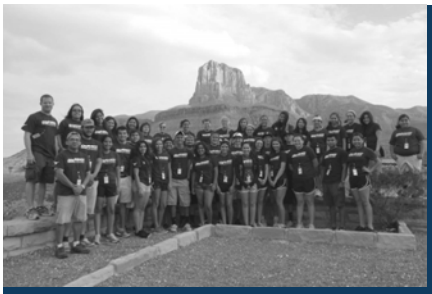
GEOFORCE TEXAS

Annual Report 2012

THE UNIVERSITY OF TEXAS AT AUSTIN

JACKSON

SCHOOL OF GEOSCIENCES



On the Cover

Southwest Texas 12th Grade Young Geoscientists in the Guadalupe Mountains

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It is difficult to believe how students like me, who have never even considered being a geologist before, come to be passionate about geology and how the earth works.

- GeoFORCE student 2012

Message from the Dean

This year brought new challenges and exciting opportunities to GeoFORCE, which continues to succeed in motivating its students to do well in school and go on to college in science, technology, engineering, or mathematics (STEM) fields. For the first time, GeoFORCE fully merged the 12th Grade Academies, enabling the Houston and Southwest Texas cohorts to travel together to the Appalachians and Washington, D.C. Along the way, they met some pretty important people, including Anne Castle, the Interior Department's Assistant Secretary for Water and Science, and Marcia McNutt, the Director of the U.S. Geological Survey (USGS), where 80 outstanding kids sporting their bright purple GeoFORCE T-shirts made quite an impression. GeoFORCE also partnered this year with the University of Alaska Fairbanks (UAF) to bring GeoFORCE to mostly native Alaskan children from the North Slope. The goal of this partnership is to help UAF develop an independent GeoFORCE Alaska program targeting their native population.

The GeoFORCE college program continues to grow, now proudly following more than 400 college students at all levels. In fact, the first two bachelor's degrees in our inaugural class were conferred this summer, one year early . This summer also saw GeoFORCE graduates who are in college engaged in scientific research, internships in their fields of study, and jobs at the National Park Service. As the college program grows, so do opportunities for college students. The new GeoFORCE Graduate Scholars Partnership provides four-year scholarships for students who are pursuing STEM majors (see p. 11). And coming next summer, the USGS and Jamie Austin (Associate Director, Institute for Geophysics) have agreed to jointly fund internships for GeoFORCE students.

What we are doing is clearly working. These hard-working students are delivering above expectations, and we can all take pride in their accomplishments.

Dr. Sharon Mosher, Dean
Jackson School of Geosciences

Dr. Mosher joined the GeoFORCE 2012 graduates on a dinner cruise to celebrate their accomplishments over the past four years.

GeoFORCE Overview

The Need

A study of Texas students who were in the seventh grade in 1996–97 found that by 2008 (six years after high school graduation) only 22 percent had earned either two- or four-year college degrees (National Center for Higher Education Management Systems, Information Center, 2012, www.higheredinfo.org). The numbers are even more dismal if you look at minority students: only 12 percent of Hispanics and Blacks had earned degrees. STEM degrees make up only about a third of degrees granted overall, so it is estimated that a mere 7 percent of all Texas high school students go on to earn STEM degrees. Our nation simply cannot afford to continue to waste this talent resource.

Earth sciences represent a particularly important need. At a time when Earth scientists are increasingly involved in assessing and solving critical world problems, from climate change to energy resources to natural hazards, the supply of these scientists is declining. U.S. schools produce only about 3,600 bachelor's-level geologists each year, and the students earning these degrees are predominately white. Only 7 percent of degrees in the geosciences are awarded to students of color. In 2005, GeoFORCE Texas set out to change those numbers by building a pipeline program, a public/private partnership, to introduce kids to the geosciences.

Minorities in Geoscience and Engineering Majors	College Students Overall (%)	GeoFORCE Students (%)
STEM Majors	31.4	63.7
Geoscience Majors	0.3	12.1
Black Geoscience	<0.01	1.0
Hispanic Geoscience	0.0	8.3
Female Geoscience	0.1	7.0
Engineering Majors	4.4	11.3
Black Engineer	0.2	2.0
Hispanic Engineer	0.3	6.6
Female Engineer	0.8	3.5

48
Geology Majors

274
STEM Majors

The Method

GeoFORCE operates in the predominately minority areas of rural Southwest Texas and inner city Houston, serving its original mandate to help achieve a larger and more diverse high-tech workforce. Students are selected on the basis of grades, an essay, and a teacher recommendation, not on gender or ethnicity; the high minority population in the program reflects the demographics of the target communities.

The objectives of GeoFORCE are

- Increase the number of students pursuing degrees in math and science.
- Increase the diversity of the future high-tech workforce.

GeoFORCE 12th Grade student during his four years in the GeoFORCE Academy.

Recruit them young

The program begins with recruitment in the eighth grade. Science teachers in our targeted schools aid us in selecting talented, qualified students interested in math and science. Students must have an overall B average and have no grade lower than a B in both math and science. The goal is to keep these students in the program for all four years of their high school career.

Keep them engaged

The idea behind making GeoFORCE a four-year high school program was that it would give more time to expose students to a wide variety of geology and science careers. This practice has worked. By the time students finish the program, they have a strong background in basic geology.

But this approach has several additional benefits. It creates a very solid cohort of students who form lasting friendships and who challenge and support each other throughout the academic year. GeoFORCE provides a friendship with like-minded peers, something that is critically important in adolescence. Over the four years, students in the program may only spend about 40 days together, yet many of these kids will tell you that their best friend is in GeoFORCE.

In addition, this long-term relationship with the kids creates a long-term relationship with their families and communities.

Houston 9th Grade Young Geoscientist student and his family dropping him off for his first GeoFORCE trip.

It is sometimes hard to peel the parents away from their children at the beginning of the first trip, but after they have let their children go for four years, they are much more likely to let them leave home for college. GeoFORCE is engaged and embedded in these communities, and it will stay there.

Take them to new places

Geology has one clear advantage over other STEM disciplines—it can be spectacular. But while the students are awestruck by the Grand Canyon, or mesmerized by the power of a volcano or an earthquake, or amazed by the fossils of long-extinct creatures, there is a lot of science behind the understanding of these things. Furthermore, there is a wide variety of science; it takes an understanding of chemistry, physics, biology, and mathematics to unravel geological mysteries. GeoFORCE uses all of these disciplines to get kids excited about learning science and math, and to help them envision a place for themselves in a future STEM field.

The heart of the GeoFORCE program is the summer field trip experience. During their high school career, Academy students take four one-week trips to visit spectacular geologic sites around the country. Young Geoscientist students take four trips of two to five days in Texas and New Mexico. GeoFORCE, therefore, takes enrolled students on a total of 16 field trips every summer. In general, each trip includes 40 students, an instructor, an educational coach, a geologist from a sponsoring company, a coordinator, a trail driver, and 6 counselors. Days start early and end late. There might be a short introductory lecture about what the group will see that day, but most of the teaching takes place in the field. A field guide, developed and written by GeoFORCE, provides the curriculum; students are expected to read it before each stop. The material covered in the field guides is on par with a college-level introductory course in geology. Every evening there is a review and a quiz about the day's materials, and often a lecture about the next day's field stops. One evening on each trip, a professional geologist talks to the students about his or her work and career path. A final exam is given at the end of the trip, and students must earn a B on the final to be invited back the next year.

Mentor and support their ambitions

GeoFORCE focuses on college from the start by providing students and their parents with information on high school course sequences in math and science. Many of the students will be the first in their family to go to college, so they are unfamiliar with pathways to college. For juniors, GeoFORCE offers a professional SAT/ACT preparation course. For seniors, we offer college admissions and financial aid workshops, with Spanish translation when necessary.

Outdoors, friends and travel—what's not to like?

- GeoFORCE student 2012

How do we measure success?

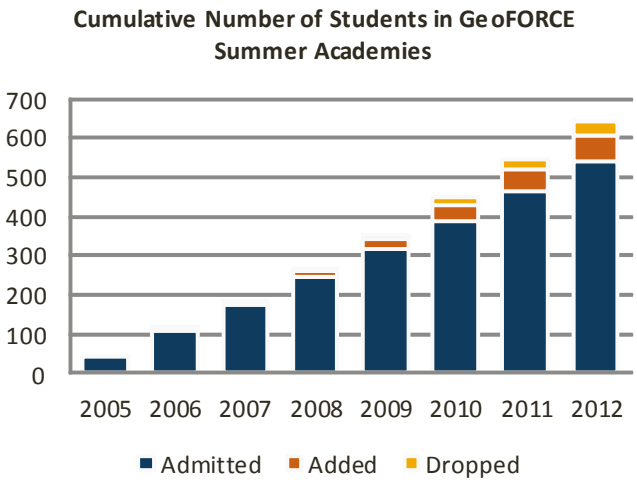
1. Strong retention of students
2. Diverse student body
3. Increased high school graduation rates and admission to college
4. Increased number of students studying STEM fields

The Results

GeoFORCE is successfully meeting our goals. We have had more than 1,000 students in the program, 83 percent of whom are minorities. Retention levels are high, graduation rates are outstanding, and students are moving into college in STEM fields in much higher rates than state and national averages.

Retention

GeoFORCE students continue to show a strong loyalty to the program, especially in the Academy. Over the eight years, only 6 percent of the Academy students have dropped out, none of these for academic reasons. In the Young Geoscientist program, annual attendance is not required, and participation varies by region. Over the course of four years, Young Geoscientist students from our Southwest Texas region attend an average of three-and-a-half field trips, while in Houston the average is two.



Diversity in GeoFORCE

The demographics of GeoFORCE 2012 summer events reflect the diverse student bodies of our targeted schools.

SW Region

73%

Hispanic

Houston Region

32% / 46%

Black Hispanic

Demographics of 2012 GeoFORCE Summer Events

		Total	Hispanic	White	Black	Asian	American Indian
	GeoFORCE Students (%)		60	18	16	6	0.2
	No. of GeoFORCE Students	604	360	107	97	39	1
Houston	Academies						
	9th Grade	42	19	7	12	4	-
	10th Grade	40	18	7	9	6	-
	11th Grade	41	17	6	12	6	-
	12th Grade	42	20	4	11	7	-
	Young Geoscientists						
	9th Grade	37	17	2	13	4	1
	10th Grade	31	16	3	12	-	-
	11th Grade	30	14	2	12	2	-
	12th Grade	30	12	1	15	2	-
Southwest	Academies						
	9th Grade	44	35	9	-	-	-
	10th Grade	43	30	11	-	2	-
	11th Grade	42	25	14	1	2	-
	12th Grade	39	29	8	2	-	-
	Young Geoscientists						
	9th Grade	40	31	6	-	3	-
	10th Grade	37	25	11	-	1	-
	11th Grade	36	27	9	-	-	-
	12th Grade	33	26	7	-	-	-

Two students attended two events. After attending the Young Geoscientist event, they were able to move up to the Academy when space became available.

