

# Caribbean Action Plan on Health and Climate Change



INDICATOR DESCRIPTORS



**PAHO**



Pan American  
Health  
Organization



World Health  
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REGIONAL OFFICE FOR THE  
AMERICAS

# Caribbean Action Plan on Health and Climate Change

## Indicator Descriptors

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Caribbean Action Plan on Health and Climate Change: Indicator Descriptors  
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## ABBREVIATIONS AND ACRONYMS

<b>CARPHA</b>	Caribbean Public Health Agency
<b>CIMH</b>	Caribbean Institute for Meteorology and Hydrology
<b>COP</b>	Conference of the Parties
<b>HEAT</b>	Health Economic Assessment Tool for Cycling and Walking
<b>H-NAP</b>	Health Chapters in National Adaptation Plan
<b>iSThAT</b>	Integrated Sustainable Transport and Health Assessment Tool
<b>NAMA</b>	Nationally Appropriate Mitigation Action
<b>NAP</b>	National Adaptation Plan
<b>NAPA</b>	National Adaptation Programme of Action
<b>NC</b>	National Communications
<b>NDC</b>	Nationally Determined Contribution
<b>NIR</b>	National Inventory Report
<b>PAHO</b>	Pan American Health Organization
<b>SASAP</b>	Sectoral Adaptation Strategies and Action Plan
<b>UN</b>	United Nations
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>V&amp;A</b>	Vulnerability and Adaptation Assessment
<b>WHO</b>	World Health Organization

## INDICATORS TO MEASURE PROGRESS

Climate-related disasters, heatwaves, climate-sensitive diseases, and severe droughts and floods are taking lives and harming health, livelihoods, and ecosystems across the countries of the Caribbean, as in other Small Island Developing States (SIDS) around the world. In recognition of the high vulnerability of those countries, the World Health Organization launched in 2017 the *Special Initiative on Climate Change and Health in Small Island Developing States*, aiming to increase the resilience of these countries and territories to climate variability and climate change.

As part of this global initiative, the *Caribbean Action Plan on Health and Climate Change*<sup>1</sup> was prepared by the Pan American Health Organization (PAHO) in consultation with Caribbean Member States and territories, and agreed by their respective Ministers of Health and Environment.

The Action Plan has four main strategic lines:

1. **Empowerment**, to support health leadership in the Caribbean to engage nationally and internationally;
2. **Evidence**, to better understand, prepare, and respond to the impacts of climate change on health;
3. **Implementation**, to build climate-resilient health systems and health-promoting mitigation actions; and
4. **Resources**, to increase climate change and health financing.

Furthermore, these strategic lines are structured around the commitments made by countries, territories, and regional technical agencies to implement 26 national and 18 regional actions, and to report on 22 indicators.

This document, the *Caribbean Action Plan on Health and Climate Change Indicator Descriptors*, provides information about the methods of how each of those indicators should be measured and reported. It is organized following the four main components of the plan. Methods were discussed and agreed by Caribbean countries and territories<sup>2</sup> and may be updated as necessary.

<sup>1</sup> Available at: <http://iris.paho.org/xmlui/handle/123456789/38566>

<sup>2</sup> The Caribbean Action Plan was developed to be implemented by all Caribbean countries and territories. For the purposes of this publication, all these entities will be addressed as "countries".

## STRATEGIC LINE OF ACTION 1: EMPOWERMENT

<b>Indicator</b>	<b>I.1.1 Number of countries including Ministry of Health officials in national inter-ministerial committees on climate change</b>
<b>Definition</b>	Number of countries with a representative of the Ministry of Health actively participating in national inter-ministerial committees on climate change (or equivalent structure) <b>Baseline 2017:</b> 11 countries
<b>Purpose</b>	To ensure the participation of the health sector in national inter-ministerial committees on climate change.
<b>Technical note</b>	<p>National inter-ministerial committees on climate change support an enabling environment for multisectoral technical and political dialogues that aim to establish public policy priorities for climate change mitigation and adaptation, and to continuously assess their implementation.</p> <p>Effective participation of the health sector in such committees enhances the coordination of policies with other sectors, facilitates the implementation of actions that benefit health, and ensures the preparedness of the health sector for the impacts of climate change.</p> <p>Stakeholders are encouraged to designate senior officials (e.g. Minister of Health, Permanent Secretary, Chief Medical Officer) to represent the Ministry of Health in inter-ministerial committees; however, the designation of representatives is at the sole discretion of the Ministry of Health.</p> <p>The submission of a copy of the memorandum establishing a national inter-ministerial committee on climate change (or equivalent structure) is required to report on this indicator. The memorandum should include:</p> <ul style="list-style-type: none"> <li>• roles and responsibilities of the inter-ministerial committee;</li> <li>• participating sectors (including the Ministry of Health);</li> <li>• duration of the committee; and</li> <li>• periodicity of meetings.</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	Upload the memorandum establishing the national inter-ministerial committee on climate change to the PAHO Country Survey on Health and Climate Change

