

**Climate is an
Environmental Justice Issue
Monthly Planning Guide
for LINKS Chapters**

February 2023



Overview

Monthly Theme	Environmental Awareness Days	Cultural and Identity Awareness Days
Climate and Environmental Justice Leaders and Careers	World Wetlands Day (2)	Black History Month International Day of Girls and Women in Science (11) Frederick Douglass Day (14)
Elementary	<ol style="list-style-type: none">1. Activity 1: Meet Environmental and Climate Justice Leaders2. Activity 2: Skills Spectrum Activity3. Community Activity: Interview Local Environmental and Justice Leaders and Professionals	
Middle and High School	<ol style="list-style-type: none">1. Activity 1: Meet Environmental and Climate Justice Leaders2. Activity 2: Explore the NWF Eco-Leaders Platform3. Community Activity: Interview Local Environmental and Justice Leaders and Professionals	

Mentoring Moment Suggestions

Seek out passionate volunteers, activists, elders, and Indigenous members of the community, consider accessing the expertise of scientists, engineers, city officials, policy experts, community organizers, environmental lawyers, non-profit leaders, social justice advocates, journalists, or artists.

Climate and Environmental Justice Careers and Leaders

ELEMENTARY ACTIVITIES

SUMMARY

Youth will be introduced to “green jobs”—professions and careers in STEM, climate, environment, and environmental justice fields during this month’s activities. Through research, interviews, or site visits, they will meet some professionals who currently work in these fields and learn about the skills and training needed in these careers.

OBJECTIVES

- Youth will be able to name environmental and climate justice leaders and describe how they have acted to protect or improve their communities or the health of the planet.
- Youth will be able to explain what a green career is and how they are critical for understanding the planet and implementing climate change solutions.
- Youth will be able to describe a selection of climate and environmental professions and describe the skills needed for them.

MATERIALS

- Internet connection and computer or tablets
- *Reading:* [Making My World, National Wildlife Magazine \(also attached\)](#)
With a deep passion for the natural world, Black researcher, writers, and environmental justice advocates are changing the face of conservation.
- *Reading:* [Loving the Land, National Wildlife Magazine \(also attached\)](#)
Honoring some notable Black U.S. environmentalists past and present
- *Resource:* [Environmental and Sustainability Jobs](#)
- *Reading:* [In the Field](#) | Danielle Belleny is a wildlife biologist who studies birds and landscapes.
- *Readings:* Climate Kids: Green Careers
 - [Earth Scientist Studying Glaciers](#)
 - [Ocean Scientist Studying Coral Reefs](#)
- *Video:* [I Want to Be a Wildlife Conservationist](#)
- *Video:* [Compost Power](#) | Urban farmer Domingo Morales leads a composting program that is helping make New York City more sustainable.
- Skills Spectrum Cards (attached)

BACKGROUND¹

Climate and Environmental Careers

Climate change is impacting all aspects of our lives, and today's youth will inherit a world that looks far different from what we know today. Finding creative and constructive ways to engage students in imagining a future founded on climate change solutions is essential. Green STEM Careers are a solution to climate change because they help create a low carbon economy – one that does not rely on using fossil fuels and can lower the amount of greenhouse gases in the atmosphere. These careers include solar and wind installers, climate scientists, environmental lawyers, and green construction professionals among many others.

Green career opportunities—climate and environmental jobs--are rapidly increasing and students need tangible experiences that will excite and prepare them for the workforce of tomorrow. Many Green STEM Careers are the fastest growing careers in the country, and there are many pathways students can take to become qualified professionals in these areas.

Besides a good education and experience, employers want job candidates to possess certain skills. You'll no doubt be familiar with many of them – good communication, an ability to work in a team, etc. – but environmental justice is a unique field where some skills are especially valuable.

Many climate and environmental jobs involve science and data analysis. Employers are also looking for workers with architectural and planning skills, green engineering skills, and knowledge of green technology like solar panels and wind turbines. Jobs may also require a deep knowledge of environmental regulations, policies, and laws, as well as expertise in the intersection of the environment and human rights.²

Students today will be tomorrow's leaders and we have a responsibility to prepare them to be innovators of climate change solutions by nurturing their creative thinking and problem-solving skills using the methods we know are the best.

