

# Department of Geosciences

Geology

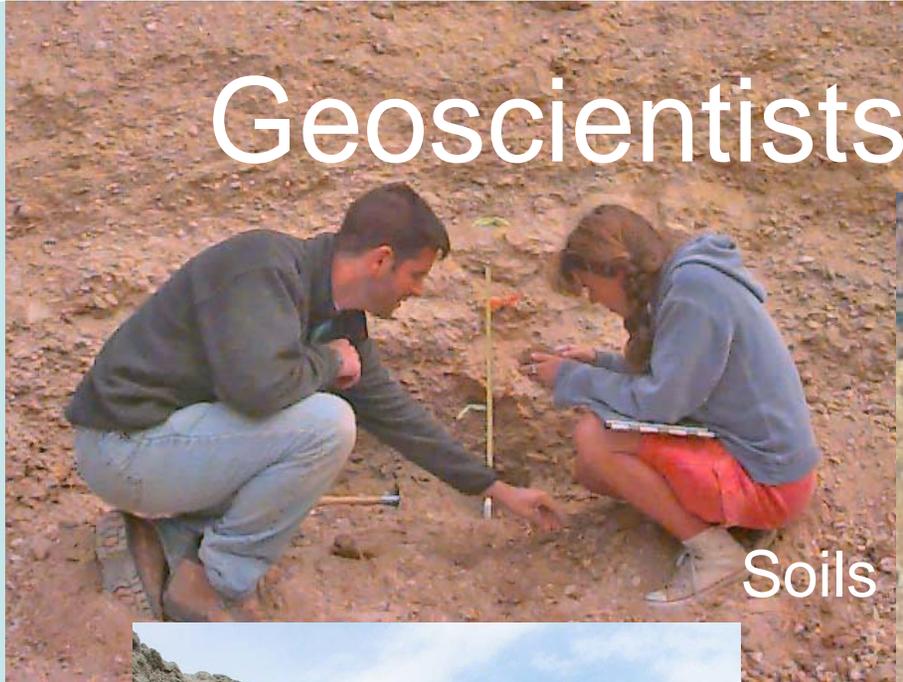
Meteorology

Oceanography

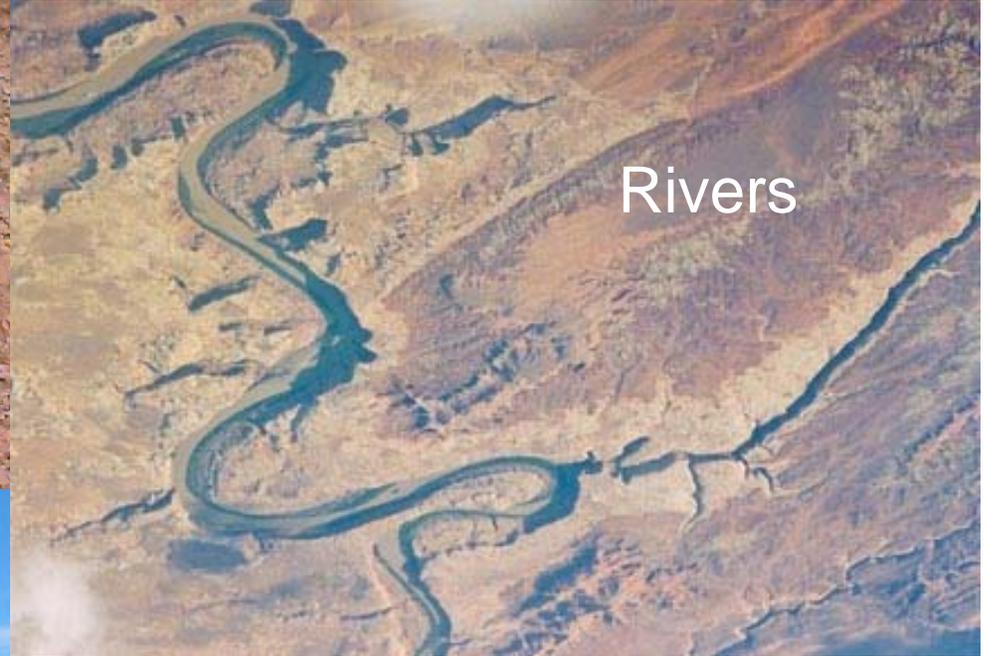


**SAN FRANCISCO**  
**STATE UNIVERSITY**

# Geoscientists