Measurements of sulfur dioxide, ozone and ammonia concentrations in Asia, Africa, and South America using passive samplers

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Abstract: Measurements of gaseous SO_2, NH_3, and O_3 using IVL passive sampler technology were obtained during a pilot measurement program initiated as a key component of the newly established

WMO/GAW Urban Research Meteorology and Environment (GURME) project. Monthly measurements were obtained at 50 stations in Asia, Africa, South America, and Europe. The median SO_2 concentrations vary from a high of 13ppb at Linan, China, to <0.03ppb at four stations. At 30 of 50 regional stations, the observed median concentrations are <1ppb. Median ammonia concentrations range from 20ppb at Dhangadi, India, to <1ppb at nine stations. At 27 of regional stations, the ambient ammonia levels exceed 1ppb. The median ozone concentrations vary from a maximum of 45ppb at Waliguan Mountain, China, to 8ppb in Petit Saut, French Guiana. In general, the highest ozone values are found in the mid-latitudes, with the Northern hemisphere mid-latitude values exceeding the Southern hemisphere mid-latitude levels, and the lowest values are typically found in the tropical regions. ?? 2003 Elsevier Science Ltd. All rights reserved.
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