WHAT TO DO

Activity 1: Meet Environmental and Climate Justice Leaders

PART 1: Meet notable Black researchers, scientists, writers, and environmental justice activists, both past and present, who have contributed to the conservation movement in innumerable ways.

Youth can read one or more of the articles below on their own or together. If time allows, encourage students to conduct additional research about one of the people they read about. Make time for students to share their questions, reflections, or research with the class.

¹ <https://climategen.org/resources/36112/green-careers-for-a-changing-climate-instructional-supplement-for-grades-68/>

² <https://www.humanrightscareers.com/magazine/environmental-justice-jobs-our-short-guide/>

- **Reading:** [Making My World, National Wildlife Magazine \(also attached\)](#)
With a deep passion for the natural world, Black researcher, writers, and environmental justice advocates are changing the face of conservation.
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Honoring some notable Black U.S. environmentalists past and present

Part 2: Meet STEM, climate, and environmental justice leaders and professionals and learn about their careers.

Explore the videos and resources below with students and engage them in a reflection afterwards.

- **Resource:** [Environmental and Sustainability Jobs](#)
- **Reading:** [In the Field](#) | Danielle Belleny is a wildlife biologist who studies birds and landscapes.
- **Reading:** [This Landscape Architect wants to protect the planet.](#)
- **Readings:** Climate Kids: Green Careers
 - [Earth Scientist Studying Glaciers](#)
 - [Ocean Scientist Studying Coral Reefs](#)
- **Video:** [I Want to Be a Wildlife Conservationist](#)
- **Video:** [Compost Power](#) | Urban farmer Domingo Morales leads a composting program that is helping make New York City more sustainable.

Discussion/Reflection: As a group, reflect on the readings and videos. Invite students to share their questions and thoughts with each other.

- What inspired you about these leaders?
- How have these leaders used their knowledge and skills to advance environmental or climate justice in their communities or globally?
- What do you want to know more about these people or their professions?

ADDITIONAL RESOURCES

- **Book:** [Buzzing with Questions: The Inquisitive Mind of Charles Henry Turner](#)
This book captures the life of this inspiring scientist and educator in this nonfiction picture book, highlighting Turner's unstoppable quest for knowledge and his passion for science.
- **Book:** [In the Garden with Dr. Carver](#)

Activity 2: Skills Spectrum Activity [Climate Generation]³

The Skills Spectrum Activity is a 15-minute exercise to help students identify the skills and interests they have that connect to various green careers.

To lead the activity, educators will read a card with two statements (cards are attached). Students will move to one side of the room or the other (or stay near the middle) depending on whether they agree more with the first or second statement. There's no right or wrong place on the spectrum to stand!

Alternatively, students could participate at their desks or online by pointing toward one direction or another depending on which statement resonates more with them. Students will then hear about careers that fit the skill sets or preferences mentioned on the card. After a few rounds, students will discuss which green careers are most interesting to them. Educators may want to look up the green careers in the activity to answer student questions, or could plan to have students research their favorite careers.

³ <https://climategen.org/resources/36340/green-careers-skills-spectrum-activity/>

Community Activity: Interview Local Environmental and Justice Leaders and Professionals

Youth will have the opportunity to meet and talk to environmental leaders and professionals during this activity. Interviews or class visits can take place in-person in the classroom or virtually (via zoom or a similar platform); additionally, some professionals may be able to host students at their work place, discuss this during your initial communication with them.

WHAT TO DO

1. Brainstorm prospective guests for an interview or class visit.

a. Working as a group, discuss people you know who work in STEM or environmental-related fields who may be available to speak to the class. Students may consider relatives, family friends, neighbors, local elected officials, community leaders, or teachers and school partners. Also brainstorm professions that interest students, even if they may not know someone in these roles.

b. For teachers/facilitators: if available, reach out to your networks or local professional organizations, to make connections to prospective guests. Consider reaching out to families, teachers at the local schools, local chapters of [professional organizations or societies](#), local colleges or HCBUs, local businesses, or local elected officials. It may also be appropriate for older students to send inquiries to these organizations or individuals.

