**Project to promote environmental STEM learning linked to climate change, 2024**

This practical training workshop aims to promote environmental learning linked to climate change, aligned with STEM education for local teachers and students nationwide. The goal is to ensure equitable access to learning, fostering 21st-century skills, core competencies, and sustainable development. By empowering learners to appreciate the significance of environmental stewardship and adapt to climate change, we aim to cultivate a sustainable coexistence with nature. Recognizing the pivotal role of schools and youth in future ecological management, Walailak University's Faculty of Science has joined a network of universities to implement a STEM-based environmental learning project connected to climate change in 2024.

We need a practical training workshop that leverages technology to achieve our objectives. As lead scientists in developing the GLOBE mosquito protocol and testing its implementation with Thai teachers and students for over 15 years, Walailak University is poised to empower community leaders, non-profit organizations, and educators in developing countries where mosquitoes transmit diseases. Our approach emphasizes inquiry-based learning, research-based education, and hands-on training to foster critical thinking and practical application. A deep understanding of the impacts of climate change on mosquito-borne diseases is crucial for sustainable development.

The Center of Excellence for Ecoinformatics, Faculty of Science, Walailak University, has over 15 years of experience conducting training on the GLOBE atmosphere protocol (e.g., air temperature, relative humidity, precipitation, pH, cloud type, and cloud cover), water protocol (e.g., water temperature, pH, transparency, conductivity, and salinity), and the Mosquito Habitat Mapper app. We specialize in managing atmospheric, water, and mosquito data for dengue and Zika virus control and prevention. Our training programs have reached teachers, students, and communities in various countries, including the United States, Thailand, Vietnam, Palau, and New Zealand. This training will raise awareness, transfer knowledge, and develop skills in managing, communicating, and adapting to climate change.

This workshop is designed to (1) train educators on conducting GLOBE environmental monitoring research and climate change activities aligned with the Ministry of Education's GLOBE guidelines, (2) provide ongoing support and mentorship for student research, GLOBE environmental monitoring and climate change activities, (3) facilitate data entry for environmental measurements, and (4) assist schools in submitting research projects to the Ministry of Education's GLOBE Student Research Competition (GLOBE SRC) and/or the GLOBE International Virtual Science Symposium (IVSS). There were 13 schools, 98 teachers, 818 students from Nakhon Si Thammarat and other provinces joined this project and students had submitted ten student research projects to the GLOBE IVSS in March 2024. This project directly addresses SDG 4.3.4: Education outreach activities beyond campus. The workshop has incorporated extracurricular activities into the curriculum for teachers and students in Nakhon Si Thammarat province and schools nationwide, aligning with SDGs 17.2.1: Partnerships for the SDGs and 17.4.3: Education for SDGs. We have developed SDG policies by collaborating with national government and private sector stakeholders, including problem identification, policy development, and management. Additionally, we have organized on-campus training for 13 Thai schools, focusing on climate change and prevention.