



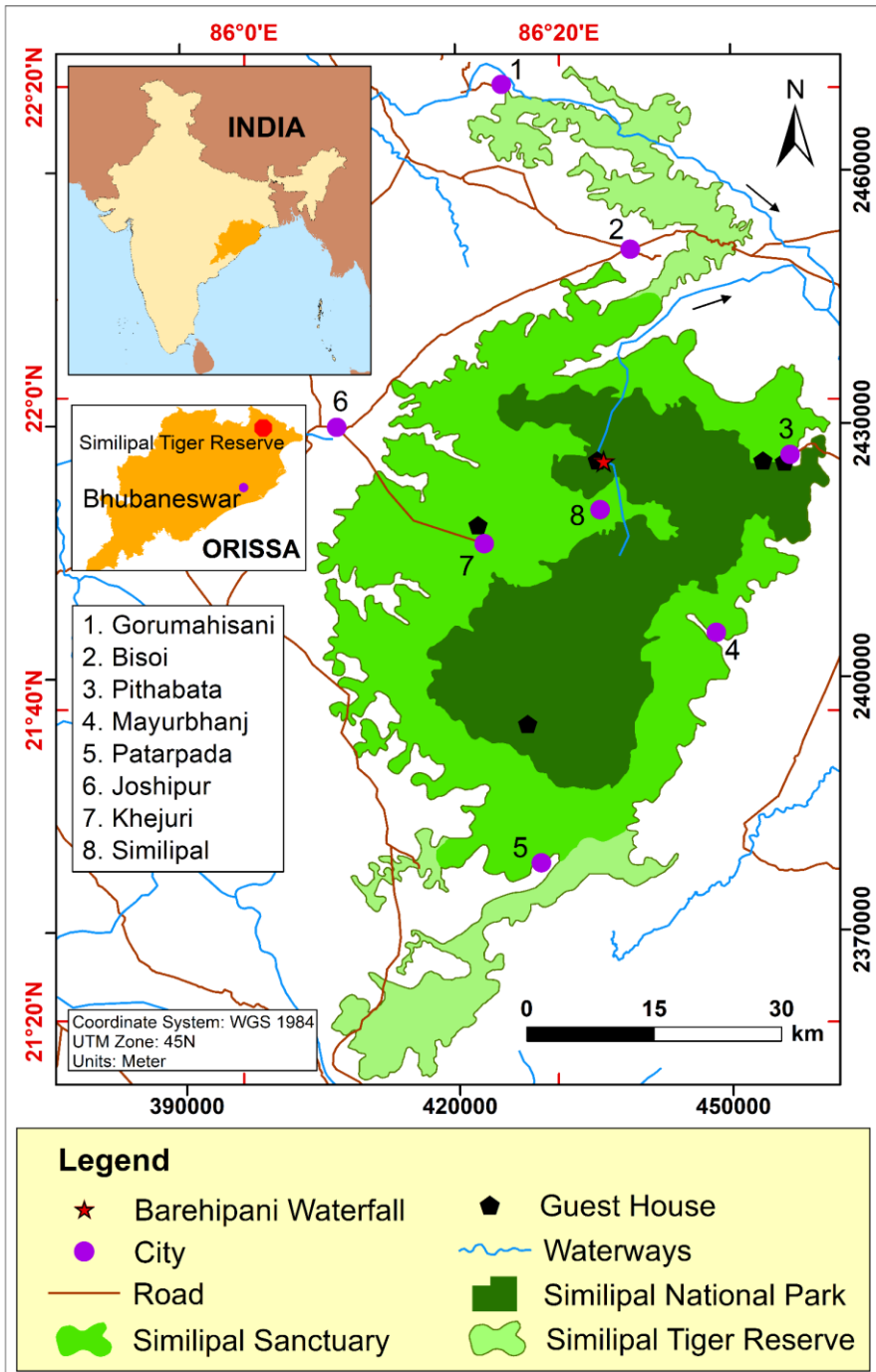
vEGU21: Gather Online | 19–30 April 2021

Estimating spatio-temporal dynamics of forest fire hazard using Analytical Hierarchy Process and geostatistical methods in Similipal Biosphere Reserve, India

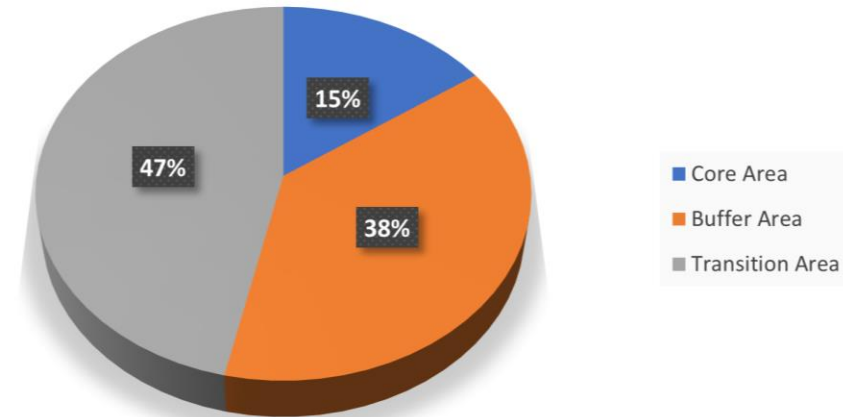
Arnab Laha (alaha@iitk.ac.in)¹ | Shobhit Singh² | Utsav Mishra² | Manudeo Singh²

