

Supplemental Material

CBE—Life Sciences Education

Flowers *et al.*

**Early environmental field research career exploration:
An analysis of impacts on pre-college apprentices**
Flowers SK, Beyer KM, Pérez M, Jeffe DB

Assessment Tools

Environmental science career interest survey(baseline paper/pencil version) **page 2**

This instrument was used with permission from the authors (Quimby, Wolfson, & Seyala, 2007) and adapted to meet the context of SIFT and TERF. This adaptation included some wording changes within items, some added questions on the front end at baseline, and elimination of a final section on environmental attitudes. The instrument was used as a repeated measures instrument across time points in both SIFT(pre, mid, post) and TERF (post).

Program climate surveys

SIFT climate survey 1 (paper/pencil version)	page 9
TERF climate survey 1 (electronic version)	page 11
SIFT & TERF alumni follow-up climate survey (electronic version)	page 21

Climate surveys evolved over the development of the SIFT and TERF programs. The climate survey versions included here represent the data presented in this paper. Initial surveys were completed as paper/pencil tasks and later surveys were administered online via SurveyMonkey. These surveys were repeated measures in that the majority of items were repeated in subsequent surveys throughout each program, with the addition of specific program activity items and short answer items changing by season (summer training week and field season activity, fall activity, winter activity and overnight, and spring activity for SIFT; summer field season activity, fall poster development and presentation activity, and symposium presentation and winter overnight for TERF).

Interview protocols

During SIFT, informal interviews were conducted with youth at moments that occurred during program activities, lunch breaks, and while waiting for rides at the end of program days. As such, the interviews tended to focus on how the activity at hand or entire program day had been experienced. Interviews were also frequently used to explore topics that came up in climate survey comments or showed up as climate survey item trends, thereby providing information that could inform program activity refinement and confirm emergent themes.

During TERF, a similar informal interview strategy was used. However, because TERF activities took place for longer periods of time, more extensive interviews could take place about individual experience, and college and career plans. Once again the questions were not standard, but based on the individual's context and experience responses, and often phrased to explore emergent themes from climate survey responses.

Environmental Science Career Interest Survey

Date:

Participant ID Code:

ENVIRONMENTAL SCIENCE CAREER INTEREST SURVEY

Part I

Instructions: Please provide the information requested.

Year in School

- H.S. Sophomore
- H.S. Junior
- H.S. Senior
- Other (Please Specify) _____

Race or ethnic group

- Black or African American
- Hispanic American
- White or European American
- Asian/Pacific Islander-American
- Native American
- Other (Please Specify) _____

Sex

- Male
- Female

Age _____

Have you ever taken a course that relates in any way to the environment?

- Yes
- No

If yes, what was the name of the course and the topics addressed? (It may or may not have been a science course.)

Do you plan to attend a 2-year or 4-year college?

- 2-year college
- 4-year college
- No plans to attend college because _____

If you plan to attend college, do you know what you will major in?

- Yes
- No

If yes, what is your intended major? _____

How certain are you that you will graduate with a degree in this major?

Not Certain At All				Extremely Certain
1	2	3	4	5

If applicable, list up to three other majors you are considering.

1. _____
2. _____
3. _____

Survey instrument adapted from Quimby, Wolfson, & Seyala (2007)

Please list the top three jobs or careers that you are MOST interested in pursuing after graduating from college.

1. _____
2. _____
3. _____

How certain are you that you will pursue one of these jobs or careers after graduation?

Not Certain At All				Extremely Certain
1	2	3	4	5

Who have you spoken with about careers and majors? (check all that apply)

- High school guidance counselor
- Mentor
- High school teachers
- College professor
- Academic advisor
- Career Counselor
- Friends
- Parents
- Other relatives
- Other (Please Specify) _____

Who would you, if anyone, consider to be your role model for your intended career? (check all that apply)

- Parent
- Other relative
- Peers
- Teachers/advisors
- Famous people/characters
- Other (Please Specify) _____

Part II – Awareness of and Interest in Environmental Careers

Instructions: Please indicate how comfortable (i.e., secure in your knowledge) you would feel if you were asked to describe the work activities that people in each of these occupations perform routinely. Use the 1-10 scale below to show how comfortable you would feel describing the work activities.

