

Sustainability Newsletter

November 2020



(Photo of Saint Peter's Native Plant Garden by Dr. Katherine Wydner)

Welcome to the our Inaugural Newsletter

The Sustainability Council at Saint Peter's has been active for many years, but you may have never heard of us. With the monthly publication of this e-newsletter, we hope to change that. It is our intention to use this platform to inform, inspire, and bring together our campus community around all things related to sustainability. Your comments, ideas, events, and feedback are always welcome and can be sent to skeller1@saintpeters.edu.

Help us Name our Newsletter and Win \$50!

While the Sustainability Newsletter is an apt title, it's certainly not very catchy. We invite Saint Peter's students to submit a catchy name for our new newsletter to skeller1@saintpeters.edu. The council will select the winning name and award a \$50 visa gift card to the student who submitted it. Please email your submissions by November 13.

November Events: Save the Date

- Thursday, November 12 at noon: [Community Conversation - Is there a plus side to this global pandemic?](#) The Sustainability Council at Saint Peter's invites you to a conversation about the feature article below. We would love to hear of any silver linings to this pandemic that you've experienced. Click the Zoom link above on Nov 12 at noon.
- Thursday, November 12 from 3pm to 5pm: **Junkyard Dogs Neighborhood Clean-up.** Meet at Panepinto Plaza at 3pm. Please wear a mask.
- Friday, November 13 at 11am: [First Nations - Ethical Landscapes, Sacred Plants](#). This virtual symposium brings together indigenous environmental experts to discuss ethical, sustainable land use.
- Saturday, November 14 from 10am to noon: the [Journal Square Community Association November meeting](#) will be livestreamed on their [Facebook page](#). Featured speakers include Kate Lawrence, Director of Jersey City's Sustainability Office, who will discuss Jersey City's proposed Climate Action Plan, and Debra Kagan, Executive Director of the NJ Bike & Walk Coalition, who will discuss the proposed Essex-Hudson Greenway, an 8.6 mile abandoned railway line running from Montclair to Jersey City.
- Thursday, November 19: [Peacock Smokeout Day](#) from 8am to 1pm
- Thursday, November 19 at noon: **Diet & Vision Symposium** sponsored by Dr. Laura Twersky's classes, to benefit the [Himalayan Cataract Project](#).
- Thursday, November 26: *Have a wonderful Thanksgiving holiday!*

Monthly Challenge: Buy Local & Sustainable



November is about more than one election! As the holiday gift-giving season ramps up this month, you are 'voting' for winners and losers when you choose where you spend your dollars. This season, for example, will you be voting for chain stores or the locally owned businesses in your town? Maybe you would like to 'vote' for minority-owned enterprises or a business that gives back in some way. Farmer's markets, [slow fashion](#), local artisans or even your own creations can reduce environmental impact and be meaningful. Whatever your definition of '[buy local](#)', we invite you to think about your personal values (what is important to you, such as creativity, sustainability, community) with your holiday shopping.

Our Favorite Hikes: The Stairway to Heaven Trail

by **Scott Keller**, Director of the Center for Global Learning



At a recent Sustainability Council meeting, everyone present agreed that getting out into nature is one of the activities that has most contributed to our mental health in 2020. In each monthly newsletters, we plan to highlight a natural place within a two hour drive from campus that we most love to visit. This month, I'd like to highly recommend that you hike the [Stairway to Heaven trail](#) near Vernon Township, NJ. About a 90-minute drive from campus, this trail is described as 'moderate.' We found it to be quite challenging on a humid summer day, however the views from the top were definitely worth the effort! My recommendation is to put a picnic (and plenty of water!) in your backpack and enjoy it on the rock ledges at the top while taking in the beautiful views. As a bonus, the [Heaven Hill Farm](#) is across the street from the trailhead parking lot, so you can treat yourself to an ice cream after climbing back down the mountain.

(Pictured here at the top of the Stairway to Heaven are Saint Peter's adjunct professors of Data Science Nandini Khatod, Rohan Thorat, and Metin Senturk along with alumna Preethi Ravi.)

