



# Reinvesting in Geosciences at Texas A&M University in the 21st Century

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## Two Faculty Hiring Initiatives

### 1. TAMU Reinvestment (2004-2009)

- An ambitious initiative designed to hire close to 450 faculty in four years with three goals:
  - Grow research and graduate education
  - Improve the undergraduate experience
  - Diversity



### 2. Ocean Drilling and Sustainable Earth Science (ODASES–2003-2009)

- An interdisciplinary, multi-college research and education program designed to capitalize on participation in the Integrated Ocean Drilling Program (IODP)

<b>Texas A&amp;M University</b>	
Instructional Faculty	3,796
% Full Time Teaching Faculty	72.8%
Undergraduate Enrollment	38,809
Graduate Enrollment	9,894
<b>TOTAL ENROLLMENT</b>	<b>48,703</b>
#7 Nationally	
<b>Research Expenditures</b>	<b>\$582M</b>
#20 Nationally	

<b>College of Geosciences</b>	
Tenured /Tenure-Track Faculty	107
Instruct/Research Faculty	6
% Full Time Teaching Faculty	92.1%
Research Scientists	26
Research & Admin. Staff	201
<b>TOTAL PERSONNEL</b>	<b>340</b>
Undergraduate Enrollment	637
Graduate Enrollment	337
<b>TOTAL ENROLLMENT</b>	<b>974</b>
College Research Exp.	\$16.5 M
IODP Research Exp.	\$68.6M



## College of Geosciences

### DEPARTMENTS

- Atmospheric Sciences
- Geography
- Geology & Geophysics
- Oceanography

### RESEARCH/OUTREACH CENTERS

- Integrated Ocean Drilling Program (IODP)
- Berg-Hughes Center for Petroleum and Sedimentary Systems
- Center for Tectonophysics
- Geochemical and Environmental Research Group (GERG)
- Texas Sea Grant College Program

### INTERDISCIPLINARY PROGRAMS

- Environmental Programs in Geosciences
- Water Management & Hydrological Sciences



## Two Faculty Hiring Initiatives

- Implementation Strategy and Benefits
  - TAMU Reinvestment (2004-2009)
  - Ocean Drilling and Sustainable Earth Science (ODASES–2003-2009)