Occupation	Not At All Comfortable									Extremely Comfortable
Biologist	1	2	3	4	5	6	7	8	9	10
Anthropologist	1	2	3	4	5	6	7	8	9	10
Chemist	1	2	3	4	5	6	7	8	9	10
Writer of Scientific Articles	1	2	3	4	5	6	7	8	9	10
Geologist	1	2	3	4	5	6	7	8	9	10
Scientific Researcher	1	2	3	4	5	6	7	8	9	10
Toxicologist	1	2	3	4	5	6	7	8	9	10
Ecologist	1	2	3	4	5	6	7	8	9	10
Environmental Scientist	1	2	3	4	5	6	7	8	9	10

Instructions: Use the 1 –10 scales below for the next two questions to show how much interest you have and how seriously you would consider a career in each of these fields. You might be interested in a career and its activities but not want to pursue that career. Or, you might be interested **and** want to pursue the career.

Occupation	1. What is your level of interest in these career areas or how much do you think you would like the activities of this kind of work?										2. How seriously would you consider each of these as a career for yourself?									
	Not Very Interested										Very High Interest	Not Very Serious								Very Serious
Biologist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Anthropologist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Chemist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Writer of Scientific Articles	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Geologist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Scientific Researcher	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Toxicologist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Ecologist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
Environmental Scientist	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10

Part III – Environmental Science Activities

Instructions: Use the 1 –5 scales below for the next two questions to indicate your interest in and confidence in completing the listed activities.

Activity	1. What level of interest do you have in completing each of these activities?					2. What level of confidence do you have in completing each of these activities?				
	Not At All Interested				Very Interested	No Confidence				Complete Confidence
1. Learning basic use and maintenance of scientific instruments or tools	1	2	3	4	5	1	2	3	4	5
2. Writing up the results of a chemistry experiment	1	2	3	4	5	1	2	3	4	5
3. Writing up the results of a biology experiment	1	2	3	4	5	1	2	3	4	5
4. Performing a scientific experiment	1	2	3	4	5	1	2	3	4	5
5. Doing research work in the field (outdoors)	1	2	3	4	5	1	2	3	4	5
6. Doing research work in a laboratory	1	2	3	4	5	1	2	3	4	5
7. Studying an environmental issue or problem for several hours at a time	1	2	3	4	5	1	2	3	4	5
8. Developing an understanding of the interactions between physical, biological, and social science aspects of our world	1	2	3	4	5	1	2	3	4	5
9. Hiking and camping in the wilderness	1	2	3	4	5	1	2	3	4	5
10. Working collaboratively with others to complete a research project involving ecological or environmental issues	1	2	3	4	5	1	2	3	4	5
11. Collecting samples of plants, water, or soil	1	2	3	4	5	1	2	3	4	5

Part IV – College Degree Steps

Instructions: The following is a list of major steps along the way to completing a science degree in college. Please indicate how much confidence you have in your ability to complete each of these steps if you were to select a science major in college. Use the 1-10 scale below to indicate your degree of confidence.

Step	No Confidence									Complete Confidence
1. Complete all of the "basic science" (i.e. biology, math, chemistry) requirements for a science major with a grade of B or better	1	2	3	4	5	6	7	8	9	10
2. Excel in a science major in your 1 st year of college	1	2	3	4	5	6	7	8	9	10
3. Excel in a science major in your 2 nd year of college	1	2	3	4	5	6	7	8	9	10
4. Complete the upper level required courses in a science major with an overall grade point average of B or better	1	2	3	4	5	6	7	8	9	10

Instructions: For each item below indicate your level of confidence in your ability to complete each subject area using the 1-5 scale.

Subject	No Confidence At All				Complete Confidence
1. Calculus	1	2	3	4	5
2. Geology	1	2	3	4	5
3. Chemistry	1	2	3	4	5
4. Anthropology (Study of Cultures & Origin of People)	1	2	3	4	5
5. Animal Biology (Zoology)	1	2	3	4	5
6. Ecology	1	2	3	4	5
7. Agriculture	1	2	3	4	5
8. Plant Biology (Botany)	1	2	3	4	5

Part V – Career Outcomes

Instructions: Using the two 1-10 scales below, answer the questions relating to your possible future career outcomes.

