

COLOMBIA

Impact of El Niño on Magdalena Medio region



Anticipatory note
24 January 2024

CRISIS IMPACT OVERVIEW

- Since August 2023, below-average precipitation resulting from El Niño has affected Colombia's Caribbean and Andean regions, as well as some departments in the Pacific and eastern areas. Temperature and precipitation anomalies are expected to continue during the first quarter of 2024 (OCHA 02/11/2023).
- Magdalena Medio region is a valley conformed by municipalities along the Magdalena River shoreline in northeastern Colombia. It is not an official administrative division, so its definition may vary (OCHA 28/08/2023). For this report, Magdalena Medio region comprises Bolivar, Cesar, and Santander departments, as information for municipalities located strictly in the vicinity of the Magdalena River is scarce.
- El Niño is expected to affect around 9.3 million people, including 1,071,081 children, in 25 departments (OCHA 30/11/2023; Education Cluster 16/11/2023). 2.9 million people in 16 departments, including Bolivar, Cesar, and Santander, face the highest risk of drought, increased temperatures, and heavy rainfall. The highest-risk municipalities are in northern Colombia, including northwestern Cesar and northern and eastern Bolivar departments. Parts of central Santander department are at medium to high risk. In Santander, El Niño may cause floods and flash floods (OCHA 02/11/2023; NS 12/10/2023).
- Weather patterns are likely to significantly affect livelihoods, health, WASH, food security, and nutrition (OCHA 02/11/2023).

Anticipated Developments and impacts

El Niño is expected to continue during the first quarter of 2024, gradually diminishing its intensity before shifting to neutral conditions between April–July 2024 (OCHA 02/11/2023; NOAA accessed DD/MM/2024). Between February–April, temperatures are likely to remain above normal across the country. The seasonal rainfall forecast is mixed. Some seasonal precipitation forecasts anticipate above-average rainfall for the February–April period in parts of the central, northern, and eastern regions of Colombia. Colombia's Institute of Meteorology's climate prediction model for precipitation estimates deficits

ranging from 10–60% during January–March compared to historical averages in the Caribbean and Andean regions, as well as in the central-northern part of the Pacific region and much of the Eastern Plains (WMO accessed 15/01/2024; C3S accessed 15/01/2024; IDEAM 19/01/2024).

Reports projected that about 33% of municipalities in Bolivar, 84% of municipalities in Cesar, and between 13–30% of municipalities in Santander would be susceptible to the impacts of El Niño between the end of 2023 and March 2024 (Education Cluster 16/11/2023). The Colombian Government has prioritised 176 municipalities to receive assistance related to El Niño. Of these municipalities, 31 are in Bolivar, 15 in Cesar, and eight in Santander (MADS accessed 10/01/2024 a; MADS accessed 10/10/2024 b).

In 2023, Cesar experienced extreme rainfall events during the short rainy season (November and December) and the tropical cyclone season that began on 1 June (EP 08/11/2023). Heavy rains triggered landslides and floods, damaging roads and water provision infrastructure in Agustín Codazzi, El Paso, La Jagua de Ibirico, La Paz, and Manaure municipalities (Cesar Governor Office 07/11/2023). Manaure declared an emergency state in November in response to the heavy rains (El Heraldo 03/11/2023). Rainy season impacts, including limited WASH access and shelter destruction, may reduce communities' capacity to cope with the rainfall and temperature anomalies brought by El Niño.

The previous El Niño phenomenon in Colombia from 2015–2016 caused forest fires that destroyed around 238,000 hectares of land and led to rationing and low water supply in 200 municipalities. The current El Niño phenomenon is likely to also result in forest fires, particularly in the Caribbean region (including Bolivar and Cesar) and Andean region (including Santander) (OCHA 02/11/2023).

Bolivar and Cesar, in particular, experience some of the highest food insecurity levels in Colombia, which El Niño-related damage to crops and livestock may worsen (OCHA 02/11/2023; FSC accessed 04/12/2023).

El Niño is expected to aggravate the current dengue outbreak across Colombia, as droughts and low water levels contribute to unsafe water management and consumption practices. Bolivar, Cesar, and Santander saw a high number of cases in 2023 (OCHA 02/11/2023; INS accessed 15/01/2024).