study the earth



Soils



Rivers



Lake sediments



Evidence of ancient oceans



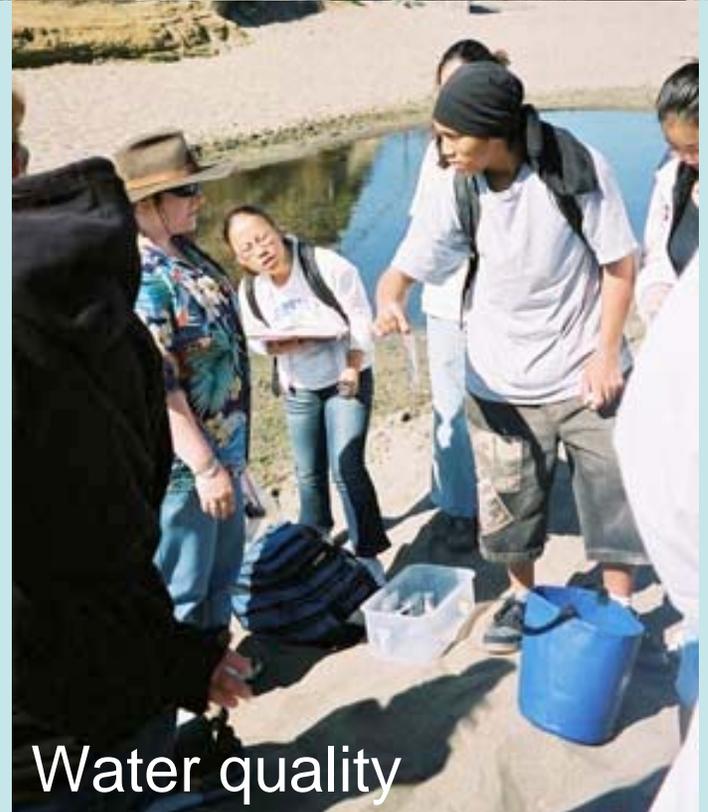
Volcanoes



Maps

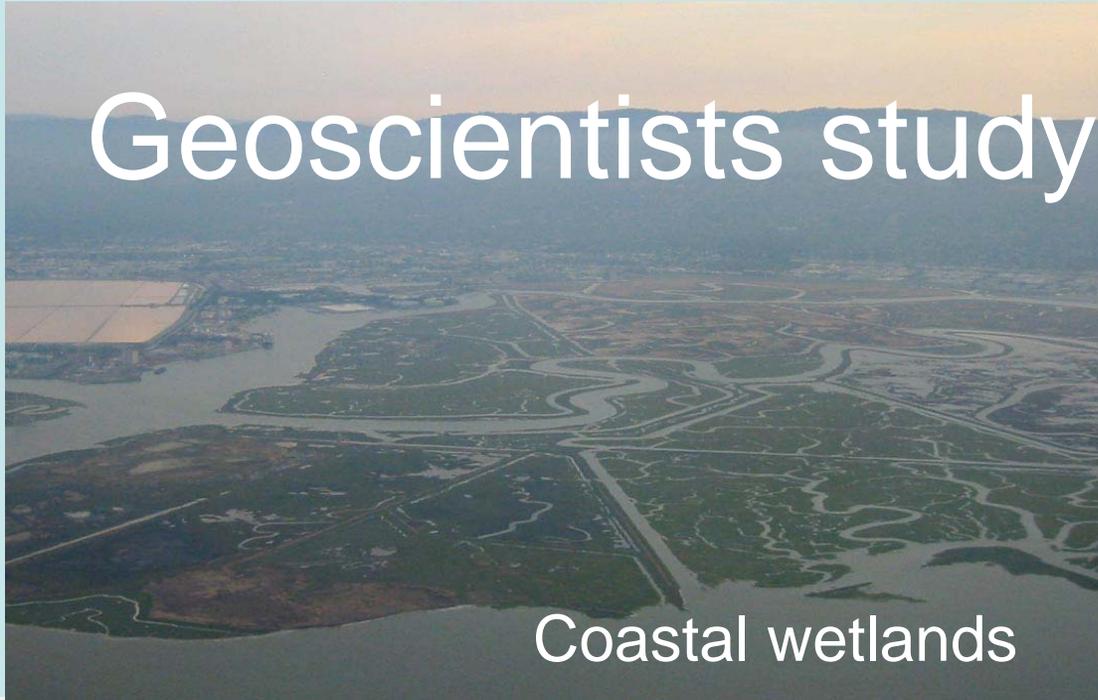


