

# The Ka'ū Calendar News Briefs, Hawai'i Island

## The Ka'ū Calendar

Ka'ū, Hawai'i, United States

A locally owned and run community newspaper ([www.kaucalendar.com](http://www.kaucalendar.com)) distributed in print to all Ka'ū District residents of Ocean View, Na'alehu, Pahala, Hawai'i Volcanoes National Park, Volcano Village and Miloli'i on the Big Island of Hawai'i. This blog is where you can catch up on what's happening daily with our news briefs. This blog is provided by The Ka'ū Calendar Newspaper ([kaucalendar.com](http://kaucalendar.com)), Pahala Plantation Cottages ([pahalaplantationcottages.com](http://pahalaplantationcottages.com)), Local Productions, Inc. and the Edmund C. Olson Trust.

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**Monday, September 10, 2018**

## Ka'ū News Briefs Monday, September 10, 2018



A curtain of 'ōhi'a tree roots in an Ocean View lava tube is illuminated with back lights. Cameraman Mark Sharman (left) and producer Alex Ranken confer on the shot that will reveal details of the cave-adapted insects that call these roots home. See story, below. *Photo by Scott Engel*

OLIVIA CHURNS CLOSER, a strong Tropical Storm threatening high winds and flooding, the first impacts expected to arrive at the north tip of Hawai'i Island Tuesday afternoon. At 5 p.m., Olivia reached 439 miles east northeast of South Point, with 70 mph winds and higher gusts. She traveled at 10 mph, according to the Central Pacific Hurricane Center. A Tropical Storm Warning remains for Hawai'i County, along with a Flash Flood Watch for this island and High Surf Warning for eastern shores.

All after-school activities on Hawai'i Island are cancelled for Tuesday. The state Department of Land & Natural Resources closed public lands on this island to hikers, hunters, gatherers, and all others. State parks close Tuesday morning.

The 5 p.m. forecast predicted that Olivia's eye will track north of Hawai'i Island and could make landfall on Maui, Moloka'i and Lana'i. The National Weather Service issued a Tropical Storm Warning for all three and O'ahu, a

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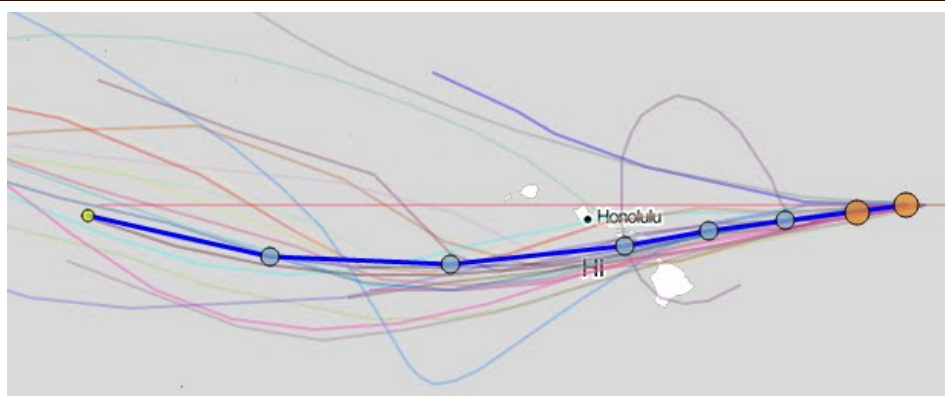
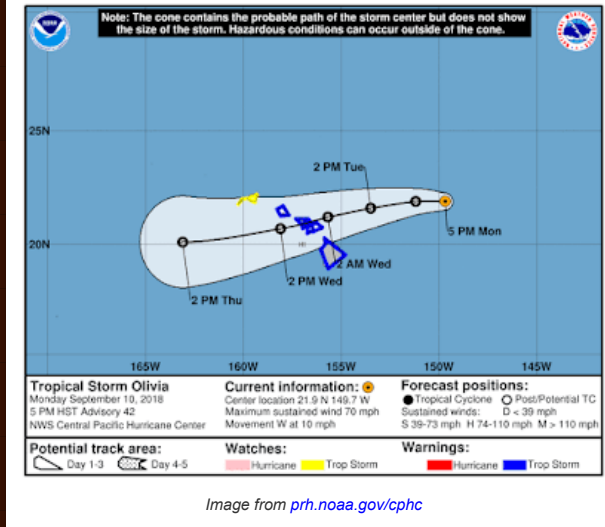
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Tropical Storm Watch for Kaua'i, and keeps its Tropical Storm Warning for this island.

In Gov. David Ige's briefing today, he said Olivia "continues to be a powerful storm and can impact any county across the state." He urged residents to "stay connected to their county emergency management and Civil Defense. They will have the most current and accurate information."

