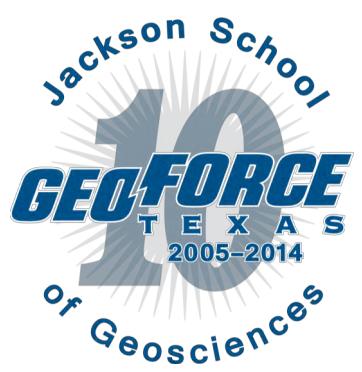


# Annual Report 2014



# Letter from the Director

**D**ear Friends,

GeoFORCE—It works! It works as a guiding example of how we rise to the high level of expectation that we set for ourselves and that others set for us. GeoFORCE's thriving for 10 summers to inspire the next generation of scientists, technicians, engineers, and mathematicians is a testament to the synergy created by a true partnership between school districts, corporations, government agencies, and higher education. It also speaks to the character and determination of the young men and women highlighted in the 10th annual report, students who participated in GeoFORCE during its first 10 years and rose to the level of expectation that GeoFORCE put forth for them and that they put forth for themselves. It is far from given that a rising freshman coming out of a high school from which GeoFORCE recruits participants would have excelled in math and science in the first eight grades and gone on to pursue a career in the STEM fields. Encouragement, guidance, and excellent learning opportunities are all key ingredients to providing students with experiences and information that will build their self-efficacy and assist them in making informed choices about preparing for and pursuing a STEM career.



**Dr. Sam Moore**  
**Director of Outreach & Diversity**  
**Jackson School of Geosciences**

GeoFORCE has provided encouragement for students these past 10 years by grouping them with like-minded peers who share a thirst for learning, hampered only by the limited educational resources in their schools. Encouragement has been offered by engaging school district teachers and administrators who pushed students to apply to GeoFORCE and incorporated what they learned in GeoFORCE teacher workshops into the students' classrooms. Encouragement has been offered by engaging sponsors with students on field trips, creating lasting mentoring relationships. And, of course, encouragement has been offered in recent years in the form of scholarships made possible by GeoFORCE sponsors and generous friends, enabling students graduating from GeoFORCE to attend college without the discouragement of not knowing how college will be paid for.

GeoFORCE has offered guidance over the years in the form of PSAT and SAT workshops, college application and financial aid workshops, visits to the companies of sponsors for information on career opportunities, and ongoing contact with mentors beyond the field trips.

Excellent learning opportunities have been made the first 10 years for 1,500 students who embarked on life-changing geology field trips for four summers, led by Jackson School of Geosciences faculty and research scientists, aided by school district educational coaches and sponsors on the trip. Encouragement, guidance, and excellent learning opportunities have changed education in STEM fields and changed lives the past 10 years of the program.



First GeoFORCE cohort at Mt Bonnell in Austin, Texas in 2005

How do we know GeoFORCE has changed education over the past 10 years? In addition to accolades the program received the first nine years, The University of Texas at Austin recently recognized GeoFORCE as one of “Five UT Programs Changing Education,” programs started at UT, but impacting education statewide and nationwide.

How do we know GeoFORCE has changed lives these past 10 years? Talk to any sponsor, faculty member, research scientist, or school teacher who has spent a week traveling on a motor coach with the students and being in the field with them. These adults will tell you how their lives were changed from interacting with GeoFORCE students.

And we know from the data you have seen in 10 annual reports how GeoFORCE has changed the

lives of students, from high school completion rates to college admission rates. Some of these students are highlighted in this year’s annual report. Each student profile represents the success of the true partnership between school districts, corporations, government agencies, and higher education. Each student profile speaks to the character and determination of the young men and women who rose to the level of expectation that GeoFORCE put forth for them and that they put forth for themselves. GeoFORCE—It works!



Dr. Sam Moore  
Director of Outreach and Diversity  
Jackson School of Geosciences



GeoFORCE 12th grade academy at Great Falls Park, Summer 2014



Hector Garza  
GeoFORCE Class of 2012  
Eagle Pass, TX

Hector is a junior at the Jackson School, studying general geology. He is currently working on two research projects. One is with Dr. Julia Clarke looking at bird feather color markers. The second is with Dr. Greg Frébourg and the mudrock group at the Bureau of Economic Geology. Hector and Greg met on the SW 10th Grade Academy trip this summer, where they impressed each other with their passion for geology and work ethic. Hector will graduate in May 2016 and then pursue a master's degree in petroleum geology, with the goal of working in the oil and gas industry. Hector has proven to be a great counselor for GeoFORCE and a fine mentor for younger students. "Thanks to GeoFORCE, I have accomplished so much and found a career I love.... If you want to make an impact on someone's life, and solve the problems the world is facing right now, geology is it."

## Key Statistics

### 10 years

GeoFORCE just completed its 10th summer taking high school students out in the field to study geology and encouraging the next generation of scientists.

### 560 students

Number of high school students who participated in GeoFORCE in 2014.

### 100% graduate high school

Over the past decade, every student who has participated in the GeoFORCE program has graduated from high school.

### 90% graduate college

Percent of GeoFORCE students that are on track to graduate college in six years. This is over six times the Texas average.

### 62% study STEM fields

GeoFORCE students major in the STEM fields (science, technology, and engineering) at almost double the national average.

# Table of Contents

<b>GeoFORCE Overview.....</b>	<b>6</b>
Mission and Objectives.....	6
Method.....	7
Results.....	8
<b>Sponsors.....</b>	<b>10</b>
<b>Financial Status.....</b>	<b>11</b>
Income.....	11
Expenditures.....	12
Scholarships.....	13
<b>Partnerships.....</b>	<b>14</b>
GEAR UP.....	15
Industry and Government.....	16
Other Professionals.....	17
<b>Summary of 2014 Activities.....</b>	<b>19</b>
Academies.....	19
Young Geoscientists.....	27
Teacher Workshops.....	32
GF Grad Events.....	33
Scholarships.....	34
<b>Staff.....</b>	<b>35</b>
<b>Appendix.....</b>	<b>36</b>

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Dan Enriquez & Dom Zvorak  
GeoFORCE Class of 2010  
Eagle Pass and Del Rio, TX

Dan and Dom, photographed here on the Colorado River when they were rising 10th graders, both went on to earn geology degrees in college. Dan graduated from Ohio State University in May 2014. His senior thesis was titled "Modifying the McKenzie Stretching Theory for Sedimentary Basins to Account for the Depth Dependence of Sediment Density." He is currently employed at the Bureau of Economic Geology as a laboratory assistant and is in the process of applying to graduate school. Dom will be the first in his family to earn a college degree when he is awarded his BS degree in geology from UT San Antonio in August 2015. He was accepted to the Schlumberger Field Camp, December 2014, and the Michigan Technology University field camp in South Africa, summer 2015. The third student on the boat, Ruben Recio, graduated from A&M with a BS in biomedical science in May 2014.

## Mission & Objectives

### Mission

GeoFORCE is designed to increase the number and diversity of students pursuing science, technology, engineering, and math (STEM) degree programs, especially geology and engineering, and entering the future high-tech workforce.



*I found it to be an honor to be a part of such an educational program. The program was very informative and the atmosphere was electrifying.*

GeoFORCE student

### Objectives

1. Engage high-achieving students from challenged high schools, and keep them in the program through college.
2. Provide spectacular learning experiences that broaden students' understanding of the Earth and emphasize geosciences and engineering.
3. Build a large cohort of high achievers.
4. Achieve high school graduation.
5. Give students the tools, confidence, and motivation to pursue college.
6. Help students achieve college graduation, especially in STEM fields.

# Method

**G**eoFORCE operates in both inner-city Houston and rural southwest Texas. The program is at full capacity with around 600 students annually. Each summer, for four years, we take the students on week-long geologic field trips across Texas and throughout the United States, where they gain valuable field experience and further knowledge of the energy industry. The academic content and rigor builds each year. The trips are taught by university faculty and research scientists. The high school students also receive mentorship from professional geologists. These trips are free to students.

In our Academy program, 9th graders travel to Austin and Florida to study sedimentary processes. High school sophomores go to Arizona and Utah, visiting the Grand Canyon and Zion National Parks to study layered rocks and geologic time. We take juniors to the Pacific Northwest to study tectonics and volcanic rocks. They visit Mt. St. Helens, Mt. Hood, Newberry Crater, and Crater Lake. Seniors traverse the Appalachian Mountains, learning about structural geology and metamorphic rocks.

In 2014, we ran 14 field trips with 560 students. We logged over 35,000 miles in planes or buses, and served over 18,000 meals. Students studied geological concepts such as sedimentation and plate tectonics while performing tasks such as beach profiling on the barrier islands in Florida or learning how to strike and dip in the Appalachian Mountains.