Fence offset by San Andreas fault

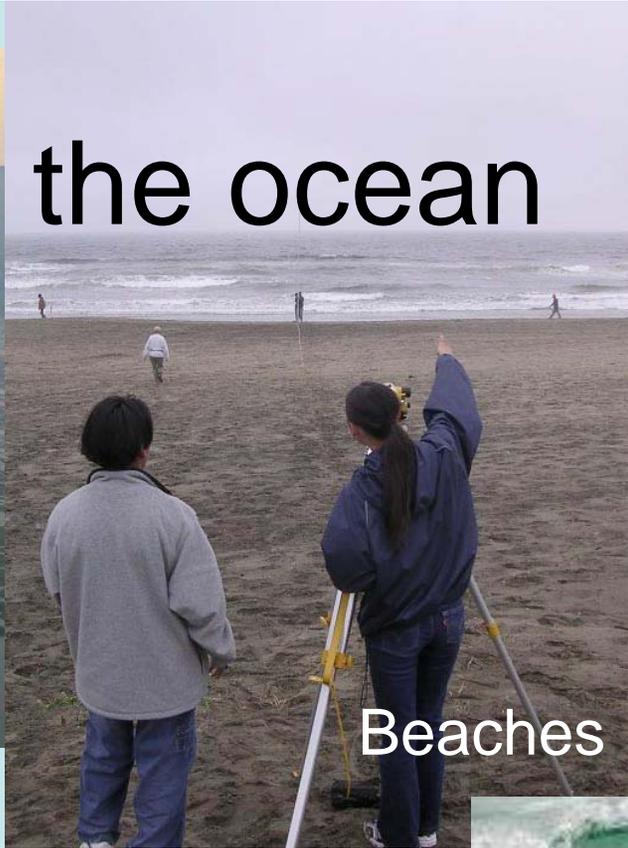


Water quality

# Geoscientists study the ocean



Coastal wetlands



Beaches

San Francisco Bay

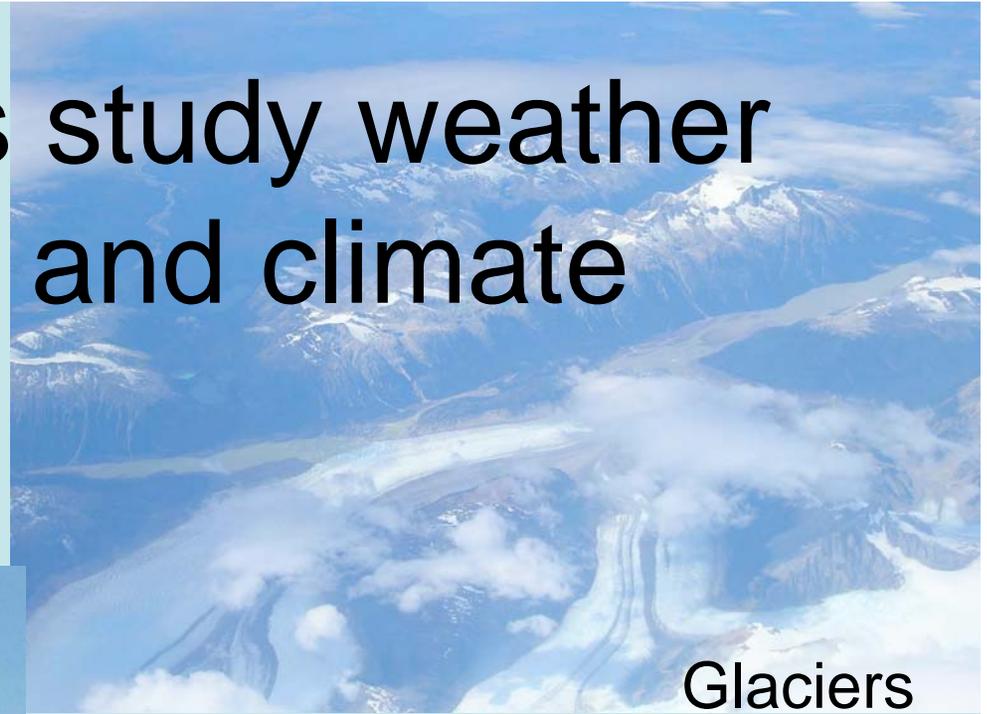