What We're Reading & Watching

Some articles that Council members found most intriguing lately:

- ['Massive' coral reef taller than the Empire State Building found](#) (CNN)
- [Arctic sea ice at record low October levels](#) (phys.org)
- ['Sleeping giant' Arctic methane deposits starting to release](#) (The Guardian)

A documentary recommendation:

- [David Attenborough: A Life on Our Planet](#) (available on Netflix)

Dr. Laura Twersky writes, 'This is an important environmental conservation documentary on the loss of biodiversity and our future.'

Community Voices: The Plus Side of a Global Pandemic

Dr. Brandy Garrett Kluthe, Biology Department

The global pandemic caused by the coronavirus has impacted nearly everyone. We have had to shift our way of life to something that looks very different than before. In my house, we have had to learn to make fewer trips to the store, get creative in how we learn, and find new ways to stay connected. I have enjoyed more outside time, less commute time, and generally slowed down in my extracurricular activities. I especially have taken more time to explore my natural environment; I even planted a garden, as have many others in New Jersey. It makes me wonder, could this pandemic be good for our environment?

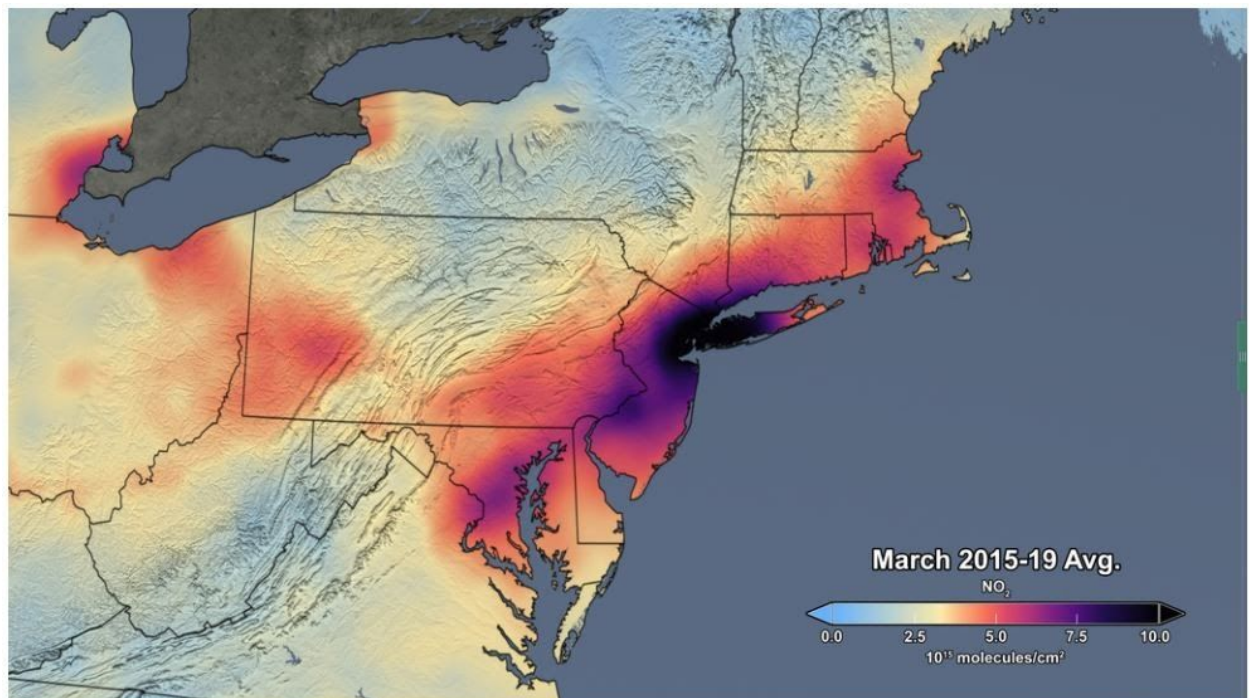
By April 2020, about half of the world's population was on a lockdown to reduce the spread of COVID-19. This reduction in the movement of people started to have a dramatic impact on the visual air quality in large cities around the world. News outlets started to show images of the clearer air. The images below were from an April 23rd CNBC report.