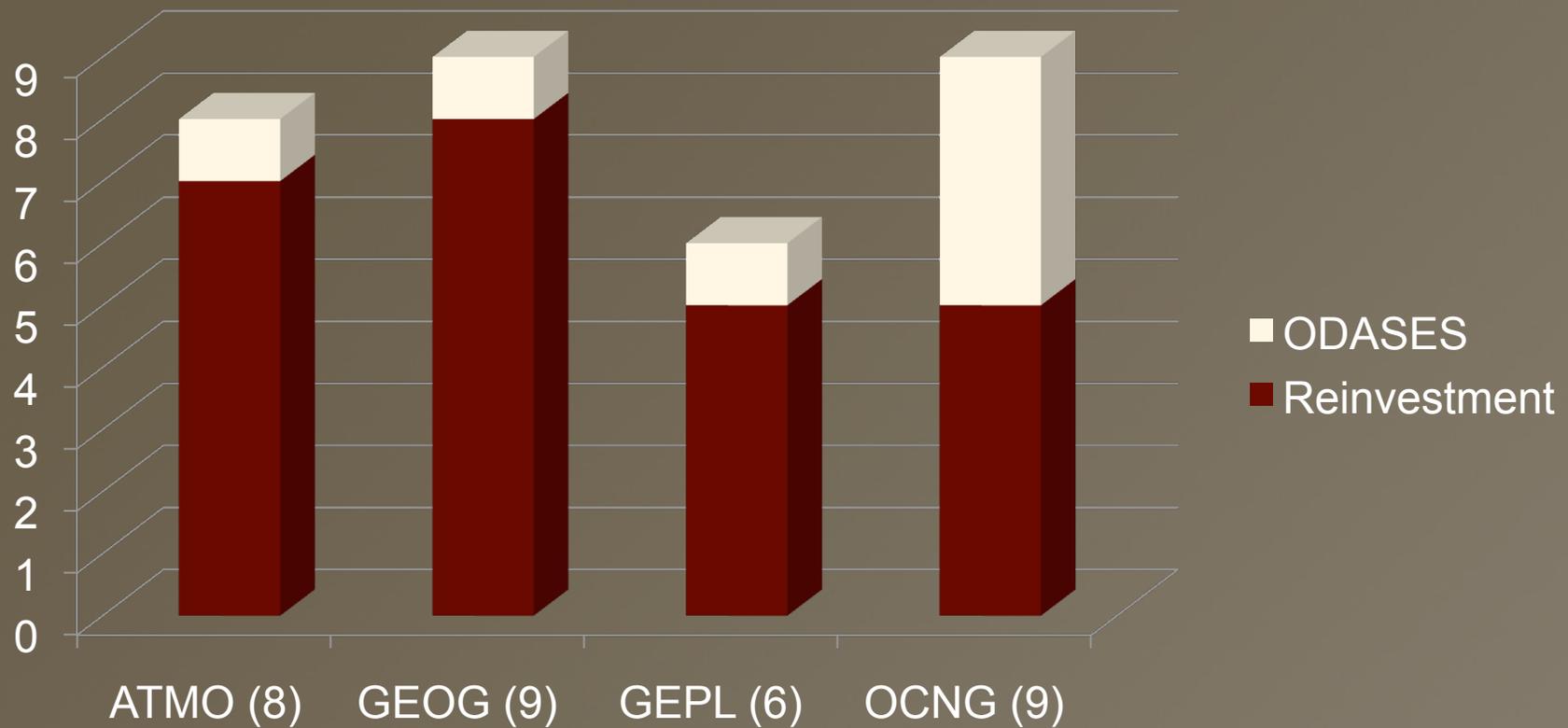


## Signature Research Areas

- Climate Change
- Environmental and Human Health as related to the oceans and atmosphere
- Human Dimensions of Global Change
- Water (with other colleges)
- ODASES/IODP Research



## Geosciences Hiring



## Infrastructure Improvements

Renovated space by function	Expenditure	Impact
Radiogenic laboratory	\$1,980,000	4 faculty
Research laboratories	\$828,000	9 faculty
Faculty, staff, graduate student offices	\$823,000	17 faculty; ~50 students
Research support	\$639,000	Server room; core x-ray room in IODP; cold-room; roof exhaust system
Classrooms	\$419,000	6 classrooms, A/V upgrades
<b>Total</b>	<b>\$4,689,000</b>	



TEXAS A&M  
UNIVERSITY

## Atmospheric Sciences

- Hire the best faculty
- Promote environment of collaboration and cooperation
- Lead active seminar program
- Encourage and support faculty to write high-quality textbooks
- Sustain efforts during “bad” times
- Change in rankings decadal process—graduate recruiting lags



## Geography



- Reinvestment:
  - Hire first-rate scholars in high impact areas
  - Organize hires into distinctive research clusters
- Elevation:
  - Publish preferentially in discipline's high profile journals
  - Sponsor departmental visits for highly qualified applicants
  - Help graduate students present research at national professional conferences



## Geology and Geophysics



- “Reinvestment Committee” developed strategy
- Any field of solid earth geology/geophysics was OK
- Use quality and interest in research as criteria
- Hired in areas that were not targeted originally
- Will need to run focused faculty searches in future



## Oceanography

- “New” faculty contribute to recent student growth (but not instantly)
- “New” faculty had critical role in developing joint degree with OUC
- Replacement hires in pipeline will continue to increase growth
- Investment in departmental/college infrastructure attracts faculty and students

## Proposal Activity

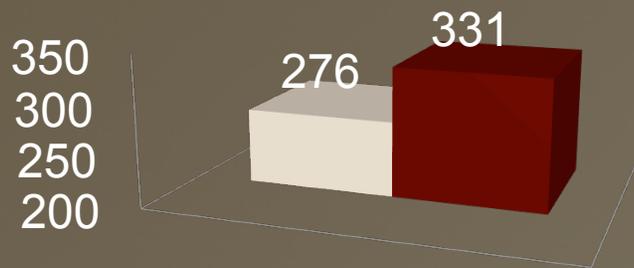
	2004-2009
Interdisciplinary Research (involving young investigators)	88
Proposals Involving Reinvestment Faculty	76
Education, Diversity, and Outreach	29 (vs. 14)*
Young Investigator Programs	13 (vs. 2)*
Large or Center-Level Proposals	13
Partnerships with Minority Serving Institutions	12 (vs. 8)*
Graduate Education	9 (vs. 1)*
International Education and Research	13 (vs. 4)*
Undergraduate Education	4
Instrumentation	3 (vs. 2)*

