

Abstract

This study focuses on Sentinel-2 multispectral data for detecting changes associated with war conflicts in an urban environment in Google Earth Engine (GEE) cloud based platform. The area of interest was chosen to be the Gaza City and its surrounding, which became embroiled in a military conflict in October 2023. The Python scripts have been used to perform analyses and monitor spectral signs over time. The iteratively reweighted multivariate alteration detection (IR-MAD) method, which is based on the comparison of two images, was used to analyze the changes. The resulting raster of changes was validated with very high spatial resolution PlanetScope data. Based on the validation, an overall accuracy of 74% was achieved. As part of the research, a web-based mapping application was created to allow users to view conflict using pre-built tools.

Key words: Change Detection, IR-MAD, Google Earth Engine, Gaza,