¹Department of Civil Engineering, ²Department of Earth Sciences, Indian Institute of Technology Kanpur, Kanpur, India

Study area description

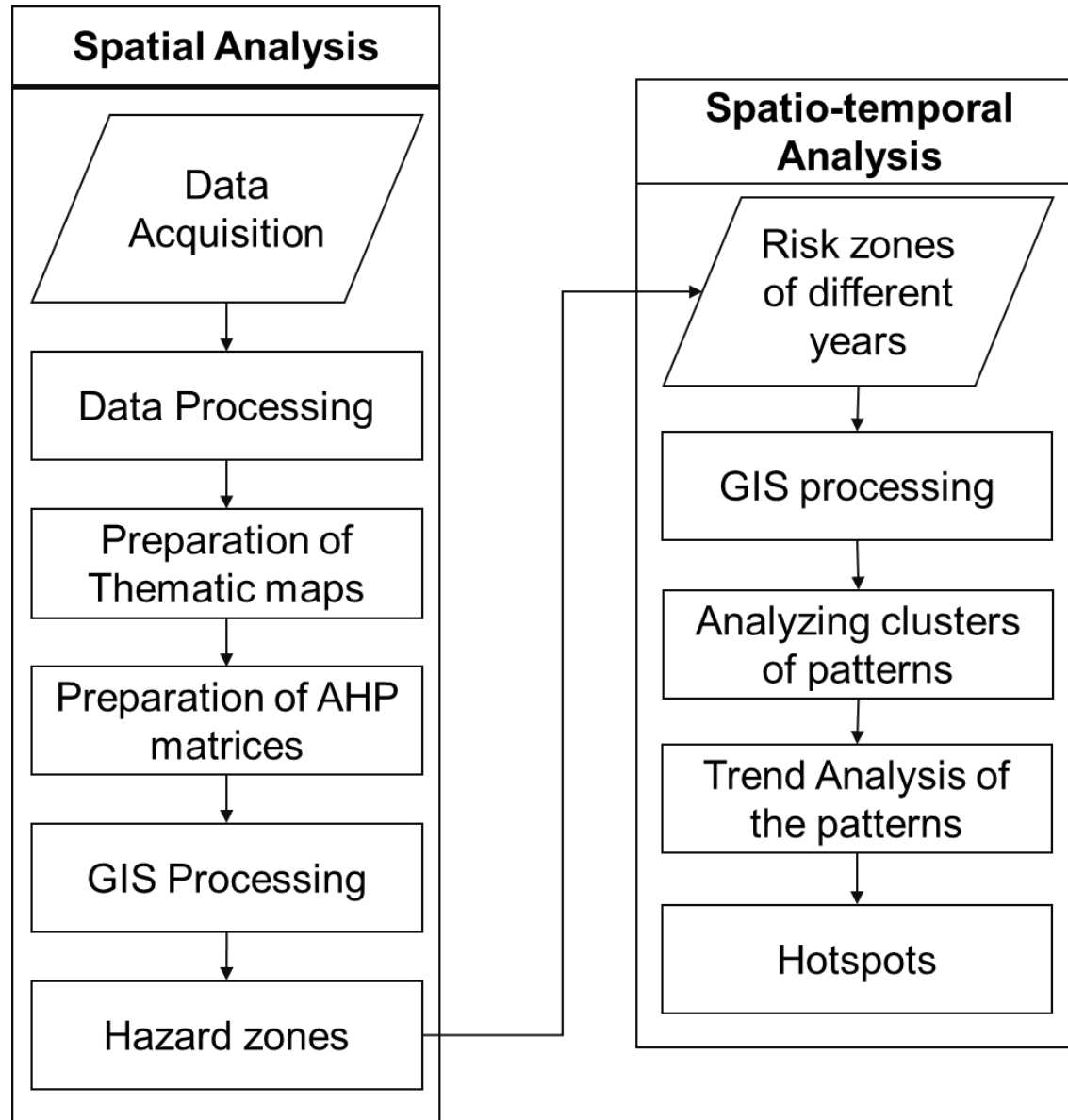


Zonation of SBR



- Similipal biosphere reserve (SBR) is sixth largest bioreserves in India.
- Similipal biosphere reserve (SBR) is in Mayurbhanj district of Odisha covering a total surface area of 556,900 ha
- The total surface area is classified into Core area, Buffer area and Transition area.
- The annual variation in temperature is recorded to be 4° in winter and 37° in summer with average temperature varying between 22°-29°