<b>Indicator</b>	<b>I.1.2 Number of countries with a national focal point for climate change and health</b>
<b>Definition</b>	Number of countries with a designated focal point in the Ministry of Health, responsible for climate change and health-related topics at the technical level <b>Baseline 2017:</b> 11 countries
<b>Purpose</b>	To identify a national focal point for climate change and health and measure progress towards improved institutional structure in Ministries of Health to address climate change and health.
<b>Technical note</b>	A designated focal point in the Ministry of Health enhances the coordination of work across departments and units within the Ministry of Health, and can receive, collect and disseminate relevant information, including among other sectors and stakeholders. To report on this indicator, a memorandum from the Ministry of Health with the focal point's name, title and appointment term is required.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	Upload the memorandum appointing the focal point to the PAHO Country Survey on Health and Climate Change



<b>Indicator</b>	<b>I.1.3 Number of countries with an interprogrammatic and multistakeholder taskforce on health and climate change, established by the Ministry of Health</b>
<b>Definition</b>	Number of countries where an interprogrammatic, interdisciplinary, and multistakeholder task force on climate change and health has been established by the Ministry of Health <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards improved institutional structure in Ministries of Health to address climate change and health and enhanced national partnerships and cooperation with different sectors.
<b>Technical note</b>	<p><i>Task force</i> is defined as an interprogrammatic, interdisciplinary, and multistakeholder technical working group convened by the Ministry of Health, aiming (but not restricted) to:</p> <ul style="list-style-type: none"> <li>• prepare plans and actions for the health sector;</li> <li>• provide periodic recommendations to the Ministry of Health; and</li> <li>• provide overview and guidance to the implementation of activities on climate change and health.</li> </ul> <p>The task force should be composed of the following members: key technical experts from relevant departments/units/programs from the Ministry of Health (e.g. vectoral diseases, noncommunicable diseases, climate change, air pollution, water and sanitation, health promotion, etc.); experts from health-determining sectors (e.g. energy, transportation, housing, agriculture, etc.); and other relevant stakeholders (e.g. academia, private sector, civil society, professional associations, nongovernmental organizations, etc.).</p> <p>A copy of the memorandum establishing the task force is required to report on this indicator. The memorandum should include:</p> <ul style="list-style-type: none"> <li>• roles and responsibilities of the inter-ministerial committee;</li> <li>• participating sectors (including the Ministry of Health);</li> <li>• duration of the committee; and</li> <li>• periodicity of meetings.</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	Upload the memorandum establishing the task force to the PAHO Country Survey on Health and Climate Change

<b>Indicator</b>	<b>I.1.4 Number of countries with health issues included in national climate change reports to the UNFCCC and other relevant forums</b>
<b>Definition</b>	Number of countries including health considerations in official national climate change reports to the United Nations Framework Convention on Climate Change (UNFCCC) or other relevant forums <b>Baseline 2017:</b> 8 countries
<b>Purpose</b>	To measure progress towards the inclusion of health considerations in official climate change documents submitted to international forums, and the integration of health in national policies and strategic development plans on climate change.
<b>Technical note</b>	To report on this indicator, official national documents submitted to the UNFCCC are encouraged. In addition, other relevant national reports that include health considerations submitted to other climate change forums will be accepted.  National climate change reports to the UNFCCC include National Communications (NCs), National Inventory Report (NIRs), Nationally Determined Contributions (NDCs), Nationally Appropriate Mitigation Actions (NAMAs), and National Adaptation Plans (NAPs).  Do not use health chapters in National Adaptation Plans or Vulnerability and Adaptation Assessments for reporting under this indicator. Refer to indicator I.2.3: <i>Number of countries that developed Health chapters in National Adaptation Plans (or equivalent documents)</i> , based on health system's vulnerability assessments.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change and the UNFCCC webpage on National Adaptation Plans: <a href="http://www4.unfccc.int/sites/NAPC/Pages/national-adaptation-plans.aspx">www4.unfccc.int/sites/NAPC/Pages/national-adaptation-plans.aspx</a>
<b>Recommendations</b>	Share link for access or upload the most recent national climate change reports submitted to the UNFCCC or other forums to the PAHO Country Survey on Health and Climate Change

