SAMPLE REPORT · GEOSPATIAL ANALYTICS

Geospatial Advisory & Model Review Report

Spatial Data Architecture and Methodology Review

Independent review of geospatial data architecture, model choices, validation protocols and spatial governance practices for a sample client organisation's existing GIS and risk modelling environment. Includes prioritised recommendations.

Prepared by	GeoSpatial Analytics
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Status	Sample / Illustrative

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SECTION 1

Review Scope & Methodology

Review type	Independent advisory — data architecture, models, governance
Systems reviewed	3 spatial databases, 2 flood models, 1 climate exposure tool
Methods used	Document review, model interrogation, sensitivity runs, expert interviews
Standards checked	ISO 19115 metadata; INSPIRE; TCFD physical risk; IS:1893 (seismic)
Engagement period	4 weeks
Team composition	Lead geospatial advisor + hydrological modelling specialist
Output	Findings, risk register, prioritised recommendations, implementation roadmap

SECTION 2

Key Findings — Risk Register

ID	Finding	Category	Severity	Effort to Fix
F-01	DEM used pre-dates major earthworks (2017 road upgrade); flood extents likely under-estimated	Data	Critical	High
F-02	Flood model calibration uses only 1 historical event (2013); insufficient for confidence intervals	Model	High	Medium
F-03	No documented datum / CRS metadata on 4 of 7 spatial layers in client GIS	Governance	High	Low
F-04	Climate hazard tool uses RCP4.5 only; SSP5-8.5 not covered (TCFD gap)	Model	Medium	Medium
F-05	Site selection model uses equal-weight criteria without sensitivity testing	Model	Medium	Low
F-06	No audit trail for manual edits to catchment boundary delineation	Governance	Medium	Low
F-07	Land-use layer from 2018 census not updated post major rezoning in 2022	Data	Medium	Medium
F-08	Insufficient documentation of IDF derivation method (station vs regional)	Model	Low	Low

SECTION 3

Prioritised Recommendations

Priority	Recommendation	Timeline	Owner
1 — Immediate	Acquire updated DEM (TanDEM-X or CARTOSAT-3 DEM) and re-run flood model	0–3 months	GIS team
2 — Immediate	Collect and digitise historical flood events (2013, 2017, 2021) for multi-event calibration	0–3 months	Hydrology lead
3 — Short	Apply CRS/datum metadata to all spatial layers; enforce ISO 19115 metadata standard	1–2 months	Data manager
4 — Short	Extend climate scenario coverage to SSP5-8.5 for TCFD-aligned disclosure	2–4 months	Climate analyst
5 — Medium	Introduce weighted sensitivity analysis to site selection model; document weight rationale	2–3 months	GIS analyst
6 — Medium	Implement version control (Git/DVC) for model scripts and boundary files	2–3 months	GIS lead
7 — Medium	Update land-use layer to reflect 2022 rezoning; document change log	3–5 months	Data team

Implementation Roadmap

Month 1–2	DEM acquisition, metadata remediation, historical event compilation
Month 3–4	Model re-calibration, SSP scenario extension, sensitivity testing
Month 5–6	Land-use update, version control rollout, documentation package
Month 7–12	Ongoing: quarterly data freshness audit, annual model review cycle

Findings and recommendations are based on the documentation and system access provided during the review period. Additional issues may be identified during implementation. This is a sample report; all findings are illustrative.