\*1999-2003

## Impact of Hiring a Director of Student Recruitment

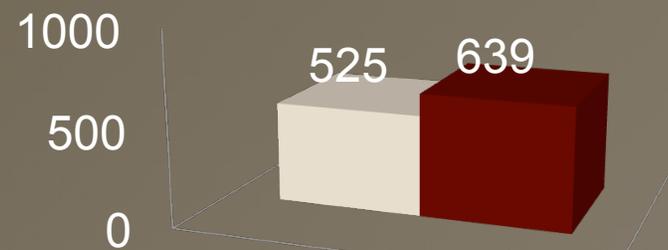
Accomplishments within one year of creating the new position:

- Established a comprehensive 5-year recruitment plan
- Developed innovative outreach programs
- Increased the number of applicants by 10% (55 students)
- Increased the number of enrolled students by 21.7% (114 students)



Applicants

■ 2008 ■ 2009



Enrolled Students

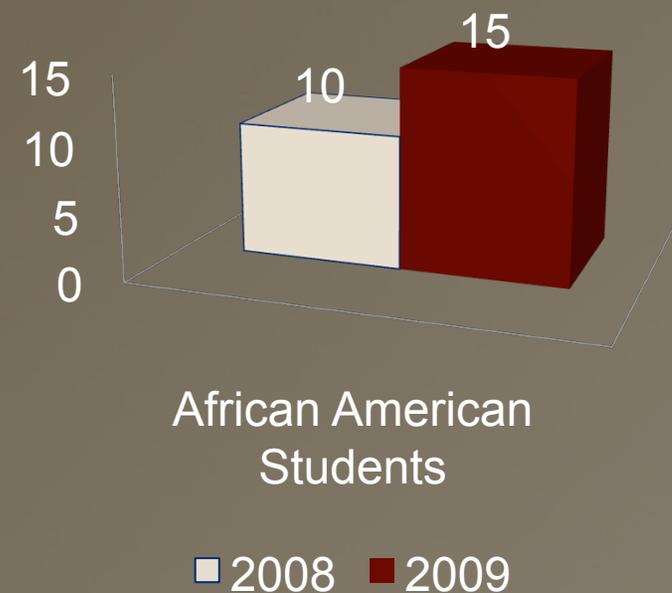
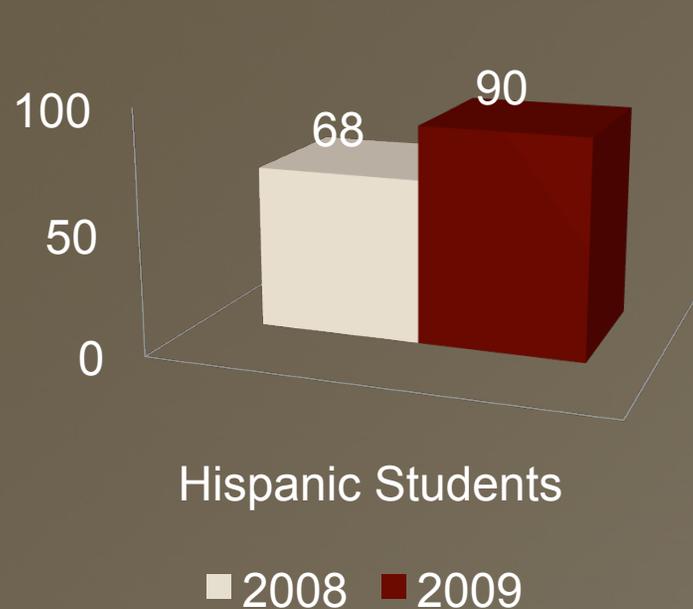
■ 2008 ■ 2009

