New Zealand Earthquake Reconnaissance Programme (NZERP) Significant Event Report – Virtual-NZERP

San José del Palmar M7.4 - Version 1.0

Report issued	14/08/2026
Magnitude (Mw)	7.4
Depth (km)	110 km
Location (geographical)	5 km S of San José del Palmar, Colombia
Location (lat/long)	4.8436, -76.2422
Time and date	09/08/2026
Faulting mechanism	Strike-slip
Maximum Modified Mercalli Intensity	VIII
Tsunami alert issued	No

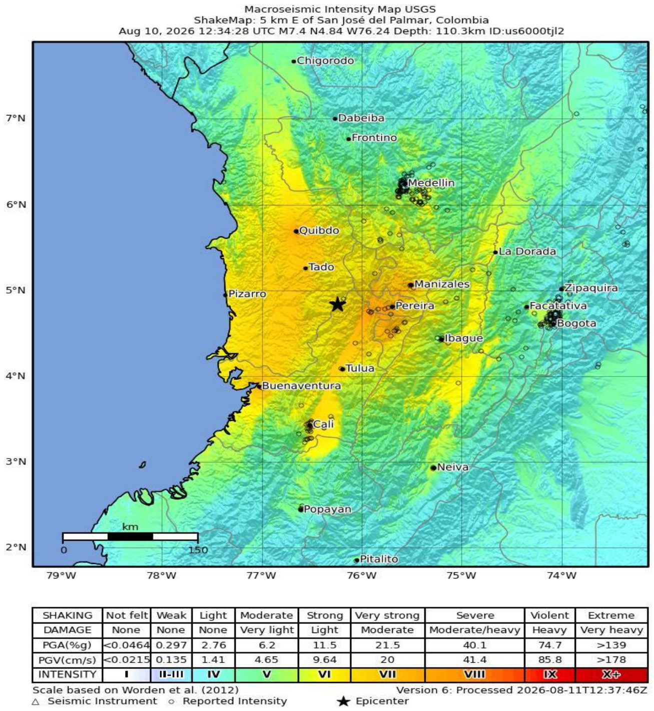

Figure 1 Epicentre location and shaking intensity.[1]

[1] https://earthquake.usgs.gov/earthquakes/eventpage/us6000tjl2/executive

Virtual-NZERP Team

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This is the third time NZSEE has conducted a detailed Virtual-NZERP mission in a very short period. As such, we encourage members to provide feedback on the applicability of content in this report so that future such missions can be further improved.

Introduction

This report presents preliminary findings from the New Zealand Earthquake Reconnaissance Programme (NZERP) – Virtual-NZERP team following recent seismic activity in Colombia. Based on remote observations and preliminary datasets, the team has compiled and analysed building performance, material vulnerabilities, and regional damage patterns to understand the structural impacts of the event.

This report has been prepared within a one-week timeframe using the information and resources available at this time. Given these time constraints, we acknowledge that relevant literature, research, and evidence may have been missed. The initial assessment presented in this report is based on information gathered from publicly available sources, including social media, satellite imagery, and other online resources used to geolocate buildings and assess observed damage. As such, the findings should be considered preliminary and may be revised as additional information becomes available. The team expects to expand and refine this work as more data, research, and field observations become available in the coming weeks and months.

Seismotectonic setting and earthquake history

The seismotectonics of Colombia are governed by the interaction of the Nazca, Caribbean and South American plates (Taboada *et al.*, 2000), producing four principal seismic settings: crustal, subduction interface, subduction intraslab, and the Bucaramanga seismic nest (Arcila *et al.*, 2020; Arteta, 2021). Along the Pacific coast, the Nazca Plate subducts eastward beneath northwestern South America at approximately 60 mm/yr, with the plate boundary marked by the Colombian trench. The slab remains relatively flat for about 400 km beneath the Cauca–Patía region before steepening to around 50° beneath the Eastern Cordillera, where it produces the Bucaramanga Nest, an unusually concentrated zone of intermediate-depth (60–160 km) seismicity. Although the nest accounts for a large proportion of earthquakes recorded annually in Colombia, its depth generally limits surface shaking. Shallower crustal hazard is dominated by major Andean fault systems, particularly the Romeral Fault System, which was associated with the 1999 Armenia (Quindío) earthquake, as well as faults responsible for events such as the 1983 Popayán earthquake. To the north, slower convergence of the Caribbean Plate beneath the South Caribbean Deformed Belt provides an additional, comparatively less active source of seismicity. The Nazca–South America convergence rate is broadly comparable to the present-day 33–48 mm/yr relative motion between the Pacific and Australian plates offshore the North Island of New Zealand (Beavan *et al.*, 2022).

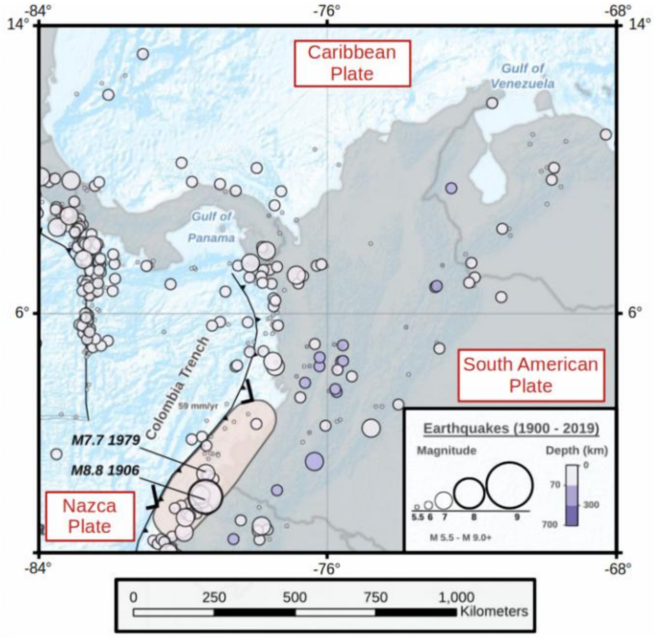

Figure 2 Tectonic setting of Colombia and northern South America. Adapted from USGS (2026)

This region shows evidence of damaging historical intermediate-depth subduction earthquakes (Table 1 and Figure 3) that have affected nearby major cities such as Cali, Armenia, Manizales, and Pereira, all of which were also heavily affected during the 2026 Mw 7.4 San José del Palmar earthquake.

Table 1 Historical earthquakes (Asfura & Flores, 1999; Garcia, 1984; NOAA, 2026)

Year	Longitude (deg)	Latitude (deg)	Magnitude	Depth (km)
1938	−75.69	4.68	7.0	150
1961	−75.51	4.49	6.8	163
1962	−76.35	5.17	6.5	64
1979	−76.16	4.73	7.2	110
1979	-75.90	4.50	6.4	80
1979	-79.28	1.56	7.9	23
1983	-76.69	2.46	5.5	22
1995	−76.56	4.06	6.4	71
1997	−75.70	3.82	6.7	200
1999	-75.72	4.39	6.2	10
2012	−76.39	1.92	7.2	164

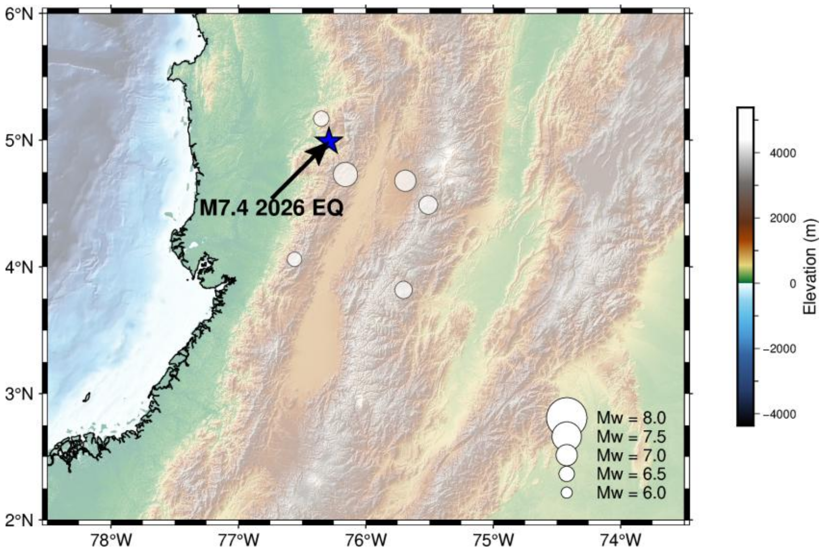

Figure 3 Geographical location of damaging historical intra-slab earthquakes in the vicinity of the M7.4 San Jose del Palmar earthquake.