GeoFORCE Class of 2012 at their Senior GeoGrad Trip to Austin

College matriculation

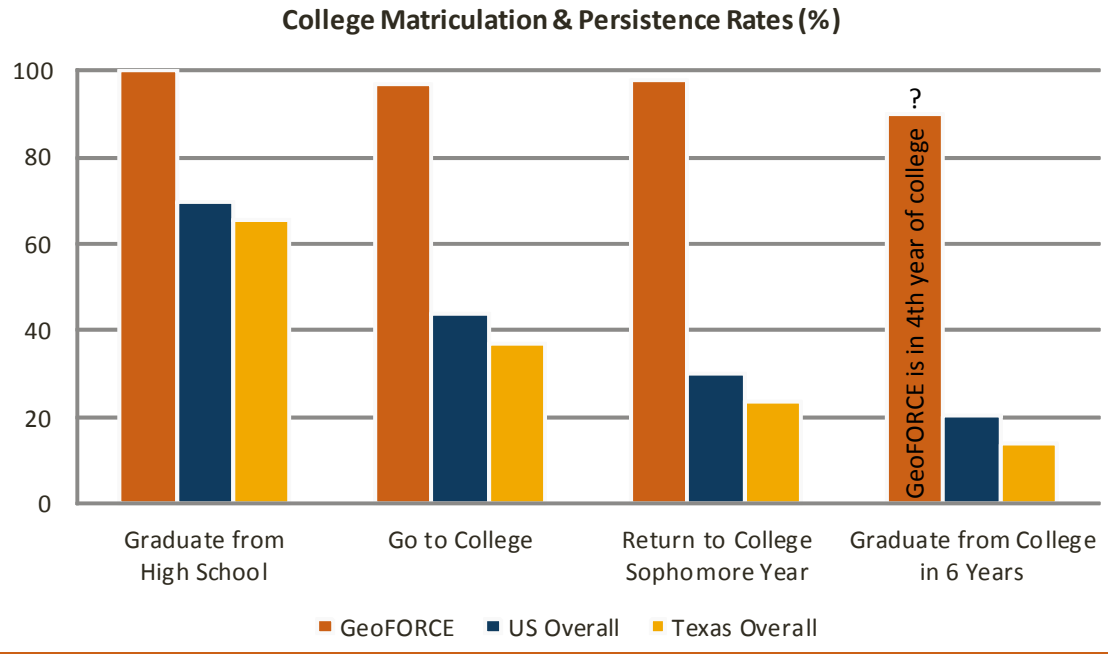
In the spring of 2012, the fourth cohort of GeoFORCE students graduated from high school, and again, 100 percent of our students received their diplomas. The 2012 senior class numbers 145. Of these students, 140 will go directly to college, joining 254 GeoFORCE graduates already enrolled, and increasing our reach to 83 colleges nationwide. GeoFORCE students have significantly lower college dropout rates than their peers. Only 3 percent of GeoFORCE students have left college, compared with a national average of nearly 30 percent. Our first cohort of GeoFORCE students will start their senior year in college this fall, but they have already started graduating; two of our students received their bachelor's degrees this summer.

100% **Graduate from High School**

96% **Attend College**

I am grateful for GeoFORCE since I am no longer apprehensive about going to college in a place outside Houston. I now know the possibility of encountering better opportunities somewhere outside my home.

- GeoFORCE student 2012

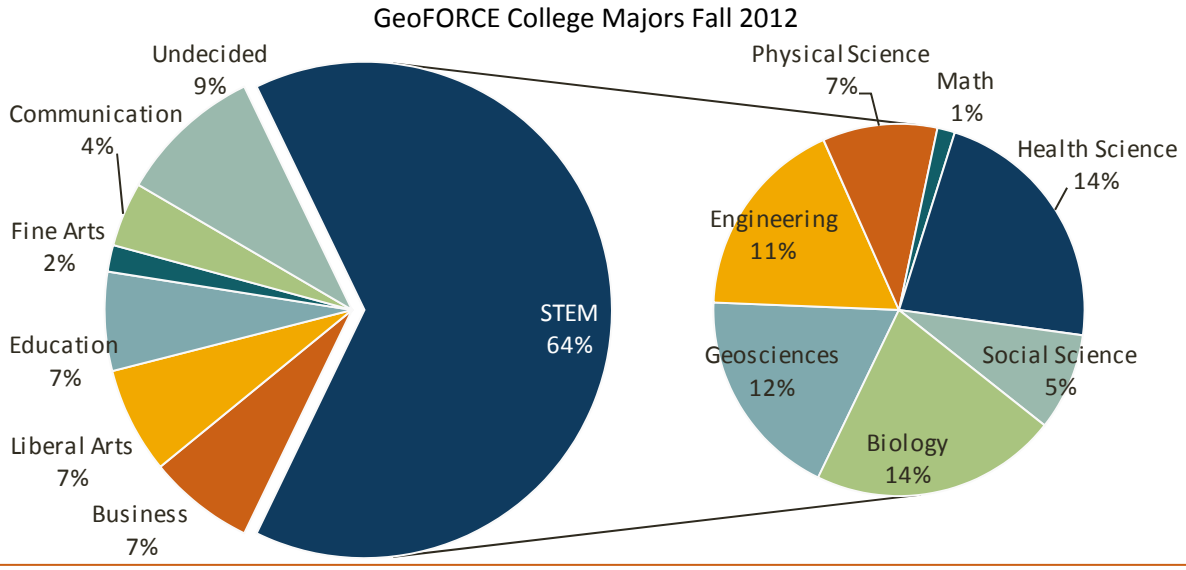


GeoFORCE Students in College as of Fall 2012							
Four Year Colleges						Two Year Colleges	
Angelo State	5	Pepperdine	1	Trinity	1	Austin CC	1
Barry University	1	Prairie View A&M University	6	U Chicago	1	Blinn College	2
Baylor	2	Rice University	4	U Houston	17	Coastal Bend	1
Bucknell	1	RI School of Design	1	UH Clear Lake	2	Houston CC	10
Brigham Young	1	Rochester Institute Tech.	1	UH Downtown	4	Lee College	2
Clark Atlanta University	1	Sam Houston	6	UH Victoria	3	Navarro College	1
Dallas Baptist	1	Schreiner	3	U North Texas	4	NW Vista	4
Fort Valley State	1	Southern Methodist	1	U.S. Coast Guard Academy	1	Palo Alto College	1
Harvard University	1	Southern	1	Ursinus College	1	San Antonio College	3
Houston Baptist	1	St Edward's	1	U Texas Austin	79	San Jacinto JC	1
Howard University	3	St. Mary's	3	UT Arlington	1	Southwest Texas JC	30
Incarnate Word	9	St. Philip's	1	UT El Paso	1	Total 2-Year Students	**56**
Kansas State	1	St. Thomas	1	UT Pan American	1	**Total GeoFORCE College Students**	**405**
Knox College	1	Stephen F Austin	3	UT Permian Basin	1		
Lamar University	2	Sul Ross	4	UT San Antonio	40	Out of State	36
Mary Hardin-Baylor	2	Tarleton State	1	UT Tyler	1	Private Colleges	57
McMurry Univ	2	Texas A&M	38	Wabash	1	HBCU[1]	16
Minnesota	1	Texas A&M Corpus Christi	6	Whitman	1	Texas State Schools	330
Mass. Inst. of Technology	1	Texas A&M Galveston	2	Xavier	2	Not in College	
Northwestern	1	Texas A&M International	8	Yale	1	US Armed Forces	5
NY Conservancy	1	Texas A&M Kingsville	5	Total 4-year Students	**338**	Not in College	15
Oblate School of Theology	1	Texas Lutheran	1	Completed College		Have not Reported	6
Ohio State	4	Texas Southern	1	Graduated AA/AS Degree	8	Total Not Pursuing College	**26**
Oregon	1	Texas State	20	Graduated BA/BS Degree	3	**Total GeoFORCE Graduates**	**431**
Our Lady of the Lake	1	Texas Tech	10	Total Completed	**11**		

[1] Historically black colleges and universities

Students in STEM fields

GeoFORCE students declare majors in science, technology, engineering, and math in much higher numbers than U.S. college students overall. In the fall of 2012, 64 percent of GeoFORCE students will be in STEM majors—nearly double the national average. This number will probably decline in the spring as freshmen change their minds; about 10 percent of GeoFORCE initial STEM majors change their majors in their first year of college. Again, however, this number is substantially better than national averages, where more than half of the initial STEM majors change to something else in their first year. GeoFORCE students show remarkable resiliency both in college overall and in degree choice.

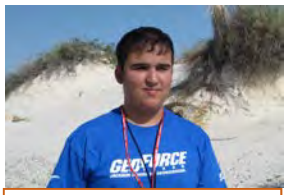


2012 Highlights

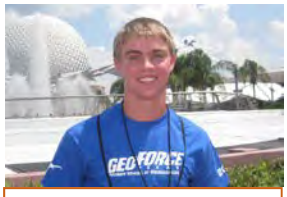
We're proud of all of our students, but this group deserves special recognition. They worked hard enough to graduate either first or second in their class.

Valedictorians

DAVION ANTWINE
Furr High School
UT— Geology

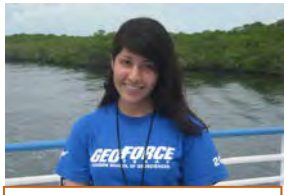


ERWIN HILTON
Del Rio High School
MIT—Engineering

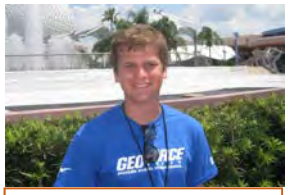


TYE MACON
D'Hanis High School
UT—Computer Eng.

KALYN MAYER
Waltrip High School
Texas A&M—Premed

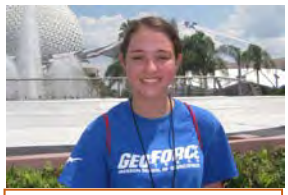


ALEXIA ROCHA
YES Prep High School
Bucknell—Geology

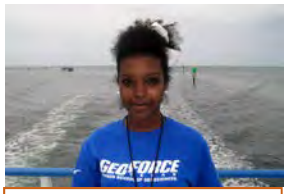


RYAN SAATHOFF
Hondo High School
Rice—Political Science

Salutatorians



ALEX DIBBENS
Utopia High School
Texas State—Business

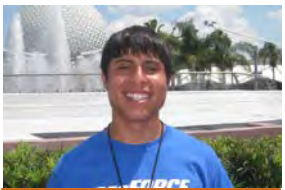


MERON HAILE
Lee High School
Texas A&M—Biology

BRITTANY HALE
Brackettville High School
SWTJC—Undecided

FAITH MONTGOMERY
Cotulla High School
UT– Business

THAO NGUYEN
Chavez High School
UH—Engineering



FEDERICO SALINAS
Eagle Pass High School
UT—Engineering

MAGGIE SUNDERMAN
Hondo High School
UT—Nursing

GeoFORCE Scholarships

For many Geo-FORCE graduates, getting into college is a challenge, but it only sets the stage for a more formidable obstacle—paying for it. GeoFORCE is fortunate to have donors who understand this problem. Chevron has continued its tradition of awarding scholarships to GeoFORCE students studying either geosciences or engineering at The University of Texas at Austin. Last year 14 students received Chevron support.

A new opportunity was presented to the class of 2012 when an anonymous donor stepped forward to create the GeoFORCE Graduate Scholars Partnership. This partnership, which is open to participation by other donors, will award four-year scholarships to GeoFORCE graduates who have demonstrated financial need and who are studying in STEM degree programs at UT Austin, Texas A&M, Texas State, UT San Antonio, University of Houston, Texas Tech, Southwest Texas Junior College, or Houston Community College. The program also supports mentoring of the scholarship students and an annual scholars' meeting. The first pool of applicants produced 24 GeoFORCE Graduate Scholars, who are beginning their studies at five universities and Houston Community College in the fall.

