

INDEX FOR RISK MANAGEMENT FOR LATIN AMERICA AND THE CARIBBEAN LAC-INFORM 2019 UPDATE



INDEX FOR RISK MANAGEMENT FOR LATIN AMERICA AND THE CARIBBEAN

Contributing to more effective risk management of crises and disasters in Latin America and the Caribbean

INTRODUCTION

The first version of the Index for Risk Management for Latin America and the Caribbean (LAC-INFORM) was launched at the beginning of 2017. LAC-INFORM 2019 is the second update of this regional index.

LAC-INFORM is a tool to understand and measure the risk of humanitarian crises and disasters among the countries in the region. INFORM products can be used to support the prioritization and decision-making relating to crisis and disaster prevention, preparedness and response. Also, the tool could be used to monitor risk trends over time. This would allow to see in the medium and long term the effectiveness of actions that have been implemented to manage these risks.

LAC-INFORM is a regional adaptation of the global INFORM model. The global model has been adapted to better capture the particular conditions of the countries in the region and provide a better relative comparison of the risk levels among them. The LAC-INFORM model includes information about 33 countries in the region.

The main findings of the 2019 update show:

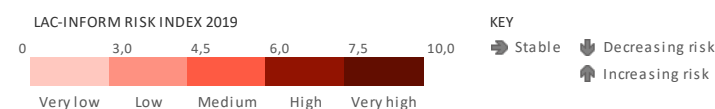
- The three-year risk trend shows that, in general, there are no major changes in the risk levels of the majority of countries between 2017 and 2019. Except for Bolivia, the same ten countries appear in the high and very high categories of the LAC-INFORM Risk index in both years.
- Countries with a very high risk of disasters and humanitarian crises are Haiti, Guatemala, and Honduras. Those with a high risk are: Colombia, Dominican Republic, Ecuador, El Salvador, Mexico, Nicaragua, and Venezuela (in alphabetical order).
- In the case of the Caribbean, the reliability of the INFORM index remains low for most countries. The main reason is the lack of available information for several indicators in all three dimensions of the model.

The results of the LAC-INFORM index are a valuable input for any regional analysis that supports risk informed decision making, in order to reduce disaster and humanitarian crisis risk, build peoples' resilience, and prepare better for when crises do happen. Therefore, it is important to continue actions that strengthen regional and national capacities to manage information on different aspects of risk and, on the other hand, to use these information in decision-making processes.

LATIN AMERICA AND CARIBBEAN INFORM RISK INDEX, 2019

The LAC-INFORM index measures the risk of humanitarian crisis and disasters in 33 countries.

	COUNTRY	RISK 2019 (0-10)	3 YR TREND
Caribbean	Antigua and Barbuda	3,5	↑
	Bahamas	4,0	↑
	Barbados	2,7	→
	Cuba	4,2	↑
	Dominica	4,0	↑
	Dominican Republic	6,0	→
	Grenada	2,7	→
	Haiti	8,5	↑
	Jamaica	5,6	→
	Saint Kitts and Nevis	3,6	↓
	Saint Lucia	3,4	→
	Saint Vincent and the Grenadines	3,5	↓
	Trinidad and Tobago	4,2	↑
Central America	Belize	4,7	→
	Costa Rica	4,0	→
	El Salvador	6,9	↓
	Guatemala	8,3	→
	Honduras	8,0	→
	Mexico	6,3	→
	Nicaragua	6,2	↓
	Panama	4,7	→
South America	Argentina	3,9	→
	Bolivia	5,8	→
	Brazil	5,2	→
	Chile	3,5	→
	Colombia	7,0	→
	Ecuador	6,1	↓
	Guyana	5,0	↓
	Paraguay	4,5	→
	Peru	5,9	→
	Suriname	4,1	↑
	Uruguay	2,7	→
	Venezuela	7,0	→



Risk is considered to be increasing if the 2019 value is 0.3 or more higher than the 2017 value.
Risk is considered to be decreasing if the 2019 value is 0.3 or more lower than the 2017 value.

The 2019 version of the index includes the update of several indicators that compose the model, as well as some minor changes in the description and source of a few indicators (see Annex I). These minor changes in the model should be kept in mind when comparing the 2019 results with the 2018 and 2017 results of the LAC-INFORM index.

The three-year risk trend (LAC-INFORM 2019 risk index - LAC-INFORM 2017 risk index) shows that, in general, there are no major changes in the risk levels of most countries. Except for Bolivia, the same ten countries appear in the high and very high categories of the LAC-INFORM Risk index in both years.

In the case of El Salvador, it can be observed that the country has moved from the very high to the high category of the LAC-INFORM Risk index. According to the results obtained for the three dimensions, this change is mainly caused by a decrease in the index of the vulnerability dimension. Within this dimension, the largest changes can be observed in the indices of the uprooted population and health conditions. It should be noted that in particular the first indicator is sensitive to short term changes, and also has certain limitations due to the availability of good quality data on this population.

INFORM, AN OVERVIEW

The Index for Risk Management (INFORM) is a tool to understand and measure risk in humanitarian crises and disasters and how the conditions that lead to them affect sustainable development. It can help identify where and why a crisis might occur in order to reduce the risk, build peoples' resilience and prepare better for when crises do happen.

The global INFORM model has been adapted to the Latin America and Caribbean region to better capture the particular realities of the countries in the region and provide a better relative comparison of risk among them.

LAC-INFORM seeks to answer the following questions:

- Which countries within the Latin America and Caribbean region are at risk of crisis that might require humanitarian assistance in response to disasters?
- What are the underlying factors that could cause a crisis in those countries?
- How does the risk of humanitarian crisis change over time?

The LAC-INFORM model uses national level statistics and includes 33 countries. The global and regional data sources used to construct the model meet four basic criteria: (1) the data is free, publicly available and transparent, (2) the data provides sufficient country coverage, (3) the data is reliable (4) and the data allows comparison between countries.

USE OF INFORM RESULTS

The LAC-INFORM tool can be used in different ways. It can be used to:

- Prioritize countries by the overall risk index, or any of its dimensions, categories, or components.
- Help to decide on how to best reduce risk, through the analysis of the underlying factors of risk using the risk profiles of individual and groups of countries.
- Monitor changes in risk levels, through the analysis of risk trends once the index results are available for several years.