<b>Indicator</b>	<b>I.1.5 Number of countries with climate change and health included in national health reports, or equivalent documents</b>
<b>Definition</b>	Number of countries that include climate change and health considerations in national Chief Medical Officer reports, or equivalent documents <b>Baseline 2017:</b> N/A
<b>Purpose</b>	To measure progress towards the inclusion of climate change and health issues in national health reports.
<b>Technical note</b>	The report of the Chief Medical Officer typically documents the activities of the Ministry of Health in a certain period. The inclusion of climate change and health considerations in these reports (or equivalent documents) are key to identify the current situation, trends, and activities on climate change and health implemented by the Ministry of Health.  Submission of the most recent national report of the Chief Medical Officer (or equivalent document) is encouraged for reporting on this indicator.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	Share link for access or upload the most recent national Chief Medical Officer report (or equivalent document) to the PAHO Country Survey on Health and Climate Change

## STRATEGIC LINE OF ACTION 2: EVIDENCE

<b>Indicator</b>	<b>I.2.1 Number of countries including education on climate change and its connection to human health in national educational curricula of primary, secondary, and tertiary education</b>
<b>Definition</b>	Number of countries including education on the science behind climate change and its linkage to health, based on the available scientific evidence, in national educational curricula of primary, secondary, and medical education <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards the increase of educational capacities about the links between climate change and health across all educational levels.
<b>Technical note</b>	<p>The importance of promoting climate change education is highlighted in Article 6 of the United Nations Framework Convention on Climate Change (UNFCCC), which encourages Parties to promote, develop, and implement educational training and public awareness programs on climate change and its effects. Climate change and health should be integrated into the existing curricula at all levels of education to increase societal awareness of the health effects of climate change and about actions to be taken collectively and individually.</p> <p>To report on this indicator, all levels of education should be addressed: primary, secondary, schools of public health, medicine, nursing, and other relevant university programs such as engineering, agriculture, public policy, urban design, architecture, and business.</p>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

<b>Indicator</b>	<b>I.2.2 Number of Ministries of Health with representatives trained on climate change and health</b>
<b>Definition</b>	Number of countries with Ministry of Health technical personnel trained on climate change and its connection to health and opportunities for mitigation and adaptation strategies <b>Baseline 2017:</b> 6 countries
<b>Purpose</b>	To present the situation of human capacity on climate change and health in the Ministries of Health and identify countries with need for technical cooperation and training.
<b>Technical note</b>	For purposes of reporting on this indicator, the Ministry of Health focal point for climate change and health (refer to indicator I.1.2) should have completed the PAHO Climate Change and Health virtual course to be provided by the PAHO Virtual Campus for Public Health starting in 2020, or other course in which the main goal is to address the climate change and health nexus. The certificate of completion will be required for reporting.  In addition to the focal point, other key technical personnel from the Ministry of Health are encouraged to complete the course, including: <ul style="list-style-type: none"> <li>• members of the interdisciplinary and multistakeholder task force on climate change and health (refer to indicator I.1.3); and</li> <li>• technical personnel responsible for vector-borne and noncommunicable diseases, environmental health, urban health, health promotion, epidemiology, air pollution, and public health policy.</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change and the PAHO Virtual Campus for Public Health
<b>Recommendations</b>	Upload the certificate of completion of the PAHO Climate Change and Health virtual course to the PAHO Country Survey on Health and Climate Change