2. Prepare for the interviews.

a. Review the lists of potential guests that the classes brainstormed or that facilitators put together via their networks and invite people to speak to the group. Students can work in pairs or small groups to write letters, send emails, or make phone calls to invite them to visit the class to talk about their education and careers. They can provide the prospective guests with context and include why their recent environmental and climate justice studies have made them interested in meeting them.

b. Schedule the visits and develop and/or edit interview questions attached. Students can also prepare other activities, share their recent studies, or develop an agenda for the visits—consider making this a community event and invite families or additional community members.

3. Conduct the Interview

a. The attached questions can be used as a starting point for the groups. However, students should review and edit these questions, tailor them more specifically to the guests, and add their own questions to the list.

4. Debrief and Follow Up

a. After the interviews or class visits, be sure to thank the guests! Students can share photos or thank you notes. With permission from their guests, students can also write/share more about the visits in a blog or social media posts.

Environmental and Climate Justice Leader Interview

Name of Interviewee: _____ Profession: _____

Date: _____

1. **Can you describe your job? What does a typical day look like?**
2. **What is your favorite part of your job?**
3. **What attracted you to this field or profession? What continues to motivate you?**
4. **What type of education, training, or experience did you complete to begin your career?**
5. **What types of skills are most important in your job? Can you describe how you may use them at your job?**
6. **Question:**
7. **Question:**
8. **Question:**

Environmental Health: Climate and Environmental Justice Careers and Leaders

MIDDLE AND HIGH SCHOOL ACTIVITIES

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- *Reading/Blog:* [Farmers, Activists, and Public Officials: Five Black Conservationists](#)
- *Reading:* [7 Young Activists Working at the Intersection of Environmental and Racial Justice](#)
- *Video:* [Compost Power](#) | Urban farmer Domingo Morales leads a composting program that is helping make New York City more sustainable.
- *Video:* [Donnel Baird: Going Green](#) | Donnel Baird speaks about his company's mission to bring green power to low-income neighborhoods.
- *Reading:* [In the Field](#) | Danielle Belleny is a wildlife biologist who studies birds and landscapes.
- *Resource:* [Environmental and Sustainability Jobs](#)
- *Video/Documentary:* [Green Careers for a Changing Climate \(18 min\)](#) [Climate Generation]
- *Resource:* [NWF Eco Leaders platform](#) (for high schoolers and older)

BACKGROUND⁴

Climate and Environmental Careers

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Many climate and environmental jobs involve science and data analysis. Employers are also looking for workers with architectural and planning skills, green engineering skills, and knowledge of green technology like solar panels and wind turbines. Jobs may also require a deep knowledge of environmental regulations, policies, and laws, as well as expertise in the intersection of the environment and human rights.⁵

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WHAT TO DO

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Youth can read one or more of the articles below on their own or together. If time allows, encourage students to conduct additional research about one of the people they read about. Make time for students to share their questions, reflections, or research with the class.

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Part 2: Meet STEM, climate, and environmental justice leaders and professionals and learn about their careers.

- Video: [Compost Power](#) | Urban farmer Domingo Morales leads a composting program that is helping make New York City more sustainable.
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Discussion/Reflection: As a group or in pairs during a 'turn and talk', invite students to share their questions and thoughts with each other.

- What inspired you about these leaders?
- How have these leaders used their knowledge and skills to advance environmental or climate justice in their communities or globally?
- What do you want to know more about these people or their professions?

Activity 2: Explore National Wildlife Federation's Eco-Leader platform.

The NWF Eco-Leaders program is a leadership and career development program for high schoolers, college students, young professionals, and the faculty and administrative advocates for these future leaders. The platform includes a dashboard to record leadership actions resources to explore eco-topics, and forums where eco-leaders can connection with each other. Youth can also explore resources that will help them map out their own personal career paths and develop the key competencies necessary to achieving their sustainability career goals.

1. To view all of the content on the platform with the group, teachers/facilitators will have to create a log-in (it's quick and easy!). For this activity, we recommend that teachers create one log-in for the class instead of individual students registering.

2. Navigate to **The Career Center** (<https://www.nwfecoleaders.org/careercenter>). This page helps high school juniors and seniors, college students, and young professionals learn about careers in the environmental, climate, and sustainability sectors. Youth can find information about the following career sectors and learn about: average salaries, required education and credentials, and more.

