

TERM REPORT

Natural Disaster Response

Office of the Governor
State of Hawai'i



Natural Disaster Response

Overview

Since December of 2014, the State of Hawai'i activated for, or responded to over 40 natural and human caused disasters in addition to the COVID-19 pandemic. These included hurricanes, flooding, earthquakes, volcanic eruptions, tsunamis, wildfires, a pandemic, and most recently fuel in drinking water on O'ahu.

The Federal Emergency Management Agency (FEMA) has obligated more than \$370M in federal funds in connection with natural disasters in the State of Hawai'i during Governor Ige's administration. This includes nearly \$120M in public assistance (PA) for the 2018 Kīlauea eruptions and earthquakes. More than \$16.4M was allocated for individual assistance (IA) to more than 1,500 Hawai'i individuals or households affected by the disasters. The relief funds also included nearly \$10M in hazard mitigation funds to reduce or eliminate the harm from future hazards. This list does not include additional low-interest loans and other assistance provided through the US Small Business Administration.

Timeline of Major Events

2021:

1. Hawai'i Severe Storms, Flooding, and Landslides 12/05 – 12/10 FEMA
 - Federal funds obligated: \$348,147,121.84
 - Individual assistance: \$16,429,388.22
 - Hazard mitigation: \$9,767,912.87
 - IA applications: 1542
2. Hawai'i Mana Road Fire 08/01 – 08/03 FEMA
 - Federal funds obligated: \$46,908.71
3. Hawai'i Severe Storms, Flooding, and Landslides 03/08 – 03/18 FEMA
 - Federal funds obligated: \$3,423,181.07
4. 2020-2021 Summit Eruption
5. Maui County drought – DOA Secretarial Agriculture Disaster Declaration
03/2019 – present

2020:

6. Hurricane Douglas 07/23 – 07/27 FEMA
 - Federal funds obligated: \$356,348.09

7. Hawai'i Severe Storms and Flooding 03/27 – 03/28 FEMA
 - Federal funds obligated: \$866,525.86
8. Hawai'i Covid-19 Pandemic 01/20 – present FEMA
 - Federal funds obligated: \$166,245,423.60
 - Individual assistance: \$1,647,394
 - IA applications: 277
9. Hawai'i COVID-19 01/20 – present FEMA Emergency Declaration only

2019:

10. Hawai'i Kahana Ridge Fire 10/22 FEMA
 - Federal funds obligated: \$110,836.80
11. Hurricane Flossie 07/28 – 08/05
12. Hurricane Erick 07/27 – 08/04
13. Hurricane Barbara 07/08

2018:

14. Hawai'i Tropical Storm Olivia 09/09 – 09/13 FEMA
15. Hurricane Walaka 09/29 – 10/07
16. Hurricane Norman 08/28 – 09/08
17. Hurricane Lane 08/22 – 08/29 FEMA
 - Federal funds obligated: \$17,653,566.67
 - Hazard mitigation: \$2,222,398.00
18. Hurricane Hector 07/31 – 08/16
19. Hawai'i Kilauea Volcanic Eruption and Earthquakes 05/03 – 08/18 FEMA
 - Federal funds obligated: \$123,675,351
 - Individual assistance: \$13,188,507.80
 - Hazard mitigation: \$4,753,530.81
 - IA applications: 1013
20. Hawai'i Severe Storms, Flooding, Landslides, and Mudslides 04/13 – 04/16 FEMA
 - Federal funds obligated: \$15,500,269.33
 - Individual assistance: \$1,593,486.18
 - Hazard mitigation: \$2,791,984.06
 - IA applications: 252

2017:

21. Hurricane Fernanda 07/12 – 07/22

- 22. Kilauea Earthquake, attributed to settling of volcano 06/08
- 23. 112-year-old record breaking king tides 06/23-24, 07/21-22

2016:

- 24. Hawai'i Severe Storms, Flooding, Landslides, and Mudslides 09/11 – 09/14
FEMA
 - Federal funds obligated: \$3,927,063.51
- 25. Hurricane Madeline (2016) 08/26 – 09/02
- 26. Hurricane Lester 08/24 – 09/07
- 27. Tropical Storm Howard 07/31 – 08/03
- 28. Hurricane Georgette 07/21 – 07/27
- 29. Hurricane Darby 07/11 – 07/26
- 30. Hurricane Celia 07/06 – 07/16
- 31. Hurricane Blas 06/02 – 06/10

2015:

- 32. Tropical Storm Niala 09/25 – 09/28
- 33. Tropical Storm Malia 09/18 – 09/22
- 34. Hawai'i Pu'u O'o Volcanic Eruption and Lava Flow 09/04/14 – 03/25/15 FEMA
 - Federal funds obligated: \$11,358,961.57
- 35. Hurricane Ignacio 08/25 – 09/04
- 36. Hurricane Jimena 08/26 – 09/09
- 37. Hurricane Loke 08/21 – 08/26
- 38. Hurricane Hilda 08/05 – 08/13
- 39. Hurricane Kilo (Tropical Depression Eight-E) 07/27 – 07/29

