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PROMOTING SUSTAINABLE LIVING AND RENEWABLE ENERGY FOR THE FUTURE OF OUR PLANET
ngosustainability@gmail.com | unngosustainability.org

"Destroying a rainforest for economic gain is like burning a Renaissance painting to cook a meal." *-Edward O. Wilson*

"Nobel Prize in Physics Awarded for Study of Humanity's Role in Changing Climate"

The New York Times by Cade Metz, Marc Santora, and Cora Engelbrecht

Photo: *Jonathan Nackstrand/Agence France Presse-Getty Images*

The Nobel Prize in physics has been awarded to three scientists, Klaus Hasselmann, Giorgio Parisi, and and Sykuro Manabe, for their creation of climate models that have been foundational to our understanding of climate change. Dr. Manabe, a meteorologist and climatologist at Princeton University, has been credited for creating the first computer model that connected carbon dioxide emissions to global warming. Dr. Hasselmann, a physicist and oceanographer, created a model that connected weather phenomena to long term climatic trends. Finally, Dr. Parisi, a theoretical physicist, discovered the interconnections between disorder and fluctuations in natural systems like the Earth's climate. This marks the first time a Nobel Prize has been awarded for climate science.

Full Article

“Epithalamia” By Joan Kane

Joan Naviyuk Kane, an Inupiaq poet, grew up in Anchorage, Alaska. Her family originates from both King Island, and Mary’s Igloo, Alaska. Her poem Epithalamia*, which is a word that relates to a song or poem celebrating marriage, touches on the environment present in her Arctic homeland. This particular poem features her take on climate change and how it presents a threat to her community. She is the author of many poetry collections that highlight the culture, struggle, and diaspora of her people by the Bureau of Indian Affairs’ who forcibly relocated King Island residents in the mid-twentieth century.* Dark Traffic (2021), *and* Milk Black Carton (2017) *are just some of her most recent works. Her ability to utilize lyrical and sonorous styles has earned her several honors. These include a Whiting Writers’ Award, and fellowships and residencies from the Native Arts and Cultures Foundation. Her main goal is to continue to educate the younger generation of indigenous people about their culture, as a fight to restore what has been lost.*

Butane, propane
and lungful of diesel.
I did not stand a chance.

Always with poison
breath, bill, responsibility:
a man with rote hands.

Everything in exchange,
rain in a frozen season.
Our roof, roofs strung

with hot wire. Our love,
what was, an impression
of light, gaunt: there is

nothing to get.

-*Joan Kane*

“The Most Important Meeting You’ve Never Heard of is Now”
The New York Times by Catrin Einhorn

Photo: *Agence France Presse- Getty Images*

As the world fixates on the upcoming UN climate summit in Glasgow in November, diplomats gather in Kunming, China for the first half of the 15th Conference of the Parties (COP) of the UN Convention on Biological Diversity (CBD). The conference seeks to address global biodiversity loss, which is driven primarily by habitat fragmentation and overfishing. Alongside climate change, biodiversity loss is another major threat to the Earth’s processes, but it has historically received much less attention. The conference’s main agenda involves adopting ambitious targets, including conserving 30% of the Earth’s surface by 2030 and reducing synthetic pesticide use by two thirds. The second half of COP 15 will be held in-person in April 2022.

Full Article

“Biden, World Leaders Push Climate Action, Vow Methane Cuts”
The Associated Press by Ellen Knickermeyer and Matthew Daly

Photo: *AP Photo/Evan Vucci*

President Biden called the climate crisis “a code red for humanity” in response to the IPCC’s report, which corroborated that irreversible damage to the earth is imminent. He therefore touted a new agreement between the US and EU to cut methane emissions 30% by 2030 at a White House event with other world leaders. Since methane is far more potent than carbon dioxide, curbing methane emissions is considered a quicker method to reducing atmospheric carbon. Sources of methane include current and former oil wells, which often leak significant amounts of the gas. The EPA is expected to soon reveal methane emissions standards even stricter than those under President Obama’s administration, which President Trump had repealed.

