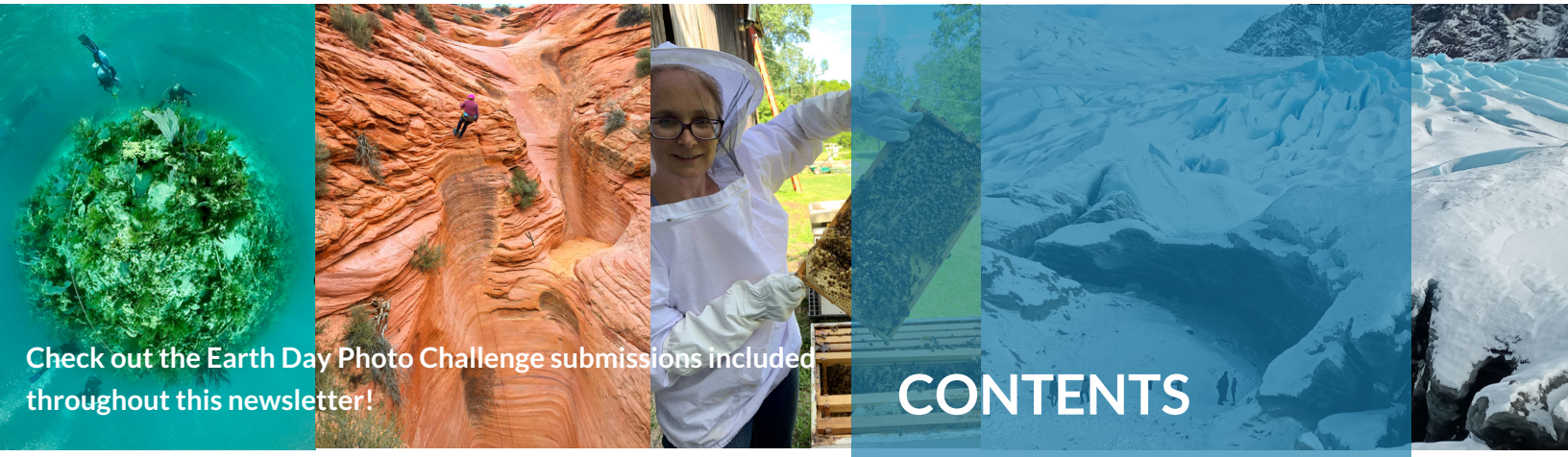
EARTH DAY 2021 EDITION

OSEEP News

Office of Sustainable Energy and Environmental Programs
Office of Facilities and Environmental Quality
U.S. Department of Commerce



Check out the Earth Day Photo Challenge submissions included throughout this newsletter!

A note from OSEEP

Happy Earth Day from the Office of Sustainable Energy and Environmental Programs (OSEEP)! We were delighted to receive nearly 200 beautiful photos of our Department of Commerce colleagues embracing the Earth in the 2021 Earth Day Photo Challenge. There were so many impressive photos that we have decided to create a digital photo book, which will be released next month. For now, take a look at the photos highlighted throughout this newsletter and on page 9. We are proud and inspired to work among so many dedicated stewards of the Earth. Thank you to everyone who participated! Please contact Sarah Yardley (syardley@doc.gov) with any questions.

Sincerely
The OSEEP Team

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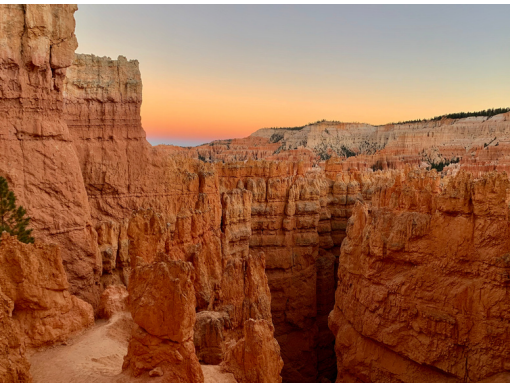
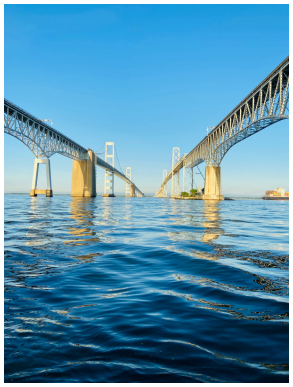
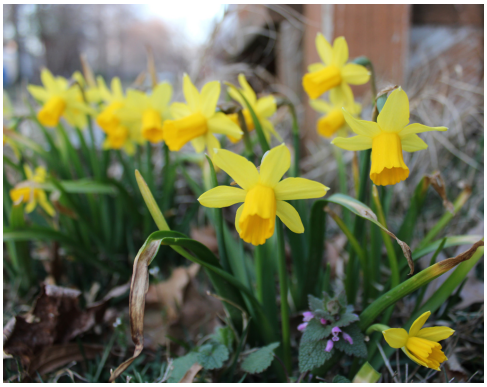
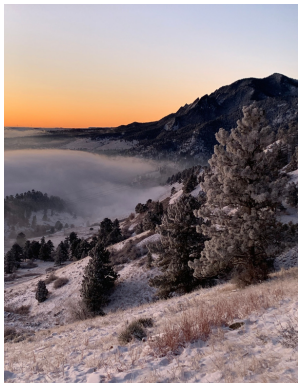

Chris Damm, ITA


Kaile Bower, Census


Douglas Casto, PTO


Steve Montzka, NOAA

Biden's Plan to Revitalize Climate Change Action in the U.S.

Written by Sara Smith, OSEEP

Over the past few months under its new Federal Administration, the United States government has been taking action to address climate change in a progressive and science-driven way. On his first day in office, President Biden rejoined the Paris Climate Agreement and signed *Executive Order (EO) 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.* The following week he signed a second climate change executive order—*EO 14008: Tackling the Climate Crisis at Home and Abroad.* A couple of months later, he released his American Jobs Plan to focus efforts on rebuilding the country's infrastructure, and included language on preventing, reducing, and withstanding impacts of climate change. Here is an overview of these efforts:

The Paris Climate Agreement

The Paris Agreement is a 32-page document that established a framework for climate action by countries around the world. The agreement was a landmark accord that, in 2015, was adopted by almost every nation to address the negative impact of climate change. The Paris Agreement requests nations to reduce global greenhouse gas emissions and lower a global temperature increase to 2 degrees Celsius above pre-industrial levels in this century. Member countries who are major emitters agree to cut their climate pollution (and agree to monitor and report progress) and work with developing nations to assist their climate mitigation efforts.

Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis

This executive order looks to advance environmental justice and to confront the world's climate crisis, partially by reducing the federal government's greenhouse gas emissions. The President asked for emissions guidelines to be set on methane and volatile organic compounds being released by the oil and gas sector, to pull back on arctic drilling and exploration, and to account for global damages caused by greenhouse gas emissions.