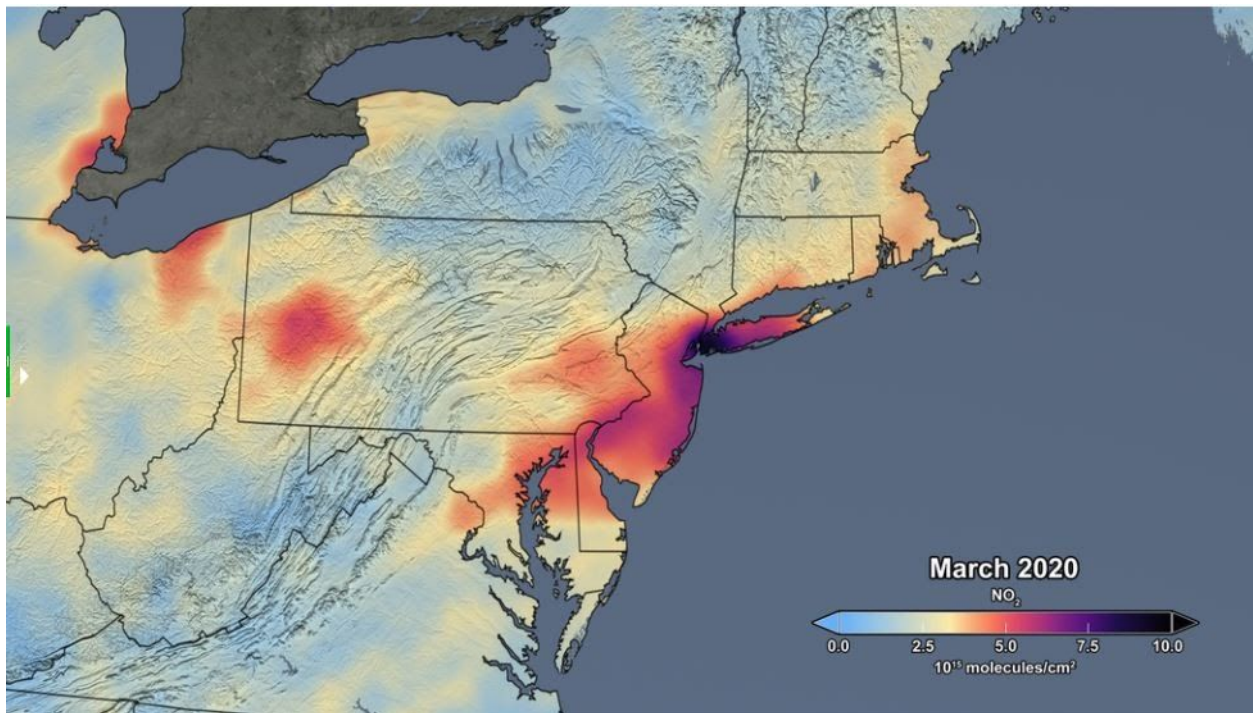
India Gate war memorial in New Delhi



Reuters

The top picture shows the India Gate war memorial on October 17, 2019, months before the nationwide lockdown. The bottom picture shows the memorial after air pollution levels began to drop during the lockdown in New Delhi on April 8.





The NASA satellite imagery above shows a 30 percent reduction in air pollution in the northeast due to the shutdown order.

The stay at home order appeared to be having a very positive impact on our global health. As illustrated in the images above, the reduction in carbon dioxide emissions both from industry and transportation were being recorded by climate monitoring stations around the world. This unexpected environmental experiment seemed to be indicating that we might be able to really impact the climate change crisis with the implementation of these drastic measures. For certain, people were noticing how changes in the way we move around in our communities could improve air quality. To see if this was indeed true, a closer look at the data is important.

