



EARTH



LIFE



OCEAN



CLIMATE



ATMOSPHERE



ENERGY



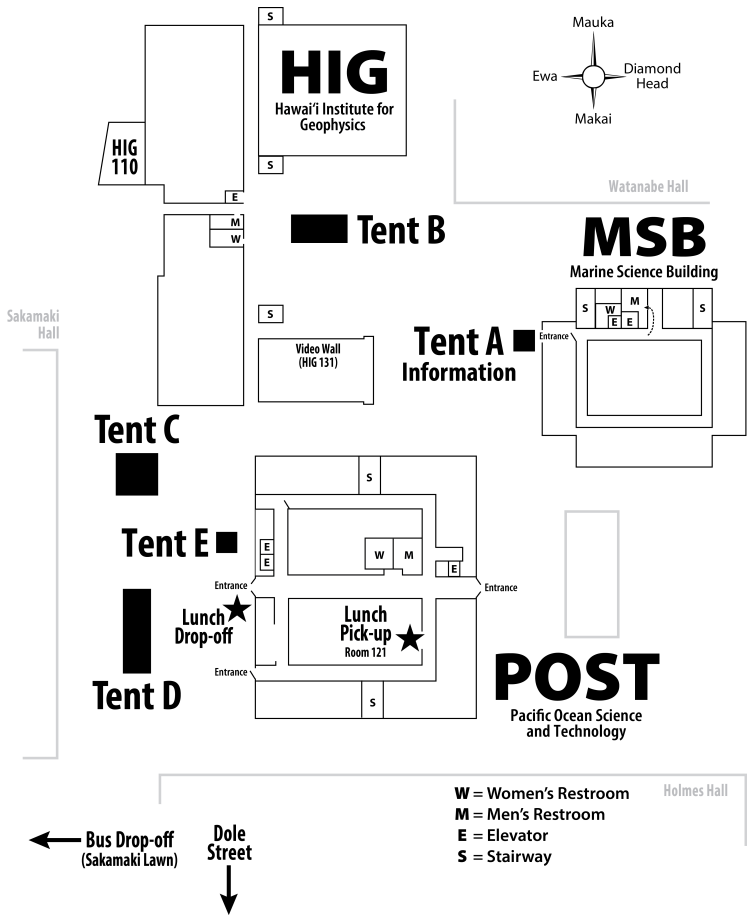
SPACE

2017 SOEST Open House Program

Friday 20 October (8:30 am–2 pm) & Saturday 21 October (10 am–2 pm)

Tent A Information
Tent B Fish Printing, Waikiki Aquarium, Hawai'i Institute of Marine Biology
Tent C NOAA

Tent D Microbes, Marine Debris, Hawaiian Geology, USFW, Native Hawaiian Student Services
Tent E Hawaiian Fishpond, Sensor Technology
POST 121 Lunch Storage Room



OUTDOOR ACTIVITIES

Make-A-Quake (MSB lawn)

Students hit a sledge hammer on a plate and watch the readout of sensors spaced around the yard.

RoboNation (MSB lanai) *Friday Only*

SeaPerch and SeaGlide: Dive into robotics with affordable ROVs and miniature underwater glider kits.

TGIF SOEST Mini Grants (MSB lanai) *Friday Only*

Information for teachers looking for funding to support K–12 ocean and earth sciences — supported by donations from the SOEST community.

Native to Hawai'i: Live Critters of Our Coral Reef Ecosystems (MSB lanai)

Interact with marine organisms native to Hawai'i's coral reefs! Lean about local environmental issues and strategies to conserve and protect these ecosystems.

Explosive Volcanism (outside POST, Ewa side)

Watch an exciting demonstration of a gas-driven explosion, fueled by liquid nitrogen, and learn about the underlying science.

Explosive Eruptions: Models Using Dry Ice (outside POST, Ewa side)

How do volcanoes explode and does the size of the vent change the eruption? Predict and experiment with mini "volcanic" explosions fueled by dry ice.

