GEOPHONE SEISMIC MONITORING REPORT

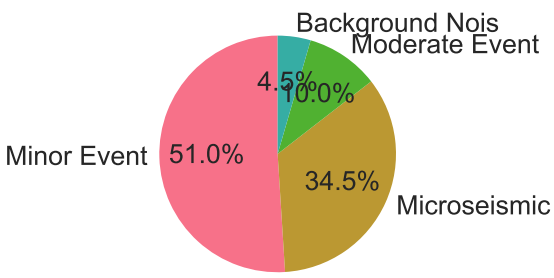
ANALYSIS PERIOD: 2025-04-30 to 2025-10-26
DURATION: 179 days

TOTAL EVENTS ANALYZED: 200
MONITORING STATIONS: 6
OVERALL RISK STATUS: LOW

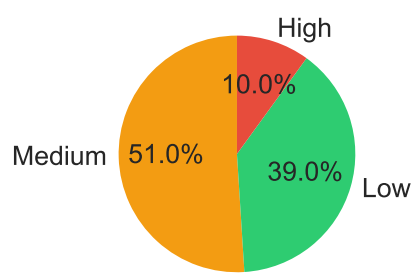
KEY METRICS

Mean Magnitude	3.201 mm/s
Max Richter Scale	1.53
Total Energy	1.40e+08 J
High/Critical Risk	20 (10.0%)
Mean Frequency	142.67 Hz
Mean b-value	0.041
Alert Count	196
ML Accuracy	92.0%