GeoFORCE does not end when students leave the field. Mentoring continues through high school and college. We offer PSAT and SAT preparation. We help with college and financial aid applications and provide scholarships and internship opportunities for our graduates.

## Regions



## Houston and Southwest Texas

## Keys to Success

### For the Students

- Engage the students over four years
- Take the students out to new environments
- Expose students to various universities
- Provide the students with role models

### For the Program

- Metrics on student participants
- Strong university support
- Strong industry support
- Passionate staff



Debbie Duran  
GeoFORCE Class of 2009  
Eagle Pass, TX

Debbie was in the first cohort of GeoFORCE students, and she is a first-generation college student. She took our dual-credit geology course her senior year in high school and went on to study geology at UT San Antonio, where she earned her BS degree in December 2013. While in college, Debbie participated in two undergraduate research programs and worked as a counselor for GeoFORCE, including taking on the inaugural GeoFORCE Alaska trip. She is currently employed as a staff geologist at a small drilling company in San Antonio.

## Results

GeoFORCE has completed 10 full years of activities. We track our students throughout high school and college, as well as into the workforce which allows us to know that we are meeting our objectives.

### Demographics

More than 1,500 students have participated in the GeoFORCE program. All students came from challenged schools in inner-city Houston or In 2014, 80% of high school participants were minorities. In the southwest region 72% are Hispanic. In the Houston region 41% are Hispanic and 35% are African American.

### Retention

GeoFORCE students continue to show a strong loyalty to the program. Only 5% of the Academy students have dropped out.

### College

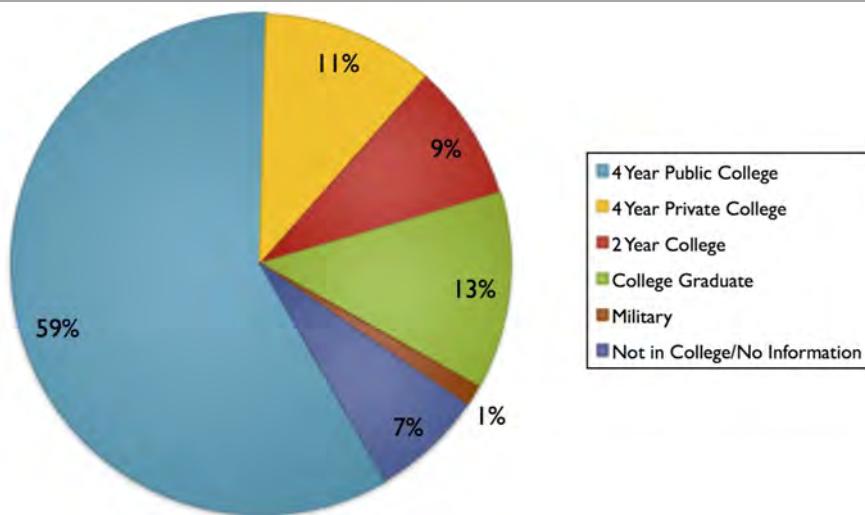
After 10 years 618 students have graduated from our four-year program. The program has a 100% high school graduation rate; 98% go to college, 97% return to college their sophomore year, and 90% are on track to receive a degree in six years.

### STEM Fields

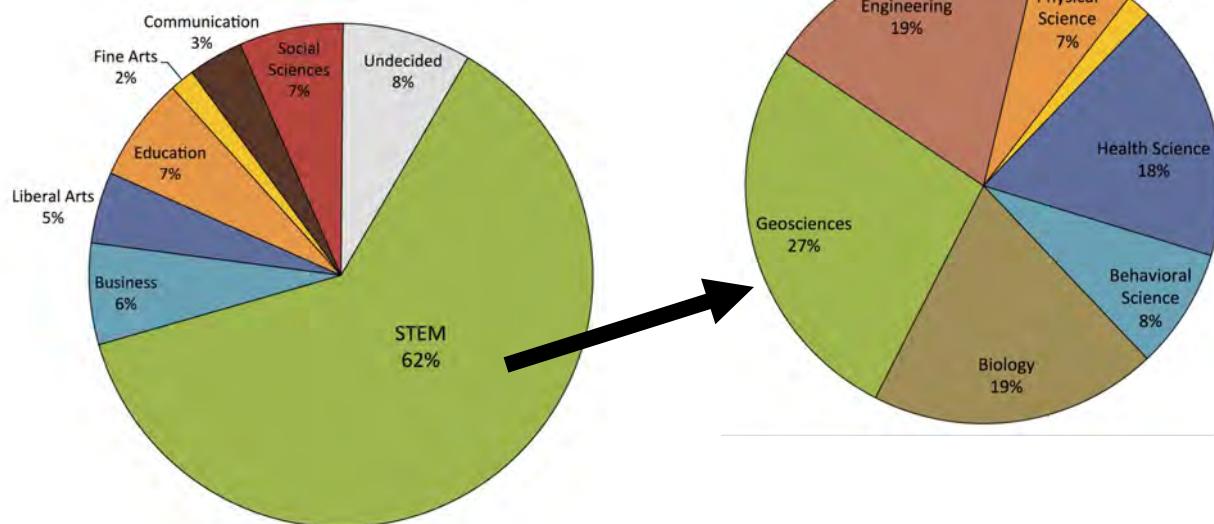
As of fall 2014 62% of GeoFORCE grads are declared STEM majors, which is nearly double the national average. This includes 95 geoscience majors and 67 engineers..



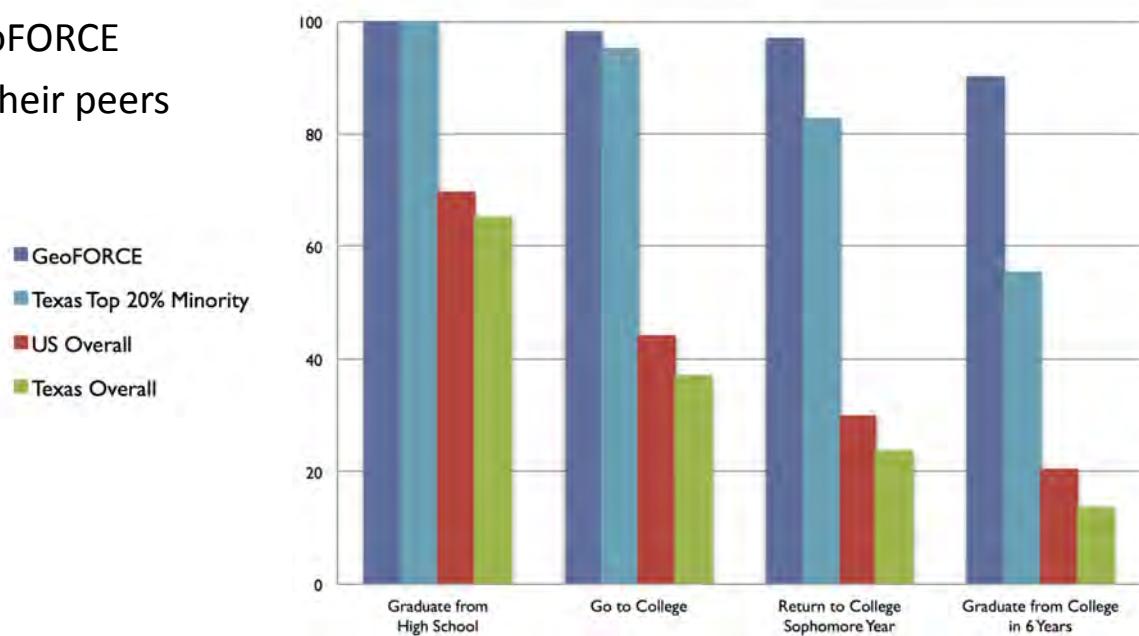
## Status of GeoFORCE high school graduates



## College majors of GeoFORCE high school graduates



## Comparing GeoFORCE students with their peers





Tania Babu  
GeoFORCE Class of 2012  
Houston, TX

Tania is a junior majoring in petroleum engineering at Texas Tech, where she has impressed everyone from her professors to her peers. Last summer, after only her sophomore year, she worked as an intern for Devon Energy. This summer she hopes to secure another internship before her graduation in May of 2016. Tania writes: "Without GeoFORCE I wouldn't have known what to do when I started college. Having a background in geosciences before starting my undergrad helped me in many of the classes I had and am taking. GeoFORCE taught me perseverance in all that I do and to never give up when things get hard. GeoFORCE has become a family to me over the years since I was a student in the program, and there are still those few that have always stuck by, helping and aiding in my success."