Accomplishments & Milestones

Department of Defense: 2015

- Prepared and obtained an approved 2015 Hawai'i Catastrophic Hurricane Plan. The 2015 State of Hawai'i Catastrophic Hurricane Plan/FEMA Annex is the result of a two-year long collaboration between county and state government emergency management partners, FEMA, nongovernmental organizations, and private sector partners and stakeholders. It is an executable, operational response Plan/Annex that addresses the magnitude of physical effects and operational impacts from a Category 4 hurricane, or one of lesser severity, making impact anywhere in Hawai'i. Gov. David Ige, Karen Armes, Acting Regional Administrator for FEMA Region IX, and Maj. Gen. Arthur J. Logan, Director of Emergency Management, signed the 2015 Hawai'i Catastrophic Hurricane Plan on Aug. 7

Department of Accounting and General Services: 2015

- The state was positioned well for continuity of operations due to adoption of Office365 across the Executive Branch and other remote work technologies implemented by ETS. In the days leading up to the Hawai'i outbreak of COVID-19, ETS and department IT staff worked tirelessly to prepare to provide, inform, and train the state workforce on extended remote IT capabilities.
- By modernization and by moving the state mainframe computers to the mainland through mainframe-as-a-service, ETS enhanced survivability and disaster recovery of the state's most critical applications, including disability claims, unemployment insurance, child support enforcement, child welfare, human resources, payroll, and financial management systems of the Executive Branch, DOE, and DOT-Highways.
- ETS supports more than 100 Access Hawai'i websites that allow citizens to conduct business with the state online, rather than in line. Through Access Hawai'i, citizens no longer have to go physically to a state office to apply for many state licenses and permits, thereby allowing services to continue in an emergency situation.
- The state websites were used to communicate with users by placement of information banners across the top of web pages for the state and all the Executive Branch departments.

- ETS deployed AlertMedia for multi-channel communication with state employees in an emergency or other situations where instant communication is useful. AlertMedia allows state agencies to notify and connect with groups of employees by email, text, social media, and voicemail simultaneously.
- ETS, HIEMA and the Office of Homeland Security worked together to prepare to respond to a cybersecurity incident or attack as an emergency. The state's new cybersecurity incident response plan and tabletop exercises will ensure the state is ready for a cybersecurity attack.

Department of Accounting and General Services: 2016

- **Preparation Activations for Three Incoming Hurricanes: Darby, Madeline, and Lester:** Preparing the counties and the people of Hawai'i for impending hurricanes is a critical core function of the Hawai'i Emergency Management Agency (HI-EMA). As of 31 October 2016, nineteen named storms have formed in the Eastern and Central Pacific Ocean areas. Of these, three threatened the state. Over the past two hurricane seasons, HI-EMA developed an operational rhythm incorporating daily video teleconferences, coordination meetings, and the deployment of HI-EMA and Federal Emergency Management Agency (FEMA) liaison officers to support county and departmental emergency managers. The purpose of this rhythm is to keep all participants aware of weather situations and to anticipate requests for assistance and information. This operational rhythm has proved highly effective in enhancing collaboration and communication between senior leadership and emergency managers at the counties, state, federal, and private levels.
- **Presidential Disaster Declaration for Maui County Flooding Event.** As the result of recent experience with Tropical Storm Iselle and the Puna Lava Flow, HI-EMA, in close coordination with Maui County Civil Defense, the Governor's Office, and FEMA was able to obtain a Presidential Disaster Declaration soon after the flood event. Preparation of this request involved initial damage assessments by the county and state, and then a joint preliminary damage assessment by FEMA representatives. As a result of this declaration, the county and state are now able to receive reimbursements of 75% of all eligible costs expended in response and recovery activities related to the Maui Flood. Presently, the damage is estimated at \$20M. In addition, 15%, or

approximately \$3m is available to the state in FEMA's Hazard Mitigation Grant Program (HMGP) for eligible mitigation projects.

Department of Accounting and General Services: 2017

- HI-EMA and HING successfully responded to Presidentially Declared 'Iao Valley flood demonstrating the state's disaster response capabilities. The HING team removed 73 truckloads consisting of over 328 tons of debris.

Department of Defense: 2018

- Administering \$230M for recovery efforts for 2018 disasters: HI-EMA is currently administering nearly \$200M of public assistance and 30M of mitigation funds in recovery efforts from the 2018 disasters. The historic amount was greater than the amount administered during all the years since Hurricane Iniki. This funding required expanded staff, overcoming facilities challenges, developing a State Disaster Recovery Framework, and overhauling grant processes.
- Expanded Hawai'i Hazards Resiliency Program (HHARP) participating communities from O'ahu to Kaua'i and West Maui. The aim of HHARP was to help communities prepare during and after natural disaster events, improve their ability to take care of their own needs, and reduce the negative impacts of disasters.

Department of Accounting and General Services: 2018

- ETS Adopted Brandwatch. ETS worked with Brandwatch to assist with content curation, monitoring, and management. ETS assisted Hawai'i County in using the tools during its disaster and volcano recovery. The tools are used to track social media content and help in the creation of communication strategies.