GET THE RESULTS

The LAC-INFORM results are available at <http://www.inform-index.org/Subnational/LAC>. A spreadsheet can be downloaded with all the results, calculations and source data. Also, an interactive tool can be used to explore and visualize the data online.

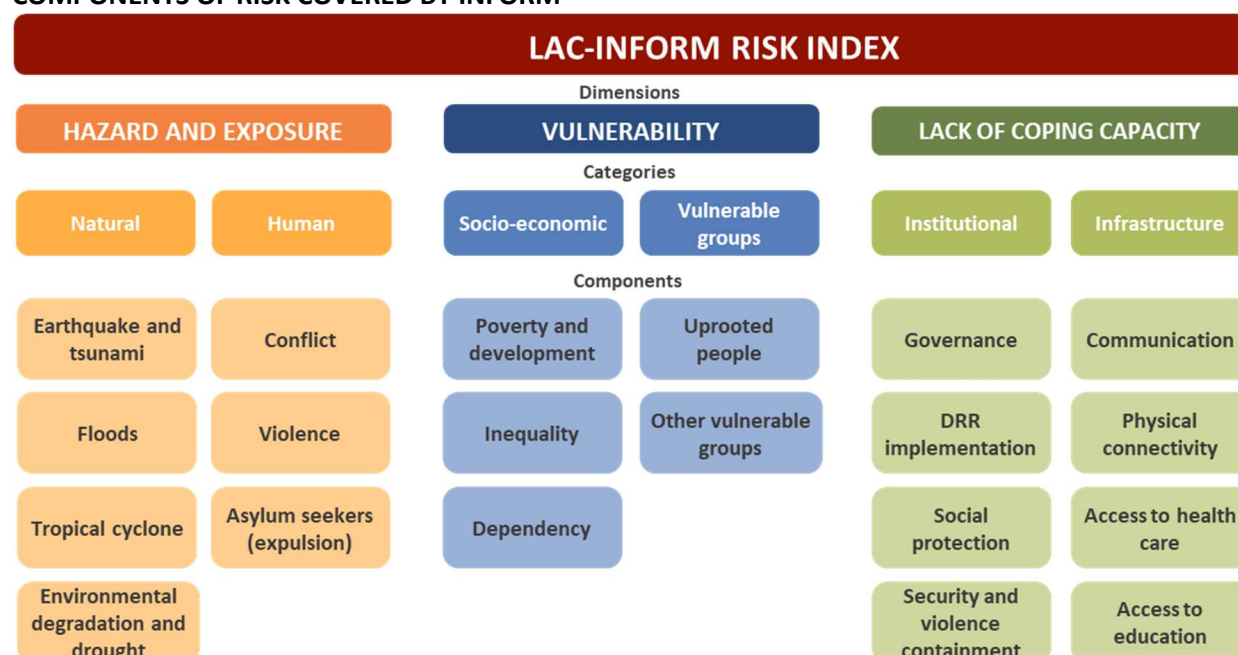
WHAT IS INFORM?

The INFORM index simplifies a lot of information about natural and human hazards and people's exposure, vulnerability and the capacities of governments, communities and people to cope with disasters and crisis. The LAC-INFORM model has a multi-layer structure. A risk score is calculated by combining 82 indicators that measure **three dimensions**: hazard and exposure, vulnerability, and lack of coping capacity.

Each dimension contains two **categories**, such as exposure to natural hazards, vulnerable groups, or lack of infrastructure capacity. The categories are made up of **components**, which are carefully chosen sets of indicators that capture specific topics. Finally, the **indicators** are the individual datasets which are the basis of the model, such as the percentage of children under 5 who are stunted or the number of people exposed to earthquakes of a certain magnitude.

Every country has a rating between 0 and 10 for risk and all of its dimensions, categories, and components. The low values of the index represent a better condition (e.g. lower risk), and the high values of the index represent a worse condition (e.g. higher risk). The indices allow a relative comparison of the risk and components between countries and of different components within a country.

COMPONENTS OF RISK COVERED BY INFORM



INFORM is not only a tool. It is an approach to reach a shared risk analysis and common understanding of risk. Implementing INFORM implies working together and openly sharing data and skills between sectors, to reach common conclusions that can guide risk planning and actions based on knowledge of risk factors to reduce disaster and humanitarian crisis risk, build peoples' resilience, and prepare better for when crises do happen.

The LAC-INFORM risk index has been developed through a collaborative exercise involving a wide range of regional actors coordinated by the United Nations and supported by DFID and DIPECHO. Technical guidance to the regional adaptation has been provided by the Joint Research Centre (JRC) of the European Commission, which is also the technical lead of the INFORM global initiative.

The LAC-INFORM 2019 update has been prepared within the framework of the regional initiative "Strengthening resources and decision-making capacities for disaster risk in the humanitarian and development sectors in Central America through use of INFORM" supported by DIPECHO.

RISK OF HUMANITARIAN CRISES AND DISASTERS

The overall LAC-INFORM index identifies countries within the Latin America and Caribbean (LAC) region at risk from humanitarian crisis and disasters that could overwhelm national response capacities and lead to a need for humanitarian assistance. The index is made up of three dimensions: hazard and exposure, vulnerability, and lack of coping capacity.

LAC-INFORM 2019 RISK INDEX



Countries with highest disaster and humanitarian crisis risk

Haiti	8,5	Venezuela	7,0	Ecuador	6,1
Guatemala	8,3	El Salvador	6,9	Dominican Republic	6,0
Honduras	8,0	Mexico	6,3	Peru	5,9
Colombia	7,0	Nicaragua	6,2	Bolivia	5,8

HAZARD AND EXPOSURE

This dimension of INFORM captures hazardous events that could occur and the people that could potentially be exposed to them. It is made up of two categories: natural hazards and human hazards.

