SATPALDA
GEOSPATIAL EXCELLENCE

STUBBLE BURNING

Geo-intelligence at work: monitoring stubble burning to shape sustainable solutions

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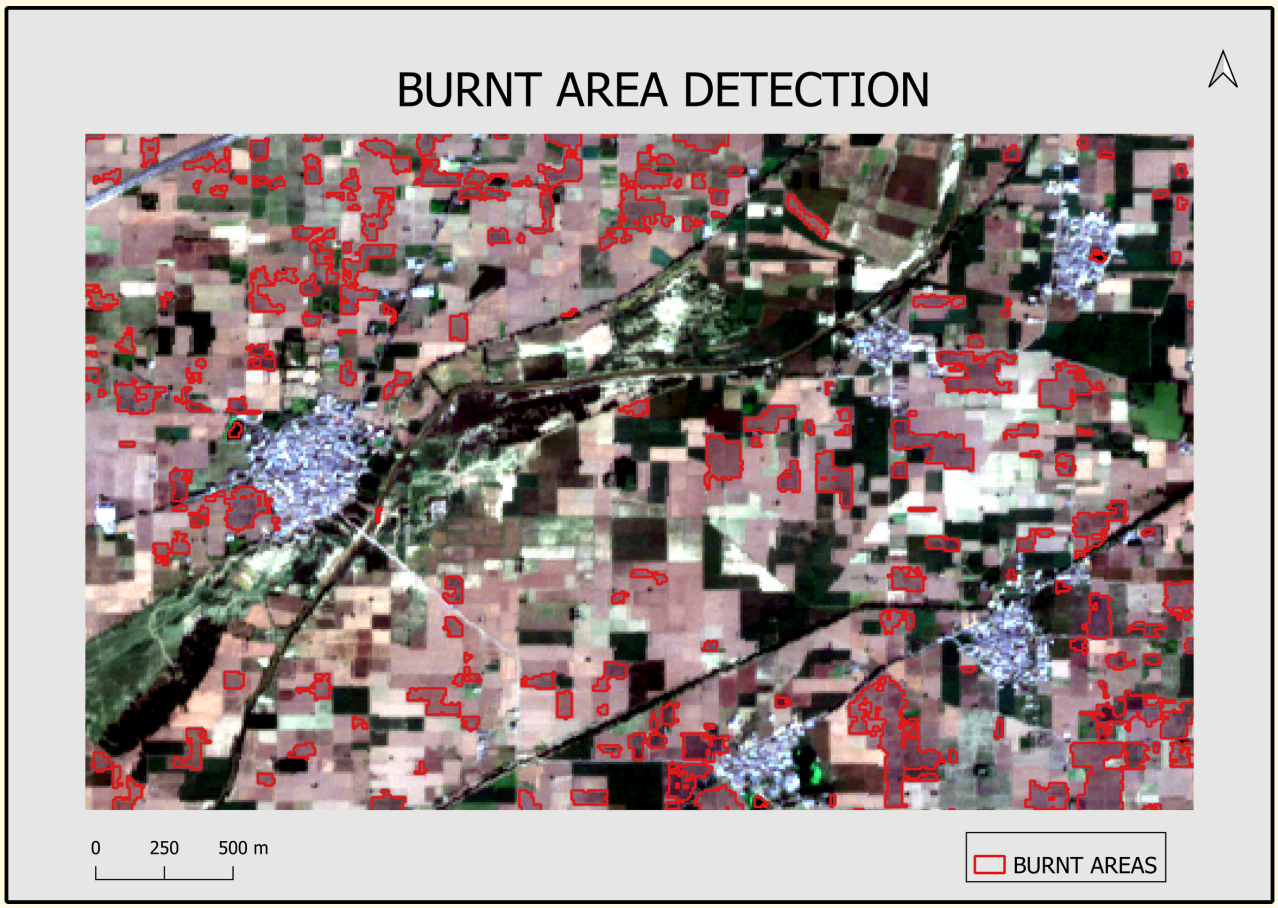
Stubble burning, common in Punjab, Haryana, and Uttar Pradesh during October–November, involves burning leftover crop residue to clear fields for the next sowing season. While quick and inexpensive, it causes severe air pollution, health hazards, and soil degradation. Mapping burnt areas using satellite imagery and GIS is essential to monitor hotspots, assess environmental impacts, and support data-driven policies for cleaner air and sustainable farming practices.

In order to detect and map burned farms, we are presenting a case study on stubble burning using Sentinel-2 data.



Data Source: Sentinel-2

Resolution: 10 metres

Results:

- Model detected the burnt field with an accuracy of over 92%.
- Detected over 300 fields in a small area
- Semi-automated process enables faster and more accurate mapping, also minimising manual effort.
- 5-day revisit time allows for continuous monitoring of stubble burning.
- However, very high resolution will be able to provide more accurate and precise results.

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