



Multidisciplinary Learning in the Tropics

## **Costa Rica 2022 Itinerary**

Tropical Ecology - BSC 2362

Travel Dates: May 16 - 26, 2022

Each of the outdoors/adventure entry points into the natural ecosystem provide an up-close look at local flora and fauna. At each site the group will be joined by a local guide (specific to that area) who will complement the instruction of the faculty about the surrounding ecosystem. Guides are experts in local subject material, species identification, and indigenous knowledge. Evening activities will focus on opportunities for celestial observation. See more information about Astronomy in Costa Rica below the following itinerary.

### **Day 1:** Fly to Costa Rica

Arrive in San José, the Costa Rican capital.

Dinner: First meal together as a group. From this point on, you'll enjoy breakfast, lunch, and dinner together every day.

Outcomes: Group orientation, safety procedures, updates.

### **Day 2:**

San José | Tortuguero

Braulio Carrillo National Park:

Founded in 1978, this park was built to preserve the wildlife of the area, from jaguars and ocelots to quetzals and eagles. Take in views of the dense overhanging plants, nearby valleys, and volcano craters.

Boat ride to Tortuguero:

Founded in the 1930s by Colombians exporting sea turtles and coconuts, Tortuguero Village today is accessible only by boat and home to just 700 residents. Begin your visit with in Tortuguero Village, gateway to Tortuguero National Park.

The boat ride will provide an opportunity to observe lacustrine brackish, and riverine species, as well as serve as our mode of transportation to the park. We will have many opportunities to observe aquatic and bird species in transit. You can observe river structure and the physical interaction with the forest community. You will see the interaction of indigenous peoples with the natural landscape, as well as the problems facing Costa Rica's natural habitats. Later that

night you will have an opportunity to do some star gazing and orientation to the night skies in Costa Rica.

### **Day 3: Tortuguero**

Tortuguero National Park:

Visit Tortuguero National Park, the most important Caribbean breeding ground for the green sea turtles who have lived here for more than 100 million years. Next, explore the twists and turns of the Tortuguero Canals on a boat excursion. High rainfall, a convergence of fresh water, and the Caribbean Sea make the beaches, canals, lagoons, and wetlands of Tortuguero areas of exceptional biodiversity—and an important starting point for much of the aquatic diversity of the area. We will be looking to observe the many bird species associated with riverine and edge habitat such as the banks of a river. Howler monkeys, toucans, or maybe even a caiman are possible to observe here.

### **Day 4: Tortuguero | Sarapiquí region**

Travel to the Sarapiquí region:

Make your way to the Sarapiquí region, a county in the Heredia province known for its lush rainforests, outdoor activities, and incredible array of flora and fauna. Keep a lookout for the endangered green macaw, who makes its home here.

Sarapiquí canopy tour:

See the rainforest from a unique perspective on your canopy tour. Using techniques pioneered at the Smithsonian Research Station in Panama, strap into your safety harness and glide from platform to platform through the treetop greenery. These platforms are designed to observe species seldom seen from the ground. Canopy tours are one of the only ways to see species associated with the upper reaches of the rain forest, as well as epiphytic growth, bromeliads, primates, reptiles, and the overall forest structure. You can spot some of the area's indigenous wildlife, including monkeys, Caymans, sloths, crocodiles, and iguanas. There is an option for those averse to heights to explore the natural habitat in the Sarapiquí region.

### **Day 5: Sarapiquí region | Arenal region**

Whitewater rafting:

Join our whitewater rafting excursion. Take in the Arenal region's beautiful scenery when you traverse quieter river segments. Then, feel the spray of the mild rapids as you paddle your way through. This rafting experience is one of the only ways to see the area's riparian habitat, river associated species, and the geology of volcanically formed substrates. It also is vital in the formation of soils in the area, as well as export of organic material. We will also have a chance to see many species only associated with moving water systems. Many of these riparian systems are endangered in Costa Rica directly through human activities.

### **Travel to the Arenal region:**

As you continue to the Arenal region, watch for the tremendous cone that emerges from the green hills of Alajuela—the mile-high Arenal Volcano. Overlooking the San Carlos plain and the Pacific lowlands, the Arenal Volcano has been active for the past 7,000 years. Habitats

associated with the bases of volcanos are unique in that there are areas of high disturbance and develop unique assemblages of flora and fauna due to the frequencies of habitat destruction by the volcanoes.

Hot springs: Take a dip in the area's relaxing hot springs. These pools are naturally heated by thermal energy from the nearby volcano. This activity will be in our free time.

#### **Day 6:** Arenal region

Kayak on Lake Arenal:

The Arenal Volcano serves as a watershed for Lake Arenal, which you'll see up-close on a kayaking excursion. Glide across the blue water to hidden coves and lagoons, some of the most unique and endangered habitats in Costa Rica. Kayaking is one of the few ways to observe this habitat unobtrusively. Be sure to keep an eye to the sky—more than 400 species of bird fly overhead here. Habitats such as this are critical for many indigenous and migratory species. This will be a chance to see many unique bird species that use Costa Rica as part of their migratory path from South American to North America.

Afternoon in town for supplies and washing clothes.

#### **Day 7:** -Arenal Region

Hike to La Fortuna Waterfall:

Lace up your walking shoes and hike through thick forest vegetation to the spectacular La Fortuna Waterfall. Surrounded by tall, green cliffs, this 200-foot cascade churns the aqua pool below. This time will provide you with an opportunity to observe many of the abiotic forces necessary to maintain riverine and lacustrine systems, as well as limestone-based habitats (karst).

#### **Day 8:** Arenal region | Guanacaste

Rincón de la Vieja National Park:

This morning, along the way to Guanacaste, you'll explore Rincón de la Vieja National Park and learn about the area's remarkable array of plant and animal life. Biodiversity is an important concept for the class, and you will learn its application fully within this habitat. Located high in the mountains, this rain and cloud forest boasts numerous geothermal hot springs. The highlight is the Blue Lagoon; its color and name come from the minerals in the stones beneath the lagoon, which is fed by a giant waterfall. These geological features and biotic condition contribute to a unique habitat with unique biodiversity.

Guanacaste:

As you arrive in Guanacaste, take in the craggy bluffs cloaked in forests that stretch above you. Along these roads you're bound to encounter local cattle ranchers driving oxen carts farther inland. Here you will observe the anthropogenic effect of human settlement on natural systems.

#### **Day 9:** Guanacaste

Snorkeling:

Watch for sea turtles, colorful corals, and all sorts of interesting and unusual marine life as you snorkel through Guanacaste's clear Pacific waters. Snorkeling provides you an opportunity to observe and journal the marine interactions in topical systems. It is a primary research technique in shallow water habitats, as well as a unique opportunity to observe several species indigenous to Costa Rica.

**Palo Verde National Park:**

This park is home to one of the last tropical dry rainforests in Central America, and many different bird species flock to its lush trees and marshlands. We will be doing a bird count as we traverse the system to look at scientific measures of biodiversity. Tropical dry systems are a rare and endangered system within Costa Rica. This is an opportunity to see the variation in tropical systems.

**Day 10:**

**Palo Verde boat tour:**

Get a whole new perspective on the diverse wildlife of this region on an eye-opening boat tour. Look for monkeys, crocodiles, and more as you cruise the Tempisque River. This is one of the larger rivers in the system and will give us a comparison to transiting the river in Tortuguero National Park. It will have many unique species, and some river features that differ from other river-based systems due to its size. You will be looking at differences in species diversity, habitat structure, and doing a species count.

**Day 11:**

**Depart for home**

Transfer to the airport and check in for your flight home.