

# Physical Oceanography Field Experience at Pasadena City College: Introducing community college students to oceanography, data & the Southern California Coastline

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Each year many of us in Southern California spend time at the beach. More often than not, each time we visit the shore it is pretty much as we remember it. However we are sometimes surprised when we visit our favorite "summertime" beach in winter, and find that the shape of the beach is different, or the sand is gone, or something else has changed. Or we may wonder about decisions behind coastal development or coastal access. Such changes along our coast can be both subtle and dramatic and are important in shaping our perceptions of the beach and ocean. Each semester, students enrolled in Geology 12f (Physical Oceanography Field Studies) take a three-day field trip that examines the California Coastline from Northern San Diego County, to Southern Orange County with the aim of investigating seasonal changes to the coastline as well as factors relating to human interactions with the ocean. Students make observations, listen to lectures about what they are seeing, and sketch and record what they see in their field notebooks. In addition, working in small groups, they are required to measure various parameters for each field site that we visit. These working teams are responsible for acquiring data in the field, as well as processing and downloading the data into portable computers taken into the field. We find that students are challenged by this approach and excited about their ability to understand issues relating to coastal geology. Our ultimate goal in this effort is the exploration of the societal impact on and our reaction to California's changing coastline via (1) a physically and mentally active learning experience; (2) hands-on opportunities with technology in a field setting; (3) interactive student learning communities; and; (4) having fun while learning.

## Organization into Working Groups

Pier Profiles  
Sand Properties  
Water Quality  
Beach Profiles



## Discuss Development/Stabilization



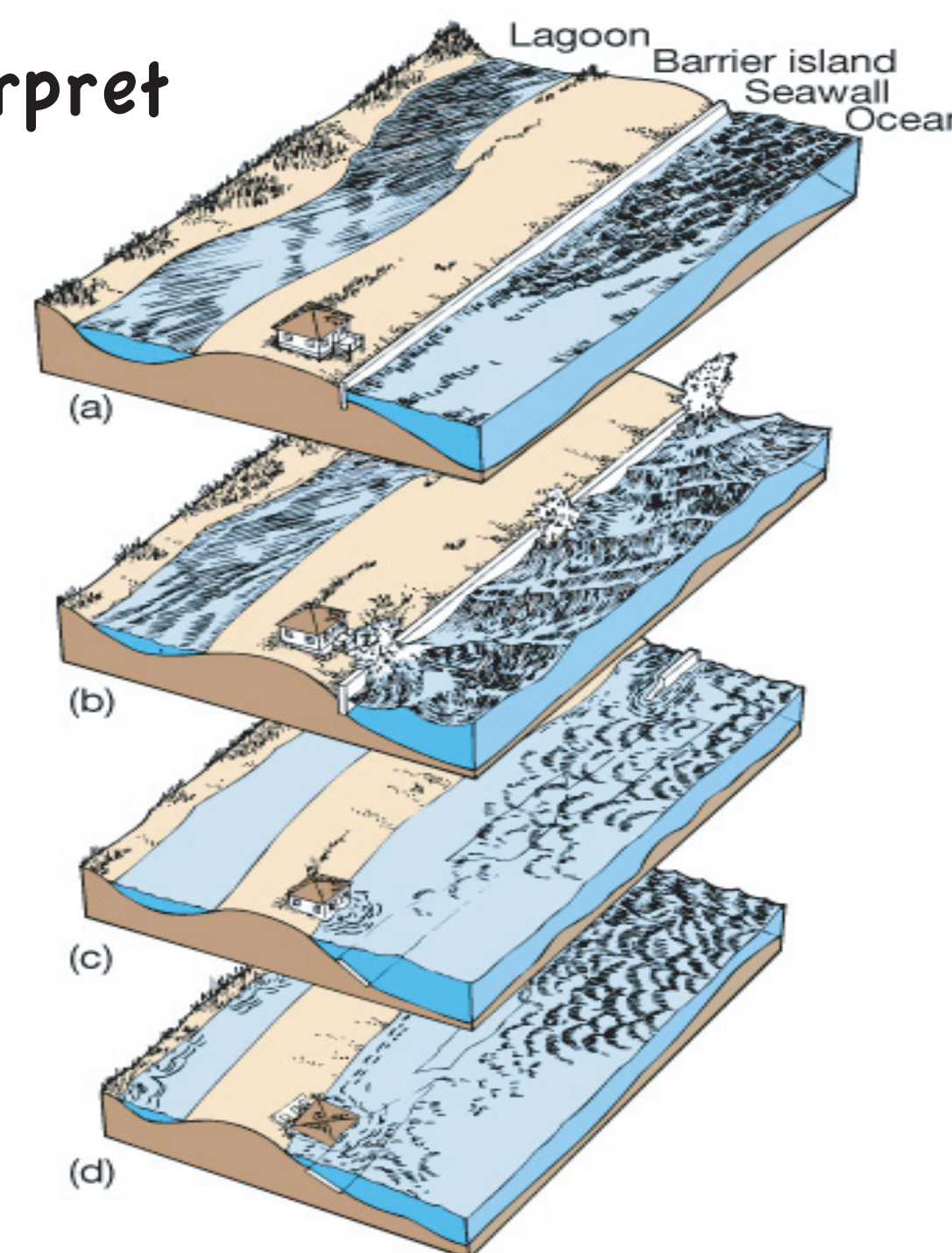
## Why a field Oceanography Course?

