Improving Disaster Recovery Preparedness in Hawai‘i

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BUILDING RESILIENCE TO COASTAL HAZARDS AND CLIMATE CHANGE IN HAWAI‘I

Three complementary projects building on the Hawai‘i Sea Level Rise Vulnerability and Adaptation Report and other recent projects and initiatives:

- Guidance for Disaster Recovery Preparedness in Hawai‘i
- Guidance for Addressing Coastal Hazards and Sea Level Rise in Community Planning
- Hawai‘i Sea Level Rise Viewer (hawaiisealevelriseviewer.org)
Preparing Hawai‘i for climate change must also include preparing for increasing disaster impacts

- Hawai‘i Sea Level Rise Report: $19 bil. of private land and structures and $? bil. of public infrastructure vulnerable to chronic flooding and erosion with 3.2 feet of sea level rise
- Hurricane Maria caused $90 - $100 bil. in damage to Puerto Rico in one day
- Hurricane Iniki caused $3.1 bil. in damage, destroyed 1,400 houses, took 7-8 years to recover
Billion-dollar disaster events are increasing
Increasing tropical cyclones near Hawaii

Observed tropical cyclone formation per year (1979-2003)  
Projected tropical cyclone formation per year (2075-2099)

Murakami, H., B. Wang, T. Li, and A. Kitoh. 2013. "Projected increase in tropical cyclones near Hawai‘i."  
*Nature Climate Change* 3 (8):749-754. doi: 10.1038/nclimate1890.
It’s not if but when
Purpose of this Guidance

• Improve governance structure for recovery functions, particularly at the county level.

• Identify pathways to pursue critical disaster recovery preparedness activities to support resilient recovery and reconstruction.

• Encourage integration of disaster recovery preparedness efforts among related plans and policies.
Balance recovering quickly with building back safer, smarter, and more equitable

**Recovering Quickly**
- Plans and Protocols
- Streamlined Permitting
- Clear, Consistent Messaging

**Building Back Safer, Smarter & More Equitable**
- Hazard Mitigation/Climate Adaptation
- Environmental Protection
- Clear, Consistent Messaging
Objectives

• Defining an organizational structure and developing capacity before a disaster

• Establishing protocols to manage the increased burden on county permitting agencies post-disaster

• Reinforcing linkages with hazard mitigation plans, community plans, CIP/functional plans, etc.

• Balancing expedited reconstruction with sustainable and more equitable recovery considering public safety, ecosystem health, and changing hazard risks
Foundation for Disaster Recovery Preparedness Guidance

- APA Model Recovery Ordinance
- Recovery preparedness efforts of other counties in the US
Emerging Lessons-Learned in Disaster Recovery Preparedness

• Disasters provide windows of opportunity for improving resilience
• Pre-disaster recovery planning makes a difference in mitigating risk before and after a disaster
• Development of disaster recovery scenarios improves efficiency and quality of post-impact decision-making
Disaster Recovery Preparedness Activities to Support Post-Disaster Recovery

Adapted from FEMA (2017) "Pre-Disaster Recovery Planning Guide for Local Governments." FEMA Publication FD 008-03
Disaster Recovery Preparedness Activities (model resources) -

1. Disaster Recovery Ordinance

- Emergency powers to protect public health and safety
- Provides legal authority to expedite recovery
- Provides for the establishment of a Recovery Management Organization (RMO)
- Guides preparation of recovery plans
- Emergency powers for expediting repairs
- Emergency powers for addressing areas of catastrophic damage
2. Disaster Recovery Framework

- A.k.a., a Pre-Disaster Recovery Plan
- Guides disaster preparedness and long-term disaster recovery
- Pre-defines roles and capabilities, and organizational frameworks for recovery
- Aligned with FEMA’s disaster recovery framework
- Strategies and priorities for governance and coordination post-disaster
3. Disaster Reconstruction Ordinance

- Adopted pre-disaster
- Standard operating procedures for review and permitting repairs on private property
- Establishes authority and protocols for:
  - Expedited permitting of minor repairs on private property
  - Identifying and capturing critical opportunities for increasing resilience to future disasters while protecting environmental resources
Recovery Preparedness Activities Integrated in the Recovery Planning Cycle

- General Plan
- Hazard Mitigation Plan
- Community Plans
- Functional Plans/Capital Improvement Projects
- Land Use Ordinance/Building Codes

Informs

- Disaster Recovery Ordinance
- Disaster Recovery Framework
- Disaster Reconstruction Ordinance
- Ongoing Disaster Recovery Preparedness Activities

Sets the stage for recovery

Disaster Event Response

- Recovery Policies
- Post-Disaster Recovery Plan

May Require Updating of

Recovery Projects/Actions

Determines
A Pause to Consider Pathways for Resilient Redevelopment
(Disaster Reconstruction Ordinance)

DISASTER EVENT

PAUSE TO ASSESS DAMAGE AND TO DETERMINE PATHWAYS FOR RESILIENT REDEVELOPMENT

CATASTROPHIC DAMAGE?

NO

Disaster Reconstruction Permitting Protocols based on:
• Existing protocols and permit exemptions
• Provisions enabling special permit conditions post-disaster

YES

Review Disaster Redevelopment Scenarios as a starting point for post-disaster recovery planning
Disaster Events as Opportunities to Adapt to Sea Level Rise
Other Disaster Recovery Preparedness Activities

- **Communication**: Developing a two-way communication and public messaging strategy
- **Practice**: Exercising the disaster recovery framework and ordinances with partners and the public
- **Plan Integration**: Updating plans, policies, and ordinances incorporating information and strategies across related plans to improve overall resilience
- **GIS**: Updating and maintaining the county’s geographic information system database and permitting system with key information needed for disaster recovery
- **County-State Partnerships**: Working with state partners to support county disaster recovery preparedness efforts
Guidance for Addressing Sea Level Rise in Community Planning in Hawaii

Step 1: Where are we now/going?
COMMUNITY PROFILE
Describe existing conditions & trends
Define key issues, opportunities, & preferences

Step 2: Where do we want to be?
COMMUNITY VISIONING
Develop vision statements
Develop land use and development alternatives

Step 3: How do we get there?
COMMUNITY OBJECTIVES, POLICIES & ACTIONS
Identify preferred land use & development alternatives
Develop policies, actions & implementation plan

Step 4: Community Plan Review, Revision & Adoption

Step 5: Plan Implementation

Step 6: Are we getting there?
MONITORING & EVALUATION
Monitor plan implementation
Adapt policies to improve effectiveness

What changes are needed?
ADAPTIVE MANAGEMENT

State Priority Guidelines
SEA LEVEL RISE CHECKLIST

HAWAII SLR VULNERABILITY & ADAPTATION REPORT
COUNTY HAZARD MITIGATION PLAN

COUNTY GENERAL PLAN UPDATE

COUNTY-WIDE MONITORING, EVALUATION, & LEARNING STRATEGY

SEA LEVEL RISE VULNERABILITY ASSESSMENT

SEA LEVEL RISE-INFORMED LAND USE AND DEVELOPMENT ALTERNATIVES

IMPLEMENTATION STRATEGY FOR PRIORITY ADAPTATION POLICIES & ACTIONS

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