Welcome

The School for Field Studies (SFS)
Marine Resource Studies in the Turks & Caicos Islands (TCI)
Webinar Outline

1. Introduction to SFS
2. Welcome to CMRS
3. Research focus
4. Curriculum and Directed Research
5. Field expedition
6. South Caicos community
7. Student life
8. Summer programs
9. Tips for advisors
10. Q & A
Who We Are

• Founded in 1980

• 501(c)3 nonprofit

• School of Record: University of Minnesota (U of M)

• Interdisciplinary, experiential approach
Our mission is to create transformative study abroad experiences through field-based learning and research.

**Education**
- field-based learning
- active inquiry pedagogy

**Research**
- place-based
- scientific process

**Reciprocity**
- client-driven research
- community engagement
Turks & Caicos Islands (TCI)

Marine Resource Studies
Where in the World

Turks & Caicos Islands

- 22°N
- 21°N
- 72°W
- Grand Turk
- Salt Cay
- Big Sand Cay
- Seal Cays
- Fish Cay
- Little Ambergris Cay
- Big Ambergris Cay
- South Caicos
- Columbus Passage (Turks Island Passage)
- Caicos Bank
- West Caicos
- Caicos Passage
- North Caicos
- Middle Caicos
- East Caicos
- Providenciales

ATLANTIC OCEAN
GULF OF MEXICO
TURKS & CAICOS ISLANDS
CARIBBEAN SEA

Map by J. Claydon
South Caicos

- 8 square miles
- About 1,200 local people live on South year round
- Mostly residential, with some businesses and subsistence fishing
- No large-scale tourism (yet)
- Center located in Cockburn Harbour
- Very scenic and rural – wild horses, dogs, and donkeys
- Scarce fresh water
Field Station
Field Station
Field Station

• Common areas (classroom, kitchen, dining area, computer lab)
• Dorm rooms with 4-6 students each
• Freshwater is a limited resource
SFS has a fleet of five boats kept on the pier alongside the property.
Why TCI?

- Healthy, diverse ecosystem
- Resource-dependent economy and community

**Goal:** Produce information and knowledge that will help the people of South Caicos prevent, assess, and manage the impacts of tourism and extraction on the marine and terrestrial environments, as well as on socio-cultural conditions.
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Stakeholders

- Department of Environment & Maritime Affairs (DEMA)
- TCI National Trust, Parks, Museum, and Tourism Board
- Ministry of Education
- Seafood processing plants
- Sport fishing guides
- South Caicos community groups
- Local schools
- Fishermen
- Hotel owners (local)
- Developments
- International NGOs
- University collaborations
Five-Year Research Plan

Research Goals:

• Establish baselines
• Develop factually supported ideas
• Provide educated advice to the local community
Five-Year Research Plan

SFS Center for Marine Resource Studies, Turks and Caicos Islands
Five Year Research Plan • 2013-2017

Research Direction
How can SFS-CMRS support the government and South Caicos community to best manage the marine environment and resources to balance biodiversity conservation and economic sustainability?

Component 1
Assessing marine environments and species

Key Research Topics
- Status of South Caicos marine habitats
- Status of important marine organism stocks
- Status of the turtle population in the TCI
- Indicators for measuring reef health and stress
- Climate change impact on South Caicos marine habitats

Component 2
Drivers of change to the marine ecosystems

Key Research Topics
- Changes in marine habitats
- Global climate change impact on South Caicos marine habitats
- Level of resource awareness on South Caicos
- Impacts of development and livelihood strategies on near shore habitats and communities around South Caicos

Component 3
Monitoring and management of marine resources

Key Research Topics
- Fishing reserves and protected areas
- Status of commercial fisheries
- Social and economic implications for residents of a change in commercial fishery stock
- Social and institutional capacity exist to commence participatory marine resource management

RESEARCH ACADEMICS

Case Study 1
The status of the marine resources that are currently considered important to the ecological and socioeconomic well-being of the TCI environments and inhabitants

Case Study 2
Management strategies that assist in maintaining or improving the status of the marine resources in the TCI and contribute to economic development and diversification

Courses
- Tropical Marine Ecology
- Principles of Resource Management
- Environmental Policy & Socioeconomic Values
- Directed Research
Curriculum: Courses