Waves

# Geoscientists study weather and climate



Tornadoes



Glaciers

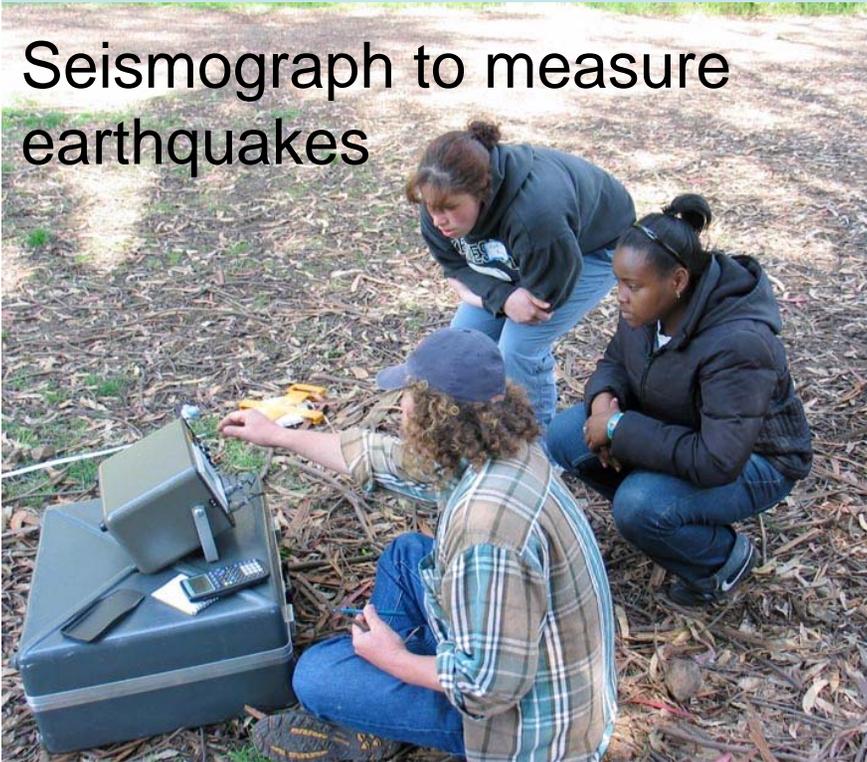


Clouds



# Geoscientists use instruments to explore the planet

Seismograph to measure earthquakes



