VoLo FOUNDATION

CLIMATE | EDUCATION | HEALTH

2018
ANNUAL IMPACT REPORT

CLIMATE CHANGE IS NOT NEW AND IT IS NOT GOING AWAY. WE ARE COMMITTED TO TAKE ACTION.

In 2018, we supported 28 programs and funded 33 projects across five continents.

WE DEVELOP AND FUND PROJECTS THAT HAVE GLOBAL IMPACT TODAY AND FOR OUR FUTURE.

POSITIVE CHANGE IN THE WORLD THROUGH DATA-DRIVEN RESEARCH

Our Mission: To accelerate change and global impact by supporting science-based climate solutions, enhancing education, and improving health.

Our Guiding Principles: We believe that developing and sharing knowledge through facts and data accelerates positive global change. Through original research and analysis and in collaboration with philanthropic and academic partners, we aim to enrich the lives of individuals, strengthen communities, and educate future generations. We track our progress using a variety of qualitative and quantitative approaches and we support programs that generate measurable, meaningful, and sustainable results.

Our History: Our Founders, David S. Vogel and Thais Lopez Vogel, have maintained a personal philanthropic portfolio for many years largely comprised of public health and education programs. As they became more informed and noticed evident changes in the environment and climate, they set out to answer the hard climate change questions by funding projects aimed at solving this major issue. In 2014 David and Thais formed VoLo Foundation. David, an MIT graduate and Thais, a Venezuelan-born attorney, are the visionaries and heartbeat of VoLo. Together, they built our team, gathering some of the smartest brains and putting these top scientific minds to work.

Facts about VoLo

93

Projects Supported

2014

Founded

92%

Budget goes to Programs

70%

Climate Science

30%

Education, Health, and Social Support

"The future of our children is at stake, so I will continue fighting to find solutions. This is not just about saving the planet; this is about saving humanity."

- Thais Lopez Vogel

"This was the second record-breaking hurricane season in two years. No longer can we call these natural disasters as the fossil fuel emissions of 38 billions tons of CO2 per year systematically warms the waters, which fuels the hurricanes. These are man-made storms."

- David S. Vogel

LETTER FROM OUR FOUNDERS

During 2017 we clarified our mission and sharpened our focus. This proved to be an excellent launchpad for 2018, our most expansive year yet. This year we became established as an expert and prominent voice on climate change. We were called upon by people like Michael Bloomberg, CEO of Bloomberg L.P. and Greg Hamra, Sustainability Advisor of Miami, as well as media platforms like Men's Journal, Bloomberg, Telemundo, WPTV, and News Channel 13 to offer quotes and to be interviewed. We were also featured in Environmental Defense Fund's Annual Report in recognition of the newly established VoLo Data Science Fellow. Our biggest highlight was the First Annual Climate Correction, a well-attended conference that we hosted, in partnership with the University of Central Florida, from vision to final execution.

We remain data-driven and fact-based. Furthermore, through our work, we learned that to research the science behind climate change is not enough. Groups and individuals that are paving the way for future policy and large-scale societal reform will make a dramatic impact over the next 100 years. We have also learned that not all policy reform plans are created equal. It is tough work to thoroughly analyze the viability of climate change, education, and health initiatives, and to also foresee their future value. We remain excited about the challenge and are committed to identifying the most feasible projects and giving them life. We feel this year our portfolio of programs encompasses a balance of unique projects and on the following pages we share those with you.

We are deeply grateful to you, our supporters, our programs, our advisors, and most importantly to our fantastic team, VoLo's success belongs to you all. Thank you!

Sincerely,

David and Thais

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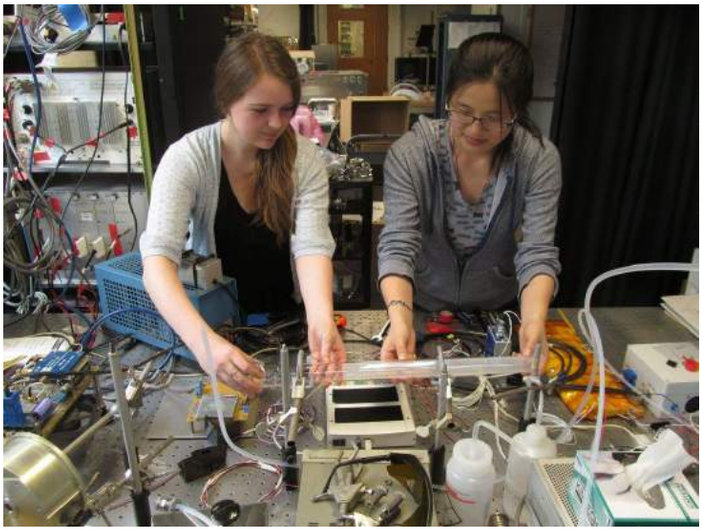
We are grateful for our partnerships with these programs:



Harvard Solar Geoengineering Research

Waimanalo Canoe Club

Project Alianza

CLEO Institute Climate Trainings

Camp Boggy Creek

Ohio State Ice Core Paleoclimate Research

DESCRIPTION OF OUR PROGRAMS

Organization	Gift Received	Purpose of Gift	Fund Program	Geographic Area Served
Amplio (formerly known as Literacy Bridge)	4/2/18	General fund to support the expansion of the Talking Book Program. Providing families in hard to reach communities with lessons ranging from agriculture to health among others.	Education and Sustainability	Global
Environmental Defense Fund, Inc.	5/22/18	To hire and maintain a new scientist, the VoLo Data Science Fellow, to expand their work on monitoring and reducing emissions.	Climate Change Solutions	Global
Everglades Foundation	3/1/18	General fund to restore and protect the Everglades through science, advocacy, and education.	Climate Change Solutions	Florida
JUSTCapital	9/15/18	To support the second phase of research for the JUST Environmental Explorer.	Climate Change Solutions	National
Massachusetts Institute of Technology	3/21/2018 4/20/2018 8/28/2018	•To assist in the next phase of Professor Steven Barrett's project, Air Quality Impacts Analysis, on ozone-related health impacts, and the re-analysis of the 2011 health impacts from emissions, at the Laboratory for Aviation and the Environment. •To support Dr. Susan Solomon's work on HFC, CFC, and HCFC Banks as it relates to the Montreal Protocol. •To support Professor Alexander Slocum's Precision Engineering Research Group, and promote further research sharing and project development.	Climate Change Solutions	Global
Natural Resources Defense Council	4/20/18	To support the activities in the Montreal Protocol process, within India and the United States, that are focused on HFC mitigation.	Climate Change Solutions	Global
Ohio State University	4/18/18	To continue to expand the world's historical climate change data through Ice Core Paleoclimate Research, by supporting the next Quelccaya Ice Cap expedition in the Andes of Peru.	Climate Change Solutions	Global
The CLEO Institute	4/20/18	To begin activities in the City of Orlando for the Florida Climate Pledge initiative.	Climate Change Solutions	Florida
The Nature Conservancy- Florida Chapter	5/22/18	To support the environmental education program, Leadership in Environmental Action for the Future (LEAF).	Climate Change Solutions	National
The Presidents and Fellows of Harvard College	4/18/18	To support the Solar Geo-engineering Research Program under the direction of Dr. David Keith.	Climate Change Solutions	Global
University of Central Florida Foundation, Inc.	4/23/18	To generate the inaugural Climate Correction conference focused on sharing solutions to reduce carbon dioxide emissions, as well as build economic resilience in the current changing environment.	Climate Change Solutions	Florida
World Wildlife Fund, Inc.	4/18/18	To continue to support the Heritage Colombia Rainforest Project (HeCo), protecting a vital portion of the Amazon Rainforest.	Climate Change Solutions	Global