The purpose of the GeoFORCE Graduate Scholars Partnership is to ensure that money is not a barrier to these students' education. To retain the scholarship, students must maintain a minimum 2.5 GPA, meet monthly with a mentor, serve as a role model for younger scholars, and make progress toward a STEM degree.

Friends in High Places

GeoFORCE students met some VIPs this summer and impressed them all.

LEFT: Jack Hess, Executive Director of the Geological Society of America, with 11th Grade GeoFORCE Academy student at Mt. Hood.

ABOVE: Lt. Governor Mead Treadwell met with the inaugural GeoFORCE Alaska students in Anchorage.

LEFT: Anne Castle, the Interior Department's Assistant Secretary for Water and Science, with 12th Grade GeoFORCE Academy students at Great Falls National Park.

A Sizable Impact

For the first time, GeoFORCE was able to combine the Houston and Southwest Texas Academies and took all 80 of its 12th graders on a joint field trip to study the Appalachians. The trip was a tremendous success. Each group traveled on its own bus, with the usual contingent of counselors, staff, teachers, and sponsors. Lectures and quizzes were mostly held separately, but the groups interacted at meals and during free time, and they made quite an impression when they were all together at Great Falls Park and at the U.S. Geological Survey. It was great to see the students making friends across the program's target regions.

GeoFORCE Staff

It Takes a Team

The GeoFORCE program wouldn't be possible without the full-time staff and the many others in the Jackson School who assist with the program behind the scenes. Of special note, Dr. Jay Raney continues to help with designing and participating in field activities, as well as writing the guidebooks used on each trip. The staff is assisted by accountants, contract specialists, human resource personnel, and graphic design professionals. Without each of them, the program would not be able to achieve its goals.

Associate Director

Dr. Eleanour Snow

Eleanour manages the GeoFORCE graduate program and is responsible for all of the continuing resources for our program graduates, including senior field trips, scholarships, mentors, and quarterly bulletins. She also writes grants, maintains the data, travels to as many of the colleges with GeoFORCE students as she can, and participates in the summer field events. She also publishes the results of GeoFORCE in professional journals.

Southwest Texas Lead Coordinator

Edgar Garza

Edgar is responsible for managing the Southwest Texas region of GeoFORCE. His duties include recruitment, student retention, and engagement of the program's target schools.

Houston Lead Coordinator

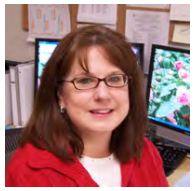
Lindsay Stephens

Lindsay is responsible for managing the Houston region and starting this year the Alaska region. Focusing on the Houston Independent School District, Lindsay maintains student retention and recruitment and works with the program's target schools.

Coordinators

John Hash, Matt Hofer, and Ann Merriman

Along with Edgar and Lindsay, this hard-working group runs the field program. They handle everything from recruiting to planning and running the field events. They are the people who make sure the hotels have rooms, the buses show up, and the kids are fed.



Administrative Associate

Karen Barton

Karen manages our accounting, maintains supplies, and holds down the fort while the team is out in the field.

Financial Status

OUTREACH PROGRAM SUMMARY (including grants, contracts, and endowment payouts)							
Income	**03-07**	**07-08**	**08-09**	**09-10**	**10-11**	**11-12**	**Total**
Jackson School							
Subtotal Jackson School	949,484	778,224	752,758	732,367	598,785	642,656	4,454,274
Contracts & Grants							
Texas Workforce Commission		129,302	249,484	102,128	238,361	36,286	755,561
Title V CAMSC (SWTJC)			151,823	190,100	74,099		416,022
BOEMRE/MMS	50,000		25,000	50,000	50,000		175,000
TG Foundation				100,000			100,000
Community Foundation		42,324					42,324
US Geological Survey					42,267		42,267
Subtotal Contracts & Grants	50,000	171,626	426,307	442,228	404,727	36,286	1,531,174
Endowment (Payout)							
Valence Operating Company			730	2,745	2,791	2,836	9,102
Darwin Family Endowment			172	1,437	2,562	3,530	7,702
Janet E. and David I. Rainey				64	271	438	773
Subtotal Endowment (Payout)			902	4,246	5,625	6,804	17,577
Gifts							
Shell	165,000	70,000	125,000	125,000	125,000	150,000	760,000
ExxonMobil	75,000	10,000	220,000	120,000	130,000	140,000	695,000
BP	50,000	80,000	120,000	120,000	120,000	120,000	610,000
Chevron	40,000	40,000	80,000	121,000	141,000	172,000	594,000
Marathon	3,000	150,000	100,000	100,000	100,000	100,000	553,000
ConocoPhillips	105,000	21,000	21,000	21,000	21,000	21,000	210,000
Devon		25,000	40,000	40,000	40,000	40,000	185,000
Halliburton	30,000	30,000	30,000	30,000	25,000	25,000	170,000
BHP						75,000	75,000
Schlumberger	6,000		3,000		12,000	30,000	51,000
Vulcan Materials		30,000		15,000			45,000
Baker Hughes Foundations					20,000	20,000	40,000
Valero		15,000		10,000	10,000		35,000
AEP		3,000	25,000	1,500	1,000	1,250	31,750
Swift Energy	22,000						22,000
Alcoa	5,000		15,000				20,000
Dominion	15,000						15,000
El Paso Corporation			10,000				10,000
Newfield						10,000	10,000
Priority Oil & Gas	2,000						2,000
Subtotal Corporate Gifts	518,000	474,000	789,000	703,500	745,000	904,250	4,133,750
AAPG Foundation		10,000	10,000	10,000	15,000	30,000	75,000
Ed Rachal Foundation				20,000	20,000	20,000	60,000
AT&T Foundation	40,000						40,000
Hamman Foundation					20,000	20,000	40,000
GDL Foundation		1,400	2,500	7,500	7,500	20,000	38,900
Kinder Morgan Foundation			5,000	5,000	5,000	5,000	20,000
SEG Foundation			5,000	3,000	5,083	5,000	18,083
Anonymous					15,000		15,000
Salvation Army					6,615		6,615
Undergraduate Geo. Society					1,736	1,302	3,038
SIPES-Central Chapter				1,000	1,000	1,000	3,000
Subtotal Foundation Gifts	40,000	11,400	22,500	46,500	96,934	102,302	319,636
Myrtle Isensee Estate			29,975				29,975
Leon Long	10,593						10,593
Jeremy and Lynn Greene				2,500	2,500	2,500	7,500
William and Marilee Fisher		1,000	1,000	1,000	2,000	2,000	7,000
Ernie Lundelius				2,000	2,500	1,500	6,000
Janet E. and David I. Rainey				1,000		2,000	3,000
Jim Sansom				1,000	1,000	1,000	3,000
Edward Cazier				500	500	500	1,500
Edmund Wermund						1,000	1,000
Charles Woodruff Jr.				1,000			1,000
Dennis Trombatore	100				250	250	600
Paul Hoffman					500		500
John Preston				200	300		500
Pete and Alice Rose					500		500
Stanley Stackhouse						500	500
Russell Hamman					250		250
Peggy Harwood						200	200
Jeanne Carballo					100		100
Katherine Weiner					100		100
Gifts Under $100						154	154
Subtotal Individual Gifts	10,693	1,000	30,975	9,200	10,500	11,604	73,972
Total Funding	1,568,177	1,436,250	2,022,442	1,938,041	1,861,571	1,703,902	10,530,383

Expenses	03-07	07-08	08-09	09-10	10-11	11-12	Total
JSG Staff and Administration	165,136						165,136
General Expenses	137,520	174,567	164,172	129,195	269,691	268,282	1,143,427
GeoFORCE Southwest							
9th Grade Academy	279,476	132,328	109,567	90,419	126,367	110,189	848,345
10th Grade Academy	172,952	105,498	102,522	107,395	114,569	120,042	722,977
11th Grade Academy	117,332	104,679	123,827	99,022	121,578	109,019	675,457
12th Grade Academy	1,447	150,394	118,487	107,935	105,832	120,664	604,758
9th Grade Young Geoscientists	60,501	37,624	31,110	33,846	25,544	35,389	224,013
10th Grade Young Geoscientists	79,742	37,123	33,305	52,566	55,881	45,418	304,034
11th Grade Young Geoscientists	24,592	46,721	28,595	35,683	33,576	36,083	205,250
12th Grade Young Geoscientists		47,142	63,376	37,922	78,795	54,124	281,359
GeoFORCE Houston							
9th Grade Academy		109,020	114,249	78,723	131,249	120,021	553,262
10th Grade Academy		86	103,752	112,086	110,151	118,807	444,882
11th Grade Academy		103,821	81,802	87,927	143,438	131,013	548,001
12th Grade Academy		6,551	98,805	105,570	132,081	131,918	474,924
9th Grade Young Geoscientists		47,240	32,639	43,719	42,675	39,731	206,004
10th Grade Young Geoscientists			37,408	42,095	35,058	47,915	162,476
11th Grade Young Geoscientists		48,320	26,300	34,509	27,629	33,175	169,933
12th Grade Young Geoscientists			56,158	40,565	69,660	55,786	222,169
Teacher Workshops	14,292	1,225	27,200	11,811	55,903	43,876	154,307
GeoGRAD Events			10,314	23,256	29,792	97,427	160,789
Summer Math Prep					1,600	7,500	9,100
GeoFORCE Scholarships				71,500	30,500	87,742	189,742
MSEA 11th Grade Academy	225,836	63,337	75,085	20,643	32,776	28,414	446,090
FVSU Scholarships	71,701	17,408	9,173	77,040	101,148	3,724	280,194
Dual Credit Course			65,243	81,580	73,441	12	220,277
CAMSC Summer Interns			89,176	117,131	11,453		217,760
BEG and UTIG Outreach		138,407					138,407
CDEP Student Visits	8,620	16,850	9,298	3,797	6,292		44,858
Innerspace Explorations				159	19,780	4,813	24,752
Explore UT	525	6,870	12,307				19,702
UTEACH				15,293			15,293
Latin American Forum			10,795			3,313	14,108
Upward Bound					2,650		2,650
Manor STEM Field Trip					2,524		2,524
Exemplar Manor and East Texas						1,385	1,385
Total Expenses	1,359,670	1,395,212	1,634,668	1,661,384	1,991,633	1,855,782	9,898,349
Surplus/Deficit	184,437	200,475	560,808	916,680	888,997	704,559	

As GeoFORCE grows and matures, we are using a more detailed accounting system. As a result, the Expenses table differs from previous years. In previous years staff and administrative costs were a separate line item. They have now been allocated to specific assignments.