Full Article

“Children Born in 2020 Will See Spike in Climate Disasters, Study Says”
Mongabay by Ashoka Mukpo

Photo: *Oxfam East Africa via Wikimedia Commons*

A new study claims that a person born today will experience 2 to 7 times the number of climate related natural disasters than a person born in 1960 based on the current global warming rate. The study’s predictions were conservative and did not consider the severity of future disasters. Experts also state that future climate-related disasters will disproportionately impact children born in politically and economically insecure countries. For example, children born in Iraq are projected to experience more droughts and crop failures, and children born in Afghanistan are predicted to experience more wildfires. This study emerges in the leadup to COP26, and after U.N. Secretary-General António Guterres and other experts warned that the world (especially developed, wealthy countries) must make drastic changes to limit climate change.

Full Article

“Arctic Sea Ice Hits Annual Low, But it’s Not as Low as Recent Years”
The New York Times by Henry Fountain

Photo: *Ekaterina Anisimova/Agence France Presse*

The National Snow and Ice Data Center released new data showing that the minimum extent of sea ice in the Arctic Ocean reached 1.82 million square miles. This is the 12th lowest value since record keeping began, but 25% higher than the minimum sea ice extent in 2020. The increase in ice extent in 2021 is attributed to natural climatic variations that produced cold and stormy conditions strong enough to counteract the trend of anthropogenic global warming. However, the thickness of Arctic sea ice has continued to decrease, with major ramifications for both ecosystem functions and climate change. Climate change has led to the 15 lowest recorded minimum Arctic sea ice extents within the past 15 years.

Full Article

“Global Natural Gas Crunch Roils Consumers and Industry”
The New York Times By Stanley Reed

Photo: *Eddie Seal/Bloomberg*

Utility bills have surged as the world is worried about running short of natural gas. Officials in countries around the world have needed to import this expensive resource as a result of the pandemic and other environmental related disasters. As a major gas exporter, the United States benefits from the high global demand. Prices have risen to some of their highest levels, as many countries are turning to natural gas as a substitute for coal. Additionally, the pressure on the natural gas markets is pushing oil prices higher as well, as people who usually depend on gas are now switching to oil. The severity of the next few months will determine if the prices continue to climb or dramatically drop. A warm winter will spur a decrease in the demand for heat and a drop in prices.

Full article

“At Climate Summit, Can the World Move From Talk to Action?”
Yale Environment 360 by Fred Pearce


Photo: *Patrick Pleul/Picture-Alliance/DPA/AP Images*

Heads of state are making new ambitious pledges to dramatically reduce their carbon emissions ahead of the upcoming UN climate summit in Glasgow this November. This has created hope of limiting global temperature rise to below 1.5℃, especially as 130 countries that account for 70% of global emissions have pledged to achieve net zero emissions. However, countries will need to reduce their emissions by 45% by 2030 compared to 2010 levels in order to avoid 1.5℃ of warming. Officials at Glasgow will discuss other climate-related issues, including setting a global phase-out date for coal, providing aid to developing countries, and reducing methane (CH_4) emissions. It remains unclear whether concrete targets and policy or more aspirations emerge from Glasgow.

Full Article

“Technology Can Help Deliver Cleaner, Greener, Delicious Food”
The Economist by Jon Fasman

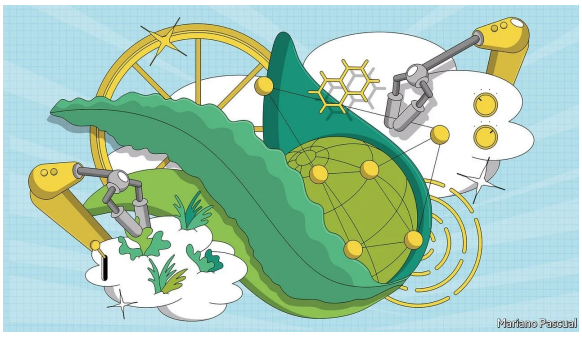

Photo: *Mariano Pascual*

In any American supermarket, a variety of foods from around the world can be found. This is proof that we manipulate our planet in ways once thought impossible, with huge movements of energy needed to grow our food, keep it healthy, and ship it across oceans. Our food is cheap and plentiful because we largely have no regulations to make its production less hazardous and cruel, which has led to activism in this area. Also, science can be leveraged to massively change the world’s food production. Lab-grown meat is probably the largest part of this movement. It has come a long way in a decade, and its price has decreased significantly. But most people are still wary, and as long as traditional meat remains cheaper, it will especially be difficult to catch on.