Seismic Codes

In 1984, the first legislated provisions for earthquake resistant building design and construction, the Código Colombiano de Construcción Sismoresistente de 1984 (CCCSR-84), were enacted in Colombia as part of the building code. Although the CCCSR-84 was the first codified design standard, the Colombian Association for Earthquake Engineering, Asociación Colombiana de Ingeniería Sísmica (AIS), began publishing guidelines for the seismic design of buildings as early as 1976 as shown in Table 1 (García-León *et al.*, 2025). In 1976, the AIS published a version of the 1974 seismic design guidelines of the Structural Engineering Association of California (SEAOC) translated into Spanish. These guidelines provided a standard for practice but were not codified (Garcia). The AIS then proceeded to translate the Applied Technology Council (ATC) report Tentative Provisions for the Development of Seismic Regulations for Buildings (ATC-3-06) into Spanish, releasing two documents: a set of tentative provisions and their associated commentary. These updated guidelines are said to be released in October 1979, one month prior to the 6.4 MS magnitude earthquake in Central-western Colombia (Garcia, 1984), though there are contradictory reports on the year of publication (Ahumada *et al.*, 2013; García, 2014). In December 1979, there was a 7.8 MS magnitude earthquake on the Pacific Coast of Colombia near the Ecuadorian border, near Tumaco. Both 1979 events highlighted deficiencies in the existing seismic design practices, motivating the release of the first standard for earthquake resistant design and construction developed by the AIS in 1981, the Norma AIS 100-81, Requisitos Símicos Para Edificios (Ahumada *et al.*, 2013; Garcia, 1984). In 1983, this standard was updated, including design spectra based on ATC-3-06, different provisions for design based on the seismic risk zone assigned, and requirements for concrete buildings based on ACI 318-83 (Garcia, 1984). This standard was developed by the AIS and the Colombian Society of Engineers, Sociedad Colombiana de Ingenieros (SCI), forming the basis of the CCCSR-84 code published the following year (Ahumada *et al.*, 2013).

In March 1983, a 5.5 magnitude earthquake occurred in Popayán which caused severe structural damage and casualties while highlighting the vulnerabilities of unreinforced masonry structure (García-León *et al.*, 2025; Garcia, 1984). The emergency legislation enacted due to this event helped to put in place the provisions for earthquake resistant building design and construction in the building code in 1984 (Ahumada *et al.*, 2013). Several notable earthquakes occurred in the 1990s, including the 1992 Middle Atrato/Murindó earthquake (Mw 7.2), 1994 Paez earthquake, and 1995 Tauramena earthquake (Mw 6.5). These events triggered improvements to the building code, particularly seismic zoning and soil classification (Ahumada *et al.*, 2013; García-León *et al.*, 2025). In 1997, the AIS published an updated version of their standards based on advancements in research, AIS 100-97 (Ahumada *et al.*, 2013). The seismic design provisions in the building code were subsequently updated in 1998 to the Normas Colombianas de Diseño y Construcción Sismo Resistente (NSR-98) based on the guidelines of AIS 100-97. In January 1999, the Armenia (Eje Cafetero/Quindío) earthquake (Mw 6.2) highlighted deficiencies in the requirements for the detailing of RC structures and construction quality (Ahumada *et al.*, 2013). The most recent version of the seismic design code for buildings, NRS-10, was adopted in March 2010 (NSR-10, 2026). The most recent update to the NRS-10 was the modification of the technical annex about evaluating and reducing seismic vulnerability in masonry houses in September 2023, based on AIS 410-23 (Andrade, 2024; GEM Foundation, 2026). Industrial structures and infrastructure are governed by the standard AIS 180-13, Recomendaciones para el Diseño Sísmico de Estructuras Diferentes a las de Edificaciones (García, 2014). The Colombian National Roads Institute, instituto Nacional de Vías (INVÍAS) provides regulations for bridge design (source).

A comparison of the provisions of CCCSR-84, NSR-98, and NSR-10 are provided by García-León et al. (García-León *et al.*, 2025). A comparison of the provisions of CCCSR-84, NSR-98, and NSR-10 are provided by García-León et al. (García-León *et al.*, 2025). The CCCSR-84 is based on a working stress design approach. It used a simplified elastic spectrum with identical seismic coefficients across the country and included three soil classification types. There were limited provisions for detailing of reinforced concrete structures and no requirements for capacity design or inter-storey drift. The NSR-98 introduced capacity design provisions, including overstrength factors, hierarchy of strength, and shear design based on flexural overcapacity. It updated ductile detailing and confinement requirements for RC structures. This was the first edition of the code to include provisions for determining structural deficiencies that require strengthening. The NSR-10 included updated capacity design provisions and requirements for detailing RC structures. It established an approach to ductility similar to the US by incorporating a response modification factor and establishing three ductility levels (special ductility, DES; systems with moderate ductility, DMO; and systems with limited ductility, DBA). At present day, only 4.7% of the existing Colombian building stock is expected to be designed per the provisions of the current seismic design code, NRS-10, or more recent updates (GEM Foundation, 2026). Another 13.2% is estimated to be designed to earlier versions of the seismic either CCCSR-84 and NRS-98. A portion of the building stock is informally designed buildings which are highly vulnerable, particularly for housing, older buildings, and rural areas (Andrade, 2024; García-León *et al.*, 2025). A summary of the evolution of the building code is presented in Table 2.

Table 2 Evolution of the Colombian design code

Year	Code	Description
1972	-	Seismic risk map based on the guidelines of the SEAOC
1976	-	Spanish translation of the 1974 of the SEAOC seismic design guidelines
1978	-	Updated seismic risk map
1979	-	Spanish translation of the ATC report: Tentative Provisions for the Development of Seismic Regulations for Buildings (ATC-3-06)

Year	Code	Description
1981	AIS 100-81*	First standard for earthquake resistant design and construction from the AIS
1983	AIS 100-83*	Updated AS100 standard developed by the AIS and SCI with the aim of establishing technical guidelines for regulating the design and construction of earthquake-resistant buildings, formed the basis of the CCCSR-84
1984	CCCSR-84	First building code legislating requirements for earthquake resistant building design and construction
1997	AIS 100-97*	Updated version of the AIS standard based on advancements in research, formed the basis of the NSR-98
1998	NSR-98	Updated building code motivated by learnings from earthquakes in the 1990s and advancements in research
2010	NSR-10	Current building code for earthquake resistant building design and construction, several updates have occurred since its initial publication and the present day
2023	AIS 410-23	Standard for the evaluation and reduction of seismic vulnerability in masonry houses, adopted into the NRS-10 as a technical annex

** Standard or guideline, not codified and not mandatory*

Geological and Geomorphological History

Topography

The topography of the area is shown below in Figure 4. The region affected by the earthquake is extensive, extending from the Atrato lowlands of Chocó, across the Cordillera Occidental and the inter-Andean Cauca valley, to the western flank of the Cordillera Central. Elevations within the coffee-growing region are not uniform: Pereira (approximately 1,411 m) and Armenia (approximately 1,551 m) occupy comparable levels on the dissected surface of the Pereira–Armenia fluvio-volcanic fan, whereas Manizales stands some 600 m higher, at approximately 2,150 m, on narrow ridge crests and spurs of the Cordillera Central. Settlements on the cordilleran flanks lie higher again in the west - El Cairo, founded on a small structural bench beneath the Serranía de los Paraguas, is the highest municipal seat in Valle del Cauca at 1,850 m - although Sevilla, on the western flank of the Cordillera Central at 1,612 m, stands above Pereira and Armenia but well below Manizales.

In contrast to the cordilleran municipalities, Cali occupies the eastern piedmont of the Cordillera Occidental, built upon the coalescing Cali, Meléndez, Lili, Cañaveralejo and Pance alluvial fans and bounded to the east by the course of the Cauca River, with the ground rising abruptly immediately west of the city into the Farallones de Cali at approximately 4,200 m. Buenaventura, by contrast, lies essentially at sea level on the Pacific coast, on estuarine and reclaimed ground, and is reached from Cali only by crossing the full width of the Cordillera Occidental by way of the Dagua valley. Quibdó likewise lies close to sea level, at 43 m to 53 m, on the right bank of the Atrato on the floor of the Atrato depression between the Cordillera Occidental and the Serranía del Baudó; overland access from Risaralda requires crossing the Cauca valley floor and then the entire width of the Cordillera Occidental before descending into the San Juan basin.