Financial Support Team

Industry and Government Participation








Corporations	Funding[1]	Individuals	Advisory Committee	Region and Event
BHP	☑	Frank Peel		Southwest GeoFORCE Academy 12
BP	☑	Gill Apps	☑	Southwest GeoFORCE Academy 12
		Sneha Chanchani	☑	
		Peter Hargrove		Southwest GeoFORCE Academy 10
		Genevive Mathers		Houston GeoFORCE Academy 9
		Rachel Murphy		Houston Young Geoscientists 10
		Leslie Neal		Southwest GeoFORCE Academy 9
		Stefan Punnette		Southwest Young Geoscientists 9
		Anthony Riccardi		Houston GeoFORCE Academy 11
		Kira Tushman	☑	Southwest GeoFORCE Academy 11
Chevron	☑	Joni Baird	☑	
		Danielle Carpenter		Houston GeoFORCE Academy 12
		George Hildebrandt	☑	Houston GeoFORCE Academy 10
		Susan Howes		Southwest GeoFORCE Academy 10
ConocoPhillips	☑	Sarah Collier		Southwest Young Geoscientists 11
		Andy Dewhurst	☑	
		Anna Morisani	☑	Southwest GeoFORCE Academy 12
		Michael Stinson		Houston Young Geoscientists 12
		Mark Wiley		Southwest GeoFORCE Academy 11
Devon	☑	Judith Barnes		Southwest Young Geoscientists 11
		Brian Bayliss		Southwest Young Geoscientists 10
		Lee Foersterling		Southwest Young Geoscientists 10
		Yamonia Miller	☑	
		Brian Moore		Houston Young Geoscientists 9
		Lori Parr	☑	
		Shirley Perkins		GeoFORCE Senior Day
		Tim Powell	☑	
		Kristi Teter		Southwest Young Geoscientists 11
ExxonMobil	☑	Reggie Beasely	☑	
		Julie Cogswell	☑	
		Laura DeMott		Houston GeoFORCE Academy 11 GeoFORCE Senior Day
		Tiffany Hedayati		Southwest GeoFORCE Academy 11
		Mike Loudin	☑	GeoFORCE Senior Day
		James Pyburn		Southwest GeoFORCE Academy 10
Halliburton	☑	Bill Agee	☑	
Marathon	☑	Sarah Clark	☑	GeoFORCE Senior Day
		David Gorney		Southwest GeoFORCE Academy 9
		Mona Montezuma		GeoFORCE Senior Day
		Jesus Ochoa-Rodriguez		Houston GeoFORCE Academy 9
		Laura Reich	☑	GeoFORCE Senior Day
		Chelete Wells		GeoFORCE Senior Day
Newfield	☑	Robert Ferguson		Southwest Young Geoscientists 9
		Heather King		Houston Young Geoscientists 11
Schlumberger	☑	Troy Hawkes		Houston Young Geoscientists 11
		Susan Rosenbaum	☑	
Shell	☑	Mike Alvarez	☑	Houston GeoFORCE Academy 11
		Denise Butler	☑	
		Dominic Druke		Houston GeoFORCE Academy 12
		Aaron Shunk		Houston Young Geoscientists 12
Valence	☑	Bud Scherr		Houston Young Geoscientists 12
Government/Organization	**Funding[1]**	**Individuals**		**Region and Event**
Department of the Interior		Anne Castle		Southwest GeoFORCE Academy 12
Geological Society of America		Geoff Feiss		Houston GeoFORCE Academy 11
		Jack Hess		Houston GeoFORCE Academy 11
Texas Workforce Commission	☑	Kelly Sadler	☑	
U.S. Geological Survey		Marcia McNutt		Southwest GeoFORCE Academy 12
		Randy Orndorff		Southwest GeoFORCE Academy 12
		Lydia Quintana		Southwest GeoFORCE Academy 12

[1] See table on page 15 for funding levels.

Partnerships

GeoFORCE has been successful because of our strong partnerships with sponsors, Southwest Texas Junior College, the Houston Independent School District, and now the University of Alaska Fairbanks. GeoFORCE sponsors have provided not only financial support but also their time and expertise. Our sponsors are champions for us within their organizations, and they provide us with contacts within and outside of their organizations to help us grow and expand. They also open their doors to provide venues for our events, challenge us to continue to improve our program, and even join us in the field. The interaction between GeoFORCE students and the motivated, energetic, and caring adults who donate their time to share their knowledge has a tremendous positive impact.

Our academic partners have provided us with access to their network of educators and administrators, been the best recruiters for our program (even going so far as helping our students log in to the application system and reminding them to complete their essay on time), provided us a location to gather, and assisted with instruction in the field.

Southwest Texas Junior College (SWTJC)

SWTJC plays an active role in every aspect of GeoFORCE, starting with building relationships with the schools and teachers in the 18 independent school districts GeoFORCE serves. SWTJC also aids in providing logistical support for events held in the Uvalde area, including transportation for students from Eagle Pass and Del Rio, organizing closing ceremonies for the academies, and preparing articles for surrounding newspapers. There are many people at Southwest Texas Junior College who donate their time and expertise, but we owe a special thanks to Blaine Bennett, Mayta Garza, Andrea Flores, Willie Edwards, Stephanie Cerna, and Wade Carpenter.

Houston Independent School District (HISD)

HISD is the seventh largest school district in the United States, and GeoFORCE has been fortunate to associate with their amazing administrators, principals, and teachers. HISD provides us with auditoriums full of students for recruiting and access to computers for applications and registration. The administration building is open for us to use for SAT prep, orientation, and a gathering point for the Young Geoscientist trips. Four administrators sit on our Advisory Committee: Resena Garcia, Shelley McKinley, Yolanda Evans, and Karla Auzenne.

Fort Valley State University (FVSU)

FVSU provided GeoFORCE with the template to create the program. Dr. Isaac Crumbly shared best practices from creating their successful Math, Science, and Engineering Academy (MSEA) and provided personal guidance during the creation of GeoFORCE. As part of our partnership with FVSU, the Jackson School funds and hosts FVSU MSEA 11th graders during their field experience in Austin. The Jackson School also provides scholarships for select FVSU students who choose to transfer to the Jackson School and pursue degrees in the geosciences.

University of Alaska Fairbanks (UAF)

The UAF partnership initiated its activities in 2012. The goal is to engage students from the predominately native Alaskan North Slope and to assist the university in developing and ultimately running the four-year Alaska program. This year Denise Wartes of UAF's Rural Alaska Honors Institute helped recruit participants and organize the program. Dr. Sarah Fowell of UAF's Department of Geology and Geophysics helped develop the field trip, write the guidebook, and teach the students in the field this summer.

Foundations and Individuals

The objectives of GeoFORCE are well aligned with those of several foundations: diversifying the future workforce, empowering at-risk students, and engaging students in STEM learning. Eight foundations contributed to GeoFORCE in 2011–12: American Association of Petroleum Geologists Foundation, Brown Foundation, Ed Rachal Foundation, GDL Foundation, George and Mary Josephine Hamman Foundation, Kinder Morgan Foundation, Society of Exploration Geophysicists Foundation, and Central Texas Chapter of the Society of Independent Professional Earth Scientists. In addition, the Jackson School's Undergraduate Geological Society and the Graduate Student Executive Committee both held fundraisers for GeoFORCE this year.

Several individuals also contributed to the program, some of them having done so annually for several years. This year the list includes an anonymous donor who created the GeoFORCE Graduate Scholars Partnership. See table on page 15 for a complete list of donors.

Industry and Government

Our industry and government partners provide funding, access to sites, instructors, mentors, and insight into what it is like to work as geoscientists or engineers. GeoFORCE students benefit from interactions with corporate and government participants who take the time to personally meet with them. Each year several sponsor representatives spend as much as a week in the field with our students and take part in instruction and review. They also assist with our Educator Workshops. The table on page 17 illustrates the incredible commitment of corporations and government agencies to the GeoFORCE program.

Participating Schools

GeoFORCE recruits students across select schools in Houston Independent School District and Southwest Texas. Teachers, principals, and administrators open up their schools for recruiting and take their personal time to encourage and assist students to complete the GeoFORCE application. The following is a list of schools who participated in GeoFORCE recruitment and had students join GeoFORCE this summer. THANKS TO ALL!

9th Grade Students (Academy and Young Geoscientists)

Houston Middle School	Number of Students
Attucks Middle School	1
Clifton Middle School	11
Fondren Middle School	12
Grady Middle School	6
Hamilton Middle School	2
Hartman Middle School	2
Hogg Middle School	5
Holland Middle School	6
Jackson Middle School	4
Johnston Middle School	2
Lanier Middle School	11
Patrick Henry Middle School	6
Revere Middle School	6
Ryan Middle School	2
Sharpstown Middle School	1
Stevenson Middle School	1
Woodson Middle School	1

Southwest Texas Middle School	Number of Students
Brackett Junior High School	3
Carrizo Springs Junior High School	11
Del Rio Middle School	3
D'Hanis ISD	1
Eagle Pass Junior High School	24
Frank Newman Middle School	6
Knippa ISD	1
La Pryor ISD	1
Leakey ISD	1
Mary Harper Middle School	4
McDowell Middle School	3
Memorial Junior High School	7
Nueces Canyon ISD	1
Pearsall ISD	1
Sabinal ISD	2
Sterling Fly Junior High School	2
Utopia ISD	2
Uvalde Junior High School	11

Late Bloomers (10th - 12th Grade Young Geoscientists)

GeoFORCE does most of its recruiting from junior high schools; however, we also recruit high school students for openings in the Young Geoscientist Program.

Houston High School	Number of Students
Carnegie Vanguard	1
Chavez High School	6
Jones High School	6
Lamar High School	1
Lee High School	1
Madison High School	1
Sterling High School	1
Waltrip High School	1
Wheatley High School	1

Southwest Texas Middle School	Number of Students
Bracketville High School	1
Eagle Pass High School	1
Del Rio High School	1

Park Rangers and Others in the Field

Park Rangers, Museum Staff, and Other Professionals Who Provided or Arranged for Learning Opportunities	
Annandale Bat Cave:	LeAnn Sharp
Barton Springs Pool:	Katie Dalman
Bob Bullock Museum:	Shelby Barrera, Darren Albrecht, Jette Craig, Troy Daniel
Cape Perpetua:	Dr. Thomas Bright, Lori Robertson
Carlsbad Caverns:	Helen Fields
Colorado River Discovery:	Dianne Powers
Crater Lake National Park:	Amelia Bruno
Del Rio Outcrop:	Sherman Mumme
Fort Inge and Uvalde Historical Society:	Dick Whipple
Ft. De Soto:	Jim Wilson
Glacial Sand & Gravel Co.:	Jocelyn Lewis-Miller
Glen Canyon Dam:	Nikki Johnson, Rachel Dawavendewa, Dana Crane, Curtis Jaborski
Grand Canyon:	Jim Heywood, Roger Benefield
Great Falls Park:	Craig Madison, Cheryl Bresee
Guadalupe Mountains:	Elizabeth Garcia
Harpers Ferry National Historical Park:	Jeff Woods, Rebecca Harriett, Roxanne Ruppenthal
Hueco Tanks:	Wanda Olszewski
Inner Space Cavern:	Shirree Krahn
John Pennekamp Coral Reef:	Cecelia McCafferty, Jesula Milfort
John U. Lloyd State Park:	Sid Leve, Doug Zeletes
KATY Research Vessel:	Captain Stan Dignum, Dana Sjostrom
Leesylvania State Park:	Karen Lambey, Maribel Cervantes
Lovers Key State Park:	Gloria Beauchamp
Marine Science Institute:	Linda Fuiman, Lynn Ulch
Mt Hood National Forest:	Tammy Villali
Mt St Helens:	Todd Cullings, Peg Bohan, Kristine Cochrane
Newberry National Volcanic Monument:	Elizabeth Wasserman
Oregon Coast Aquarium:	Nemesia Herzstein
Padre Island National Seashore:	Joe Escoto, Buzz Botts
Pennsylvania State Geological Survey:	Gary Fleeger
Siuslaw National Forest:	Lori Robertson
Sunset Crater/Wupatki National Monument:	Inez Paddock
Texas Memorial Stadium:	Baxter McConnell, Chase Harvey
Texas Natural Science Center (TXMM):	Christina Cid, Pamela Owen
Texas State Aquarium:	Stacy Treviño
Tualatin Valley Fire & Rescue:	Jeff Rubin
United States Geological Survey:	Randy Orndorff, Lydia Quintana, Michael Marketti
Vulcan Materials, Knippa:	Ron Robles, Armando Quiroz
Vulcan Materials, Uvalde:	Chris Havelka
White Sands National Monument:	David Bustos, Kathy Denton
Windley Key Fossil Reef State Park:	Melba Nezbed
Zion National Park:	David Walker, Amy Esplin

Summary of 2012 Activities

Summer Math Initiative

Experience has shown that math preparation is often a significant stumbling block for students entering college. While this is true for many new college students, the problem may be exacerbated for GeoFORCE students because their schools are often unable to provide them with excellent math teachers. For the second year, GeoFORCE has offered college-bound students the opportunity to access UT's six-week precalculus tutorial. This year 29 students took advantage of the opportunity, and over the six weeks, they raised their precalculus test scores by an average of 31 percent. At the start of the program, only 17 students had scores high enough to register for calculus; by the end of the course, all but one of the students had reached that mark.