KEY PRIORITIES

9.3 million

AFFECTED PEOPLE
ACROSS COLOMBIA

25 of 32

DEPARTMENTS
EXPECTED TO BE
AFFECTED

High risk

OF FOOD INSECURITY

5.4

INFORM CLIMATE
CHANGE RISK SCORE

CRISIS IMPACTS (CURRENT AND ANTICIPATED)

Food security and nutrition

El Niño-induced low precipitation and high temperatures are expected to cause crop failures, livestock losses, and reduced fishing yields, aggravating food insecurity across Colombia (OCHA 24/11/2023; MARD 13/09/2023). WHO has predicted that El Niño will also increase the number of underweight children under the age of five by up to 24% (OCHA 02/11/2023). Both food insecurity and the potential rise of waterborne diseases, which are major drivers of malnutrition, are likely to increase malnutrition in the affected departments (ACAPS 25/07/2023; OCHA 02/11/2023).

As at August 2023, Bolivar department faced high food insecurity levels, with 32.7% of its population (605,000 people) experiencing moderate food insecurity and 5.2% (113,200 people) experiencing severe food insecurity. The municipalities with the most people already experiencing food insecurity or susceptible to it were Cartagena de Indias (with 649,400 people), Magangué (74,000), Turbaco (71,300), El Carmen de Bolívar (56,100), and Arjona (55,700). 0.06% of children under age five were experiencing acute malnutrition or are susceptible to it (FSC accessed 10/01/2024).

In the same period, Cesar department faced some of the highest food insecurity levels in Colombia, with over 40% of its population (around 426,700 people) experiencing moderate food insecurity and 9.3% (126,400 people) experiencing severe food insecurity (FSC accessed 04/12/2023). The municipalities with the most people already experiencing food insecurity or susceptible to it were Valledupar (with 432,500 people), Aguachica (98,100), Agustín Codazzi (38,200), El Paso (33,600), and Curumani (33,300). Cesar was also among the departments with the highest numbers of children experiencing or susceptible to acute malnutrition, with a total of 0.07% of its children susceptible (FSC accessed 10/01/2024).

As at August 2023, over 20% of people (around 410,900) in Santander faced moderate food insecurity, and around 2.5% (56,800 people) faced severe food insecurity. A further 233,800 people were considered susceptible to experiencing food insecurity. The municipalities with the most people already experiencing food insecurity or susceptible to it were Bucaramanga (133,700 people), Barrancabermeja (71,400), Giron (58,000), Piedecuesta (41,400), and Floridablanca (34,600) (FSC accessed 10/01/2024).

Livelihoods

Droughts related to El Niño are expected to cause insufficient harvests, lower agricultural productivity, livestock deaths, and increased food prices in the affected departments (OCHA 02/11/2023). Forest fires and reduced agricultural productivity resulting from El Niño may generate losses in harvest-ready crops (5.5% permanent and 4.4% transitory). Livestock weight loss and deaths may also affect milk production (UNGRD/MADS 10/2023).

In Santander, high temperatures may reduce food production by 25–30% (Blu Radio 10/08/2023). Specifically, heat and drought in the first quarter of 2024 could disrupt the barley planting season in Santander and sorghum and rice planting seasons in Bolívar and Cesar. A prolonged El Niño will also disrupt the mid-February to early May corn planting season in Bolívar, Cesar, and Santander and wheat planting season in Santander (USDA accessed 05/12/2023). Heat-related livestock loss will particularly affect the Santander municipalities of Bajo Simacota, Barrancabermeja, Cimitarra, Puerto Parra, Puerto Wilches, and Sabana de Torres, where livestock constitute a major livelihood activity (Infobae 30/07/2023).

The Magdalena River, which runs through several departments, including Bolívar, Cesar, and Santander, provides a key transport route for goods and fuel to the central and Caribbean regions of Colombia. Low water levels in the river because of El Niño may undermine commerce, affecting livelihoods across Colombia (OCHA 02/11/2023; Bernal Duffo 21/07/2017).

WASH

Anticipated El Niño-related drought and water shortages will likely affect people's access to water for consumption and hygiene. Bolívar and Cesar are among the most affected departments regarding drinking water supply since they rely on unsafe water sources susceptible to drying (OCHA 02/11/2023). The Colombian Government identified municipalities at risk of drinking water shortages from either droughts or heavy rains, as landslides and other related effects can disrupt water supply systems. Of the 207 municipalities at risk of drought, 40 are in Bolívar, 12 in Cesar, and 17 in Santander. Of the 254 municipalities at risk of heavy rains, five are in Bolívar, two in Cesar, and 13 in Santander (IDEAM 28/03/2023).

An example of this vulnerability occurred in November 2023, when heavy rainfall in Cesar left communities in La Paz, Manaure, and San Diego municipalities without clean water access (EP 08/11/2023).

Health

Increased temperatures and heat waves can also promote the transmission of vector-borne and severe respiratory diseases, premature births, and infant mortality (Health Cluster/PAHO 26/09/2023 a).