Organization	Gift Received	Purpose of Gift	Fund Program	Geographic Area Served
AMAR- U.S.	3/10/18	General Fund to assist the organization's ongoing efforts to provide support to Internally Displaced Persons (IDPs) in Iraq, through mobile education and health clinics, as well as community development.	Health, Social Support, and Disaster Relief	Global
American National Red Cross	3/10/18	To support relief efforts for those affected by natural disasters with the funding of a new Emergency Relief Vehicle (ERV).	Health, Social Support, and Disaster Relief	Global
Camp Boggy Creek	2/15/18	General Fund to support children with serious illnesses, as well as their families, by offering a free, safe, and medically sound camp environment, year-round.	Education and Sustainability	Florida
Coalition for the Homeless of Central and Northern FL	2/15/18	General Fund to support operations as the organization continues to combat poverty and homelessness.	Health, Social Support, and Disaster Relief	Florida
Furry Friends Adoption, Clinic & Ranch	1/20/18	General Fund to support operations as the organization continues to care for neglected and ill animals.	Health, Social Support, and Disaster Relief	Florida
Lelt Foundation, Inc.	2/5/18	To build the first fully energy- efficient computer lab for children at the Ethiopian-based Center.	Education and Sustainability	Global
Loyola University, LAB	2/5/18	To support the cancer research initiatives at the Guevara-Patino Research Laboratory.	Health, Social Support, and Disaster Relief	National
Make-A-Wish Foundation, Central and Northern FL	5/23/18	General Fund to support the mission of the organization by assisting in the wish-making process for kids with critical illnesses, and their families.	Health, Social Support, and Disaster Relief	Florida
Project Alianza	4/18/18	To assist the continuation and expansion of the Community Allies Program (CAP), which enhances learning through literacy, e-learning, health, and environmental education.	Education and Sustainability	Global
Punahou School	2/15/18	To support the School's Math Achiever's Endowment Fund.	Education and Sustainability	National
Robin Hood Foundation	5/22/18	To continue to support the Fund for Early Learning (FUEL) initiative, which aids in parents and guardians growing and interacting with their young children.	Health, Social Support, and Disaster Relief	National
St. Jude Children's Research Hospital	2/5/18	To support the hospital's Proton Therapy Research for children with critical illnesses.	Health, Social Support, and Disaster Relief	National
The Benjamin Private School	3/21/18	General Fund to support the School's ongoing efforts to provide the highest quality education, through increased program offerings and low-tuition for Palm Beach students.	Education and Sustainability	Florida
The Lord's Place, Inc.	2/5/18	General Fund to support operations as the organization continues to combat poverty and homelessness in Palm Beach.	Health, Social Support, and Disaster Relief	Florida
The Presidents and Fellows of Harvard College	4/18/18	To support Dr. Walter Willett's nutritional research on cognitive decline. This work investigates how the human diet impacts brain function over time.	Health, Social Support, and Disaster Relief	National
ThinkTech Hawaii, Inc.	8/22/18	General Fund to raise awareness and provide a platform for civic engagement on issues relating to technology, energy, environment, diversification, and globalism.	Education and Sustainability	National
University of California, Irvine	8/28/18	To support the Inclusion Body Myopathy Fund at the Kimonis Laboratory.	Health, Social Support, and Disaster Relief	Global
Waimanalo Canoe Club, Inc.	3/5/2018 8/28/2018	To support and encourage educational exercises for students as they participate, learn, and share with the local community the importance of Hawaiian culture and teambuilding.	Education and Sustainability	National
Water People Theater	9/15/18	To encourage audiences to embrace a set of values consistent with social justice, through the use of performance art.	Education and Sustainability	National

2018 EVENTS WE ATTENDED

Florida Philanthropic Network Summit
Miami, FL
January 24

Environmental Defense Fund Science Day & Board Meeting
San Francisco, CA
January 30

Bloomberg's TFCFD
New York, NY
May 1

Robin Hood Benefit
New York, NY
May 14

Red Cross Weagle Ride
Jupiter, FL
June 6

ThinkTECH Hawaii Interview
Honolulu, HI
June 12

Amplio Benefit
Seattle, WA
July 5

The Nature Conservancy, LEAF Visit
Jupiter, FL
July 12

Everglades Teachers Symposium
Miami, FL
July 17

NYC Climate Week
New York, NY
September 24-28

World Wildlife Fund Annual Benefit
Washington, D.C.
October 16

Southeastern Climate Compact
Miami, FL
October 24-25

VoLo In the Community!

In partnership with

The Town of Jupiter and Art Teacher Brenda Nicholas

VoLo Foundation collaborated with the Town of Jupiter's Art & Nature Camp to inspire youth to think about the environment and the effects of global warming. Their inspiration turned into unique art and we are proud to share their artistic vision. Thank you to all of the participants and to our collaborators.

Climate Change Affects Many Aspects of Life

Here are some of the things we can expect as we approach 2˚ Celsius over Pre-Industrial levels, and how we can adapt.

What We Can Expect

Extreme Heat Events

Damage to Personal and Real Property

Heat-Related Deaths

Poor Air Quality

Flooding

Power Failure

Intense Rainfall

High Wind & Storms

How We Can Adapt

Policy and lifestyle changes to reduce greenhouse gas emissions

Low Impact Development to manage storm water

Develop Early Warning Systems and Disaster Planning

Improved Building Codes

VoLo in the Press

Docu-Short: Rising Cost of Climate Change

During 2018 we produced our first short documentary showcasing the data, numbers, and facts behind climate change. David takes a good hard look at what global warming means for the economy and specifically quantifies the future costs of natural disasters. He also outlines a strategy to deal with it. The full length production runs 17 minutes and we also present a shortened version, with only the most compelling data, that runs 6 minutes.

Climate Risk Ranking Report

At the end of 2017 we shared preliminary research that led us to publish a breakthrough report. With the cost of climate change on the rise, it is important for investors to consider the long-term effects on their investments. We are especially interested in explaining the long-term risk and responsibility of continued investing in the oil and gas sectors. On May 1, 2018, our Advisor Andrew Stevenson was invited to be a featured speaker at Bloomberg's Task Force on Climate-Related Financial Disclosures' (TFCD) U.S. Scenario Analysis Conference.