LAC-INFORM 2019 HAZARD AND EXPOSURE DIMENSION



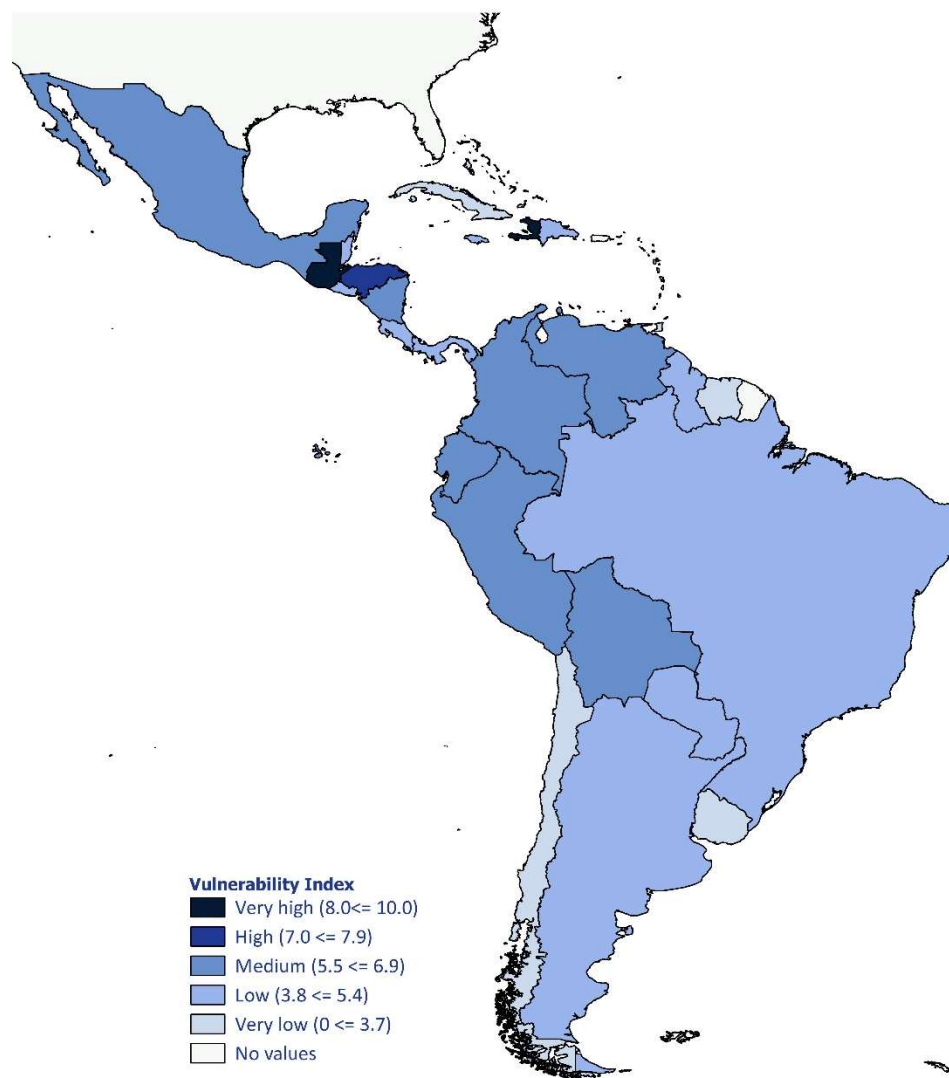
Countries with the highest values in the hazard and exposure dimension

Guatemala	8,4	Honduras	8,2	Brazil	6,7	Jamaica	6,0
Mexico	8,4	Colombia	7,9	Nicaragua	6,5	Peru	5,8
El Salvador	8,3	Haiti	7,7	Ecuador	6,4	Belize	5,7
Venezuela	8,3	Cuba	6,8	Dominican Republic	6,3	Bahamas	5,6

VULNERABILITY

This dimension of INFORM measures the susceptibility of people to potential hazards. It captures the fragility of socio-economic systems and the strengths of communities, households and individuals to confront a crisis situation. The dimension is made up of two categories: socio-economic vulnerability and vulnerable groups.

LAC-INFORM 2019 VULNERABILITY DIMENSION



Countries with the highest values in the vulnerability dimension

Haiti	9,1	Venezuela	6,3	Nicaragua	5,8
Guatemala	8,5	Peru	6,2	Mexico	5,7
Honduras	7,9	Ecuador	6,1	Dominican Republic	5,2
Colombia	6,8	Bolivia	5,8	El Salvador	5,2

LACK OF COPING CAPACITY

This dimension of INFORM encompasses the lack of resources available that can help people cope with hazardous events. It takes into account the institutional and infrastructural strengths to cope with and recover from crisis. The dimension is made up of two categories: lack of institutional capacities and lack of infrastructure and systems capacities.

LAC-INFORM 2019 LACK OF COPING CAPACITY DIMENSION



Countries with the highest values in the lack of coping capacity dimension

Haiti	8,7	Suriname	7,6	Trinidad and Tobago	6,7
Guatemala	8,0	Bolivia	6,8	Venezuela	6,6
Honduras	8,0	Dominican Republic	6,7	Colombia	6,3
El Salvador	7,6	Jamaica	6,7	Nicaragua	6,3

A CLOSER LOOK AT THE INDEX AND ITS DIMENSIONS

The INFORM tool can be used to analyze and compare the results of any of its components of individual countries as well as groups of countries. The table below summarizes the results of the index and its dimensions comparing the Latin America and the Caribbean countries with the highest levels of humanitarian crisis and disaster risk.

LAC-INFORM 2019 Index and its dimensions: Countries with high and very high risk levels*

COUNTRY	LAC-INFORM INDEX (0-10)	LAC-INFORM RISK	HAZARD AND EXPOSURE	VULNERABILITY	LACK OF COPING CAPACITY
VERY HIGH RISK LEVEL					
Haiti	8,5	Very high	Very high	Very high	Very high
Guatemala	8,3	Very high	Very high	Very high	Very high
Honduras	8,0	Very high	Very high	High	Very high
HIGH RISK LEVEL					
Venezuela	7,0	High	Very high	Medium	High
Colombia	7,0	High	Very high	Medium	Medium
El Salvador	6,9	High	Very high	Low	High
Mexico	6,3	High	Very high	Medium	Medium
Nicaragua	6,2	High	High	Medium	Medium
Ecuador	6,1	High	High	Medium	Medium
Dominican Republic	6,0	High	High	Low	High

* An overview of the actual scores of all 33 countries on the three dimensions is available in Annex II.

Taking a closer look at the index and its dimensions, it can be observed that all countries with the highest levels of humanitarian crisis and disaster risk also present high or very high levels of exposure to human and natural hazards. The vulnerability and lack of coping capacity levels observed in most of these countries are very high, high, and medium compared to the other countries in the Latin America and Caribbean region.