Educator Professional Development

GeoFORCE holds two Educator Workshops each year for high school science teachers in select HISD and Southwest Texas schools. The workshops provide the teachers with lessons and hands-on activities they can bring to their students, as well as networking opportunities with other science teachers to help to build relationships between GeoFORCE and educators.

This year, the fall workshop was held in Austin. On the first day, teachers did hands-on activities learning about stratigraphic principles, maps, and cross sections. The next day they took a field trip to a lignite mine and power plant, and also visited a clay mine and brick factory nearby. The teachers applied their understanding of stratigraphy in the field and learned the many uses of mined products.

In the spring, we gathered on Galveston Island, where a field day to collect box cores was followed by classroom examination and interpretation of the cores. Teachers looked for evidence of hurricanes in the sediment layers, created a cross section, and compared the field data with historical data to pinpoint absolute time.

College Preparation

GeoFORCE continued to offer SAT preparation and college admissions/financial aid workshops to students and families in both the Houston and the Southwest Texas regions. This year we added something extra to the college admissions workshop—we took the students on visits to The University of Texas at San Antonio and the University of Houston. Southwest Texas area seniors traveled to UTSA on their way to the Senior Career Day. They were greeted by an admissions counselor and the dean of the College of Sciences. They then toured the campus, went to a geology class, and had lunch with GeoFORCE graduates who are students at UTSA. In Houston, students were invited to UH on a Saturday. They listened to an overview by the admissions officer and a geology faculty member, participated in the launch of a weather balloon, toured the campus, and had lunch in the cafeteria.

Science Fairs and Festivals

The GeoFORCE team participated in several science festivals in Austin and Houston with the sponsorship of Shell. Using bins of silt, sand, and gravel, the GeoFORCE and Shell team helped children create their own geologic cores. GF Grads in local colleges came out to help as volunteers, taking advantage of the opportunity to give back to the program and the general public.

Academies

9th Grade Academy

Number of Students

Houston: 42/ Southwest Texas: 44

Objectives

- Introduce students to basic geological terms and processes
- Experience life on a major university campus

Geological Topics

Geologic periods, geologic provinces, orogeny, Pangaea, fossil fuels, valley and ridge, coastal plains, faults, folds, rifting, anticlines and synclines

Austin Field Stops:

- **McKinney Falls**
- **Guerrero Park**
- **Texas Memorial Museum**
- **University of Texas Campus**

Florida Field Stops:

- **Apollo Beach Nature Park**
- **Big Carlos Tidal Pass**
- **John U Lloyd**
- **Pennekamp**
- **Windley Key Fossil Reef**



Houston
9th Grade Academy

Coordinator	Lindsay Stephens John Hash	**Educational Coach**	Karla Auzenne
		Counselor	Brooke Bickham
Instructor	Laura Zahm		Raymundo Cordova
	Ernie Lundelius		Dennis East
	Jim Sansom		Luciano Esquivel
Trail Driver	Ivan Ponce		Gabrielle Ramirez
			Dorian Smith
Sponsor Representative	Genevive Mathers, BP Jesus Ochoa, Marathon		



Southwest Texas
9th Grade Academy

Coordinator	Matt Hofer	**Educational Coach**	Madelyn Percy
Instructor	Terry Quinn	**Counselor**	Allison Boehme
	Ernie Lundelius		Debbie Duran
	Jim Sansom		Victoria Fortiz
			Martha Ortiz
Trail Driver	Victoria Herndon		Devon Vanderveer
			Dominique Zvorak
Sponsor Representative	David Gorney, Marathon Leslie Neal, BP		


10th Grade Academy

Number of Students

Houston: 40/ Southwest Texas: 43

Objectives

- Inspire students to "think like a geoscientist"
- Apply geological concepts to what is seen in real time
- Expose students to sedimentary structures, processes, and environments

Geological Topics

Law of superposition, lateral continuity, cross-bedding, unconformity, desert varnish, mono-cline, gradient, antecedent drainage, mass wasting, uniformitarianism, differential erosion, dendrochronology, cinder cone, strata volcano

Arizona Field Stops:

- **Glen Canyon**
- **Balancing Rock**
- **Navajo Bridge**
- **Grand Canyon**
- **Wupatki**
- **Sunset Crater**

Utah Field Stop:

- **Zion National Park**



Houston
10th Grade Academy

Coordinator	Lindsay Stephens	**Educational Coach**	Darryl Tricksey
Instructor	Peter Flaig	**Counselor**	Jamal Calvin Raymundo Cordova
Trail Driver	Ivan Ponce		Dennis East Cierra Gilmore
Sponsor Representative	George Hildebrandt, Chevron		Kimberly Routt Dorian Smith



Southwest Texas
10th Grade Academy

Coordinator	Edgar Garza	**Educational Coach**	Randy Laurence
Instructor	Liz Catlos	**Counselor**	Teresa Gaitan Alexis Gonzalez
Trail Driver	Victoria Herndon		Jennifer Jimenez Ruben Polanco
Sponsor Representative	Peter Hargrove, BP Susan Howes, Chevron James Pyburn, ExxonMobil		Marissa Vara Dominique Zvorak



11th Grade Academy

Number of Students

Houston: 40/ Southwest Texas: 42

Objectives

- Expose students to volcanic structures, processes, and environments
- Compare beach environments on east and west coasts of the United States
- Reinforce geological concepts from 9th and 10th Grade Academies

Geological Topics

Law of superposition, lateral continuity, uniformitarianism, magma, lava, fissure, vesicular texture, pyroclastic flow, caldera, longshore current, tides, tsunami, sea stack, marine terrace, intertidal zone

Oregon Field Stops:

- **Columbia River Gorge**
- **Mt Hood**
- **Newberry Caldera**
- **Crater Lake**
- **Salt Creek and Multnomah Falls**
- **Cape Perpetua**
- **Oregon Dunes**

Washington Field Stop:

- **Mount St. Helens**



Houston
11th Grade Academy

Coordinator	Eleanour Snow	**Educational Coach**	Madelyn Percy
Instructor	Jeff Paine	**Counselor**	Abi Guerra Ariel Hernandez
Trail Driver	Ivan Ponce		Cortney Pichon Timothy Prather
Sponsor Representative	Mike Alvarez, Shell Laura DeMott, ExxonMobil Geoff Feiss, GSA Jack Hess, GSA Anthony Riccardi, BP		Kimberly Routt Dorian Smith



Southwest Texas
11th Grade Academy

Coordinator	Matt Hofer	**Educational Coach**	Oscar Romano
Instructor	Jeff Paine	**Counselor**	Rosa Arellano Stephen Cantu
Trail Driver	Victoria Herndon		Antonio Martinez Bridget Pettit
Sponsor Representative	Tiffany Hedayati, ExxonMobil Kira Diaz Tushman, BP Mark Wiley, ConocoPhillips		Enrique Reyes Devon Vanderveer



12th Grade Academy

Number of Students

Houston: 42/ Southwest Texas: 38

Objectives

- Compare the ancient convergent plate boundary of the Northeast with the active convergent plate boundary of the Northwest
- Reinforce geological concepts from past three summers

Geological Topics

Geologic periods, geologic provinces, orogeny, Pangaea, fossil fuels, valley and ridge, coastal plains, faults, folds, rifting, anticlines and synclines

Pennsylvania Field Stops:

- **Moraine State Park**
- **McConnells Mill State Park**
- **Graff North Mine**

West Virginia Field Stop:

- **Harpers Ferry**

Virginia Field Stops:

- **Rift Basin**
- **Great Falls National Park**
- **Leesylvania Park**
- **USGS Headquarters**

Washington D.C. Field Stops:

- **Smithsonian Museum**
- **National Mall**



Houston
12th Grade Academy

Coordinator	Lindsay Stephens John Hash	**Educational Coach**	Darryl Tricksey
		Counselor	Divya Bhakta
Instructor	Steve Seni		Inmer Cardona Mercedes Collins
Trail Driver	Doug Ratcliff		Alejandra Eljuri Gabrielle Ramirez
Sponsor Representative	Danielle Carpenter, Chevron Dominic Druke, Shell		Larry Savoy



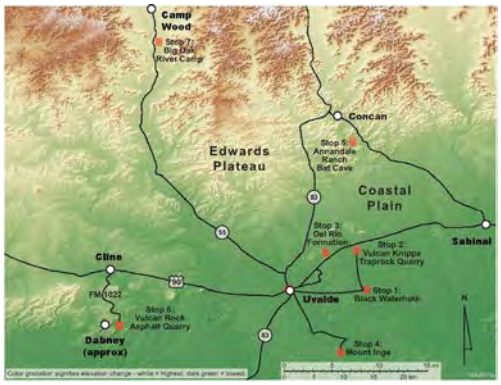
Southwest Texas
12th Grade Academy

Coordinator	Edgar Garza	**Educational Coach**	Randy Laurence
Instructor	Jamie Austin	**Counselor**	Rosa Arellano Allison Boehme
Trail Driver	Victoria Herndon		Stephen Cantu Jennifer Jimenez
Sponsor Representative	Gill Apps, BP Anna Morisani, ConocoPhillips Randy Orndorff, USGS Frank Peel, BHP		Melissa Null James Slack



Young Geoscientists

9th Grade Young Geoscientists



Number of Students

Houston: 37/ Southwest Texas: 41

Objectives

- Introduce students to basic geological terms and processes
- Expose students to fluvial systems
- Apply concepts to hands-on experiences

Geological Topics

Uniformitarianism, law of superposition, lithification, deposition, differential erosion, columnar joints, rock cycle, water table, point bar, cutbank, aquifer, terrace, quarry, floodplain volcano

Uvalde and Surrounding Field Stops:

- **Blackwater Hole**
- **Vulcan Materials Asphalt Quarry**
- **Knippa Traprock Quarry**
- **Del Rio Hacienda Formation**
- **Fort Inge**
- **Leona River**
- **Annandale Bat Cave**



Houston
9th Grade Young Geoscientists

Coordinator	Lindsay Stephens	**Educational Coach**	Jessica Gordon
Instructor	Sigrid Clift	**Counselor**	Rosa Arellano
			Jamal Calvin
Trail Driver	Doug Ratcliff		Raymundo Cordova
			Cierra Gilmore
Sponsor Representative	Brian Moore, Devon		Kimberly Routt
			Marissa Vara

