

Parametric Investigation of Air Pollution Over Bafata

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Abstract:

Most communities in West Africa such as Bafata-Guinea Bissau do not have air quality report. Hence, the population in the area lives at the mercy of fate. Satellite measurement for aerosol optical depth (AOD) was obtained for fourteen years. The Multi-angle Imaging Spectro-Radiometer (MISR) data set was treated and subjected to computational and statistical investigation. The cumulative aerosol content i.e. aerosol loading was estimated and documented. The dataset in this research is essential to provide good basis conducting ground measurement over the region.

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I. Introduction

Most of west African communities do not have air quality report. Only few literatures can be found of few towns in the region (1). Satellite imagery has shown that most towns in the west Africa already have high aerosol optical depth (AOD). Aerosol optical depth is a measure of the extinction of the solar beam by dust and haze. It can be used to understand the outdoor pollution burden. Outdoor air pollution is the emission of harmful particulates whose source is characterized with with continuous or seasonal emissions (2–6). These aerosol particulates are either chemical or biological. The biological aerosols are known as bio-aerosols and there are mostly found in municipal waste site, hospitals, toilets etc. These paericulates have the structural freedom to react with each other to form a more harmful compound. The harmful compound contributes to breathing problems and chronic diseases to infants and asthmatic adults. In other words, outdoor pollution has been found to increase hospitalization and premature mortality.

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