Dengue in Colombia occurs on a cyclical basis every three to four years, with the last large-scale increase occurring in 2019. Dengue cases have been rising across Colombia in recent months, and El Niño is expected to cause a further increase, particularly in areas with low-quality water supply points and water management practices (OCHA 02/11/2023). Santander saw the fourth-highest increase in cases from 2022 to 2023 at 11,503, while Bolivar had 6,555 and Cesar 5,197 (INS accessed 10/01/2024).

Bolivar had over 1,800 malaria cases in 2023, while Santander and Cesar had fewer cases (51 in Cesar and 18 in Santander) (INS accessed 10/01/2024). Prolonged drought increases the risk of higher malaria transmission. Because of El Niño, the Government has prioritised central Cesar and some municipalities in Bolivar to receive health-related humanitarian assistance (OCHA 02/11/2023).

Education

El Niño could affect 17% of enrolled students in Cesar, 15% in Bolivar, and 5% in Santander, disrupting their education (Education Cluster 16/11/2023). Affected students may be less likely to attend because of insufficient access to drinking water and sanitation services in schools or hunger and other forms of stress.

Critical infrastructure

Lower water resources because of El Niño may also affect the creation of hydraulic energy, which accounts for 58% of electric energy produced in Colombia (XM accessed 23/01/2024). El Niño may modestly increase energy prices across Colombia because of lower reservoir levels, affecting livelihoods in many departments. When reservoir water levels are low, other more expensive forms of electricity replace hydraulic energy and push prices up. That said, El Niño is only expected to affect 20% of energy prices, since the rest have already been negotiated in long-term contracts (Forbes 19/05/2023; Corficolombiana 21/06/2023).

COMPOUNDING/AGGRAVATING FACTORS

Climate and natural hazards

Colombia is particularly vulnerable to the impacts of climate change and natural hazards (WRI 07/07/2022). It has an INFORM risk score of 5.4/10 ('high'), with a particularly high risk of droughts, floods, cyclones, and earthquakes. Its exposure and vulnerability to these hazards are accentuated by population growth in urban and coastal areas, informal and poorly planned settlements, and environmental degradation (USAID 29/11/2023; CEOS 12/06/2023). Colombia ranks tenth in the world in terms of the economic risk posed by natural hazards (EC accessed 04/12/2023; WB accessed 04/12/2023 a).

Santander is highly vulnerable to extreme heat, wildfires, landslides, and river and urban floods (ThinkHazard! accessed 04/12/2023 a). Between January–November 2023, disasters affected around 6,000 people in the department (OCHA 26/12/2023). These disasters include the heavy rainfall that flooded over 100 households in Giron and Zapatoca municipalities in August (Red+ 22/08/2023).

Cesar is also highly vulnerable to wildfires, landslides, and river and urban floods (Think Hazard! accessed 04/12/2023 b). Between January–September, flooding and strong winds affected over 1,600 people in the department (OCHA 01/11/2023). These events include the March floods that damaged over 600 homes and large amounts of agricultural land in Curumani municipality (FloodList 15/03/2023). From October to early November, heavy rainfall, flooding, and landslides destroyed more homes and belongings and damaged sewage systems and electricity services (EP 08/11/2023; El Heraldo 27/10/2023; Radio Guatapuri 05/10/2023). Bolivar was among the departments most affected by heavy rains in 2023 (Infobae 24/12/2023).

Violence and insecurity

Multiple armed groups operate across Colombia, including the National Liberation Army (ELN) guerrillas, dissidents of the Revolutionary Armed Forces of Colombia, and the Gaitanist Self-Defence Forces of Colombia (AGC). Several armed groups subject the civilian populations under their control to violations of international human rights and humanitarian laws, including arbitrary detention, displacement, and confinement (HRW accessed 23/12/2023). Throughout 2023, the Government of Colombia engaged in dialogue and established ceasefires with various armed groups.

Armed conflict and armed group activities have led to significant movement restrictions, including checkpoints, in several departments, such as Santander (OCHA 25/08/2023; ICG

04/10/2023). In September, possible cases of confinement were reported in Rionegro municipality in Santander, with the presence of an armed group leading to restricted access to basic services and the risk of gender-based violence (OCHA 01/11/2023). Restrictions to the freedom of movement, such as confinements, could affect communities' access to drinking water sources. Santander has also recently experienced an increase in violent crime (BNN 12/11/2023). This insecurity may restrict humanitarian access to communities experiencing drought, heat, and other weather patterns resulting from El Niño.

