Fault Analysis Inside and Outside Suriname

Article Overview

Suriname has limited seismic activity, with most hazards related to flooding and rainfall, while regional fault systems in neighboring countries pose higher earthquake risks.

Faults and Seismic Activity in Suriname

Suriname is located on the stable Guiana Shield, part of the South American craton, which is geologically ancient and largely tectonically inactive. As a result, active fault lines within Suriname are minimal, and the country experiences very low seismicity. Most natural hazards in Suriname are hydrological and meteorological, including river and coastal flooding, heavy rainfall, and occasional landslides in hilly areas . The low tectonic activity means that earthquake-induced faulting is not a major concern for disaster risk management within the country .

Regional Faults Outside Suriname

While Suriname itself is stable, neighboring regions in the Caribbean and northern South America are more seismically active. For example:

o Venezuelan and Guyanese Shield margins: These areas have minor fault zones associated with the northern Andes and Caribbean plate interactions, which can generate moderate earthquakes.
o Caribbean Plate boundaries: Countries like Trinidad and Tobago, and northern Venezuela, experience higher seismicity due to the subduction and transform faults along the Caribbean-South American plate boundary.
o Brazilian Shield: To the south, Brazil is also largely stable, with only ancient, inactive faults. These regional faults can occasionally produce felt tremors in Suriname, but the risk of significant earthquake damage is low compared to coastal and riverine flooding hazards .

Implications for Disaster Risk Management

Given the low seismic risk, Suriname's disaster preparedness focuses on flooding, rainfall variability, and climate-related hazards rather than fault-induced earthquakes. National assessments, such as the National Disaster Preparedness Baseline Assessment (NDPBA), emphasize multi-hazard exposure, social vulnerabilities, and institutional capacity for disaster response . Flooding is particularly critical because nearly 30% of the country lies just a few meters above sea level, and most population and economic activity are concentrated in the coastal plain .

Summary

o Inside Suriname: Minimal active faults; low earthquake risk; primary hazards are floods, rainfall, and landslides.
o Outside Suriname: Neighboring regions have active faults along the Caribbean and northern South American plate boundaries, posing moderate seismic risk.
o Disaster planning: Focuses on hydrological hazards, with limited need for earthquake-specific mitigation, though regional monitoring is advisable. This analysis highlights that while Suriname is geologically stable, understanding regional fault systems is important for comprehensive disaster risk assessment and early warning planning.

Based on the interpretation and analysis of 2D seismic and well data, this paper presents the integrated geological and

This seismic risk profile of Suriname, produced by the Global Earthquake Model (GEM) Foundation summarizes key

The fraction of volcanic material decreases westward throughout the basin floor and the transition from continental shelf

Suriname is traversing a challenging period of macroeconomic adjustment that has repercussions for the population. Under new

Cronin et al. (2023) propose a fault-induced paleotopography for the Late Cretaceous slope profiles of the Guyana

In Suriname, research into the soil and geology is mainly conducted by the Geological Mining Service. Geological research is often

This briefing explores the origins of Suriname"s debt crisis and highlights the substantial challenges faced by the

The analysis sheds light on disaster preparedness in five "data deprived" countries: Belize, Dominica, Haiti, Saint

Suriname has initiated the process for accession to ICSANT through the Ministry of Defense Organized by UNODC in collaboration

On this occasion, the United Nations presented a photo exhibition on the history of Suriname within the United Nations, highlighting

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301 Moved Permanently 301 Moved Permanently cloudflare

Suriname is at a crossroads, politically and economically. CSIS Americas Program"s Scott B.

Suriname has made significant progress in disaster management, focusing on disaster risk reduction in alignment

Oroscopo del Giorno Domenica 5 Luglio 2026 di Lucia Arena - Il Segno del Giorno: Toro - Leggi qui il tuo oroscopo del

The study focuses on the Guyana-Suriname transform margin, utilizing well and reflection seismic data. Both

About 80% of Suriname is occupied by a Precambrian crystalline shield, which forms part of the Guiana Shield and

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