

1. Course Goals

## Tropical Ecology and Conservation Bio 181

### **Course Goals:**

- Gain a working knowledge of various tropical ecosystems
- Examine critical issues relevant to conservation and sustainability
- Write a research proposal
- Gain hands-on research experience: from collecting data to presenting results
- Teamwork

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2. Course Components

## Tropical Ecology and Conservation: Components

### Semester

- Readings and discussions
- Ecosystem presentations
- Research proposal

- Costa Rica
  - Travel to three sites
  - Conduct research
  - Communicate results

Writing Workshop - What does it mean? Journals...

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3.

## Text Books

### Text Books

Tropical Nature, Adrian Forsyth and Ken Miyata, 1984, Touchstone, New York.

Tropical environments: the functioning and management of tropical ecosystems, Martin Kellman and Rosanne Tackaberry, 1997, Routledge, New York.

Costa Rica, Les Beletsky, 2005, Interlink Books, Northampton, Massachusetts.

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4.

## Announcements



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5.

## Biomes of Costa Rica

# Biomes of Costa Rica

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6.

## Pacific Dry Forests - Wet Season - Santa Rosa

### Pacific Dry Forests - Wet Season Santa Rosa



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7. Pacific Dry Forests - Dry Season - Palo Verde

**Pacific Dry Forests - Dry Season  
Palo Verde**



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8. Lowland Atlantic Rainforests - La Selva

**Lowland Atlantic Rainforests  
La Selva**



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9. Montane Cloud Forests - Monteverde

**Montane Cloud Forests  
Monteverde**



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10. Paramo: Tropical Alpine Community

**Paramo: Tropical Alpine Community**



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11.

### Students in the Bog



12.

### Tropical Plant



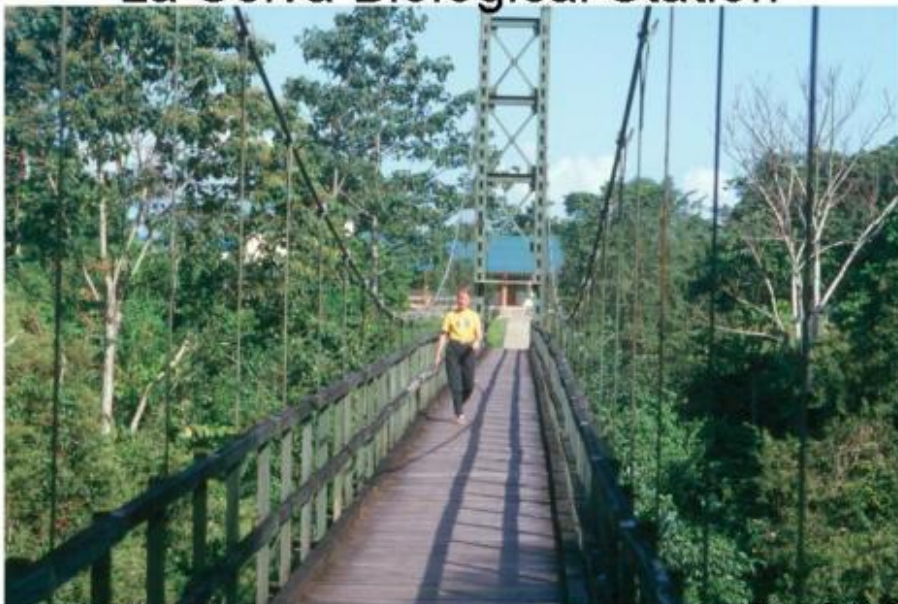
13. The Trip...

# The Trip...

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14. 1st Stop - La Selva Biological Station

## 1<sup>st</sup> Stop La Selva Biological Station



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15.

Before

Before



16.