The state Administrator of the Hawai'i Emergency Management Agency, Tom Travis, urged everyone to prepare with "14 days of food, water, and a tank of gas." He emphasized, "Don't fix on the forecast track. This storm could directly impact every area of the state from South Point all the way to the North Shore of Kaua'i." He said he appreciates "the community's patience in preparing for the many disasters we've experienced."

A FEMA representative said that food and water, as well as emergency rescue and recovery crews, are staged around the state ahead of the storm. He warned, "Don't become complacent with this. This is a very serious storm. Take it very seriously. Listen to your local officials and have a plan. Know where to go and what to do." See the entire presentation at [facebook.com/GovernorDavidIge/videos/2221304594821361](https://www.facebook.com/GovernorDavidIge/videos/2221304594821361).



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BAY CLINIC ANNOUNCED A \$25,000 GRANT today, coming from the Safeway Foundation, to help underserved women access regularly scheduled breast cancer screenings and mammograms. Bay Clinic offers its Breast Cancer Prevention Program at Ka'ū Family Health & Dental Center and other locations. It provides clinical breast health care, including education on the importance of early detection and treatment, mammogram referrals, and other support services.

"This gift will have a tremendous impact on our program," said Harold Wallace, Bay Clinic CEO. "We thank the Safeway Foundation for their commitment over the years to making our East Hawai'i community a better place to live and work."

Wendy Gutshall, of Safeway Foundation, said, "It's an honor to support the work of Bay Clinic. Every day we learn about organizations that go above and beyond to help people in need. Such selfless dedication makes our communities better places to live and work."

A statement from Bay Clinic says, "About one in eight women born today in the U.S. will get breast cancer at some point. The good news is that many women can survive breast cancer if it's found and treated early. A mammogram — the screening test for breast cancer — can help find breast cancer early when it's easier to treat. Talk to your doctor about your risk for breast cancer,

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The Ka'ū Calendar (monthly newspaper)

### "Siteseeing" Ka'ū

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especially if a close family member of yours has had breast or ovarian cancer. Your doctor can help you decide when and how often to get mammograms."

Call 333-3600 to make a women's health appointment at any of our health centers: Hilo Women's Health Center, Pāhoā Family Health Center, or Ka'ū Family Health Center.

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Ka'ū Family Health & Dental Center

#### TINY WILDLIFE IN A KA'Ū LAVA TUBE

is one focus of a new production by a UK film company True to Nature. In early September, the filmmakers fitted a super-macro lens to their video camera to capture cave-adapted underground life here. For some of the species, this was the first time they had ever been filmed.

Scientists experienced in Ka'ū lava tubes assisted the filmmakers. Dr. Megan Porter, Associate Professor in the Department of Biology at University of Hawai'i at Mānoa, has studied cave life for over 25 years. Dr. Annette Summers Engel, a Professor of aqueous geochemistry at the University of Tennessee, has made numerous field trips to the Big Island, and is an expert at finding tiny insects in big lava tubes. Assisting them were Scott Engel, a geologist from Tennessee, and Alan Hudson, an evolutionary biologist from the UK, now living in Honolulu.



A tiny Thread-legged Bug can be barely discerned in the tangle of fine 'ōhi'a roots in front of the movie camera.

Photo by Scott Engel

Drawing on their extensive studies of cave insects on the Big Island, the biologists selected a lava tube in Ocean View that was easily accessible and has a rich selection of lava tube life. The crew and scientists were hosted by resident cavers Peter and Ann Bosted, of the Ocean View Ranchos community.

Interviewed by *The Ka'ū Calendar*, Porter and Summers Engel explained how they were able to find the proverbial needle in a haystack and how the film crew was able to record the elusive insects. Most of these insects are smaller than a pea, and some smaller than a single grain of rice.

Summers Engel said, "They were able to get the camera incredibly close without alarming the animals.

They filmed the bugs just walking naturally around the

rocks or on the tree roots, which was very satisfying for us to see. So often, film makers capture an insect and then try to photograph it in a studio where the photographers can control the environment. This is not natural for the animal, so it will not behave naturally. It will act afraid and behave defensively. But since this shoot was in a cave, the animals moved beautifully.

"The filmmakers got a fantastic close-up of a Thread-legged Bug walking up and down a tree root. It was amazing. I don't think it has been done before; the detail was outstanding. They also obtained wonderful footage of a juvenile Plant Hopper moving around a root, and a Water Strider crossing over a rock and cleaning its antennae. This is a real breakthrough," she added.

Asked about other cave adaptations, Porter reeled off a list of more easily observable characteristics, such as longer legs, a lack of pigment, no eyes or reduced vision. "Since these animals live in complete darkness all their lives, they don't need visual senses, but do require better non-visual senses - so their hairs are more sensitive and their antennae are longer. They can easily create and detect vibrations.

"Plant Hoppers living in lava tubes in different parts of the island have different 'songs', to communicate with each other, and they likely attract mates that way."

Porter and Summers Engel also talked about their subterranean research findings and explained why the True to Nature film crew flew half way around the world to document the cave bugs of Ka'ū.