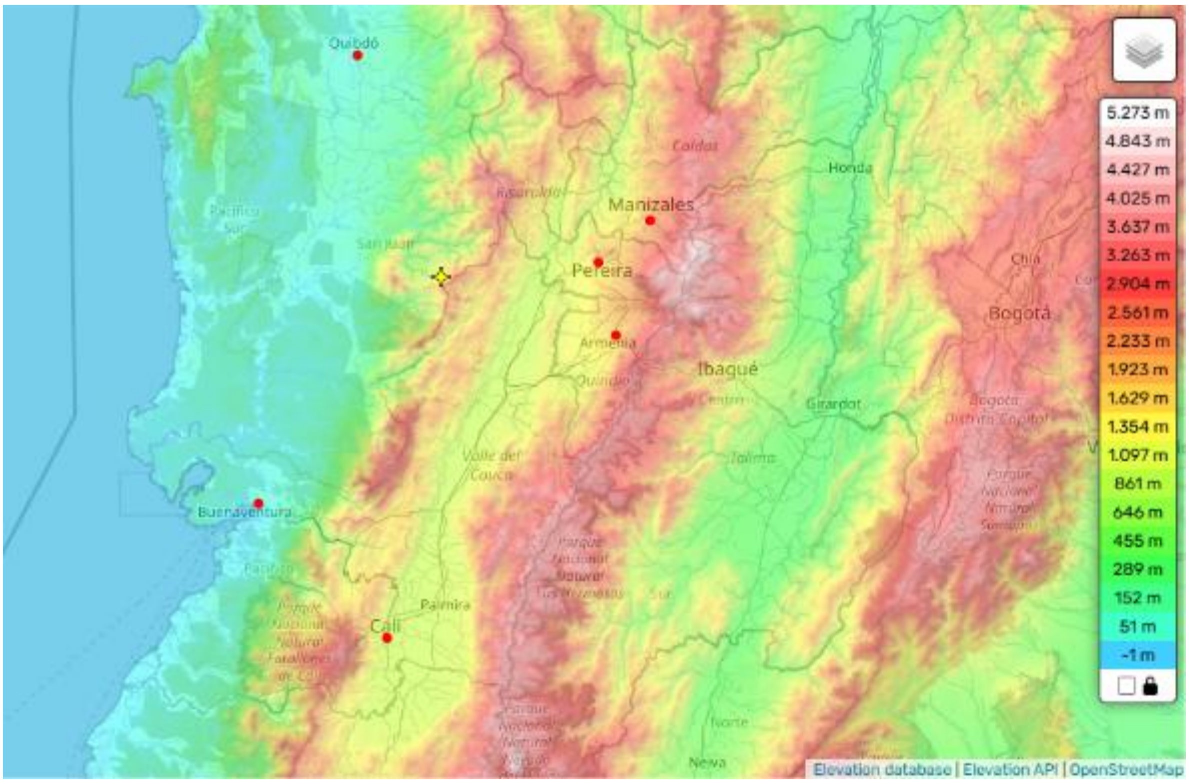

Figure 4: Topography affected areas in Colombia (Map, 2026)

Geology and Geomorphology

The geological and geomorphological setting is drawn from the Colombian Geological Survey's 1:100,000 scale mapping (Mapa Geológico de Colombia 2023). Regionally, the area sits within the tectonic boundary between the Cordillera Occidental, composed of accreted Cretaceous oceanic basalts and pillow lavas, and the older Cordillera Central, separated by the Romeral fault system; between them, the Cauca graben holds thick Quaternary alluvial fill. Hazard character varies markedly across the affected zone. The steep, weathered terrain of the western Norte del Valle towns nearest the epicentre (El Cairo, Argelia, Ansermanuevo) and the fault-crossed slopes of the eastern Norte del Valle (Sevilla, Caicedonia) are expected to be governed by rockfall and slope instability rather than liquefaction. In contrast, the flat Cauca River valley corridor is underlain by an active thrust front and carries a documented palaeoliquefaction record, with radiocarbon-dated evidence indicating Mw >7 earthquakes recurring roughly every 5,000–6,000 years, making liquefaction the primary anticipated ground-failure mechanism there. The Eje Cafetero cities (Armenia, Pereira, Manizales) are built on volcaniclastic fans derived from Ruiz–Tolima volcanism and are crossed by active strands of the Romeral fault system, while Cali sits on coalescing alluvial fans grading into the Cauca floodplain under regional east–west compression. Quibdó, on the low Atrato River floodplain, presents a particular limitation: its subsurface stratigraphy is poorly constrained, with no measured stratigraphic columns for the floodplain fill, complicating assessment of soil amplification and settlement risk in that city.

Ground motion recordings

Figure 5 shows the geographical distribution of the geometric mean of the baseline-corrected horizontal peak ground accelerations (PGA) provided by the Colombian Geological Survey (SGC, 2026). The maximum PGA was recorded at station JAMC, located in Jamundí, Valle del Cauca. However, CEER (2026) flagged stations JAMC and CBOCA (in Pereira) as pending review prior to interpretation. The closest station, CANSE, located at a hypocentral distance of approximately 120 km, recorded a PGA of around 214 gal. Stations in Manizales (MAN1C), Armenia (ARMEC), and Cali (RACC2C) are also highlighted in the figure, with recorded PGA values of 261, 213, and 110 gal, respectively.

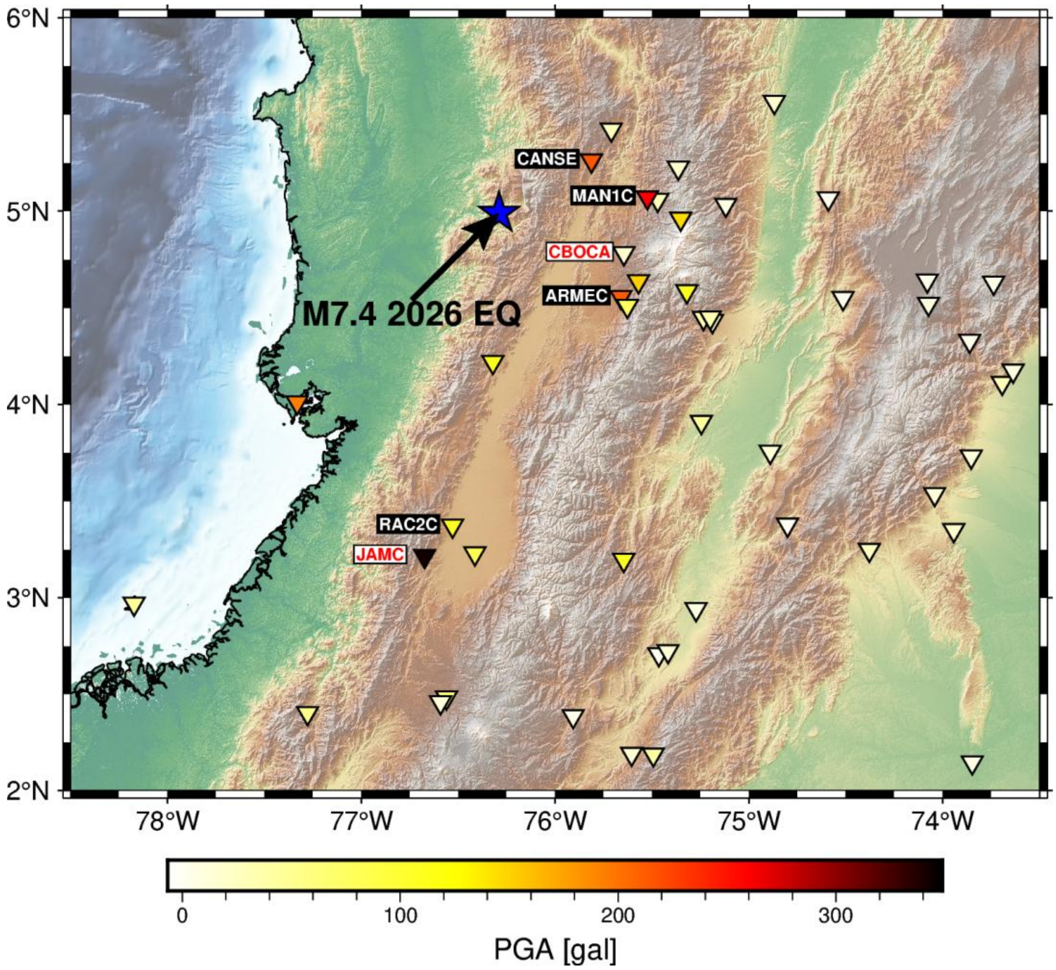

Figure 5 Geographical distribution of the geomean of the as-recorded horizontal peak ground accelerations.

Figure 6 compares the recorded response spectra and design spectra for residential buildings at three of the cities heavily affected by this event: Manizales, Armenia, and Cali. It is worth mentioning that these cities have microzonation studies that override the prescriptive design code in the Colombian design code, as local site effects play a significant role in the seismic hazard of these cities (Bernal Granados *et al.*, 2015; INGEOMINAS-DAGMA, 2005). However, it is instructive to compare the recorded ground motions against the base design spectrum in the Colombian design code, Reglamento Colombiano de Construcción Sismorresistente (NSR-10, 2010).

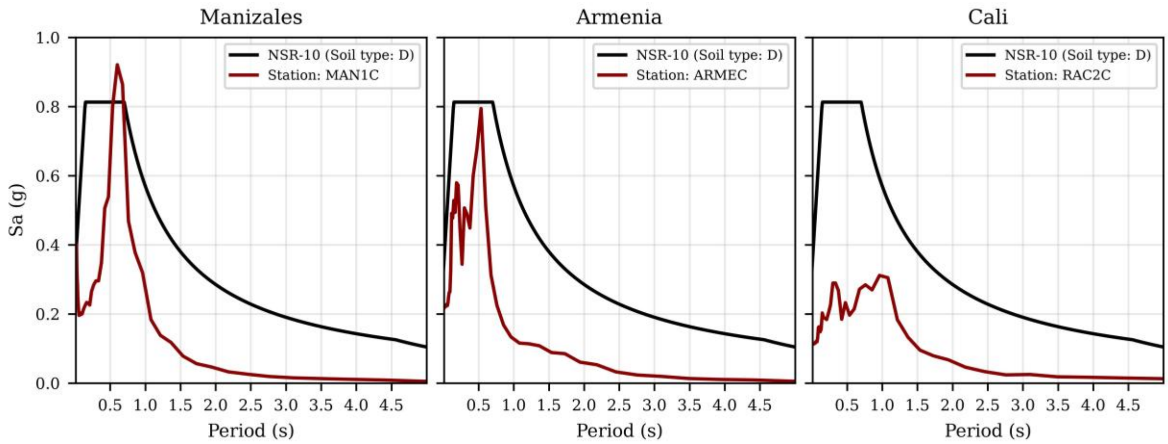

Figure 6 Comparison of the NSR-10 design spectra against the response spectra of the geometric mean of the baseline-corrected horizontal records.