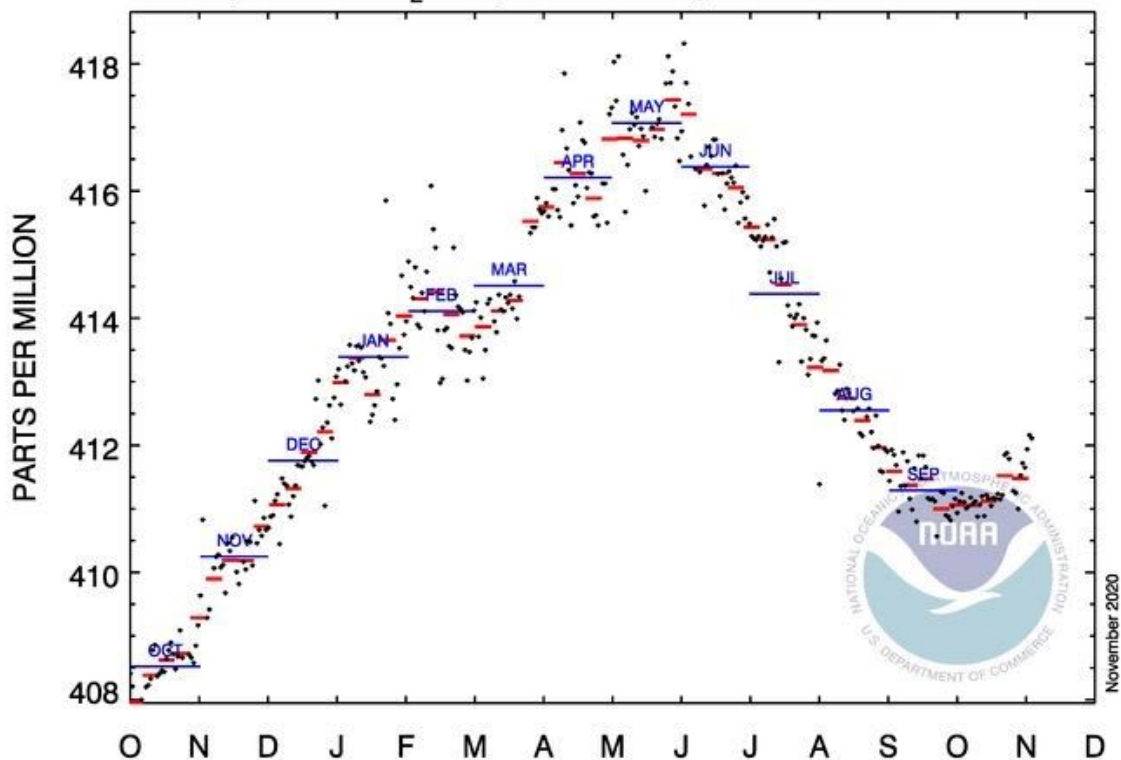
Week beginning on October 25, 2020: 411.48 ppm

