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Organization for
Tropical Studies



PHOTO CREDITS

Adrian Hepworth • Chris Hildreth • José A. Guzmán • Juan Carlos Ulate
Juan José Pucci • Leandro Castaño • Mauricio Castillo
Michael and Patricia Fogden • Piotr Naskrecki





WHY THE TROPICS?

Home to more than 80% of earth's biodiversity
Source of many common products in daily life
Anchor of the world's climate
A region facing rapid and destructive change

WHO WE ARE?

The Organization for Tropical Studies (OTS) is an internationally recognized, not-for-profit consortium of over 60 universities, colleges, and research institutions from throughout the United States, Latin America, South Africa, and Australia. Founded in 1963, OTS provides innovative, field-based training in tropical studies for undergraduates, graduate students, and professionals. The Organization also facilitates research on tropical ecosystems, and engages in programs which support the responsible use of natural resources. OTS operates three premier research stations in Costa Rica: La Selva Biological Station in the Atlantic lowland rainforest; Palo Verde Biological Station in the Pacific deciduous dry forest; and Las Cruces Biological Station in the premontane forest near the Panamanian border.

OUR MISSION

To provide leadership in education, research, and the responsible use of natural resources in the tropics.

"Today's tropics would be immeasurably poorer and different without the Organization for Tropical Studies...without the tens of thousands of students who have cut their scientific teeth and pursued doctoral research plus the thousands of professionals and political leaders exposed in special courses to the wonders of tropical biology and the challenges of natural resources management. If OTS didn't exist it would need to be invented."

Thomas Lovejoy's, President
The H. John Heinz III Center for Science,
Economics and the Environment



EDUCATION

Classroom of the Tropics

OTS has pioneered an intensive, 'hands-on' approach to learning in the tropics. Though refined and expanded to reach increasingly diverse audiences, the OTS Model retains its fundamental tenets:

- Academic excellence
- Hypotheses testing
- Hands-on field projects
- Data analyses
- Excellent faculty and visiting experts
- Student presentations
- Total immersion experience

GRADUATE PROGRAM

Each year OTS offers internationally accredited, field-based graduate courses in science and environmental policy of the tropics. These courses are offered in English, Spanish, and Portuguese. Graduate courses in Costa Rica, Brazil, Peru, and Mexico all adhere to the same OTS model: the full immersion schedules of courses include hypothesis testing, field projects, data analyses, lectures, and student presentations. Lectures from national and international experts who comprise the resource faculty allow students a more in-depth understanding of issues. Students visit a diversity of habitats and utilize a wide range of field and laboratory techniques. These courses provide the students with the tools to critically investigate scientific problems.

"OTS for me was the Berlitz course in tropical biology. In eight short weeks, I went from a pitiful vocabulary – epiphyte, strangler fig, liana, agouti – to mastering conversational neotropicana. Before my course in 1980, tropical biology was something I read about in textbooks and journals, but with no direct contact. My course and teachers made tropical biology come alive and it remains for me this day, the educational experience of my lifetime. My fellow students were some of the brightest people I have ever met and taught me the value of challenging new ideas and theories."

Eric Dinerstein,
Vice President for Conservation Science,
World Wildlife Fund US.



UNDERGRADUATE PROGRAM

The Organization for Tropical Studies, in partnership with Duke University, offers semester and summer programs for undergraduate students interested in field biology, tropical environmental policy, resource management, and ethnobiology. The Costa Rican courses utilize all three OTS field stations as bases from which to explore the ecosystems of the country. In addition, students in the semester programs benefit from a Spanish language immersion course with a homestay during the semester. The South Africa course uses the world-renowned Kruger National Park as its base, allowing direct study of African savanna ecosystems. Through hands-on learning, students gain an in-depth knowledge of field ecology and biology, develop skills in field research techniques, and learn to assess resource management and policy issues that influence conservation and sustainability.

OTS also offers a Research Experiences for Undergraduates (REU) Program at its research stations. The research experience programs allow U.S. and Costa Rican participants to conduct independent research under the close supervision of a research mentor.

PROFESSIONAL TRAINING



OTS offers training to individuals who make critical decisions in their professional capacity that affect tropical natural resources. Offered in Costa Rica, Peru, and Brazil, OTS professional courses utilize hands-on, total immersion training in tropical environments through a balance of field-based lectures, discussions, group work, and case studies. The courses provide a scientific basis for decision making and management that should lead to the development of best practices and policies in the tropics. The policy-focused courses target elected officials and staff, governmental agency representatives, and key decision makers from the private and NGO sectors. Management-focused courses are directed at natural resources managers, such as those working in parks, wetlands, and other protected areas of the tropics.