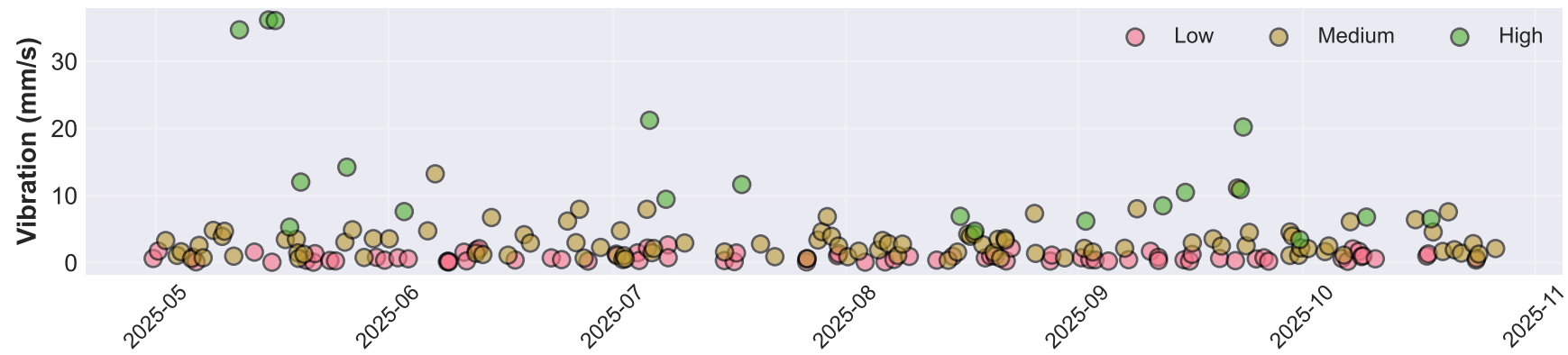
Event Type Distribution



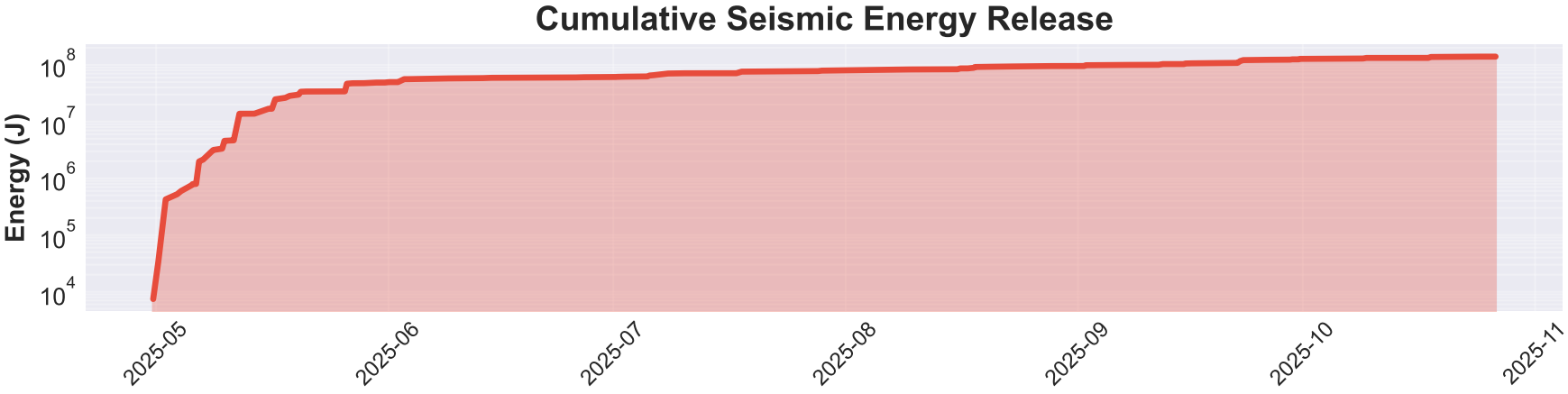
Risk Level Distribution



Seismic Event Timeline



Cumulative Seismic Energy Release

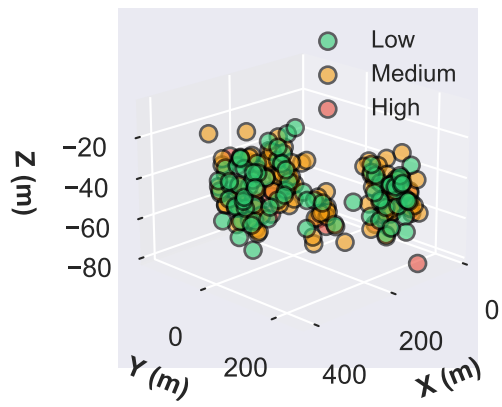


KEY FINDINGS:

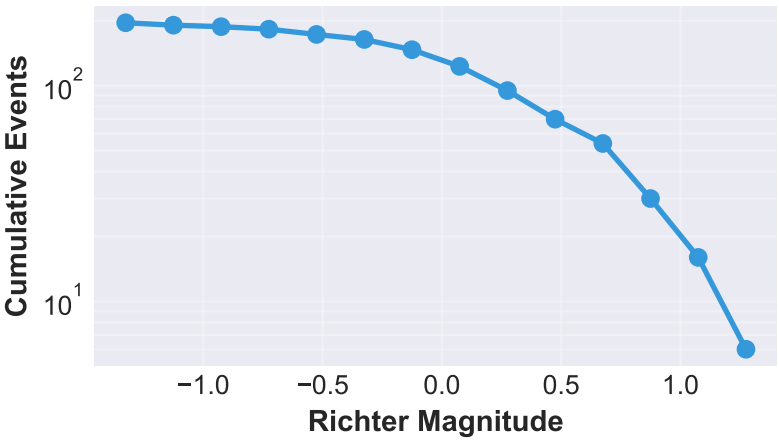
- Analyzed 200 seismic events over 179 days
- Maximum Richter magnitude: 1.53
- Total seismic energy released: 1.40e+08 Joules
- High/Critical risk events: 20 (10.0%)
- ML classifier achieved 92.0% accuracy in risk prediction

