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CONFERENCE TOPIC

Wildfire Ignition in Conflict Settings: a Spatiotemporal Analysis

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ABSTRACT

Human activities are a major cause of wildfire ignition around the world. Research shows that the proximity to human settlement influences fire risk, with reducing effects in certain areas, and increasing effects in others. Much less is known about the impact of armed conflict activities on fire ignition and spread, however, emerging research shows that areas with armed conflict often coincide with increased levels of fires. In armed conflict settings, arson can be used as a weapon of war, to clear vegetation to prohibit insurgent groups from hiding, or to destroy crops of the targeted population. Fires can also be an unintended consequence of armed conflict, where e.g. bombs can lead to wildfire ignition.

Conflict settings are often limited in terms of available information; however, earth observation satellites can provide data about the location and timing of active fires and burn scars. In this project we carry out a spatiotemporal analysis of georeferenced fire and conflict data, to better understand the patterns of wildfires and different types of conflict. We use the Armed Conflict Location Events Database (ACLED) to identify different types of conflict events in Iraq, Syria, and Turkey from 2016 and onwards. We combine the disaggregated conflict data with active fire detections from the Visible Infrared Imaging Radiometer Suite (VIIRS) for the same period. Using geospatial statistical analyses, we investigate whether proximity to different conflict events impacts the risk of fires. The findings will provide insights into whether certain conflict events are stronger linked to wildfire ignition than others. Understanding how armed conflicts affect fire regimes is crucial for knowing how to improve preparedness, especially in a world with increasing political tensions.

Keywords: Armed Conflict; Earth Observation; Geospatial Analysis; Vegetation Fires.