Area	1. How important is each of these outcomes to you as part of your future career?										2. How strongly do you agree that graduating with an environmental science degree will probably allow you to achieve these outcomes?									
	Not at all Important									Very Important	Not At All									Strongly Agree
1. Receive a job offer quickly	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
2. Earn a good salary	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
3. Get respect from other people	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
4. Do work that I find satisfying	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
5. Increase my sense of self-worth	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
6. Have a career that is valued by my family	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
7. Do work that can "make a difference" in people's lives	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
8. Go into a field with high employment demand	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
9. Do exciting work	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
10. Have the right type & amount of contact with people (i.e. "right" for me)	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10

Part VI – Career Supports and Barriers

Instructions: Now we are interested in learning about the types of situations that could help or hinder your plans if you were to pursue an ENVIRONMENTAL SCIENCE DEGREE and career. Use the 1-5 scale below to indicate your agreement or level of confidence in response to the questions about the possible situations described.

Situation	1. How likely do you believe you would experience each of the following situations in pursuit of an environmental career?					2. What level of confidence do you have in overcoming each of these if they became barriers to an environmental career?				
	Not At All				Strongly Agree	No Confidence At All				Complete Confidence
1. Not being smart enough	1	2	3	4	5	1	2	3	4	5
2. Negative family attitudes about my being in college	1	2	3	4	5	1	2	3	4	5
3. Not fitting in at college	1	2	3	4	5	1	2	3	4	5
4. Lack of support from teachers	1	2	3	4	5	1	2	3	4	5
5. Not being prepared enough	1	2	3	4	5	1	2	3	4	5
6. Not knowing how to study well	1	2	3	4	5	1	2	3	4	5
7. Not having enough confidence	1	2	3	4	5	1	2	3	4	5
8. Lack of support from friends to pursue my educational goals.	1	2	3	4	5	1	2	3	4	5
9. Lack of support from my possible (girlfriend, boyfriend, spouse) to pursue education	1	2	3	4	5	1	2	3	4	5
10. Time commitments of starting a family	1	2	3	4	5	1	2	3	4	5
11. Having to work while I go to school	1	2	3	4	5	1	2	3	4	5
12. Lack of role models or mentors	1	2	3	4	5	1	2	3	4	5
13. Lack of financial support	1	2	3	4	5	1	2	3	4	5
14. Being treated differently because of my sex	1	2	3	4	5	1	2	3	4	5
15. Being treated differently because of my racial/ethnic background	1	2	3	4	5	1	2	3	4	5
16. Not being comfortable working outdoors.	1	2	3	4	5	1	2	3	4	5

Instructions: Using the 1-5 scale indicate your level of agreement with the following statements.

If I pursue an ENVIRONMENTAL CAREER path...	Not At All				Strongly Agree
1. There is someone I am trying to be like	1	2	3	4	5
2. There is no one in the field particularly inspirational to me	1	2	3	4	5
3. There is someone I admire doing similar work	1	2	3	4	5
4. There is no one I am trying to be like.	1	2	3	4	5
5. I have a mentor	1	2	3	4	5
6. I know of someone who has a career I would like to pursue	1	2	3	4	5
7. I have friends who are pursuing similar interests.	1	2	3	4	5
8. I would feel support for this decision from important people in my life (teachers, parents)	1	2	3	4	5
9. I would feel that close friends or relatives would be proud of me for making this decision	1	2	3	4	5
10. I would get encouragement from friends for pursuing this occupational path	1	2	3	4	5

SIFT Climate Survey 1

SIFT Climate Survey 1

Date:

Participant ID Code:

This survey is designed to get your thoughts about how SIFT is going for you. In statements 1 through 25, please put an X in the column that most closely matches how you feel about the statement.