3. Browse through the professions/jobs listed in each of the following sectors.

- Architecture and Buildings
- Business and Purchasing
- Climate Adaptation and Mitigation
- Consumption and Waste
- Sustainable Energy

4. Ask students to select 1-2 professions from the lists and conduct research.⁶ Read through the career page on the Eco-Leaders website and conduct searches outside of the platform to learn more about the selected careers.

5. Ask students to share their findings with the group.

- Had they heard of this career or job before today?
- What was interested them about this sector or this job?
- What type of training or education might be needed for this career?
- Can they imagine themselves working in a field or job like this?

ADDITIONAL RESOURCES

- Book: [Women in Wildlife Science: Building Diversity, Equity, and Inclusion](#)

This book addresses the challenges and opportunities for women, especially from underrepresented communities, in wildlife professions.

- Website: [Science Buddies, Science Careers](#)

⁶ <https://www.nwfecoleaders.org/careercenter>

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Environmental and Climate Justice Leader Interview

Name of Interviewee: _____ Profession: _____

Date: _____

- **Can you describe your job? What does a typical day look like?**
- **What do you like most about your job?**
- **What attracted you to this field or profession? What continues to motivate you?**
- **What type of education, training, or experience did you complete to begin your career?**
- **What types of skills are most important in your field or specific job? Can you describe how you may use them at your job?**
- **Can you share any challenges that you encounter in your role or field?**
- **Did you have mentorship opportunities at any point in your education or career? If so, can you reflect on your experiences as a mentor or mentee or share any helpful advice you received or have given?**
- **Question:**
- **Question:**
- **Question:**

Loving the Land

6-7 minutes

Honoring some notable Black U.S. environmentalists past and present

- Vicky C. Saget
- Conservation
- Dec 30, 2022



Loving the Land

HONORING SOME NOTABLE BLACK U.S. ENVIRONMENTALISTS PAST AND PRESENT

By Vicky C. Saget

SOLOMON G. BROWN
Environmentalist
(1829-1906)
This self-educated environmentalist became the first African American employee of the Smithsonian Institution.

GEORGE WASHINGTON CARVER
"The Plant Doctor"
(1864-1943)
Born into slavery, Carver became a world-recognized scientist and conservationist, famous for his research on combating soil depletion and replacing cotton crops with legumes. He is regarded as one of America's greatest agricultural researchers and educators.

COLONEL CHARLES YOUNG
Military Leader & Conservationist
(1864-1922)
Young was the first Black colonel and highest-ranked Black man in the U.S. Army in his time. In 1903, he became the first African American national park superintendent and led a regiment of Buffalo Soldiers, who managed what is now Sequoia National Park in California.

BUFFALO SOLDIERS
The First National Park Rangers
Specific Conservation Assignments
(1899-1904)
The Buffalo Soldiers made major contributions to the infrastructure and conservation of Sequoia and Yosemite national parks. They constructed the first usable road leading into Sequoia's Giant Forest and the first trail up Mount Whitney, the highest peak in the Lower 48. They also built an arboretum in Yosemite, which some have described as one of the first museums in the National Park System.



Buffalo Soldiers

ABRAHAM LINCOLN LEWIS
Businessman & Philanthropist
(1865-1947)
In 1935, "A.L." Lewis—Florida's first Black millionaire—bought 200 acres of beachfront in Nassau County, Florida, to give Black people access to the ocean, a pleasure prohibited under Jim Crow laws. Named American Beach, it is now listed in the National Register of Historic Places.

HATTIE CARTHAN
"Brooklyn Tree Lady"
(1900-1984)
Noting the lack of trees in her Brooklyn neighborhood, this environmental justice activist created a beautification committee that engaged youth in tree care and led to the planting of more than 1,500 trees throughout central Brooklyn.



Hattie Carthan

BETTY REID SOSKIN
Park Service Legend
(1921-Present)
Soskin became a California National Park ranger in 2007, the oldest ranger in the system until retiring in 2022 at age 100.



Betty Reid Soskin

DR. BUNYAN BRYANT
Environmental Justice Education Leader
(1935-Present)
In 1972, Bryant was the first African American professor in what became the University of Michigan's School for Environment and Sustainability, where he helped develop an environmental advocacy curriculum, making Michigan the first U.S. university to offer advanced degrees in environmental justice.

