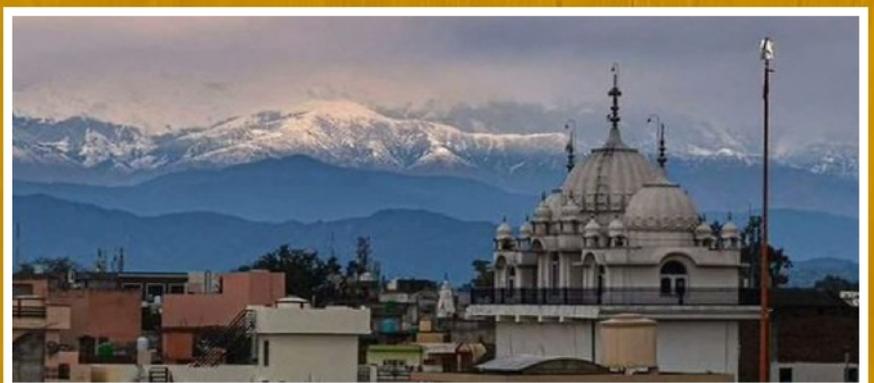
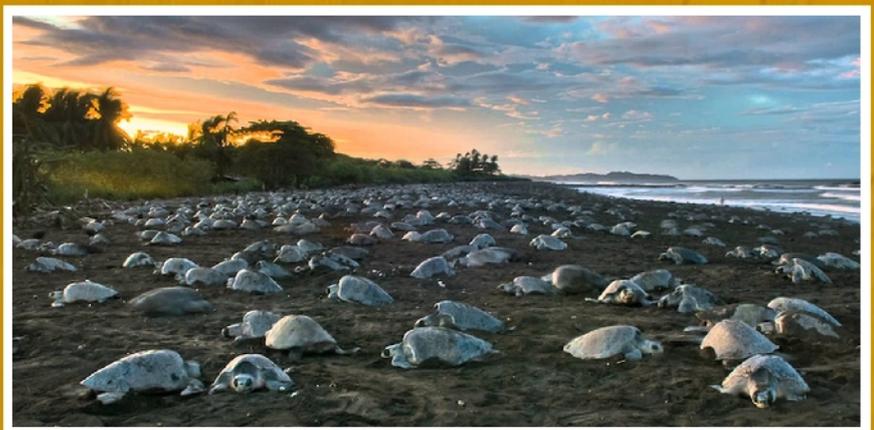




# ENVIS-IITM NEWSLETTER

Indian Institute of Tropical Meteorology, Pune  
Atmospheric Pollution & Climate Change  
(The project of Ministry of Environment, Forest & Climate Change, Govt. of India)

## COVID-19 & Environmental Consequences



### EDITORIAL TEAM

Gufan Beig (ENVIS Coordinator)  
Samir Dhapare (Program Officer)  
Gaurav Shinde (Information Officer)  
Bhagyashri Katre (I.T. Officer)  
Darshana Jadhav (Data Entry Operator)

Volume No.: 19  
Issue No.: 2  
Apr-Jun 2020

# Contents

1. COVID -19 Pandemic.....	3
2. Way to fight against COVID-19.....	4
3. Impact on Air Quality and Environment .....	4
4. A Silver Lining amid COVID-19.....	6

## Editorial

The current COVID-19 situation has emerged as major challenge to the human being, who has reached to the new heights of the technological advancements. Although the spread of corona virus has started from the Wuhan city of China and it has now spread throughout the world, it shows strong connectivity of today's different human societies.

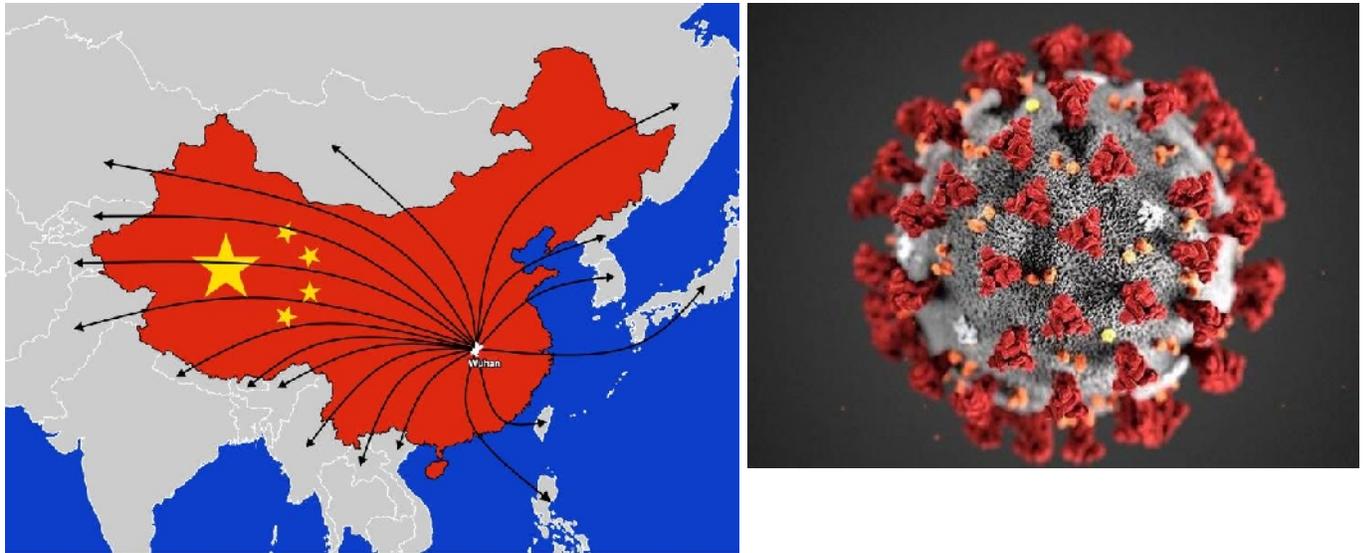
As of today to avoid contact with infected person is only solution we have as clinical trials of vaccines are still under way and no specific treatment is identified. Number of deaths occurred due to insufficient medical equipment in countries also catch our attention towards medical preparedness to save lives.

