

SAMPLE REPORT · GEOSPATIAL ANALYTICS

GeoRisk Intelligence Report

Asset-Level Location Risk Screening

A structured assessment of multi-hazard exposure, infrastructure access and environmental sensitivity for a sample portfolio of 6 commercial assets across three districts. Covers flood, heat, seismic, accessibility and land-use signals.

Prepared by	GeoSpatial Analytics
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This document is a sample/illustrative report produced by GeoSpatial Analytics to demonstrate report structure, analytical depth and output format. All figures, coordinates, scores and conclusions are illustrative only and do not represent real assessments.

SECTION 1

Executive Summary

This report screens six assets against 12 geospatial risk lenses. Three assets (IDs A-01, A-04, A-06) present elevated composite risk scores driven primarily by fluvial flood exposure and restricted emergency access. Two assets (A-02, A-03) are within acceptable thresholds across all lenses. Asset A-05 requires further ground-truthing of a seismic amplification zone boundary.

PORTFOLIO OVERVIEW

Asset Composite Risk Scores

Asset ID	Location	Composite Score	Risk Band	Primary Driver
A-01	Muzaffarnagar, U.P.	74 / 100	HIGH	Fluvial flood + access
A-02	Meerut, U.P.	38 / 100	LOW	No dominant signal
A-03	Saharanpur, U.P.	42 / 100	LOW	Heat stress (moderate)
A-04	Haridwar, Uttarakhand	81 / 100	HIGH	Riverine + seismic zone
A-05	Dehradun, Uttarakhand	57 / 100	MEDIUM	Seismic amplification
A-06	Shamli, U.P.	69 / 100	MEDIUM	Flash flood + soil

SECTION 2

Signal-Level Detail — Asset A-01

Coordinates	29.4736° N, 77.7085° E
Land use	Commercial / mixed-use corridor
Elevation	268 m AMSL (DEM source: SRTM 30m)
Flood zone	1-in-30-year inundation extent (SWAT modelled)
Heat index	Zone 3 — peak daytime WBGT > 34°C (May–Jun)
Seismic zone	II (BIS IS:1893-2016 — low hazard)
Road access	Nearest all-weather road: 340 m
Hospital	2.1 km (travel time 8 min, peak)

Risk Signal Breakdown

Signal	Raw Value	Normalised (0–100)	Weight	Weighted Score
Fluvial flood depth	0.8 m (1-in-30)	78	0.25	19.5
Flash flood susceptibility	High	82	0.15	12.3
Heat stress	Zone 3	60	0.12	7.2
Seismic hazard	Zone II	20	0.10	2.0
Emergency access	340 m off-road	55	0.10	5.5
Land subsidence	Moderate	50	0.08	4.0
Environmental buffer	200 m from wetland	45	0.08	3.6
Power reliability	Zone B (95% uptime)	30	0.07	2.1
Remaining signals	—	—	0.05	18.0

Composite score: 74 / 100 — HIGH risk band

SECTION 3

Recommendations

Asset	Recommended Action	Priority	Est. Lead Time
A-01	Commission site-level hydraulic survey + flood defence audit	High	4–6 weeks
A-04	Independent seismic micro-zonation study required	High	6–8 weeks
A-06	Drainage capacity assessment; review soil stability report	Medium	3–4 weeks
A-05	Obtain detailed site-specific seismic hazard assessment	Medium	4–5 weeks
A-02	No immediate action; schedule 3-year rolling review	Low	—
A-03	Monitor heat-stress protocol for operations in summer months	Low	Ongoing

Data Sources & Methodology Notes

Flood data	CWC hydrological records + SWAT runoff modelling (DEM: SRTM 30m, calibrated)
Heat data	ERA5 reanalysis 1981–2024; bias-corrected to IMD station network
Seismic	BIS IS:1893-2016 zone map; amplification from USGS VS30 global model
Access	OpenStreetMap road network + OSMnx travel-time routing (2024 extract)
Land use	ESA WorldCover 10m (2023); cross-checked LULC NRSC 2022

Scores are indicative screening tools and should be validated against local engineering surveys, regulatory flood maps, official seismic studies and site inspections before informing final decisions.