Executive Order 14008: Tackling the Climate Crisis at Home and Abroad

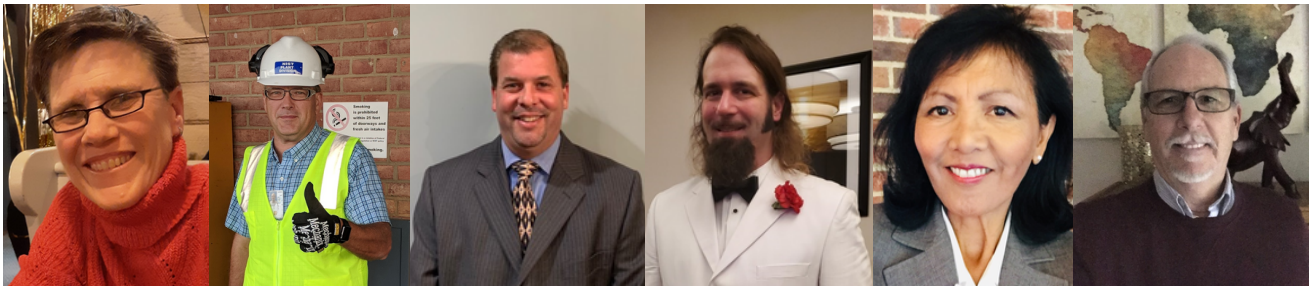
Similar to the executive order mentioned above, this one puts our worldwide climate crisis at the center of U.S. foreign policy and national security. Scientists have for a long time known that changes in the world's climate are impacted by greenhouse gases, but now those changes are accelerating at an alarming rate. Under this executive order, climate change will be considered essential in foreign policy

and national security considerations. The U.S. will work with its partners to build resilience and create a sustainable climate pathway.

American Jobs Plan
In the American Jobs Plan, the President proposes ways to rebuild America's infrastructure, including electrifying vehicles and introducing more clean energy into the grid, while making the grid more resilient to climate change-driven storms and other disaster events. Climate change is considered a huge threat to our land and infrastructure; investing in cleaner and stronger infrastructure efforts helps to combat these threats.

Coming Up: 2021 SEE Ambassadors Call for Nominations

Next month, the Department of Commerce will announce its annual call for nominations for the Sustainability, Energy, and Environmental (SEE) Ambassadors Program. The SEE Ambassadors Program recognizes individual Departmental employees for outstanding performance in implementing exceptional cost-saving projects and/or programs that help the Department achieve its mission to implement sustainability and improve energy efficiency, water conservation, and environmental performance. Stay tuned to broadcasts for more information and email Sarah Yardley (syardley@doc.gov) with questions.



Pictured above: The 2020 Class of SEE Ambassadors (left to right): Carrie Kelly, Warren Livengood, Scott Burnham, Jerome Sheehan, Roxanne Fuhrman, and Donald Harris. Not pictured: Jessica Caraway

Online Training with OSEEP

OSEEP holds educational training sessions to increase awareness and understanding of how to meet the Department's sustainability and environmental goals. Certificates of attendance are provided to those who attend and register through CLC. If you need assistance with CLC, have any questions on the training program, or have a specific topic you would like to see in the training program, please contact Sara Smith at slake@doc.gov.

Coming Up: Energy 101

Tuesday, May 25, 2021 from 1:00 - 2:00 pm ET

What is energy and where does it come from? How does energy flow from various sources to points of consumption? Hosted in partnership with the National Renewable Energy Lab (NREL), this training will answer these questions and cover the fundamentals of energy, with examples of some emerging and innovative energy technologies. Register in CLC by searching for "Energy 101".

Spotlight on the National Institute of Standards and Technology

Written by Anna Kavalieris, OSEEP

The National Institute for Standards and Technology (NIST) has proven its commitment to environmental stewardship through its actions to conserve water and energy; reduce waste, its carbon footprint, and greenhouse gases; implement more environmentally friendly operations; and preserve the environment. These actions have improved operational efficiency and garnered millions of dollars in cost savings. Many actions were complex technical projects taking multiple years from inception to completion; required collaboration with multiple organizations (e.g., Department of Commerce offices and operating units, Department of Energy, and the Army Corps of Engineers); and alternative and innovative funding, such as Department of Commerce (Department) Green Grants and energy savings performance contracts (ESPC) to fund major multi-million-dollar capital improvement projects. ESPCs allow federal agencies to procure energy savings and facility improvements with no up-front capital costs or special appropriations from Congress. The agency partners with an energy service company (ESCO) that finances the project and guarantees energy/utility bill savings. The ESCO is repaid over the life of the ESPC through the project's savings. The complexity, knowledge, and time required to complete an ESPC demonstrates NIST's dedication to getting these projects completed.

Pictured: The 15-acre 4.4 MW solar array at NIST Gaithersburg's campus.

Two projects at the NIST Gaithersburg campus, a 7.9-megawatt (MW) co-generation addition to its central utility plant and installation of a 15-acre 4.4-MW solar array system, increased on-site renewable energy production and use, and improved the campus's energy security, flexibility, and resilience. The projects resulted in cost savings of $4M in one year and allows the campus to self-generate over 40% of its required power, a significant increase from a previous percentage of less than 1%. These projects also support NIST's participation in a demand response program, which allows NIST to reduce energy consumption during the utility company's peak energy demand periods, thus reducing stress on the energy grid and reducing energy bills.

To reduce potable water demand from the local water utility company, NIST installed groundwater wells at its Gaithersburg campus to provide make-up water for its cooling towers. This project reduced the annual demand for potable water by 25-milion gallons (22%) with an associated cost savings of $212,000. Due to the improved water quality, NIST was able to reduce the amount of chemicals needed for water treatment which, in turn, results in less chemical waste.

Pictured: NIST's reforestation project.

NIST has committed to plant between 3,750 to 5,250 trees to reforest between 25 to 35 acres on its Gaithersburg campus to mitigate stormwater runoff that may ultimately flow to the Chesapeake Bay. In addition to this reforestation project, in 2018 NIST planted one acre of trees (approximately 150 trees), as a three for one replacement for mature trees removed when clearing trees that cast shadows on the solar array.

Pictured: The cooling tower at NIST Gaithersburg.

Another stormwater initiative is the rainwater harvesting system added as a major design component of a building addition at NIST Gaithersburg. This system collects rainwater in a 30,000-gallon tank to divert stormwater from flowing off campus. An added benefit is the stored water reduces potable water demand from the utility company, because the water from the tank is piped to provide make-up water in its cooling towers. This project also included other stormwater management features, such as installation of micro bio-retention cells to control and improve the quality of stormwater runoff.

Another project of note is the replacement of two older chillers at the NIST Gaithersburg campus with two more efficient units that apply leading-edge energy saving engineering technology. This project increased free-cooling operational capability by 150%, resulting in an annual reduction of $460,000 in electric consumption and electric demand charge savings. In addition to energy savings, the project reduced greenhouse gases and air pollution emissions, including sulfur dioxide, nitrogen oxide, carbon dioxide, and mercury. This removed more than 15,000 pounds of R-22 refrigerant, an ozone depleting substance.

NIST leads the charge on sustainable (green) buildings at the Department of Commerce with 25% of buildings on its two campuses (Gaithersburg and Boulder) certified under Leadership in Energy and Design (LEED). Sustainable buildings are designed to reduce carbon emissions, greenhouse gases, water, energy, and waste; provide a healthier work environment for employees; and yield operational cost savings. NIST continues to add square footage of sustainable building space on both campuses as it renovates and builds additions to its buildings.

