

**Better solutions.
Fewer disasters.
Safer world.**



Río San Juan

**Nicaragua National Disaster Preparedness Baseline Assessment
Department Profile**

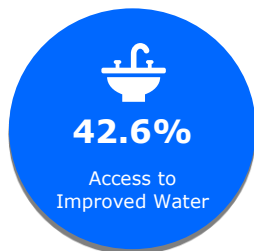
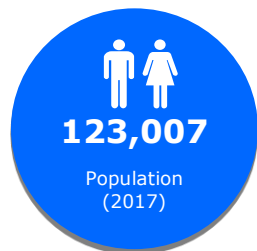
Department: Río San Juan



Department Capital: San Carlos

Area: 7,540 km²

Río San Juan is in the southeastern part of Nicaragua and is primarily known for its national wildlife refuges, the San Juan River, and its historic colonial sites.



Municipality	Population
Morrito	7,457
El Almendro	14,567
San Miguelito	18,472
San Carlos	46,241
El Castillo	33,734
San Juan de Nicaragua	2,536



Multi-Hazard Risk Rank: High (3 of 17)

Lack of Resilience Rank: High (4 of 17)

RVA Component Scores

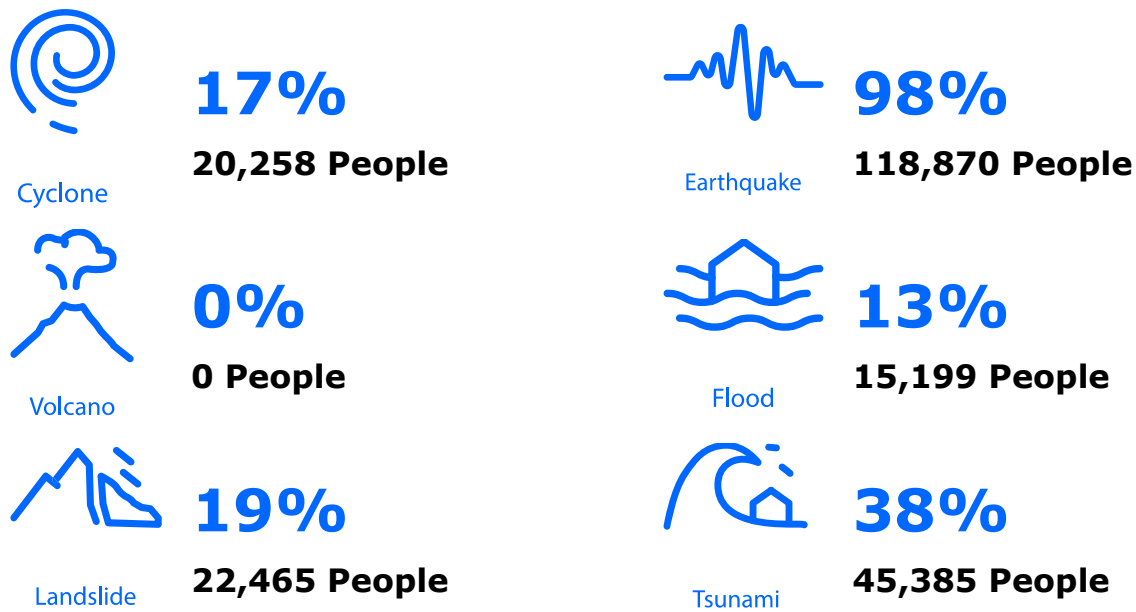
Table 1. Department scores and ranks (compared across departments) for each index

Multi-Hazard Risk		Lack of Resilience		Multi-Hazard Exposure		Vulnerability		Coping Capacity	
High		High		Low		High		Low	
Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)	Score	Rank (of 17)
0.515	3	0.615	4	0.316	10	0.666	4	0.436	10

Multi-Hazard Exposure (MHE)

Multi-Hazard Exposure¹ Rank: 10 of 17 Departments (Score: 0.316)

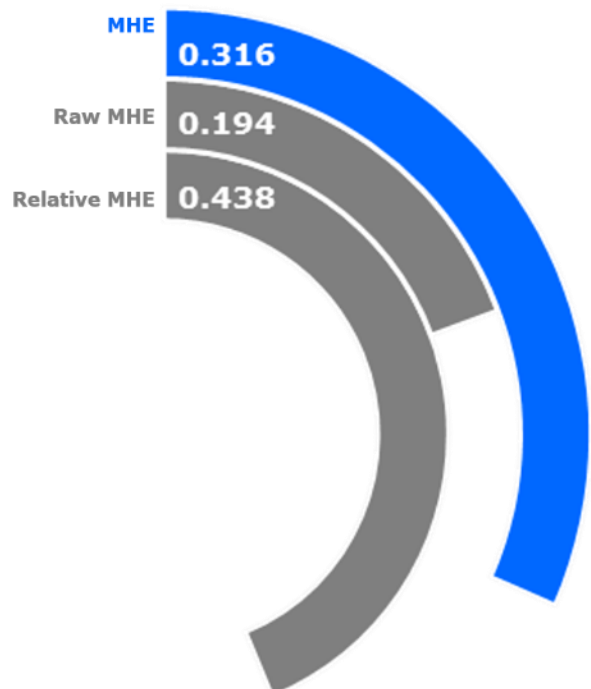
Table 2. Estimated ambient population² exposed to each hazard



Case Study:

In 2016 the Nordic Development Fund completed a project designed to increase resilience and watersheds to climate change impacts through natural resources management, design and construction of small-scale infrastructure, and development of climate change capacity. Since the project was completed farmers have increased their agricultural production by 18% and enhanced their resilience to drought during the dry season.