Interview on National Public Radio (NPR)

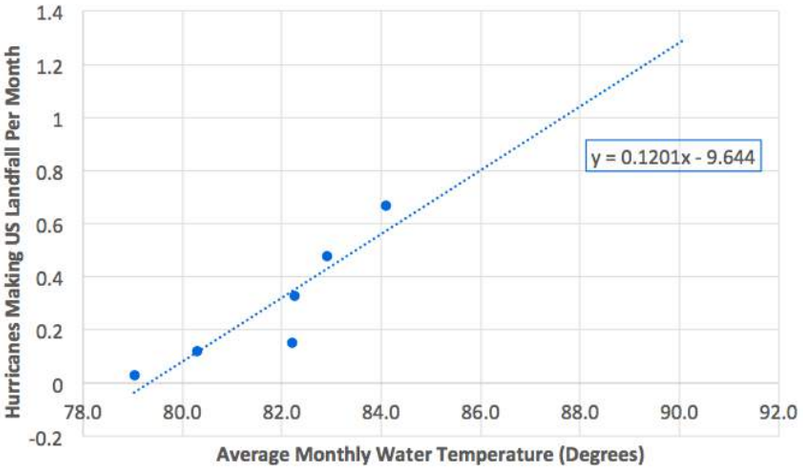
This year our Co-Founder, Thais Lopez Vogel, gave a brilliant interview with Dr. Ken Grey. She presented data and research that dispelled doubt and guided listeners to global warming solutions. The full interview can be found on our website http://www.volofoundation.org/news.

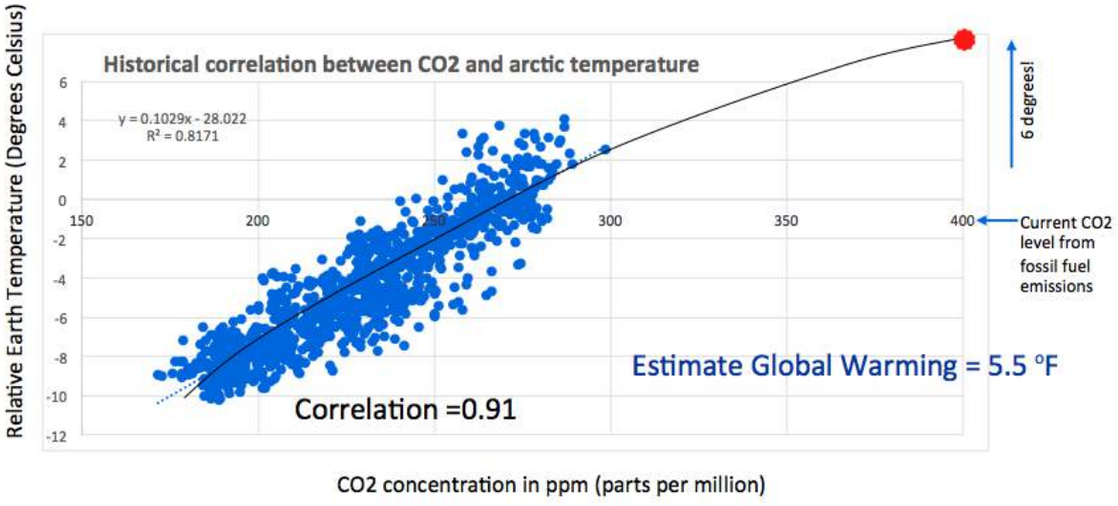
InDepth on Climate Change with Spectrum News 13

In October, ahead of the Climate Correction Conference, our Program Director Abigail Axelrod was featured on Spectrum News. Coincidentally, the segment aired pre-recorded rather than live because Hurricane Michael, a major Category 4 storm, made landfall at the same time.

Visit our YouTube channel

DATA SCIENTIST CORNER





300 Billion tons of CO2

= 1.5 Degrees F of global warming

= 1 additional hurricane per year,

Increased hurricane intensity and life span,

Increased flooding

While many politicians say they do not want to handicap the economy by cutting CO2 emissions, the data shows that cutting carbon is the best way to help our economy by avoiding these catastrophic costs.

"It's just Economics 101—when it costs nothing to pollute, you get a lot of pollution. But when there's a price to pay, industry will have a bottom line incentive to find low-carbon solutions." ***- Fred Krupp, President Environmental Defense Fund*** **- EDF Solutions "Blueprint for Climate Stability" Vol 46, No 1**

TAKE ACTION ON CLIMATE

RESEARCH +

["The expansion of Colombia's Serrania de Chiribiquete National Park to a total of 4.3 Million hectares] is a defining moment for the protection of key ecosystems in Colombia. This is also a very important milestone for the Amazon and for forest conservation globally. The expansion and recognition of this unique place as a World Heritage site is a significant step toward safeguarding it for future generations." - ***Mary Lou Higgins, Director of World Wildlife Foundation - Colombia*** **- Source: https://tinyurl.com/ydb8zzon**

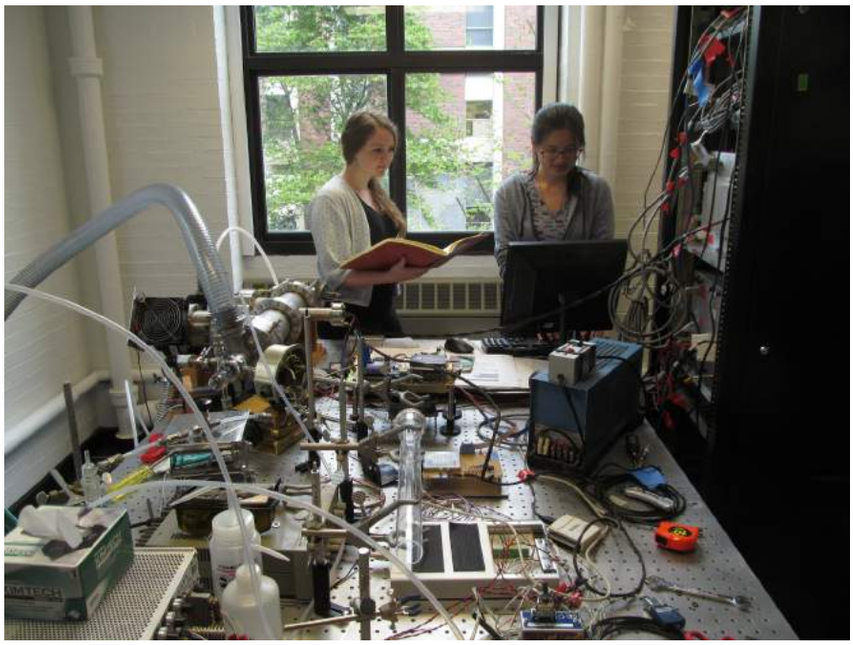
FACT

With the recent expansion, Serrania de Chiribiquete became the world's largest protected tropical rainforest national park, and earned a spot on the UNESCO World Heritage list in recognition of its "outstanding universal value" for nature and people.

Our research partners in 2018 aimed to sequester carbon, mitigate global warming, and develop valuable research projects that will combat climate change on a worldwide scale.

Scan the QR codes to watch select videos from our partners.

"Chloroflourocarbons (CFCs) are the cause of the Antarctic ozone hole. The Montreal Protocol has achieved remarkable success worldwide, and the ozone layer is beginning its slow repair" ***- Susan Solomon, Award Winning Professor of Environmental Studies at MIT -*** **Source: "Ozone Depletion at the Ends of the Earth: A Science and Policy Success Story", A Lecture at University of Colorado**



David Keith, Faculty Director, lead at **Harvard's Solar Geoengineering Program**, and Gernot Wagner, Executive Director, work to produce research that advances solar geoengineering's science and technology frontier, publishing high-impact papers, and disseminating ideas taken up by other researchers and government research programs.