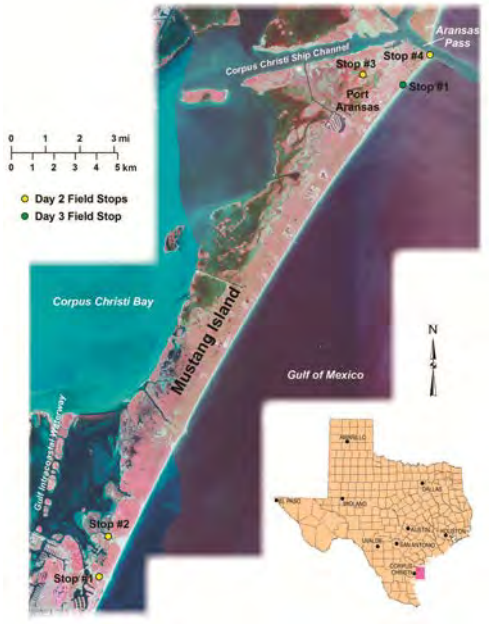


Southwest Texas
9th Grade Young Geoscientists

Coordinator	Matt Hofer	**Educational Coach**	John Won
Instructor	Sigrid Clift	**Counselor**	Stephen Cantu
			Daniel De Hoyos
Trail Driver	Doug Ratcliff		Antonio Martinez
			Faith Marie Musquiz
Sponsor	Robert Ferguson, Newfield		Martha Ortiz
Representative	Stefan Punnette, BP		Enrique Reyes



10th Grade Young Geoscientists



Number of Students

Houston: 31/ Southwest Texas: 37

Objectives

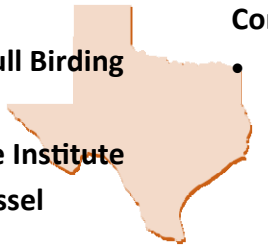
- Learn basic coastal processes and nomenclature of the coastal zone
- Inspire students to "think like a geoscientist" and apply the geological concepts to what they are seeing in real time
- Reinforce geological concepts from previous summer

Geological Topics

Accretion, algal mat, swash zone, longshore drift, salt marsh, scarp, surf zone, estuary, fetch, high tide, jetty, beach, backbeach

Port Aransas Field Stops:

- **Mustang Island**
- **Packery Channel**
- **Leonabelle Turnbull Birding Center**
- **UT Marine Science Institute**
- ***KATY* Research vessel**



Corpus Christi Field Stop:

- **Texas State Aquarium**



Houston
10th Grade Young Geoscientists

Coordinator	Edgar Garza John Hash	**Educational Coach**	Ernesto Ramirez
		Counselor	Divya Bhakta
Instructor	Sean Gulick		Ariel Hernandez
			Linda Nguyen
Trail Driver	Luciano Esquivel		Cortney Pichon
			Larry Savoy
Sponsor Representative	Rachel Murphy, BP		Keelan Umbarger

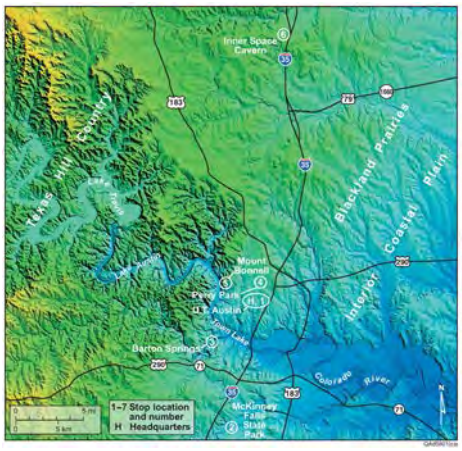


Southwest Texas
10th Grade Young Geoscientists

Coordinator	Edgar Garza John Hash	**Educational Coach**	Lauren Oefinger
		Counselor	Allison Boehme
Instructor	Eleanour Snow		Victoria Fortiz
			Jennifer Jimenez
Trail Driver	Luciano Esquivel		Ruben Polanco
			Karina Robledo
Sponsor Representative	Brian Bayliss, Devon Lee Foersterling, Devon		Dominique Zvorak



11th Grade Young Geoscientists



Number of Students

Houston: 30/ Southwest Texas: 36

Objectives

- Give students a glimpse of life on a major university campus
- Expose students to fluvial systems and aquifers
- Compare fluvial systems in Austin and Uvalde
- Reinforce geological concepts from 9th and 10th grade field courses

Geological Topics

Law of superposition, uniformitarianism, geologic time, erosion, deposition, watershed, stream discharge, geomorphology, topography, flood, fault, earthquake, escarpment, karst, cave, speleothem

Austin and Surrounding Area Field Stops:

- **McKinney Falls**
- **Barton Springs**
- **Texas Memorial Museum**
- **Bob Bullock Museum**

- **Inner Space Cavern**
- **Mount Bonnell**
- **Perry Park**



Houston
11th Grade Young Geoscientists

Coordinator	Edgar Garza John Hash	**Educational Coach**	Michael Arratia
		Counselor	Divya Bhakta
Instructor	Jaime Barnes		Stephen Cantu
	Ernie Lundelius		Inmer Cardona
	Jim Sansom		Daniel De Hoyos
			Linda Nguyen
Trail Driver	Doug Ratcliff		Cortney Pichon
Sponsor Representative	Troy Hawkes, Schlumberger Heather King, Newfield		

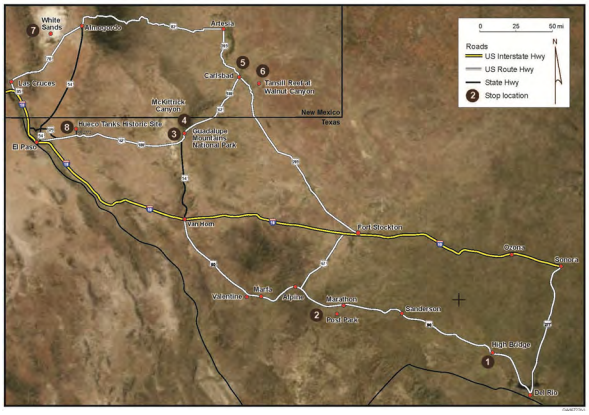


Southwest Texas
11th Grade Young Geoscientists

Coordinator	Edgar Garza	**Educational Coach**	Randy Laurence
Instructor	Joel Johnson	**Counselor**	Brooke Bickham
	Ernie Lundelius		Teresa Gaitan
	Jim Sansom		Zenia Garza
			Alexis Gonzalez
Trail Driver	Doug Ratcliff		Ruben Polanco
			Enrique Reyes
Sponsor Representative	Judith Barnes, Devon Sarah Collier, ConocoPhillips Kristi Teter, Devon		



12th Grade Young Geoscientists



Number of Students

Houston: 30/ Southwest Texas: 33

Objectives

- Expose students to the many types of careers in the geosciences, all while giving them first-hand experience in the field
- Expose students to basic tectonic concepts
- Compare fluvial systems in depth
- Reinforce geological concepts from past three summers

Geological Topics

Aquifer, groundwater, basin, desertification, depositional environment, eolian dunes, subduction, tectonics, water table, recharge, discharge, spring

New Mexico Field Stops:

- **White Sands National Monument**
- **Carlsbad Caverns**

Texas Field Stops:

- **Camp Peña**
- **Pecos High Bridge**
- **Guadalupe Mountains**
- **McKittrick Canyon**
- **Hueco Tanks**



Houston
12th Grade Young Geoscientists

Coordinator	Matt Hofer	**Educational Coach**	Oscar Romano
Instructor	Xavier Janson	**Counselor**	Divya Bhakta
			Jamal Calvin
Trail Driver	Doug Ratcliff		Inmer Cardona
			Cierra Gilmore
Sponsor	Bud Scherr, Valence		Melissa Null
Representative	Aaron Shunk, Shell		Kimberly Routt
	Michael Stinson, ConocoPhillips		



Southwest Texas
12th Grade Young Geoscientists

Coordinator	Matt Hofer	**Educational Coach**	Michael Arratia
Instructor	Sigrid Clift	**Counselor**	Maricruz Bustamante
			Daniel De Hoyos
Trail Driver	Luciano Esquivel		Victoria Fortiz
			Teresa Gaitan
			Zenia Garza
			Enrique Reyes



GF Grads Program

The GF Grads program is focused on all GeoFORCE students from the end of their final field trip through college graduation.

Senior Year Trips

In the fall we took the students on a field trip to explore careers in the energy industry. Marathon and ExxonMobil shared hosting duties. The students were treated to a demonstration in Marathon's 3D visualization lab, an exercise where they examined a drill core at ExxonMobil's facility, and career talks with company scientists and engineers. The day ended with a trip to the *Ocean Star* Offshore Drilling Rig Museum in Galveston and a picnic on the bay.

In the spring, the graduating seniors were invited to Austin for a celebration of their graduation and of four great years in GeoFORCE. We hiked Enchanted Rock and later went on a dinner cruise on Lake Austin. The day was capped by a lovely sunset on the lake.

At my current school, High School for Law Enforcement and Criminal Justice (LECJ), a few of the upperclassmen and freshman GeoFORCERs started a tutorial group. We all believe that GeoFORCE has brought us closer together, instead of feeling like completely different people. The first day we all wore our GeoFORCE IDs and stood together counting to see who had the most stickers, I found it funny how a small thing like stickers brought us closer together more like a family.

- GeoFORCE student 2012

GF Grads Bulletin

For GF Grads, the GeoFORCE staff continues to publish a quarterly bulletin and to serve as a resource for internships, scholarships, and jobs. This year, of the 18 students who are studying geology and have completed at least two years of college, 7 were involved in summer research or summer internship programs in geology, most of which were a direct result of their GeoFORCE participation.

Internships

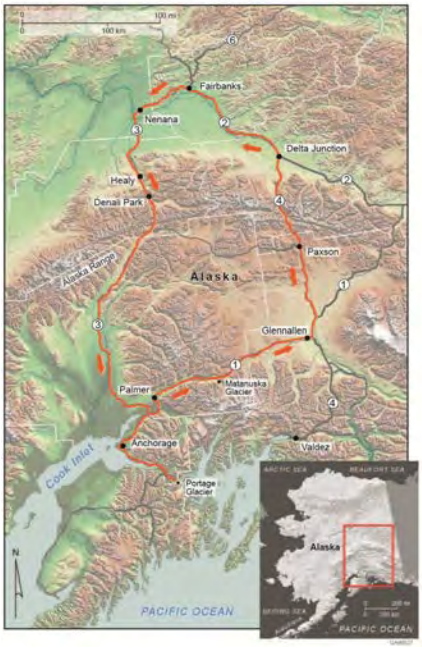
On the horizon are expanding internship opportunities for students. This summer GeoFORCE made connections with the Geological Society of America (GSA) GeoCorps program, which places students in internships within the U.S. Forest Service, the National Park Service, and the Bureau of Land Management. We will make sure that our students know about the program, and GSA will attempt to place qualified GeoFORCE graduates in the internships. In addition, a partnership was formed between Dr. Jamie Austin at the Institute for Geophysics and the USGS to place GeoFORCE students in summer internships at the survey. Jamie, an instructor in the 12th Grade Academies for the last two years, has agreed to cover housing and travel costs if the USGS provides salaries for summer internships for GeoFORCE graduates. As GF Grads get closer to college graduation, expanding these types of internship programs will be an increasingly important priority of the GF Grads program.