Social impacts

By 12 August, official figures put the death toll above 200, with more than 2,500 injured, and homes and public infrastructure severely damaged, with humanitarian assessments still ongoing in the hardest-hit areas around Cali, Pereira, Manizales and Quibdó, where there are disruptions to communications, transport and public services. Authorities converted sports arenas, schools and other public buildings across the coffee-growing region into temporary shelters for thousands of displaced people, while in Pereira and Cali many families slept in parks and tent encampments, either fearing aftershocks or left with no home to return to. Search-and-rescue operations continued in the hardest-hit cities days after the quake (UN, 2026).

Building Damage

Virtual reconnaissance efforts were divided into six areas: Manizales (Caldas)/Rural, Cali/ Santiago de Cali (Valle del Cauca), Pereira (Risaralda), Buenaventura (Valle del Cauca), Quibdo (Choco), and Armenia (Quindio), as shown in Figure 7.

Figure 7 Regions/cities investigated in this reconnaissance.

Cali / Santiago de Cali (Valle del Cauca)

Twenty buildings were verified by the reconnaissance team, including 13 heavy damage or collapse cases and 7 moderate damage cases. Affected structures included reinforced concrete (RC), reinforced masonry (RM), and unreinforced masonry (URM) buildings. Observed damage mechanisms comprised pounding between adjacent structures, pancake collapse of reinforced concrete frame systems, progressive and partial collapses associated with loss of vertical load-carrying elements, floor slab failures and column failures.

(a) *(b)*

Figure 8 Hotel Vanessa RC building, Cali, Colombia, (a) before and (b) after earthquake[2]. Pancake collapse. Reference: Google Maps (2026)

Figure 9 Amalfi RC building, Cali, Colombia, serious structural damage due to pounding movement between adjacent blocks[3].

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[2] https://www.instagram.com/p/Db36zyvByvz/

[3] https://www.elpais.com.co/cali/evacuan-edificio-amalfi-en-el-sur-de-cali-por-graves-danos-estructurales-tras-el-terremoto-1152.html

(a) *(b)*

Figure 10 Hospital Universitario del Valle Evaristo García, Cali, Colombia; (a) before and (b) after earthquake[4]

(a) *(b)*

Figure 11 Aparthotel Molino Rojo (a) prior to Earthquake and (b) Partial collapse of the Molino Rojo in Cali[5]

Rural Centres

Manizales

Reports from locals mention over 20 buildings very heavily damaged and/or collapsed[6]. The North-West tower of the Cathedral Basilica of Our Lady of Rosary (Figure 12), the tallest in Colombia, collapsed on top of the main nave, which resisted the impact. This RC building has been reconstructed several times following previous earthquakes. A range of collapse mechanisms were observed including overturning from failure in the lower stories (Figure 13), pancake collapses (Figure 14) and soft-storey collapse Figure 15. Minor damage has been

[4] https://www.instagram.com/reel/Db36_D9B8yC/?utm_source=ig_web_copy_link&igsh=MzRlODBiNWFlZA%3D%3D

[5] https://bsky.app/profile/ratednews.bsky.social/post/3msqpifgcad2o

[6] https://www.elmundo.es/internacional/2026/08/10/6a79f7b2fc6c839e488b4593.html

widely observed, in many cases related to RC frames with URM infill, and URM construction, as shown in Figure 16 and Figure 17.

Figure 12 Cathedral Basilica of Our Lady of Rosary, Manizales[7]

(a)

(b)

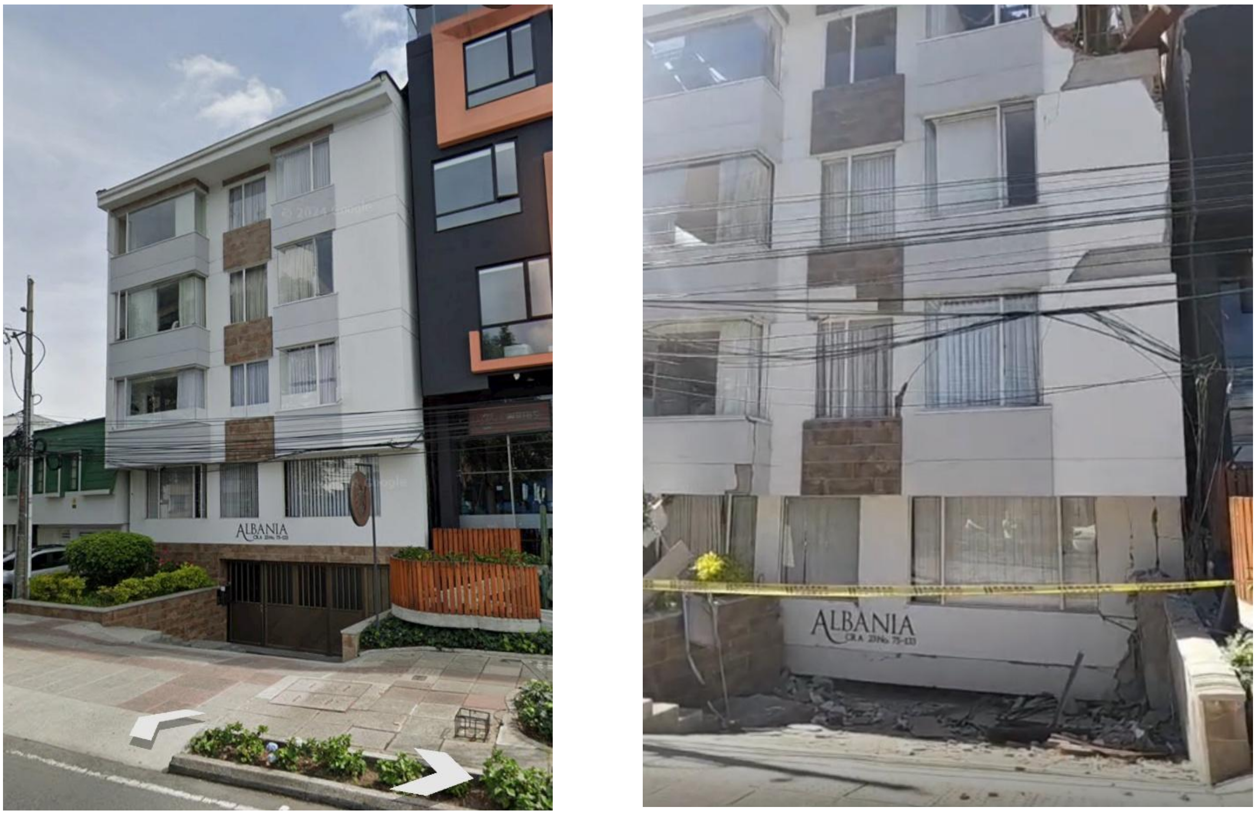
Figure 13 Edificio Plaza Santo Domingo; (a) before and (b) after earthquake[8]

[7] https://apnews.com/article/colombia-ecuador-earthquake-26fd40f93272d834fced47a4a673edc9

[8] https://www.instagram.com/reels/Db3j53jSXY5/

(a) (b)

Figure 14 Edificio in calle 61; (a) before and (b) after earthquake[9]



(a) (b)

Figure 15 Edificio Albania; (a) before and (b) after[10] *earthquake, note the collapse of the lowest level*

[9] https://www.lapatria.com/sucesos/temblor-en-manizales-derrumbe-de-parqueadero-cobra-la-vida-de-un-joven-domiciliario-y

[10] https://www.instagram.com/p/Db63a5wgkex/

(a) (b)

Figure 16 Edificio Palos de Moguer; (a) before and (b) after[11] earthquake

(a) (b)

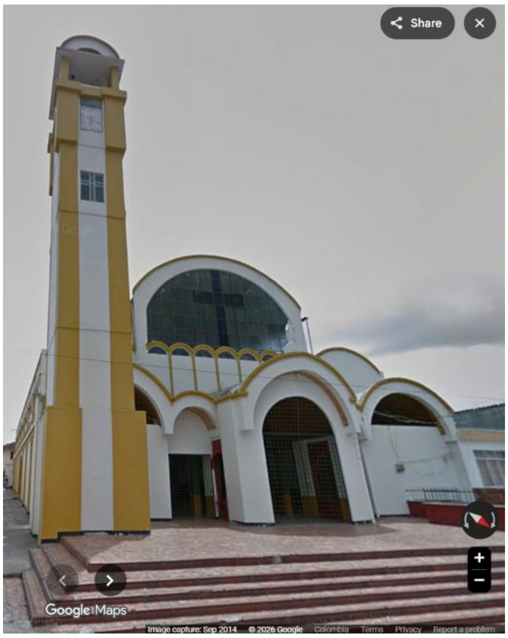
Figure 17 Edificio Dimoda; (a) before and (b) after[12] earthquake.