## Sponsors

**T**hank you to our generous sponsors. GeoFORCE is a public/private partnership, receiving its funding from private industry, foundations, state and federal government, and individual donors.

**ExxonMobil**



**Marathon Oil**  
Corporation

**Anadarko**  
Petroleum Corporation



**bhpbilliton**

**ConocoPhillips**

**TALISMAN**  
ENERGY

**HALLIBURTON**

**VALENCE OPERATING COMPANY**

**Texas Workforce Commission**

**KINDER MORGAN FOUNDATION**

**ED RACHAL FOUNDATION**

**SEG Foundation**

**NEWFIELD**

**GEORGE AND MARY JOSEPHINE HAMMAN FOUNDATION**

**Jackson School Undergraduate Geological Society**

**Jackson School Graduate Student Executive Committee**

**Jeremy & Lynn Greene**

**Edward Cazier**

**Charles Caughey**

**Steve Seni**

**David Mirakian**

**David Luke Gorney**

**Steven Gohlke**

**Jim Sansom**

**Dennis Trombatore**

**Gail Worrell**

**Robert Boyce**

**John Preston**

# Financial Status

## Income

OUTREACH PROGRAM SUMMARY (including grants, contracts, and endowment payouts)							
Income*	03-09	09-10	10-11	11-12	12-13	13-14	Total 03-14
Balance Forward	159,437	796,756	1,231,781	1,249,118	1,136,191	1,216,466	1,216,466
Balance Forward Adjusted	-	-	-	-	-	-	-
<b>Subtotal Balance Forward</b>	<b>159,437</b>	<b>796,756</b>	<b>1,231,781</b>	<b>1,249,118</b>	<b>1,136,191</b>	<b>1,216,466</b>	<b>1,216,466</b>
Jackson School							
Transfer In	2,025,175	747,367	741,621	718,217	724,022	854,289	5,810,691
Transfer out	(210,922)	(15,000)	(142,836)	(75,561)	-	-	(444,319)
<b>Subtotal Jackson School</b>	<b>1,814,253</b>	<b>732,367</b>	<b>598,785</b>	<b>642,656</b>	<b>724,022</b>	<b>854,289</b>	<b>5,366,372</b>
Contracts & Grants							
Texas Workforce Commission	378,786	72,128	208,361	36,286	39,960	23,750	759,271
Title V CAMSC (SWTJC)	151,823	190,100	74,099	-	-	-	416,022
BOEMRE/MMS	75,000	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
<b>Subtotal Contracts &amp; Grants</b>	<b>647,933</b>	<b>412,228</b>	<b>374,727</b>	<b>36,286</b>	<b>39,960</b>	<b>23,750</b>	<b>1,534,884</b>
Endowment (Payout)							
GeoFORCE Texas Fund	730	2,745	2,791	2,836	3,056	2,971	15,130
Darwin Family Endowment	172	1,437	2,562	3,530	4,754	5,615	18,071
<b>Subtotal Endowment (Payout)</b>	<b>902</b>	<b>4,182</b>	<b>5,354</b>	<b>6,366</b>	<b>7,810</b>	<b>8,586</b>	<b>33,200</b>
Gifts							
Shell	360,000	125,000	125,000	125,000	125,000	125,000	985,000
ExxonMobil	305,000	120,000	130,000	140,000	140,000	150,000	985,000
BP	250,000	120,000	120,000	120,000	120,000	120,000	850,000
Chevron	160,000	120,000	120,000	120,000	120,000	120,000	760,000
Marathon	253,000	100,000	100,000	100,000	75,000	75,000	703,000
Conoco Phillips	147,000	21,000	21,000	21,000	21,000	50,000	281,000
BHP	-	-	-	75,000	100,000	100,000	275,000
Halliburton	90,000	30,000	25,000	25,000	25,000	30,000	225,000
Devon	65,000	40,000	40,000	40,000	-	-	185,000
Anadarko	-	-	-	-	55,000	60,000	115,000
Schlumberger	9,000	-	12,000	30,000	25,000	30,000	106,000
Talisman	-	-	-	-	50,000	50,000	100,000
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	28,000	1,500	1,000	1,250	1,250	-	33,000
Alcoa	20,000	-	-	-	-	-	20,000
El Paso Corporation	10,000	-	-	-	-	-	10,000
Newfield	-	-	-	10,000	-	2,500	12,500
Dominion	15,000	-	-	-	-	-	15,000
Swift Energy	22,000	-	-	-	-	-	22,000
Priority Oil & Gas	2,000	-	-	-	-	-	2,000
<b>Subtotal Corporate Gifts</b>	<b>1,781,000</b>	<b>702,500</b>	<b>724,000</b>	<b>827,250</b>	<b>857,250</b>	<b>912,500</b>	<b>5,804,500</b>
Ed Rachal Foundation	-	20,000	20,000	20,000	20,000	20,000	100,000
AAPG Foundation	20,000	10,000	15,000	15,000	15,000	-	75,000
Hamman Foundation	-	-	20,000	20,000	20,000	20,000	80,000
GDL Foundation	3,900	7,500	7,500	20,000	12,000	-	50,900
AT&T Foundation	40,000	-	-	-	-	-	40,000
SEG Foundation	5,000	3,000	5,083	5,000	10,100	9,492	37,675
Kinder Morgan Foundation	5,000	5,000	5,000	5,000	5,000	5,000	30,000
Anonymous	-	-	15,000	-	-	-	15,000
Salvation Army	-	-	6,615	-	-	-	6,615
Brown Foundation	-	-	2,000	2,000	2,000	-	6,000
SIPES-Central Chapter	-	1,000	1,000	1,000	500	-	3,500
Undergraduate Geo. Society	-		1,736	1,302	325	775	4,138
Chevron, Employee Match	-	1,000	1,000	-	1,000	1,000	4,000
ExxonMobil, Employee Match	-	-	-	-	750	1,500	2,250
Noble Corporation	-	-	-	-	-	1,000	1,000
<b>Subtotal Foundation Gifts</b>	<b>73,900</b>	<b>47,500</b>	<b>99,934</b>	<b>89,302</b>	<b>86,675</b>	<b>58,767</b>	<b>456,079</b>
Ongoing Contributors	100	4,200	4,550	4,404	4,875	5,406	23,535
Multiyear Contributors	2,000	4,000	4,500	5,500	1,000	-	17,000
Single Year Contributors	40,568	1,000	1,450	1,700	2,325	2,285	49,328
<b>Subtotal Individual Gifts</b>	<b>42,668</b>	<b>9,200</b>	<b>10,500</b>	<b>11,604</b>	<b>8,200</b>	<b>7,691</b>	<b>89,863</b>
<b>Total Gifts and Contracts</b>	<b>2,545,501</b>	<b>1,171,428</b>	<b>1,209,161</b>	<b>964,442</b>	<b>992,085</b>	<b>1,002,708</b>	<b>7,885,325</b>
<b>Total Funding</b>	<b>4,360,656</b>	<b>1,907,977</b>	<b>1,813,300</b>	<b>1,613,464</b>	<b>1,723,917</b>	<b>1,865,583</b>	<b>13,284,897</b>
<b>Total Available Funds</b>	<b>4,520,093</b>	<b>2,704,733</b>	<b>3,045,081</b>	<b>2,862,582</b>	<b>2,860,108</b>	<b>3,082,049</b>	<b>13,444,334</b>