Tropical Marine Ecology  
4 credits

Environmental Policy and Socioeconomic Values  
4 credits

Principles of Resource Management  
4 credits

Directed Research  
4 credits

16 credits
Tropical Marine Ecology

Course: SFS 3730 (4 credits)

Learning Objectives:
- Identify common marine species
- Understand the biological challenges of living in the marine environment
- Understand the ecological importance of different habitats
- Understand effects of Marine Protected Areas on marine communities
- Understand how pollution and climate change impact marine life
Field Activities:

- Visit mangrove, seagrass, and coral reef systems
- Use of key characteristics to identify common taxa
- Data collection pertaining to physical and biological characteristics of local ecosystems
- Long term assessment of reef health using coral bleaching data collection
Environmental Policy & Socioeconomic Values

Course: SFS 3020 (4 credits)

Learning Objectives:
• Theories behind economic decision-making when applied to natural resources
• Describe how people assign value to natural resources and ecological systems
• Explain costs and benefits of various approaches to marine management, policy-making, and governance of protected areas
• Social science techniques to conduct research with various stakeholder groups
Field Activities:

- Walking tours
- Discussion groups
- Habitat Valuation Exercise
- Fishery Management and Alternative Report
Principles of Resource Management

Course: SFS 3740 (4 credits)

Learning Objectives:

• Basic concepts of resource management applied to marine resources
• Working knowledge of the tools available for assessing the status of marine resources
• Understand how protected areas can serve as a valuable management tool
• Appreciation for the integration of ecological processes, socioeconomic value, and policy issues that makes managing coastal marine resources a challenge
Field Activities:

• Stock assessment
• Conch assessment
• Aquaculture grant proposal
• Zoning exercise presentation
Field Expeditions

- Three days on neighboring islands
- Explore ecosystems different from those found on South Caicos
- Learn about traditional artwork and crafts
- Survey tourists to understand the impact that tourism and development
Course: SFS 4910 (4 credits)

Learning Objectives:

• Responsible conduct of research
• Design a field research project
• Conduct field data collection
• Manage, interpret, and analyze data
• Communicate research results to diverse audiences
Directed Research Examples

- Status of lemon shark nurseries on the Caicos Bank
- Trends in size and condition of key species in the commercial finfish fishery
- Planning for the future: integrating the social, cultural, and economic “strategies” of residents into local environmental management
Directed Research Outcomes

• Open house at CMRS for local community
• Senior thesis and capstone projects
• Peer review publications
• Conferences
• All data delivered to Department of Environmental and Maritime Affairs
South Caicos Community

SFS-organized outreach:
• Wednesday—outreach in community with local schools
• Beach and mangrove field trips
• Sea Day
• Saturday—activities at the field station
• English lessons and tutoring
• Snorkel club
• South Sisters and Friendship Families
• Community dinners and holiday celebrations
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Student Life + Free Time

- Pick-up soccer, basketball, volleyball, and rugby games with community
- Walking and running around the island
- Cards, board games, dominoes – bring some with you!
- Snorkeling at nearby beaches
- Night dives and snorkels with staff
- Mid-semester break
Waterfront Activities

- Being a competent, confident swimmer is a must
- Students can SCUBA dive or snorkel
- Students must bring their own equipment
- **Semester**: Open Water certification offered in the first 2 weeks of the program, Advanced certification offered later in the semester
- **Summer**: Open Water certification offered during Session I, Advanced certification offered during Session II
Summer Programs

Session I:
Tropical Marine Ecosystems: Monitoring and Management
• 4 credits
• Learn about key aspects of environmental assessment and management
• Explore sustainable development strategies at a local and global scale

Session II:
Applied Marine Research Techniques
• 4 credits
• Learn scientific approaches to identifying key problems affecting the health of the ecosystem

Summer Combined: Sessions I + II
• 8 credits
• $1,000 discount
Best for students who:
• Love being in and around the ocean
• Can handle life on a small remote island, lacking in amenities and entertainment

Weather:
• Generally hot and dry; temperature varies little throughout the year from the mean of 80°F

Semester prerequisite:
• One college level bio or ecology course

Rolling admissions:
• Apply up to one year in advance

For more info: www.fieldstudies.org/tci
Stay Connected

Email
sfs@fieldstudies.org

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(800) 989-4418

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