[11] https://www.instagram.com/p/Db3asrgBJQv/

[12] https://x.com/soyluisgabriel1/status/2086800388137579002

El Cairo

A local church has suffered damage in the bell tower, with the URM infill cracking and partially collapsing after detaching from the RC frame. Other examples of URM failure (Figure 18 and Figure 19) in low rise structures have been observed.



(a)

(b)

Figure 18: Parroquia Nuestra Señora Del Carmen; (a) before and (b) after earthquake[13].

(a)

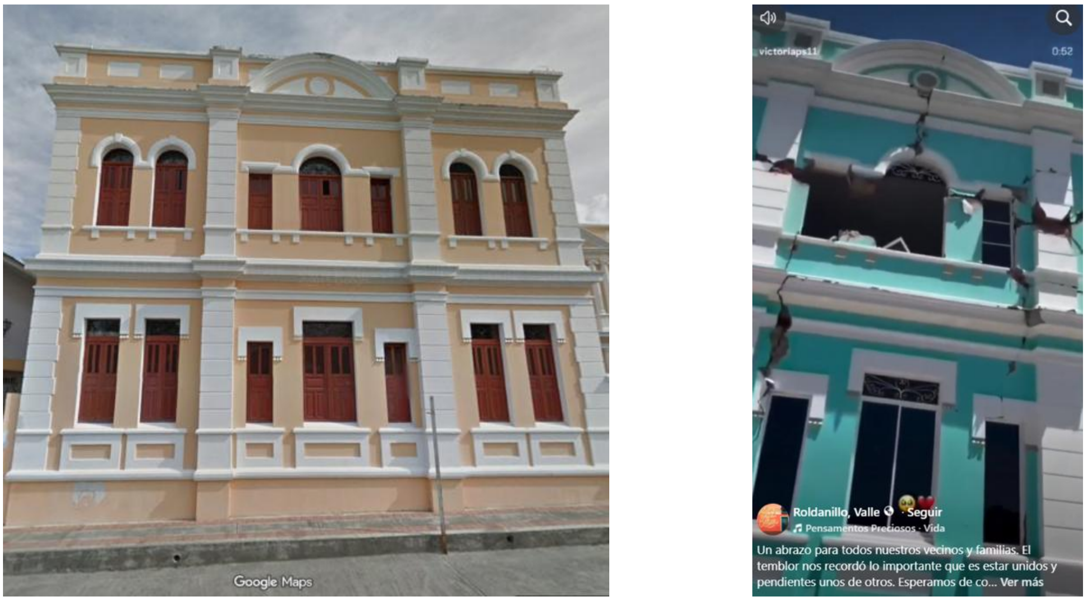
(b)

[13] https://www.facebook.com/ElColombiano/videos/-richard-olarte-p%C3%A1rroco-de-la-iglesia-nuestra-se%C3%B1ora-del-carmen-en-el-cairo-habl/997744909963652/

Figure 19 Residencia El Dorado after the earthquake[14]

Roldanillo

The Institute of Education building has experienced severe damage. This structure appears likely to be of URM construction.



(a) *(b)*

Figure 20 Instituto de Educación Técnica Profesional de Roldanillo (a) before and (b) after earthquake.

El águila

The local medical centre has collapsed. Other residential buildings in the area also experienced severe failures that have left 1000 citizens (10% of the local population) without a home[15]. The local church has also been severely affected.

[14] https://www.instagram.com/p/Db7k218OeNm/

[15] https://www.eltiempo.com/colombia/otras-ciudades/el-aguila-las-ruinas-del-hospital-en-la-colina-y-la-gratitud-generalizada-por-haber-sobrevivido-al-terremoto-3577722

Figure 21 Hospital San Rafael[16][17]

Figure 22 Iglesia La Inmaculada Concepción; before (left photo) and after (right photo) earthquake.

Sevilla

In the Municipality of Sevilla, Valle del Cauca at least 10 buildings, ranging from one to five storeys in height, collapsed during the seismic event. The Municipal Administration Building, shown in Figure 23, sustained extensive cracking, localised loss of façade and infill materials, and exposed masonry around several window openings. As this facility plays an important role in coordinating emergency and disaster-response activities, the observed damage may have significantly reduced the municipality's institutional response capacity.

(a) *(b)*

Figure 23 Municipal Administration Building. (a) before earthquake (b) after earthquake.

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[16] https://www.instagram.com/p/Db69JJXlVD6/

[17] https://www.instagram.com/p/Db9MQ7_meo2/?utm_source=ig_web_copy_link&igsh=MzRlODBiNWFlZA%3D%3D

Buenaventura (Valle del Cauca)

The municipality of Buenaventura sustained widespread structural damage, with the most severe impacts concentrated in the urban centre and vulnerable coastal/peripheral neighbourhoods. Available local reports indicate approximately 3,956 infrastructure impacts, including about 540 dwellings with total loss and 2,833 dwellings with partial loss[18]. Several three- to six-storey buildings were also reported as being at imminent risk of collapse and potentially requiring controlled demolition. One of the most significant failures was the complete collapse of Edificio Naranjito (Figure 24), a four-storey reinforced concrete building with masonry infill walls and ground-floor commercial use, located around Calle Tercera/Carrera 5A in the city centre .

(a) *(b)*

Figure 24 Edificio Naranjito in Buenaventura: (a) building condition before the earthquake; (b) complete collapse following the earthquake[19]

Armenia (Quindio)

The municipality of Armenia, Quindio, preliminary reports indicated five building collapses, 64 collapse related incidents, approximately 240 damaged homes, and 40 damaged buildings. Reported damage included structural collapses, severe cracking, façade damage, masonry failures, and widespread non-structural damage. El Edén International Airport also sustained damage to its control tower and runway.

(a) *(b)*

Figure 25 Edificio Armenia Hotel in Armenia: (a) building condition before the earthquake; (b) damage to walls following the earthquake[20]

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[18] https://www.noticiasrcn.com/colombia/afectaciones-en-buenaventura-por-el-terremoto-12-fallecidos-y-miles-de-viviendas-afectadas-1049569#google_vignette

[19] https://www.facebook.com/soydebuenaventura/videos/edificio-colapsado-en-la-calle-el-naranjito-en-el-centro-de-buenaventura-por-tem/1311972027436328/

[20] https://www.youtube.com/watch?v=115rKh5HxzM

(a) *(b)*

Figure 26 Montenegro, Quindío: (a) damage to roof (b) and facade[21]

Pereira (Risaralda)

The municipality of Pereira sustained catastrophic urban damage, resulting in an initially reported 92 collapsed buildings, over 1,600 compromised structures, and 83 fatalities concentrated across the downtown Centro district, Corocito, Álamos, and El Poblado. The vast majority of severely affected assets were low- to mid-rise configurations ranging from 1 to 7 stories in height. Observable damage appeared to be concentrated in reinforced concrete frame systems with unreinforced hollow clay block infill walls (ladrillo farol) constructed under pre-2010 seismic codes, and unreinforced masonry structures, with similar typology to what we have in New Zealand. Failure mechanisms were characterized by widespread soft-story collapses of open commercial ground floors, progressive pancake floor slab stacking, severe exterior facade shearing and rapid ground-floor column collapses of 3-to-4 story commercial corner blocks (Figure 27). Outside of the low rise failures, there was evidence of a soft-story mechanism on the 12th (approximately) floor of a 15 storey tower (see Figure 28f). Notable non-residential engineering failures include brittle column shearing at the 5-story Police Headquarters the toppling of the San José Church spire, a total suspended ceiling framework failure at the Matecaña International Airport terminal (Figure 28d).

Figure 27 Collapse of 4 storey Hotel structure in Pereira[22]

[21] https://www.lapatria.com/eje-cafetero/terremoto-deja-cientos-de-viviendas-afectadas-y-mas-de-350-personas-lesionadas-en

[22] https://bsky.app/profile/elpoder.bsky.social/post/3mssafqvw7c22

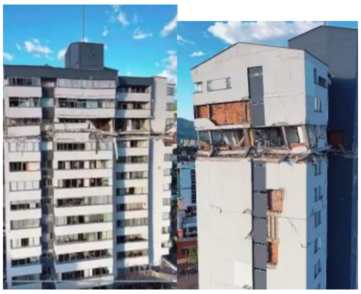
(a) Commercial Corner Block: collapse of a 3-story concrete frame with hollow clay block infill.[23]

(b) Partial roof and façade collapse of a Centro Commercial Fiducentro

(c) Collapse of a multi-storey mixed residential building in Plaza de Bolívar[24]

(d) Matecaña International Airport Terminal – detachment of the suspended ceiling and acoustic panel[25]

(e) Pereira Central Police Headquarters; damage to concrete columns, beam-column joints, and facade.[26]



(f) 15 storey building with a soft storey at level 12[27]

Figure 28 Structural overview of the Pereira region, highlighting mid-rise collapses, soft-story failures, and heavy building damages across the urban core.

