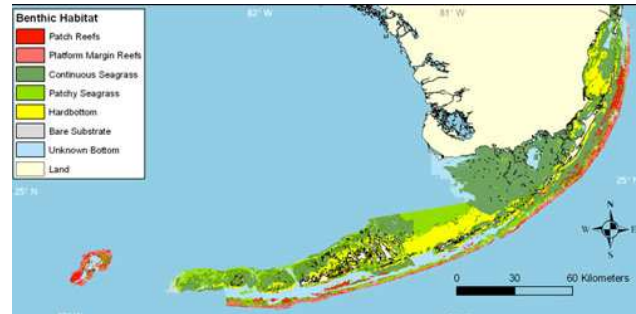
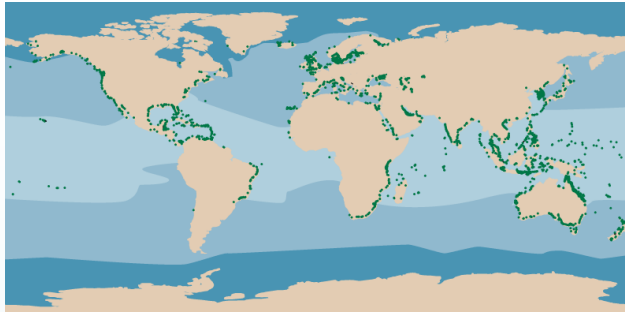


# Marine Resource Remote Sensing

Assessment of marine resources through measurements, modeling, image processing/interpretation, and change detection



## COLLEGE OF MARINE SCIENCE

Spring 2012

3 Credit Hours

OCE 6934 Section 636

CRN: 21613

Jan 9 – May 4

USF St. Petersburg Campus

KORC Building, Room 3120

Monday 2:00 pm – 4:55 pm

Open to Marine Science Grad Students  
and by permit to: other USF grad science  
majors, upper level undergrad science  
majors, and science professionals

Prerequisite: Calculus, Physics I, basic  
programming skills

Grade: Homework and final project

Request permit to: [hu@marine.usf.edu](mailto:hu@marine.usf.edu)

Registration deadline:  
January 6, 2012

## ABOUT THE COURSE

The course introduces the basic principles of using a variety of remote sensing techniques to assess marine resources, followed by hands-on training on data and image processing. Topics include: macro and micro algae (phytoplankton functional types and marine biodiversity), fisheries and aquaculture (habitat preference), marine ecosystem characterization (sediments, fronts, light, primary productivity), habitat mapping (sandbars, shorelines, wetlands, seagrass, mangrove, coral reefs, springs) and special topics on oil seep and ship detection. The course will also include guest lectures on assessing fish populations and benthic geomorphology using acoustic remote sensing as well as water resource assessment through satellite gravity measurements. Students will have access to user-friendly computing and visualization tools.

### Reference books:

"An Introduction to Ocean Remote Sensing" by S. Martin (2006); "Remote Sensing and Geospatial Technologies for Coastal Ecosystem Assessment and Management" by X. Yang (2011, Springer); "Handbook of Satellite Remote Sensing Image Interpretation" by J. Morales et al. (2011); "Remote sensing handbook for tropical coastal management" by E. Green et al. (2000).

**Instructors:** Chuanmin Hu and guest lecturers  
<http://optics.marine.usf.edu>



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