The Nature Conservancy (TNC) started Leaders in Environmental Action for the future (LEAF) 20 years ago, and the program has expanded into 30 states. Students from participating high schools apply for the one-month Summer immersion experience to work and learn about nature. With one team mentor and 4 to 6 student interns, LEAF groups live and learn together on-site with limited access to phones and no Internet or TV. Students shared how much they appreciate the quality time with their peers and learning about the environment. LEAF is in its seventh year in Florida.

Our partnership with TNC's LEAF program in Florida helps keep this project ongoing.

Donation impacts include:

- Sustainable materials
- Rain barrels/Silos
- Additional sites
- Tools
- Fire safety supplies
- Prescribed burn materials
- Air quality instruments

Massachusetts Institute of Technology (MIT) and **Natural Resources Defense Council** (NRDC)

Chlorofluorocarbons (CFCs), Hydrofluorocarbons (HFCs), and Hydrochlorofluorocarbons (HCFCs) are small compounds that have been shown to severely deplete the ozone in the upper atmosphere. Under the Montreal Protocol, CFCs have been phased out of manufacturing. However, HFCs have replaced them and are not much better. These micro-carbons are most often found in air-conditioning, refrigeration, blowing agents in foams, insulations and packing materials, propellants in aerosol cans, and as solvents. Until we move to a more natural and sustainable method of cooling and propelling, greenhouse gases like methane, ethane, and propane will still be released into the atmosphere.

Our partners at MIT and NRDC are conducting fundamental research that tracks the continued usage of these compounds, the related deaths due to compromised air quality, and the improvement or degradation of the upper atmosphere. They also outline phase-down plans for countries like China, India, and the United States to reduce reliance on the products that release these greenhouse gases into the atmosphere.

Our support of MIT has grown to enable Susan Solomon's leading research in 2018. Her studies focus on the irreversibility of global warming linked to anthropogenic carbon dioxide emissions and on the influence of the ozone hole on the climate of the southern hemisphere. We also continued support of David Doniger's team at NRDC with the Climate & Clean Energy program to promote the activities in the Montreal Protocol process.

Table 3
Total impacts of excess on-road NO_x emissions in Europe attributed to each manufacturer. Mean values are presented, with 95% confidence intervals in parenthesis.

	Total number of attributable premature mortalities	Health costs, based on VSL (billion EUR)	Premature mortalities per 10 billion VKT	Premature mortalities per million cars	Premature mortalities per Gg (or kt) excess NO_x
BMW	60 (−1.8; 160)	0.2 (−0.00645; 0.56)	4.6 (−0.14; 12)	13 (−0.4; 35)	3.8 (0.54; 8.4)
Daimler	220 (7.4; 630)	0.77 (0.026; 2.2)	21 (0.69; 59)	49 (1.6; 140)	4.4 (0.8; 8.5)
Fiat	190 (19; 540)	0.66 (0.063; 1.9)	24 (2.3; 68)	25 (2.5; 71)	4.2 (0.87; 8.5)
Ford	160 (21; 380)	0.54 (0.07; 1.3)	12 (1.5; 28)	20 (2.6; 47)	3.7 (0.56; 7.3)
GM	430 (73; 980)	1.5 (0.24; 3.4)	36 (6; 81)	52 (8.9; 120)	4 (0.77; 7.8)
Hyundai	87 (18; 180)	0.3 (0.06; 0.61)	27 (5.7; 55)	41 (8.7; 83)	4.1 (0.85; 7.9)
PSA	240 (57; 540)	0.84 (0.19; 1.9)	9.6 (2.3; 21)	18 (4.2; 40)	4.3 (1.5; 8.1)
Renault	620 (130; 1500)	2.1 (0.46; 5.1)	33 (7.2; 78)	58 (13; 140)	4.6 (1.8; 8.6)
Toyota	79 (12; 190)	0.27 (0.041; 0.67)	15 (2.3; 37)	20 (3; 48)	4.1 (1; 7.9)
VW	590 (16; 1700)	2 (0.052; 5.8)	15 (0.4; 42)	32 (0.85; 89)	4.4 (0.98; 8.5)
Total	2700[a] (660; 5500)	9.2[a] (2.2; 19)	18[b] (4.4; 36)	33[b] (8; 67)	4[b] (1.1; 8)

[a] Sum of the above quantities.
[b] Average of the above quantities, weighted by manufacturers' shares of VKT, number of vehicles, and excess NO_x, respectively.

The above chart depicts how diesel cars accounted for 41.3% of the total passenger car fleet in Europe in 2015. While harmonized emission limits are implemented at the EU level, on-road emissions of diesel cars have been found to be up to 16 times higher than those measured in test stands. These excess emissions have been estimated to result in increased premature mortalities per millions (PM) and ozone exposure causing approximately 5,000 premature mortalities per year in Europe. The chart breaks down impacts by manufacturer.

Environmental Defense Fund (EDF) is one of the most versatile environmental organizations we support. In the past we helped fund EDF's efforts in securing strong greenhouse gas emission rules domestically, as well as developing standards for transparency and accountability in the oil and gas sectors. In 2018 we expanded our partnership to include the hiring and employment of EDF's VoLo Data Science Fellow to oversee the organization's latest air quality initiative. EDF maintains an ongoing effort to gather high-resolution spatiotemporal air pollution data. They developed methodologies to analyze the data and the Fellowship will derive meaningful insights by identifying persistent spatial air pollution trends. This Fellowship is also embarking on an effort to automate and scale data analytics in the air quality domain.

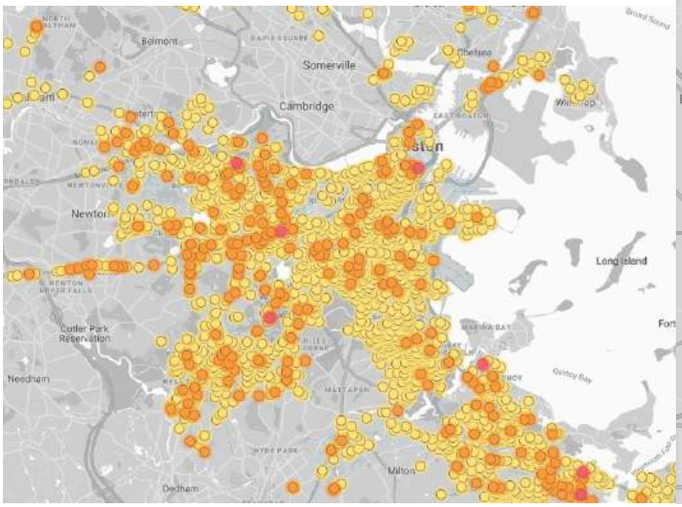


Fig. 1

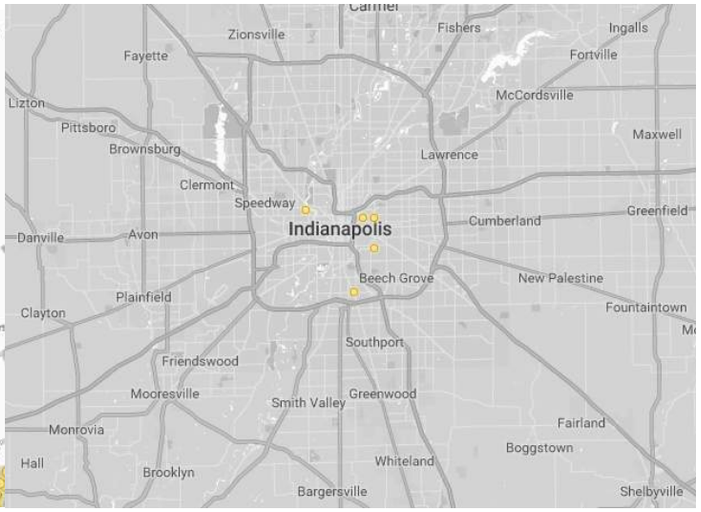


Fig. 2

Natural gases, like methane, are frequently emitted into the atmosphere through infrastructure leaks. EDF has partnered with Google Earth to monitor such leaks under streets and sidewalks. These leaks pose a great threat to the environment.