# Expenditures

Expenses*	03-09	09-10	10-11	11-12	12-13	13-14	Total
General Expenses	641,396	129,195	269,691	268,282	313,393	284,170	1,906,126
GeoFORCE Southwest							
9th Grade Academy	521,370	90,419	126,367	110,189	100,210	102,638	1,051,193
10th Grade Academy	380,971	107,395	114,569	120,042	110,981	110,583	944,541
11th Grade Academy	345,838	99,022	121,578	109,019	108,980	96,234	880,671
12th Grade Academy	270,328	107,935	105,832	120,664	121,317	107,725	833,800
9th Grade Young Geoscientists	129,234	33,846	25,544	35,389	27,536	-	251,549
10th Grade Young Geoscientists	150,170	52,566	55,881	45,418	45,287	52,628	401,949
11th Grade Young Geoscientists	99,908	35,683	33,576	36,083	31,207	83,193	319,650
12th Grade Young Geoscientists	110,518	37,922	78,795	54,124	48,727	77,166	407,252
GeoFORCE Houston							
9th Grade Academy	223,269	78,723	131,249	120,021	105,167	107,095	765,524
10th Grade Academy	103,838	112,086	110,151	118,807	115,373	125,913	686,168
11th Grade Academy	185,623	87,927	143,438	131,013	106,523	106,570	761,094
12th Grade Academy	105,356	105,570	132,081	131,918	112,281	106,442	693,647
9th Grade Young Geoscientists	79,879	43,719	42,675	39,731	34,618	-	240,622
10th Grade Young Geoscientists	37,408	42,095	35,058	47,915	35,801	51,405	249,682
11th Grade Young Geoscientists	74,620	34,509	27,629	33,175	30,286	77,939	278,158
12th Grade Young Geoscientists	56,158	40,565	69,660	55,786	52,685		274,854
GeoFORCE Mixed Academy							
9th Grade Academy	-	-	-	-	-	108,410	108,410
Teacher Workshops	42,717	11,811	55,903	43,876	52,884	47,499	254,690
Grad and Academic Programs	10,314	23,256	29,792	97,427	85,286	96,097	342,173
Summer Math Prep	-	-	1,600	7,500	5,100	-	14,200
Dual Credit Course	65,243	81,580	73,441	12	-	-	220,277
CAMSC Summer Interns	89,176	117,131	11,453	-	-	-	217,760
<b>Total Expenses</b>	<b>3,723,337</b>	<b>1,472,952</b>	<b>1,795,963</b>	<b>1,726,391</b>	<b>1,643,642</b>	<b>1,741,708</b>	<b>12,103,993</b>
<b>Total Funding Less Expenses</b>	<b>637,319</b>	<b>435,025</b>	<b>17,338</b>	<b>(112,928)</b>	<b>80,275</b>	<b>123,876</b>	<b>1,180,904</b>
<b>Total Including Beginning Balance</b>	<b>796,756</b>	<b>1,231,781</b>	<b>1,249,118</b>	<b>1,136,191</b>	<b>1,216,466</b>	<b>1,340,341</b>	<b>1,340,341</b>



# Scholarships

GeoFORCE Scholarships							
Income (Fiscal Year)	FY9	FY10	FY11	FY12	FY13	FY14	Total
Gifts							
Chevron Corp	20,000	20,000	52,000	52,000	52,000	52,000	248,000
TWC		30,000	30,000				60,000
Marathon	10,000						10,000
BP					200,000		200,000
Laura Reich and Marathon Match						5,000	5,000
Rainey Endowment		64	271	438	975	1,859	3,607
Anonymous for FY15				1,255,786	1,219,000	1,516,642	
Total Income per FY	30,000	50,064	82,271	1,308,224	1,471,975	1,573,642	7,082,681
Expenses (Academic year)	09-10	10-11	11-12	12-13	13-14	14-15*	Total
UT Transition to College Scholarships	30,000	59,990	78,559	39,100	58,000	70,000	335,649
GeoFORCE Graduate Scholars Program				242,097	721,285	622,077	1,585,459
BP Scholars Program					87,200	112,665	199,865
Total Expenses	30,000	59,990	78,559	281,197	866,485	804,742	2,120,973

\*Fall only





Marissa Vara  
GeoFORCE Class of 2009  
Uvalde, TX

Marissa is the first in her family to go to college, and she made the most of the experience. Marissa enrolled in the Jackson School in the fall of 2009 and graduated in December of 2013. While at UT, Marissa became a research assistant to Dr. Terry Quinn in his paleoclimate research group. She presented results of her research at the American Geophysical Union's annual meetings in 2012 and 2013. Marissa attended the Institute for Geophysics Marine Geophysics field camp in 2013. Through that experience, she had the opportunity to participate in a research voyage to the Scotia Ridge, in the Antarctic sea, in fall 2014. Marissa is currently employed at the Texas Commission on Environmental Quality.

## Partnerships

GeoFORCE maintains strong academic partnerships with universities and school districts that share our values and goals. Together we are better at serving the needs of our target population and furthering our objectives.

### **Southwest Texas Junior College (SWTJC)**

The partnership with Southwest Texas Junior College is the cornerstone of the southwest region's success. SWTJC helps with every aspect of implementing GeoFORCE from building relationships with local school districts to providing logistical support for GeoFORCE events in the area, including closing ceremonies, college workshops, and PSAT/SAT prep. Many friends at the college have been involved, but this year we owe special thanks to Blaine Bennett who retired this past year, and was instrumental in making the first decade of the GeoFORCE program possible. We would also like to thank Rosy Arellano for all of her hard work.

### **Houston Independent School District (HISD)**

HISD supports our partnership in the Houston region by giving us access to middle schools for recruiting. We have used HISD

facilities for meetings and as drop-off and pick-up locations, college workshops, and SAT prep. Most importantly, individual principals and teachers have gone out of their way to make GeoFORCE possible for their kids. Special thanks are extended to Yolanda Evans, our point person in the district office, and Karla Auzenne, who keeps a close eye on our students.

### **University of Alaska Fairbanks (UAF)**

GeoFORCE Alaska ran its third field trip this summer to Oregon. We continue to partner with and support this growing GeoFORCE program as it develops into the second GeoFORCE program in the nation.

### **Fort Valley State University (FVSU)**

GeoFORCE is modeled after the Mathematics, Science, and Engineering Academy at FVSU. We continue to work together to bring opportunities to students of color. This summer three FVSU undergraduates engaged in a nine-week research experience with UT Austin geoscience faculty and research scientists. Dr. Isaac Crumby and Jackie Hodges run the Fort Valley programs.



## GEAR UP

In early 2014, GeoFORCE was approached by UT's Institute for Public School Initiatives to provide a GeoFORCE cohort for the Texas State GEAR UP grant. GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) is a national grant program to target and help increase the number of low-income students who are successful in post-secondary education. GEAR UP targets one grade level for 7 years. The GEAR UP /GeoFORCE partnership is funded as a subaward, which covers most of the costs. Grant administration and some overhead are covered by the Jackson School.

The GEAR UP cohort is run exactly like all other

GeoFORCE groups. Students were selected from four different school districts: Somerset ISD, Edgewood ISD, Manor ISD, and Lubbock ISD. Following the same application process as those from Houston and southwest Texas, more than 125 GEAR UP students applied for the 42 spots.

While in the field, the students showed great interest in the material and were engaged with the instructor during lectures and reviews. They excelled in the quizzes and produced great results on the final. As these students were given their first taste of GeoFORCE, many could not stop talking about the summers to come, and all looked forward to their next trip to Arizona.

REGION	GEAR UP
Date of Event:	June 5 - 13, 2014
Number of Students:	42
Coordinator:	John Hash
Trail Driver:	Ann Merriman
Instructor:	Jud Partin
Educational Coach:	Jennifer Guadiana
Counselors:	Denise Castillo Rey Cabrerra Aimee Vasquez
Corporate Guests:	Hunter Lockhart - BHP Cucha Lopez - ExxonMobil



Carlos de la Torre  
GeoFORCE Class of 2009  
Sabinal, TX

Carlos was a student in the first GeoFORCE class, from the small town of Sabinal, Texas. His parents did not have the opportunity for an education, but they made sure their boys did. Carlos attended Texas A&M University, where he majored in wildlife management, earning a BS in 2013. While he was there he studied in South Africa and worked as an intern at a large cat rescue center in Texas. He also interned with the National Parks through the Student Conservation Corps, in the Grand Tetons in 2012, and Puerto Rico in 2013. In the fall of 2013 he joined the Peace Corps. He is currently stationed in Peru, working with ecological clubs and schools and educating students and administrators on the environment and renewable energy. Carlos' younger brother Jesus (2011) also graduated from the GeoFORCE program.

# Industry and Government Participation

## GeoFORCE Advisory Committee

Company/Organization	Individual
Anadarko	Robert Talley
BHP	Christine Skirius
BP	Sneha Chanchani
BP	Kira Diaz-Tushman
Chevron	Joni Baird
Chevron	George Hildebrandt
ConocoPhillips	Anna Morisani
ExxonMobil	Mike Loudin
ExxonMobil	Nick Way
Halliburton	Bill Agee
Halliburton	Lisa Finch
Houston ISD	Karla Auzenne
Houston ISD	Yolanda Evans
Marathon	Shawnda Ward
Marathon	John Gates
Marathon	Angie Buster
Marathon	Chelete Burnett
Marathon	Laura Reich
Schlumberger	Susan Rosenbaum
Shell	Mike Alvarez
Shell	Denise Butler
Southwest Texas Junior College	Blaine Bennett
Talisman	Woody Pace
Texas Workforce Commission	Kelly Sadler
Valence	Bud Scherr