The following table groups the countries according to their categories in the dimensions of vulnerability and lack of coping capacity. It takes into account all countries that have a high or very high level of exposure to hazards, including the eight countries that have medium, low, or very low overall risk levels.

Some groups could be distinguished among the countries in the region with the highest levels of humanitarian crisis and disaster risk:

- Group A: Countries that present high or very high levels in the vulnerability and lack of coping capacity dimensions: Haiti, Guatemala, and Honduras.
- Group B: Countries that are in the highest levels of the lack of coping capacity dimension, while they fall in the medium level of the vulnerability dimension: Venezuela and Bolivia.
- Group C: Countries that are in the medium levels of the vulnerability and the lack of coping capacity dimensions: Colombia, Mexico, Nicaragua, Ecuador, and Peru.
- Group D: Countries that are in the highest levels of lack of coping capacity, while they present lower levels of vulnerability: El Salvador, Dominican Republic, and Jamaica.

- Group E: Countries that fall in the lower levels of the vulnerability and the lack of coping capacity dimensions: Brazil, Belize, Cuba, Bahamas, and Chile. This group of countries, with high or very high exposure to hazards, illustrates that risk levels reduce, if conditions of vulnerability and lack of coping capacity are better.

LAC-INFORM 2019: Vulnerability and lack of coping capacity among countries with high or very high exposure to human and natural hazards*

LACK OF COPING CAPACITY	High / Very High	El Salvador Dominican Republic Jamaica	Venezuela Bolivia	Haiti Guatemala Honduras
	Medium		Colombia Mexico Nicaragua Ecuador Peru	
	Very low / Low	Brazil Belize Cuba Bahamas Chile		
		Very low / Low	Medium	High / Very High
		VULNERABILITY		

*The color of the country names corresponds to the overall LAC-INFORM RISK index: **Very high or high risk**, **medium risk**, low or very low risk

UNDERSTANDING THE UNDERLYING FACTORS OF RISK

The visualization and interpretation of the results can be taken further down to the lower levels of the model. The tables in this section present the results obtained for the six categories used to construct the three dimensions of the risk index, focusing on the countries with the highest ratings for each category.

HAZARD AND EXPOSURE DIMENSION: Exposure to natural and human hazards

Exposure to natural hazards

The natural hazard category is composed of five components: Earthquake and tsunami, Flood, Tropical cyclone (cyclone wind and storm surge), and Environmental degradation and drought.

LAC-INFORM 2019: Countries with the highest levels of exposure to natural hazards

Mexico	8,2	Haiti	7,5	Venezuela	6,9	Panama	5,8
Guatemala	8,0	Colombia	7,2	Cuba	6,6	Jamaica	5,7
Nicaragua	7,8	El Salvador	7,2	Chile	6,5		
Ecuador	7,6	Dominican Republic	7,1	Belize	6,3		
Honduras	7,6	Peru	7,1	Costa Rica	6,2		

Key Very high High

Exposure to human hazards

The human hazard category exists of the following three components: Conflict, Violence, and Asylum seekers by country of origin.

LAC-INFORM 2019: Countries with the highest levels of exposure to human hazards

Venezuela	9,2	Honduras	8,7	Haiti	7,9
El Salvador	9,1	Mexico	8,5	Brazil	7,8
Guatemala	8,8	Colombia	8,4		

Key Very high High

Each category can be further analyzed to understand the contribution of the underlying factors to the rate obtained for a country. For example, the table below summarizes the ratings on the components considered in the natural hazard category for countries with the highest exposure levels. It shows that the rate of all four underlying factors is very high in the case of Mexico, explaining its high level of exposure to natural hazards. Also, the table shows that environmental degradation and drought is an important underlying factor in Guatemala, Haiti, Honduras, and Nicaragua in particular.

Underlying factors of the exposure to natural hazards category in countries with the highest scores

COUNTRY	Natural Hazards (0-10)	Earthquake and Tsunami (0-10)	Flood (0-10)	Tropical Cyclone (0-10)	Environmental degradation and drought (0-10)
Ecuador	7,6	9,8	9,2	0,0	5,7
Guatemala	8,0	9,4	6,0	5,8	9,2
Haiti	7,5	6,7	5,1	8,7	8,4
Honduras	7,6	7,6	6,8	5,5	9,4
Mexico	8,2	8,5	8,1	8,9	7,1
Nicaragua	7,8	9,4	7,3	4,6	8,2

VULNERABILITY DIMENSION: Socio-economic vulnerability and vulnerable groups

Socio-economic vulnerability

The socio-economic category is an aggregation of three components: Development and deprivation, Inequality, and Dependence.

LAC-INFORM 2019: Countries with the highest levels of socio-economic vulnerability

Haiti	9,6	Nicaragua	6,7
Guatemala	8,6	Bolivia	6,5
Honduras	8,0	El Salvador	6,1
Key		Very high	High

Vulnerable groups

The vulnerable groups category is comprised of two components: Uprooted people and Other vulnerable groups.

LAC-INFORM 2019: Countries with the highest levels of vulnerability among vulnerable groups

Haiti	8,4	Venezuela	7,3	Dominican Republic	5,2
Colombia	8,3	Ecuador	7,0	Panama	5,1
Guatemala	8,3	Mexico	7,0	Bolivia	5,0
Honduras	7,8	Peru	7,0		
				Key	Very high
					High

The table below presents another example of a more in-depth analysis that could be carried out using the LAC-INFORM tool. It summarizes the scores obtained for the underlying factors of the vulnerable groups' category, focusing on the countries with the highest levels of vulnerability in this category compared to the other countries in the region. It shows that the component of uprooted people is an important underlying factor that contributes to the high score on the category for most of these countries.

Besides, the components included in the table allow a more in-depth analysis of the other vulnerable groups' component. For example, the group of people that has been affected by recent shocks is an important underlying factor in Haiti, Guatemala, Honduras, and Peru, and in the case of Guatemala and Venezuela, the group of unprotected youth stands out as an underlying factor.

