



Hawai'i Natural Energy Institute Research Highlights

Energy Efficiency & Transportation

State of Hawai'i Department of Education: Thermal Comfort Portal Web Hosting

OBJECTIVE AND SIGNIFICANCE: The Thermal Comfort Portal (<http://hnei.hidoe-thermal-comfort.4dapt.com>) is a web-based research tool developed for the Hawai'i Department of Education (HIDOE) to provide resources for design and implementation of their heat abatement program. In addition to providing monitored climate and building data, the portal includes recommendations about heat abatement and thermal comfort strategies and solutions for consumer and professional use. Its objective is to expand program participation to the greater sustainable design community, who could offer abatement solutions during design and/or implementation of heat mitigation strategies.

BACKGROUND: Many of the public schools in Hawai'i do not have space conditioning, nor do they have access to weather data that could inform decisions about activities impacted by weather in school facilities. Under this project, the Hawai'i Natural Energy Institute (HNEI) is providing HIDOE with the technical resources and expertise to support the delivery of energy and weather data that enables researchers, the community, and design professionals to make data-driven decisions for designs and resource allocation.

Publicly released in November of 2017, HNEI has hosted the Thermal Comfort Portal as a research resource for microclimatic data across Hawai'i. Specific thermal performance of public schools are also available on the website. HNEI supports public participation and outreach by hosting the portal on its website. The design firms MKThink and Roundhouse One developed and constructed the Thermal Comfort Portal on behalf of the HIDOE and continue to provide back-end infrastructure support.

PROJECT STATUS/RESULTS: The HIDOE Thermal Comfort Portal continues to be supported on the HNEI website. HIDOE continues both its [Heat Abatement Program](#) as well as its Cool Classrooms air conditioning strategies.

This project is ongoing and HNEI's hosting of the portal will continue through December 2020.

Funding Source: Energy Systems Development Special Fund

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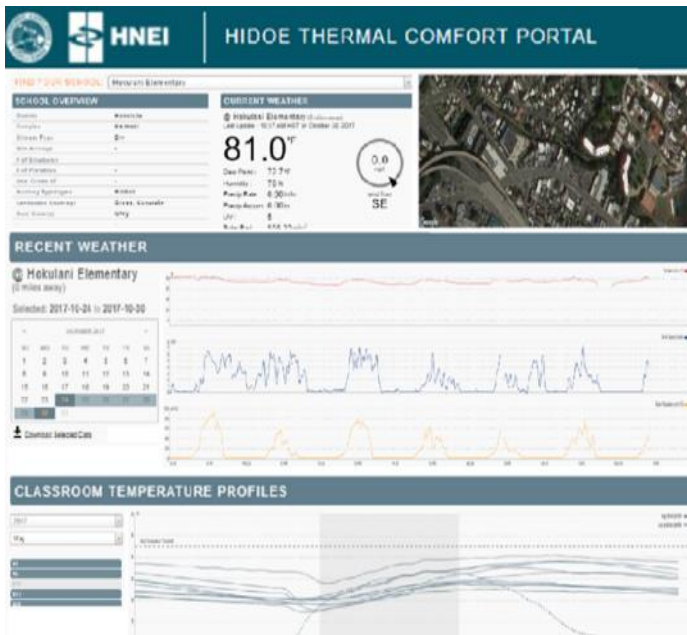


Figure 1. A screenshot of the Thermal Comfort Portal, showing Hokulani Elementary School's outdoor environmental data and classroom temperature data.

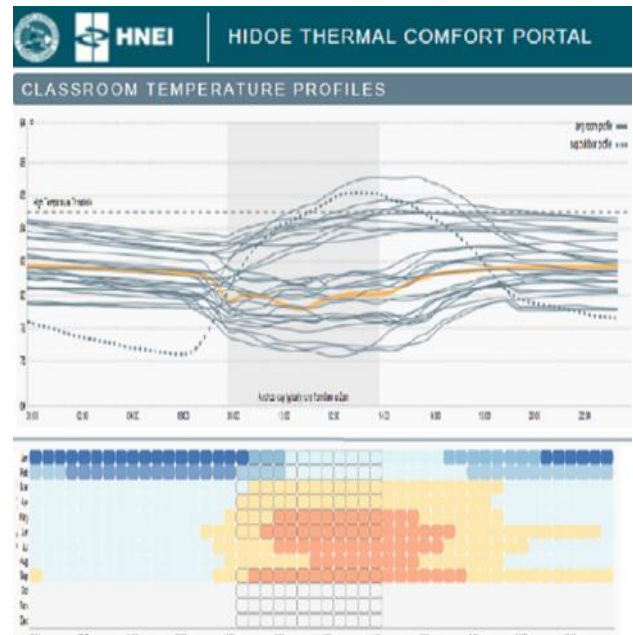


Figure 2. A screenshot of the Thermal Comfort Portal, showing Hokulani Elementary School's indoor temperature and outdoor temperature heat