May - June 2018

ZOOM in on america

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THE EARTH IS OUR HOME

The Greatest light show on Earth!! "St. Patrick's Aurora" was taken at Donnelly Creek, Alaska at 1:30 am, March 17, 2015 by a NASA friend. (NASA photo), Source: FLICKR

In this issue: Thinking about Planet Earth

Zoom in on America

The Future is in Our Hands

It no longer seems necessary to convince the majority of people that we all need to take care of our environment if we want to preserve our planet for future generations. Air and water pollution alongside other ailments, such as shrinking resources pose a threat to us all at the present time. An interdisciplinary effort is needed and support from governments is imperative to secure our future as the inhabitants of planet Earth. Young people have a big say in the effort to protect our environment. The U.S. Department of Energy organizes the Solar Decathlon as a contest to engage students in environmental protection efforts.

On the U.S. Department of Energy Solar Decathlon® website (https://www.solardecathlon.gov/) one can read that the project "is a collegiate competition made up of 10 contests which challenge student teams to design and build full-size, solar-powered houses. The winner of the competition is the team that best blends design excellence and smart energy production with innovation, market potential, and energy and water efficiency."

The idea of the Solar Decathlon originated in the U.S. Department of Energy in cooperation with National Renewable Energy Laboratory and the American Institute of Architects. It is connected with the growing concern about shrinking energy resources and a belief that bright young students are capable of helping to solve very serious global problems. Like the Olympic decathlon, there are ten contests set before selected teams of students testing various, all-around skills. The task is clearly defined: to design, build and maintain the most livable and energy-efficient solar-powered home.

The ten contests include: architecture, dwelling, documentation, communications, comfort zone, appliances, hot water, lighting, energy balance and getting around (read: A Solarpowered Car!). Mysterious as some of these contests may sound – they all relate to our everyday usage of energy and finding means to economize. The teams which participate in the contest must design and build homes that run solely on solar energy.

Solar Decathlon, now an international movement, is planning five international Solar Decathlons in 2018 and 2019. The next event (Solar Decathlon China) will take place in August, 2018 in Dezhou, China, with 22 teams. Sixteen teams will participate in Solar Decathlon Europe in the 2019 event in Szentendre, Hungary. This event will focus on retrofitting houses. Solar Decathlon Africa is planned for September 2019, in Benguerir, Morocco. Solar Decathlon Latin America and the Caribbean will include 15 teams in its 2019 event. Finally, Solar Decathlon Middle East will host 21 teams competing in its November 2018 event in Dubai, United Arab Emirates (UAE).

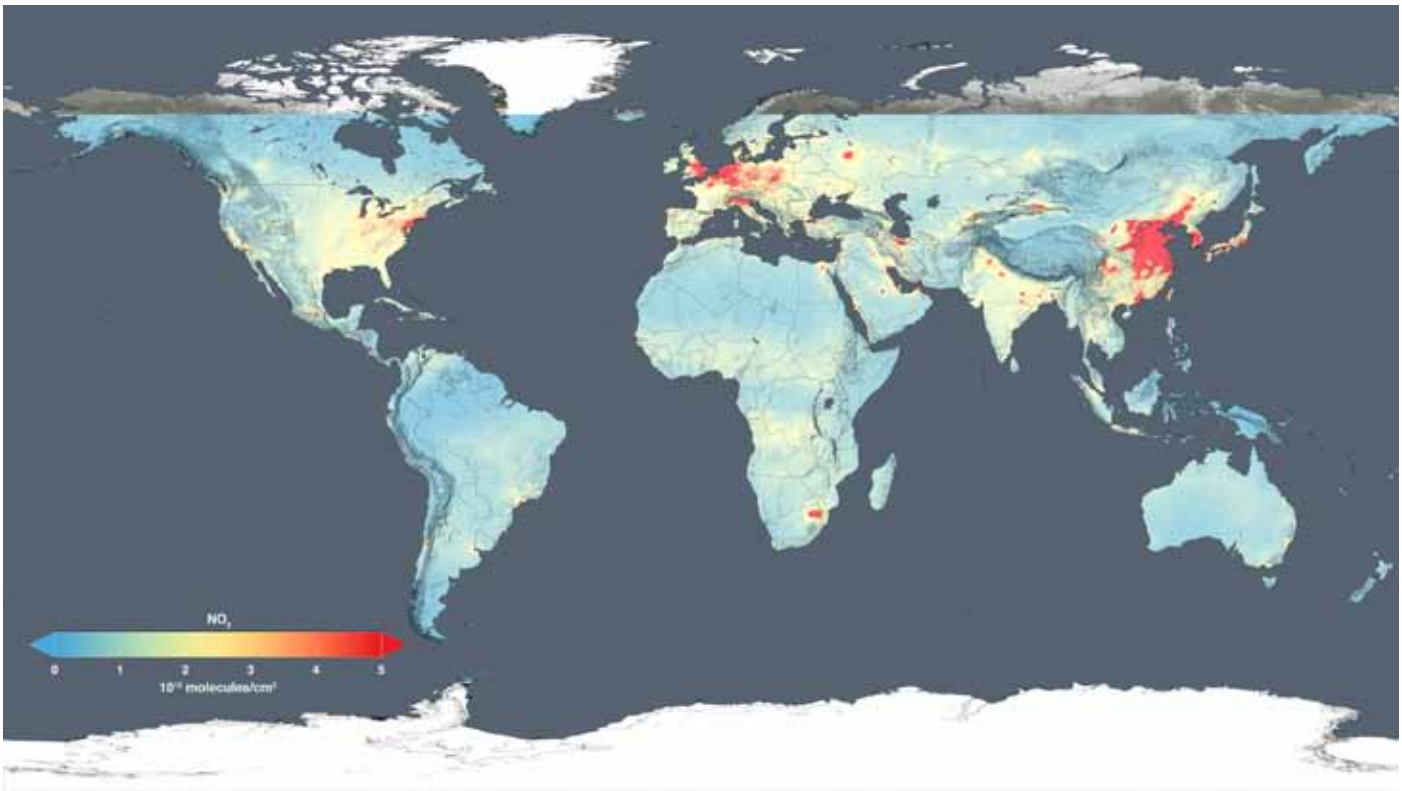
Each year the National Cherry Blossom Festival celebrates spring in Washington, DC. There are about 3,750 cherry tree on the Tidal Basin, which is the location for many National Memorials. Photo: U.S. Department of State (IIP Bureau).