Underlying factors of the vulnerable groups category in countries with the highest scores

COUNTRY	Vulnerable Groups	Uprooted people	Health Conditions	Nutrition and health conditions of children US	Unprotected youth	Recent Shocks	Food Security	Other Vulnerable Groups
	(0-10)	(0-10)	(0-10)	(0-10)	(0-10)	(0-10)	(0-10)	(0-10)
Haiti	8,4	7,6	10,0	9,4	2,9	10,0	8,5	9,0
Colombia	8,3	10,0	2,6	4,9	6,4	3,1	3,1	4,2
Guatemala	8,3	8,8	2,1	7,8	8,4	10,0	5,6	7,7
Honduras	7,8	8,9	3,0	5,8	7,4	8,2	4,2	6,1
Venezuela	7,3	8,4	2,5	5,2	9,7	1,9	4,8	5,8
Ecuador	7,0	8,4	3,4	5,6	6,2	4,4	4,1	4,8
Mexico	7,0	8,3	2,4	4,5	7,3	7,2	2,5	5,2
Peru	7,0	7,7	8,8	4,8	1,9	8,4	3,6	6,2

LACK OF COPING CAPACITY DIMENSION: Lack of institutional and Infrastructure capacities

Lack of institutional capacities

The lack of institutional capacities category is an aggregation of four components: Disaster Risk Reduction Implementation, Governance, Social protection, and Security and violence containment.

LAC-INFORM 2019: Countries with the highest levels of lack of institutional capacities

El Salvador	8,7	Trinidad and Tobago	8,1	Bolivia	7,3
Honduras	8,7	Jamaica	7,8	Colombia	7,0
Suriname	8,7	Venezuela	7,5	Paraguay	6,9
Guatemala	8,5	Saint Kitts and Nevis	7,4		
Haiti	8,3	Dominican Republic	7,3		

Key Very high High

Lack of infrastructure capacities

The lack of infrastructure and system capacities category is an aggregation of four components: Communication, Physical infrastructure, Access to health systems, and Access to education.

LAC-INFORM 2019: Countries with the highest levels of lack of infrastructure capacities

Haiti	9,0	El Salvador	6,0	Peru	5,7	Belize	4,6
Guatemala	7,5	Guyana	6,0	Colombia	5,5	Jamaica	4,6
Honduras	7,2	Suriname	5,9	Panama	5,5		
Nicaragua	7,1	Dominican Republic	5,8	Paraguay	5,5		
Bolivia	6,2	Ecuador	5,7	Venezuela	5,0		

Key Very high High Medium

The analysis of underlying factors using LAC-INFORM could focus on groups of countries presenting similar levels of the LAC-INFORM risk index, its dimensions or categories, such as the examples presented in the previous tables. Also, it could focus on a specific underlying factor, depending on the information needs of the user and sector specific interests. For example, the health and nutrition sector could focus its analysis on specific underlying factors of the vulnerability and lack of coping capacity dimensions related to health conditions and the lack of coping capacity of the health system.

The table below is one example of how LAC-INFORM can be used to visualize individual components. It provides an overview of the countries with the highest levels of lack of coping capacity of the health care system compared to the other countries in the region. In addition to the table, the LAC-INFORM spreadsheet could be used to visualize and analyze the indicators that make up this component, including the actual data values of each of them.

LAC-INFORM 2019: Countries with the highest scores in lack of capacity and access to the health care system

Haiti	9,7	Dominican Republic	7,4	Peru	6,8	Panama	6,2
Guatemala	8,1	Guyana	7,1	Ecuador	6,4	Paraguay	6,1
Venezuela	8,0	Honduras	7,1	Jamaica	6,2	Trinidad and Tobago	6,1
Bolivia	7,5	Suriname	7,0	Nicaragua	6,2	El Salvador	5,9

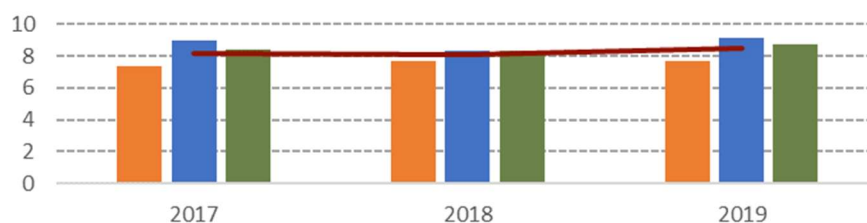
Key Very high High Medium

3-YEAR TRENDS IN THE LAC-INFORM RISK INDEX

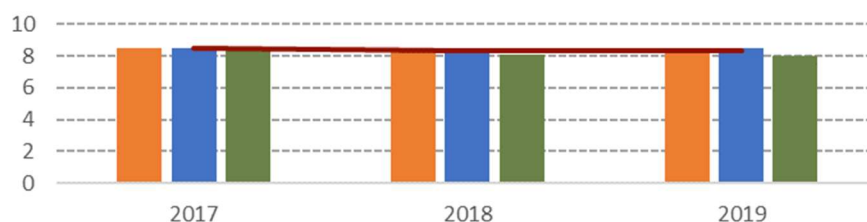
These charts show the three-year risk trends (LAC-INFORM 2019 index - LAC-INFORM 2017 index) for countries with the highest LAC-INFORM Risk index in 2019.¹

3-year trends in the LAC-INFORM Risk index for countries with the highest 2019 Risk index

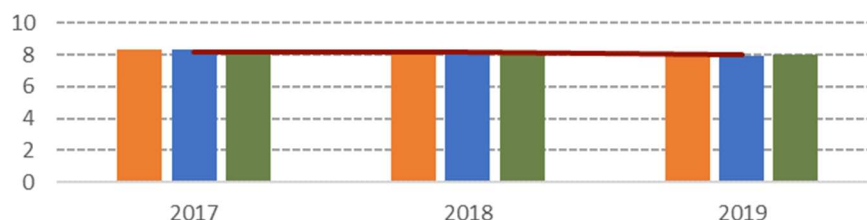
Haiti



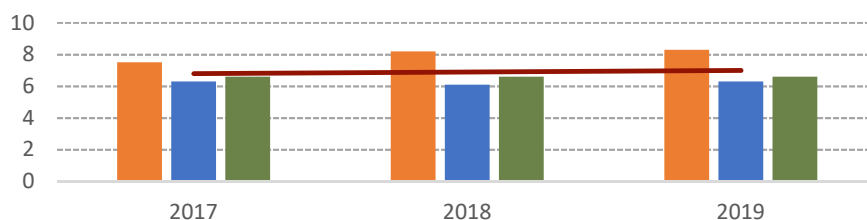
Guatemala



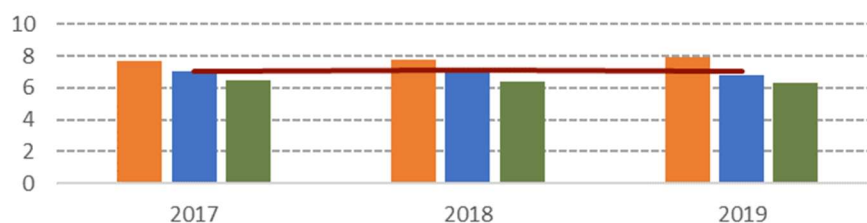
Honduras



Venezuela



Colombia



■ Hazard and Exposure
 ■ Vulnerability
 ■ Lack of Coping
 — LAC-INFORM

¹ Minor changes have been introduced in the model between 2017 and 2019, which should be kept in mind when comparing the 2019 results with the 2018 and 2017 results of the LAC-INFORM index (see Annex I for more details on the changes).