<b>Indicator</b>	<b>I.2.3 Number of countries that developed Health chapters in National Adaptation Plans or equivalent documents</b>
<b>Definition</b>	Number of countries with Health chapters in National Adaptation Plans (NAPs) or equivalent documents, such as Sectoral Adaptation Strategies and Action Plans (SASAPs) or Health National Adaptation Plans (H-NAPs, which include climate change and health considerations) developed <b>Baseline 2017:</b> 6 countries
<b>Purpose</b>	To measure progress towards the formulation of strategies and actions to prepare health systems for climate change impacts in the Caribbean.
<b>Technical note</b>	<p>The National Adaptation Plan (NAP) is a document described in the UNFCCC Cancun Adaptation Framework. NAPs should be prepared by countries ratifying the Paris Agreement. Countries are encouraged to produce sectoral NAPs, such as those on health (called H-NAPs), to guide sectoral actions aligned with the frameworks provided by the NAP.</p> <p>The H-NAP should include a national health vulnerability assessment (V&amp;A) as part of the diagnostics of health sector's weaknesses and the expected impacts of climate variability and climate change on health, and the specific interventions to strengthen health systems, with specific actions, budget, and timelines for its development.</p> <p>The document or a letter from the Ministry of Health confirming the completion of the document is necessary to report on this indicator.</p>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change and the UNFCCC NAP Central: <a href="http://www4.unfccc.int/sites/NAPC/News/Pages/national_adaptation_plans.aspx">www4.unfccc.int/sites/NAPC/News/Pages/national_adaptation_plans.aspx</a>
<b>Recommendations</b>	Share link for access or upload the document or Ministry of Health confirmation letter to the PAHO Country Survey on Health and Climate Change

<b>Indicator</b>	<b>I.2.4 Number of countries with climate change and health country profiles developed</b>
<b>Definition</b>	Number of countries with Climate and Health Country Profiles developed and published, in which national progress on climate action in the health sector is tracked <b>Baseline 2018:</b> 1 country
<b>Purpose</b>	To present and measure progress of the implementation of the climate change and health agenda in the Caribbean.
<b>Technical note</b>	<p>Country profiles provide country-specific estimates of current and future climate hazards and the expected burden of climate change on human health, identify opportunities for health co-benefits from climate mitigation actions, and track current policy responses at national level.</p> <p>To report on this indicator, countries are encouraged to participate in the WHO UNFCCC Climate and Health Country Profile Project, to develop and publish their country profiles. This entails responding to the WHO Climate and Health Country Profile Survey, conducted biennially, and participating in the validation process of the document.</p> <p>Country profiles not developed through the WHO UNFCCC project are also accepted for reporting on this indicator.</p>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Periodic
<b>Data source</b>	<p>Data will be obtained from the annual PAHO Country Survey on Health and Climate Change and from these two sources:</p> <p>WHO Climate and Health Country Profile Project webpage: <a href="http://www.who.int/globalchange/resources/countries/en/">www.who.int/globalchange/resources/countries/en/</a></p> <p>PAHO Climate Change and Health webpage: <a href="http://www.paho.org/hq/index.php?option=com_topics&amp;view=article&amp;id=438&amp;Itemid=72247&amp;lang=en">www.paho.org/hq/index.php?option=com_topics&amp;view=article&amp;id=438&amp;Itemid=72247&amp;lang=en</a></p>
<b>Recommendations</b>	—

<b>Indicator</b>	<b>I.2.5 Number of countries using the Caribbean Health Climatic Bulletin to guide health operational decisions</b>
<b>Definition</b>	Number of countries that use the information presented in the “Caribbean Health Climatic Bulletin” by CARPHA, PAHO and CIMH to inform strategic and operational decision-making <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards the use of evidence for decision-making.
<b>Technical note</b>	<p>The Caribbean Health Climatic Bulletin is a climate-smart tool developed and disseminated by the Caribbean Public Health Agency (CARPHA), the Pan American Health Organization (PAHO) and the Caribbean Institute for Meteorology and Hydrology (CIMH) to help the health sector to manage climate risk related to forecasted climate and its impacts in key areas including respiratory and gastrointestinal illnesses, noncommunicable and vector-borne diseases, physical injury or death, and well-being and mental health.</p> <p>The bulletin:</p> <ul style="list-style-type: none"> <li>• offers insights on the typical climate conditions of the upcoming season or forecast period;</li> <li>• provides an outlook for the upcoming quarter in the Caribbean, and offers key climate messages for that period; and</li> <li>• advises on the health implications arising from this seasonal climate information.</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	For more information: <a href="https://rcc.cimh.edu.bb/caribbean-health-climatic-bulletin/">https://rcc.cimh.edu.bb/caribbean-health-climatic-bulletin/</a>