In fleet management, NIST continually looks for opportunities to convert its vehicle fleet to electric vehicles, plug-in hybrid vehicles, and hybrid electric vehicles, where possible. NIST also has a near-term goal of installing electric vehicle charging stations on both campuses so employees can recharge their vehicles at a modest cost while at work.

In waste management, NIST operates a dynamic recycling center that includes recycling scrap metal and electronics as well as other common recyclables, such as paper, plastic and glass.
NIST continues to implement measures to create efficiencies, reduce costs, and conserve energy, including installation of a stairwell lighting upgrade to save energy while spaces are unoccupied, replacing roofs with improved insulation and solar reflective levels to reduce heating and cooling demand; major renovations of central heating, ventilation, and air conditioning units; and major electrical infrastructure replacement projects.

As seen from the above examples of accomplishments, NIST is a leader in environmental stewardship. NIST's accomplishments have been recognized through the Department of Commerce's Environmental Stewardship and SilverAwards, and at the Federal level, receiving multiple Department of Energy, Federal Energy Management Program, Energy and Water Management Awards.

Grow Fruits and Vegetables at Home!

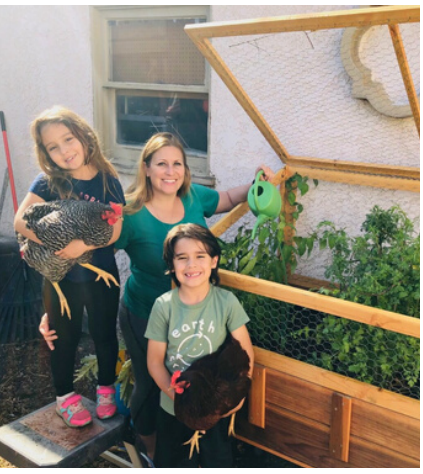
Written by Chris Delima, OSEEP Intern

If you haven't tried growing your own fruits and vegetables at home, this spring is the perfect time to start! Home gardens are great for the environment because they reduce the amount of natural resources and pesticides needed to grow produce. By growing produce yourself, you also reduce the greenhouse gas emissions associated with transporting fruits and vegetables from the farm to the grocery store. Follow these simple tips to easily create your own garden.

- Build your garden in a location that gets at least 6-8 hours of sun. Almost all fruits and vegetables need at least 6-8 hours of full sun to grow properly.
- Decide between raised bed and in-ground. Raised beds are recommended for beginners as you have better control over your soil, and you don't need to till your soil each year.
- Start small. For an in-ground garden start with a 10' x 10' section and for a raised bed start with 4' x 4' or 4' x 8'. This will ensure that you can manage the creation and care of the garden.
- Know your hardiness zone. It is important to know your hardiness zone so you can know what types of plants will thrive in your location throughout the year.
- Plant beginner vegetables. These require the least amount of care and will produce the best results for most beginner gardeners. For example, lettuce, green beans, zucchini, peppers, peas, and carrots.

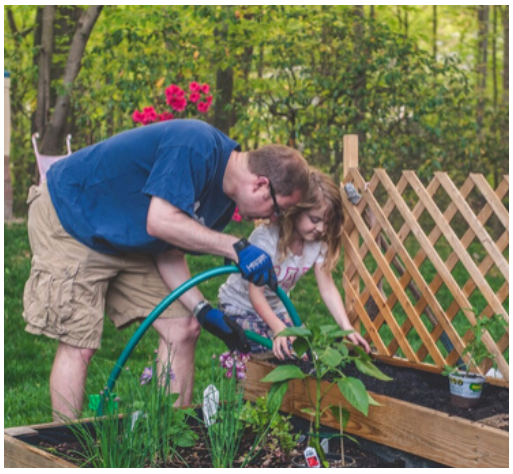
Earth Day Photo Challenge Submissions: Young Gardeners

We were inspired to see photos of Department employees teaching their young environmentalists how to grow their own fruit and vegetables at home! Pictured below are a few submissions of young learners tending to their gardens.

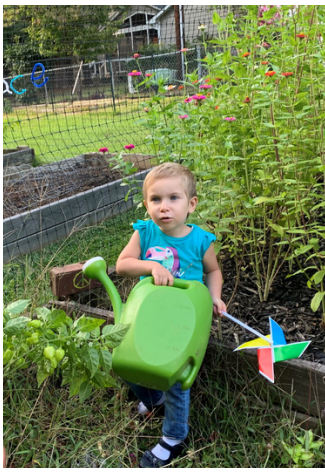


Briana Hurley, NOAA

Raymond Jojola, NOAA



Courtney Reiser, Census



Emily Gereffi, ITA

DID YOU KNOW?

Did you know gardening can enhance early childhood development? Gardening and other outdoor activities are a great opportunity to support tactile and sensory play, engage children's curiosity in exploring the world around them, and encourage healthy eating.

The Green Store Listserv: Best of 2020

Written by Accacia Grant, OSEEP Intern

The Green Store Listserv has become a digital extension of the services provided in the Department's in-person Green Store at its headquarters at Herbert C. Hoover Building. As we look back on the past year, the Green Store Listserv remains a highlight of how we have remained connected as a community and committed to sustainability through daily messages. The Green Store Listserv has covered topics ranging from sustainability news, do-it-yourself lifestyle changes, tips for being eco-friendly at home, global days of environmental celebration, and many more. We hope that you have enjoyed reading these, and if this is the first time you are hearing about the Listserv, we invite you to join! Below are a few highlights that represent the Green Store Listserv throughout the past year.

The Green Store at HCHB

Join the Listserv

1. Go to list.commerce.gov
2. Log in with your Commerce Connection account information
3. Search for "the-greenstore" and select "Subscribe"
4. Click the link in your confirmation email to activate your subscription

Listserv Tip: Be Intentional When Recycling

When recycling, we must be careful about what we do with black plastic. This can be garbage bags, shopping bags, takeout containers, and more. The reason we must be careful is that black plastic typically bypasses the infrared cameras that sort plastic material at recycling centers. This means that the black plastic then ends up being labeled as trash and ends up in the landfill. The best way to address this problem is to reduce your use of black plastic materials. When you can, try to request a clear plastic or biodegradable option. Another way to void this problem is to contact your local recycling program to check if they accept black plastic recyclables. Black plastic is not completely avoidable, so it's best to stay up to date with how your local community handles this type of plastic.

Listserv Tip: Minimize Food Waste

Food waste is one of the biggest emitters of greenhouse gas in the atmosphere. As of 2018, the EPA reports 17 percent of all methane produced from human activity comes from landfills, making it the third-largest source of human-related methane emissions in the United States. When organic waste, like food waste, goes to a landfill it can rise into the atmosphere and contribute to the greenhouse gas effect. A way to not contribute to food waste is by donating to your local food bank. Food banks distribute food and grocery items through food pantries and meal programs that serve families, children, seniors, and individuals at risk of hunger. Last year alone, the Feeding America network distributed more than 3.6 billion meals to people in need. Whenever you realize you've bought in excess, consider donating your food instead of throwing it away. Also consider donating food while doing a pantry cleanout. Not only will you be helping the environment but also giving back to community members in need.