The five countries with the highest score on the 2019 LAC-INFORM Risk index in comparison with all countries in the region have shown a consistently high level of risk over the three-year period. These countries show persistent presence of insecurity, violence, displacement, migration, and recurrent natural shocks, which exacerbate the people's vulnerability and lack of capacity.

In the case of Haiti, Venezuela, and Colombia, the score on the human hazard category has been consistently high and slightly increased between 2017 and 2019. This increase is mainly explained by the increase in the score of these countries on the asylum seekers component. This component is based on the number of people of a given country applying for asylum elsewhere and considered in the model as a proxy indicator for the exposure of people to violence and insecurity in their country of origin. The score of Haiti, Venezuela, and Colombia on this component has increased with 0,7 points, 3,5 points, and 1,5 points respectively, as is shown in the table below.

LAC-INFORM Human Hazard Category:
Asylum seekers by country of origin, 3-year trend

COUNTRY	2017	2018	2019	3 Yr trend
Colombia	7,2	8,3	8,7	↑ 1,5
Guatemala	9,7	10,0	10,0	↑ 0,3
Haiti	9,3	10,0	10,0	↑ 0,7
Honduras	9,9	10,0	10,0	→ 0,1
Venezuela	6,5	10,0	10,0	↑ 3,5

In the case of Honduras and Guatemala, the score on the human hazard category has remained very high over the three-year period. The score of the two countries on the asylum seeker component was already at a very high level in 2017 and is 10 in both countries in 2019.

The constraints and limitations of the INFORM model should be kept in mind, when analyzing the INFORM results and the 3-year trends. One of the main constraints of the model is related to the incomplete data availability and recentness of data. Limitations in the sensitivity of indicators and data updates affect the responsiveness of the INFORM index, among others. Usually, there is a time lag between a change in a situation and an indicator reflecting this change. This is also the case for the indicator on asylum seekers by country of origin. Changes in the situation in 2018 are not yet reflected by this indicator, considering that the latest available complete year is 2017.

Two other components in the LAC-INFORM model that reflect short-term changes in a country situation are considered in the category of vulnerable groups: Uprooted people and People that have been affected by recent natural shocks.

Uprooted people or “Persons of concern” includes refugees, asylum-seekers by country of asylum, returnees, stateless persons and groups of internally displaced persons (IDPs).

LAC-INFORM Vulnerable Groups: Uprooted people Countries with the highest index in 2019

COUNTRY	2017	2018	2019	3 Yr trend
Colombia	10,0	10,0	10,0	➡ 0,0
Honduras	8,9	8,9	8,9	➡ 0,0
Guatemala	8,8	8,8	8,8	➡ 0,0
Ecuador	8,5	8,5	8,4	➡ -0,1
Venezuela	8,5	8,5	8,4	➡ -0,1
Mexico	8,3	8,3	8,3	➡ 0,0
Peru	7,7	7,7	7,7	➡ 0,0
Haiti	7,9	0,0	7,6	⬇ -0,3

Colombia, Honduras, Guatemala, Ecuador, Venezuela, and Mexico have shown a consistently high level on this component over the three-year period.

People affected by recent natural shocks accounts for the increased vulnerability during the recovery period after a disaster. The INFORM model considers the number of people affected by recent shocks in the past 3 years.²

LAC-INFORM Vulnerable Groups: People affected by recent natural shocks Countries with the highest index in 2019

COUNTRY	2017	2018	2019	3 Yr trend
Cuba	3,6	10,0	10,0	⬆ 6,4
Guatemala	6,6	2,2	10,0	⬆ 3,4
Haiti	10,0	10,0	10,0	➡ 0,0
Dominican Republic	2,2	10,0	9,2	⬆ 7,0
Dominica	8,3	8,8	8,5	➡ 0,2
El Salvador	7,1	5,2	8,4	⬆ 1,3
Peru	5,3	9,6	8,4	⬆ 3,1
Honduras	6,3	6,0	8,2	⬆ 1,9
Nicaragua	5,4	1,4	7,9	⬆ 2,5
Mexico	3,5	3,2	7,2	⬆ 3,7

Most countries presenting a high level on this component have shown an increase in the index over the three-year period.

The impact of the natural shocks that occurred in Guatemala, El Salvador, Honduras, Nicaragua, and Mexico in the last months of 2017 and between January and October 2018 is reflected in the increase in the 2019 score.

² The affected people from the most recent year are considered fully while affected people from the previous years are scaled down with the factor 0.5 and 0.25 for the second and third year, respectively, assuming that recovery decreases vulnerability progressively.

Annex I: Changes in the 2019 LAC-INFORM model

As in the global INFORM model, the indicator on Current health expenditure per capita, PPP (current international \$) replaced the indicator Health expenditure per capita, PPP (constant 2011 international \$) in the 2019 version of the LAC-INFORM model, as this indicator is no longer available.

Besides, the definition and measurement of the following indicators has changed:

- Population in multidimensional poverty and population in near multidimensional poverty: The measurement of multidimensional deprivations has been revised to align with the Sustainable Development Goals (SDGs).
- School water coverage: The measurement has changed and is now based on the percentage of schools with basic and/or limited service.
- School sanitation coverage: The measurement has changed and is now based on the percentage of schools with basic and/or limited service.

Furthermore, the data source has changed for the following three indicators: One-year-olds fully immunized against DTP3, Out-of-pocket health expenditure, and Public health expenditure. The WHO Global Health Platform is now used as the source for these indicators.