Fig. 1

Boston

Older pipes

More leaks

Fig. 2

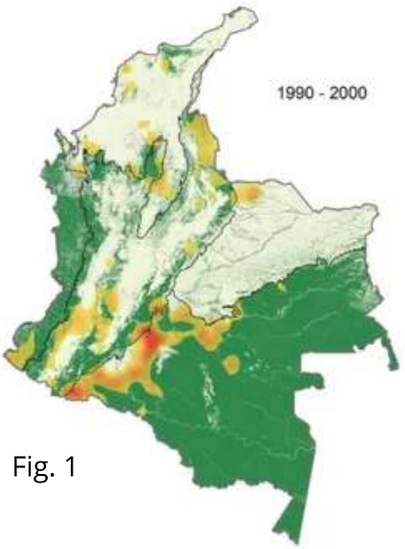
Indianapolis

Newer pipes

Fewer leaks

World Wildlife Fund works in partnership with the Colombian government to protect and monitor 49.5 million acres of natural forest. Our support helped this project collect the data to build a scientific case for forest conservation as a viable approach to large-scale climate change mitigation.

In the protected forest, 231,055,637.9 FEWER tons of carbon were emitted, due in part to fewer industrialized factories and to a greater number of carbon-consuming trees.



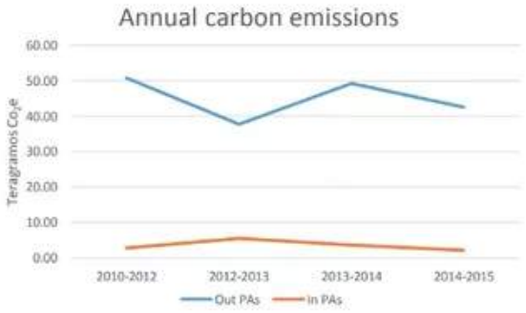


Fig. 1

Between 2010 and 2015 in Colombia:
deforestation emitted **248'001,731.9** Ton Co_2e
while in protected areas only **16'946,094** Ton Co_2e

The above chart depicts the research, which determined that forests in the project area (165,000 square kilometers currently being monitored) store 1.5 billion metric tons of carbon in their vegetation or roughly a sixth of the carbon dioxide emitted from fossil fuels in 2010. The results indicate the region is an important area for carbon storage, thereby keeping 1.5 billion metric tons of carbon out of the atmosphere.

EMPOWERING

Communities with Sustainable Solutions

In partnership with **Lelt, Inc.,** we established a clean energy powered computer lab with 24 computers, internet access, an MIT-Graduate IT instructor, security, and technology education to disadvantaged youth in Ethiopia.

Amplio provides families with smart-tech talking books programmed with lessons ranging from agriculture to health. Recipient families gain knowledge on how to grow more food for their communities, while also learning how to keep their families safe from disease. Amplio is also able to track user data and analytics. The Talking Book program has reached over 400,000 people in Africa and will reach 500,000 by the end of 2018.

Project Alianza helped impoverished communities in Nicaragua build two primary schools equipped with a dining room, library, and two flushing toilets. The school building projects used all local materials and labor and serve both local and migrant students. In 2018 we signed on to support their Community Allies Program (CAP), which furthers their environmental education among the students they serve.

The CLEO Institute is dedicated to climate change education, engagement, and advocacy. We support the work of Founder, Caroline Lewis, who was recently featured in TIME Magazine as one of *Top 30 People Who Are Changing The South*.

She organized headquarters in Miami, Florida and started to work with frontline communities and their leaders to build climate literacy. CLEO highlights the urgency of climate action and impact policy while championing solutions for a resilient future.

Our partnership with **Punahou School** has seen the establishment of Punahou's first net-zero facilities on campus. After completion, The Sidney and Minnie Kosasa Grades 2-5 Community will be nine buildings constructed with ecologically- sourced materials and local labor in conjunction with green design. The mission of the new community is to achieve net-zero energy consumption and provide an environment that intentionally teaches its youngest learners how to care for the planet.

CUTTING EDGE

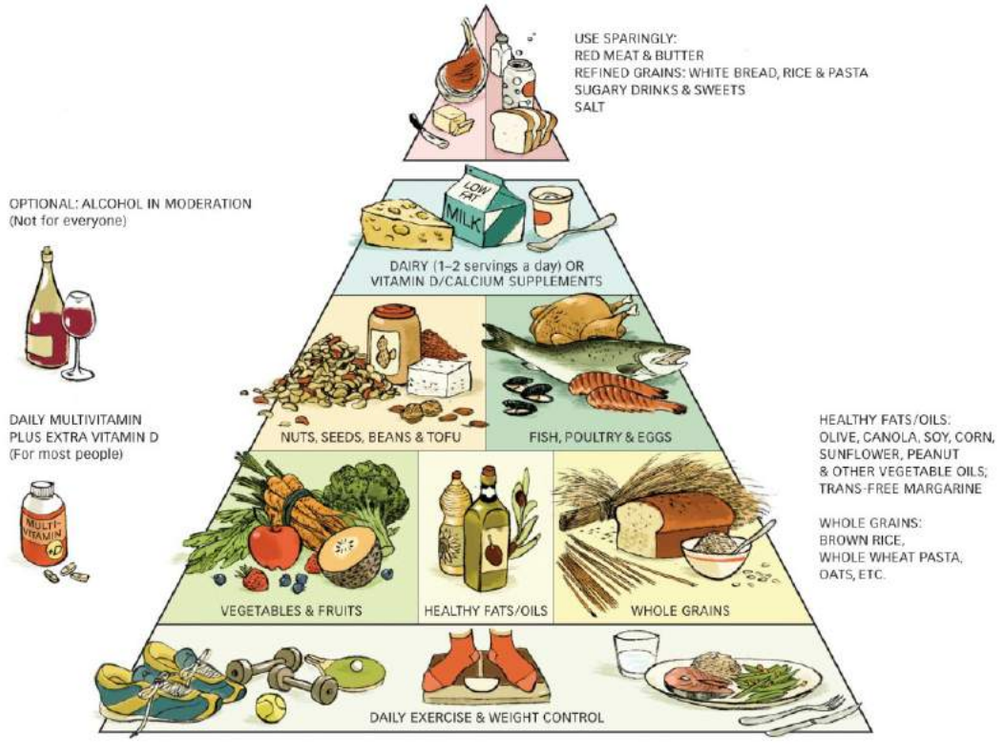
HEALTH & WELLNESS

From nutritional and cancer research to homelessness and domestic war aid, we put a portion of our funds into the future of human health.