GeoFORCE Day

This year GeoFORCE students, staff, partners, and alumni launched a new tradition by declaring Friday the 13th to be International GeoFORCE Day. Beginning April 13, 2012, and every Friday the 13th thereafter, GeoFORCE friends all over the world will don their colors in support of GeoFORCE.

Expansion into Alaska

Inaugural Trip for GeoFORCE Alaska



This year marked the inaugural year for GeoFORCE Alaska. The University of Texas at Austin worked with the University of Alaska Fairbanks to start a new GeoFORCE program targeting students in the North Slope. This program leveraged the proven success of the established GeoFORCE Texas program to duplicate it in Alaska. Alaska is an ideal location to begin expanding the GeoFORCE program. It has all of the requirements needed to start a new program: a strong university partner in UAF, a region with a strong energy industry, and a diverse population with limited resources.

Sixteen students formed the inaugural GeoFORCE Alaska class, all from native villages on the North Slope. The program was jointly run by UT Austin and UAF. The program was funded separately from GeoFORCE Texas, and its future will depend on developing a viable funding model. But for this year, students, teachers, sponsors, coordinators, and counselors all had a tremendous experience. They explored a permafrost tunnel, hiked on a glacier, studied spectacular rivers and sedimentary deposits, visited the Alaska Volcano Observatory, and saw Mt. Denali. It was a richly memorable week.



Number of Students: 16

Objectives

- Introduce students to basic geological terms and processes
- Experience life on a major university campus

Geologic Topics

Geologic time, erosion, deposition, lithification, law of superposition, uniformitarianism, rock cycle, sedimentation, glaciation, earthquakes

Alaska Field Stops:

- **Fox Permafrost Tunnel**
- **Denali National Park**
- **Earthquake Park**
- **Kincaid Park**
- **Portage Glacier**
- **Matanuska Glacier Park**


GeoFORCE Alaska 9th Grade Academy

Program Manager	Denise Wartes	**Sponsor Representative**	Denise Butler, Shell Ed Duncan, Great Bear Karen Duncan, Great Bear Josh Payne, Shell
Coordinator	Lindsay Stephens		Jay Raney, Consultant
Instructor	Peter Flaig Sarah Fowell		Ron Tingook, Shell
Educational Coach	Madelyn Percy	**Counselor**	Alejandra Eljuri Debbie Duran
Trail Driver	Doug Ratcliff		Kristen Rahilly Rachel Westbrook



GeoFORCE in the News

Article in the San Antonio Express-News

Drug test can block the road to Eagle Ford riches

By Vicki Vaughan
Updated 12:06 a.m., Saturday, August 25, 2012

A reader comments on our "drug polluted" workforce. Unemployment is fueled by those who can't pass drug tests for employers, such as those hiring in the Eagle Ford play. Photo: Jerry Lara, San Antonio Express-News / © 2012 San Antonio Express-News

Recent Headlines

Fiona Apple arrested for hashish in West Texas
Man accused of being bogus security guard
Somali pleads guilty to lying to FBI in terrorism probe
Ex-cop gets 30 years for massive child porn stash
Alleged Gulf cartel boss on trial in South Texas

While the Eagle Ford Shale holds out the promise of tens of thousands of jobs, many job seekers aren't making the cut, while qualified workers are facing a bottleneck in obtaining credentials for trucking jobs, experts said Friday.

Employers say they're rejecting 30 percent to 40 percent of all shale job applicants because they can't pass a pre-employment drug test, said Leodoro Martinez, who moderated a panel discussion about workforce issues at the Texas Economic Development & Energy Summit attended by 175 at the Marriott Rivercenter hotel.

The audience included energy industry officials, elected officials, public officials and economic development officials.

Drug use is "a family, school and community problem" that needs to be addressed but won't be easily solved, said Sen. Carlos Uresti, D-San Antonio.

Doug Ridge, director of employer initiatives for the Texas Workforce Commission, agreed, saying drug use "is a big, big problem, a major problem."

Article in the San Antonio Express-News continued

The problem isn't occurring among all applicants, Ridge said after the panel discussion. "I'm not seeing it in engineers or the professions," he said, but he said it's a problem among applicants for jobs on rigs or as truckers.

An audience member asked if students are being told that they could land a great job in the shale — but only if they stay away from drugs.

Ridge cited a program called GeoFORCE, which encourages promising but at-risk students to avoid drugs while showing them the opportunities in the energy industry.

The summer outreach program for eighth- through 12th-grade students for now is concentrating only on some Southwest Texas and Houston schools.

It's run by the University of Texas at Austin's Jackson School of Geosciences.

"We hold that program out as a best practice," Ridge said. "It's a very impressive program, but it's too small."

A study by the University of Texas at San Antonio estimated that 20 counties in the Eagle Ford Shale supported 47,097 full-time jobs in 2011, a number that's expected to grow to 116,972 full-time jobs by 2021.

For now, many of the jobs in demand are for truckers. And a pay range of $25,000 to $80,000 a year is attracting many applicants, according to Workforce Solutions Alamo officials. But even solid job applicants are being stymied by the licensing system, panelists said.

"The whole process of getting the CDL (commercial driver's license) is backed up," said Martinez, who also is chairman of the Eagle Ford Consortium.

The Texas Department of Public Safety is responsible for handling CDL applications.

DPS spokesman Tom Vinger said DPS "is addressing the increased demand for CDLs with our existing resources, and our examiners are processing them as quickly possible."

DPS is expected to continue having to make do with existing resources. Rep. Rafael Anchía, D-Dallas, told summit attendees that because of budget cuts, he isn't hopeful that the Legislature will be able to increase funding to DPS to help expedite CDL applications process.

Vinger recommended that applicants help streamline the process by scheduling their skills test online. "The skills test is a critical requirement to ensure the proper certification of a commercial vehicle driver, which ultimately impacts the safety of all travelers on the roadway."

vvaughan@express-news.net

We hold that program [GeoFORCE] out as a best practice

Article in the Daily News - Miner

GeoFORCE Alaska students holding up the Fairbanks paper, the Daily News—Miner, with the article on GeoFORCE.

GeoFORCE program introduces students to Alaska geology

by Matt Buxton / mbuxton@newsminer.com

Jul 28, 2012 | 3585 views | 1 | 8 | |

Members of the inaugural class of GeoFORCE Alaska, a program aimed at introducing rural and minority students to earth sciences, pose together on Matanuska Glacier during a weeklong trip to learn about Alaska's geology. The 16 students from the North Slope will participate in the summer programs throughout high school, including trips to the Grand Canyon, Mount Saint Helens and the Appalachian Mountains.

FAIRBANKS — To the wild laughs of their peers, four incoming freshmen from Barrow and villages Kaktovik and Nuiqsut performed a slapstick skit about the inner workings of Mount Drum stratovolcano that just a week before the 16-student group from the North Slope knew nearly nothing about.

The students, who were shyly introducing themselves a week earlier, laughed, joked and smiled on Saturday after their successful completion of the first season of GeoFORCE Alaska, a program aimed at introducing rural and minority students to science through hands-on earth science field trips.

The program is the first expansion of the six-year-old GeoFORCE Texas, a free and privately funded four-year college preparation program. The Alaska-based program is coordinated out of the University of Alaska Fairbanks and is supported by Shell and Great Bear Petroleum as well as other oil developers and regional corporations.

With geology professors from the University of Alaska Fairbanks and the University of Texas at Austin, the 16 students traveled 1,018 miles by bus to visit the Permafrost Tunnel in Fox, the Healy coal deposits, Denali National Park, Portage Glacier, Matanuska Glacier and the Denali Fault.

It's a program that UAF associate professor Sarah Fowell, the chairwoman of the Department of Geology and Geophysics, was thrilled to be a part of. She said students from small, rural schools often are lagging behind their urban peers and this gives them a chance to be exposed to new things.

"It's really important because they're not getting earth sciences in school and even if they're interested in dart science, they're so overwhelmed when they get to college," she said. "I'm hoping that this program will change that."

The students, most of whom were 14, participated in nightly lectures, took tests and studied material that was on par with entry college courses. The hands-on, intensive attention paid off, when test scores impressively jumped from a paltry 43.6 percent to 90.4 percent. Eleven of the 16 students earned an A on the course, a fact that had many beaming.

The learning doesn't end with this year's diploma, the 16 students have three more summers in the program. As long as they maintain a B average in math and science, they'll get to visit the Grand Canyon, Mount Saint Helens and the Appalachian Mountains.

The Texas-based program, which includes about 80 percent minority students, boasts an astonishing 100 percent high school graduation rate, with nearly all the students immediately going on to college.

"It was awesome going around and seeing everything," said Lolo Driggs, of Wainwright on the North Slope. "I wasn't really interested in science until this trip."

The program will start with a new class with as many as 40 students next summer, and applications will be available through schools starting in October.

The event was broadcast online to the students' families and communities, and state Sen. Joe Paskvan delivered a short congratulatory speech to the students.

Peter Flaig, a geology professor at the University of Texas at Austin's Jackson School of Geosciences, said the skills the students learn in the program can apply to the rest of their lives.

"What a leg up they have for college. They learned how to learn," he said. "They don't have to grow up to be geologists, that's OK as long as they learn about the world."

Contact staff writer Matt Buxton at 459-7544.

Article in Shell's internal newsletter

Geoscience comes alive for Alaskan youth

08/22/2012

Students learn about Alaska geology through week-long GeoFORCE trip

It's said that science can help you look at the world in new ways. For 14-year-old Braden Miguel, who is traveling across Alaska learning about geoscience in world-class destinations like Denali National Park and the Matanuska Glacier, this certainly rings true.

"I like science," said Miguel, who is from Barrow, a village of approximately 4,200 on Alaska's Arctic coast. "It explains everything. I like knowing what I see, and what's happening."

Miguel is on a week-long bus trip in the interior and southern regions of Alaska as part of GeoFORCE, a program sponsored by Shell, Great Bear Petroleum LLC, Arctic Slope Regional Corp., SolstenXP and other companies.

Braden Miguel enjoys the sights at Portage Lake, a stop in his GeoFORCE trip throughout Alaska to locations conducive to geoscience study - Photo by Doug Ratcliff, courtesy of GeoFORCE.

"This program works to increase the number and diversity of students pursuing STEM (science, technology, engineering and mathematics) degree programs. Miguel is part of a group of ninth graders from Barrow and seven other northern Alaska communities. In addition to a week-long trip each summer, GeoFORCE will support and mentor them throughout their high school career. The goal is to keep them engaged in science education and encourage them to attend college, especially in STEM degrees. This program connects kids who want to learn.

"The real strength is that they stay together," said Doug Ratcliff, Director of Outreach at the University of Texas at Austin's Jackson School of Geosciences. "These are kids who normally don't track into these disciplines."

The GeoFORCE program began at the University of Texas, Jackson School of Geoscience with Shell's support eight years ago and currently serves about 650 students in rural south-central Texas and inner city Houston. More than 70 percent of students in these regions are economically disadvantaged, and more than 80 percent are minorities. After eight successful years, the program has a 100 percent high school graduation rate. Four hundred and nine graduates are now in college, more than 60 percent of whom are declared STEM majors.

Shell geologists (from left to right) Josh Payne, Denise Butler and Ron Tingook view Portage Glacier on a boat tour with the Alaska GeoFORCE students - Photo by Doug Ratcliff, courtesy of GeoFORCE.

