourage counties to identify opportunities to improve community resilience by integrating disaster recovery preparedness efforts within a county's planning and implementation framework



Disaster recovery preparedness activities are conducted before a disaster event and activated to support more resilient disaster recovery and reconstruction (adapted from FEMA (2017b))



Disaster recovery preparedness sets the stage for recovery from a disaster event as part of a larger recovery planning cycle. The outputs of this process should be developed and institutionalized before a disaster event occurs. In preparing for disaster recovery, existing county policies, plans, and ordinances will inform the process; however, updates or revisions to these policies, plans, and ordinances may be needed to support more resilient disaster recovery and reconstruction. These activities emphasize the ongoing nature of disaster preparedness activities and their linkage with comprehensive plans, hazard mitigation plans, and other regular county activities.

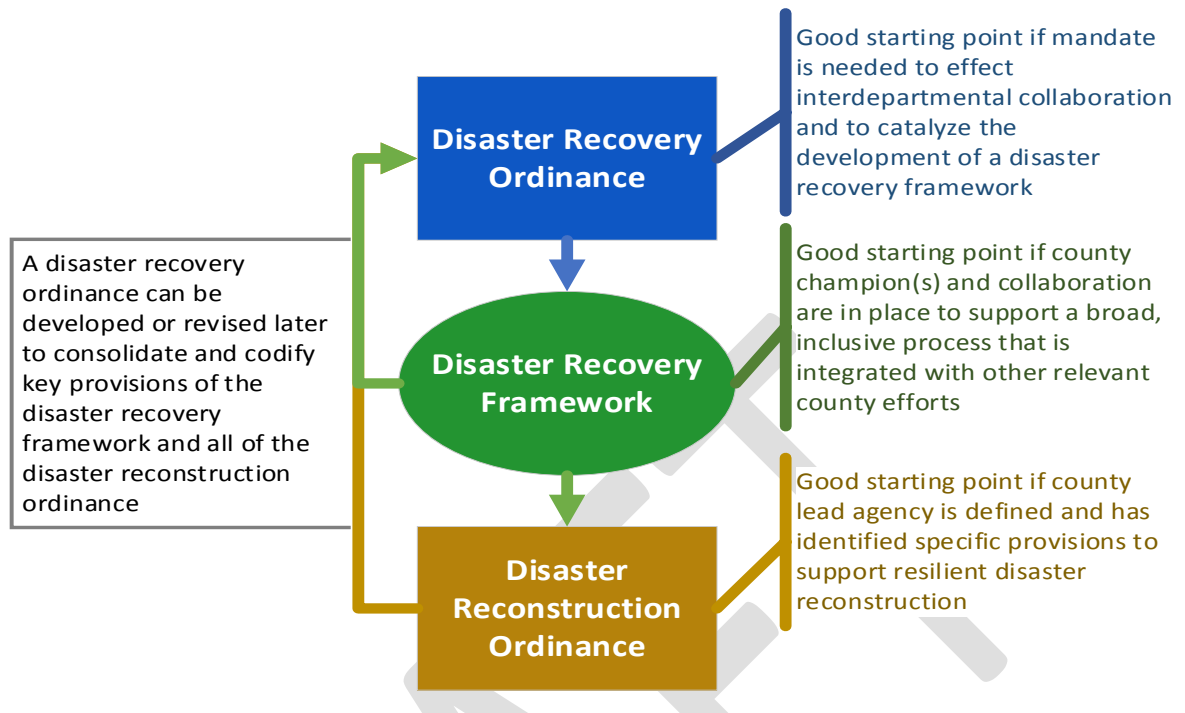


This Guidance was developed to help jumpstart a county's pursuit of disaster recovery preparedness framed through national directives, frameworks, and models (FEMA 2017, American Planning Association) and informed by state recommendations (Hawaii Climate Mitigation and Adaptation Commission 2017) and county recovery preparedness efforts such as on Maui (County of Maui 2015), O'ahu (National Disaster Preparedness Training Center 2017), and Kaua'i. County-level guidance and model resources include three potential outputs of disaster recovery preparedness:

- **Disaster Recovery Ordinance:** at a minimum can be used to mandate the establishment of a recovery management organization and preparation of a Disaster Recovery Framework,
- **Disaster Recovery Framework:** designed to guide recovery activities both pre-event and post-event, explores options for restoration of critical community functions, services, vital resources, facilities, programs, and infrastructure, establishes a framework for engaging those that should or need to be involved, and guides pre-disaster preparation, and
- **Disaster Reconstruction Ordinance:** outlines the decision-making protocols to expedite permitting for private property while at the same time explore opportunities to increase community resilience.

All three of these model resources complement each other and are considered disaster recovery preparedness activities. A county may consider different starting points and pathways depending on its needs and capacity.

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**A county may select different starting points and pathways for developing disaster recovery preparedness outputs depending on whether a mandate is needed, or stakeholder are willing to engage in the process**

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Finally, disaster recovery preparedness does not begin and end with the development of an ordinance or recovery framework. Recommended ongoing activities to strengthen disaster recovery preparedness include:

- Developing a two-way communication and public messaging strategy
- Exercising the disaster recovery framework and ordinances with partners and the public
- Updating plans, policies, and ordinances to support more resilient disaster recovery and reconstruction
- Updating and maintaining the county's geographic information system database and permitting system with key information needed for disaster recovery
- Integrating disaster recovery planning into county comprehensive and community plans
- Working with state partners to support county disaster recovery preparedness efforts

Investing in recovery preparedness activities developed with substantive community engagement will convey a sense to the public that local officials with recovery responsibilities are organized and in charge because they had the foresight to carefully consider the issues and contingencies throughout the recovery process. The more recovery issues that can be thought through in advance, such as the development of disaster reconstruction scenarios, the greater will be the efficiency and quality of post-impact decision-making, which will then lead to more resilient community recovery.