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The Impacts of COVID-19 on Deforestation in Colombia

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Abstract

Considering the high deforestation rates in recent years and the land management challenges to halt and reduce forest loss around the world, we are looking to analyse how the current coronavirus pandemic impacts on deforestation in order to determine if the pandemic adds further complexity to forest conservation. To achieve this purpose, Amazon region in Colombia is selected as the case study. It is predictable that deforestation could increase in forest sectors due to lack of control in some regions and put international forest-based industries that developed sustainable products and livelihoods of local people at risk. According to (WWF, 2020), about 645 thousand ha lost in March 2020, where Indonesia led by 130 thousand ha (almost three times more than March 2019). The study reports The Democratic Republic of Congo in the second place (almost 100 thousand ha), followed by Brazil with 95 thousand ha. In Colombia, contrary to other countries in the Amazon region, the trend in 2019 showed a reduction in deforestation compared to 2018. However, 2020 started with an increasing tendency, and the quarantine seems to have worsened the situation (FCDS, April 2020). According to the Amazon Institute for Scientific Research (SINCHI) and (Jiménez, et al., 2020, p. 10), around 13,000 hot points were recorded in the Amazon region (with presence of FARC) in March. This number is almost 275 percent higher than in the same month in 2019.

The limitations or lack of monitoring and controlling parties during the pandemic could encourage the rural people and regional mafias to illegal cultivation and overgrazing, which causes increasing deforestation rates over the country. Therefore, this study aims to analyse the impacts of COVID-19 on deforestation rates in Colombia using Remote Sensing (RS) techniques (Landsat 8 OLI/TIRS C1 Level⁻¹ with a cloud cover of less than 40%). Key questions this study aims to answer are i) what are the impacts of COVID-19 on deforestation in Amazon region of Colombia? (Does COVID-19 enhance deforestation in Colombia?), ii) how do restriction measures on mobility impact deforestation? And iii) how Landsat-8 data perform over the selected region compare to the terra-i results.

Keywords: ArcGIS, Classification, COVID-19, deforestation, i-terra, Landsat-8, Remote Sensing