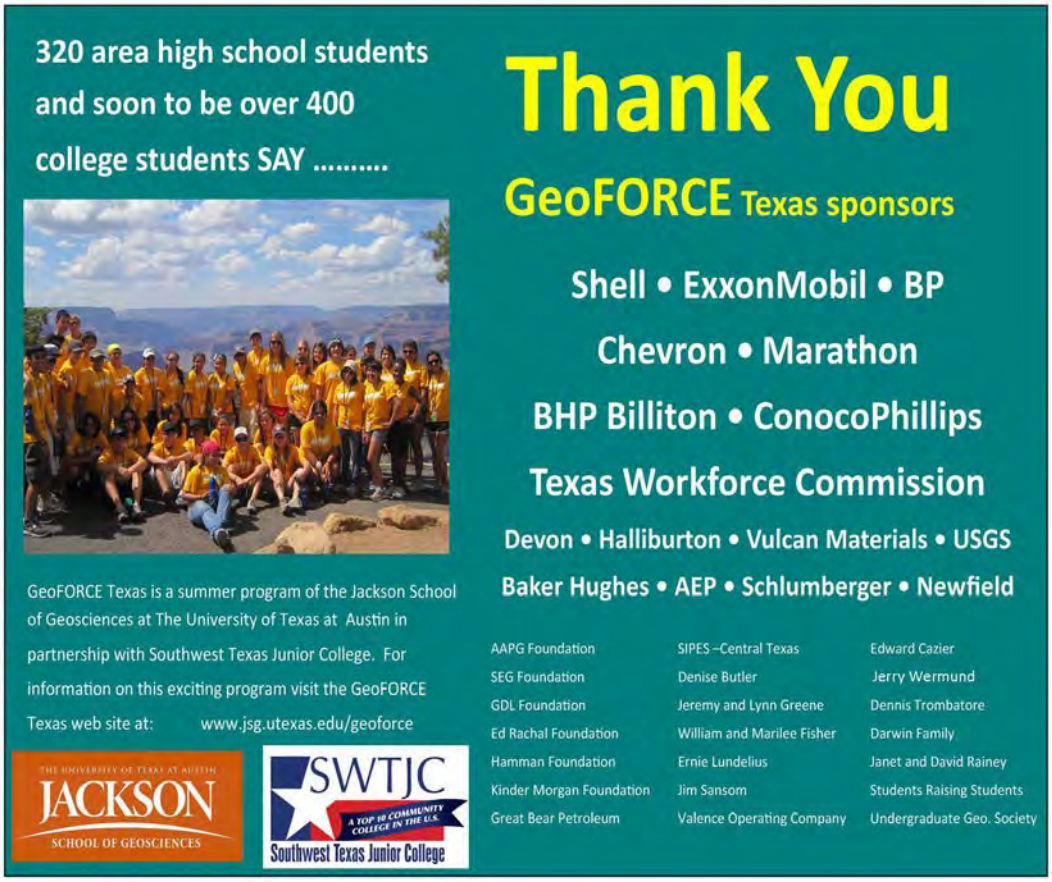
Sixteen groups of Texas students have undertaken trips this summer – This year the program has expanded to Alaska in a new partnership between the University of Texas at Austin and the University of Alaska Fairbanks. Miguel's group is the first GeoFORCE trip to run in Alaska.

Of the 17 trips this summer, Shell scientists are accompanying four of them. Three Shell geologists, Denise Butler, Geoscience Discipline Lead, Josh Payne and Ron Tingook, joined the Alaska group. This is definitely not the first GeoFORCE trip for Butler, a longtime supporter of the program.

"Seeing the change in these kids in one week is so rewarding," said Butler. "The relationships they form here will last many years. This program not only opens their minds to the wonders of earth science but opens up their world."

Miguel's group will continue together throughout high school. Next summer, this group will attend their second geoscience field trip in the continental United States, and another group of 9th graders will join the program. For the Alaska Venture, the program helps develop a future local workforce and provides a tangible benefit to local communities. With the support of GeoFORCE staff and volunteers, sponsors like Shell and the University of Alaska Fairbanks and the communities and families themselves, these students stand a good chance of succeeding academically.

"My family really liked it," said Lorean Driggs, 14, a participant from Wainwright, Alaska. "When they first heard about it, they told me to go. They were more worried about me finishing my application than I was."



GeoFORCE ran half-page Thank You ads in the newspapers of the following cities:

- Uvalde
- Hondo
- Del Rio
- Crystal City
- Carrizo Springs
- Eagle Pass

Thank You

GeoFORCE Texas Sponsors

Looking Ahead to 2012-13

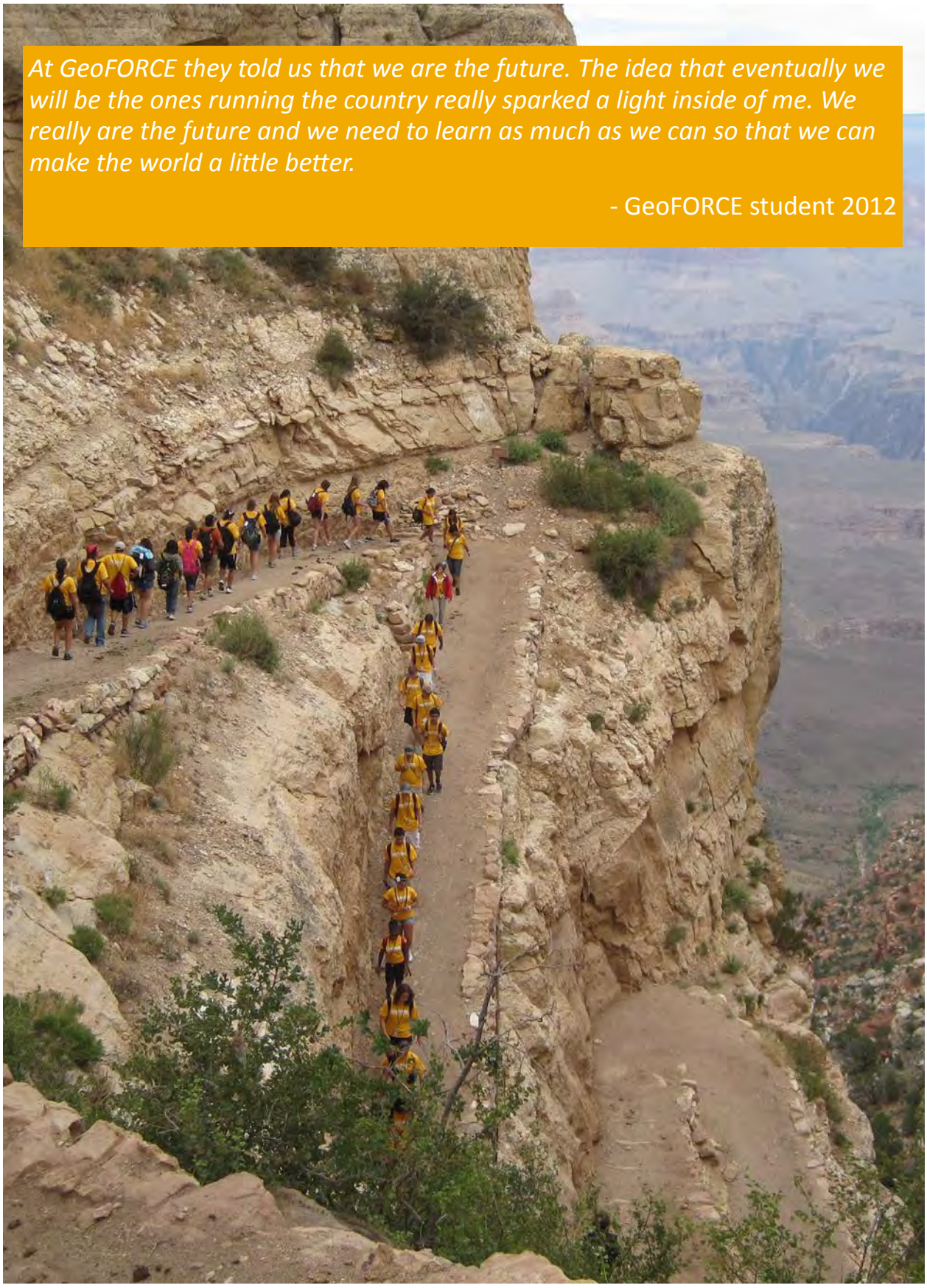
I am literally counting the days for our next trip.

- GeoFORCE student 2012

2012-13 GeoFORCE Activities in Date Order			
Dates	**Region**	**Event**	**Location (s)**
Fall Events 2012			
9/22/2012	Houston	SAT Prep Workshop	Houston
9/22/2012	Houston	College Admissions Workshop	Houston
9/30/2012	Southwest	College Info Picnic	Uvalde
10/24/12 - 10/25/12	Houston & Southwest	Fall GeoFORCE Grad Senior Trip	Houston
11/11/12 - 11/13/12	Houston & Southwest	Fall Teacher Workshop	TBD
11/17/2012	Southwest	SAT Prep Workshop	TBD
Spring Events 2013			
TBD	Houston & Southwest	Spring Teacher Workshop	TBD
3/28/13 - 3/30/13	Houston & Southwest	Spring GeoFORCE Grad Senior Trip	Austin
Summer Events 2013			
6/8/13 - 6/10/13	Houston	11th Grade Young Geoscientists	Austin
6/8/13 - 6/15/13	Houston	9th Grade Academy	Austin, Florida
6/8/13 - 6/15/13	Southwest	10th Grade Academy	Arizona, Utah, Nevada
6/12/13 - 6/14/13	Southwest	11th Grade Young Geoscientists	Austin
6/22/13 - 6/29/13	Houston	10th Grade Academy	Arizona, Utah, Nevada
6/22/13 - 6/29/13	Southwest	9th Grade Academy	Austin, Florida
6/25/13 - 6/28/13	Southwest	12th Grade Young Geoscientists	New Mexico
7/1/13 - 7/2/13	Southwest	9th Grade Young Geoscientists	Uvalde
7/9/13 - 7/11/13	Houston	9th Grade Young Geoscientists	Uvalde
7/13/13 - 7/20/13	Houston	12th Grade Academy	Pennsylvania, Virginia, D.C.
7/13/13 - 7/20/13	Southwest	12th Grade Academy	Pennsylvania, Virginia, D.C.
7/14/13 - 7/17/13	Houston	10th Grade Young Geoscientists	Port Aransas
7/20/13 - 7/27/13	Southwest	11th Grade Academy	Oregon
7/23/13 - 7/27/13	Houston	12th Grade Young Geoscientists	New Mexico
7/27/13 - 8/3/13	Houston	11th Grade Academy	Oregon
7/31/12 - 8/3/13	Southwest	10th Grade Young Geoscientists	Port Aransas

Each year, I go to my calendar and mark off a week of time when I know I will be out of town. I plan my summer around this week… Why do I build a summer plan around a program about rocks? There is so much I know I would miss out on if I didn't make space for the GeoFORCE trip: stunning landscapes, stimulating curriculum and supportive instructors and friends.

- GeoFORCE student 2012



At GeoFORCE they told us that we are the future. The idea that eventually we will be the ones running the country really sparked a light inside of me. We really are the future and we need to learn as much as we can so that we can make the world a little better.

- GeoFORCE student 2012