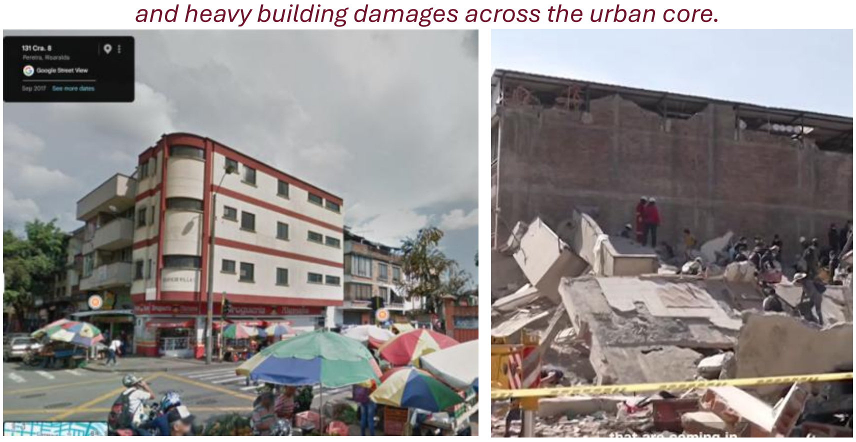


Figure 29 The collapse of Edificio Villa in Pereira; before (left photo) and after (right photo) earthquake[28]

[23] https://www.youtube.com/watch?v=HMuUaRB1Qg4, https://bsky.app/profile/analisisurbano.bsky.social/post/3msvywzjdhk27
[24] https://edition.cnn.com/2026/08/10/world/live-news/colombia-earthquake-san-jose-del-palmarhttps://edition.cnn.com/2026/08/10/world/live-news/colombia-earthquake-san-jose-del-palmar
[25] https://bsky.app/profile/elespectador.com/post/3msqzmi7sbm2o ;https://x.com/UltimaHoraCR/status/2086811175489077423
[26] https://www.facebook.com/nmasunivision/videos/pereira-se-encuentra-entre-las-ciudades-m%C3%A1s-afectadas-por-el-terremoto-que-sacud/918829357453468/
[27] https://x.com/JACOBOSOLANOC/status/2087150264838922295?s=46

[28] https://www.bbc.com/mundo/articles/cdj07dkd8vyo

Figure 30 Damage to residential houses – hollow brick walls, and internal ceilings[29]

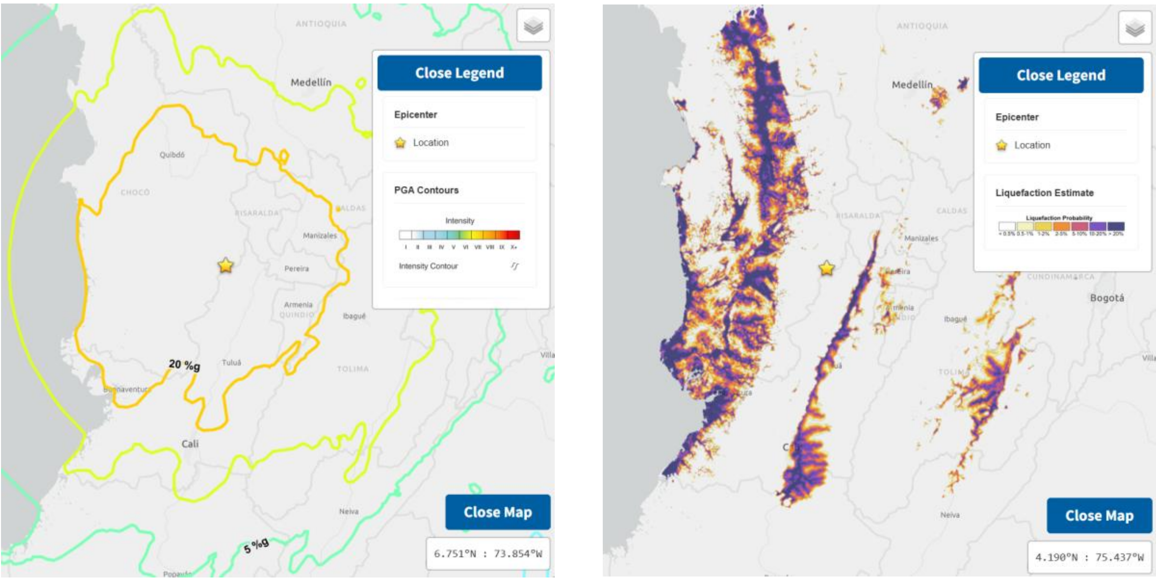
Observed ground effects

Liquefaction and Lateral Spreading

The USGS liquefaction estimate map indicates potential susceptibility within the Valle del Cauca River corridor and, to a lesser extent, along the Magdalena River and the Pacific coastline near Buenaventura and the Chocó Department. The Cauca River valley corridor already carries a documented palaeoliquefaction record, as noted in the Geology and Geomorphology section above, against which susceptibility to this event should be assessed. However, at the time of writing, no photographic or other field evidence confirming liquefaction has been obtained from any location, and its occurrence during this event cannot yet be confirmed. The liquefaction susceptibility map released by the USGS following the event is shown in Figure 31

The only ground effect confirmed to date is lateral spreading at the Muelle de Juanchaco wharf (Figure 32), in the maritime zone of Buenaventura, where local media video shows the wharf deformed and partially failed. This is consistent with lateral spreading of loose, saturated waterfront soils moving seaward and consequent movement and distress of the overlying dock infrastructure.

[29] https://www.bbc.com/mundo/articles/cdj07dkd8vyo



(a) *(b)*

Figure 31 Liquefaction susceptibility map from USGS[30] (a) PGA contours map (b) liquefaction estimate map

Figure 32 Lateral spreading damage to the Muelle de Juanchaco wharf, Buenaventura, following the 10 August 2026 earthquake[31]

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[30] U.S. Geological Survey, 2026. Ground Failure Summary for M 7.4 - 5 km S of San José del Palmar, Colombia Earthquake. Retrieved 12th August, 2026, from https://earthquake.usgs.gov/earthquakes/eventpage/us6000tjl2/map

[31] Muelle de Juanchaco, zona marítima de Buenaventura, sufrió afectaciones, pero no se reportaron personas lastimadas tras el temblor (11 August 226). Video available at: https://www.facebook.com/share/v/1F42CCANwb/ Accessed 12 August 2026

Foundation-related damage

Evidence of foundation-related damage is limited. However, damage at the residential complex Pío XII in the El Lido neighbourhood of Cali may indicate an example of insufficient bearing capacity of the founding soils under seismic loading. Multiple residential blocks appear to have undergone rigid-body rotation (tilting) while remaining largely structurally intact, consistent with one-sided mobilisation of the soil bearing capacity under earthquake-induced overturning moments. The associated ground manifestation, characterised by ground uplift in front of the structures, is consistent with a seismically induced bearing capacity failure (Figure 33).

(a)

(b)

Figure 33 Possible foundation/substructure failure at the Pío XII residential complex in Cali: (a) rigid-body tilting of a residential block with adjacent ground uplift;[32] (b) podium slab collapse[33]

Ground cracking

Photos and videos of the ground cracking are limited at the time of writing. Based on the evidence available so far, ground cracking was observed at a levelled football field in the Los Almendros sector of Armenia (Quindío) following the earthquake. The evidence was collected from social media posts (see Figure 34). The cracking showed an arcuate, tension-dominated pattern made up of a series of en-echelon segments, with individual cracks typically around ~5-15 cm wide. The downslope block appeared slightly displaced relative to the upslope side, consistent with minor lateral extension and early downslope movement of the levelled fill. No sand boils or ejecta were seen at this location.

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[32] Diario Libre / Reuters (11 August 2026). Sobreviviente en Cali camina entre los escombros tras terremoto en Colombia. Available at: https://www.diariolibre.com/videos/mundo/america-latina/2026/08/11/sobreviviente-en-cali-al-terremoto-en-colombia-cuenta-su-experiencia/3625778 Accessed 13 August 2026

[33] Emmanuel Sainsilien (@MSainsilien) (11 August 2026). Social media post showing earthquake damage in Colombia following the 10 August 2026 earthquake. Available at: https://x.com/MSainsilien/status/2086877927824843089 Accessed 13 August 2026

Figure 34 Ground cracking across a levelled football field in the Los Almendros sector, Armenia (Quindío), following the 10 August 2026 earthquake[34]

Landslides, rockfalls, slope instability

Earthquake-induced landslides, rockfalls and other forms of slope instability were reported across the affected region, with ground-failure observations concentrated in mountainous transport corridors in Caldas, Tolima, Quindío, Risaralda, and Valle del Cauca.[35] Reported impacts included translational landslides, shallow slope failures, rockfalls, debris falls, and vegetation falls affecting steep slopes, road cuttings, tunnel approaches, and adjacent infrastructure.[36]

Available reporting indicates that most observed failures were localised slope failures and rock/debris falls rather than confirmed deep-seated or large-volume landslides. Notable concentrations of instability were reported along the Manizales-Bogotá corridor near Cerro Bravo, where multiple rock and vegetation slides affected the Manizales-Fresno-Mariquita-Bogotá road and damaged vehicles (Figure 35).

