

JUNE 2020

The COVID-19 Pandemic and the Environment



The outbreak of the COVID-19 virus has changed the way we live. Many of our actions are now centered around one goal: preventing the spread of COVID-19. This has led to an unprecedented era of self-isolation and physical distancing. Nearly all of us are working from home on a daily basis. Trips outside the house are limited to essential actions and often require extra safety precautions. Our lives are quite different in these current circumstances.

However, there are some silver linings to the tragedy of the COVID-19 pandemic. With many of us confined to our houses under “Stay-at-Home” orders, there have been drastic decreases to the volume of traffic on major highways. For example, the Maryland Department of the Environment estimates light-duty gasoline vehicle traffic on I-95 between D.C. and Baltimore has decreased at least 50%, based on their preliminary data.¹ The causes for this decrease are easy to imagine: working from home and business closures have decreased daily commuting, the elimination of social events has reduced recreational driving and an emphasis on travel restrictions has cut back traffic from tourism and vacationing.

The reduction of traffic has been accompanied with stories of clearer skies around the globe.² Air quality measurements support these observations with decreased levels of certain air pollutants, most notably nitrogen oxides (NO_x). NO_x compounds contribute to acid rain, smog and ground-level ozone.³ Satellite imaging techniques sometimes utilize NO_x as a proxy for estimating general air pollution levels since combustion reactions produce NO_x alongside other pollutants like greenhouse gases and particulate matter.⁴ NASA satellites measured a 30% drop in NO₂ levels in the Northeast U.S. in March 2020 compared to the March average from 2015-2019.⁵ One caveat to mention with this measurement is that NO₂ levels can be affected slightly by weather conditions.⁶ However, a 30% reduction is quite drastic and similar scenarios have been observed in other locations across the globe. Thus, it seems likely we are observing a real reduction in emission levels from our recent shift in culture.

There are many additional ways the coronavirus pandemic could affect the environment, for example through energy use. As an example, many office buildings will have reduced energy use from the past few months due to limited use. The NIH Bethesda campus used about 35% less fuel oil and natural gas in March 2020 compared to 2019. However, many of our homes may have an increased energy use. More studies and data analysis are required to understand if this energy use at homes partially or totally offsets the office building reduction. The U.S. Energy Information Administration estimates total electricity consumption to decrease approximately 3.5% in 2020 compared to 2019, based primarily on decreases in the commercial and industrial sectors.⁷ Actual data for energy consumption from the past few months is still fairly scarce, but there appears to be hope for a net reduction in 2020.

At some point in the not-so-distant future, we will begin to emerge from this pandemic and gradually try to reestablish lives that somewhat resembled our “old normal.” But we should remember the drastic effects we are seeing right now, in such a short timeframe, and the magnitude of these changes. It seems, as though nature can rebound rather quickly when we make changes to our actions. Let's each do our part to continue to protect the environment.

TAKE ACTION



Environmental Lessons from the COVID-19 Pandemic

The recent changes we have observed in the environment show how quickly nature can respond to a large-scale shift in human behavior. There are many lessons we can learn from our recent actions to continue to benefit the environment in the future.

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STAFF SPOTLIGHT



NIH Winners of the FY2019 HHS Green Champion Awards

The HHS Green Champion Awards were established to honor individuals that demonstrate measurable results towards integrating sustainability principles into the HHS mission and its daily operations. Staff from the NIH were heavily recognized for their efforts in FY2019. Please join me in congratulating these winners!

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NEMS TRAINING

Did you know? Light-duty vehicle traffic has reduced by an estimated 50% on I-95 between Baltimore and Washington, D.C. during the COVID-19 pandemic. To learn more about greenhouse gas emissions at the NIH, please visit the [NEMS Training webpage](#) to view a short (20 minute) NIH environmental awareness training video.