Boat to collect samples

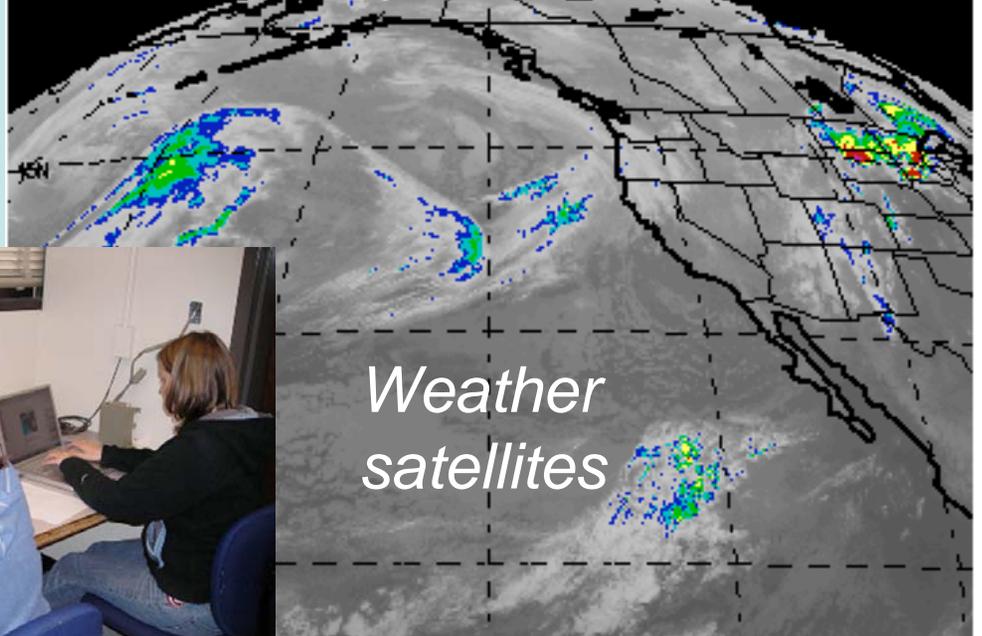


GPS to measure surface features

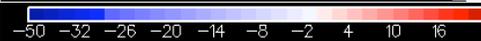
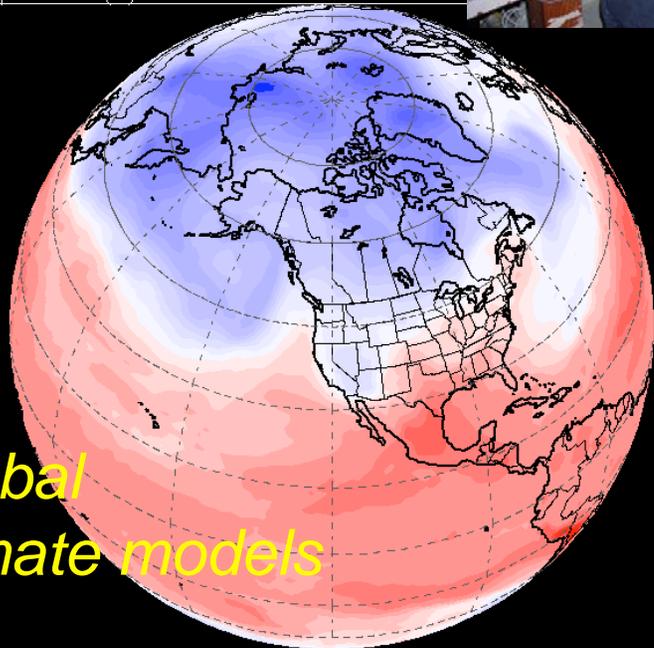