DR. WARREN M. WASHINGTON
Climate Scientist
(1936-Present)
This renowned expert in meteorology was an early developer of atmospheric computer models that have helped explain climate change.



Dr. Warren M. Washington

DR. ROBERT BULLARD
Father of the Environmental Justice Movement
(1946-Present)
Esteemed author, activist and scholar at Texas Southern University, Bullard is an environmental justice pioneer who has written extensively about environmental racism and the intersection of race, pollution, economics and political power.

BARACK OBAMA
44th President of the United States
(1961-Present)
As president, Obama created two large marine reserves and the second largest desert reserve on the planet. In all, he placed more than 350 million acres of natural habitat under protection—far more than any other U.S. president—and added 22 new national parks.

LISA PEREZ JACKSON
Chemical Engineer & Environmentalist
(1962-Present)
The first African American to head the Environmental Protection Agency, Jackson pushed for stricter fuel efficiency standards and reductions in greenhouse gas emissions for the sake of human health and the planet.



Lisa Perez Jackson

HAZEL M. JOHNSON
Mother of the Environmental Justice Movement
(1935-2011)
In the 1970s, Johnson began to raise awareness about toxic pollutants impacting Chicago neighborhoods. In 1979, she founded the People for Community Recovery to fight environmental racism and was dubbed the mother of the environmental justice movement.

NAVYNEE BETSCH
"Beach Lady"
(1935-2009)
Great-granddaughter of A.L. Lewis, Navynee Betsch was an opera star who later became an activist known as "Beach Lady" for her tireless efforts to preserve the legacy and land of American Beach on Florida's Amelia Island.



Navynee Betsch

DR. JOHN FRANCIS
The "Planetwalker"
(1946-Present)
After seeing the devastation of a 1971 San Francisco Bay oil spill, Francis swore off motorized vehicles for 22 years and spent much of that time walking through North America to raise awareness about climate and human responsibility for the Earth. Nicknamed the "Planetwalker," he heads Planetwalk, a nonprofit education and advocacy group.



Dr. John Francis

"We are the environment, and how we treat each other is really how we treat the environment."

John Francis

CLOCKWISE FROM TOP LEFT: ART ROGERS/LEA SUZUKI (THE SAN FRANCISCO CHRONICLE VIA GETTY IMAGES); MAGNOLIA TREE EARTH CENTER OF BEDFORD STUYVESANT INC./LIBRARY OF CONGRESS, PRINTS AND PHOTOGRAPHS DIVISION, THE WILLIAM GLADSTONE COLLECTION OF AFRICAN AMERICAN PHOTOGRAPHS (OPEN-ACCESS NUMBER LC-DIG-PPMCSA-11406)

CLOCKWISE FROM TOP LEFT: COURTESY OF A.L. LEWIS MUSEUM AT AMERICAN BEACH; BRENDAN SMIALOWSKI/AFP VIA GETTY IMAGES; MARTIN SCHOELLER/AUGUST; JOSHUA YOSPYN; GARY CLARK/USA TODAY NETWORK

Photos clockwise from top left: John Francis (Art Rogers) (Lea Suzuki/The San Francisco Chronicle via Getty Images), Betty Reid Soskin (Lea Suzuki/The San Francisco Chronicle via Getty Images), Abraham Lincoln Lewis (Courtesy of A.L. Lewis Museum at American Beach), Barack Obama (Brendan Smialowski/AFP via Getty Images), Lisa Perez Jackson (Martin Schoeller/August), Dr. Warren M. Washington (Joshua Yospy), Navynee Betsch (Gary Clark/USA Today Network), Hattie Carthan (Magnolia Tree Earth Center of Bedford Stuyvesant Inc.), Buffalo Soldiers (Library of Congress, Prints and Photographs Division, The William Gladstone Collection of African American Photographs, reproduction number, LC-DIG-PPMCSA-11406).

Solomon G. Brown

Environmental

(1829-1906)

This self-educated environmentalist became the first African American employee of the [Smithsonian Institution](#).