Unmanned Aerial Vehicles (Sakamaki Lawn) *Saturday Only*

Watch small drones flying with cameras attached to demonstrate the capabilities of these systems.

Gyotaku Fish Prints (Tent B)

Gyotaku is an old form of recording a fisherman's catch. Create your own gyotaku fish prints.

Sea Snails of Hawai'i (Tent B)

Learn all about the amazingly adapted marine snails of Hawai'i in this hands-on activity by the Waikiki Aquarium. Behold beautiful, shiny cowry shells to tiny 'opihi to Triton's trumpet, Hawai'i's largest snail.

Exploring the Coral Complex — The Gates Coral Lab (Tent B)

Learn more about what coral are, how they live, and why they must be protected!

Saving the Ocean Planet: Research at the Hawai'i Institute of Marine Biology (HIMB) (Tent B)

Learn about challenges and solutions for our warming ocean planet then test your knowledge. Get it right and dump refreshing, cooling water onto our living subject in our ocean pool. Put your teacher in the pool for extra credit!

Sea Turtles and You (Tent C)

Find out about sea turtle biology and different threats to their survival. How many turtle hatchlings will make it to be an adult?

Life and Times of Humpback Whales (Tent C)

How big is a humpback whale? How do they feed? Why do they migrate? What impacts them and what do researchers do to help them survive?

You Are Here (Tent C)

How is Hawai'i impacted by tsunamis around the entire Ring of Fire?

Let's Trash Talk (Tent C)

Learn about the impacts of marine debris and simple solutions to prevent it!

Someplace Special (Tent C)

Learn about the unique species that live in the largest and remotest protected area on Earth.

Turn Around Don't Drown (Tent C)

Learn about flash flooding impacts and how to stay safe through a hands-on demonstration.

Weather Ready Nation (Tent C)

Visit the National Weather Service Forecast Office and explore hands-on activities at the booth. (Saturday only, sign up for 20-minute tour at the "Turn Around Don't Drown" table.)

Magic Sandbox (Tent C)

Simply mold sand using your hands and the landscape comes to life! The sand is augmented in realtime with an elevation color map and simulated water.

Fisheries Enforcement (Tent C)

What do you want to know about federal fisheries enforcement? We are here to answer your questions!

What Microbe are You? (Tent D)

Complete our personality maze to discover what marine microbe is just like you! Take home a card to continue playing this game on a smart device.

What is Ocean Acidification? (Tent D)

Come see a science experiment that demonstrates how ocean acidification is affecting coral reefs around the world. Learn what it is and why it is happening!

Knot Tying (Tent D)

Have you ever been on a boat? Do you fish? Kayak? If so, you need to know how to tie knots and we can show you how!

Life at Sea (Tent D)

Visitors gear up in personal protective equipment (life vest, hard hat), stand at the rail of a ship, and throw "grappling" lines overboard to try and retrieve science instruments floating in the "water." Just like being on a real boat!

We are SOEST Mosaic (Tent D)

Visitors color a piece of the Hawaiian geoscience mural and learn about pathways into SOEST programs.

Science of Marine Trash (Tent D)

Come see samples of marine debris/trash collected in Hawai'i, including debris from the 2011 Japan Tsunami, and the science and computer modeling of marine debris transport across the North Pacific Ocean.

Science Communicators 'Ohana (Tent D) *Friday Only*

Come see how this collective of students, postdocs, and staff at UH Mānoa is working to increase scientific literacy in society through effective science communication.

U.S. Fish and Wildlife (USFW) Service (Tent D)

Discover the U.S. Fish and Wildlife Service. From volunteer opportunities to careers, we work to conserve the future.

Native Hawaiian Student Services (Tent D) *Friday Only*

Information for students about resources available on campus to support Native Hawaiians and research opportunities.