<https://www.ndf.fi/project/disaster-management-and-climate-change-project-ndf-c17>



¹ Multi-Hazard Exposure: Average exposure of the population to hazards.

² Ambient Population: 24-hour average estimate of the population in each department. Ambient population typically differs from census population.

Vulnerability (V)

Vulnerability³ Rank: 4 of 17 Departments (Score: 0.666) Vulnerability in Río San Juan is primarily driven by high Vulnerable Health Status, Population Pressures, and Information Access Vulnerability. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Vulnerability score.

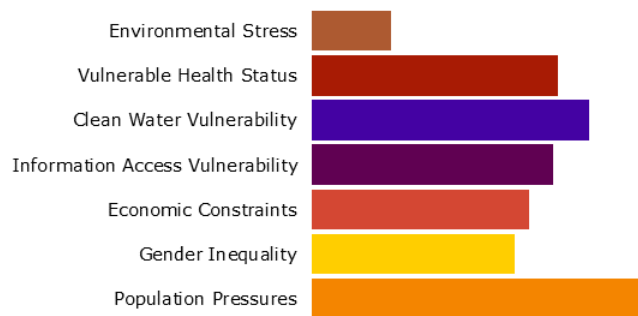


Table 3. Component scores for each vulnerability sub-component

	Environmental Stress	0% Province at Drought Risk	7.6% Erosion Risk	96.2 Livestock per km ²			
	Vulnerable Health Status	19.6 Infant Mortality Rate	35.1 Maternal Mortality Rate	71.8 yrs Average Life Expectancy	3.7% Acute Malnutrition (Children < 5)	2.8% Population Disabled	
	Clean Water Vulnerability	42.6% Households with Access to Improved Water	7% Households with Access to Flush Toilets				
	Information Access Vulnerability	37.6% Illiteracy	4.4 yrs Average Years of Schooling	84% Primary School Enrollment	98.5% Households without Internet	48.3% Households without TV	37.1% Households without Radio
	Economic Constraints	63.2 Economic Dependency Ratio	82.9% Population in Poverty				
	Gender Inequality	50% Female Seats in Government	1.22 Female to Male Secondary Education Enrollment	0.60 Female to Male Labor Ratio			
	Population Pressures	3.31% Average Annual Population Change	4.38% Average Annual Urban Population Change				

³ **Vulnerability:** The socioeconomic conditions that are associated with the susceptibility to disruptions in a country's normal functions.

Coping Capacity (CC)

Coping Capacity⁴ Rank: 10 of 17 Departments (Score: 0.436) Río San Juan exhibits weaker Coping Capacity in the areas of Economic Capacity and Infrastructure. The bar chart on the right indicates the socioeconomic themes contributing to the department's overall Coping Capacity score.

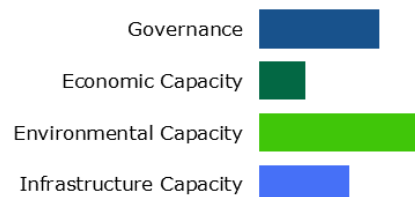


Table 4. Component scores for each coping capacity sub-component

	Economic Capacity	2.7% Households that Receive Remittances	94.9% Employment Rate (Male)	37.8% Employment Rate (Female)	5.7% Population in Highest Welfare Quintile	\$180.1 Annual Nominal Global Revenue per Capita	
	Governance	91.2% Crime Complaints Cleared	956.6 Crime Rate per 100k Persons	89.1% Households without Garbage Collection	57.7% Voter Participation (2016 Election)		
	Environmental Capacity	39.1% Protected or Reforested Land					
	Infrastructure Capacity						
	Health Care Capacity		5.9 Hospital Beds per 10,000 Persons	20.6 Nurses per 10,000 Persons	9.6 Physicians per 10,000 Persons	39.7 km Average Distance to Nearest Hospital	83.7% Children Completed Immunization Schedule
	Communications Capacity		2.9% Households with Access to Fixed Phone Line	76.1% Households with Access to Mobile Phone			
	Transportation Capacity		47.6 km Average Distance to Nearest Port or Airport	0.09 km Total Length of Road per km ² (area)			

⁴ Coping Capacity: The systems, means, and abilities of a country to absorb and respond to events that could potentially disrupt normal function.