[George Washington Carver](#)

“The Plant Doctor”

(1864-1943)

Born into slavery, Carver became a world-recognized scientist and conservationist, famous for his research on combating soil depletion and replacing cotton crops with legumes. He is regarded as one of America’s greatest agricultural researchers and educators.

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[Buffalo Soldiers](#)

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“Brooklyn Tree Lady”

(1900-1984)

Noting the lack of trees in her Brooklyn neighborhood, this environmental justice activist created a beautification committee that engaged youth in tree care and led to the planting of more than 1,500 trees throughout central Brooklyn.

[Betty Reid Soskin](#)

Park Service Legend

(1921-Present)

Soskin became a California National Park ranger in 2007, the oldest ranger in the system until retiring in 2022 at age 100.

[MaVynee Betsch](#)

“Beach Lady”

(1935-2005)

Great-granddaughter of A.L. Lewis, Mavynee Betsch was an opera star who later became an activist known as “Beach Lady” for her tireless efforts to preserve the legacy and land of American Beach on Florida’s Amelia Island.

[Hazel M. Johnson](#)

Mother of the Environmental Justice Movement

(1935-2011)

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[Barack Obama](#)

44th President of the United States

(1961-Present)

As president, Obama created two large marine reserves and the second largest desert reserve on the planet. In all, he placed more than 550 million acres of natural habitat under protection—far more than any other U.S. president—and added more than 25 sites to the park system.

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(1962-Present)

The first African American to [head](#) the [Environmental Protection Agency](#), Jackson pushed for stricter fuel-efficiency standards and reductions in greenhouse gas emissions for the sake of human health and the planet.

More from *National Wildlife* magazine and the National Wildlife Federation:

[Taking the Land to Heart »](#)

[A Well of Inspiration »](#)

[Blog: Farmers, Activists, & Public Officials: 5 Black Conservationists »](#)

Making My World

10-13 minutes

With a deep passion for the natural world, Black researchers, writers and environmental justice activists are changing the face of conservation

- Jacqueline L. Scott
- Conservation
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At home in the sea, marine scientist Carlee Jackson Bohannon records behaviors of nurse sharks in Caye Caulker, Belize. Bohannon is one of four Black women who founded [Minorities in Shark Sciences](#) to expand opportunities in the field. (Photo by [Carlee Jackson Bohannon](#))

FROM SEAFLOOR TO MOUNTAINTOP, Black conservationists are improving the health of the planet—and its people—in profound ways.

Yet this path to positive change has not been easy. “African Americans have a complicated relationship to the environment,” writes [Carolyn Finney](#) in her book “Black Faces, White Spaces,” which explores how being out in

nature often has not been safe for Black people. Even so, many Black Americans grew up with a love of nature instilled by their families and time spent fishing, hunting, camping or planting home gardens. With an abiding love of the land and the natural world, growing numbers of Black people are working to kindle that love in new generations.

In recent years, there has been an explosion in nature-based groups promoting events such as [Taking Nature Black](#) and using social media hashtags such as #BlackBirdersWeek, #BlackBotanistWeek and #BlackGirlsHike to network and celebrate members' achievements. Those achievements are groundbreaking, as the following four individuals illustrate.



Devoted to expanding the field of shark research, Jasmin Graham (above center and below right) teaches members of Minorities in Shark Sciences to study sharks in Florida waters.

Jasmin Graham: Swimming with sharks

Growing up fishing with her dad off the Atlantic coast of South Carolina, [Jasmin Graham](#) developed a deep connection to nature. “Fishing made me fall in love with the ocean and with bodies of water,” she says. “Some people go to church. I go to a body of water to refill.”

That reverence for nature led her to a Masters in biological science and a passion for studying sharks, where she was almost always the only Black person in the room or boat or lab. A random Twitter post in 2020 changed that. Graham met three other Black women with the same zeal for sharks. They quickly bonded and launched [Minorities in Shark Sciences \(MISS\)](#) to “build community among people of color, especially gender minorities of color, to share our experiences, collaborate and feel more connected,” says Graham.



Almost immediately there was tremendous interest and support. MISS raised more than \$30,000 in the first few weeks, became a nonprofit and opened to membership. More than 500 people joined from around the world. “It showed us we were not alone,” says Graham. “A lot of people wanted to enter marine science but had felt barred.” MISS offered its first shark-sciences workshop in 2021—free of charge to interested participants—and has been growing since.

