Rapid Flood Susceptibility & Impact

Executive Brief (Operational Decision Support)

What this analysis does

This analysis provides **rapid, defensible flood susceptibility and impact insights** under realistic emergency-response constraints (48–72 hours).

It is designed to support: - Early prioritisation of at-risk zones - Allocation of limited response resources - Rapid briefings to operational and policy teams

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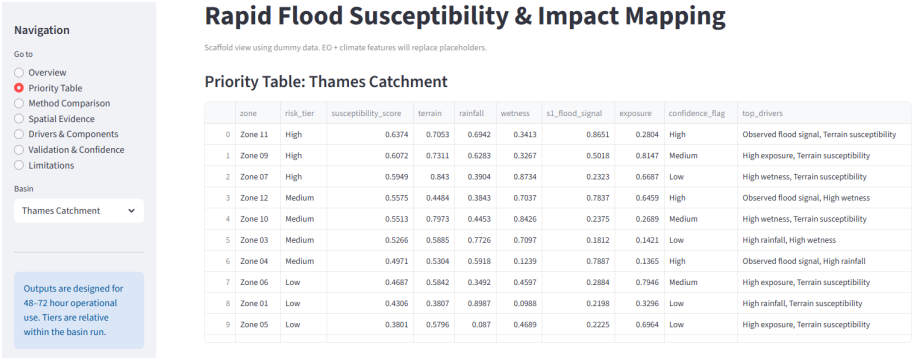
How to read the results

- Start with the **Priority Table** to identify high-susceptibility zones.
- Use **Method Comparison** to understand where fast, interpretable methods agree or disagree with more complex alternatives.
- Treat outputs as **screening tools**, not detailed hydrological models.

Priority overview



	zone	risk_tier	susceptibility_score	terrain	rainfall	wetness	s1_flood_signal	exposure	confidence_flag	top_drivers
0	Zone 11	High	0.6374	0.7053	0.6942	0.3413	0.8651	0.2804	High	Observed flood signal, Terrain susceptibility
1	Zone 09	High	0.6072	0.7311	0.6283	0.3267	0.5018	0.8147	Medium	High exposure, Terrain susceptibility
2	Zone 07	High	0.5949	0.843	0.3904	0.8734	0.2323	0.6687	Low	High wetness, Terrain susceptibility
3	Zone 12	Medium	0.5575	0.4484	0.3843	0.7037	0.7837	0.6459	High	Observed flood signal, High wetness
4	Zone 10	Medium	0.5513	0.7973	0.4453	0.8426	0.2375	0.2689	Medium	High wetness, Terrain susceptibility
5	Zone 03	Medium	0.5266	0.5885	0.7726	0.7097	0.1812	0.1421	Low	High rainfall, High wetness
6	Zone 04	Medium	0.4971	0.5304	0.5918	0.1239	0.7887	0.1365	High	Observed flood signal, High rainfall
7	Zone 06	Low	0.4687	0.5842	0.3492	0.4597	0.2884	0.7946	Medium	High exposure, Terrain susceptibility
8	Zone 01	Low	0.4306	0.3807	0.8987	0.0988	0.2198	0.3296	Low	High rainfall, Terrain susceptibility
9	Zone 05	Low	0.3801	0.5796	0.087	0.4689	0.2225	0.6964	Low	High exposure, Terrain susceptibility

Figure 1: Priority Table

Method comparison: speed vs accuracy

This comparison highlights where: - Simple, transparent methods are sufficient - Rankings are robust across approaches - Disagreement flags areas needing manual review or additional data

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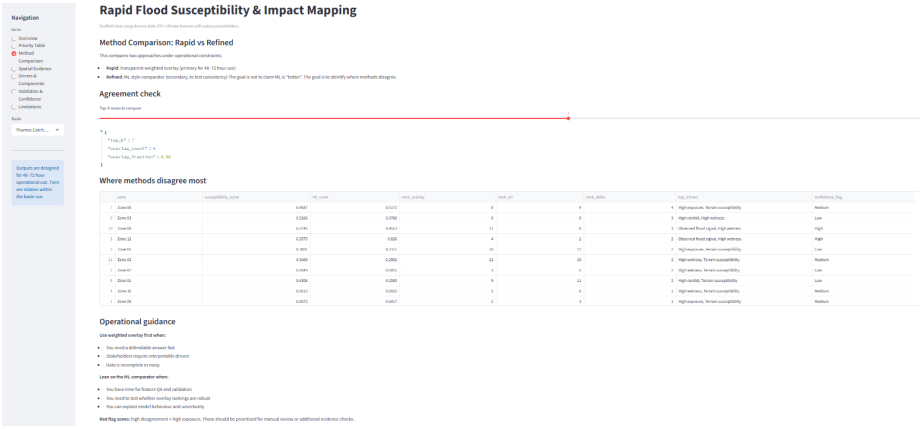

Figure 2: Method Comparison

Operational guidance

Use rapid weighted overlay when: - Time is constrained - Data completeness is uncertain - Interpretability is essential

Use refined methods when: - There is time for validation - Feature quality is assured - Model behaviour can be explained clearly

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What this analysis does not claim

- It does not predict flood depths or extents precisely
- It does not replace hydraulic or regulatory models
- It does not remove the need for expert judgment