A less obvious effect of climate change is human health and wellness. As global temperatures increase, weather patterns become more erratic. This leads to agriculture and infrastructure flooding, drought and insect infestation, which causes food and water shortages. Other impacts are antibiotic-resistant viruses, as well as contagious illness. Some of the most affected regions are developing world countries with a severe lack of resources. We offer aid to economically distressed communities while expanding health research at VoLo. We maintain progress with public-private partnerships, working with charities, as well as start-ups to help as many people as possible.

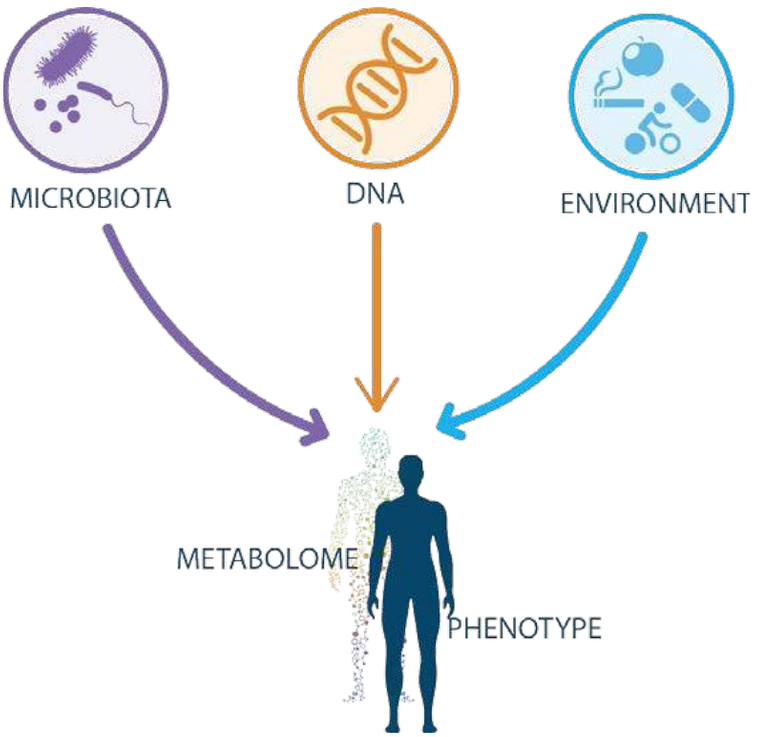
THE HEALTHY EATING PYRAMID

Department of Nutrition, Harvard School of Public Health



Partners include:

Harvard Health Nutrition
American Red Cross
AMAR-US
Loyola University
University of California Irvine
Robin Hood Foundation
Coalition for the Homeless
The Lord's Place
St. Jude's Children's Hospital



VoLo's Internal Research

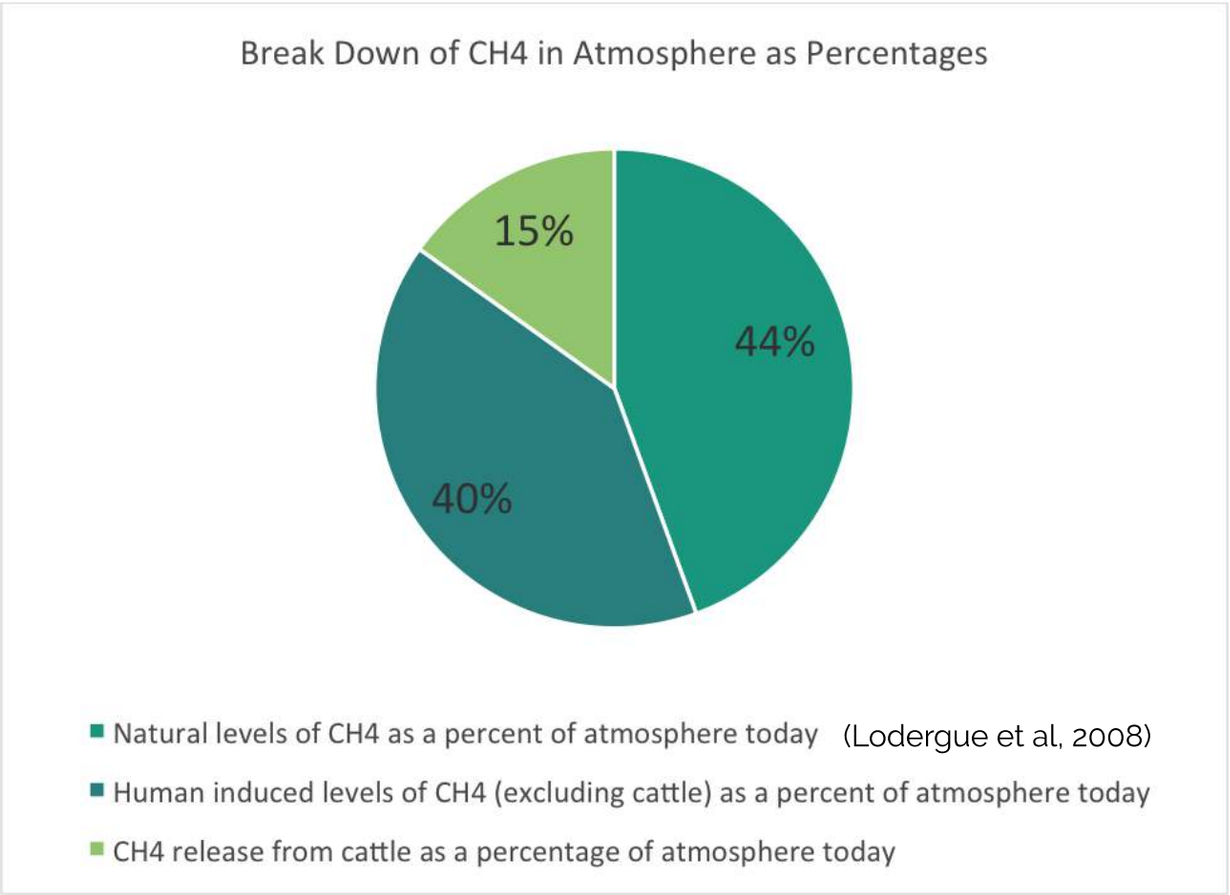
Breakdown of Methane (CH4) Released into the Atmosphere from Cattle

The world's cattle market leads to the production of around 1.2 billion head of cattle each year. The United States (US) produces about 93 million of those heads of cattle [USDA., 2018]. One dairy cow emits around 100kg of methane (CH4) per year, and all other cattle emit about 55 kg of CH4 per year, per head [Dong et al., 2008]. Although CH4 is only a fraction of total greenhouse gases emitted into the atmosphere CH4 is said to have an energy absorbing potential of 28-36 times that of CO2 [USDA., February 14, 2017].