With members in 36 countries, MISS now offers a range of programs focused on education, mentoring and promoting social justice, including its [K-12 Gill Guardians](#) curriculum for kids, summer camps, science fairs, a mentorship program, college fellowships, field trainings to teach shark science and an online program called [Diversifying Ocean Science](#).

“Our ultimate goal,” says Graham, “is to accommodate whatever they need to do. We never ask about grades, test scores, degrees—those don’t define what a person is or correlate to whether they’ll be a good scientist. All they need is for someone to give them a chance.”

Graham herself is a scientist on many fronts, specializing in studying and protecting sharks such as the endangered [smalltooth sawfish](#). A [fellow](#) at the prestigious [Safina Center](#) and part-time [project coordinator](#) with the [Mote Marine Laboratory and Aquarium](#) in Florida, she’s also president and CEO of MISS, dedicated to engaging people of color in marine science. “Because of segregation, we could not go to the beach or the swimming pool, so we have lots of issues around swimming,” she says. “We need a multigenerational approach to get parents and kids into the water. Once they are comfortable, then it’s easier to get them to see the magic.”



Journalist James Edward Mills visits the [Alaskan Arctic](#) to work on a film called “[Blackwaters](#),” due out in 2023.

James Edward Mills: Scaling new heights

“Part of my childhood was camping trips, fishing and ski weekends in public outdoor spaces,” says freelance journalist [James Edward Mills](#), who grew up in California. “It was only later that I realized it was unusual for a Black family.”

Founder of [The Joy Trip Project](#), which covers outdoor recreation through a social justice lens, Mills has spent his adult life ensuring that outdoor adventure is celebrated as a part of the Black experience. In 2013, he was a member of the first all-African American team to attempt to summit Denali in Alaska, North America’s highest peak. He then recorded the epic trek in his book “[The Adventure Gap: Changing the Face of the Outdoors](#).”

In 2022, Mills went to Nepal and, from base camp at Mount Everest, documented the first all-Black team to climb Earth's highest peak. Inspired by Martin Luther King Jr.'s last speech, "I've Been to the Mountaintop," seven members of the team, along with their Nepali sherpa guides, reached the pinnacle. "This was a monumental achievement," says Mills—and telling such stories, he adds, is vital for the future of conservation.

"People of color are profoundly underrepresented in outdoor recreation as a pastime or career," says Mills. "Yet they are rapidly becoming a majority in communities all over the planet. If we fail to tell their stories about connecting to nature, we could see a generation of people who decide they have no place or role to play in environmental conservation. These are the people who will ultimately be charged with protecting the natural world, so they need to see narratives that are inclusive."

Mills finds reason for hope. "I see so many more people of color in the outdoors on a regular basis, and so many more of their stories than I did 30 years ago when my career started. Through this emergence of storytelling, we're seeing more participation at higher levels. That's positive change."





Educator Jonathan C. Hall holds an endangered condor during field work to study human impacts on the birds.

Jonathan C. Hall: Speaking his truth

“Watching nature shows on PBS, it was possible to see nature in places that I didn’t know existed,” says [Jonathan C. Hall](#), a writer, ecologist, condor researcher and biology professor at [Eastern Michigan University](#). “Such shows opened my eyes to the bigger world.”

But the world he sees now is in trouble. “My work revolves around human-wildlife interactions,” he says, “and looking at ways to confront the settler-colonial-racist-capitalist roots of modern living”—all of which have had devastating impacts on wildlife and people. One example close to his heart is the [California condor](#) and its near extinction due to habitat loss and lead contamination. Hall takes students into the field to capture, study, release and track the birds in hopes of understanding how and why they’re drawn to human habitation.

An avid outdoorsman, Hall also writes about the importance of harvesting wild foods. “When wild food is directly responsible for your own nourishment,” he says, “it awakens your understanding of relationships between humans and ecology.” That relationship—and the health of the environment itself—depends on biodiversity. Yet

the “story of colonization,” says Hall, “is the story of homogenizing ecology” through monocropping and other detrimental practices. Likewise, ecology suffered when Indigenous Peoples were exiled from their own lands, unable to practice traditional land stewardship as they had for millennia. “It’s not an accident that when you get a very sharp and violent decrease in the diversity of ways of being in a place,” says Hall, “you start to get all sorts of ecological crises.”