CLIMATE STATEMENTS	Strongly Disagree				Strongly Agree
	1	2	3	4	5
1. I feel comfortable changing groups for a new small group activity.					
2. Moving into a new group is easy because everyone is welcoming.					
3. I feel comfortable asking instructors when I don't understand something.					
4. I feel comfortable asking other students when I don't understand something.					
5. I like having many different small groups to work with.					
6. I know at least half of the names of students in this group.					
7. The activities we do in small groups help me get to know other students well.					
8. Some activities are confusing to me like:					
- Using GPS					
- Using a compass					
- Using a map					
- Using basic field equipment (cameras, thermometers, wind meter, etc.)					
- Using chemical tests					
9. This program has taken me into new knowledge, skills and activities.					
10. I have identified some new personal challenges to get comfortable with.					
11. I feel supported in tackling things that are close to my panic zone.					
12. There are still some aspects of field research that could keep me from pursuing a career in this area:					
- Dealing with weather (heat, humidity, rain, cold)					
- Dealing with flying insects					
- Dealing with ticks					
- Dealing with snakes					
- Hiking long distances					
- Working with people I don't know					
- Monotony/repetition of some aspects of field work					
- How persistent you have to be to stick with a study to completion					
13. I feel comfortable in this group of people.					
14. The instructors here seem like good field scientist role models who can help me learn how to be a good field scientist.					
15. The level of difficulty of the learning tasks is good for me.					
16. The way we are learning things works for me.					
17. I like lectures or talks where my role is mostly listening.					
18. I like active tasks with problem-solving.					
19. I like problem-solving games.					
20. I like hiking to observe and record things.					
21. I feel comfortable sharing my feelings and ideas in large group discussions.					
22. The amount of outdoor field activity is just right for me.					
23. I am able to figure things out by talking with and listening to the other students I work with.					
24. I feel comfortable sharing my feelings and ideas in small group discussions.					
25. The variety of activities in this program keeps me interested in what is coming next.					

(Survey continues on the reverse side.)

TERF Climate Survey 1

TERF Climate Survey 1

1. Identification

* 1. Please enter today's date:

* 2. Please enter your ID code:

TERF Climate Survey 1

2. Climate Survey

This survey is designed to collect your thoughts about how the TERF program is going for you. For statements 1 through 31, please mark the column that most closely matches how you feel about the statement. If there are multiple criteria for a single question, please mark one column for each criterion. If a question or part of a question does not apply to you at this point in the program, please mark N/A.

For questions 30 through 32, please remember to include a short description of each activity you choose to rank. If a question or part of a question does not apply to you, please mark N/A. If there are more questions provided than activities you have participated in, feel free to leave the remaining questions in this range blank.

For short answer questions 33 through 38, please provide a response in each text box.

* 1. I feel comfortable in the TERF student group.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 2. I feel comfortable in my assigned research team group.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 3. I feel comfortable asking research project mentors when I don't understand something or just want to know more.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 4. I feel comfortable asking other research team students when I don't understand something or want to know more.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 5. I know the names of all of the research team members on the research teams I have assisted.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 6. It has been easy to get to know the other members of the research teams I have worked with.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

comment?

* 7. I learned some skills and knowledge in SIFT that have already been useful to me in TERF.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 8. The people at this research center have similar interests and values to me.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 9. The people at this research center are committed to their career pursuits.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 10. I am gaining confidence in my ability to do this kind of field research work.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 11. I am learning about the kinds of issues field scientists deal with daily.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 12. I respect and value the kind of thinking these field scientists do about their work.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 13. The TERF program is taking me into new knowledge, skills and activities.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 14. There are still some aspects of field research that could keep me from pursuing a career in this area:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Dealing with the weather (heat, humidity, rain, cold)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dealing with flying insects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dealing with ticks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dealing with snakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hiking long distances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with people I don't know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dealing with the level of work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monotony/repetition involved in some aspects of field work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How persistent you have to be to stick with a study to completion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 15. The research mentors here seem like good field scientist role models who can help me learn how to be a good field scientist.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 16. The kind of people that are at this research center are the kind of people I would like to be around for my career.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 17. The level of difficulty of the research/learning tasks is good for me.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 18. The way we are learning things works for me.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 19. I feel comfortable sharing my thoughts and ideas in TERF group discussions.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 20. I feel comfortable sharing my thoughts and ideas in research team discussions.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 21. The amount of outdoor field activity is just right for me.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 22. I am able to figure things out by talking with and listening to the other students I work with.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 23. I have been able to get to know some field project mentors or students outside of my research group.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 24. The variety of activities in this program keeps me interested in what is coming next.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 25. The research teams I have worked with have done a good job of explaining their research and its purpose.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 26. I feel like a contributing member of the research teams I have assisted.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 27. I feel I am adequately prepared for this field research internship.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