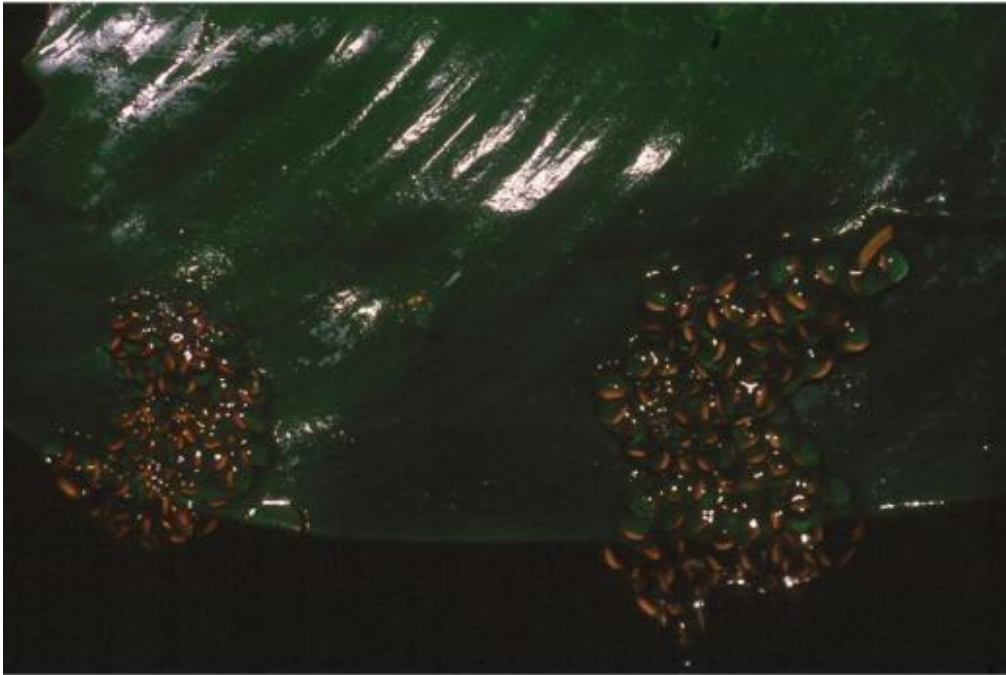
After

After....



17.

## Leaf



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18.

## Snake in a Stump



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19.

## Frogs Mating



20.

## Frog on a Leaf



21.

## Frogs



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22.

## Walkway



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23.

## Dynamic Forests

# Dynamic Forests



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24.

## Tropical Plants



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25.

Flora and Fauna

## Flora and Fauna



26.

Tropical Plant



27.

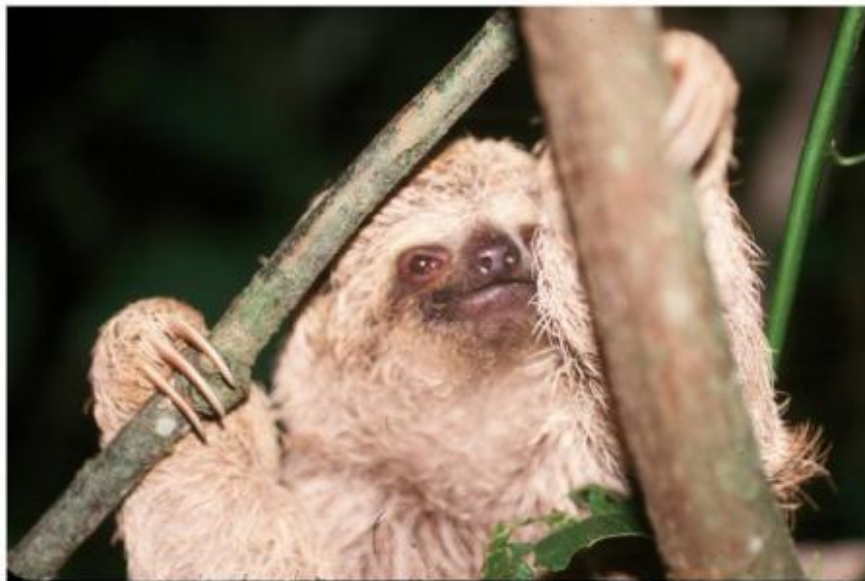
## Frog on a Tree



28.

## 3-toed sloth

## 3-toed sloth



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29. 2nd Stop: Corcovado National Park (Sirena Biological Station...

## 2nd Stop: Corcovado National Park (Sirena Biological Station)



30. Sirena Biological Station



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31.

## Bug Nets



32.

## Frog on a Leaf



33.

