



Special Issue Reprint

## Air Quality Research Using Remote Sensing

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Air pollution is a worldwide environmental hazard that poses serious consequences not only for human health and the climate but also for agriculture, ecosystems, and cultural heritage, among other factors. According to the WHO, there are 8 million premature deaths every year as a result of exposure to ambient air pollution. In addition, more than 90% of the world's population live in areas where the air quality is poor, exceeding the recommended limits. On the other hand, air pollution and the climate co-influence one another through complex physicochemical interactions in the atmosphere that alter the Earth's energy balance and have implications for climate change and the air quality.

It is important to measure specific atmospheric parameters and pollutant compound concentrations, monitor their variations, and analyze different scenarios with the aim of assessing the air pollution levels and developing early warning and forecast systems as a means of improving the air quality and safeguarding public health. Such measures can also form part of efforts to achieve a reduction in the number of air pollution casualties and mitigate climate change phenomena. This book contains contributions focusing on remote sensing techniques for evaluating air quality, including the use of in situ data, modeling approaches, and the synthesis of different instrumentations and techniques. The papers published in this book highlight the importance and relevance of air quality studies and the potential of remote sensing, particularly that conducted from Earth observation platforms, to shed light on this topic.



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