* 28. Please rank the Thursday TERF reflection time for each of the criteria that follow:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Helped me capture what I am learning about a field research career or topic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided me with opportunity for real experience developing my documentation skills as a field researcher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me identify my excitements and frustrations with field research activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided opportunity for me to reflect on new areas of curiosity or interest in my learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helped me assess my workplace behavior and actions with a professional perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

HOW IS THIS TIME USEFUL OR NOT USEFUL TO YOU?

29. Please rank the paper discussion and seminar on Thursday afternoon for each of the criteria that follow:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Helped me gain a broader view of what field research activities contribute to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Added to my knowledge about a field research topic area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased my skills as a field researcher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made me more excited about field research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Created curiosity or interest in some new activities or topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Please rank a TERF Activity you participated in this week for each of the criteria that follow. Please identify the activity in the text box at the bottom of the question. If you did not participate in any TERF group activities, you may leave this question blank. (Save Research Team Activities for later questions.)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Helped me gain a broader view of what field research activities contribute to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Added to my knowledge about a field research topic area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased my skills as a field researcher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made me more excited about field research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Created curiosity or interest in some new activities or topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Activity

31. Please rank one Research Team Activity you participated in this week for each of the criteria that follow. Please identify the activity in the text box at the bottom of the question.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Helped me gain a broader view of what field research activities contribute to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Added to my knowledge about a field research topic area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased my skills as a field researcher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made me more excited about field research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Created curiosity or interest in some new activities or topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Research Team Activity 1

32. Please rank another Research Team Activity you participated in this week for each of the criteria that follow. Please identify the activity in the text box at the bottom of the question.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
Helped me gain a broader view of what field research activities contribute to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Added to my knowledge about a field research topic area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased my skills as a field researcher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made me more excited about field research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Created curiosity or interest in some new activities or topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Research Team Activity 2

* 33. What are the most significant things you feel you have learned about being a field scientist during this first week of TERF?

* 34. What skills, knowledge and characteristics are you identifying in yourself that lead you more strongly toward or away from considering a future career in field biology?

* 35. Has anyone been particularly helpful to you in your TERF experience this week? (Briefly explain how)

* 36. How would you describe the research that the team you are spending the most time with is doing?

* 37. Make a list of the main activities you participated in this week. Was this a good balance of research activities for you?

* 38. Do you have any highlights, concerns or suggestions about the TERF program to date? If yes, please explain.

SIFT & TERF Alumni Follow-up Climate Survey

SIFT and TERF Impacts - A Follow-Up

Catching Up - Where are you after SIFT or TERF?

It has been 1-3 years since you participated in SIFT, and for some of you TERF! We expect you have been busy pursuing some college and career goals and we are interested in hearing about how this is going for you - whatever direction you are taking.

It would help our work to know how you are feeling about the impacts of SIFT and TERF now that you are further along your education and career path. We hope you will take a few minutes to help us out by answering these questions. We really would love to hear what you are up to! Thanks for sharing!

- * 1. Please enter your ID code as given in the email you received.

- * 2. What parts of the SIFT/TERF Program did you complete?

- SIFT
- TERF
- Additional Summer Work with SIFT or TERF beyond TERF Internship
- Additional School Year Work with SIFT or TERF beyond TERF Internship

Other (please specify)

- * 3. What are you up to? More education, work, family, or something else? Or some combination of all of these?

Please give us some details like name of school and major if you are doing more education. Or, if you started in a major and changed, what were both majors and why did you change? Or, if you decided to work for a year, what are you doing now and why?

Education	<input type="text"/>
Work	<input type="text"/>
Family Events	<input type="text"/>
Other	<input type="text"/>

4. If you have been pursuing more education beyond high school, we are interested in what science courses you have taken or are taking. Please list any science courses completed or in process and indicate what year taken or in process.

SIFT and TERF Impacts - A Follow-Up

How have SIFT and TERF influenced you?

