

Location:

Jharia Coalfields, Jharkhand, India

Problem:

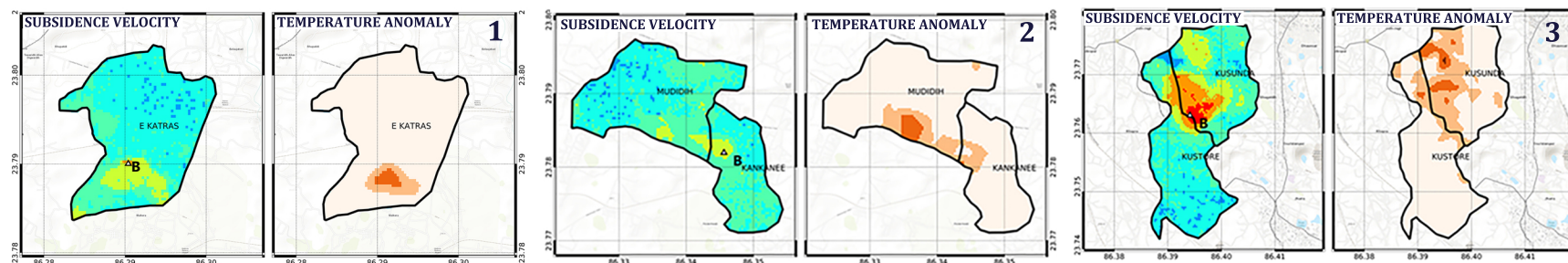
Coal fires resulting in land subsidence associated with roof collapse leading to loss of lives, coal reserves and infrastructure

Significance:

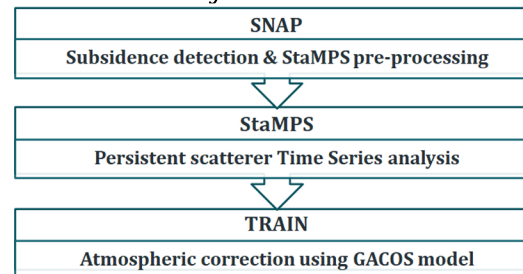
The largest and one of the oldest coal mines in India

One of the most densely populated coal-fields in the world

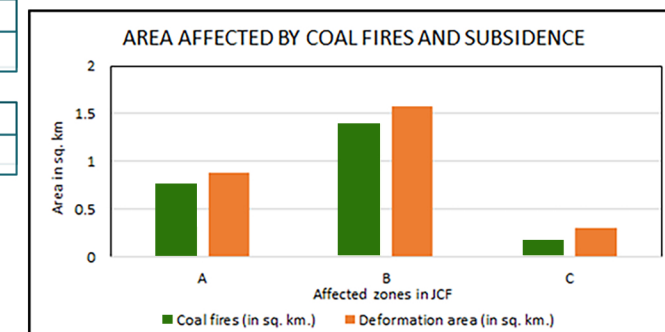
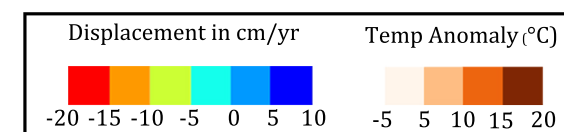
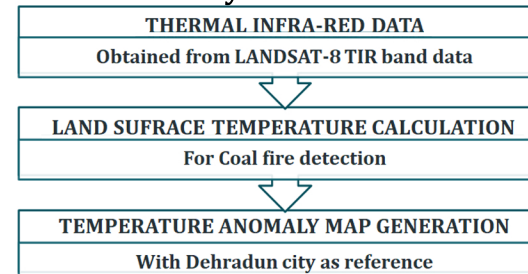
Storehouse of the precious coking coal in the country



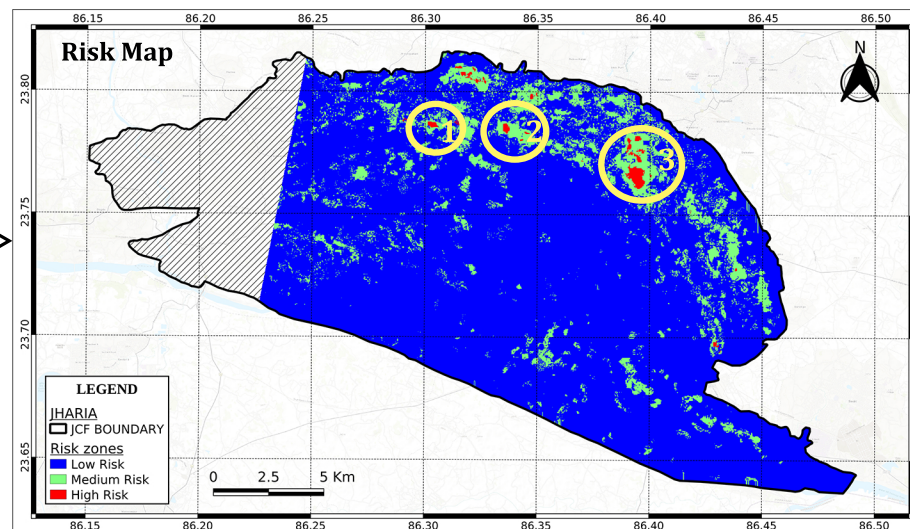
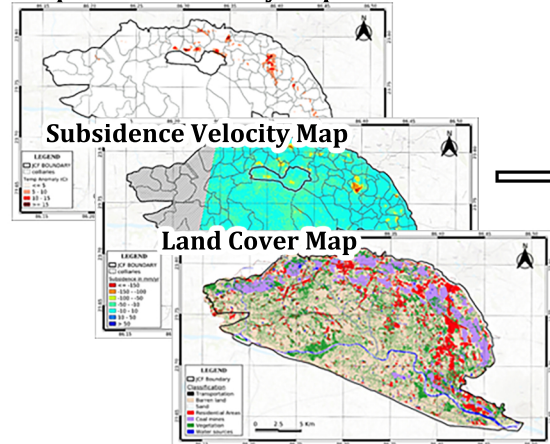
PSInSAR Analysis



Coalfire analysis



Temperature Anomaly Map



Conclusions:

- Kusunda, Mudidih, Katras and Keshalpur collieries are significantly affected by subsidence of up to 20 cm/yr.
- < 200m far from the residential and infrastructure zones.
- Efficiency of integration of Thermal data with the SAR data for the risk analysis of coal fire induced land subsidence

Reference:

Karanam, Vamshi, et al. "Multi-sensor remote sensing analysis of coal fire induced land subsidence in Jharia Coalfields, Jharkhand, India." *International Journal of Applied Earth Observation and Geoinformation* 102 (2021): 102439.
doi.org/10.1016/j.jag.2021.102439