## Industry Volunteers on Summer 2014 Field Events

Company	Individual	Company	Individual
Anadarko	Keith Mahon	ExxonMobil	Abena Temeng
Anadarko	Tom Griffith	ExxonMobil	Cucha Lopez
BHP	Alicia Hewlett	ExxonMobil	Enrique Perez
BHP	Christine Skirius	ExxonMobil	James Pyburn
BHP	Hunter Lockhart	ExxonMobil	Lauren Fortson
BP	Anthony Riccardi	Marathon	AJ Herrs
BP	Genevive Mathers	Marathon	Jonathan Parker
BP	Peter Hargrove	Schlumberger	Geraldine Haas
BP	Rachel Murphy	Schlumberger	Joel Le Calvez
BP	Stefan Punnette	Shell	David Mirakian
Chevron	Danielle Carpenter	Shell	Noelle Purcell
Chevron	George Hildebrandt	Shell	Tania Mukherjee
Chevron	Susan Howes	Talisman	Corey Moss
		Valance	Bud Scherr

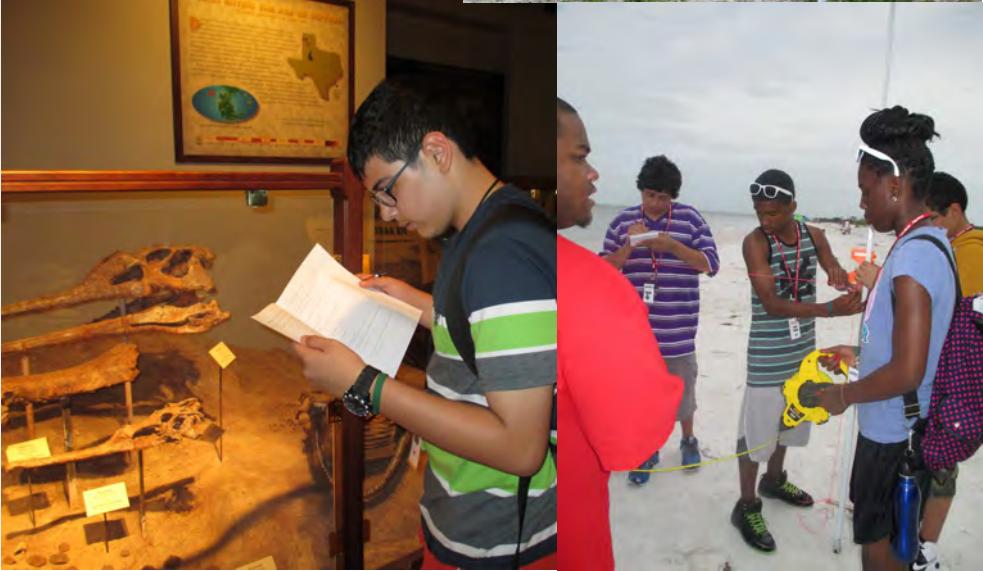
# Other Professionals

Park Rangers, Museum Staff, and Other Professionals Who Provided or Arranged for Learning Opportunities	
Balmorhea State Park:	Jacob Barton
Barton Springs Pool:	Daniela Heinrich
Cape Perpetua:	Lori Robertson
Carlsbad Caverns:	Sam Durbin
Chihuahuan Desert Research Institute:	Jessica Glasscock
Colorado River Discovery:	Dianne Powers, Korey Seyler, Kris Sams
Crater Lake National Park:	Amelia Bruno
Crown Point Vista:	Dorothy Brown-Kaiser
Ft. De Soto:	Jim Wilson
Franklin Mountains State Park:	Erika Rubio
Glacial Sand & Gravel Co.:	Jocelyn Lewis-Miller Nikki Johnson, Rachel Dawavendewa, Dana Crane, Curtis Jaborski, Sarah Doyle
Glen Canyon Dam:	
Grand Canyon:	Jim Heywood, Roger Benefield, Nancy Reilly, Jacob Fillian
Great Falls Park:	Craig Madison, Cheryl Bresee
Guadalupe Mountains:	Edna Flores
Harpers Ferry National Historical Park:	Jeff Woods, Rebecca Harriett, Roxanne Ruppenthal
John Pennekamp Coral Reef State Park:	Cecelia McCafferty, Jesula Milfort
John U. Lloyd Beach State Park:	Carmelo Duesler
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
McDonald Observatory:	Frank Cianciolo
Meteor Crater:	Janet Joselane
Mt. Hood National Forest - Timberline Lodge:	Kristin A Garrett
Mt. St. Helens:	Kristine Cochrane-Bell
Newberry National Volcanic Monument:	Elizabeth Wasserman
Oregon Coast Aquarium:	Paula Lafferty
Padre Island National Seashore:	Buzz Botts
Pennsylvania Geological Survey:	Gary Fleeger
Siuslaw National Forest:	Lori Robertson, Brian Hoeh
Sunset Crater/Wupatki National Monument:	Inez Paddock, Jeff Beauchamp, Erin Cox
Darrell K Royal—Texas Memorial Stadium:	Lauren Licherman
Texas State Aquarium:	Stacy Treviño
Tualatin Valley Fire & Rescue:	Jeff Rubin
United States Geological Survey:	Randy Orndorff, Lydia Quintana, Michael Marketti
Valley of Fires:	Albert Najar
White Sands National Monument:	Rebecca Burghart
Windley Key Fossil Reef Geological State Park:	Michael Guarini
Zion National Park:	David Walker, Amy Esplin, Allison Christofis, Matthew Cardwell



Katie Bales  
GeoFORCE Class of 2009  
Sabinal, TX

Katie is well on her way to a career in the oil and gas industry. Katie was a member of the first GeoFORCE class. She earned a BS in geosciences from the Jackson School in December 2013. During her undergraduate career she studied abroad in Melbourne, Australia, and worked on two research teams, one of which led to a publication. In December of 2013 she presented "Sand on the move: Post Hurricane Sandy analysis of the coastal sediment budget and bedform migration at Jones Inlet, Long Island NY" at the American Geophysical Union meeting in San Francisco. She continues to work in the area of marine geophysics as she pursues her MS degree at Texas A&M. She interned in 2014 at Denbury Resources Inc. and will be interning at ExxonMobil in the summer of 2015. The photo of Katie was taken in the Caribbean on a research cruise gathering seismic data and catching dinner between transects.



# Academies

## 9<sup>th</sup> Grade: Austin and Florida

In 2014 GeoFORCE expanded the Academy program from two events each summer (one Houston Academy and one Southwest Academy) to three events. The third field event included students from both the Houston and the southwest region.

### Objectives

1. Introduce students to basic geological terms and processes
2. Give students the opportunity to experience life on a major university campus

### Geological Topics

Rivers, erosion, sediment transport, coastal erosion, barrier islands, carbonate production, reefs, sea-level change, uniformitarianism, superposition

#### Austin Field Stops:

- McKinney Falls
- Guerrero Park
- TX Memorial Museum
- U of Texas Campus

#### Florida Field Stops :

- Fort De Soto Park
- Lovers Key
- Big Carlos Pass
- John U Lloyd Park
- Pennekamp Coral Reef

REGION	HOUSTON	MIXED	SOUTHWEST
Date of Event:	May 31 - June 7, 2014	June 7-14, 2014	June 21-28, 2014
Number of Students:	42	41	41
Coordinator:	Alina Gabourel	Matt Hofer	Lisa Aguiñaga
Trail Driver:	Ariel Hernandez	Alina Gabourel	Michael Arratia
Instructor:	Wonsuck Kim	Terry Quinn	Liz Catlos
Educational Coach:	Cynthia Maye	Madelyn Percy	Madelyn Percy
Counselors:	Sade Picquet Cortney Pichon Chloe Mendez Jackie Rambo Rachel Ruthven Mithil Shah	Diajine Woodford Chaquette Blanks Abrie De La Garza Alexandria Castillo Jesus Gonzalez Justin Santellanes	Keena Auld Jessica Delgado Teresa Gaitan Carisa Rubio Roberto Espinoza Rey Cabrera
Corporate Guests:	George Hildebrandt - Chevron Abena Temeng - Exxon Mobil	Noelle Purcell - Shell	Christine Skirius - BHP



John Baffoe  
GeoFORCE Class of 2013  
Sabinal, TX

John has always been a bright and ambitious kid. When he was in the 8th grade applying to GeoFORCE he wrote about wanting to learn more about how we could meet the world's energy needs. He wanted to explore technology for solar and wave energy, and come up with a way to remove CO<sub>2</sub> from the atmosphere. Four years of geology field trips sharpened his focus. For his senior-year essay he wrote: "As of my plans for the future, I'm still debating between geology and engineering; so far I am leaning more on the geology side. Geology in itself is, I think, freakin' awesome." Today John is a first-generation college student at the University of Houston, Downtown, pursuing a degree in geosciences. John plans to earn a master's degree and to work in the oil and gas industry.