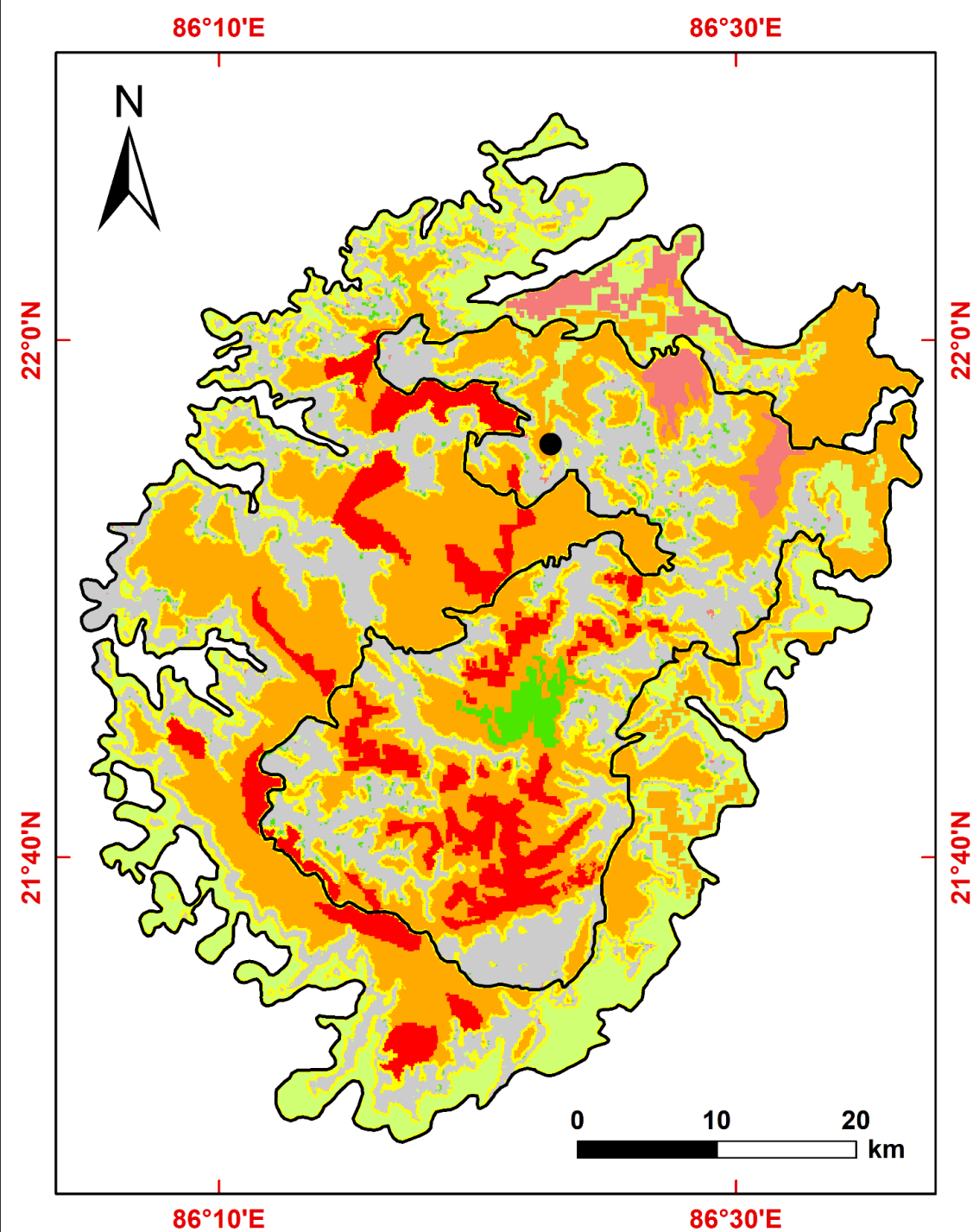
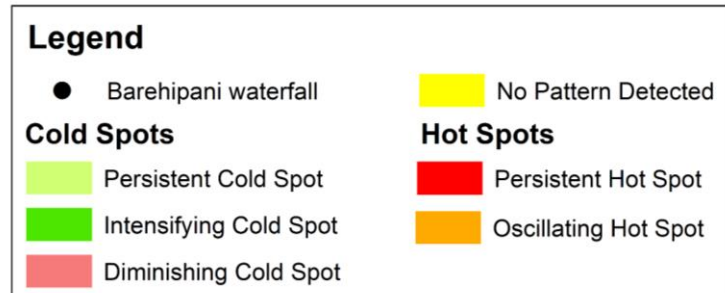
Methodology



- Analytical Hierarchy Process (AHP) method was used to calculate forest fire hazard.
- Topographical, climatic, and physical characteristics of forest were major factors used in AHP.
- Getis-Ord G_i^* statistic and Mann Kendall trend test to understand temporal dynamics of forest fire hazard (1988-2018).

Result

- Hotspots-significant clusters of forest fire
- Cold spots- insignificant forest fire
- Proposed framework is useful for mitigating the forest fire hazard.



Thank you !



Contact Details

Arnab Laha, PhD student, IIT Kanpur

Email id: alaha@iitk.ac.in

Website: www.arnablaha.com

Google scholar:

<https://scholar.google.com/citations?user=r5zURcYAAAAJ&hl=en>