Historical Record of Ozone in the Troposphere over the Tropical Pacific: Measurements from 1978-79 Winter Monsoon Experiment

Elena A. Deviatova 1, Anthony C. Delany 2, Russell R. Dickerson 1
1. University of Maryland, College Park, 2. National Center for Atmospheric Research, Boulder, Colorado.

Ozone is a critical trace constituent of the atmosphere and an important indicator of changing global pollution levels. Transport of Asian emissions to the Pacific Ocean and consequentially eastward towards North America is becoming a growing concern. In tropical Asia, ozone monitoring has been rare and irregular until recent decades. Analysis of unpublished aircraft ozone measurements from the 1978-1979 Winter Monsoon Experiment (WMONEX) in Malaysia will be of great interest to the global scientific community. Our objective is to determine the accuracy and precision of this historic data set in order to provide a benchmark against which recent or future measurements can be compared. Our hypothesis is that analysis of WMONEX data will reveal an ozone mixing ratio increase on the order of 5-10 parts per billion by volume in tropical Asia in the past 2 decades.