* 5. How would you describe yourself before going into SIFT? After SIFT?

6. If you participated in TERF also, how would you describe yourself after TERF?

* 7. How would you describe yourself now?

* 8. Which of the following words would you choose to describe your SIFT experience?

- | | |
|--|--|
| <input type="checkbox"/> Challenging | <input type="checkbox"/> Repetitious |
| <input type="checkbox"/> Adventurous | <input type="checkbox"/> Tedious |
| <input type="checkbox"/> Relevant | <input type="checkbox"/> Enlightening |
| <input type="checkbox"/> Satisfying | <input type="checkbox"/> Difficult |
| <input type="checkbox"/> Stressful | <input type="checkbox"/> Collaborative |
| <input type="checkbox"/> Boring | <input type="checkbox"/> Realistic |
| <input type="checkbox"/> Exciting | <input type="checkbox"/> Useful |
| <input type="checkbox"/> Broadening | <input type="checkbox"/> Not useful |
| <input type="checkbox"/> Confidence building | |

Other (please specify)

9. If you also participated in TERF, which of the following words would you choose to describe your TERF experience?

- | | |
|--|--|
| <input type="checkbox"/> Challenging | <input type="checkbox"/> Repetitious |
| <input type="checkbox"/> Adventurous | <input type="checkbox"/> Tedious |
| <input type="checkbox"/> Relevant | <input type="checkbox"/> Enlightening |
| <input type="checkbox"/> Satisfying | <input type="checkbox"/> Difficult |
| <input type="checkbox"/> Stressful | <input type="checkbox"/> Collaborative |
| <input type="checkbox"/> Boring | <input type="checkbox"/> Realistic |
| <input type="checkbox"/> Exciting | <input type="checkbox"/> Useful |
| <input type="checkbox"/> Broadening | <input type="checkbox"/> Not useful |
| <input type="checkbox"/> Confidence building | |

Other (please specify)

* 10. What did you gain by putting time into SIFT or TERF activities? Rank any of the following benefits that you found in your participation in SIFT and/or TERF. Give a 1 to the most important item and so forth through the nine items. If an item was not a benefit for you check the N/A box in the right hand column instead of giving it a ranking number.

<input type="text"/>	Summer income	<input type="checkbox"/> N/A
<input type="text"/>	New friends	<input type="checkbox"/> N/A
<input type="text"/>	Career/education ideas	<input type="checkbox"/> N/A
<input type="text"/>	Career/education contacts	<input type="checkbox"/> N/A
<input type="text"/>	Mentors	<input type="checkbox"/> N/A
<input type="text"/>	Role models	<input type="checkbox"/> N/A
<input type="text"/>	Knowledge of environmental field research	<input type="checkbox"/> N/A
<input type="text"/>	Skills for doing environmental field research	<input type="checkbox"/> N/A
<input type="text"/>	Knowledge about personal capabilities and interests	<input type="checkbox"/> N/A

11. What activities did you have to give up or have less time with in order to make time for SIFT or TERF activities?

- Time with friends
- Homework
- Family events
- Sports
- Music
- Job
- Other programs

Other (please specify)

12. What impacts did SIFT or TERF have on where you are now or where you are heading?

This might be positive or negative. For example: "I'm going into teaching because I really like science but I didn't want to be a field scientist." Be as specific and detailed as you have time for. We really would like to know about these things!

13. What kind of obstacles have you encountered or what has gone more smoothly than anticipated in your career path since SIFT and TERF?

14. Where do you see yourself in 3-5 years and what have been the biggest influences on this vision?

SIFT and TERF Impacts - A Follow-Up

How have you used the SIFT and TERF experience?

15. Have you used your experiences in SIFT or in SIFT and TERF to leverage additional opportunities that could benefit your education and career pursuits?

- I have asked for a recommendation letter from program staff or research project scientists.
- I have gotten in touch with program staff or a research team member to ask questions about education or career.
- I have used program staff or research project scientists as a reference.
- I have put SIFT or SIFT and TERF experience on resume or applications.
- I have written about SIFT or SIFT and TERF experience on application essays.

