



UNIVERSITY
of HAWAI'I
MĀNOA

Department of Atmospheric Sciences Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa
2525 Correa Road, HIG 350; Honolulu, HI 96822 ☎956-8775



Impacts of COVID-19 lockdowns on aerosols in India during 2020

Shuangge Yu

Masters Candidate

Department of Atmospheric Sciences
School of Ocean and Earth Science and Technology
University of Hawai'i at Mānoa

Date: **Wednesday, February 17, 2021**
Time: **3:30pm HST**
Zoom Meeting: <https://zoom.us/j/93583080682>
Meeting ID: 935 8308 0682
Passcode: 6daVMR

Abstract:

Aerosols can affect the Earth's radiation balance, visibility, and human health. They play an important role in the natural environment and human society. At the end of 2019, the appearance of COVID-19 caused worldwide impacts on society and resulted in a noticeable change in air quality over India. This study provides a comparison between the monthly climatological mean aerosol optical depth (AOD) from 2000 to 2020 and the monthly average AOD in 2020. Daily AOD values are significantly reduced after lockdowns were implemented in India. The anomalies of Global Precipitation Measurement (GPM), SOI, and MEI in 2020 indicate that precipitation and ENSO do not influence the reduction of AOD. The trends of daily PM₁₀ and PM_{2.5} in Mumbai and Delhi are similar to the trends seen in daily AOD values. The combined satellite and station data lend credibility to the observed AOD reduction caused by the lockdown. Although COVID-19 is harmful to human health, its appearance has improved the aerosol situation and likely human health in India.