Wax Lava Flows (Tent D)

Learn how lava flows move and cool using wax instead of lava.

Na Kilo Honua o He'eia: Geoscience in the He'eia Watershed (Tent E) *Friday Only*

Together with local organizations, we explore ecosystem health from ridge to reef in the He'eia ahupua'a. We integrate geology, oceanography, and biology as a platform to engage students directly in research that benefits their community.

Oceanographic Technological Innovations and Solutions (Tent E) *Friday Only*

Technological advancements have exploded in the last decade. Come see how the application of new capabilities empowers researchers and promotes public understanding of the natural world.

HIG BUILDING

Exploring the Deep Ocean with Schmidt Ocean Institute (SOEST Video Wall, HIG 131)

Schmidt Ocean Institute's research vessel *Falkor* enables ocean exploration throughout the Pacific. Learn about the science conducted from Papahānaumokuākea Marine National Monument to the Mariana Trench.

Seafloor Mapping Model (HIG 1st Floor outside Video Wall, HIG 131)

How can we "see" the seafloor? Participants can set up targets on a model seafloor, program route points using a touch screen, and "send" a model ship equipped with sonar on your custom-designed survey. Watch the map form in real time.

HIG (CONTINUED)

Measuring Sea Level Rise (HIG 1st Floor)

Sea level rise will affect all of us here in Hawai'i. Explore the causes of sea level rise and see how scientists measure the height of the water.

Citizen Science and King Tides (HIG 1st Floor)

You can become a citizen scientist and contribute photos to the “Hawai'i and Pacific Islands King Tides Project”! Citizen scientists make important contributions by documenting and photographing today's King Tides or high water level events to better understand tomorrow's impacts from sea level rise and other coastal high water events.

Hanauma Bay Education Program (HIG 1st Floor)

Our program educates about Hawai'i's marine environment, which helps enhance appreciation, understanding, and stewardship of Hanauma Bay. Hands-on activities and the “Fishing for Knowledge” booth will add fun and excitement to learning about the bay and its marine life.

Squeeze Water into Ice (HIG 105)

Come to see how we squeeze water into a new type of ice that does not exist in nature.

Spectroscopy Fun (HIG 107)

Learn about spectrometers, play with a telescope, and make fire by focusing sunlight.

Ocean Waves and Beach Erosion (outside HIG 109) *Friday Only*

Ocean wave characteristics, beach erosion, and migration of sand bars will be demonstrated in a wave flume.

Surf's Up! (outside HIG 109)

What causes waves? And how do you measure waves? Find out how our network of wave buoys collects realtime wave observations, night and day!

How Exhaust Fumes Threaten Our Precious Oceans (outside HIG 110)

Explore how exhaust fumes from cars and factories make seawater more acidic, and how an acidified ocean threatens corals and other marine organisms.

Feeding Corals — A Close Up Look at Our Living Reef (outside HIG 134)

Are corals really alive? Come see a live coral feeding and learn about how we can protect these amazing reef builders and the diverse communities they support.

Density Driven Ocean Instrumentation (HIG 155)

See oceanography equipment that moves vertically and horizontally by utilizing the density gradients (buoyancy) in the ocean. Try hands-on activities demonstrating buoyancy.

The Magic of Green Screens — Weather Wonders (HIG 309)

Learn how green screen technology is used for TV weather forecasts and movies! You'll get to take a photo with an exciting weather phenomenon (hurricane, tornado, lightning, and much more) that will be emailed to you as a keepsake!

Create a Hurricane! (HIG 310)

Create ideal hurricane conditions by changing the winds, latitude, moisture, and sea temperature in an interactive online game! Change the location of high and low pressure systems to steer your very own hurricane.

Cloud in a Bottle (HIG 311)

Make your own cloud! Learn about how and why clouds form, and use your own hands to create a cloud inside of a bottle.