### Monkey in a Tree



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34.

### Clear Winged Butterfly



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35.

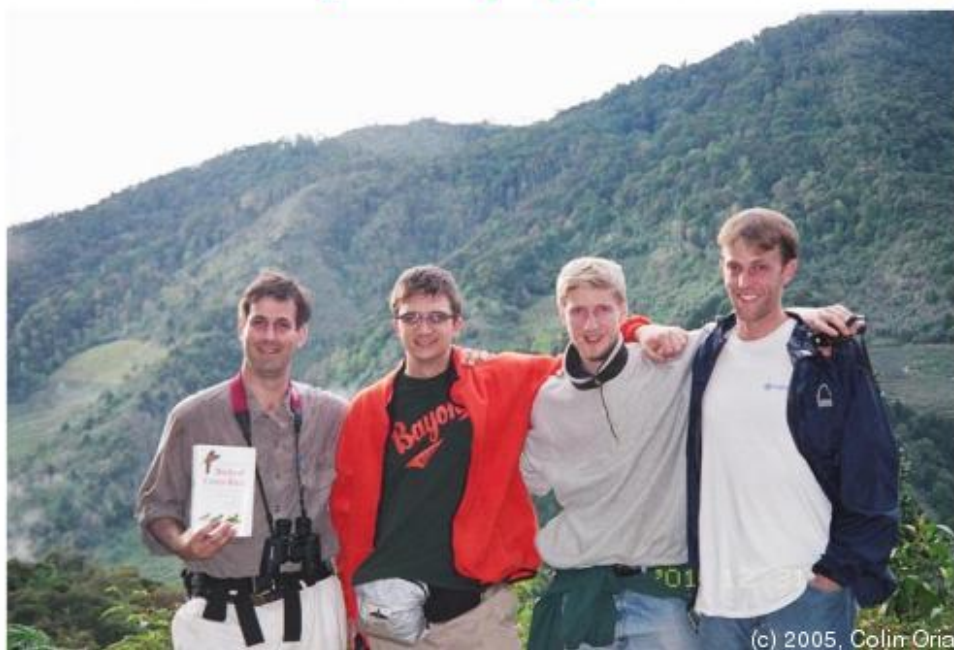
## Students



36.

## 3rd stop: Copey de Dota

### 3rd stop: Copey de Dota



37.

### Quetzal - Tropical Bird



**Quetzal**

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38.

### Coffee



**Coffee**

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39.

### Student Picking Coffee



40.

### Student Discussion



41.

### Shoveling Coffee



42.

### Dota Coffee Processing Plant



43.

Cafe Quetzal Dota



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44.

Projects: La Selva vs. Sirena

## Projects: La Selva vs. Sirena

### Rainfall (mm)

| Month        | La Selva<br>1990-2005 | La Selva<br>2000-2005 | Sirena<br>2000-2005 |
|--------------|-----------------------|-----------------------|---------------------|
| January      | 245.2                 | 353.3                 | 176.0               |
| February     | 223.7                 | 257.8                 | 26.3                |
| March        | 142.9                 | 137.7                 | 82.4                |
| April        | 174.9                 | 240.0                 | 200.9               |
| May          | 462.1                 | 521.9                 | 505.6               |
| June         | 431.2                 | 543.0                 | 616.5               |
| July         | 547.0                 | 528.0                 | 505.5               |
| August       | 453.7                 | 481.8                 | 594.7               |
| September    | 319.7                 | 276.8                 | 767.7               |
| October      | 413.0                 | 366.5                 | 914.6               |
| November     | 411.6                 | 435.5                 | 819.7               |
| December     | 483.7                 | 532.4                 | 357.6               |
| <b>Total</b> | <b>4308.7</b>         | <b>4674.6</b>         | <b>5567.4</b>       |

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45.

## Possible Projects

# Possible Projects

- Gap dynamics
- Biodiversity (e.g., ants)
- Biodiversity of drought-adapted organisms  
(or water-loving organisms, such as epiphytes)
- Frequency of drought adaptations in plants  
leaves, wood, etc.
- Ant-Plant interactions
- Territoriality
- Plant defense strategies
  
- see syllabus for other ideas*

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