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Update on the air quality dashboard development

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The climate crisis persists, as the global community has yet to fully embrace the actions needed to tackle it. The decade from 2010 to 2019 was the hottest on record, leading to devastating wildfires, hurricanes, droughts, floods, and other climate-related disasters worldwide. To limit global warming to 1.5℃ above pre-industrial levels, emissions must already be on the decline and need to be halved by 2030. Unfortunately, we are far from meeting this target. Sustainable Development Goal 13 emphasizes the need for urgent climate action, pointing to the rising global temperatures and increased air pollution that pose significant threats to human health. This highlights the importance of emission monitoring. In South Africa, however, emission data remains a challenge, making satellite data especially valuable. Satellites are increasingly used to monitor air quality and track atmospheric pollution. Around the world, studies are using data from the Tropospheric Monitoring Instrument (TROPOMI) to assess emissions and air quality. However, no air quality dashboard based on satellite data has been developed in South Africa using TROPOMI-Sentinel 5p data. This project aims to compute the Air Quality Index (AQI) using the Google Earth Engine (GEE) platform. Sulphur dioxide (SO2), nitrogen dioxide (NO2), and carbon monoxide (CO) will be the first pollutants used to calculate the AQI. A functional dashboard will be created to offer users easy access to standardised satellite data, enabling quick and effortless analysis.

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