Lack of Resilience (LR)

Lack of Resilience⁵ Rank: 4 of 17 Departments (Score: 0.615)

Río San Juan's score and ranking are due to high Vulnerability combined with low Coping Capacity scores.

Table 5. The three thematic areas with the weakest relative scores



Vulnerable Health Status



Population Pressures



Clean Water Vulnerability

Multi-Hazard Risk (MHR)

Multi-Hazard Risk⁶ Rank: 3 of 17 Departments (Score: 0.515)

Río San Juan's score and ranking are due to low Multi-Hazard Exposure combined with high Vulnerability and low Coping Capacity scores.

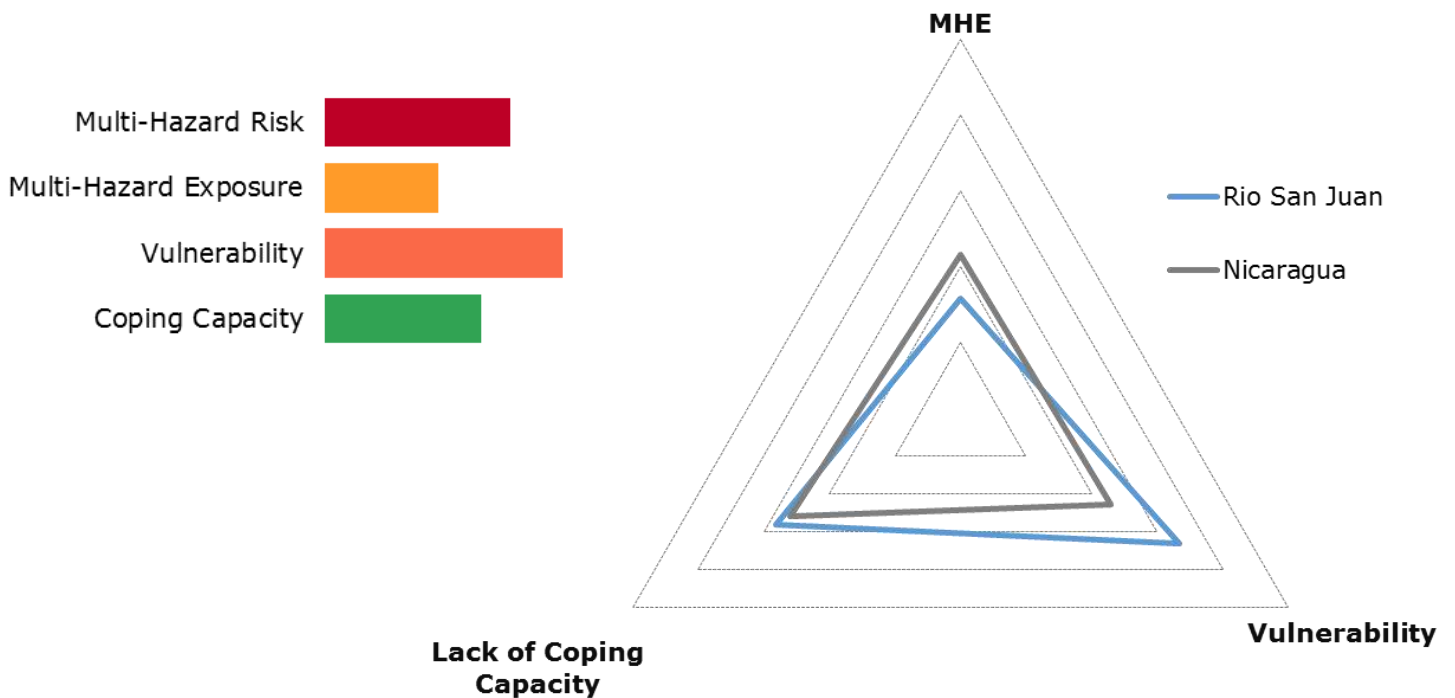


Figure 1. Department Multi-Hazard Risk component scores compared to overall average country scores

⁵ **Lack of Resilience:** The susceptibility to impact from the short-term inability to absorb, respond to, and recover from disruptions to a country's normal function. This index provides a hazard-independent look at current socioeconomic conditions.

⁶ **Multi-Hazard Risk:** The likelihood of losses or disruptions to a country's normal function due to interaction between multi-hazard exposure, socioeconomic vulnerability, and coping capacity.

Successes



Low environmental stress

Ranked 15 of 17 departments, low environmental stress indicates that natural resources and agriculture will be more resilient to the effects of a disaster and may recover faster.

Recommendations

01

Build health care capacity

Focus investments to increase access to health care and preventative medicine, as well as transportation to improve connectivity and ensure that health services can be reached by the entire population.

02

Plan for a growing population

Ensure local economies, resources, and infrastructure can adequately support the growing population. Anticipate areas where additional growth is likely and estimate the resources necessary for sustainable growth.

03

Reduce clean water vulnerability

Invest in public water and sewer infrastructure to ensure equitable access to safe, clean drinking water and sanitation.



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