Listserv Tip: Recycle Electronics Responsibly

Every year, a new generation of electronics hits the market making the electronics we already have more obsolete. E-waste is more than an outdated product, it is any electronic waste that is no longer wanted or is now obsolete, whether it works or not. Technology carries severe environmental consequences when we don't recycle e-waste responsibly. Although it can be a little difficult to recycle electronics in different communities, companies like Best Buy and Staples accept all electronics for recycling at no cost. Other companies like Samsung, Apple, Dell, and Microsoft accept their products for recycling as well. To learn more about e-waste, check out these surprising facts below.

1. Global e-waste volumes grew by 21% between 2104 and 2019, according to the United Nations, a pace that will lead to a doubling of e-waste in just 16 years. The world discarded 53.6 million tons of e-waste in 2019.
2. Only 17.4% of e-waste discarded in 2019 was recycled, the United Nations reports.
3. The United States generated 6.92 million tons of e-waste, about 46 pounds per person, in 2019. It recycled only 15% of the material.
4. Recycling 1 million laptops saves the energy equivalent to the electricity used by 3,657 U.S. homes in a year, according to the EPA.
5. Americans throw out approximately 416,000 mobile phones each day, according to 2014 figures from the EPA. That equates to more than 151 million phones thrown away in one year.
6. The United Nations estimates that global e-waste volumes could increase by as much as 39% to 74.7 million tons a year by 2030.

What's your carbon footprint?

Written by Accacia Grant, OSEEP Intern

A carbon footprint is the total amount of greenhouse gas emissions that are generated by a person's actions. It includes carbon dioxide — the gas most commonly emitted by human activity — and others, including methane, nitrous oxide, and fluorinated gases, which trap heat in the atmosphere, causing global warming. The average carbon footprint for a person in the United States is 16 tons, one of the highest rates in the world. Globally, the average is closer to 4 tons.

The carbon footprint is an important component in understanding the impact of a person's behavior on global warming. This is why someone who effectively wants help minimize their effect on global warming needs to measure and keep track of their carbon footprint. You can use a carbon footprint calculator where you'll be asked questions like how you commute to work, what your usual diet is, how much you drive or fly, the size of your household, or what type of electricity the grid provides you to gauge the amount of greenhouse gas emissions you are generating. Usually, the bulk of an individual's carbon footprint will come from transportation, housing, and food.

Reducing your carbon footprint takes a lot of practice and a long time of consistent work. Activities to decrease your footprint include driving less, purchasing hybrid or electric cars, flying less, eating less meat, decreasing your everyday waste, making your home energy efficient with household appliances, and dressing sustainably. You can use the website below to get an estimate of your carbon footprint!

Carbon footprint calculator: https://www.footprintcalculator.org

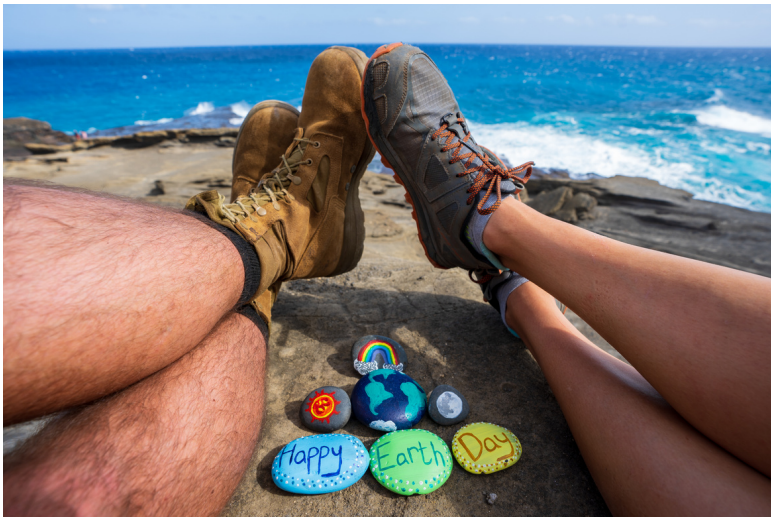
2021 Earth Day Photo Challenge: Featured Photos

Thank you to everyone who submitted photos for the 2021 Earth Day Photo Challenge! We received many incredible photos ranging from Department of Commerce employees enjoying the great outdoors, to gorgeous shots of flora and fauna, to photos of dedicated volunteers protecting the Earth. See below for a few highlights and stay tuned to broadcasts for our special Department of Commerce Earth Day Photo Book coming out next month!

This icon indicates an act of service that helps support, raise awareness, or protect Earth's resources.

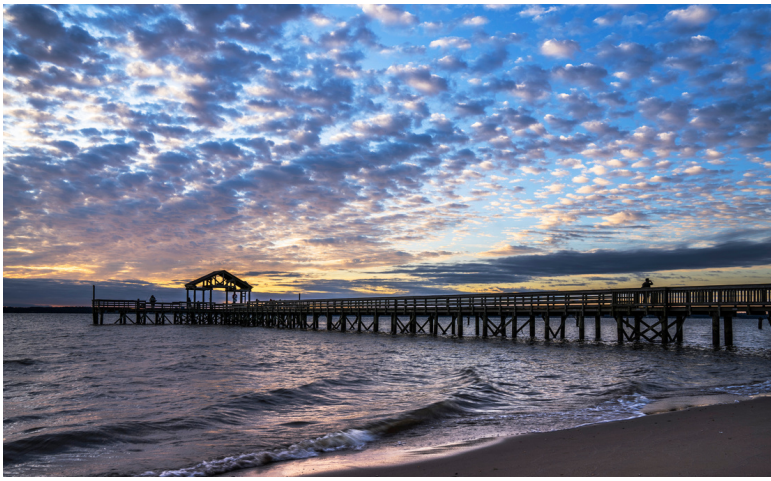
"A group of 30 volunteer divers from Diving With a Purpose join Florida Keys National Marine Sanctuary Maritime Heritage staff; Brenda Altmeier and Matt Lawrence to document the historic shipwreck THIORVA lost off north Key Largo in 1894. The THIORVA was a 186-foot wooden ship built in 1876 in New Glasgow, Nova Scotia. THIORVA's final voyage left from Pensacola Florida and was bound for Geestemunde, Germany when the captain and crew encountered a hurricane off of the Florida Keys. Unable to salvage the vessel and return to course, the remains of the ship were left to the depths of history. Documenting historic resources in National Marine Sanctuaries is an important part of understanding our history and preserving the past for future generations."

Submitted by Brenda Altmeier, NOAA



"My girlfriend and I painted rocks that celebrate the environmental movement and symbolize our need to protect Earth's natural resources in an inclusive fashion. Our favorite outdoor activity is hiking in Hawaii, so we took our rocks on a hike and snapped this picture at Lanai Lookout on Oahu's southeast shore."