Full Article

“A New Method For Removing Lead From Drinking Water”
ScienceDaily by Massachusetts Institute of Technology


Photo:

The removal of toxic metals such as lead from water is primarily challenging because they are present in tiny concentrations and are vastly exceeded by other elements and compounds in water. Most existing processes remove every element at once, which requires much more energy than what would be required for a selective removal, but small amounts of elements such as sodium and magnesium are essential for drinking water. Engineers at MIT introduced shock electrodialysis, an approach which results in a 95% reduction of lead from the stream. The process still has some limitations; it has only been done in a laboratory setting and requires a slow flow rate. Scaling up the process will require further research, but has promising implications.

Full Article

“As Tigers Dwindle, Indonesia Takes Aim at Poaching Ring”
Mongabay by Junaidi Hanafiah

Photo: *Courtesy of Indonesian Forestry Ministry*

Indonesian law enforcement seeks to dismantle a wildlife poaching ring that was uncovered when a man was arrested while carrying the skins and bones of critically endangered Sumatran tigers, as well as pangolin scales. In recent decades, habitat loss and poaching dwindled the Sumatran tiger population to only 200. While Indonesian authorities now attempt to crack down on poaching, experts state that the trafficking networks are very difficult to detect and that buyers of animal parts do not directly involve themselves in transactions. In the past year, multiple traffickers have been arrested in connection to separate tiger, pangolin, and elephant trading rings.

Full Article

“NOAA OKs Plan to Cut Salmon Fishing When Needed for Orcas”
E&E News by Associated Press

Photo: *NOAA Fisheries/Northwest Fisheries Science Center*

Federal officials approved a plan to cut back on non-tribal salmon fishing along the West coast in order to help improve killer whale populations in the Northwest. The plan, adopted by NOAA, restricts commercial and recreational salmon fishing when chinook salmon populations are dwindling. Chinook salmon remain important for killer whales year-round, but this is the first time a federal agency is restricting the fishing of a species to benefit a predator. The restrictions will cover areas from Puget Sound, Washington to Monterey Bay, California. Fewer than 966,000 chinooks are expected to return to rivers in the northwest, a number that has not been so low since 2007.

Full Article

Our interns at NGO Sustainability frequently report on groundbreaking environmental organizations. Here is intern Jesus Oliveros' report on the National Snow and Ice Data Center (NSIDC).

Photo: *National Snow and Ice Data Center*

The National Snow and Ice Data Center (NSIDC) conducts research into our world's arctic and its snow, ice, glaciers, permafrost, and interactions with the climate. The NSIDC manages and distributes scientific data collected from the Arctic, creates tools that promote data access, performs scientific research on various topics related to the Arctic, and educates the public about the world's cryosphere.

The NSIDC is currently directed by Mark Serreze, an expert on the Arctic and the impacts of climate change on the region. Serreze succeeded former director Roger Barry in 2009. Serreze, who has been a senior research scientist at NSIDC since 2005, is also a professor at the University of Colorado at Boulder's Geography Department, a Fellow of the Cooperative Institute for Research in Environmental Sciences (CIRES), and the American Meteorological Society. He specializes in Arctic climate, and the causes and implications of climate change in the Arctic.

Serreze is well known for his work researching the declining sea ice cover in the arctic, co-authored the textbook *The Arctic Climate System*, and has published over ninety scientific pieces.