Reducing our consumption of beef and dairy products is a simple solution to reducing our greenhouse gas footprint. After all, making the switch from beef to another protein source is not only healthier but also more readily adaptable than fossil fuel phase-out.

The chart below shows the percentage of CH4 from cattle, other human-induced releases, and natural levels.

* Data calculated used CH4 emission factors from cattle published by the Intergovernmental Panel on Climate Change (IPCC), and the world cattle population released by the USDA.



Enterprises that Make a Difference

Enterprises like these aim to achieve social and environmental objectives. Here are some of our favorites.

Gridcure: Provides modular smart grid SaaS solutions that empower utilities to optimize their operations and customer service. They offer simple solutions to help utilities make sense of their data and implement data-driven change.

Kunoa: A cattle company in Hawaii producing beef by using local forages, holistic planned grazing techniques, and renewable energy. Their cows feed on invasive species and Kunoa uses rotational feeding to help counteract livestock-produced methane.

Khethworks: The development of a solar-powered irrigation system that enables farmers in rural India sustainably grow their crops and economy through all three seasons. India has more than 30 million small plot farmers and is also one of the largest carbon emitters in the world.

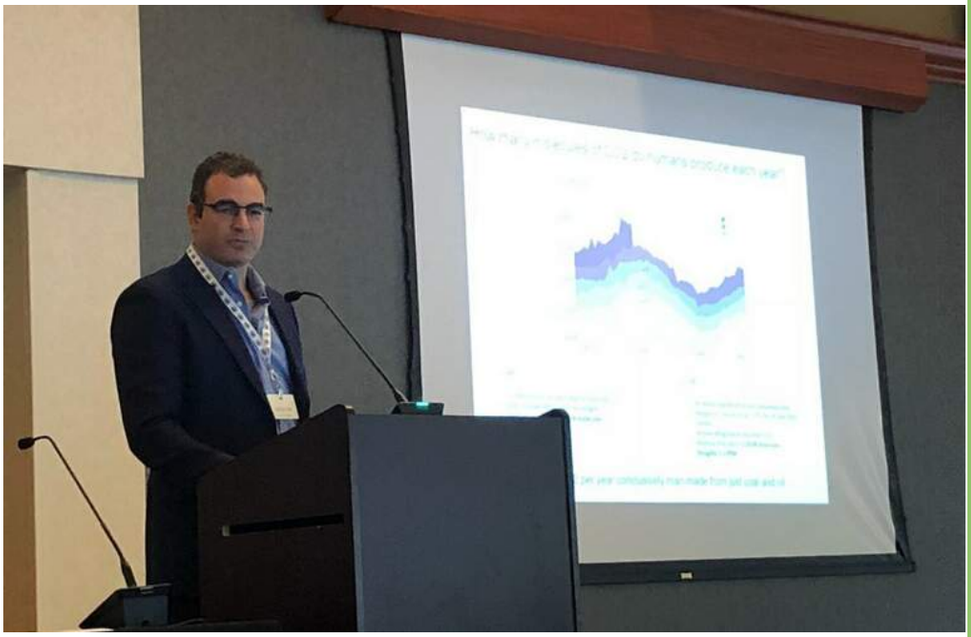
Breast Microseed: Advanced technology treats cancer from the source using low dose direct radiation, rather than whole-body radiation. Overdose on radiation often causes additional illnesses in cancer patients and can lead to long-term damage throughout the body. The science behind this new technique shows promising results.

"This is not about us. This is about ensuring the students of today and their children and grandchildren have a safe and sustainable world to live in." **- President Dale Whittaker, University of Central Florida**

"Based on the mathematics that I have worked out, the carbon that is in the atmosphere now will lead to 5-6 degrees F of warming." **- David S. Vogel, CEO/Chief Scientist, Voloridge Investment Management**

"Heavy rainfall and more flooding is an effect of climate change. Every degree of warming equals about 6-7% more water vapor." **- Katharine Hayhoe, CEO, Atmos Research and Consulting**

"When asked how much does climate change cost: "The taxpayer paid about $133B for natural disasters in 2017 and forgave FEMA $16B." **-Andrew Stevenson, Advisor, VoLo Foundation**



"Only five of the Top 20 Drawdown solutions relate to energy. The majority, eight of twenty, relate to agriculture. The decisions we make about what we consume is the single most effective factor each person can contribute." **- Chad Frischmann, Vice President and Research Director, Project Drawdown**

THE 1ST ANNUAL CLIMATE CORRECTION 2018 KICKED OFF OCTOBER 11 IN ORLANDO, FL

Climate Correction aims to educate and arm the public, with data about climate change, and to empower each to take strides towards a more renewable, sustainable future.

SAVE THE DATE FOR CLIMATE CORRECTION 2019 OCTOBER 3

MEET OUR TEAM

David S. Vogel
Co-Founder and Trustee

Thais Lopez Vogel
Co-Founder and Trustee

Abigail Axelrod
Program Director

Shannon Maganiezin
Communications Director

Christopher Schnyer
Advisor

Andrew Stevenson
Advisor

Nathaniel Yee
Research Fellow

Robert Harding
Consultant

ACKNOWLEDGEMENTS

The VoLo team would like to thank our programs, partners, and community advisors. Without all of your hard work VoLo Foundation would not be in the position to help facilitate a more sustainable environment and a more livable future. The efforts and accomplishments described in this report are evidence of what we can accomplish if we continue to join forces in research, problem-solving and taking action. The VoLo team is honored to stand with each of you in your challenges and successes and to support your unwavering commitment to improving your communities. Furthermore, we extend our deepest gratitude to all of our partners that helped us create this Annual Impact Report.

We look forward to continuing this journey with all of you and for our planet.

Sincerely Yours,

The VoLo Team

To learn more about an organization's programming areas, please visit its individual website. Visit us at http://www.volofoundation.org and follow us on social media.

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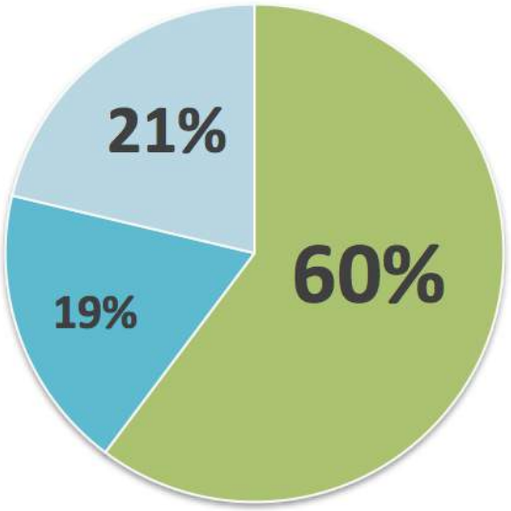
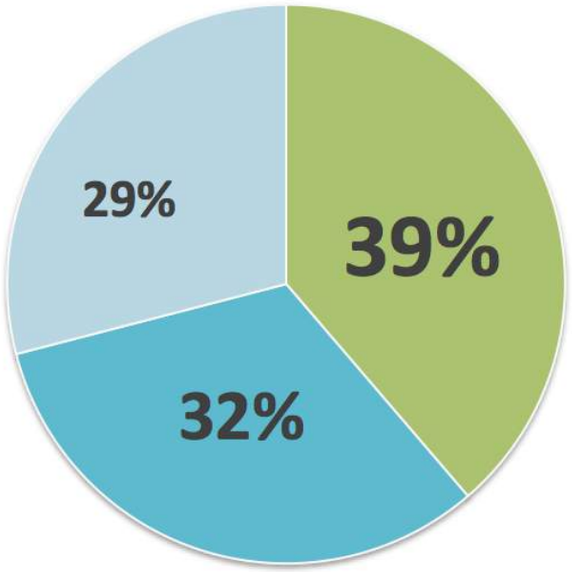
Our Finances