Said Porter, "This documentary will be about life around volcanoes. Volcanoes create lava tubes and these habitats are a sanctuary for animals that are able to colonize and adapt to living their lives in darkness. Lava tubes have fairly constant temperatures, and are always moist, unlike the outside where insects must endure rain, drought, heat, and cold. Lava tubes are also free of insect predators, such as birds or bats."

"But," explained Summers Engel, "food is still an issue for the cave animals. Without sunlight, plants do not



The film crew from *True to Nature* that flew half way around the world to document cave-adapted bugs in Ocean View. On the left is Amy Thompson, the film's researcher. Mark Sharman, the cameraman, is in the middle. Alex Ranken, the producer, is on the right. Photo by Ann Bosted

grow in lava tubes. Even though there are microbial mats that grow on the rocks, the cave animals rely on plant roots, and especially 'ōhi'a roots, that grow down through cracks and into the open passages.



A view into a lava tube entrance, surrounded by natural 'ōhi'a forest, was a shot the UK film crew needed to document cave life in the lava tubes of Ka'ū. Photo by Ann Bosted

"The problem is," said Summers Engel, "that while these roots are rich in carbon, they are poor in nitrogen. The volcanic rock and soil are also poor in nitrogen. Some Hawaiian plants can pull nitrogen out of the air and make organic nitrogen. But the animals that never leave the cave, with only access to 'ōhi'a roots, don't have access to other nitrogen-rich food sources.

"Sap-sucking insects, such as Aphids that live outdoors and Plant Hoppers, can't make nitrogen compounds like amino acids on their own. So they rely on specialized symbiotic bacteria living in pouches in their bodies to generate these compounds for them. Unfortunately, what we know about the cave-adapted sap-suckers and how they live is based on what has been studied from bugs on the surface, not from the

underground. The cave Plant Hoppers may have even more specialized bacteria living inside them, which is one reason why we are very keen to study them.

"Lava tube biology is like an untapped well. A lot remains to be learned about life. We have only scratched the surface. The deeper we go and the more we learn about cave-adapted insects, the more we find we still have to discover about life," said Summers Engel. "It's fascinating."

The Ka'ū content will be the fourth segment for the TV movie by True to Nature. The program will focus on four aspects of life around volcanoes in different parts of the world. Kīlauea's recent eruption is widely considered to be a disaster in human terms, but an expected occurrence in nature. After all, volcanoes build the 'āina. But how does that work for the animal world? Which critters survive eruptions, and which ones do not? How do frogs, or goats or insects fare? How can humans benefit? Those questions, and others, will be posed in the upcoming documentary.

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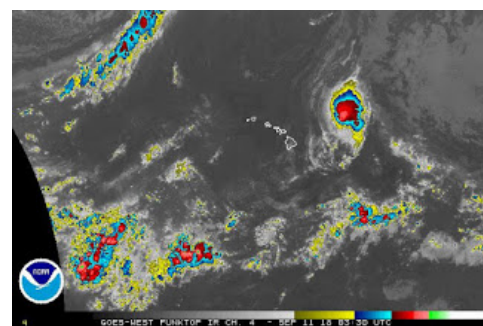
HAWAII ELECTRIC LIGHT reports preparations for Tropical Storm Olivia include securing contractors for various services, such as tree trimming and pole hole digging, and contacting electrical and construction workers.



The utility, and sister utilities on Maui and O'ahu, says it is monitoring Olivia closely, activating emergency response plans, going through pre-storm checklists, and readying crews to respond. The utility also says it is taking inventory of fuel supplies, checking generators, and ensuring equipment inside and outside its facilities are secure.

Ron Cox, senior vice president of operations, said, "The Hawaiian Electric Companies have focused on hardening our island grids over the past several years, but they are not immune to storms like Olivia. There will be outages if the islands are hit by powerful winds, torrential rain, and flooding. Once the storm has passed and it is safe for our crews to begin restoration, we will work as quickly and safely as possible to restore power."

The release from HELCo says the utility conducts "extensive training to prepare employees to respond safely and as quickly as possible if a storm threatens our service territory," and that it and its sister utilities have invested "more than \$1.5 billion over the past seven years to upgrade and reinforce poles, lines, and equipment, which will help the utilities recover quicker after a storm."



Olivia at 5:30 p.m., Sept. 10, just northeast of the islands.

The utility suggests customers review family and business emergency plans, ensure they have supplies they need on hand, and keep close watch on the development of the storm system. The utility suggests unplugging electric appliances that may not be needed or used until the storm has passed or, should power go out, until power is restored. HELCo recommends portable generators used after the storm be placed in a well-ventilated area, outside the home.

HELCo also reminds those with photovoltaic a.k.a. solar panels tied into the grid that those systems will not operate when power is out; they are designed to shut down in the event of outages for safety reasons.