Pam DeVolder: Environmental Stewardship Has Always Been a Priority for Me

I've always loved spending time in nature. As a child, I frequently camped with my family, and when I got older I started doing a lot of hiking and climbing. I especially love botanizing – studying native plants and wildflowers. We have many beautiful national parks and wilderness areas in the U.S. but, unfortunately, a lot of places have been damaged by human behavior like mining and manufacturing. Some of these areas are heavily contaminated with hazardous waste and pose a risk to humans and the environment, so the United States Environmental Protection Agency (EPA) has designated them as "Superfund sites" for high priority cleanup. Some sites cover several hundred hectares of land.

I was really concerned about these environmental messes, so I decided to learn how I could help. Prior to my career as a diplomat, I studied environmental science and worked as a scientist developing new technologies to remediate environments polluted with heavy metals, especially lead. I conducted research at former mining sites in Colorado, Idaho and Missouri, and developed innovative new technologies to reduce the bioavailability (the amount of metal that a person, animal or other living organism absorbs) to a safe level. Using custom blended compost made from organic residuals like biosolids from waste water treatment, fly ash and logyard waste, we were able to remediate the sites and get plants and other wildlife to return to the area. It was very gratifying work to see life return to places where nothing had grown for a hundred years.

Although I really enjoyed working as a scientist, I eventually returned to my passion of public engagement. As a diplomat, I travel the world and talk to people about all kinds of important topics, including environmental issues, human rights and education. I love my job of representing the United States and building connections between Americans and other people in other countries. I no longer work as a scientist, but I do look for ways to reduce my carbon footprint and help make the planet greener in small ways every day.



NASA Satellite Maps Show Human Fingerprint on Global Air Quality

This global map shows the concentration of nitrogen dioxide in the troposphere as detected by the Ozone Monitoring Instrument aboard the Aura satellite, averaged over 2014. Using new, high-resolution global satellite maps of air quality indicators, NASA scientists tracked air pollution trends over the last decade in various regions and 195 cities around the globe."These changes in air quality patterns aren't random," said Bryan Duncan, an atmospheric scientist at NASA's Goddard Space Flight Center in Greenbelt, Maryland, who led the research. "When governments step in and say we're going to build something here or we're going to regulate this pollutant, you see the impact in the data." Duncan and his team examined observations made from 2005 to 2014 by the Dutch-Finnish Ozone Monitoring Instrument aboard NASA's Aura satellite. One of the atmospheric gases the instrument detects is nitrogen dioxide, a yellow-brown gas that is a common emission from cars, power plants and industrial activity. Nitrogen dioxide can quickly transform into ground-level ozone, a major respiratory pollutant in urban smog. Nitrogen dioxide hotspots, used as an indicator of general air quality, occur over most major cities in developed and developing nations.