Weekly value from 1 year ago: 409.21 ppm

Weekly value from 10 years ago: 387.83 ppm

Last updated: November 3, 2020

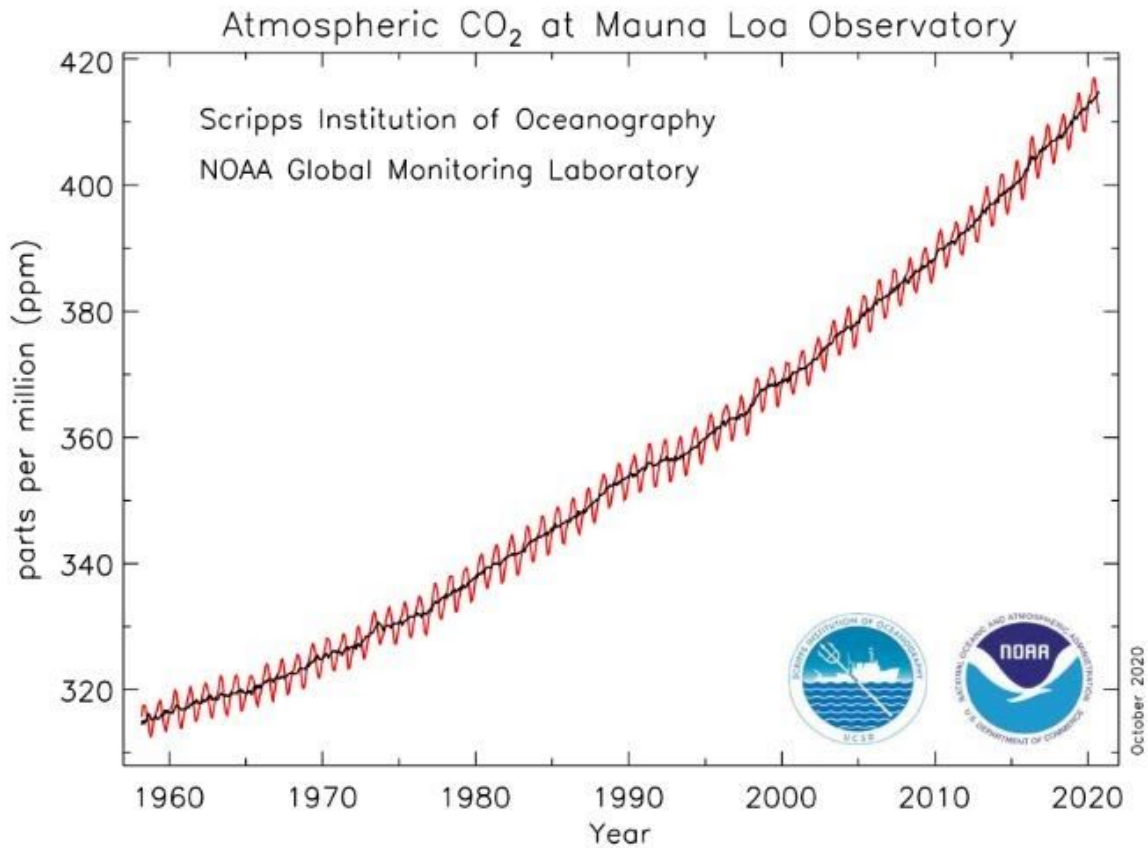
One year of CO₂ daily and weekly means at Mauna Loa



Preliminary weekly (red line), monthly (blue line) and daily (black points) averages at Mauna Loa for the last year.

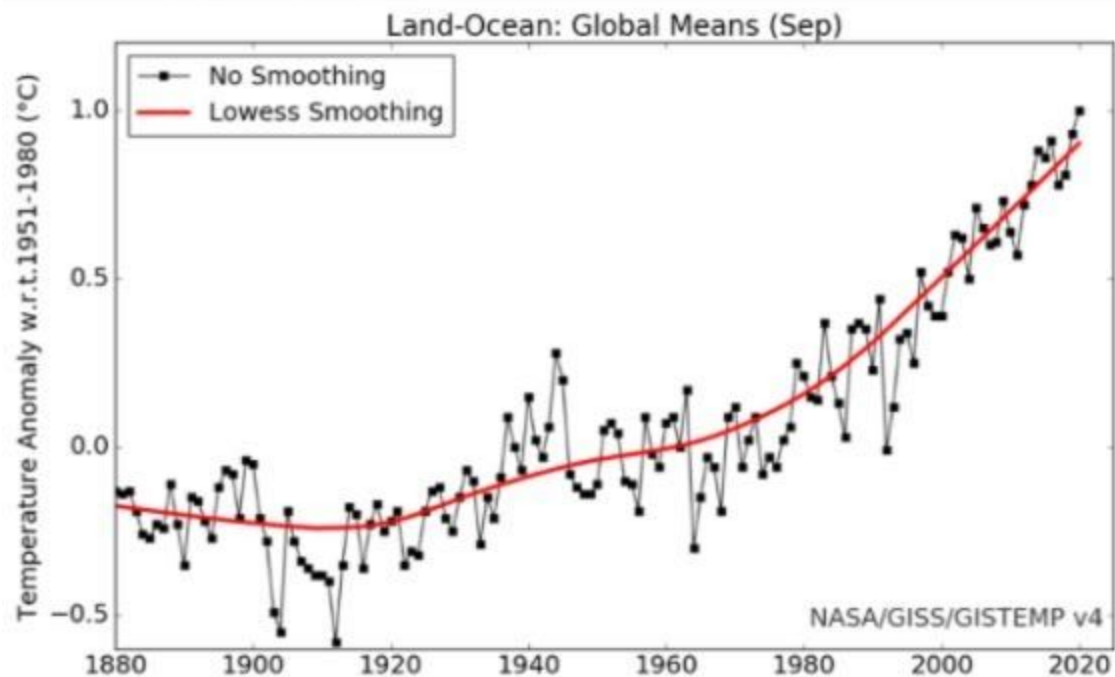
The graph above shows the carbon dioxide levels in the atmosphere for the last year. Carbon dioxide (CO₂) is a greenhouse gas and one that we generally attribute to human activity and the burning of fossil fuels which releases the CO₂ into the atmosphere. The more CO₂ in the atmosphere the more effective the planet is at trapping wavelengths of energy, which means we warm up, hence the term “greenhouse effect”. Now this is a good thing, if we didn’t have greenhouse gasses, we couldn’t support life as we know it. The problem happens when we get too good at trapping the energy (heat), this causes climate change and an overall temperature increase on the planet. Take a look at the graph above again. You can see a quick downturn in CO₂ levels starting in February 2020; this is a direct result of the coronavirus shutdowns, human activity was reducing the amount of CO₂ being added to the atmosphere. You may also notice that beyond May we start to have a nice bell shaped curve and you might think that the CO₂ levels are really reducing. This is part of the normal yearly cycle of CO₂ in the atmosphere. If you’ll remember from your biology classes, plants need CO₂ for photosynthesis. So when the temperate regions of the world are full of growing plants (think spring and summer), they will reduce the amount of CO₂ in the atmosphere, in a term we call “scrubbing”. This is why the yearly graph above looks like a bell, to account for the scrubbing of CO₂ from photosynthetic activity. Carbon dioxide is a molecule that can persist for a long time in the atmosphere; this is why scrubbing is important, because it removes CO₂ from the atmosphere. Here’s the part that

