

**Tutorial Title:           Technology Supported Coastal and Marine Spatial Planning**

**Continuing Education Units and Professional Development Hours**

**Instructor(s):           Geoff Coughlan ~ Fisheries and Marine Institute of Memorial University**  
**Will McClintock ~ University of California Santa Barbara, Marine Science Institute**  
**Grace Goldberg, Project Manager~ SeaSketch and McClintock Lab**

**Overview:**

The Fisheries and Marine Institute of Memorial University is currently involved in the development of academic programming and general CMSP capacity development to support coastal and ocean planning and management in Newfoundland and Labrador. The proposed tutorial is intended as an awareness raising opportunity for local regulators and stakeholders to demonstrate what's possible once geospatial capacity is developed (geospatial data supported decision making) and what some of the requirements are to get there (identify, access and manage data). The tutorial will provide an introduction to general CMSP concepts and discuss the associated requirements for geospatial data acquisition and management. The decision support tool SeaSketch ([www.seasketch.org](http://www.seasketch.org)), developed by University of California Santa Barbara, is utilized for coastal and marine planning in several locations worldwide. SeaSketch will be introduced and a demonstration of how it is used will be provided. Examples of SeaSketch's value in addressing real world coastal and ocean planning and management issues will be discussed.

This four hour tutorial will (a) introduce essential CMSP concepts and illustrate how each stage in the pre-planning and planning process is associated with geospatial information and technology, (b) discuss the requirements for data acquisition and management, (c) Introduce SeaSketch as an end-to-end software solution to support data-driven decision-making, and (d) provide examples of how SeaSketch supported CMSP in the Pacific Northwest, the Caribbean and New Zealand.

**The course will include:**

Four 20-minute lectures including questions and answers, and a 2-hour interactive workshop in the following format:

- Introductions (5 minutes)
- Presentation: Introduction to CMSP concepts (20 minutes)
- Presentation: Requirements for data acquisition and management (20 minutes)
- *Break (15 minutes)*
- Presentation: Introduction to SeaSketch (20 minutes)
- Presentation: Examples of SeaSketch in action (20 minutes)
- Break (15 minutes)

- **Group Exercise (15 minutes):** In groups of 5, participants are asked to think about a predefined planning process with conservation, aquaculture, and transportation objectives in a geography of their choosing. They will be asked to list data requirements, existing data sources and gaps, new data gathering needs, prospective plan elements, stakeholder groups (including agencies and NGOs), and decision-making bodies that would hypothetically be required to produce a data-, science- and policy-driven plan.
- **Group Exercise (60 minutes):** The group will select one geographic region and we will interactively build a SeaSketch project that reflects the goals and objectives of the above, predefined CMSP project. We will draw on existing data sources (map services), build a survey to gather new data, structure forums for public and private discussions, and create “sketch classes” for each plan element (MPAs, aquaculture and shipping zones).

### **Biographies:**

**Geoff Coughlan** is a faculty member in the School of Fisheries within the Fisheries and Marine Institute of Memorial University. In this capacity he is leading a comprehensive review of the School’s Integrated Coastal and Ocean Management Program leading into the development of a new Applied Master’s program in Integrated Coastal and Ocean Management and Marine Spatial Planning. Geoff worked with Fisheries and Oceans Canada for nearly a decade implementing marine related policy and legislation. He was involved with elements such as integrated coastal and ocean management, marine protected area planning and management, oceans governance, strategic environmental assessment and marine spatial planning.

**Will McClintock, Ph.D.**, is a researcher at the University of California Santa Barbara, Marine Science Institute, a member of the Center for Marine Assessment and Planning, and a Senior Fellow at the United Nations Environment Program - World Conservation Monitoring Center. Dr. McClintock received his B.A. in Biology from Earlham College, M.S. in Behavioral Ecology from the University of Cincinnati, M.A. in Counseling Psychology from Pacifica Graduate Institute, and Ph.D. in Ecology, Evolution and Marine Biology from the University of California Santa Barbara. The McClintock lab develops geospatial technologies to support the collaborative geodesign of marine spatial plans. Currently, their flagship application, SeaSketch ([www.seasketch.org](http://www.seasketch.org)) is being used for planning in the US, Canada, the UK, New Zealand, the Caribbean, Mediterranean, Australia, the Galapagos Islands, and the High Seas.

**Grace Goldberg**, Project Manager at SeaSketch and the McClintock Lab at UCSB, serves as an interface between the lab and collaborators. She is trained as a scientist, interested in research questions that include human users in marine ecosystems, with relevance to spatial management and real conservation goals. Grace received her M.S. in Marine Systems and Conservation from Stanford University, completing a thesis on sea turtle spatial dynamics to inform sustainable development. She spent time at Hopkins Marine Station as a scientific diver, and in the Earth Systems Program, which focuses on interdisciplinary environmental problem solving, systems thinking, and communication.