Land contamination with explosive remnants of war across the country poses a particular risk to rural populations, ethnic communities, children, and adolescents. In 2023, Bolivar, Cesar, and Santander were among the departments where explosive remnants of war were expected to pose a protection risk. Security conditions in several Bolivar and Cesar municipalities have also prevented demining activities (Protection Cluster/UNMAS 29/11/2023).

Migration

As at November 2023, Colombia hosted almost 2.9 million refugees, migrants, and asylum seekers from Venezuela (IOM accessed 05/12/2023; R4V accessed 05/12/2023). As at August, Santander hosted the eighth-highest number of Venezuelan migrants and asylum seekers at over 117,000, Bolivar hosted 95,300, and Cesar hosted 70,600 (Migración Colombia 01/12/2023). Venezuelan refugees, migrants, and asylum seekers are more likely to be informally employed and experience higher food insecurity levels than host communities, which may make them particularly vulnerable to the effects of El Niño (IOM/MPI 12/10/2023; WFP 11/07/2023). Besides the migrants residing in Colombia, people on the move crossing through the country are also vulnerable to the impacts of El Niño, increasing the risk for these populations (UNHCR 11/12/2023). As at October, the Colombian Government had detected over 464,000 irregular migrants and asylum seekers in transit, 178% more than in 2022. Most of these migrants and asylum seekers came from Venezuela (298,900), Ecuador (52,800), and Haiti (51,100) (Migración Colombia 30/11/2023).

Displaced populations

Armed conflict has led to mass internal displacement in Colombia, with 67,000 IDPs reported as at September 2023 (UNHCR 20/10/2023). Bolivar, Cesar, and Santander have historically experienced lower levels of internal displacement, accounting for only 8%, 4.8%, and 2.1%, respectively, of forced displacement cases between 1985–2022. That said, any IDP communities in these departments likely face higher poverty levels and lower livelihood access, making them more vulnerable to the impacts of El Niño (UNHCR 16/11/2023). In

November 2023, clashes among armed groups in Arenal, Montecristo, Morales, and Santa Ana municipalities in the south of Bolivar displaced 400 people (Vanguardia 24/11/2023).

Economic situation

Colombia's GDP experienced a 7.1% growth in 2022 but has been projected to decrease in 2023 (1.2%) and 2024 (1.4%) (OECD 11/2023). Inflation in 2023 was 9.28%, a marked reduction from 2022 (13.12%) but still at a high level (DANE 09/01/2024). Colombia's high debt-GDP ratio leaves the country less equipped to respond to shocks, including natural hazards. Colombia is also among the most unequal countries in the world (WB accessed 04/12/2023 b). In 2022, 12.9% of the population was multidimensionally poor, with relatively higher rates in Bolivar (19.4%) and Cesar (19.1%) and lower rates in Santander (10.4%) (DANE 05/2023).

HUMANITARIAN RESPONSE

Humanitarian constraints

The humanitarian sector in Magdalena Medio region has limited operational capacity. In Santander, armed conflict and armed group activities also restricted humanitarian operations in the first half of 2023, leading to information gaps, case management disruptions, and a lack of access (OCHA 25/08/2023).

Rainy periods from October–November 2023 likely caused a deterioration in road quality across Colombia (Logistics Cluster accessed 05/12/2023). Recent rainfall and landslides in Cesar department have blocked roads in several municipalities, including Agustín Codazzi, Becerril, El Copey, El Paso, La Gloria, La Paz, La Jagua de Ibirico, and Manaure, leaving many communities inaccessible as at 8 November (EP 08/11/2023).