should also be evident, the shutdown in the spring didn't have much of an impact in the overall CO₂ levels in the atmosphere. If you look at the green box above the graph you will see the CO₂ numbers for the last year and the last ten years, which clearly show and increase in CO₂ levels.



This graph shows the amount of atmosphere CO₂ from the mid 1950's to today. The red line indicates the seasonal variation due to photosynthetic activity. This graph also visually indicates the rise in atmospheric CO₂ with no indication of an impact from the reduced human activity caused by the coronavirus pandemic. As if 2020 couldn't get any worse, it was just reported that September 2020 was the warmest on record since modern record taking!

UPDATE: September 2020 was the warmest September globally since modern record-keeping began in 1880, measuring at 1.0 °C (1.8 °F) above the 1951-1980 baseline average. The eight most recent Septembers have also been the warmest.
<https://data.giss.nasa.gov/gistemp/>



If you've made it this far in the article, I have some warnings and finally some words of encouragement. Environmentally, the pandemic has taught us a few things. First, and this is the warning, it will take a massive effort on the part of world leaders, industry and individuals to see a lasting reducing impact on our atmospheric carbon dioxide levels. For improved global health to occur, we have to really change how we use our resources. Secondly, we CAN see a difference in our environment when we do things differently as was evident in the improvement of air quality around the globe. We can work more from home, we can get by with less stuff and we can do little things to improve our environment. I think this has also made us more aware of the direct impact we (humans) have had on the climate of the Earth. Lastly, many people, me included, were able to take a moment and get outside and renew our appreciation of the diversity and wonder of the places we live. This is important because the more we are aware of what is happening on our planet, the more invested we are in environmental improvement. Big action needs to happen but we have also learned that we all have influence and a role to play in climate change mitigation.

A thought to leave you with.....

"In nature, nothing exists alone"- Rachel Carson, Silent Spring

The Saint Peter's University Sustainability Council, founded in 2012, is a group of students, faculty, and staff who strive to make our campus community and our world more sustainable for future generations.

Your feedback, photos, event notices, and story ideas are always welcome. Please email them to skeller1@saintpeter.edu

Saint Peter's University Sustainability Council
2641 John F Kennedy Blvd, Jersey City, NJ 07306