[34] Castaño Vanegas, J.F. (2026)."Se rajó la tierra": Armenia presenta graves afectaciones en diferentes partes de la ciudad tras el terremoto de esta mañana. Available at “Se rajó la tierra”: Armenia presenta graves afectaciones en diferentes partes de la ciudad tras el terremoto de esta mañana - Semana Accessed 12 August 2026

[35] INVÍAS (10 August 2026). Road-status reporting for earthquake-affected national roads, accessed via INVÍAS emergency road-status systems and as reproduced by El Tiempo and Bloomberg Línea. Accessed 13 August 2026

[36] El Tiempo (2026). Terremoto de magnitud 7.4 deja cierres en aeropuertos y vías mientras autoridades revisan infraestructura. Available at: https://www.eltiempo.com/economia/sectores/terremoto-de-magnitud-7-4-deja-cierres-en-aeropuertos-y-vias-mientras-autoridades-revisan-infraestructura-3577318 Accessed 13 August 2026

(a) (b)

Figure 35 Rockfall along the Manizales-Bogotá corridor:[37] (a) rockfall being cleared; (b) truck struck by rockfall.

Significant failures were also reported along the Cali-Buenaventura corridor, where approximately 20 landslides were reported and the route was closed while emergency access was maintained by air (Figure 36).

(a) (b) (c)

Figure 36 Rockfall along the Cali-Buenaventura corridor:[38] (a) rockfall blocking a portal;[39] (b) Rockfall on road.[40] (c) Rock slide on road

[37] La Patria (11 August 2026). Faltan por picar tres rocas gigantes para dar vía Manizales-Bogotá, dice el Invías. Available at: https://www.lapatria.com/caldas/faltan-por-picar-tres-rocas-gigantes-para-dar-manizales-bogota-dice-el-invias Accessed 13 August 2026

[38] Q'hubo Cali (10 August 2026). Emergencia en el Valle: derrumbes bloquean la vía a Buenaventura. Available at: https://www.qhubocali.com/asi-paso/emergencia-en-el-valle-derrumbes-bloquean-la-via-a-buenaventura/ accessed 13 August 2026

[39] Image: Cuando creamos que Dios no nos... - Libia Mosquera Viveros | Facebook Accessed 13 August 2026

[40] Image: Emmanuel Sainsilien (11 August 2026).Available at: https://x.com/MSainsilien/status/2086877927824843089 Accessed 13 August 2026

In Tolima, authorities investigated a possible landslide damming of the Río Gualí following observed landsliding (Figure 37), but an aerial inspection found no obstruction requiring escalation and the reported avalanche risk was ruled out.

Figure 37 Landslides near the Río Gualí in Tolima.[41]

Additional failures were documented along the Armenia-Pereira-Manizales concession corridor (Figure 38) and the Calarcá-Cajamarca and Ibagué-Cajamarca approaches to the La Línea corridor.[42]

Figure 38 Landslide along the Armenia-Pereira-Manizales corridor.[43]

[41] Ecos del Combeima (11 August 2026). Descartan riesgo de avalancha en el Tolima tras sismo del 10 de Agosto. Available at: https://www.ecosdelcombeima.com/tolima/nota-193147-descartan-riesgo-de-avalancha-en-el-tolima-tras-sismo-del-10-de-agosto Accessed 13 August 2026

[42] El Tiempo (2026). Terremoto de magnitud 7,4 deja cierres en aeropuertos y vías mientras autoridades revisan. Available at: https://www.eltiempo.com/economia/sectores/terremoto-de-magnitud-7-4-deja-cierres-en-aeropuertos-y-vias-mientras-autoridades-revisan-infraestructura-3577318 Accessed 13 August 2026

[43] El Quindiano (11 August 2026). Cierre temporal de la vía Montenegro–Armenia desde este miércoles. Available at: https://elquindiano.com/noticia/272929/cierre-temporal-de-la-via-montenegro-armenia-desde-este-miercoles/ Accessed 13 August 2026

The observed failures were predominantly associated with road cuttings, exposed slopes, tunnel approaches and other slope-constrained sections of the transport network.[44] Several incidents involved rockfall or debris reaching vehicles and infrastructure, while many locations required inspection, debris removal and progressive reopening before normal operations could resume.[45]

Overall, the reviewed reporting indicates that earthquake-induced instability was geographically widespread but generally localised in scale, with impacts concentrated on steep slopes and existing transport corridors.[46] The reviewed sources did not identify large, long-runout landslides, regional-scale slope failures or widespread permanent ground deformation directly attributable to mass-movement processes.[47] Larger slope failures may have occurred in remote or difficult-to-access terrain, but these have not been identified in the reporting reviewed to date.

Coastal or riverbank effects

No significant coastal or riverbank failures were reported following the earthquake. The U.S. Tsunami Warning System issued no tsunami threat, and Colombian authorities cancelled the initial precautionary alert after early assessments, so no significant coastal impacts or tsunami-related disruptions were reported[48].

Colombia's major ports remained largely operational, with no nationwide port closures reported. Risk was generally assessed as moderate, rising to moderate-high around Buenaventura, with potential aftershock, landslide, and transport-related disruption at other Pacific ports such as Tumaco. Caribbean ports (Cartagena, Barranquilla, and Santa Marta) reported no significant impacts[49]. Buenaventura Port began phased reactivation on 12 August 2026 following terminal safety checks, while other major ports continued operating under monitoring[50].

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[44] Agencia Nacional de Infraestructura (ANI) (10 August 2026). Cuatro corredores viales concesionados presentaron afectaciones y activaron Protocolos de Seguridad por eventos sismológicos. Available at: https://www.ani.gov.co/w/cuatro-corredores-viales-concesionados-presentaron-afectaciones-y-activaron-protocolos-de-seguridad-por-eventos-sismol%C3%B3gicos

[45] La Patria (11 August 2026). Vía Manizales-Bogotá: siguen labores para remover rocas y capa vegetal, hay proyección de reapertura. Available at: https://www.lapatria.com/caldas/manizales-bogota-siguen-labores-para-remover-rocas-y-capa-vegetal-hay-proyeccion-de

[46] INVÍAS (10 August 2026). Road-status reporting for earthquake-affected national roads, accessed via INVÍAS emergency road-status systems and as reproduced by El Tiempo and Bloomberg Línea. Accessed 13 August 2026

[47] El Tiempo (2026). Terremoto de magnitud 7,4 deja cierres en aeropuertos y vías mientras autoridades revisan infraestructura. Available at: https://www.eltiempo.com/economia/sectores/terremoto-de-magnitud-7-4-deja-cierres-en-aeropuertos-y-vias-mientras-autoridades-revisan-infraestructura-3577318

[48] Democrata (13 august 2026). Is there a risk of tsunami after the earthquake in Colombia? This is known after the strong quake. Available at: Is there a risk of tsunami after the earthquake in Colombia? | Demócrata

[49] All about shipping (10 August 2026). DIAPLOUS on the Colombia Earthquake: Port and Maritime Operational Outlook. Available at: DIAPLOUS on the Colombia Earthquake: Port and Maritime Operational Outlook – 10 Aug 2026 – All About Shipping

[50] Mundomaritimo (11 August 2026). 7.4-Magnitude Earthquake in Colombia Triggers Emergency Protocols Across Port and Logistics Infrastructure. Available at: 7.4-Magnitude Earthquake in Colombia Triggers Emergency Protocols Across Port and Logistics Infrastructure - MundoMaritimo

No major riverbank failures were officially reported following the earthquake. However, the National Indigenous Organization of Colombia (ONIC) identified riverbank instability in Risaralda, Caldas, and Valle del Cauca as significant hazards that could affect communities in steep and geologically vulnerable areas (see Figure 39). These conditions may have contributed to localised riverbank instability and progressive erosion, although detailed assessments remain ongoing[51].

Figure 39 Riverbank instability adjacent to residential dwellings affecting indigenous population across affected regions (Risaralda, Caldas, and Valle del Cauca)

Infrastructure performance

Roading

The earthquake caused widespread disruption to the regional transportation network, particularly in areas with steep terrain, unstable slopes, and vulnerable geological formations that increased the infrastructure's susceptibility to earthquake-induced hazards. Numerous transport corridors experienced complete closures or restricted access due to landslides, rockfalls, slope failures, and debris displaced onto roadways. In total, 18 major roads and highways were heavily impacted, creating significant challenges for the movement of people, emergency services, freight, and essential supplies. The disruption of these critical transport links also increased travel times and reduced the resilience of communities that depended on these corridors for access to surrounding towns and cities.

Several strategically important routes were affected, including sections of the Calarcá–Cajamarca, Armenia–Montenegro–Alcalá, Cartago–Alcalá, Cali–Loboguerrero, Cauyá–La Felisa, and Santa Cecilia–Asia routes. These routes are particularly important because they provide regional and national connectivity and support the movement of commercial goods, agricultural products, passengers, and emergency resources. In several locations, earthquake-induced slope failures resulted in road sections becoming completely impassable, while other areas

[51] Infobae (11 August 2026). Sismo en Colombia: la Onic reportó 68.583 indígenas afectados, pidió atención por deslizamientos y habilitó centro de acopio en Bogotá. Available at: Sismo en Colombia: la Onic reportó 68.583 indígenas afectados, pidió atención por deslizamientos y habilitó centro de acopio en Bogotá - Infobae

experienced partial blockages that required traffic restrictions and emergency clearance operations. The combination of damaged road infrastructure and unstable surrounding slopes created additional risks for road users and emergency response personnel attempting to access the affected areas[52].