# Geoscientists use instruments to explore the planet

GOES—West Infrared Image 1200Z 21 APR 2007

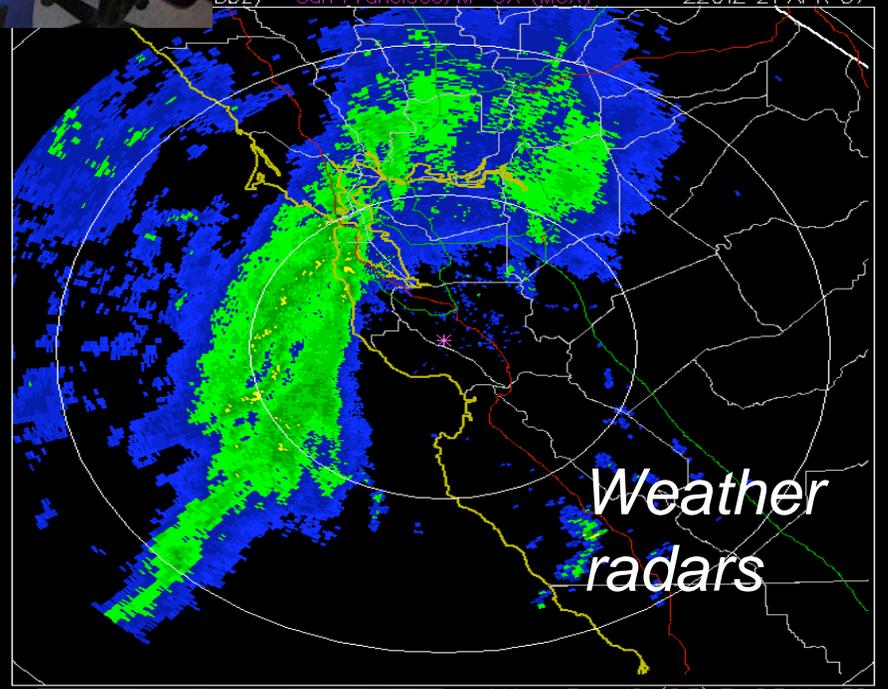


700 mb Temperature (C)



LO: -49.2 HI: 19.2

Dbz San Francisco/M CA (MUX) 2201Z 21 APR 07



Md=pr Rng=124(0.5) El=0.5 Mx=39

**Geoscientists  
travel...**

From the desert of Nevada...



...to the Andes Mountains of S. America



...to  
interesting  
locations

**Geoscientists  
work in the  
field...**



**...and in the  
laboratory**

# Geoscientists have good job prospects

(data from U.S. Bureau of Labor Statistics)

