



## Press Release

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### **UH SOEST installs new satellite communication facility**

Honolulu, HI – On August 8<sup>th</sup>, 2012, a new antenna and satellite downlink system became operational at the University of Hawaii (UH). This X/L band antenna and dish system follows polar orbiting earth satellites (POES) and downloads, in real time, data useful for weather and ocean forecasts as the satellites pass over Hawaii.

“Being in the middle of the ocean, Hawaii relies more on satellite data than the mainland where other data sources are more widespread,” said Steven Businger, Meteorology Professor at the UH-Manoa School of Ocean and Earth Science and Technology (SOEST). Dr. Businger is the lead scientist on the Hawaii project, which is a collaboration primarily between UH Manoa, the National Weather Service (NWS) Honolulu Forecast Office (HFO), NWS Pacific Region Headquarters, University of Wisconsin, and Honolulu Community College where the antenna is installed. “The new system ensures that in real-time we get high resolution satellite data that are relevant to local conditions.”

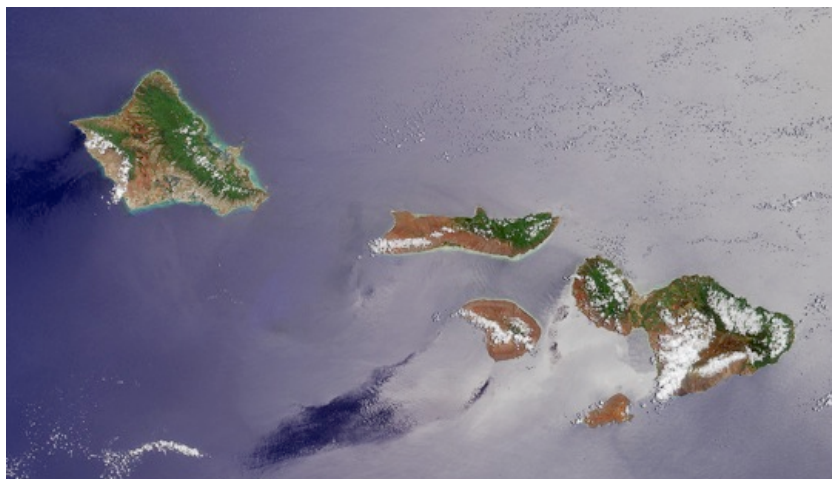
Data received from polar orbiting satellites via the downlink system will aid SOEST researchers and NWS forecasters in improving forecasts of three hazards that are critical to the tropical Pacific: heavy rainfall, tropical cyclones, and detection and modeling of volcanic emissions, as well as monitor the thermal activity of Kilauea volcano. This downlink system is a part of the GOES-R Proving Ground in which algorithms developed from the satellite data will better prepare forecasters and scientists for the arrival of GOES-R satellite data (see [http://cimss.ssec.wisc.edu/goes\\_r/proving-ground.html](http://cimss.ssec.wisc.edu/goes_r/proving-ground.html)).

Another program that will benefit from the new facility is the Hawaii Space Flight Laboratory (HSFL), which is a joint project of SOEST and the College of Engineering. UH is on track to design, build,



The satellite communication system is seen here on the roof of an HCC campus building. Roy Huff, foreground, is a post doctoral fellow at UH Manoa and oversaw the required rooftop engineering for the system. Courtesy: Steven Businger, UHM/SOEST.

launch and control its own satellites. With the new data reception capability provided by the antenna, the HSFL now has the potential to receive data from their own satellites locally using the downlink facility. “This is one more step toward UH being able to support its own space missions, and provides a wide variety of new space research opportunities for our faculty and students” said Peter Mouginis-Mark, Director of the Hawaii Institute of Geophysics and Planetology, SOEST.



The MODIS image above shows Oahu, Molokai, Lanai, Maui, and Kahoolawe.  
Courtesy of NASA.

The NWS HFO relies on accurate and timely satellite information from across the Pacific. In the past, without a Hawaii-based downlink facility, the HFO experienced a six-hour delay in receiving data from local satellite scans. This new system allows real-time downloading of sea surface temperature, ocean color, cloud temperature, cloud cover, and high-resolution cloud imagery from polar-orbiting satellites. Further capabilities of the new system include collection of

high-resolution images at night and detection of thunderstorms that were previously not as clearly visible. In combination, the additional data and

quick turnaround of data can help improve forecasts of local conditions.

“The new facility allows us to view night-time shower activity as clearly as during the day in GOES visible images,” said Robert Ballard, the Science and Operations Officer at the NWS HFO. “And it gives us an important back-up view should images from the GOES satellite be disrupted for any reason.”

This project is funded by NOAA and UH SOEST.

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The School of Ocean and Earth Science and Technology at the University of Hawaii at Manoa was established by the Board of Regents of the University of Hawai'i in 1988 in recognition of the need to realign and further strengthen the excellent education and research resources available within the University. SOEST brings together four academic departments, three research institutes, several federal cooperative programs, and support facilities of the highest quality in the nation to meet challenges in the ocean, earth and planetary sciences and technologies.

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