Photo: NASA

Thomas Culhane: I Take Environmental Care Very Seriously

Thomas H. Culhane is a professor at the University of South Florida in the Patel College of Sustainability in Tampa, Florida where he teaches courses on Food, Energy, Water Nexus, Waste Not, Want Not, and Zero Waste. Additionally, he is the director of the Climate Uncertainty Mitigation and Adaptation Program. Previously, he also worked for four years at Mercy College in New York, helping to develop an Environmental Sustainability and Justice Program in the aftermath of hurricane Sandy. Culhane explains, “My job, my mission, my passion is to look for technologies and look for processes and community possibilities to erase suffering, to end suffering and to bring a bright, beautiful future for everybody using our human ingenuity and compassion and our ability to come together and try out scientific ideas.”

Culhane explains how his passion for environmental issues began at a very young age while he was living in Chicago during the 1960s. He describes how the air was filled with smog, Lake Michigan smelled of dead fish, and the sunrises were obscured with black smoke from factories. In a visit to the village of Dohuk, Iraq where his mother was born, he was shocked by the cleanness, functionality, and simplicity of life there in comparison to his life in Chicago. Culhane and his family later moved to New York where he became even more concerned with the devastating conditions of the environment both in and around New York City. Eventually Culhane applied to Harvard with an essay explaining his goal of creating a utopia. Culhane explained in his essay, “I see a utopia where all can come together despite our differences and use our differences to make a diverse ecology. That the world should celebrate diversity. We should have as many different types of human beings, cultures, animals, plants, and microbes.” He was accepted to Harvard and began to study biological anthropology and human evolution. After two years Culhane left to live in Egypt where he taught English to the poor and performed with the Egyptian circus. His work with the poor inspired him to return to Harvard upon his realization, “everybody I need in the world, almost, is kind, generous, loving, interested, curious, hopeful, and optimistic.” After completing his studies, Culhane received a fellowship grant from the Rockefellers enabling him to explore other cultures.

First he went to Borneo to live in the primary rainforest, deep in the jungle with the Malayu tribes’ people. After a year in the jungle he then traveled to live with the Dayuk tribes as he continued to try and get to know the people and understand how they saw the world. Culhane concluded, “They saw a different world than we do. They saw a world where nature had given us all of this gift and if we use our intuition, and imagination and our cleverness and work together, we could turn a tree into a canoe. Or we could turn rattan branches into a house. Or we could take the sap that came out of the tree and make lamps out of it. To them the world was just resources and if you honored nature, the resources would come back.”

In the wake of this discovery, Culhane developed the idea, “That if we made cities like rainforests or made them like coral reefs, and again increase the diversity; a city could be a miraculous place of love, growth, and life.”

Culhane began to try and understand why oil and coal are being used in place of solar, wind and water to power our lives. He could not understand why these renewable resources were not being used more by the advanced parts of the world when there is almost no difference in the technologies required to harness them and the technologies used in everyday items such as cellphones. Culhane discovered that “actually a clean, healthy economy is easier and cheaper, not harder.” As a result he decided to teach in the inner city in the poor areas of America. His goal was to teach the students science so they could improve their own lives. Culhane was teaching in Los Angeles when an earthquake hit which cut off power, gas, water, and collapsed highways. Although everything was restored in the rich areas of LA within a week, the poorer areas had to wait a month. Culhane used this experience to inspire his students to discover innovative ways such as solar power and growing their own food to overcome the difficulties. Culhane concludes, “Living through that earthquake in the aftermath I’ve become a passionate teacher of sustainability.”

Thomas Culhane meets with Polish students to discuss ways of recycling and using renewable resources in our everyday life. Photos: U.S. Consulate Krakow

Ways of Improving: Some Examples

Renewable energy for Alaska: Alaskan communities have banded together to build their energy future. Fifty-eight villages, all but one accessible only by boat or plane, belong to the nonprofit Alaska Village Electric Cooperative (AVEC). Launched in 1968, AVEC serves Athabascan, Aleut, Inupiat, Yupik, Siberian Yupik, and Caucasian communities. Each member village elects a delegate to AVEC's annual cooperative meeting. In the photo is AVEC mascot Little Picu, a sealskin doll in traditional Alaskan clothing, that travels with the utility's employees wherever they'll take him, including to the top of the towers that capture the Arctic winds. Photo by Alaska Village Electric Cooperative (AVEC). See also the Share America article, Facing climate change, Alaskans embrace green energy.
https://www.flickr.com/photos/iip-photo-archive/20418794123/in/album-72157660550478167/

Turbine train: Wind turbine blades wind their way by train through Denver. (Department of Energy photo by Dennis Schroeder / NREL)

Renewable Energy Development in the California Desert:
The Desert Renewable Energy Conservation Plan (DRECP) is an innovative landscape-level plan that streamlines renewable energy development while conserving unique and valuable desert ecosystems and provides outdoor recreation opportunities.
www.DRECP.org.
Photo by BLM / Tom Brewster Photography.