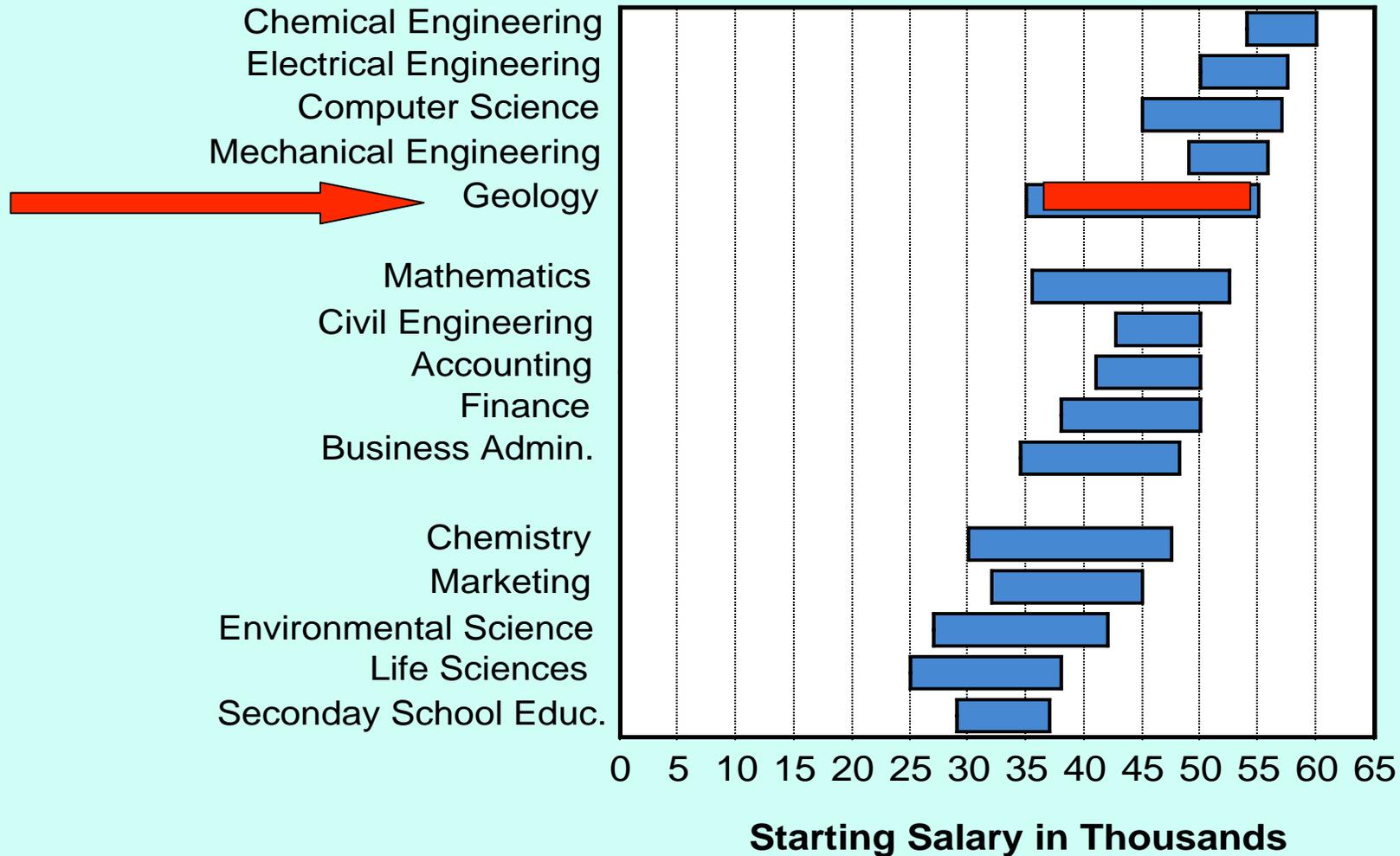
“Median annual earnings of geoscientists were \$68,730 in May 2004.” In 2005, the average federal salary for hydrologists was \$77,182.

“...beginning salary offers in July 2005 for graduates with bachelor’s degrees in geology and related sciences averaged \$39,365 a year.”

“...due to the relatively low number of qualified geoscience graduates and the large number of expected retirements, opportunities are expected to be good in most areas of geoscience.”

# What's a Bachelor's Degree Worth?

Job offers for 2005-06 graduates



AIP Statistical Research Center compiled from data collected by the National Association of Colleges and Employers.

# Petroleum Geologist Salaries (2006)

## Average Salary by Degree

<b>YEARS EXPERIENCE</b>	<b>B.S.</b>	<b>M.S.</b>	<b>PH.D.</b>
0-2	\$ 76,500	\$ 83,300	\$ 90,000
3-5	83,000	88,400	93,400
6-9	90,000	99,700	98,500
10-14	105,000	113,400	111,500
15-19	115,000	156,800	141,000
20-24	141,000	148,600	155,000
25+	145,300	148,200	168,000

Salaries rose 9% (on average) in 2006-07; figures do not include signing bonuses, yearly bonuses or benefits.