DETAILED SEISMIC ANALYSIS

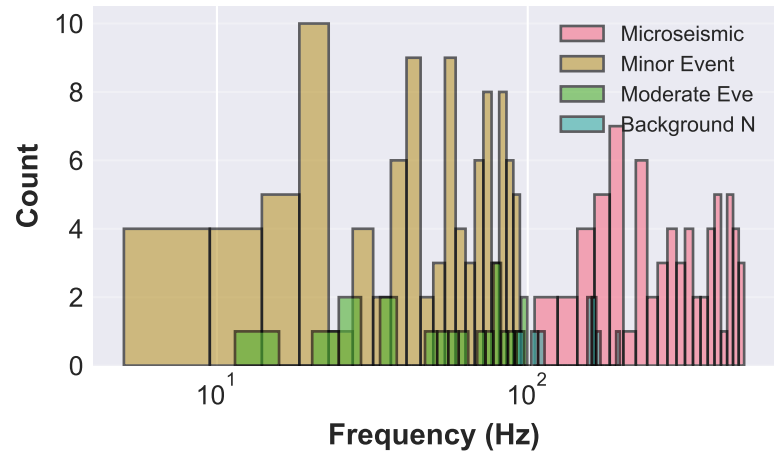
3D Event Distribution



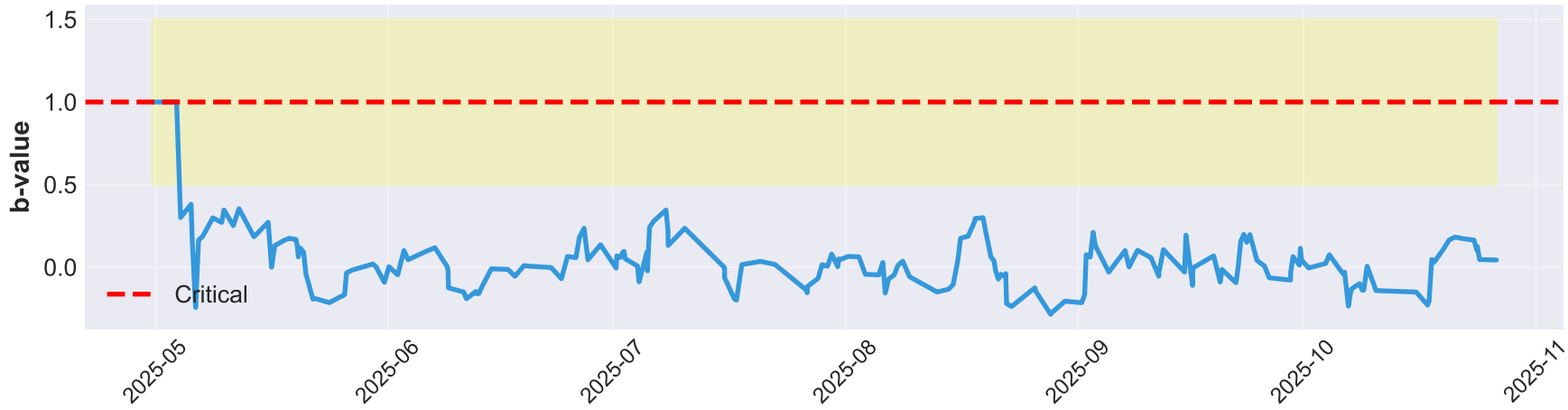
Gutenberg-Richter Law



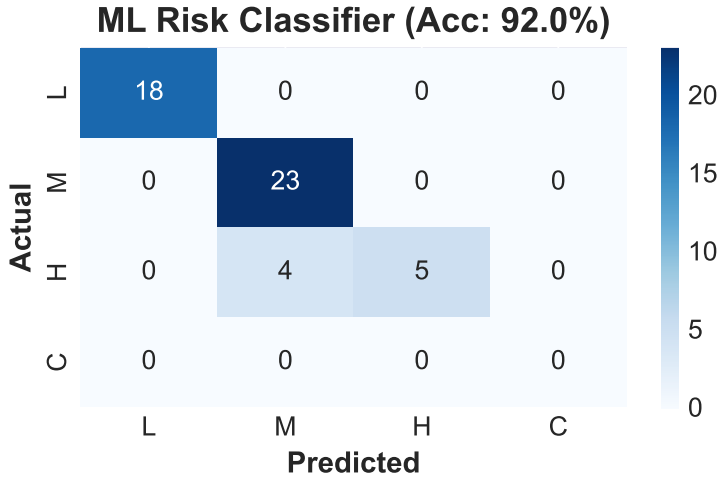
Frequency Distribution



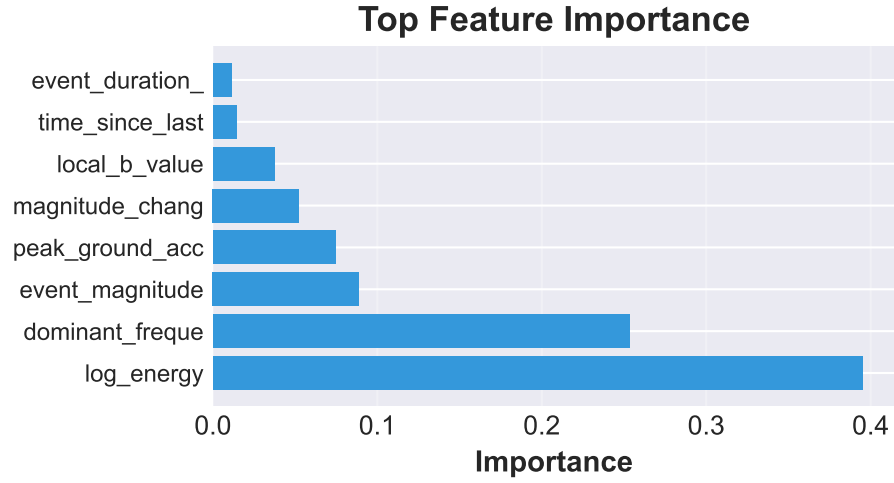
Stress Indicator (b-value Evolution)



ML Risk Classifier (Acc: 92.0%)



Top Feature Importance



TOP RECOMMENDATIONS:

[CRITICAL] Immediate evacuation protocols should be activated if Richter scale exceeds 2.0

[HIGH] Enhanced monitoring required when b-value drops below 0.8 (high stress state)

[HIGH] Investigate event swarms (>10 events/hour) in specific zones immediately

[MEDIUM] Review and potentially reinforce high-risk zones identified by clustering analysis