MSB BUILDING

Polynesian Voyaging Society — Mālama Honua (MSB 100)

Crew members and other volunteers share activities and knowledge with attendees. Learn about our Science at Sea and Celestial Navigation.

Voice of the Sea: Meet, Greet, and View! (MSB 114)

Watch segments of the “Voice of the Sea” TV show and meet SOEST researchers to talk story about what it's really like to study the ocean.

From Creatures of the Sea to Rocks and the Unknown (*MSB 203*)

See what is in the water with you when you are swimming, view live plankton under the microscope, view preserved samples of strange creatures from the deep ocean, and see how minerals fluoresce under ultraviolet light and how this property can be used to identify them. Movie footage included.

Zooplankton: Microscopic Ocean Drifters (MSB 305)

Learn about the tiny animals at the base of the pelagic food chain — what they eat and what eats them. View live plankton under the microscope, watch videos, and participate in hands-on activities.

Station ALOHA (MSB 306)

Station ALOHA, 60 miles north of O'ahu and the focal point of various oceanographic studies for nearly 30 years, has produced a remarkable collection of observations about our dynamic ocean and atmosphere.

Surf Science (MSB 307) *Friday Only*

Why is Hawai'i so popular as a surf destination? This talk explains the science behind surf in Hawai'i and how a surf forecast is made.

Ocean in a Tank (MSB 315)

Learn how Earth's rotation shapes ocean currents such as the Kuroshio and Gulf Stream.

SOEST Laboratory for Analytical Biogeochemistry (MSB 406) *Friday Only*

The S-LAB analyzes nutrient samples in a wide variety of environments. Come tour the lab and analyze your own samples!

Journey to the Deep Sea (MSB 602)

Dive to the deepest, coldest depths and see animals from different deep-sea habitats including whale and wood falls, Antarctica, and the abyssal Pacific Ocean. Learn how scientists collect these animals and what makes them unique.

Hawai'i's Deep-Sea Creatures and Effects from Fisheries and Mining (MSB 604)

This exhibit will showcase the amazing diversity of life in the deep waters around Hawai'i such as bioluminescent lanternfish and the poorly known cusk eels. The connections we have with these strange denizens of the deep through fishing and deep sea mining may surprise you!

POST BUILDING

Going Mauka: Biodiversity in Your Backyard (POST 126)

The Hawaiian Islands are the most isolated group of islands on our planet — 2,390 miles to the nearest continent. Learn about our unique and introduced fauna, and their implications for human health.

Fuel Cell and Rechargeable Battery (POST 127) *Friday Only*

Demonstration of the working principles of fuel cells and lithium batteries, and renewable energy power systems.

3, 2, 1... Blast Off (Near POST 501)

Launch rockets to land on Mars and race robots.

Hawai'i Space Grant Consortium (outside POST 503)

Learn about NASA opportunities available for undergraduate college students and participate in activities that make up the HI STEM pipeline for students of every age.

Cosmic Radiation: Learning about Earth and Space (outside POST 508)

Cosmic radiation is made visible through a cloud chamber. Students will learn that cosmic radiation is all around us and can be used to study Earth and space.

Inner Space: The Deep Sea (near POST 514) *Saturday Only*

Come see recent discoveries in the Mariana Trench (deepest spot in the ocean) using submarines, robotic vehicles, and landers — active volcanoes, hot vents, cold seeps, huge mud eruptions, and fish at the deepest depths ever seen.

Colors of Space (near POST 521)

Learn the chemistry of planets from their colors.

The Hawai'i Space Flight Lab Presents Kerbal! (POST 527)

Learn about the fun and exciting things we do at the Hawai'i Space Flight Lab including small satellite design and testing, and rocket launches. We will also demonstrate the Kerbal Space program and explain how it compares to real life!

Space Matters (outside POST 530)

Explore the four states of matter — solid, liquid, gas, and plasma — in an electrifying and explosive exhibit.