Figure 40 Landslide along the Cali-Popayan-Manizales corridor.[53]

Figure 41 Landslide along the Armenia-Pereira-Manizales corridor.[53]

One of the most significant impacts was reported along the Cali–Buenaventura highway, an important transport corridor connecting the interior of Colombia with the Pacific coast. Rockfalls and landslides affected sections of the highway, including areas around tunnels,

[52] https://www.elcolombiano.com/negocios/vias-afectadas-temblor-quindio-caldas-valle-risaralda-JF39788045

[53] El Quindiano (11 August 2026). Cierre temporal de la vía Montenegro–Armenia desde este miércoles. Available at: https://elquindiano.com/noticia/272929/cierre-temporal-de-la-via-montenegro-armenia-desde-este-miercoles/ Accessed 13 August 2026

creating hazardous conditions and, in some locations, trapping or stranding motorists. The occurrence of slope failures near tunnel entrances and within associated approaches is particularly significant because these locations can become critical bottlenecks during a disaster. Limited alternative routes can make it difficult to evacuate affected areas, deliver emergency supplies, or undertake rapid infrastructure inspections and repairs.

Impacts on Bridges and River Crossings

Preliminary field inspections of several bridges in Pereira identified generally limited structural damage, although localised earthquake-related effects were observed. The bridge at Calle 21 and Avenida Belalcázar remained in good condition, with only minor cracking of the asphalt approaches attributed to differential movement between the bridge and approaches (Figure 42). The bridge adjacent to Parque El Oso (Figure 43a), non-structural masonry walls near the abutments had failed and detached, and demolition of the affected walls is recommended. More significant localised effects were identified at the Calle 13 bridge (Figure 43b), where a seismic isolation bearing showed residual deformation and had not returned to its original position; the bearing support and anchorage area require further structural assessment and repair. At the Calle 17 bridge over Avenida Belalcázar (Figure 43c), approach settlement and road-surface cracking were observed.

Figure 42 Bridge at Calle 21 and Avenida Belalcázar (courtesy of Laura Calvo).

(a) Adjacent to Parque El Oso *(b) Calle 13 bridge* *(c) Calle 17 bridge*

Figure 43 Earthquake-related damage observed during bridge inspections in Pereira (courtesy of Laura Calvo).

Figure 44 La Unión–La Victoria road corridor is closed due to a bridge collapse[54]

Lifelines

The earthquake affected essential lifeline infrastructure over a broad geographical area extending from Valle del Cauca and into neighbouring regions. The available information indicates that the principal impacts were to electricity distribution and regional transmission networks, together with localised damage to the water-supply network in Cali.

Water

Earthquake-related damage to water-supply infrastructure has been confirmed in Cali, where EMCALI deployed 16 field crews[55] to undertake inspection, localisation and repair activities across the network. The utility reported 13 damage locations within the trunk water-supply network, together with damage to a 24-inch pipeline at the northern outlet of the Río Cauca Water Treatment Plant, near Carrera 8 between Calles 62 and 63.

The damage to the 24-inch pipeline resulted in reduced water pressure affecting northern sectors of Cali, including Las Ceibas, Los Pinos, San Marino, Vipasa, La Flora, Urbanización La Merced, Popular and Prados del Norte, with potential effects extending towards Yumbo. A separate failure near Carrera 8 and Calle 62 required the temporary shutdown of part of the low-level distribution network, with low pressure or loss of service potentially affecting Comunas 2, 4, 5 and 6 in northern Cali.

Localised flooding was reported in Pereira following the earthquake (Figure 45), the cause remains unclear. Based on the available information and location of the incident, it may have been associated with damage to water infrastructure rather than riverbank failure. No official

[54] https://www.facebook.com/watch/?v=1756714862023966
[55] EMCALI: https://ced.emcali.com.co/noticias-detalles?id=emcali-equipos-operativos-afectaciones-energia-acueducto-2026-08-11

reports of significant earthquake-induced riverbank failures were identified at the time of writing[56].

Figure 45 Localised flooding reported in Pereira[56].

Power

The earthquake resulted in widespread electricity-service disruption across western Colombia, with impacts reported in Valle del Cauca, Caldas, Risaralda, Quindío, Cauca–Nariño and Chocó. Information released by utilities and the national electricity-system operator indicates that the disruption involved a combination of physical damage to transmission, sub-transmission and distribution infrastructure, automatic or precautionary disconnections, and subsequent operational switching and repair activities.

Celsia (power provider) reported extensive impacts to its electricity network in Valle del Cauca immediately following the earthquake. More than 450,000 customers were initially affected, with approximately 345,000 still without electricity at 1:20 PM on the 10th of August. The company confirmed that some transmission and distribution assets and substations were unavailable or operating intermittently and that field inspections had identified physical damage requiring repair.

Celsia (power provider) specifically identified affected customer-service facilities in Buga, Dagua, Tuluá, Zarzal, Roldanillo, Sevilla, Candelaria, Jamundí, Palmira, Buenaventura and Florida, while subsequent reports identified some substations and circuits requiring specialised repairs.

Restoration commenced rapidly. By 3:30 p.m. on 10 August, the number of customers without supply had reduced to 304,207, comprising 164,793 customers in northern Valle del Cauca and 139,414 in the south.

Significant earthquake-related impacts were also reported within the *CHEC network* [57]in Caldas and Risaralda. CHEC reported damage to 115 kV infrastructure supplying municipalities in

[56] Surajit @surajit_ghosh2(11 August 2026). Social media post of Flooding has been reported in Pereira after 7.4 magnitude earthquake struck Colombia. Available at: (1) Surajit on X: "Flooding has been reported in Pereira after 7.4 magnitude earthquake struck Colombia https://t.co/NfXVdvQehY" / X
[57] https://www.facebook.com/CHECGrupoEPM/posts/importante-chec-avanza-en-la-recuperaci%C3%B3n-del-servicio-de-energ%C3%ADa-tras-afectacio/1500875105404018/?utm

northern and north-western Caldas, affecting areas including Aguadas, Salamina, Pácora, Supía, La Merced, Anserma, Marmato and other municipalities.

Damage was also reported on the 115 kV Esmeralda–Viterbo transmission line, affecting supply in Risaralda, including La Virginia, Viterbo, Apía, Balboa, Santuario, Pueblo Rico, Santa Cecilia and Guarato. Of particular interest for the reconnaissance, CHEC specifically identified an earthquake-related impact to the 115 kV bus at La Rosa Substation in Dosquebradas. This affected Dosquebradas, Santa Rosa de Cabal, Marsella and Belalcázar and also affected regional transmission infrastructure associated with electricity supply to Pereira and the department of Quindío.

Approximately 377,000 CHEC customers, representing about 64% of its customer base, were initially affected. By midday on 10 August, supply had reportedly been restored to approximately 234,000 customers. Some infrastructure remained intentionally de-energised while authorities undertook safety assessments of earthquake-damaged buildings and infrastructure.

The regional transmission impacts were reflected in extensive distribution outages in Pereira and surrounding rural areas. Energía de Pereira [58] reported progressive restoration of the urban and rural electricity networks during the first 36 hours following the earthquake, with approximately 90% of service subsequently restored. The reports indicate that restoration required continuing field inspections and repairs rather than representing an instantaneous recovery following a system trip.

Figure 46 Rural Pereira, Risaralda[58]

Figure 47 Pereira, Risaralda power repairs[59]

Figure 48 Site #307, Calarcá, Quindío60

EDEQ[60] reported restoration of service in Génova, while Barcelona remained affected by a fault. Localised faults continued elsewhere in the department despite general availability of electricity, particularly on the Campestre circuit towards La Tebaida and the Límites circuit north of Armenia.

At the transmission-system level, ISA Energía reported that its infrastructure remained operational following inspections, although earthquake-related events affected elements of the regional transmission network. The reconnaissance identified the La Virginia–San Marcos

[58] https://www.eep.com.co/es/ieventos/ver/82/avanzamos-en-el-restablecimiento-del-servicio-en-la-zona-rural-de-pereira/

[59] https://www.eep.com.co/es/ieventos/ver/79/avanzamos-en-el-restablecimiento-del-servicio-de-energia/

[60] https://www.instagram.com/p/Db67NHUFhF3/?utm

transmission corridor as relevant to the affected area; however, the available reporting does not support attributing physical damage to a particular transmission tower or span, and mapped observations should therefore be interpreted as representative of the affected transmission corridor rather than as confirmed point damage.

National system operator XM reported rapid recovery of electricity demand across the affected regions. By 6:00 p.m. on 11 August, recovery had reached approximately 91% overall. Remaining demand impacts were reported as approximately 11% in Valle del Cauca, 14.3% across Caldas–Quindío–Risaralda, and 2% in Cauca–Nariño, while Chocó had returned to 0% demand impact. This system-level information is consistent with the progressive restoration reported independently by the regional utilities.

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