# Academies

## 10<sup>th</sup> Grade: Arizona and Utah

### Objectives

1. Inspire students to “think like a geoscientist”
2. Apply geological concepts to what is seen in real time
3. Expose students to sedimentary structures, processes, and environments

### Geological Topics

Geologic time, law of superposition, lateral continuity, crossbedding, unconformity, desert varnish, monocline, gradient, antecedent drainage, mass wasting, uniformitarianism, differential erosion, dendrochronology, cinder cone, stratovolcano, sedimentary rocks

### Arizona Field Stops:

- Grand Canyon
- Balancing Rock
- Navajo Bridge
- Glen Canyon Dam
- Wupatki Ruins
- Sunset Crater
- Meteor Crater

### Utah Field Stop:

- Zion National Park

### **REGION**

### **HOUSTON**

### **SOUTHWEST**

Date of Event:	June 21-28, 2014	June 6-14, 2014
Number of Students:	40	41
Coordinator:	John Hash	Lisa Aguiñaga
Trail Driver:	Bridget Haby	Eleanour Snow/Sam Moore
Instructor:	Peter Flaig	Greg Frébourg
Educational Coach:	Carrie Millican	Michael Arratia
Counselors:	Denise Castillo Cayln Jew Mithil Shah Jennifer Gonzalez Vanessa Gonzalez Larry Savoy	Alyssa Esquivel Tomic Gawlik Jennifer Jimenez Carisa Rubio Hector Garza Justin Santellanes
Corporate Guests:	Tania Mukherjee - Shell Lauren Fortson - ExxonMobil Bud Scherr - Valance	Jonathan Parker - Marathon Danielle Carpenter - Chevron



Brooklyn Gose  
GeoFORCE Class of 2010  
Brackettville, TX

Brooklyn has the distinction of being the first GeoFORCE graduate with a publication in her professional field. She is a co-author of a geologic map published under the US Geological Survey's ED MAP program. Brooklyn is one of several excellent geology students to come out of tiny Brackettville, Texas. She started college at Texas Christian University and then transferred and completed her BS degree at the University of Oregon. While there she had the opportunity to participate in two research projects. One of these was a marine geophysical cruise off the Oregon coast. She was also one of only two undergraduate TAs in the department. Brooklyn is teaching this year while she completes application for graduate school in geophysics.



# **Academies**

## **11<sup>th</sup> Grade: Oregon and Washington**

### Objectives

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

### Geological Topics

Plate tectonics, subduction, volcanoes, crosscutting relations, igneous rocks, magma, lava, fissure, vesicular texture, pyroclastic flow, caldera, columnar basalt, longshore current

#### Oregon Field Stops:

- Columbia River Gorge
- Mt. Hood
- Newberry Caldera
- Crater Lake
- Salt Creek and Multnomah Falls
- Oregon Coast
- Oregon Coast Aquarium

#### Washington Field Stop:

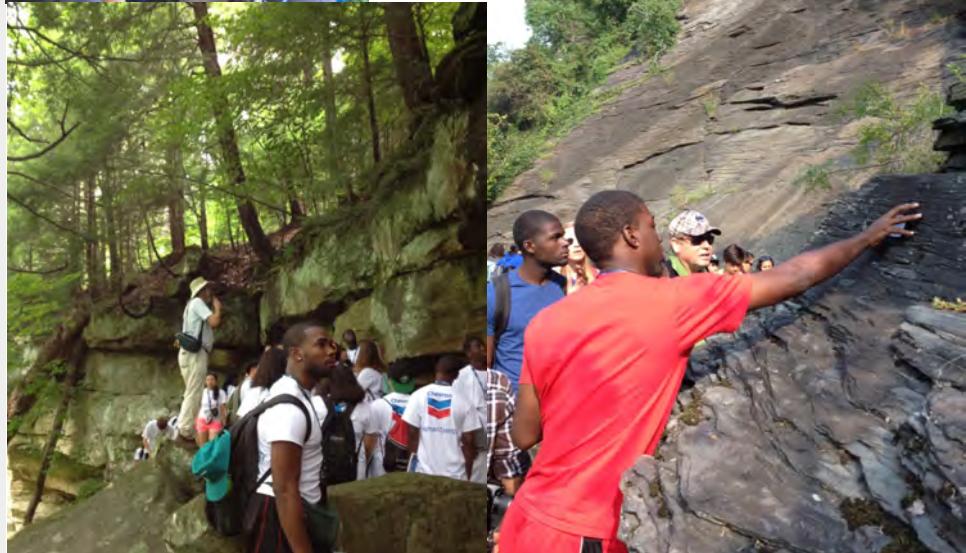
- Mount St. Helens

<b>REGION</b>	<b>HOUSTON</b>	<b>SOUTHWEST</b>
Date of Event:	July 12 - 19, 2014	July 26 - August 2, 2014
Number of Students:	40	43
Coordinator:	John Hash	Lisa Aguiñaga
Trail Driver:	Bridget Haby	Jeff Cullen
Instructor:	Jeff Paine	Jeff Paine
Educational Coach:	Karla Auzenne	Lauren Oefinger
Counselors:	Daniel Campos Stephen Smith Regina Manion Hector Alvarez Rachel Ranier Edgar Aguilar	Jessica Delgado Alyssa Esquivel Jelena Lara Allison Boehme Roberto Espinoza Justin Santellanes
Corporate Guests:	Genevive Mathers - BP AJ Herrs - Marathon	David Mirakian - Shell Anthony Riccardi - BP



Hannah Anderson  
GeoFORCE Class of 2015  
Houston, TX

Hannah is a senior at Lamar High School in Houston. Last summer she worked as an intern in the offshore development group at Marathon Oil Company, a position that she sought out at the same time Marathon was looking for a GeoFORCE student to hire. Here is Hannah's summation of the GeoFORCE experience: "GeoFORCE is unlike any other summer program. It has had a deeper impact than I could have ever imagined....The knowledge I have learned and everything I have seen is only a small part of the overall impact GeoFORCE has had on my life. Equally important aspects were the people I have met and the experiences I have had....GeoFORCE has given me a completely new perspective and has opened many doors." Hannah plans to major in geosciences at the University of Texas, and to pursue a PhD in the field.



# Academies

## 12<sup>th</sup> Grade: Pennsylvania, West Virginia, Virginia, & Washington D.C.

### Objectives

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

### Geological Topics

Orogeny, metamorphic rocks, geologic provinces, Appalachian geology, continental collision, Pangaea, fossil fuels, valley and ridge, coastal plains, faults, folds, rifting, anticlines and synclines

#### Pennsylvania Field Stops:

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

#### West Virginia Field Stop:

- Harpers Ferry National Monument

#### Virginia Field Stops:

- Rift Basin
- Great Falls Park
- Leesylvania State Park

#### D.C. Area Field Stops:

- Smithsonian Museum
- National Mall
- USGS Headquarters

### **REGION**

### **HOUSTON**

### **SOUTHWEST**

Date of Event:	July 25 - August 2, 2014	July 25 - August 2
Number of Students:	40	44
Coordinator:	John Hash	Matt Hofer
Trail Driver:	Bridget Haby	Drew Slack
Instructor:	Liz Catlos	Jaime Austin
Educational Coach:	Madelyn Percy	Michael Arratia
Counselors:	Daniel Campos Larry Savoy Rachel Ruthven Stephen Smith Enrique Reyes Kim Routt	Alexis Gonzalez Carolyn Hernandez Aimee Vasquez Teresa Gaitan Jose De La Garza Jesus Gonzalez
Corporate Guests:	Mike Loudin - Guest Bonnie Loudin - Guest Joel Le Calvez - Schlumberger	Susan Howes - Chevron James Pyburn - ExxonMobil Peter Hargrove - BP



Shukuru Makanya  
GeoFORCE Class of 2013  
Houston, TX

Shukuru's family is from Rwanda, where his parents did not have an opportunity for higher education. His 8th grade teacher spotted his science potential and encouraged him to apply to GeoFORCE. It was a life-changing experience. Shukuru loved his experiences with GeoFORCE. He wrote: "GeoFORCE has shown me that science has an impact on everything we do, to the air we breathe to the time we eat." Shukuru's vibrant personality and strong academic record earned him a spot in the first Houston area Posse Scholarship pool. He is at Texas A&M University studying petroleum engineering.



# **Young Geoscientists**

## **10<sup>th</sup> Grade: Port Aransas, Corpus Christi and Austin, Texas**

In 2014 GeoFORCE began expanding the Academy program and phasing out the Young Geoscientist program. No 9th grade Young Geoscientist Field event was held. All other Young Geoscientist field event were expanded.