Submitted by Luke Evancoe, NOAA

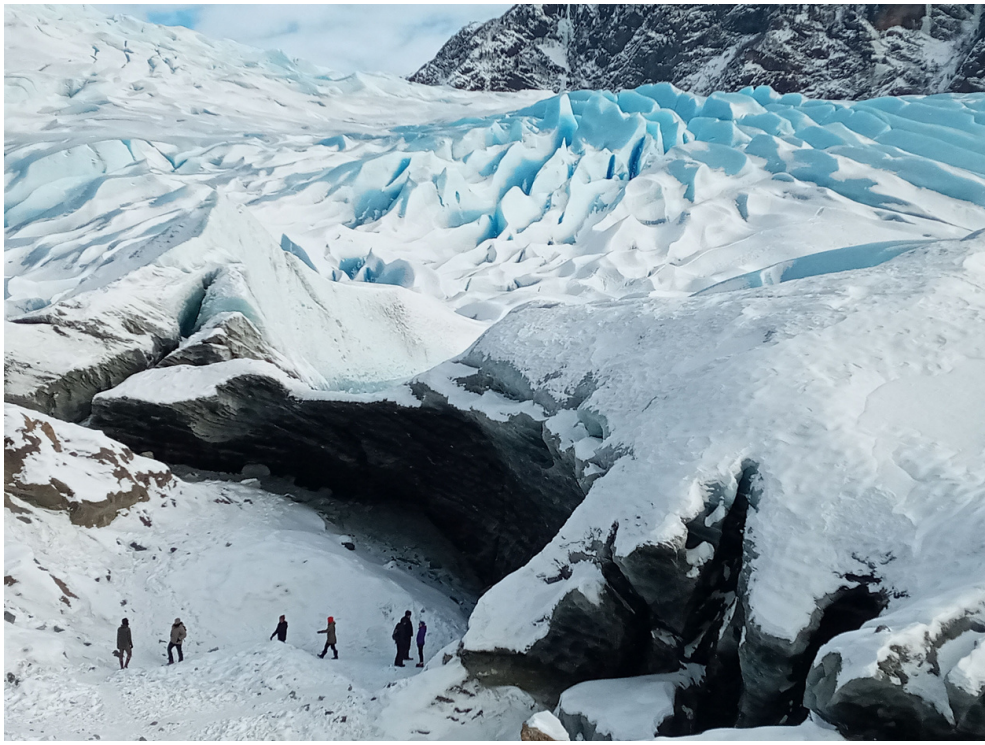


"Soon after sunrise at Leesylvania State Park - More clouds came in blocking the sun, and wind started blowing waves in the Potomac. But the sun is right up there, making clouds and river shine."

Submitted by Ping Sun, OIG

"A self portairt of me conquering my fear of heights by canyoneering down an 80 ft wall, while rocking my bright pink bike helmet!"

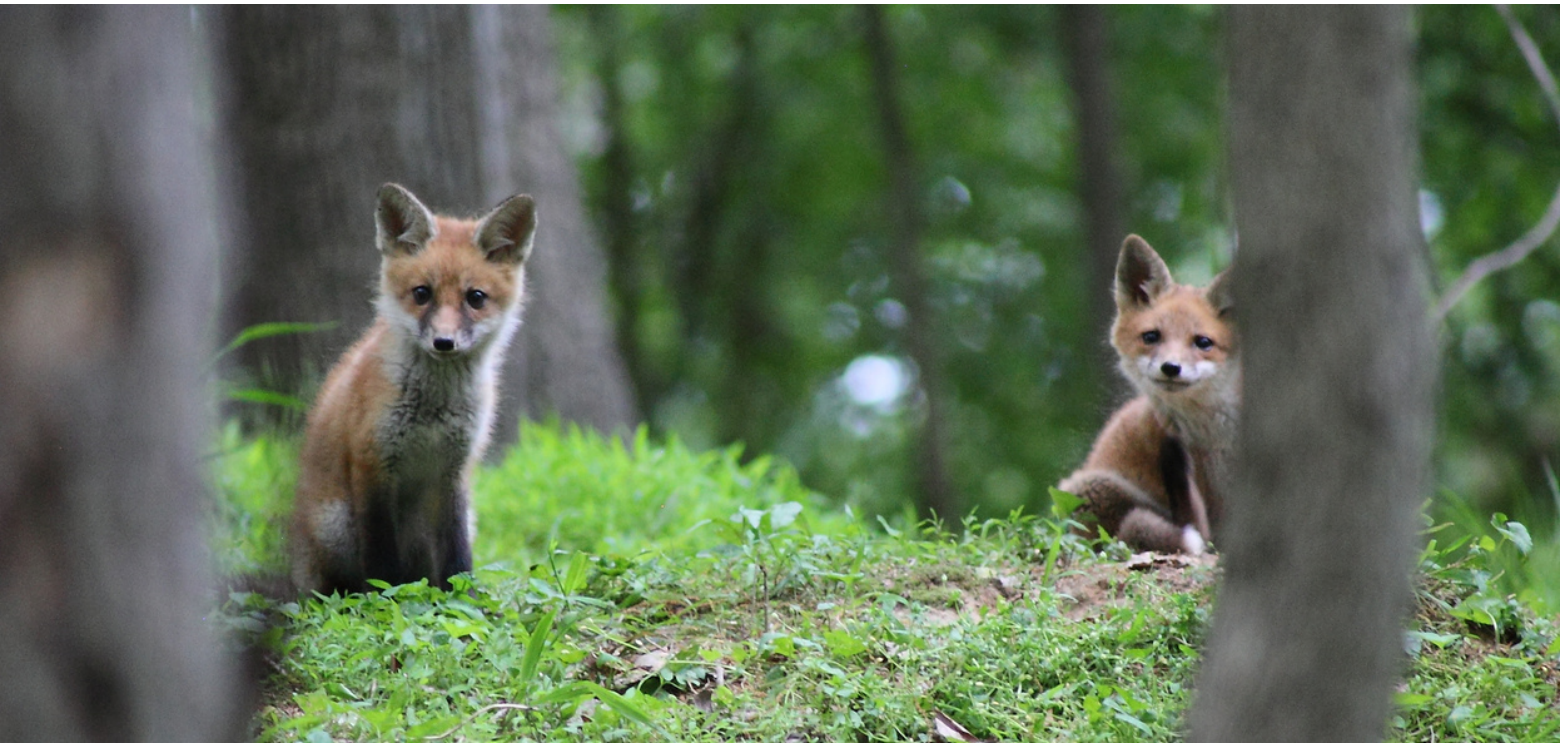
Submitted by Marifrancis Hardison-Moschopoulos, NOAA Contractor



"Entrance to Ice Cave below the Mendenhall Glacier in Juneau, Alaska. February 2021."