Data from— <http://www.aapg.org/explorer/salarysurvey.cfm>

# Meteorologist Salaries (2006)

Years Experience	B.S.	M.S.	Ph.D.	Media
Starting	\$29,037	\$42,976	\$51,508	\$50,500
5-10 yr	\$50,600	\$65,400	\$66,500	\$75,600
15-25 yr	\$66,200	\$87,500	\$94,000	\$160,000
>25 yr	\$75,100	\$90,000	\$105,000	\$250,000

Sources: Bureau of Labor Statistics, Occupational Handbook  
California Occupational Guide  
Salaries-TV Jobs.com

Salaries are mid-range for experience level, and do not include supplements for achievement. Consulting meteorologists with >25 yr. experience, for example, make \$130,000. Media salaries could be much higher in major markets, and much lower in minor markets.

# In the Geosciences, students learn skills employers value

- How to work together in a team
- How to collect field and lab data
- How to use quantitative methods
- How to solve real-world problems
- How to present information orally
- How to write technical reports

Consider the benefits of rigorous science training that takes more effort now but that provides skills—valued in the workplace and transferable to many occupations



Geoscience professor and student with award-winning undergraduate research project

# B.S. in Geology

- Environmental consulting, including hydrogeology and geotechnical fields
- Federal, state, and local government (e.g., U.S. Geological Survey, EPA, Water Quality Control Board, CALTRANS, SF Port, SFPUC)
- Non-governmental organizations (e.g., river restoration, coastal protection)
- Private industry (e.g., energy—petroleum companies—and resources—mining)
- Preparation for graduate school

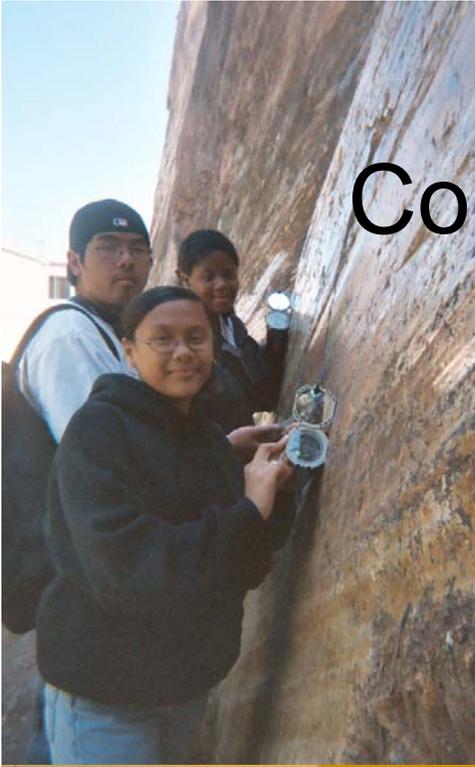
# B.S. in Atmospheric and Oceanographic Sciences

- Consulting services, including weather and marine forecasting
- Federal, state, and local government (e.g., National Weather Service, NOAA, U.S. Navy, State Air Resources Board)
- Non-governmental organizations (e.g., climate monitoring, coastal protection)
- Private industry (e.g., air emissions monitoring/modeling, TV, marine technology)
- Preparation for graduate school

# B.A. in Earth Sciences

- Interdisciplinary degree in geology, meteorology, and oceanography
- High school teaching (high demand for science teachers; with earth/planetary science credential, can teach ~50% of science courses in California schools)
- Preparation for continued study in geosciences or fields such as environmental science, law and policy; business analysis and decision making

# SF-ROCKS (Reaching out to Communities and Kids with Science in San Francisco)



# Minor in Earth Sciences

- Students can emphasize geology, meteorology, or oceanography
- Valuable addition to degrees in geography, archeology, biology, chemistry, civil engineering, business, visual arts, etc.

THE BOTTOM LINE...



Geoscientists enjoy their work!

SFSU geology students on a field trip