Teaching these lessons to students is gratifying for Hall, yet he remains frustrated by the lack of diversity in conservation. “The outdoors is still overwhelmingly a white space physically and psychologically,” he says. “In nature, Black folks need freedom from the white gaze. It’s another emancipation.”



In her Virginia garden, activist and educator Ife Kilimanjaro promotes food sovereignty and environmental justice for all.

Ife Kilimanjaro: Seeking food sovereignty

“I am trying to think of a time when I was not in nature as a child,” says [Ife Kilimanjaro](#), who loved picking fruits from her grandparents’ garden in Michigan. Today, she shares that love of fresh-grown food as managing co-director of [Soul Fire Farm](#) near Albany, New York, which she calls an “Afro-Indigenous community farm committed to uprooting racism and seeding sovereignty in the food system.”

Recognizing that poor and racialized groups are most likely to be food insecure, the farm grows and distributes healthy food, holds workshops for urban youth and trains young Black and Brown farmers in regenerative agriculture. In addition, its [Soul Fire in the City](#) program teaches families how to build garden beds and plant and maintain seeds.

Though Soul Fire Farm owns 80 acres, it farms only about eight. “Our intent is to keep the human footprint small and ensure the remaining acreage is dedicated to the life that lives there,” says Kilimanjaro. The farm also collaborates with [Stockbridge–Munsee](#) Indigenous Peoples, the original stewards of the area, who teach about wild harvest and share traditional ecological knowledge that reflects their relationship with the land. “That’s another way we think about conservation,” says Kilimanjaro, “as cultural preservation, including Indigenous rights and access.”

“When I think of conservation, there is a dark side,” she says, “like John Muir denying Indigenous People access to their land.” On the joyful side, she cites her “developing relationship with plants and trees, feeling that they are relatives.” Ultimately, her hope is that “Black folks, like all folks, see ourselves in the right relationship with nature.”

[Jacqueline L. Scott](#) is a scholar, writer and outdoorswoman based in Toronto, Canada.

More from *National Wildlife* magazine and the National Wildlife Federation:

[Creating Safe Spaces »](#)

[Blog: A Celebration of Freedom, Gratitude »](#)

[Blog: Farmers, Activists, & Public Officials: 5 Black Conservationists »](#)



Skills Spectrum Activity

Directions

- I'm going to ask you to identify where you fall on a line based on two skills
- Choose anywhere along the line, there is no right or wrong answer
- It's all about YOU!
- Then I will give you a few Green STEM careers that would need those skills



**I like
heights &
climbing**

**I prefer
my feet
on the
ground**

Heights

Weatherization
Specialist

Outdoor Rec (ski
patrol, hiking guide)

Wind Energy Worker

Solar Cell Technician

Feet on the ground

Occupational Health and
Safety Specialists

Personal Financial
Advisors (green
investments)

College Professor
(science, environmental,
policy)



**I like math
and numbers**

**I like art, music,
& creativity**

Math & Numbers

Marketing and Sales
of solar or wind
equipment

GIS Specialist

Climate Scientist or
Researcher

Art & Creativity

Green Design
Professional

Environmental Writer

Sustainable artist

**I like working
with my hands**

**I like reading
and researching**

Working with hands

Solar Panel Electrician

**Energy Efficiency
Builder**

**Electric Vehicle
Technician**

Recycler

Reading/Researching

Climate Scientist

**Greenhouse Gas
Emissions Report
Verifier**

Conservation Biologist

**I like working
on my own**

**I like working
with others**

Work on my own

Organic Food

Grower Climate

Researcher Energy

Auditor

Work with others

Science or

Environmental Teacher

Park Naturalist

Respiratory Doctor

Urban Planner

**I like working
inside**

**I like working
outside**

Working inside

Climate Scientist

Battery Engineer

Climate Change
Policy Specialist or
Educator

Working outside

Natural Scientist

Solar or Wind Installer

Naturalist

Water Quality Technician

Wave Energy Producers

Sustainable Forester

**Turn and Talk to Your Neighbor:
What careers sound interesting
to you?**