Source: IIP Photo Archive, FLICKR

Karolina Sanchewska: Small and Giant Terrariums

Did you know that most people suffer from plant blindness? Plant blindness refers to the phenomenon of people taking plants for granted, of allowing them to blend into the background rather than seeing them as the living, breathing organisms that the whole world relies on.

It's easy to get people to care about charismatic animals like pandas or tigers, but what about endangered plants? How do you get someone to be passionate about conserving a tiny, seemingly inconsequential plant like a moss? Mosses are the small fuzzy plants that you can find growing on everything from the side of a building to a rotting log. They often go unnoticed and are even thought of as, "some weird green mold". On the contrary, mosses are very special plants. They were the first plants to live on land and can be found growing on every continent on Earth, even Antarctica! Even if you know what a moss is, you might wonder, "What's the big deal about mosses? Would it really be such a catastrophe if they weren't around?". The answer is, yes! Mosses are the water reservoir of entire forests and so much more!

These are the kinds of perceptions that I have been working to change during my year as a Fulbright researcher here in Poland. To this end, I began "Project Terrarium", which I've brought to elementary schools in Kraków. After talking to students about mosses and their importance in forest communities as well as the value of biodiversity, every student gets to make his or her very own terrarium. To make a simple terrarium, all you need is a clean jar, some sort of drainage material such as gravel, soil, mosses, and a few spritzes of water. With this kind of terrarium, you can close the jar and never open it again, yet life will continue to flourish inside of your terrarium with no additional help from you. Making a terrarium can be a fun activity at any age and they are nice as a decorative piece as well, but you can also learn a lot from them.

A terrarium is a closed ecosystem that is always there for you to observe. Inside the jar, water evaporates and then rains back down along the sides of the jar. Some mosses grow taller, while others die and decompose. Little bugs that were hiding in the moss when it was collected will multiply and serve as your "wildlife". Observing a moss terrarium on a daily basis can help attune one to a whole new perspective of the natural world. You'll stop thinking of moss as, "some weird green mold", and start thinking of it as the trees in your miniature forest. You'll gain the perspective of the numerous small and even microscopic organisms for whom moss is the whole world. In a way, terrariums are like ambassadors of nature. They are always there, serving as a reminder of all the other organisms that we share our own giant terrarium, the planet Earth, with.

Karolna Sanchewska, a Fulbright Scholar

Karolina Sanchewska with a terrarium, photo by Michelle C. McAdams

ACTIVITY PAGE

May-June 2018
TRIVIA QUESTION

What is the goal of Alaska Village Electric Cooperative (AVEC)?

Send the answer (with your home address) to:
KrakowAIRC@state.gov

The 2nd, 6th and 8th correct answer will be awarded with a book prize

Deadline: August 15, 2018

March-April 2018

Answer:

J. William Fulbright

The winners are:
Tomasz from Szczecin,
Magda from Sosnowiec and
Helena from Gdansk

CONGRATULATIONS!!!
The prize will be sent to you by mail.

Zoom is online at
www.usinfo.pl/zoom/

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Exercise 1. Writing

Decathlon vs. decathlon

Strength, precision, perseverance. Which of these nouns best relate to the Olympic and which to the solar decathlon?

Write 1-2 paragraphs (up to 250 words) on the topic.

Exercise 2. Speaking

Work in pairs. Choose one of the photos on p. 8 and describe it to your partner. Then listen to their presentation of the other photo. Discuss the problem illustrated in the first photo. What are the causes of the smog? What measures have to be taken to help clean the air in a region/city? What can we do individually to reduce the problem?

Exercise 3. Reading

Read the articles on pp. 3-4 and decide who is referred to in the sentences below: Pam or Thomas or both?

1. This person is a diplomat.
2. This persons loves nature and is concerned about the natural environment.
3. This person engages in environmental issues.
4. This person wishes cities were made like rainforests or coral reefs.
5. This person believes solar, wind and water power should be used more widely.
6. This person studied environmental science.
7. This person helped to develop an Environmental Sustainability and Justice Program in the aftermath of hurricane Sandy.
8. This person believes an individual can help preserve the natural environment.
9. This person travels the world and talks about environmental issues.
10. This person believes the world should celebrate diversity.

Exercise 4. Speaking

Work in groups of 4-5 students. Prepare a short presentation on which environmental issues are the most pressing ones in your region. How can these issues be resolved? What do you personally do to care for the natural environment? Give a few good and bad examples of how human activities affect the environment.

After each presentation, ask and answer questions in your group.

At the end, prepare a list of activities your group will undertake to help preserve the natural environment.

New York City skyline enveloped in heavy smog, May 1973. Photo by Chester Higgins/NARA.

Aerial view of New York City's Manhattan Island, 2006. Photograph by Carol M. Highsmith.
Source of photos: IIP Photo Archive, FLICKR