"The OTS Decision maker's course presented a balanced, compelling, and memorable picture of the science which underpins the issues upon which we are making difficult policy choices for the tropics. To see first-hand and to learn from experts on the ground in the tropics and network with peers makes for a unique professional learning opportunity. This offering from OTS was a standout amongst my professional experiences in the Congress."

Lloyd Ritter,
Senior Democratic Counsel, Senate Committee
on Agriculture, Nutrition and Forestry.

Contrasting Ecosystems

OTS' three research stations provide a wide array of opportunities for research in natural and human-influenced systems. Different types of tropical forests, streams, wetlands, agroscares are encompassed in this network of stations and provide opportunity for comparative work. A wide diversity of fauna and flora reflecting the richness of the tropics is available for study. Each of the ecosystems represented at the stations has undergone change and together, they provide an excellent platform for temporal and long-term analyses.



Tropical Wet Forest

Founded in 1963, La Selva is one of the first private protected areas in Costa Rica. La Selva Biological Station is located in the Caribbean foothills of Costa Rica and comprises 1,614 hectares (3,988 acres) of old growth and disturbed tropical wet forest. Species diversity is spectacular, including more than 1,850 species of plants, 350 species of trees, 448 species of birds, and approximately 500 species of ants. La Selva is connected to an altitudinal transect that climbs from 35 meters above sea level at La Selva to 2,906 meters at the summit of Barva Volcano in 22 miles (35 kilometers). Together with Braulio Carrillo, Irazú and Poás Volcano National Parks, La Selva is recognized as part of a UNESCO Biosphere Reserve.



Tropical Montane Forest

The Wilson Botanical Garden was established in 1962 by Robert and Catherine Wilson and in 1973 the property was acquired by the Organization for Tropical Studies. The Garden contains over 3,000 plant species covering 12 hectares, comprising one of the world's largest tropical botanical collections. Las Cruces Biological Station is located at 1,100 meters (3,600 feet) elevation, near the Panamanian border on Costa Rica's southern Pacific slope and is an important mid-elevation research site. Las Cruces is only 40 kilometers from La Amistad National Park, the largest protected area in Central America, providing visitors a range of habitats from agroscape to paramo. The station's 266 hectares (657 acres) are rich in fauna, including over 400 bird species and numerous mammals.



Dry Forest and Wetlands

Palo Verde Biological Station, founded in 1971, is in the heart of Palo Verde National Park, located in the northwest Costa Rica lowlands of Guanacaste Province. The park contains one of the most extensive marshes and some of the oldest patches of dry forest remaining in Central America. From the station, there is easy access to 12,000 hectares (29,652 acres) of marshes and 8,000 hectares (19,768 acres) of dry tropical forest in the Tempisque River Basin. The seasonal freshwater marsh is an important wetland area for more than 60 species of resident and migratory waterbirds.

Laboratory of the Tropics

OTS plays a major role in facilitating tropical research at its three state-of-the-art biological stations in Costa Rica. The stations provide modern research facilities, such as chemical and molecular laboratories, Global Information System (GIS) laboratories and data layers, and wireless access to broadband internet that allow scientists to easily integrate field-based studies with complementary analyses. By providing well equipped laboratories, basic long-term monitoring data, natural history guides and keys, and specialized equipment, scientists from throughout the world can literally begin their research projects minutes after arriving at the stations. Where projects require a long-term commitment, OTS is often the financial and administrative manager. Each year, OTS facilitates research for approximately 500 scientists from 25 countries.



LA SELVA BIOLOGICAL STATION

La Selva is recognized as one of the world's leading centers for research, education, and natural resource management in the tropics. La Selva offers 5,000 square meters (54,000 sq. ft) of facilities for science and education including: room and board for 134 persons, a dining hall for 110, classrooms, wireless internet, library, and herbarium. An extensive trail system of 60 kilometers (38 miles), of which 12 kilometers (8 miles) are paved, provide unique access to diverse tropical lowland ecosystem. Major research projects focus on forest dynamics, biodiversity, plant and animal systematics, nutrient cycling, carbon sequestration, and native species reforestation. Research at La Selva has led to publication of more than 2,600 scientific articles, theses, and books.

LAS CRUCES BIOLOGICAL STATION & WILSON BOTANICAL GARDEN

Las Cruces Biological Station and Wilson Botanical Garden offer a total area of 266 hectares (657 acres) and can provide room and board for up to 80 persons. The station is equipped with classrooms and wireless internet as well as laboratories and library facilities to support both short term and long term researchers and academic courses. Major research projects focus on conservation biology, habitat fragmentation, and restoration ecology.



PALO VERDE BIOLOGICAL STATION

Palo Verde Station located in the Palo Verde National Park offers room and board for 60 persons, wireless internet, a library, herbarium, and classroom that can support researchers and students. Major research projects focus on wetland ecology and restoration, mangrove biology, dry forest ecology, and agroecology.



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