Many countries have announced lockdown as measure to control spread of corona virus which has resulted in reduction in doubling rate of virus as well as considerable improvement in the environmental and atmospheric condition. An effort is made to give a brief account on COVID-19 pandemic and its impact on environment.

-Dr.Gufran Beig

## COVID -19 Pandemic

The coronavirus outbreak came to light on December 31, 2019 when China informed the World Health Organisation of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei Province. Subsequently the disease spread to more Provinces in China, and to the rest of the world. The WHO has now declared it a pandemic. The virus has been named SARS-CoV-2 and the disease is now called Corona virus disease (COVID-19).



**Figure 1: Starting point of the spread of corona virus; Wuhan city of Hubei province AND corona virus**

At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments. As of today, the best way to fight against COVID -19 pandemic is to slow down transmission of corona virus. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important practice respiratory etiquette (for example, by coughing into a flexed elbow), frequently wash hands with soap or with alcohol based sanitizers, avoid going to crowded places and maintain social distancing.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

To slow down the spread of coronavirus many countries including India declared countrywide lockdown and appealed citizens to stay home, contact doctor in case someone experiencing any symptoms of COVID-19.

## Way to fight against COVID-19:

Ministry of Health and Family Welfare, Gov. of India has given simple 5 point precautionary measures for any individual to protect himself/herself from getting infected and avoid spread of COVID-19. A helpline number is also provided for more information about COVID-19 and treatment related questions which is given below,



**National Helpline numbers:** [1075](tel:1075) (toll free), [+91-11-23978046](tel:+91-11-23978046)

Source: Ministry of Health & Family Welfare

## Impact on Air Quality and Environment:

As many countries declared lockdown and limited the movement of the vehicular traffic, industrial production and other major economic activities. Within few days, tremendous decreased in the all kind of environmental pollution, increase in the wildlife sightings in areas near forests, sea shores, improved river water quality got reported.

Many of the crowded roads, areas of many megacities in the world are today empty due to lockdown. The people are staying at home; due to which there is near absence of human interference to the environment. The results of such conditions are profoundly visible; the water canals in the Venice city are cleared up, PM 2.5 concentrations of ambient air of New Delhi has reduced by around 60 % for same time period compared to last year, Wuhan city in China where corona virus

outbreak has started also recorded reduction in air pollution by around 44% and same is the story of many more megacities.



**Figure 2: Air pollution has reduced dramatically in India as a result of the coronavirus-induced lockdown, and residents in northern India say they can see the snow-capped Himalayas 200 kilo meter away for the first time in 30 years.**



**Figure 3: Capital city of China Beijing after and before the COVID-19 outbreak.**

These pictures clearly indicate the impact of human (economic) activities on the nature. Although the lockdown has shown positive impacts on environment, we can't imply such lockdowns once this COVID-19 pandemic got controlled to reduce environmental pollution. In other words, we should ensure human (economic) development in line with the nature conservation and no need of such lockdowns to control environmental pollution in future. As we are observing lockdown measures are not an ideal ways to solve such global problems as it slow down our economic growth.

### **A Silver Lining amid COVID-19**

As seen from observations made by air pollution and weather monitoring agencies, due to lockdown the most of the levels of many gaseous and particulate pollutants has gone down. This has resulted in clear skies, increase visibility in atmosphere which in turn has also increased the insolation which consists of more direct solar radiation and reduced diffused sky radiation. These increase direct solar radiation has more UV radiations which might be caused of observed increased concentration of the ozone gas in lower (tropospheric) atmosphere.

Now why these observations are significant importance in this COVID-19 Pandemic? We know that UV radiations and Ozone gas has anti-pathogenic effect and using as disinfection of water at Municipal drinking water and waste water plants. They destroy many pathogenic bacteria, fungi, viruses, protozoa species by fragmenting their outer lipid or protein membrane. Although, use of ozone or UV radiations for treatment of corona patients are not practice due to its harmful effects on patient's immune system and other organs, it definitely sterilizing effect on environmental and other surfaces where this corona virus has deposited.