Other (please specify)

* 16. Choose the level of agreement that best matches your thoughts about the following statements:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
1. I have a role model or mentor in the career I am choosing to pursue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I have family and/or friends who support the career I am choosing to pursue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The knowledge I gained from SIFT or SIFT and TERF about environmental field science careers helped me decide to pursue a career in this direction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The skills I gained from SIFT or SIFT and TERF increased my confidence in being able to pursue an environmental field science career successfully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. My experiences in SIFT or SIFT and TERF helped me realize that a career in environmental field science wasn't really the direction I wanted to go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I have a greater appreciation for environmental issues and the environment as a result of my experiences in SIFT or in SIFT and TERF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Environmental field science requires hard work in the field but that works for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The kind of focus and persistence needed as an environmental field scientist is something that attracts me to this kind of career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
9. I like the kind of thinking you have to do about questions, methods, and data collection that environmental field scientists engage in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I would rather get involved in the application of environmental science research through management of natural areas and/or plant and animal populations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I feel I have the confidence and the abilities to succeed in a career in environmental field science.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. A job or position in an environmental field science will fulfill the career outcomes I am hoping for.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I think women/people of color have equal opportunity available to them in pursuing environmental field science careers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Doing scientific research in the field makes me excited.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I have found ways to productively deal with some of the monotonous aspects of field research.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I just didn't feel comfortable with the idea of pursuing a career as an environmental field scientist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Other interests for a career pushed aside my interest in an environmental field research career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
18. Financial constraints have become an obstacle to pursuing a career in environmental field research.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. In order to pursue a career in environmental field science I would have to sacrifice way too many other things in my life that I do not want to sacrifice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Writing about and presenting research is something I would like to keep doing as part of my career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I like working collaboratively with others and think that a career in environmental field research will provide me with these kinds of working relationships.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I decided that the kind of coursework that is required for pursuing an environmental science degree is just way too difficult and not something I want to spend my college time struggling with.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. The kind of work I did in SIFT projects or as an intern in TERF is important to my life and the lives of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments:	<input type="text"/>					
SIFT and TERF Impacts - A Follow-Up						
What are your thoughts about SIFT and TERF people?						

* 17. Have you kept in contact with anyone from SIFT or TERF? Please check all that apply.

- Other SIFT students
- Other TERF students
- Project staff from SIFT or TERF
- Undergraduate students from TERF research teams
- Graduate students from SIFT or TERF research teams
- Post docs or professors from SIFT or TERF research teams

Other (please specify)

* 18. Choose the level of agreement that best matches your thoughts about the following groups of people as important resources to you for learning about environmental field research and the skills for doing it.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
In SIFT, the other SIFT students I worked with were important resources and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In SIFT, the graduate students, post docs, and professors were important resources and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In SIFT, project staff were important resources and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In TERF, undergraduate students were important resources and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In TERF, the graduate students, post docs, and professors were important resources and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In TERF, project staff were important resources and support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

* 19. Choose the level of agreement that best matches your thoughts about the following

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The members of the teams I worked on were committed to their work and demonstrated/shared what it takes to get into this kind of career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The members of the teams I worked with in the field were too different from me to be good models or mentors for learning about environmental field science careers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of the undergraduate students that I worked with had a positive impact on how I view myself as a potential environmental field scientist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of the graduate students, post docs, and professors I worked with had a positive impact on how I view myself as a potential environmental field scientist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of the SIFT and TERF staff that I worked with had a positive impact on how I view myself as a potential environmental field scientist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment?

20. What did your SIFT and/or TERF mentors do that was helpful or not helpful for you in determining a career direction to meet your interests and needs.

SIFT and TERF Impacts - A Follow-Up

Wrapping Up - Thank you for making it to the end!

21. What would you like to tell SIFT and TERF instructors, mentors, and staff about how to run such programs now that you are into your next steps looking back?

22. Would you be interested in doing a follow-up interview about some of these questions? If yes, how should we contact you? And, when would be the best time to do this interview? (Like school breaks if you are out of town, or daytime, evening, weekday, weekend, etc. if you are in town.)

Thank you for sharing your thoughts with us again through this survey! We do hope you are enjoying your career journey each step of the way. And if you get the chance keep in contact with us about new steps and experiences. We enjoy hearing about what you are doing!