Overview:
SOEST is a global leader in research, service, and teaching of the Earth and environmental sciences. Focused on student-centered research, our faculty teaches undergraduate and graduate students in a wide-range of ocean, atmosphere, Earth, and planetary science disciplines—all of which are STEM disciplines.

College Website:
https://www.soest.hawaii.edu/soestwp/

STEM Degree Programs:
- Atmospheric Sciences (BS, MS, PhD)
- Geology (BA) - Earth Science Education
  - Environmental Earth Science
- Geology & Geophysics (BS, MS, PhD)
- Geoscience (Mgeo)
- Global Environmental Science (BS)
- Ocean & Resources Engineering (MS, PhD)
- Oceanography (MS, PhD)

STEM Education Funding since FY2012:
$34,219,863*

Research Centers and Institutes:
- HI Inst. of Geophysics and Planetology (HIGP)
  - Hawai‘i Space Grant Consortium
  - Hawai‘i Space Flight Laboratory
- Hawai‘i Institute of Marine Biology (HIMB)
- Hawai‘i Natural Energy Institute (HNEI)
- Hawai‘i Sea Grant College (UH Sea Grant)
- International Pacific Research Center (IPRC)
- Joint Institute for Marine and Atmospheric Research (JIMAR)
- Pacific Biosciences Research Center (PBRC)

 STEM Profile:

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduate</th>
<th>Undergraduate</th>
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<tbody>
<tr>
<td>2013</td>
<td>40</td>
<td>160</td>
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<tr>
<td>2014</td>
<td>30</td>
<td>170</td>
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<tr>
<td>2015</td>
<td>20</td>
<td>170</td>
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<tr>
<td>2016</td>
<td>10</td>
<td>160</td>
</tr>
</tbody>
</table>

Total STEM Enrollment (Fall 2016): 257

% Women: 57%
% Native Hawaiian: 6%

STEM Degrees Awarded (2015-16):
- Bachelor's: 35
- Masters: 19
- Doctorate: 16

* Calculated based on STEM education grants in ORS reports. Multi-campus grants are listed under PI’s institution
* Enrollment counts excludes students not home-based at this campus
Selected STEM Education Projects and Activities

Over the past 10 years SOEST faculty and staff have brought in more than $1 billion in extramural program and project support to enhance and advance our STEM education, extension, and research programs—many of which have a distinct public focus and all of which have an education component. Selected examples of past and current student- and community-focused STEM engagement opportunities illustrate the diversity and depth of our STEM activities.

SOEST Open House:

Every other year SOEST holds an Open House to which the public at large is invited. Thousands of children from public, private, and home schools, and families from all over O’ahu visit our facilities on the UH Mānoa campus. The next Open House is scheduled for October 2017.

ʻIke Wai: Securing Hawaiʻi’s Water Future:

ʻIke Wai is an interdisciplinary research collaboration among geophysicists, geochemists, engineers, microbiologists, modelers, data scientists, and social scientists. Key questions include: How much water is there? How does it flow? How long will it last? The ʻIke Wai program includes undergraduate research, student and postdoctoral professional development, and a seed funding program in which participants propose their own ideas. Faculty are trained in research-based education methods to improve STEM-based student learning in the classroom. All ʻIke Wai participants are part of a layered mentoring network in which everyone serves as both mentor and mentee. For more information please visit http://www.hawaii.edu/epscor/

Hawaiʻi Natural Energy Institute (HNEI):

HNEI conducts research of national interest while helping the State of Hawai‘i achieve energy independence from imported fuel. HNEI supports undergraduate and graduate education via active partnerships throughout the university. HNEI faculty support and/or supervise undergraduate, graduate student research and postdoctoral fellows. In recent years, HNEI has also supported training and workforce development at Maui College and Kaua‘i Community College. HNEI supports the Asia-Pacific Technology and Education Partnership (APTEP), funded by the Office of Navy Research (ONR). APTEP supports STEM through the Maui Economic Development Board and at several Hawai‘i Department of Education sites. For more information please visit http://www.hnei.hawaii.edu/

C-MORE Science Kits

Center for Microbial Oceanography: Research and Education (C-MORE) science kits offer lesson plans and materials for hands-on science activities in a self-contained format. They are designed for use with a range of grade levels. Each kit provides the information and supplies necessary for educators to teach their students about a particular topic in oceanography. These easy-to-use kits are a great resource for any classroom. Teachers (or others) can borrow these kits free of charge from one of 13 lending libraries managed by the STEM Pre-Academy (5 on O‘ahu, 4 on neighbor islands, and 4 on the U.S. mainland). For more information visit http://stempreacademy.hawaii.edu/c-more or email kits@soest.hawaii.edu

Science Communicators ‘Ohana

SciComm ‘Ohana is committed to increasing scientific literacy in society through effective science communication. Comprised of a community of students, postdocs, staff, and faculty, the SciComm ‘Ohana hosts workshops, which include topics such as Blogging Basics, Improv for Scientists, and one working on 30-second speeches designed to use relatable language in reply to the question, “what do you work on?” The SciComm ‘Ohana also hosts monthly Pau Hana events with UH scientists in different fields, talking about their new discoveries or their challenges in science communication. In addition, the SciComm ‘Ohana manages the Real Science at SOEST! Blog (https://earthscigradblog.wordpress.com), which features articles written by students and staff about their science and career paths in non-technical language for a non-specialist audience. For more information: www.facebook.com/scicomm.ohana

To learn more about these STEM Education projects, please contact: Dr. Charles Fletcher (cfletche@hawaii.edu); (808) 956-2582