In china UV lamps are already being used to disinfect the surfaces of the public transport vehicles. According to one such transport company, the process takes 5 to 7 minutes per bus and kills more than 99.9 per cent of viruses.

This will reduce the chances of health people from getting in contact with virus and also facilitate the public transport for social and economic activity.

**Figure 4: Bus in Shanghai getting disinfected with UV light.**

We a part of evolution human beings are adapted to live in harmony with many animals on earth. Those one which are helpful to us for survival either as helping hand in daily activities or as a probable source of food were got domesticated; and those which not are simply called as wild animals. It is well known fact that corona virus has come from wild life (i.e. Bats) to human as a reason of illegal and consumption of it as uncommon exotic pleasure food. Is it really a symbol social evolution is question?



**Figure 5: Wildlife food market in China.**

Another interesting observation is noted regarding wildlife is their encounter in the cities and nearby city places mainly due to reduction in human interference owing to lockdown. It is clearly seen that wild animals are enjoying their newly expanded territory or we can say their natural territory. The turtles lays eggs where they had hatch but due to increase human tourism on beaches has disturbed this cycle but due to lockdown number of turtles visiting the beaches have increase considerably. In many cities herds of deer and other wild animals have seen resting on roads.



**Figure 6: Deer herds on streets of Nara, Japan and increased in mass nesting of olive riddle turtles on beaches of Rushikulya sea shore in Ganjam District of Odisha (Over 70,000 turtles came for nesting).**

The impact of the shutting down the industries has greatly reflected on the river waters and will boost the freshwater life. The industries and government regulation bodies should note these changes and should chalk out the plan to curb the river pollution. As rivers are the true life-line of society rather than any railway.



**Figure 7: River Yamuna before and after lockdown.**

Also as air pollution has gone down and people are staying at homes the cases of the allergies, asthma and other respiratory illness has also gone down. The people are spending more time with their families, learning new things, reviving hobbies and reinventing themselves. In this period we should self examine ourselves, remember our social responsibilities, and how we can make our lifestyle sustainable which will improve our existence on planet earth. All this will give fresh approach and energy to work and see towards Mother Nature, after everything will be under control.





**Indian Institute of Tropical Meteorology- ENVIS, Pune-8**  
**OPEN COMPETITION: WORLD ENVIRONMENT DAY-2020**

The "World Environment Day" is observed every year by all ENVIS centers of MOEF&CC across India. The ENVIS center at IITM is announcing various ONLINE competition this year to spread awareness on various pressing environmental and climate issues to minimize any expenditure under current pandemic situation. Online entries is to increase reach to students and boost creativity through online .

- ❖ **Drawing Competition** Theme: Atmospheric Pollution / Climate change (Entry: One drawing per participant)
- ❖ **Slogan Competition** on Climate Change, COVID-19's impact on Environment and related topics (Entry: As many slogans as can)
- ❖ **Essay Competition:** Innovative ideas on spreading awareness on environmental pollution, COVID-19 & environment (Entry: one entry of maximum 500 words on A-4 size paper per participant)

**PARTICIPATE IN THE IITM-ENVIS COMPETITIONS... BE CREATIVE-STAY POSITIVE-STAY HOME-STAY SAFE...!!!!**  
**LAST DATE TO SUBMIT YOUR ENTRIES- 25TH MAY 2020**

**How to Submit:** E-mail of scan copy of hand written Slogan, Essay, Drawings to [iitm-env@nic.in](mailto:iitm-env@nic.in)  
 For details visit and follow our Facebook page [@ENVISIITM](https://www.facebook.com/ENVISIITM)



Ministry of Health and Family Welfare  
Government of India

**NOVEL CORONAVIRUS DISEASE (COVID-19)**



Help us to help you



**Thank you!**

**Thank you**  
**to all our COVID champions**  
 Together we will fight COVID-19

For information related to COVID-19  
 Call the State helpline numbers or Ministry of Health and Family Welfare, Government of India's 24x7 helpline number  
**1075 (Toll Free)** or Email at [ncov2019@gov.in](mailto:ncov2019@gov.in) , [ncov2019@gmail.com](mailto:ncov2019@gmail.com)

[mohfw.gov.in](http://mohfw.gov.in) [@MoHFWIndia](https://www.facebook.com/MoHFWIndia) [@MoHFW INDIA](https://twitter.com/MoHFW_INDIA) [@mohfwindia](https://www.instagram.com/mohfwindia) [mohfwindia](https://www.youtube.com/channel/UCmohfwindia)

**All queries and feedback regarding this newsletter should be addressed to:**

**Dr.Gufran Beig**  
**ENVIS – Coordinator**  
**Indian Institute of Tropical Meteorology,**  
**Dr.Homi Bhaba Road,Pashan,Pune – 411008,India**  
**Phone: +91-20-2590-4212|Fax: +91-20-2586-5142**  
**[www.iitmenvis.nic.in](http://www.iitmenvis.nic.in) | [iitm-env@nic.in](mailto:iitm-env@nic.in)**