\*2009 TAMU Enrollment Profile Office of Institutional Studies and Planning OISP

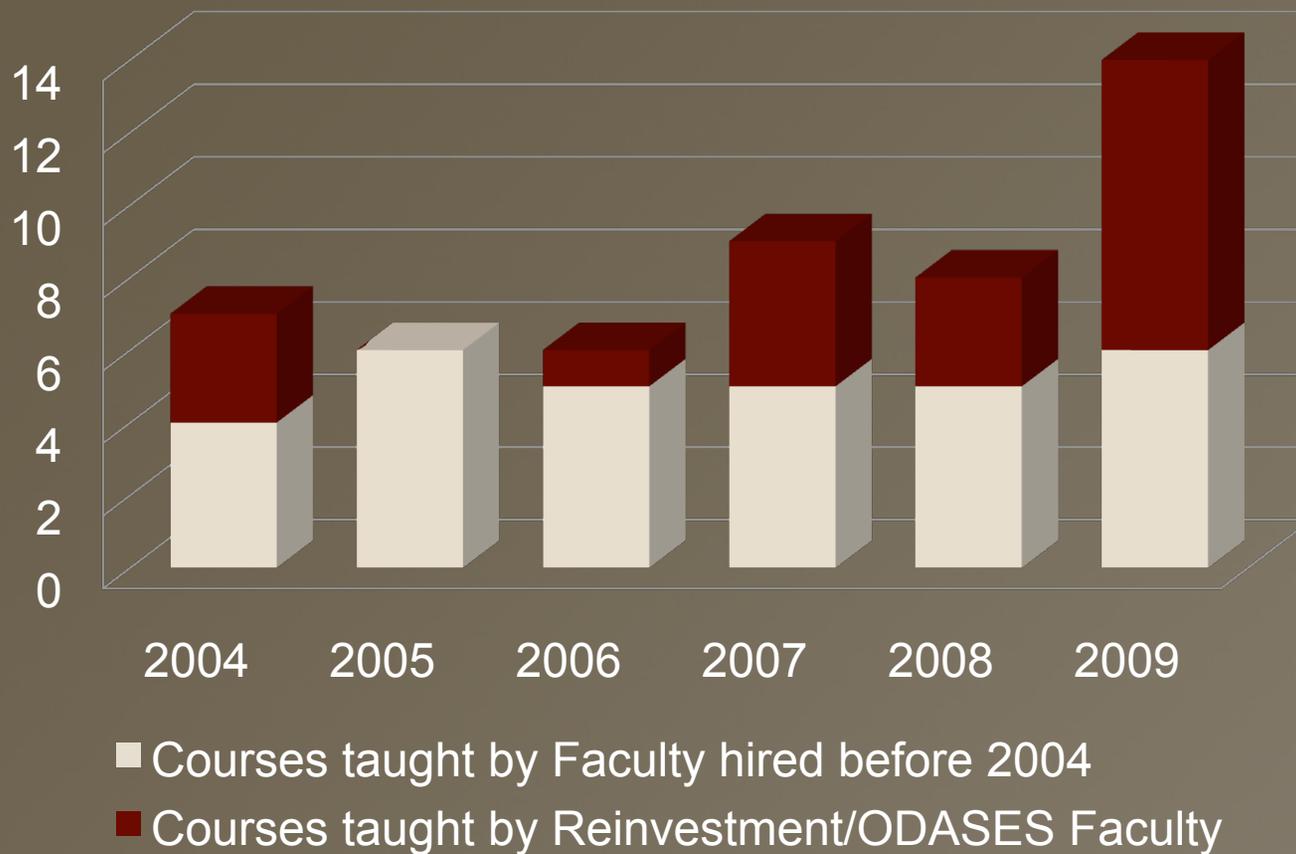
## Impact of Hiring a Director of Student Recruitment

Accomplishments within one year of creating the new position (cont.)