Data of 51 indicators have been updated in LAC-INFORM 2019. A complete list of updated indicators is included in the model's spreadsheet (available at <http://www.inform-index.org/Subnational/LAC>).

When comparing the LAC-INFORM 2019 with the LAC-INFORM 2017 results, such as for a three-year trend analysis, it should be noted that some minor changes were introduced in the conceptual model of the 2018 version of LAC-INFORM. These changes were:

- The indicator on prevalence of anaemia among pregnant women has been replaced with the indicator on prevalence of anaemia in women of reproductive age. The source for this indicator is WHO. FAO no longer reports on the indicator.
- In consultation with the nutrition sector, two components of the other vulnerable groups category of the vulnerability dimension have been slightly revised: in the children under five and the food insecurity components:
 - The indicator on anaemia in women of reproductive age has been moved from the group of food insecure to the group of children under five.
 - The measurement of the vulnerability of the group of children under five focuses on nutrition and health conditions. A new indicator, the prevalence of anaemia in children under five, has been introduced in this component. Also, a new sub-component on maternal/adolescent nutrition conditions has been added, which is measured by low birth weight and anaemia in women of reproductive age.
- Besides, the definition and measurement of the violence containment cost indicator reported by the Global Peace Index has changed. The revised indicator takes into account the direct and indirect economic costs of violence, while the previous version of the indicator considered direct violence containment costs only.

LAC-INFORM uses the following data sources: Institute for Economics and Peace, EM-DAT, FAO, GSHAP, Heidelberg Institute, Institute for Health Metrics and Evaluation (IHME), Inter-American Development Bank, Internal Displacement Monitoring Centre, ILO, Joint Research Centre of the European Commission, *Latinobarómetro*, OpenStreetMap, Transparency International, UN Inter-agency Group for Child Mortality Estimation, UNDP, UNESCO, UNHCR, UNICEF, UNISDR, UN-Habitat, United Nations Population Division, UNODC, Vanderbilt University, WHO / PAHO, WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, and World Bank.

Annex II: Latin America and Caribbean countries grouped according to their LAC-INFORM risk level:
LAC-INFORM 2019 risk score, and dimension and category scores

INFORM RISK IS VERY HIGH										
COUNTRY	INFORM RISK	HAZARD & EXPOSURE	Natural	Human	VULNERABILITY	Socio-economic	Vulnerable groups	LACK OF COPING CAPACITY	Institutional	Infrastructure
Guatemala	8,3	8,4	8,0	8,8	8,5	8,6	8,3	8,0	8,5	7,5
Haiti	8,5	7,7	7,5	7,9	9,1	9,6	8,4	8,7	8,3	9,0
Honduras	8,0	8,2	7,6	8,7	7,9	8,0	7,8	8,0	8,7	7,2

INFORM RISK IS HIGH										
COUNTRY	INFORM RISK	HAZARD & EXPOSURE	Natural	Human	VULNERABILITY	Socio-economic	Vulnerable groups	LACK OF COPING CAPACITY	Institutional	Infrastructure
Colombia	7,0	7,9	7,2	8,4	6,8	4,5	8,3	6,3	7,0	5,5
Dominican Republic	6,0	6,3	7,1	5,3	5,2	5,2	5,2	6,7	7,4	5,8
Ecuador	6,1	6,4	7,6	4,9	6,1	5,0	7,0	5,8	5,8	5,7
El Salvador	6,9	8,3	7,2	9,1	5,2	6,1	4,2	7,6	8,7	6,0
Mexico	6,3	8,4	8,2	8,5	5,7	4,1	7,0	5,2	5,9	4,4
Nicaragua	6,2	6,5	7,8	4,7	5,8	6,7	4,7	6,3	5,4	7,1
Venezuela	7,0	8,3	6,9	9,2	6,3	5,1	7,3	6,6	7,8	5,0

INFORM RISK IS MEDIUM										
COUNTRY	INFORM RISK	HAZARD & EXPOSURE	Natural	Human	VULNERABILITY	Socio-economic	Vulnerable groups	LACK OF COPING CAPACITY	Institutional	Infrastructure
Belize	4,7	5,7	6,3	5,0	3,9	4,7	3,1	4,8	4,9	4,6
Bolivia	5,8	5,0	5,1	4,9	5,8	6,5	5,0	6,8	7,3	6,2
Brazil	5,2	6,7	5,3	7,8	4,2	3,6	4,8	4,9	5,5	4,2
Guyana	5,0	4,5	5,0	3,9	4,5	5,3	3,7	6,2	6,4	6,0
Jamaica	5,6	6,0	5,7	6,3	4,3	5,6	2,6	6,7	8,1	4,6
Panama	4,7	4,3	5,8	2,4	4,8	4,5	5,1	5,1	4,6	5,5
Paraguay	4,5	3,5	4,1	2,9	4,0	5,0	2,9	6,3	6,9	5,5
Peru	5,9	5,8	7,1	4,2	6,2	5,3	7,0	5,6	5,5	5,7

INFORM RISK IS LOW										
COUNTRY	INFORM RISK	HAZARD & EXPOSURE	Natural	Human	VULNERABILITY	Socio-economic	Vulnerable groups	LACK OF COPING CAPACITY	Institutional	Infrastructure
Antigua and Barbuda	3,5	3,7	3,8	3,5	2,7	3,8	1,5	4,2	4,8	3,5
Argentina	3,9	4,1	4,8	3,3	3,9	3,8	4,0	3,8	4,2	3,4
Bahamas	4,0	5,6	4,1	6,8	2,4	2,7	2,1	4,8	6,0	3,3
Chile	3,5	5,0	6,5	3,0	2,9	2,5	3,2	2,9	2,9	2,8
Costa Rica	4,0	4,8	6,2	2,9	3,8	3,0	4,6	3,6	4,0	3,1
Cuba	4,2	6,8	6,6	6,9	3,6	3,2	3,9	3,0	3,2	2,7
Dominica	4,0	3,9	5,2	2,3	4,7	5,7	3,5	3,5	3,0	3,9
Saint Kitts and Nevis	3,6	3,8	3,4	4,1	2,2	3,0	1,3	5,7	7,5	3,1
Saint Lucia	3,4	3,3	3,2	3,4	2,5	3,0	2,0	4,6	5,1	4,0
Saint Vincent and the Grenadines	3,5	3,4	2,2	4,4	3,5	4,6	2,3	3,6	3,4	3,7
Suriname	4,1	2,9	3,9	1,8	3,1	3,3	2,8	7,6	8,7	5,9
Trinidad and Tobago	4,2	3,8	2,0	5,2	2,9	2,7	3,1	6,7	8,2	4,4

