

# Subtropical Outdoor Skills & Marine Biology

## Lewis & Clark College Winter Break Trip

### January 4 – 16, 2016

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#### **Week 1: January 4 – 10, 2016**

Freshwater Ecosystems & Intro to Florida Geology & Hydrology: The Central Florida Aquifer, Springs, & Rivers

- I. Natural History of Florida's freshwater ecosystems
  - a. What is science and what do scientists do?
    - i. Understanding the natural world
    - ii. The scientific method
    - iii. Realms of the natural sciences
    - iv. Understanding Ecology
    - v. Natural Selection and Adaptation
  - b. Intro to Geologic History of Florida
  - c. Intro to Hydrology of Central Florida
  - d. Intro to Florida Flora
    - i. Plants
    - ii. Trees
  - e. Intro to vertebrates of FL freshwater ecosystems
    - i. Herps (amphibians, turtles, snakes, lizards, and alligators)
    - ii. Mammals
    - iii. Birds

#### II. Outdoor Skills

- a. Canoe skills
  - i. J stroke and other paddle strokes
  - ii. Capsized canoe rescue
  - iii. Trip planning
- b. Stand Up Paddleboard Skills
  - i. Introduction to equipment & care
  - ii. Managing wind & waves
  - iii. Paddle strokes
  - iv. Risk management
- c. Rigging Tarps & Tents
  - i. Rain & windproofing tents & tarps
  - ii. Campsite selection and risk assessment
- d. Stoves, Fires, Camp Kitchens
  - i. Water purification techniques
  - ii. Stoves for backcountry use, safe kitchen set up
  - iii. Stoves for frontcountry use, kitchen set up
  - iv. Leave No Trace Fires

- e. Topographic maps/ compass use
  - i. Route planning

## **Week 2: January 11 – 16. 2016**

### **The Florida Keys**

- I. Natural History of Florida's marine ecosystem
  - a. Marine Biology investigations
    - i. Mangrove habitats
    - ii. Upland island habitats
    - iii. Coral reefs & patch reef
    - iv. Seagrass flats
    - v. Biogenic sediment-derived beaches
  - b. Taxonomy: identification of common marine-associated organisms
  - c. Climate, human history in the Keys, and human impacts
    - i. Global warming
    - ii. Ocean acidification
    - iii. Sea level rise
    - iv. Coral reef health
    - v. Florida Keys land use
    - vi. Human impacts on the Keys ecosystem
- II. Outdoor Skills
  - a. Sea kayaking skills:
    - i. Paddle strokes
    - ii. Kayak rescues
    - iii. Wind and wave management
    - iv. Communication
  - b. Florida Keys wilderness island camping
    - i. Freshwater: supply & conservation
    - ii. Food & expedition planning for trips with limited fresh water
    - iii. Poisonous and edible plants & animals/fish
  - c. Snorkeling skills
    - i. Clearing mask, snorkel
    - ii. Effective use of fins
    - iii. Risk management – keys to health and safety
      - 1. Understand waves and currents
      - 2. Clearing ears/nose/Eustachian tubes
      - 3. Don't touch things!
  - d. GPS skills
    - i. Routes, tracks, waypoints
    - ii. Tidal & astronomical information
    - iii. Uploading, downloading, and transferring info GPS to GPS