### Objectives

1. Learn basic coastal processes and nomenclature of the coastal zone
2. Inspire students to “think like a geoscientist” and apply the geological concepts to what they are seeing in real time
3. Reinforce geological concepts from previous summer

### Geological Topics

Barrier island formation, accretion, algal mat, swash zone, longshore drift, salt marsh, surf zone, estuary, fetch, tides, 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

#### Austin and Surrounding Area Field Stops:

- McKinney Falls
- Barton Springs
- Mount Bonnell
- Roy Guerrero Colorado River Park

### **REGION**

### **HOUSTON**

### **SOUTHWEST**

Date of Event:

July 26 - August 1, 2014

July 13 - 18, 2014

Number of Students:

32

43

Coordinator:

Alina Gabourel

Lisa Aguiñaga

Trail Driver:

Ariel Hernandez

Michael Arratia

Instructor:

Jamie Barnes

Tiffany Caudle

Educational Coach:

Kimberly Louis

Francisco Vielma

Counselors:

Chaquette Blanks

Alejandra Garcia

Hector Garza

Laura Gloria

Paloma Reyes

Alyssa Esquivel

Hector Alvarez

Jennifer Jimenez

Alexia Rocha

Justin Santellanes

Felicia Yarbrough

Enrique Reyes

Corporate Guests:

Alicia Hewlett - BHP

Mike Loudin - Guest

Geraldine Haas - Schlumberger

Bonnie Loudin - Guest



Jessica Valdes  
GeoFORCE Class of 2013  
Eagle Pass, TX

Jessica is a first-generation college student, currently a sophomore at the Jackson School studying general geology. Her interest is in paleontology. She is currently doing research with Dr. Julia Clarke, looking at color markers in birds and extinct birds. Jessica was featured in a NY Times Magazine cover story on first-generation college students. This year she is an intern at the African American Male Research Initiative at UT. Jessica was a participant in the Young Geoscientist Program. Her first trip outside of the Southwest will be to China this summer, where she is participating in a study abroad program. She was also recently accepted into the McNair Scholars program at UT. McNair Scholars is a PhD prep program emphasizing research and building doctoral-level academic skills.



# Young Geoscientists

## 11<sup>th</sup> Grade: Austin, Texas

### Objectives

1. Give students a glimpse of life on a major university campus
2. Expose students to fluvial systems and aquifers
3. Compare fluvial systems in Austin and Uvalde
4. 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:

- Mount Bonnell
- McKinney Falls
- Roy Guerrero Park
- Barton Springs

#### West Texas Field Stops:

- Guadalupe Mountains
- Cristo Rey Park
- Transmountain Road
- Wylie Aerial Tramway
- Franklin Mountains

#### New Mexico Field Stops:

- White Sands National Monument
- Carlsbad Caverns
- Sierra Blanco
- Valley of Fires

#### Oliver Lee Memorial State Park

### **REGION**

### **SOUTHWEST**

Date of Event:	June 22-28, 2014
Number of Students:	41
Coordinator:	Matt Hofer
Trail Driver:	Ariel Hernandez
Instructor:	Stacy Loewy
Educational Coach:	Tanya Tijerina
Counselors:	Jesus Gonzalez Courtney Pichon Alejandra Garcia Rosa Velasquez Carolyn Hernandez Alexis Gonzalez
Corporate Guests:	Stefan Punnette - BP Enrique Perez - ExxonMobil



Iyiewuare Brothers  
GeoFORCE Class of 2012,  
2013, and 2014  
Houston, TX

Hope grew up in Houston and joined GeoFORCE in the 9th grade, followed by his two younger brothers, Peace and Truth. Having three Iyiewuares in the program was a delight for all.



Hope is currently a junior at Northwestern University studying neurosciences.



Peace is a sophomore at Oberlin college.



Truth just started college at Washington and Lee.



# Young Geoscientists

## 12<sup>th</sup> Grade: Texas and New Mexico

Because of lower retention rates in the Houston Young Geoscientist program the 11th and 12th grade Houston Young Geoscientists were combined this past summer.

### Objectives

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

### Geological Topics

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

#### Texas Field Stops:

- Monahans Sandhills State Park
- Chihuahuan Desert Nature Center
- Balmorhea State Park
- Guadalupe Mountains
- Davis Mountains
- McDonald Observatory

#### New Mexico Field Stops:

- White Sands National Monument
- Carlsbad Caverns
- Valley of Fires
- Oliver Lee Memorial State Park

#### **REGION**

#### **SOUTHWEST**

#### **HOUSTON (11th & 12th graders)**

Date of Event:	July 13-19, 2014	June 1-7, 2014
Number of Students:	33	40
Coordinator:	Matt Hofer	Ann Merriman
Trail Driver:	Alina Gabourel	Jeff Cullen
Instructor:	Brad Gooch	Kitty Milliken
Educational Coach:	Marla Hibbitts	Jeremy Tarbutton
Counselors:	Alexandria Castillo Jessica Delgado Teresa Gaitan Elisa Blanco Hector Garza Jose De La Garza	Grace Hartzell Edgar Aguilar Enrique Reyes Tammy Huynh Kim Routt Evelyn Sanchez
Corporate Guests:	Tom Griffith - Anadarko	Keith Mahon - Anadarko Corey Moss - Talisman Rachel Murphy - BP



Sean Santellanes  
GeoFORCE Class of 2013  
Del Rio, TX

Sean and his twin brother, Justin, grew up in the border town of Del Rio, Texas. Four years in GeoFORCE gave them both the passion and confidence to study sciences at UT Austin. Sean is a sophomore majoring in physics. He plans to study geophysics in graduate school. Last summer, Sean had the opportunity to participate as a summer intern in the James A. Austin/USGS internship program, where he was placed in Menlo Park, along with two other GeoFORCE interns.

## Educator Professional Workshops

**T**eacher workshops present a great opportunity for GeoFORCE to stay in touch with educators who play an important role in helping our students throughout the school year. This year the focus was on field exercises that teachers can bring to their classes in their regions.

We held two fall workshops, one in Houston and one in Uvalde. The Houston teachers spent a half day at the Chevron research facilities. They learned how geologists and engineers apply their knowledge to the oil and gas industry. Afterward the teachers went to the Bureau of Economic Geology's core lab facility in Houston. The core lab is a library of geologic rock samples and is available for classes to visit and for researchers to use. Teachers were given a tour and then engaged in learning exercises to study how sedimentary rocks form, how cores are drilled, and how geo-

logists can read the rock record in the core and locate resources like oil and gas. Dr. Hilary Olson of UT Austin was the instructor.

For the southwest area teachers, we held a fall workshop focused on

Geology in your Backyard. Sigrid Clift, from UT's Bureau of Economic Geology, prepared field guides for six different geologic locations in the Uvalde/ Brackettville area. Each field guide consists of a description of the geology, directions on how to get there, and field exercises teachers can use with their students at each stop. For the workshop, we visited all the sites and taught the teachers how they can use the field stops in their own classes. The workshop was run by Sigrid and Dr. Eleanour Snow.

Our spring workshop returned to a joint venture with both Houston and southwest area teachers meeting up in Port Aransas, TX. There, under the guidance of Dr. Kathy Ellins, the teachers took part in the field exercises that make up the 10th grade Young Geoscientist trip. They walked across the beach and learned the parts of a barrier island, measured beach profiles, dug trenches to look at sediment accumulation on the beach, and went out on the research vessel *Katy* to drag seine nets and examine marine creatures. The exercises we do here translate to any beach anywhere, so teachers are now equipped to teach students about coastal processes.



## High School Senior Events

Each fall GeoFORCE hosts an event in Houston focused on career options for all GeoFORCE seniors. This year, students visited both Shell and Schlumberger. The goal of the day was to expose students to the wide variety of jobs in energy companies. Students visited with professionals about their jobs, training, and career pathways.

In addition, our southwest region students stopped at UT San Antonio on the way to Houston. They went on a campus tour led by the admissions office staff and met with former GeoFORCE students who are currently studying at UTSA.

In the spring we brought the senior class to Austin for a graduation celebration. This is a celebra-



tory event to congratulate the students on their hard work and an opportunity to speak again with the students about transitioning to college. Students went to Enchanted Rock to hike, climb, and picnic, and then spent some time at UT talking with current undergraduate students about what to expect in college. The day ended with a dinner cruise on Lake Austin with professors, sponsors, and staff.

## PSAT and SAT Prep



GeoFORCE provided two SAT prep for our high school juniors and seniors and two PSAT prep courses for our high school freshmen and sophomores. These workshops help teach students strategies for achieving their best SAT scores and provided them with materials to continue studying at home. This was the first time GeoFORCE offered PSAT classes. PSAT determines National Merit Scholarships, and PSAT preparation classes are not offered at many of our

## College Admission Workshops

GeoFORCE provided two College Application Information sessions. These workshops provide parents and students the opportunity to learn about college applications, admissions, the financial aid process, and scholarship opportunities.