The NISDC was founded 1976 as an analog archive and information center and was known as the World Data Center for Glaciology. In the present day, NSIDC has expanded its mission to include managing cryosphere-related data sourced from small text files to vast quantities of remote sensing data coming from NASA's Earth Observing System satellite program.

The NSIDC research and scientific data management operations are supported by the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), and other federal agencies. NSIDC receives its funding through competitive grants and contracts.

Each week, our interns at NGO Sustainability choose special topics of interest to report on. We believe our interns should explore issues they are passionate about within the sustainability field and we look forward to sharing some of the most interesting aspects of this work with you. Here is intern Andrew Miller's report on the history of international biodiversity policy and the ongoing UN biodiversity summit.

The Convention on Biological Diversity (CBD) was established in 1992 at the Earth Summit in Rio de Janeiro with three main goals; to conserve all forms of biological diversity, ensure the sustainable use of nature, and secure the fair and equitable sharing of the benefits of genetic science. CBD members meet annually at Conferences of the Parties (COPs) to discuss the past, present, and future of the convention.

Several significant frameworks and protocols have emerged from the CBD, most notably the 2010 Aichi Biodiversity Targets. The Aichi Biodiversity Targets were a set of strategic goals and targets created in 2010 at COP 10. The framework was composed of five broad strategic goals and twenty specific targets related to different challenges facing biodiversity today. If the goals were achieved they would have protected 17% of the world's terrestrial ecosystems and 10% of all marine ecosystems by 2020, reducing habitat loss by half. The five strategic goals outlined in the framework were broad in nature and provided an overall outline with which to base the more specific targets off. The goals included mainstreaming biodiversity throughout society, reducing pressures on biodiversity, and enhancing the benefits biodiversity and ecosystem services provide humans. Each strategic goal had several sub-targets, many of which were less vague and had quantitative endpoints that policymakers could measure to determine progress and success. The targets covered topics ranging from mitigating pollution to halting the spread of invasive species. Signatories to the CBD were supposed to create nationally determined plans with voluntary contributions, much like those aimed to reduce greenhouse gas emissions under the Paris Climate Agreement. However, industrialized countries failed to provide adequate funding in 2010, limiting the ability of developing countries to achieve the goals.

Despite the fanfare surrounding the goals' creation the international community failed to meet any of the twenty targets. This failure was a crushing defeat in the effort to prevent a sixth mass extinction and lays the groundwork for discussions at the upcoming COP 15 in Kunming China this October. The main task of COP 15 will be to create a Post-2020 Framework on biodiversity that aligns with the UN's 2050 Vision "Living in Harmony with Nature." However, creating an effective post-2020 framework is expected to be extremely difficult as not one of the 20 Aichi Biodiversity Targets were met on an international scale. Avoiding the failings of the Aichi Targets must not be replicated if the framework is to succeed. A recently released draft laid out extremely ambitious goals such as reducing nutrient pollution by half, ending plastic pollution, and decreasing pesticide use by two thirds are striking some as unrealistic without clear pathways on how to achieve those goals. But most ambitiously, the main mid-century goal of the draft is to reduce extinctions 90% by 2050.

What is achieved at COP 15 will determine the future of life on earth for millenia to come, and any framework or policy produced at the conference must meet the scale of the crisis. The adoption of an effective post-2020 framework is also critical to meeting the world's climate goals stipulated under the Paris Climate Agreement. Preserving and restoring ecosystems, especially peatlands, mangroves, and kelp forests, will help sequester significant amounts of carbon dioxide. Restoring peatlands alone could sequester up to 10 gigatons of equivalent CO_2. However, COP 15 has been divided in two, because of the COVID-19 pandemic, with a virtual first session lasting from 11 October to 15 October, and an in person session from 25 April to 8 May 2022. Thes delays will only make it harder to agree upon and successfully implement the post-2020 framework, further imperiling both the world's biodiversity and climate.

Producer: Roma Stibravy, President
Editors: Andrew Miller (St. Lawrence University) and Lara Zullow (McGill University)
Contributors: NGO Sustainability Interns