INFORM RISK IS VERY LOW										
COUNTRY	INFORM RISK	HAZARD & EXPOSURE	Natural	Human	VULNERABILITY	Socio-economic	Vulnerable groups	LACK OF COPING CAPACITY	Institutional	Infrastructure
Barbados	2,7	2,8	3,0	2,5	2,5	3,2	1,7	2,7	3,4	2,0
Grenada	2,7	1,3	0,8	1,7	3,5	4,3	2,6	4,3	4,5	4,0
Uruguay	2,7	2,2	2,1	2,2	3,0	3,0	3,0	3,1	3,8	2,3

LAC-INFORM 2019 INDEX – Countries by alphabetical order

COUNTRY	ISO3	Natural (0-10)	Human (0-10)	HAZARD & EXPOSURE (0-10)	Socio-Economic Vulnerability (0-10)	Vulnerable Groups (0-10)	VULNERABILITY (0-10)	Institutional (0-10)	Infrastructure (0-10)	LACK OF COPING CAPACITY (0-10)	INFORM RISK (0-10)	Rank (1-33)	Lack of Reliability Index (*) (0-10)	Missing Indicators (Number) (0-82)
Antigua and Barbuda	ATG	3,8	3,5	3,7	3,8	1,5	2,7	4,8	3,5	4,2	3,5	27	7,8	21
Argentina	ARG	4,8	3,3	4,1	3,8	4,0	3,9	4,2	3,4	3,8	3,9	25	3,7	5
Bahamas	BHS	4,1	6,8	5,6	2,7	2,1	2,4	6,0	3,3	4,8	4,0	22	6,8	18
Barbados	BRB	3,0	2,5	2,8	3,2	1,7	2,5	3,4	2,0	2,7	2,7	31	7,4	11
Belize	BLZ	6,3	5,0	5,7	4,7	3,1	3,9	4,9	4,6	4,8	4,7	16	6,1	6
Bolivia	BOL	5,1	4,9	5,0	6,5	5,0	5,8	7,3	6,2	6,8	5,8	12	4,6	2
Brazil	BRA	5,3	7,8	6,7	3,6	4,8	4,2	5,5	4,2	4,9	5,2	14	3,6	3
Chile	CHL	6,5	3,0	5,0	2,5	3,2	2,9	2,9	2,8	2,9	3,5	27	3,2	3
Colombia	COL	7,2	8,4	7,9	4,5	8,3	6,8	7,0	5,5	6,3	7,0	4	2,0	0
Costa Rica	CRI	6,2	2,9	4,8	3,0	4,6	3,8	4,0	3,1	3,6	4,0	22	2,5	2
Cuba	CUB	6,6	6,9	6,8	3,2	3,9	3,6	3,2	2,7	3,0	4,2	19	7,4	16
Dominica	DMA	5,2	2,3	3,9	5,7	3,5	4,7	3,0	3,9	3,5	4,0	22	9,6	19
Dominican Republic	DOM	7,1	5,3	6,3	5,2	5,2	5,2	7,4	5,8	6,7	6,0	10	2,5	0
Ecuador	ECU	7,6	4,9	6,4	5,0	7,0	6,1	5,8	5,7	5,8	6,1	9	2,0	1
El Salvador	SLV	7,2	9,1	8,3	6,1	4,2	5,2	8,7	6,0	7,6	6,9	6	2,9	1
Grenada	GRD	0,8	1,7	1,3	4,3	2,6	3,5	4,5	4,0	4,3	2,7	31	7,1	18
Guatemala	GTM	8,0	8,8	8,4	8,6	8,3	8,5	8,5	7,5	8,0	8,3	2	3,0	1
Guyana	GUY	5,0	3,9	4,5	5,3	3,7	4,5	6,4	6,0	6,2	5,0	15	6,6	9
Haiti	HTI	7,5	7,9	7,7	9,6	8,4	9,1	8,3	9,0	8,7	8,5	1	5,9	4
Honduras	HND	7,6	8,7	8,2	8,0	7,8	7,9	8,7	7,2	8,0	8,0	3	3,0	3
Jamaica	JAM	5,7	6,3	6,0	5,6	2,6	4,3	8,1	4,6	6,7	5,6	13	3,9	2
Mexico	MEX	8,2	8,5	8,4	4,1	7,0	5,7	5,9	4,4	5,2	6,3	7	1,4	0
Nicaragua	NIC	7,8	4,7	6,5	6,7	4,7	5,8	5,4	7,1	6,3	6,2	8	4,6	4
Panama	PAN	5,8	2,4	4,3	4,5	5,1	4,8	4,6	5,5	5,1	4,7	16	4,3	3
Paraguay	PRY	4,1	2,9	3,5	5,0	2,9	4,0	6,9	5,5	6,3	4,5	18	3,4	1
Peru	PER	7,1	4,2	5,8	5,3	7,0	6,2	5,5	5,7	5,6	5,9	11	2,2	0
Saint Kitts and Nevis	KNA	3,4	4,1	3,8	3,0	1,3	2,2	7,5	3,1	5,7	3,6	26	8,3	26
Saint Lucia	LCA	3,2	3,4	3,3	3,0	2,0	2,5	5,1	4,0	4,6	3,4	30	6,3	8
Saint Vincent and the Grenadine	VCT	2,2	4,4	3,4	4,6	2,3	3,5	3,4	3,7	3,6	3,5	27	8,3	15
Suriname	SUR	3,9	1,8	2,9	3,3	2,8	3,1	8,7	5,9	7,6	4,1	21	6,3	9
Trinidad and Tobago	TTO	2,0	5,2	3,8	2,7	3,1	2,9	8,2	4,4	6,7	4,2	19	7,2	9
Uruguay	URY	2,1	2,2	2,2	3,0	3,0	3,0	3,8	2,3	3,1	2,7	31	3,8	5
Venezuela	VEN	6,9	9,2	8,3	5,1	7,3	6,3	7,8	5,0	6,6	7,0	4	4,8	5

(*) Lack of reliability Index: 0 more reliable, 10 less reliable.