This year we expanded the workshops to include juniors as well as seniors to ensure that students are putting themselves in a good position to apply to colleges and seek financial aid and scholarships by the fall of their senior year.



Enrique Reyes  
GeoFORCE Class of 2011  
Carrizo Springs, TX

Enrique is a first-generation college student. He is studying geology at the Jackson School. Enrique is working as an undergraduate research assistant with Dr. Elizabeth Catlos, who is also a GeoFORCE instructor. His research involves using zircon dating to pinpoint magmatic crystallization ages in Southwestern China. Enrique presented his work at the Geological Society of America's annual meeting in Vancouver BC in October 2014. He also participated in GSA's On to the Future program; OTF is an outreach program funded by the GSA Foundation to bring underrepresented students to their first professional meeting. Enrique and two other GeoFORCE students received OTF scholarships this year. Enrique is giving back to the community by participating in a mentoring program called Project MALES, which focuses on Latino boys in inner-city schools.

## Scholarship Program

For many GeoFORCE 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 continued their support of GeoFORCE with scholarships for students studying at the University of Texas in the Jackson School of Geosciences or Cockrell School of Engineering.

BP generously donated scholarships to all GeoFORCE students from the class of 2013 attending a four-year university in STEM fields and maintaining 3.0 GPAs.

An anonymous donor stepped forward again in 2014 to continue the GeoFORCE Graduate Scholars Partnership for the class of 2013. This partnership is open to participation by other donors. The goal of these scholarships is to provide financial resources to GeoFORCE graduates who are outstanding students who have demonstrated the potential to become future leaders in their fields, have chosen to study a STEM field, and have unmet financial need. The scholarships provide four years of funding. Student recipients are required to live on campus for the first year of college, meet monthly with their assigned mentor, and serve as peer mentors for younger scholars on their campus.



## Staff

This past year Dr. Sam Moore became Director of Outreach and Diversity. For more than 20 years he has provided leadership in engaging faculty with K-12, undergraduate, and graduate students. He has also worked with STEM industries and government agencies to develop successful STEM diversity initiatives. Along with GeoFORCE, Sam also oversees Jackson School outreach programs to increase participation in the geosciences.

Dr. Eleanour Snow, as Associate Director of GeoFORCE, oversees the GeoFORCE graduate program along with all educational materials. Eleanour has a PhD in geology, and has been a

professor, university instructor and advisor for over 20 years. Sam and Eleanour were assisted by Ann Merriman.

The high school GeoFORCE program is overseen by Lindsay Stephens. She is assisted by coordinators Matt Hofer, John Hash and Lisa Aguiñaga. Alina Gabourel joined the GeoFORCE team last summer to assist with summer field events.

Debra Sue Trinque and Karen Barton assist with accounting, finances, and purchasing. After years of dedication to the Jackson School, Debra Sue Trinque retired in the fall of 2014. Many others in the Jackson School assist with GeoFORCE. We would especially like to thank Jay Raney and Susie Doenges.



# Appendix

## Participating Schools

The following is a list of schools who participated in GeoFORCE recruitment and had students join GeoFORCE this summer.

### 9th Grade Students

Houston Middle Schools	Number of Students
Clifton Middle School	5
Fondren Middle School	5
Grady Middle School	5
Hamilton Middle School	1
Holland Middle School	5
Johnston Middle School	1
Lanier Middle School	4
Patrick Henry Middle School	3
Revere Middle School	12
Sharpstown Middle School	1
Welch Middle School	3
Woodson Middle School	6
Young Mens College Prep Academy	1
Young Womens College Prep Academy	9
<b>Total</b>	<b>61</b>

Southwest Middle Schools	Number of Students
Brackett	2
Carrizo Springs	5
Cotulla	2
Crystal City	4
Del Rio	5
D'Hanis	2
Eagle Pass	19
Knippa	1
La Pryor	1
Leakey	2
McDowell	3
Moore	1
Rocksprings	1
Sabinal	4
Sterling Fly	3
Utopia	1
Uvalde	7
<b>Total</b>	<b>63</b>

## GeoFORCE Graduates

GeoFORCE graduates are at college throughout the United States. Below is a detailed list of the location of all GeoFORCE graduates.

GeoFORCE College Students, Fall 2014					
American University	1	Sam Houston State	11	U Texas Austin	96
Amherst College	1	Samford	1	UT Arlington	2
Angelo State	6	Schreiner	2	UT San Antonio	47
Art Institute of San Antonio	4	Smith	1	UT Tyler	1
Austin College	1	Soka University	1	Washington and Lee	1
Baylor	5	Southern	2	Xavier	1
Beloit	1	St Edward's	1	Total 4-year Students	432
Bowdoin	1	St. Mary's	2	Two-Year Colleges	
Brigham Young	2	Stephen F Austin	5	Austin CC	4
Brown	1	Sul Ross State	6	Blinn CC	1
Bucknell	1	Tarleton State	1	Culinary Institute	1
Carelton College	1	Tennessee Wesleyan	1	Houston CC	13
Dallas Baptist	1	Texas A&M	62	Lonestar College	1
Depauw University	1	Texas A&M Commerce	1	NE Texas CC	1
Emory	1	Texas A&M Corpus Christi	7	NW Vista College	2
Franklin Pierce	1	Texas A&M Galveston	3	San Antonio College	1
Harvard	1	Texas A&M International	5	San Jacinto JC	4
Harvey Mudd	1	Texas A&M Kingsville	7	Southwest Texas JC	27
Houston Baptist	2	Texas Christian	1	Total 2-Year Students	55
Howard	4	Texas Southern	2	Total College Students	487
Knox College	1	Texas State	22	Out of State	42
Lamar	3	Texas Tech	20	Private Colleges	69
McMurry	2	Texas Women's	1	HBCU	12
Metropolitan State	1	Trinity	4	Texas State Schools	411
Mt. Holyoke	1	U California Los Angeles	1	Degrees Earned	
Northwestern	1	U Chicago	1	Have AA, Pursuing BA/BS	17
Oberlin	1	U Houston	22	Graduated AA/AS Degree	16
Oblate School of Theology	1	UH Clear Lake	1	Graduated BA/BS Degree	62
Ohio State	1	UH Downtown	15	Total Completed	78
Oral Roberts	1	UH Victoria	1	Not in College	
Pepperdine	1	U Incarnate Word	6	US Armed Forces	9
Prairie View A&M	3	U Minnesota	1	Working or not reported	44
Rice	5	U North Texas	4	Total Not Pursuing College	53
RI School of Design	1	U Oklahoma	1	Total GeoFORCE Graduates	618
Rochester Institute of Tech.	1	U Oregon	1		

## Other Outreach Financials

The outreach staff at the Jackson School are involved with additional outreach programs beyond GeoFORCE. Historically these have been included in the annual report. The detailed financial information for other outreach programs can be found below.

<b>Income</b>	<b>03-08</b>	<b>08-09</b>	<b>09-10</b>	<b>10-11</b>	<b>11-12</b>	<b>12-13</b>	<b>13-14</b>	<b>Total</b>
Jackson School (Scholarships)	89,109	9,173	77,040	101,148	3,724			369,303
Jackson School (LAF)	-	10,795			3,313			14,108
Jackson School (General)	460,445	96,691	39,892	64,022	34,612	1,668	162,015	1,319,790
<b>Total Income</b>	<b>549,554</b>	<b>116,660</b>	<b>116,932</b>	<b>165,170</b>	<b>41,649</b>	<b>1,668</b>	<b>162,015</b>	<b>1,703,201</b>
<b>Expenses</b>	<b>03-08</b>	<b>08-09</b>	<b>09-10</b>	<b>10-11</b>	<b>11-12</b>	<b>12-13</b>	<b>13-14</b>	<b>Total</b>
Other JSG Outreach	138,407					1,668	125,577	404,059
MSEA 11th Grade Academy	289,172	75,085	20,643	32,776	28,414			735,262
FVSU Scholarships	89,109	9,173	77,040	101,148	3,724			369,303
CDEP Student Visits	25,471	9,298	3,797	6,292				70,329
Innerspace Explorations	-		159	19,780	4,813		8,810	33,562
Explore UT	7,395	12,307						27,097
GeoFORCE Video							26,197	26,197
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
Garner Park Waste Audit							984	984
REU							448	448
<b>Total Expenses</b>	<b>411,147</b>	<b>116,659</b>	<b>116,932</b>	<b>165,170</b>	<b>41,649</b>	<b>-</b>	<b>36,439</b>	<b>851,556</b>