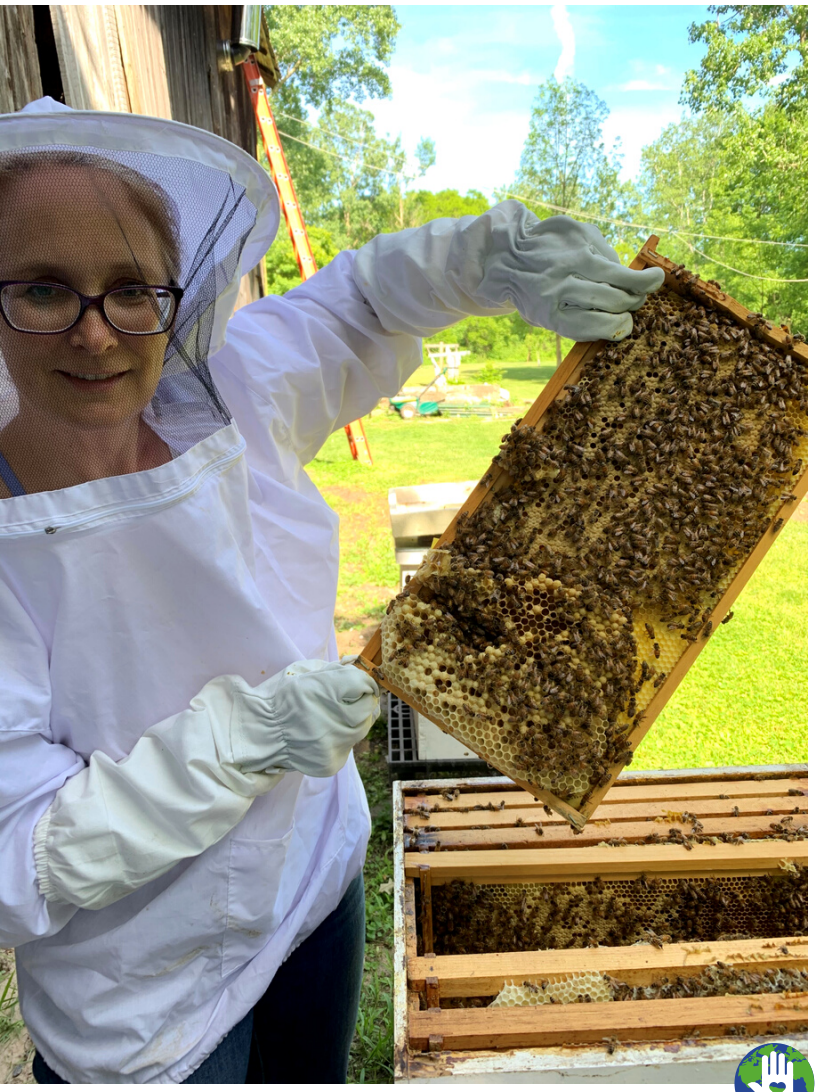
NOAA's National Weather Service notifies the Juneau community when the lake that forms on top of the Mendenhall Glacier is threatening to release into the Mendenhall River. The Mendenhall River goes through a well populated area of town and can cause flooding."

Submitted by Shellie Hanson, NOAA



"Two fox cubs near their den in Great Seneca park, about a hundred yards from my house."

Submitted by Chris Amigo, NIST



"A picture of me beekeping at my home."

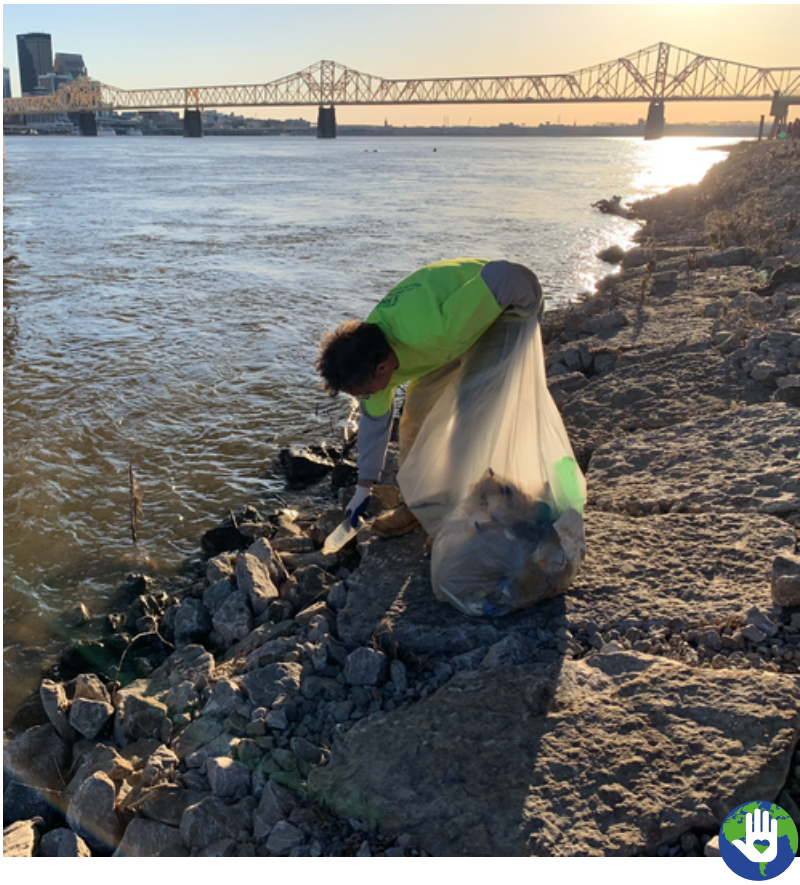
Submitted by Joyce Hill, PTO

"Sunrise yoga at Reflection Lake."

Submitted by Steve Blandino, NIST

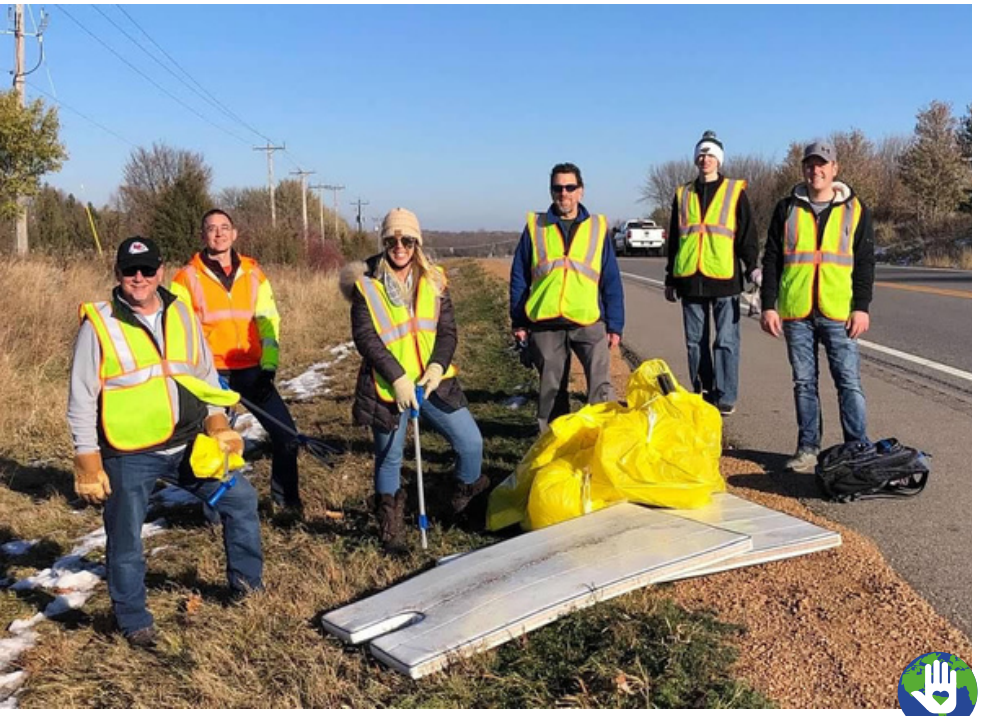
"The Best Nest - I took this picture in April 2020. The birdhouse sits outside my sliding glass door near where I set up my work laptop. I could see the blue birds and they made me happy during those early months of the pandemic. "