Collecting Meteorites in Antarctica (POST 544)

Learn how and why scientists collect space rocks from Earth's natural freezer.

Planetary Data Center (POST 544)

See globes, maps, and images of other planets studied by scientists at SOEST.

Comparative Planetology (POST 544)

See how Earth compares to other planets in our solar system. View 3-D images and our “Magic Planet.”

Meteorites: Rocks from Outer Space! (POST 544)

See ~30 different kinds of meteorites and learn how to recognize them. Learn how meteorites form and evolve, and what they tell us about the synthesis of the elements and the formation of the solar system.

Planetary Exploration at HIGP: Moon (POST 544), and Mars (outside POST 544)

See a giant lunar globe and learn about where we have conducted Mars research at SOEST.

Fun with Physics (POST 601)

What do ice skaters, hurricanes, and solar systems have in common? Explore hands-on demonstrations of the essential physics governing the ocean, air, planets, and the tools we use to study them.

What's Inside a Volcano? Rocks, Water, and Geothermal Heat! (POST 619)

See rocks from deep inside Earth (a Hawaiian volcano) and learn about groundwater and geothermal energy!

Global and Local Earthquakes Display (outside POST 701)

Computer screens showing realtime earthquake activity around the world and on the Big Island.

Magnificent Minerals, Crystals, and Gems (POST 702)

Why are some minerals and crystals usually not found in Hawai'i? Explore common rock forming minerals and why they can be so large. Discover unusual crystals and gemstone minerals found worldwide.

Rock Magnets (outside POST 702)

Choose your favorite rock for your very own rock magnet!

Please Touch! Violent Volcanoes, Beautiful Beaches, Glorious Gems, Magnificent Minerals, Fascinating Fossils (POST 702/703)

Hands-on Interactive Earth Sciences Discovery: See, touch, and learn very cool geology stuff from Hawai'i and all over Planet Earth.

Extinct and Exotic (POST 703)

Come see and touch the remains of animals that are millions of years old and have been transformed to rock.

Rocks of Hawai'i (POST 703)

Volcanic bombs, Pele's Hair, pillow lava, and more. See and feel interesting rocks formed by Hawaiian volcanoes.

Sand Turns into Mountains, and Mountains Into Sand (POST 703)

Use hand samples and microscopes to see ancient life left inside rocks, see how sands are transformed into mile-high mountains, and see how mountains are then turned into grains of sand!

Origins of Hawaiian Beaches (POST 703)

Ever wonder where Hawai'i's beach sands came from? Explore their composition and origins... perhaps they came from volcanoes, coral reefs, or the shells of marine creatures!

Groundwater Contamination (POST 708)

A physical set up is used to simulate underground water flow and contamination. Water moves into the ground by simulated rain and is extracted by wells.

Build Your Own Mountains and Rivers Using an Augmented Reality Sandbox! (POST 708)

Blow your mind and learn about how water flows through different landscapes using the hands-on interactive Augmented Reality Sandbox.

Water, Water Pollution, and Our Oceans (POST 708)

Activities for all ages including instruments used to study environmental science in Hawai'i.

See Yourself LIVE in the Magic World of Infrared (POST 708)

See what you and your friends really look like in infrared, and learn how we use this technology to discover the millions of gallons of invisible groundwater that goes into Hawai'i's oceans using airplanes and remote controlled drones!

Insights into Rock Magnetic Properties (POST 716) *Saturday Only*

Come to see how the magnetic properties of terrestrial and extraterrestrial materials are measured and learn about what rock magnetism can tell us about geologic processes and the Earth.

Falling Rocks (POST 723)

Rock falls occur in many parts of the world, including Hawai'i. See spectacular video footage of rock falls and learn how they are being studied.

Quakes and Shakes! (POST 832)

Learn about the Earth's seismic activity and what causes earthquakes!

Seismic Vibrations (POST 832)

Jump to create your own earthquake!