Funding and response capacity

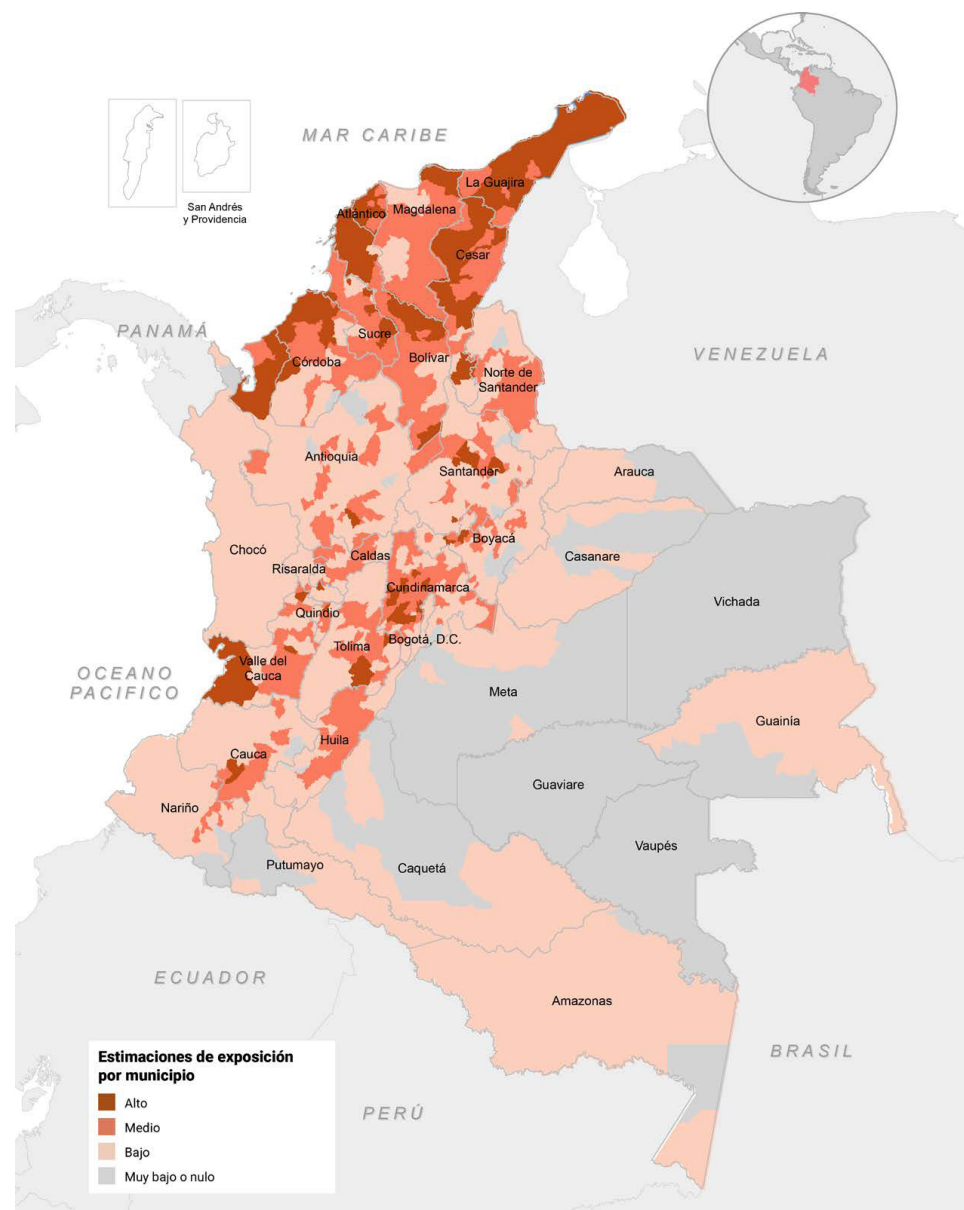
The National Unit for Disaster Management and the Ministry of the Environment are responsible for leading the response to El Niño in 2023–2024. In October 2023, the Colombian Government announced the allocation of a COP 2.2 billion (around USD 550,000) budget to preparedness strategies (El Tiempo 16/10/2023). In January 2024, the Colombian Government allocated COP 680 billion (USD 157 million¹) and established a coordination mechanism to attend to emergencies related to El Niño in several departments, including Cesar (Diario del Cesar 12/01/2024).

¹ Value in dollars at the average nominal exchange rate of 2023 (USD 4,325/COP 1)

UN agencies, including WFP, FAO, UNICEF, UNFPA, UN Women, and UNHCR, as well as INGOs, including Save the Children and the Norwegian Refugee Council, are supporting government anticipatory, preparedness, and response activities (OCHA 02/11/2023).

In 2023, FAO conducted anticipatory activities in two municipalities in Cesar to increase the communities' resilience and strengthen their organisational capacities. No anticipatory activities by humanitarian organisations were reported in Bolivar or Santander (OCHA accessed 10/01/2024). The Health Cluster identified five organisations with the capacity to respond to El Niño-related emergencies in Santander, including UN agencies and INGOs (Health Cluster/PAHO 26/09/2023 b). The Santander Risk Management Unit has also conducted preparedness activities, including ensuring that all municipalities are provided with water tanks (Blu Radio 10/08/2023). Local authorities in Bolivar's capital started monitoring El Niño-related impacts in the second semester of 2023 (Cartagena Mayor Office 07/07/2023).

ESTIMATED EXPOSURE TO EL NIÑO-RELATED RISKS AS AT NOVEMBER 2023



Source: OCHA 02/11/2023