Submitted by Elizabeth Nichols, Census



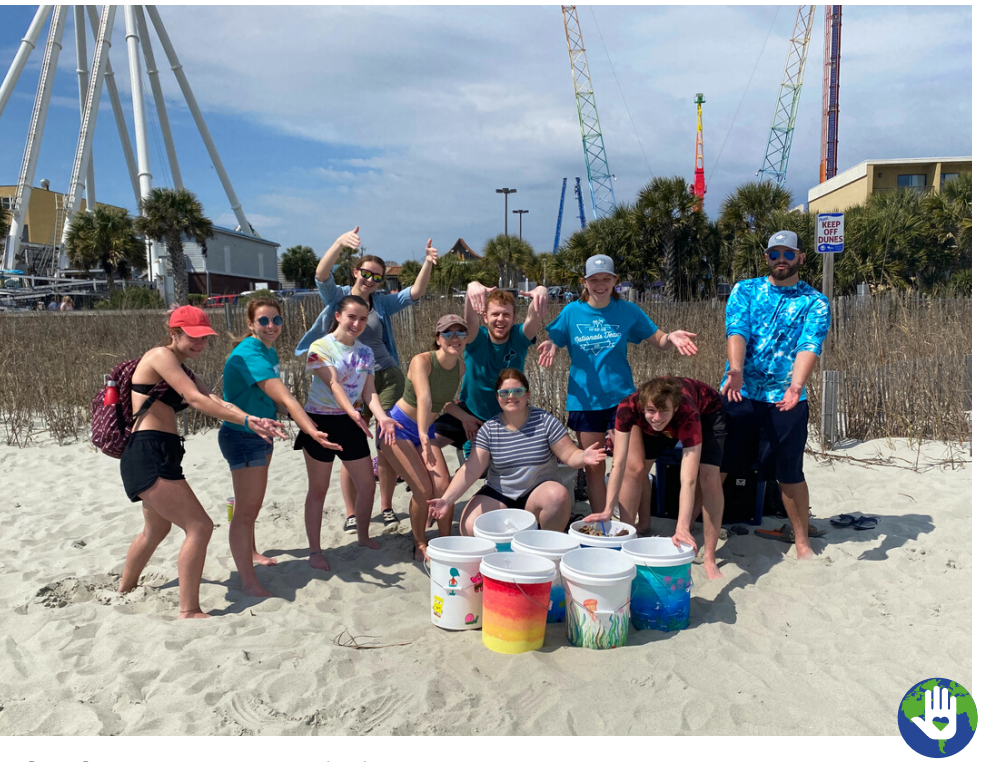
"Photo of Christopher Kiviniemi, fiance of Department of Commerce employee, picking up trash from the Ohio River, in honor of Earth Day 2021."

Submitted by Haley Nicole White, Census



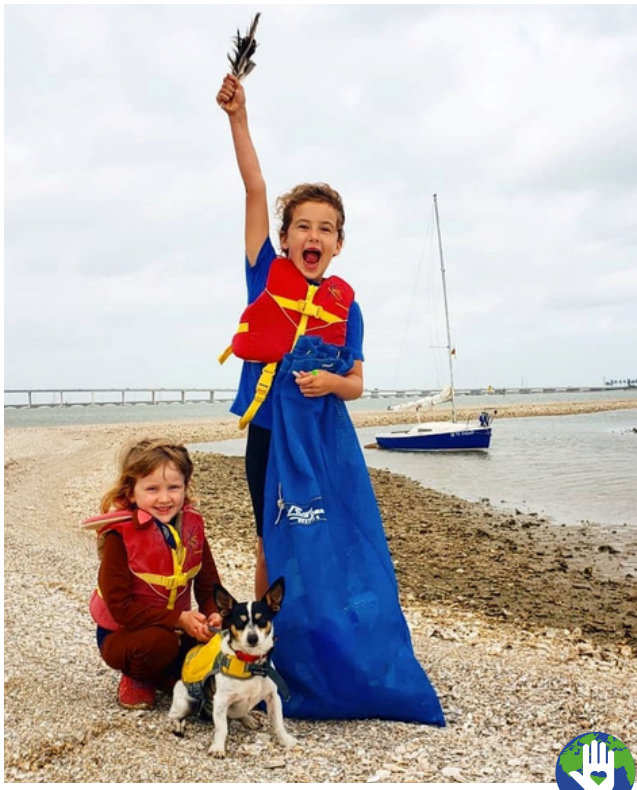
"Adopt-a-Highway photo from employees at the National Weather Service Weather Forecast office in Chanhassen, Minnesota." Pictured from left to right: Craig Schmidt, Justin Palmer, Lisa Schmit, Dan Luna, Caleb Grunzke, Bill Borghoff

Submitted by Lisa Schmit, NOAA



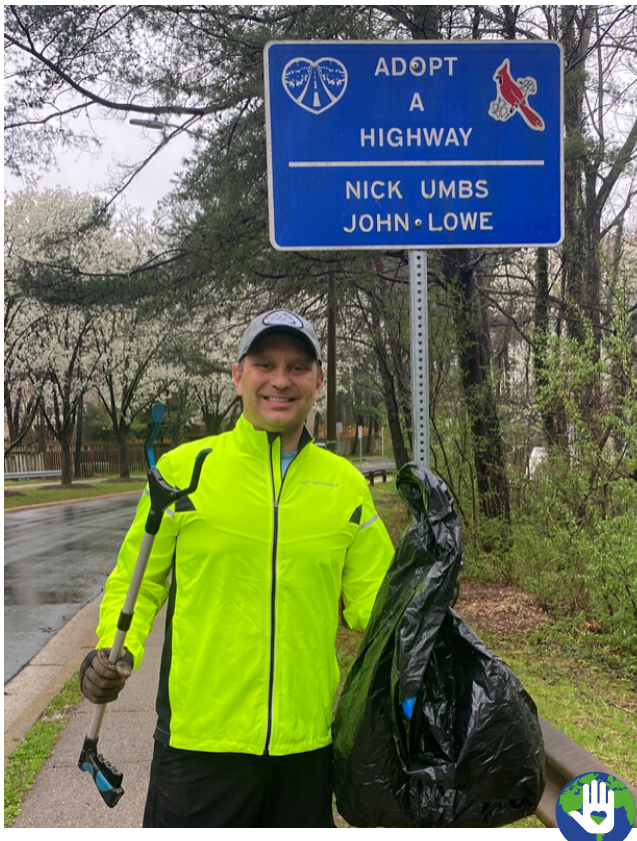
"[I am] the Resident Advisor (RA) for Seafloor, full of Marine Science residents, at Coastal Carolina University. One of [our] goals is to go to Myrtle Beach and have a beach cleanup once a month! This picture is the from the last cleanup from using the Clean Swell app to collect and document over 30 pounds of trash!"

