

A Live R-GIS Platform for Local Earthquake Monitoring in the New York Region: Strengthening Public Awareness of Low-Magnitude Seismic Events

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Abstract

Low-magnitude earthquakes do occur in the New York region, but their rarity often leaves residents unprepared and prone to confusion when seismic events occur. To address this challenge, we developed a specialized, real-time R-GIS platform that provides straightforward earthquake monitoring tailored specifically to the New York area. By leveraging USGS earthquake data, R programming, and geospatial visualization, the platform filters out global noise to emphasize local seismic activity, ensuring that the information remains clear and accessible for non-specialists.

Key features include interactive maps, up-to-date seismic statistics, and concise explanations of magnitudes—tools designed to reduce the risk of misinterpreting minor quakes as other disturbances, especially during nighttime hours. This accessible system thus fosters a more informed community response and bolsters overall disaster preparedness. Beyond its local application, this user-focused model can be replicated in other low-seismic regions seeking to improve geohazard communication.

The live platform—hosted via Shinyapps.io—is publicly accessible at <https://wjones.shinyapps.io/NYearthquakes/>, bridging the gap between raw scientific data and the immediate needs of New York residents. By prioritizing clarity and region-specific data, the project underscores the importance of tailoring scientific resources to enhance both public understanding and community resilience.

Link to the online earthquake map: <https://wjones.shinyapps.io/NYearthquakes/>