Department of Defense: 2019

- HDOT completed emergency repairs to three routes affected by natural disasters. The emergency work on Kaua'i and O'ahu restores the affected highways to pre-disaster conditions and improved the resiliency of the roadways that connect communities to future potential rockfalls and flooding.

Department of Transportation: 2019

- Repaired and strengthened vital highway routes: HDOT was able to reopen Kūhiō Highway on Kauai's north shore after the historic flooding that disintegrated two sections of the highway and dumped several thousand pounds of mud and debris on the Wainiha and Hā'ena communities. The \$77M emergency project that was completed in June 2019, included extensive slope stabilization above and below the highway to ensure the only access to Wainiha and Hā'ena would be better protected in future disasters. Additionally, HDOT completely reopened Pali Highway in Nov. 2019, addressing the slopes that needed stabilization following the rockfall and landslide. The area is now ensured to be protected through a redundant system including a new tunnel structure and an attenuator/soil nail installation.

Department of Transportation: 2020

- Open Disaster Recovery and Mitigation: HI-EMA continues to manage recovery and mitigation for multiple federal disasters impacting the state: Hawai'i severe storms and flooding, fire management assistance for Kahana Ridge Fire, Hurricane Lane, Tropical Storm Olivia, severe storms, flooding, land and mudslides, Kīlauea Volcano Lava and Earthquakes, and the Pāhoa Lava Flow and Maui County flood.

Department of Defense: 2021

- Wilcox Medical blesses new generators that will keep Kauai's Hospital powered through outages for decades to come: Hurricane Iniki (30 years ago this year) left the entire island of Kaua'i without electricity for a month or more, including Wilcox Medical Center, the only Level III trauma center on the island and a vital part of the emergency care system there. HI-EMA worked with Wilcox and FEMA to secure a \$4M Pre-Disaster Mitigation Program grant toward a \$13M project that modernized and tripled the medical center's emergency generator capacity—enough to power the entire 72 bed facility and future expansions. The old Wilcox generators were donated to the County and will eventually provide backup power for wastewater treatment. Blessing was held January 2022

- Modernizing Emergency Response to meet emerging hazards: As HI-EMA transformed during the Ige administration from its former role in Civil Defense, HI-EMA went through a sweeping reorganization to improve its responsiveness, efficiency, and transparency. Those changes occurred during a historic increase in the demand for emergency services, with more than a dozen federally declared incidents handled from 2018 to date. Encompassing wildfires, hurricanes, flooding, the Kilauea eruption, and the ongoing COVID-19 pandemic, the incidents reflect new challenges Hawai'i must meet as a changing climate intensifies weather related hazards as we battle aging infrastructure in the state. HI-EMA plays a key role in delivering federal funding for hazard mitigation and recovery grants, including nearly \$300M authorized for active emergencies since 2016.

Department of Health: 2021

- Protecting Hawaii's residents from the Kilauea eruptions and vog: In response to the Kilauea eruptions, the DOH increased air pollution monitors on the island of Hawai'i, nearly doubling the previous number of stations, in order to provide more region-specific air quality data and early advisories to the community. The community and first responders were kept up to date on the latest air quality conditions and the number of long-term monitoring stations were increased to help inform residents so they could better protect themselves from elevated levels of air pollution from this natural disaster.

Department of Business, Economic Development & Tourism: 2021

- PEARL microgrid demonstrates renewable energy technologies: The Pacific Energy Assurance Research Laboratory microgrid will provide energy assurance, resiliency, and cyber security to the Hawai'i Air National Guard at Pearl Harbor Hickam. The microgrid will allow for continued operations in the event of a major utility disruption and allow the 154th wing the ability to continue its federal and state missions such as disaster response operations.

Department of Transportation: 2021

- No one left behind- maintaining highway access following natural disasters: HDOT Highways has responded to and recovered from multiple natural disasters in the 8 years of the Ige administration. Notably the 2018 and 2020 Kaua'i flooding events, the Lower East Rift Zone and Hurricane Lane caused what could have been long-lasting disruptions in access for communities with a single access road.
- Following the many disasters HDOT has responded to in the eight years of the Ige admin, HDOT published the Climate Adaption Action Plan and vulnerability study in May 2021. The study provides a comprehensive overview of the threats to the state highway system and recommendations for actions to mitigate those threats. HDOT has completed many of the actions in this plan and continues to use the plan as a starting point in conversations with planning and land use agencies on issues such as managed retreat and beach replenishment.

Looking Ahead

State government will continue to help the Hawai'i 'ohana prepare for, mitigate against, respond to, and recover from disasters of all kinds. The departments and agencies will continue their work in creating a ready and resilient Hawai'i.

To do this effectively, we will maintain and enhance the partnerships that have already achieved outstanding results. This includes multi-agency, multi-jurisdictional, public-private, and non-profit collaboration.

The people of Hawai'i have a long history of working together to prepare for and overcome challenges of all sorts, and every individual has a role to play in our emergency preparedness and response. Working together, we will succeed in building a more secure and resilient Hawai'i.