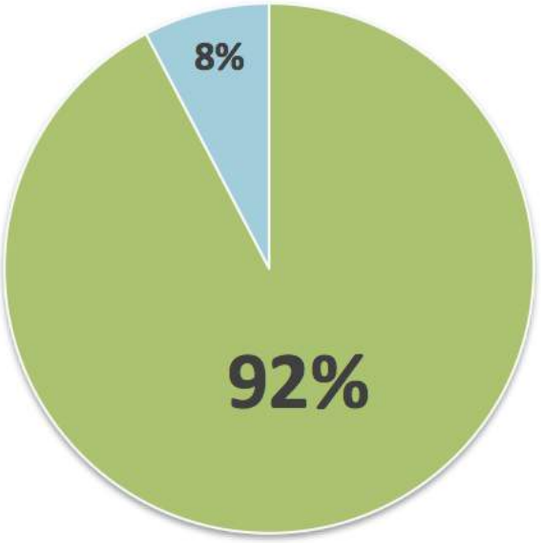
Nature of Our Programs

- Climate Change Solutions
- Education and Sustainability
- Health, Social Support, and Disaster Relief



Where We Impact

- Global
- National
- Florida



How We Use Our Funds

- Program Expenses
- Management and Overhead

PHOTO CREDITS

Cover: The Everglades (stock photo)

Page 1: Glacier National Park, Argentina (stock photo)

Page 3: David S. Vogel and Thais Lopez Vogel

Page 5: David S. Vogel and Thais Lopez Vogel; Partner Icon (stock photo); Abigail Axelrod/Yara Colon Watson/Eric Levy; David S. Vogel; Portrait of Jaruen, the bird guide, and one of the youths he is training in Colombia - 03/20/17 © Day's Edge Productions; The Nature Conservancy LEAF Program in Hobe Sound, FL

Page 6: VoLo logo; The Everglades © The Everglades Foundation; David S Vogel/Christopher Schnyer at NYC Climate Week; Veronica Scheid at Art & Nature Camp; Children at school built by Project Alianza in Nicaragua; Walter C. Willett, M.D., Dr. P.H., is Professor of Epidemiology and Nutrition at Harvard T.H. Chan School of Public Health and Professor of Medicine at Harvard Medical School; Kunoa Cattle Company; Sam Park/Andrew Stevenson/Chris Castro/Adrianna Quintero at Climate Correction 2018; David Vogel/Thais Lopez Vogel/Christopher Schnyer/Abigail Axelrod/Shannon Maganiezin; Financial Statement (stock photo)

Page 8: Harvard researchers Zhen Dai and Marie-Anna Boggio-Pasqua; Thais Lopez Vogel with Waimanalo boy; Children at school built by Project Alianza in Nicaragua; Training led by CLEO Institute and Caroline Lewis; Camp Boggy Creek; Lonnie Thompson and Ellen Mosley-Thompson from Byrd Polar Research Center at Ohio State University

Page 11 and 12: Abigail Axelrod and Thais Lopez Vogel; top - Robert Harding and David S. Vogel bottom - Thais Lopez Vogel and David S. Vogel, Andrew Stevenson, David S. Vogel and Mike Bloomberg; top - bikers/bottom - Abigail Axelrod and Shannon Maganiezin; RB Kelly and David S. Vogel; Cliff Schmidt/Thais Lopez Vogel/Catherine Mesianto Lengewa/David S. Vogel; Shannon Maganiezin and Abigail Axelrod with Florida LEAF Team; Deborah Johnson/Abigail Axelrod/Shannon Maganiezin; Andrew Stevenson/Christopher Schnyer/Abigail Axelrod/Thais Lopez Vogel/David S. Vogel; Carter Roberts of World Wildlife Fund; Thais Lopez Vogel/Abigail Axelrod/Shannon Maganiezin; Paul Hawken at CLEO Dinner

Page 13: Several pictures - Artwork and students from Town of Jupiter's Art and Nature Camp; Bottom right - Helper and Art Teacher Brenda Nicholas

Page 14: Various Icon Graphics by Shannon Maganiezin

Page 15: David S. Vogel; Andrew Stevenson and Climate Advocate from 2Degrees; Thais Lopez Vogel and Dr. Ken Grey; News Anchor Eric Levy/Yara Watson Colon/Abigail Axelrod

Page 16: Cartoon Scientist (Stock Photo); Chart Credits: David S. Vogel

Page 19: Harvard researchers Zhen Dai and Marie-Anna Boggio-Pasqua; Students from The Nature Conservancy LEAF Program in Hobe Sound, FL

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Page 21: Chart Credit: https://www.edf.org/climate/methanemaps, Photo Credit: Google Earth Outreach Car in partnership with Environmental Defense Fund

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Page 23: Students in Ethiopia with Lelt, Inc; VoLo Computer Lab in partnership with Lelt, Inc; Boys listening to Amplio Talking Book

Page 24: Children at Project Alianza school in Nicaragua; Climate change training by CLEO Institute; Punahou School

Page 25: The Healthy Eating Pyramid from Harvard T.H. Chan School of Public Health

Page 26: Coalition for the Homeless; Amar U.S.; American Red Cross; K. Beebe, Bringing the Genome to Life with Metabolomics. Metabolon eBook (2016); Abigail Axelrod and Shannon Maganiezin with American Red Cross ERM Vehicle; The Lord's Place; St. Jude's Children's Hospital

Page 27: Chart Credit: Nathaniel Yee

Page 28: Gridcure; Kunoa Cattle; Khethworks; Breast Microseed Treatment

Pages 29 and 30: Yara Watson Colon and Abigail Axelrod; Audience; Selfie: David S. Vogel/Kristin Van Busum/Andrew Stevenson/Robert Harding/Christopher Schnyer/Peterson Toscano/Shannon Maganiezin/Abigail Axelrod/Thais Lopez Vogel/Chris Castro/Adrianna Quintero/Yara Watson Colon; Abigail Axelrod with MIT students; Wei Sun/Rod Braun/Chad Frischmann/Anna Grace Sampson/Chris Castro; Alex Slocum; VoLo booth; David S. Vogel; Trenton Allen/Britt Groosman/Andrew Stevenson/Peterson Toscano; Peterson Toscano breakout

Pages 31 and 32: Team bio headshots; Andrew Stevenson and Christopher Schnyer; Shannon Maganiezin/Abigail Axelrod/Gilberto Lopez/Thais Lopez Vogel; Robert Harding and David S. Vogel; David S. Vogel/Thais Lopez Vogel/Christopher Schnyer/Abigail Axelrod/Shannon Maganiezin

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