



**Press Release**

**Tuesday, January 24, 2012**

## **Center for Island, Maritime and Extreme Environment Security assists USCG with Nome fuel delivery**

Honolulu, HI – Researchers with the Center for Island, Maritime and Extreme Environment Security (CIMES), headquartered at the School of Ocean and Earth Science and Technology (SOEST), have been providing the United States Coast Guard (USCG) Cutter *HEALY* with critical information about sea ice thickness as the icebreaker leads the Russian tanker *Renda* on a mission to deliver fuel to Nome, Alaska. The typical pre-winter delivery of fuel by barge to Nome did not take place this year because of offshore storms last November. Using an Aeryon Scout unmanned aerial vehicle (UAV) launched from shore, Dr. Gregory Walker, with the Geophysical Institute at the University of Alaska Fairbanks



USCG Cutter *HEALY* navigates sea-ice outside the harbor in Nome, Alaska. Information provided by unmanned aerial vehicles has helped the *Healy* avoid dangerous obstacles as it moves through the sea-ice. Image courtesy of CIMES.

(UAF), and his colleagues continue documenting daily ice conditions and transmitting the information to *HEALY* to help the icebreaker avoid dangerous obstacles such as pressure ridges that form when ice surfaces push together. "The Department of Homeland Security's Office of University Programs established CIMES four years ago to strengthen collaborations between the USCG, as well as harbor masters and other first responders, and University scientists and engineers. The effort by UAF/CIMES researchers to support never-before-attempted USCGC *HEALY* operations demonstrates the value of these partnerships to both the participants and the affected communities, in this case the residents of Nome," says Dr. Margo Edwards, CIMES Director and a Senior Research Scientist with the Hawaii Institute of Geophysics and Planetology at the University of Hawaii – Manoa (UHM).

In addition, improved real-time awareness of sea-ice conditions will demonstrate how new technology can revolutionize operations in sea ice, including beyond the visible sight from the ship. As marine transportation through the Arctic region increases in tandem with retreating sea ice extent, this project provides a unique opportunity to safely integrate small, unmanned aircraft into USCG cutter operations as well as better understand and monitor rapid changes in the Arctic environment for the benefit of many Department of Homeland Security stakeholders, says Walker.

CIMES is focused on developing robust research and strong educational programs in geographic areas that present significant homeland security challenges. Its goal is to deliver revolutionary

advances in maritime domain security capabilities that will allow for the eventual development and fielding of critically needed new capabilities. Initial efforts have been focused on developing technologies for persistent observations in challenging marine environments. CIMES partners include UHM, UAF, and the University of Puerto Rico – Mayagüez.

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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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