Submitted by Sydney Madden, NOAA Intern



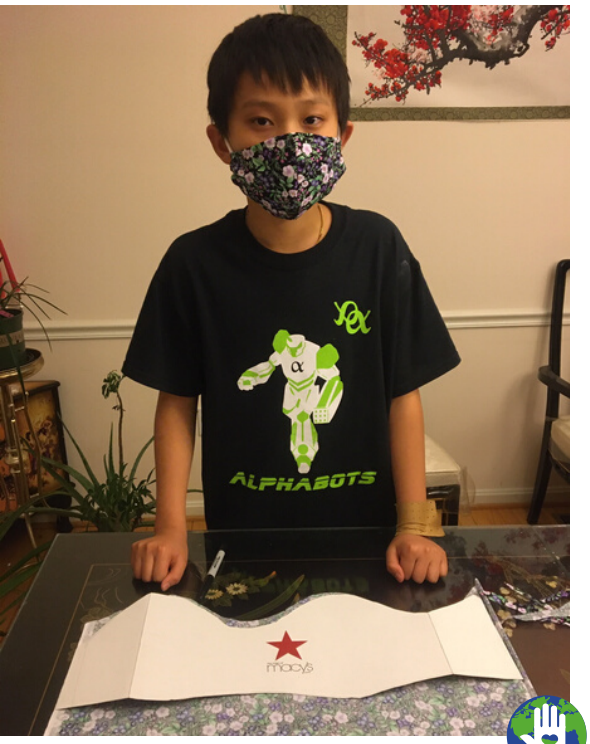
"My girls and I like to sail around Galveston Bay near our home. We have a rule that we always fill a bag with trash while on our adventures!"

Submitted by Jennifer Leo, NOAA



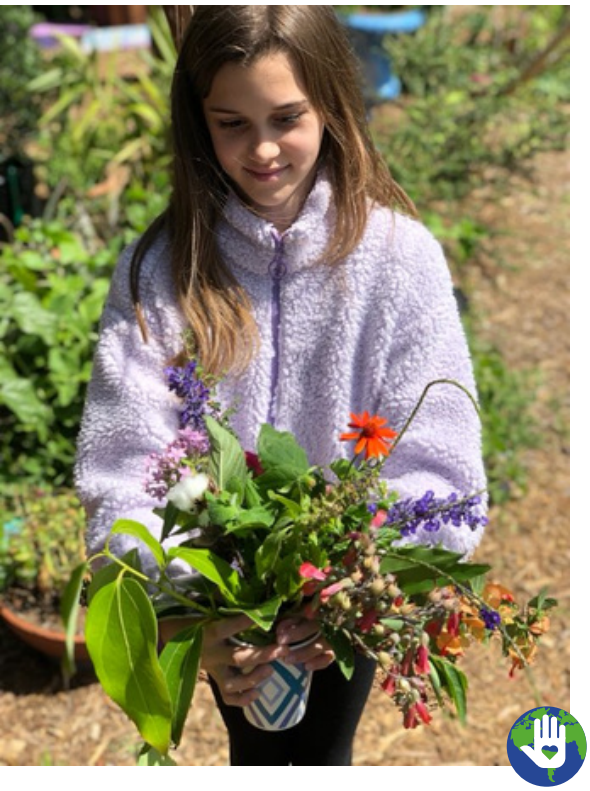
"Picking up trash along my Adopt-A-Highway."

Submitted by Nick Umbs, OIG



"My son Kyle is a member of robotic team "Alphabots", and he is helping make reusable cloth masks for teachers and people in need. I am helping sew the masks, but not in the photo. The finished mask looks like the one Kyle is wearing."

Submitted by Kexin Zhang, Census

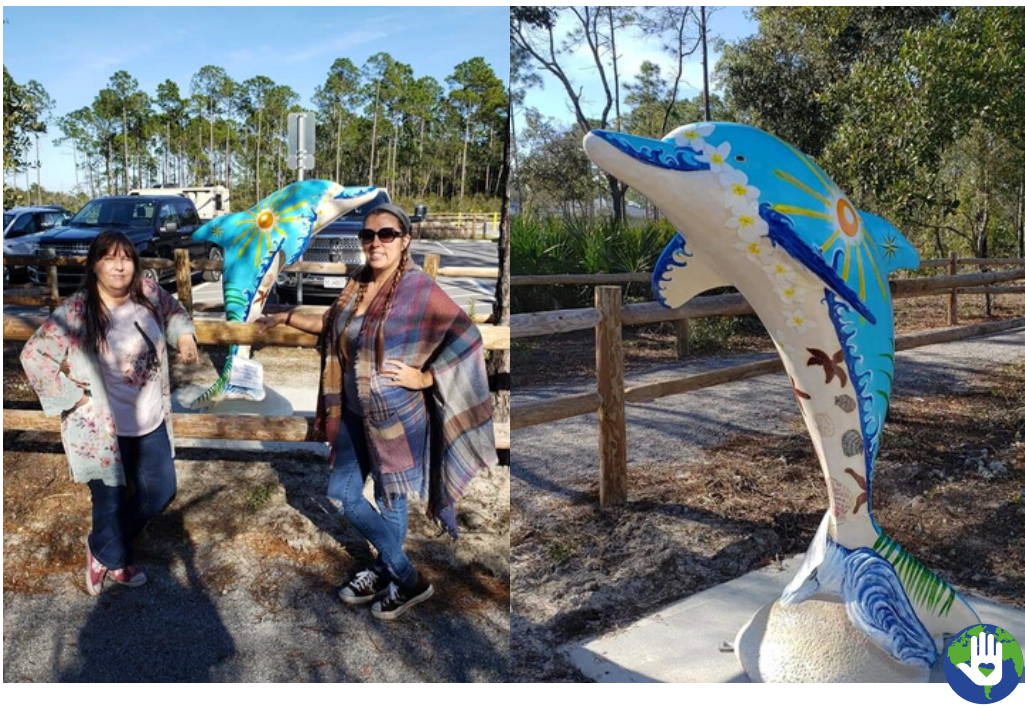


"The photo was taken March 2020 of my 11-year-old daughter, Savannah, volunteering at a community garden in Delray Beach, Florida."

Submitted by Audra Livergood, NOAA

"Spawning horseshoe crabs in the Delaware Bay - photo taken after my first shift as a volunteer for Delaware's annual horseshoe crab survey."

Submitted by Erin Ludlow, BEA



"My mom & I participated in a local 'SeeLife' project here in Panama City Beach, FL last month. We were among 11 groups chosen to paint a sculpture (dolphins and turtles). The finished dolphin sculpture was placed in Conservation Park in Panama City Beach."

Submitted by Amy Propst, PTO