

# Building Strong Geoscience Departments Using Strategies for Success in Field Instruction

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Geoscience Departments:  
Developing Pathways to Strong Programs for the Future  
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## Abstract

Located in northern San Diego County, Palomar Community College is one of the largest of California's 108 community colleges with an annual enrollment of more than 30,000 students. The Earth Sciences Department, which enrolls over 3000 students each year, includes the disciplines of aeronautics, astronomy, geography, geology, and oceanography that are taught by nine full-time faculty and over 20 adjunct instructors. Success of the Earth Sciences Department is strongly tied to quality instruction, diverse curriculum, and especially its strong field programs.

Due to our prime location with rapid access to a variety of field sites, we have been offering a steadily increasing variety of in-class and weekend field trips, multi-day field courses, and other hands-on experiences. These field experiences incorporate a wide range of costs, distances, physical environments, and academic levels.

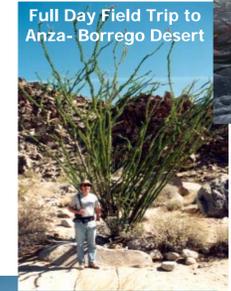
Our success in offering field experiences is closely tied to strategies that maintain and enhance student interest and administrative support for field experiences. Our success in generating wide student participation is closely linked to promoting field experiences as an integral part of learning and providing a wide range of field opportunities. In addition, we have developed effective and specific logistical procedures that optimize organization and safety in the field.

At Palomar, we have been fortunate to have had strong administrative support for our field programs. One of our strategies of proactively maintaining administrative support is to participate in the hiring process of administrators. Another strategy is to emphasize the pedagogical value of field instruction within curriculum. Still, several issues remain that can hinder future field experiences.



- ### 1 Palomar College
- One of the largest of California's 108 two-year community colleges
  - 30,000 full-time and part-time students
  - Serves north San Diego County, which has a population of 750,000

- ### 2 Earth Sciences at Palomar College
- Nine full-time faculty and 20+ adjunct instructors
  - Over 3000 students enrolled each year in:
    - Astronomy
    - Geography
    - Geology
    - Oceanography
  - Also includes Aeronautics program



- ### 3 Field Trips/Field Courses
- In-class lab field trips (3 hour)
  - Full day field trips
  - Weekend field trips
  - Multi-day field courses



- ### 4 Encouraging Participation
- Promote in the classroom
  - Integrate field experiences into student grades
  - Include popular field trip stops and events
  - Dispel student fears
  - Help students prepare
  - Keep costs down
  - Do effective advertising



## Top 10 Tips for Running Successful Field Programs

- Be punctual; provide and maintain explicit itineraries
- Always preview field trip route and stops
- Maintain in-field communications with FRS radios
- Inform and enforce rules and safety concerns
- Carefully consider the timing of stops
- Use a voice amplifier so that all participants can hear you
- When using graphics, make them big enough for everyone to see
- Be knowledgeable about the area including other aspects of the natural environment
- Plan for mechanical breakdowns
- Have a back-up plan for *everything*

- ### 6 Logistical Procedures
- Caravan in private vehicles
  - Students arrange their own transportation
  - Meet and dismiss at the field trip site
  - Collect waivers for all participants
  - Verification of insurance on extended trips
  - No students ride in instructor vehicles



- ### 7 Issues to Address
- Increasing bureaucratic regulation from federal agencies (see Report Card below)
  - Rapid urbanization limiting access to nearby field locations
  - Many students have little experience with the outdoors
  - Increasing legal considerations
  - Increasing costs

- ### 5 Maintaining Administrative Support
- Faculty participation in the hiring process for college administrators
  - Invite administrators on field trips
  - Curriculum includes field experiences that address key core skills in:
    - Communication
    - Cognition
    - Information competency
    - Social interaction
    - Personal development and responsibility
  - Minimize problems with effective and specific logistical procedures (see #6)



## Bibliography/For More Information

- Palomar College Earth Sciences Department Web site at: <http://www.palomar.edu/earthscience>
- Deen, P., S. G. Spear, A. P. Trujillo, D. B. Key, and L. G. DuBois, 2003. Strategies For Success in Experiential Field Instruction in the Earth Sciences at Palomar College: *Abstracts with Programs, Geological Society of America Annual Meeting* (Seattle, WA).
- Spear, S. G. 2000. Some Thoughts on Leading a Physical Geography Field Trip. *Physical Geographer*, v. XL, p. 85-89.

Report Card		
Ease of Field Trips in Selected Federal Agency (NPS and USFS) Public Lands		
Location	Grade	Comments
Mojave National Preserve	D	Requires \$1 million insurance policy for every trip
Death Valley National Park	D-	Belligerent behavior and threats by patrol rangers; multiple barriers
Grand Canyon National Park	C	OK as long as we avoid being designated as a group
So. California US Forest Service	D	Need permits for every district of every forest we visit