Textbook Images difficult to interpret

Coastal unfamiliarity

Physical Sciences lab credit transfer requirement

Field Oceanography is an effective & fun introduction to science activity



## Reporting Data

Notebooks to Laptops  
Summarize on Website



## Outdoor Classroom; First-hand experience



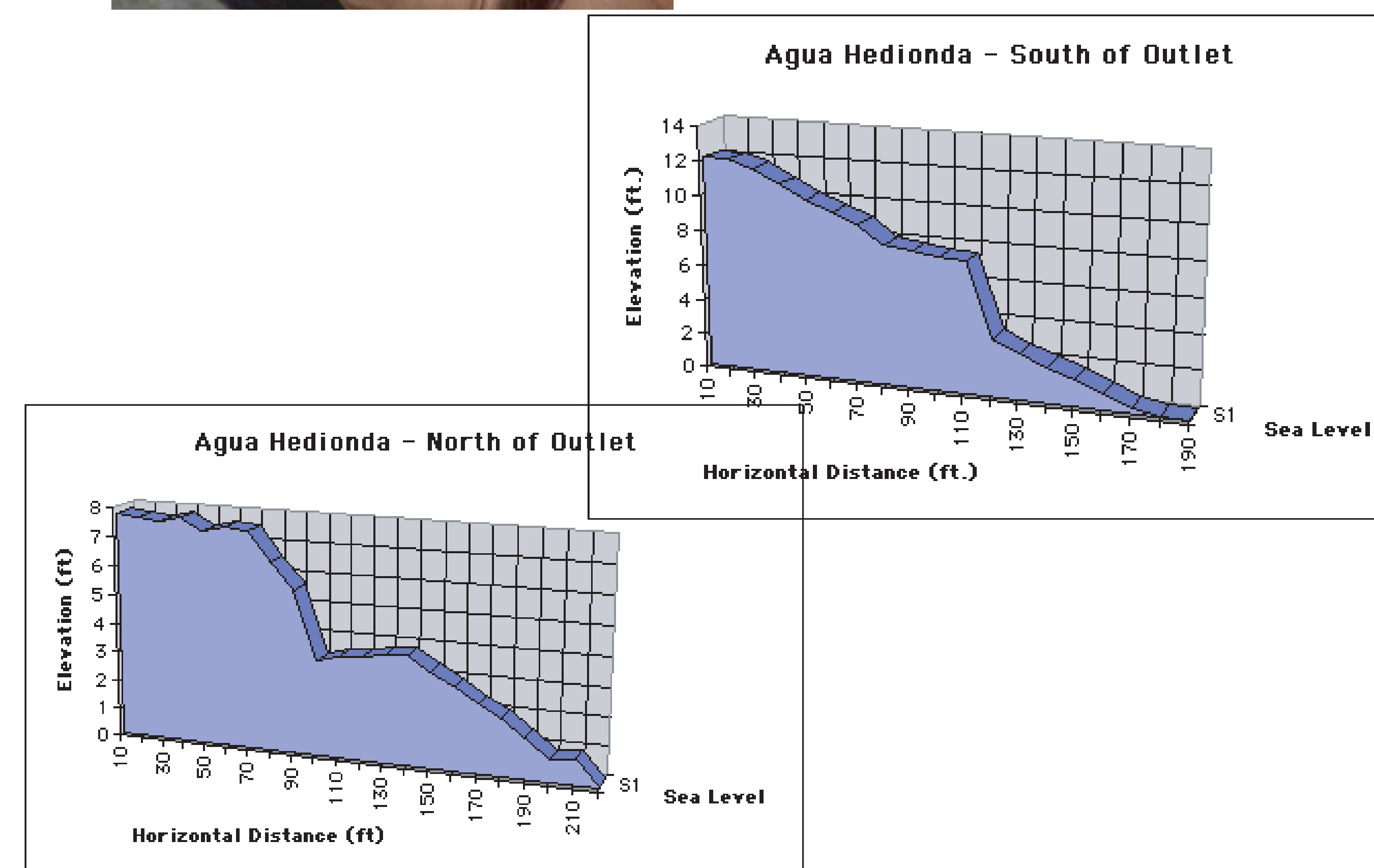
## Geology 12f: Physical Oceanography Field Experience

Concurrent/previous enrollment in Introductory Oceanography

30 students

3 days

Camping!!!!



## PCC's Oceanography Field Experience offers our students:

- (1) a physically and mentally active learning experience
- (2) hands-on experience with technology in a field setting
- (3) interactive student learning communities
- (4) access to Southern California coastal issues
- (5) fun while learning