
APPLICATIONS OF GIS AND REMOTE SENSING FOR AIR QUALITY ASSESSING IN MINING AREA, LUONG SON DISTRICT, HOA BINH PROVINCE

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SUMMARY

This paper presents the results of remote sensing application for mapping of air quality in mining area in Luong Son district, Hoa Binh province. Using Landsat 8 data with a resolution of 30m in 3 periods: 2013, 2015 and 2017 to calculate vegetation indices, air pollution index (API). The results of air quality in mining areas show that most mines and processing factories have exceeded the thresholds of Vietnam national air quality standards (QCVN 05:2013/BTNMT). The level of air pollution increased gradually from 2015 in both scale and intensity, there was no sign of decline. The API of the Landsat satellite images over the years compared with the collected values at the monitoring stations was higher and was at a serious level. Air pollution has impacted the surrounding lives and health, as reflected in the survey results of people in three areas: far from mines, processing factories and transport routes. The study also showed that the area with high forest cover would have better air quality than the area where mining activities were conducted. The application of remote sensing data to access and evaluate air quality has brought objective results over time, contributing to the management of minimizing negative impacts on the environment from mineral exploitation activities.

Keywords: Air pollution, GIS, Luong Son, Landsat 8, Mining.

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