- Increased the number of Hispanic students by 32.4% (22 students)
- Increased the number of African American students by 50% (5 students)



## New Courses in Geosciences



## New Interdisciplinary Coursework

Courses developed to meet the needs of Environmental Programs:

- *Introduction to the Geosciences* (foundation course)
- *Environmental Geosciences* (capstone course)
- *Climate Change*
- *Polar Regions of the Earth: Science, Society, & Discovery*
- *Global Change*
- *Vegetation Response to Climate Change*
- *Science and Politics of Global Climate Change*

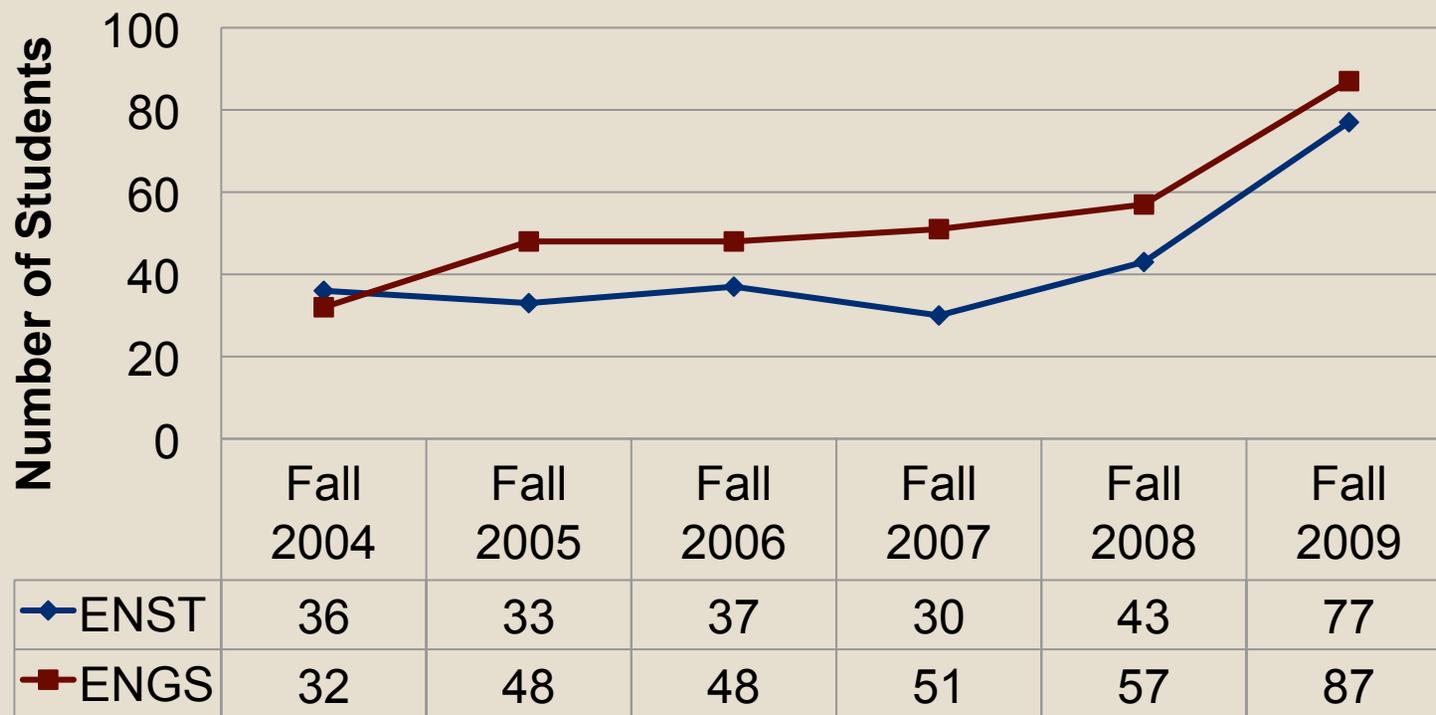
Cross-listed courses developed by ODASES faculty:

- *Geophysical Data Assimilation* (ATMO/OCNG)
- *Past Climates* (GEOG/GEOS/OCNG)



## Environmental Programs in Geosciences

**Enrollment Growth  
Fall 2004 to Fall 2009**



## Conclusions

- Identify areas of research strength
- Hire the best faculty
- Grow and diversify research expenditures
- Translate growth into academic programs
- Provide adequate infrastructure
- \$\$\$\$\$\$