<b>Indicator</b>	<b>I.2.6 Number of countries using tools to measure the health co-benefits of mitigation actions</b>
<b>Definition</b>	Number of countries applying tools to investigate the health co-benefits resulting from mitigation measures undertaken by other sectors, such as transportation, energy, agriculture, water and sanitation, and environment <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To assess the impact of mitigation actions by other sectors on health.
<b>Technical note</b>	<p>The term <i>health co-benefits</i> refers to health outcomes of mitigation actions other than their primary outcome. Examples of positive health impacts that may not be the primary outcome of a climate change mitigation action by a health-determining sector include actions aimed at prioritizing active transport and rapid transit systems, which provide ancillary benefits to health such as improved air quality, promotion of physical activity, and reduced noise stress.</p> <p>For purposes of reporting on this indicator, stakeholders are encouraged to apply at least one WHO tool; however, other relevant tools will be accepted. WHO tools that measure the health co-benefits of mitigation actions include the following:</p> <ul style="list-style-type: none"> <li>• Health Economic Assessment Tool (HEAT) for walking or cycling;</li> <li>• GreenUr, which assesses the impact of urban green spaces on health exposure;</li> <li>• Integrated Transport and Health Impact Modelling Tool (ITHIM), which performs integrated urban national-level assessments of the health impacts of transport scenarios and policies, including changes in physical activity, road traffic injury risk, and exposure to fine particulate matter; and</li> <li>• Integrated Sustainable Transport and Health Assessment Tool (iSThAT), which calculates air pollution emissions from the existing mix of bus, car, and motorcycle traffic and determines the health and economic impacts deriving from changes in these emissions over time.</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	For more information: <a href="http://www.who.int/sustainable-development/urban/guidance-tools/en/">www.who.int/sustainable-development/urban/guidance-tools/en/</a>

<b>Indicator</b>	<b>I.2.7 Number of countries implementing public health campaigns on climate change and health</b>
<b>Definition</b>	Number of countries implementing public health campaigns on climate change and health aiming to increase the general public's understanding about the effects of climate change on health, and the related services and support available to maintain or improve health <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards improved communication on climate change and health issues.
<b>Technical note</b>	The choice of health communication strategies and the number of public health campaigns to be implemented is at the discretion of PAHO Member States. To report on this indicator, at least one national public health campaign on climate change and health (per year) should be implemented.  The campaign should be aimed at the general public and contain information on the effects of climate change on health, measures to protect health, and related public health services and support available to maintain and/or improve health.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

## STRATEGIC LINE OF ACTION 3: IMPLEMENTATION

<b>Indicator</b>	<b>I.3.1 Number of countries using multi-hazard early warning systems for extreme weather and climate events</b>
<b>Definition</b>	Number of countries that have an early warning system implemented and functional, which includes meteorological information (e.g. short-term weather information and seasonal climate information), focusing on multiple hazards <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To map the use of multi-hazard early warning systems for extreme weather and climate events, and climate-sensitive diseases and conditions.
<b>Technical note</b>	United Nations definitions: <a href="http://www.unisdr.org/we/inform/terminology">www.unisdr.org/we/inform/terminology</a> <b>Early warning system:</b> An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities, systems and processes that enables individuals, communities, governments, businesses, and others to take timely action to reduce disaster risks in advance of hazardous events. <b>Hazard:</b> A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. <b>Multi-hazard</b> means (1) the selection of major multiple hazards that the country faces, and (2) the specific contexts where hazardous events may occur simultaneously, cascadingly or cumulatively over time, and taking into account the potential interrelated effects. Multi-hazard early warning systems may include (but are not limited to) the following hazards: heat and cold waves; storms (e.g. hurricanes, monsoons and typhoons); fire (e.g. forest fire); flooding; drought; air quality (e.g. particulate matter and ozone levels); and sand/dust storms.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	For more information: <a href="http://www.preventionweb.net/files/50683_oiewgreportenglish.pdf">www.preventionweb.net/files/50683_oiewgreportenglish.pdf</a> <a href="https://library.wmo.int/doc_num.php?explnum_id=4463">https://library.wmo.int/doc_num.php?explnum_id=4463</a>

<b>Indicator</b>	<b>I.3.2 Number of countries including climate variability and climate change information in health and health-determining programs</b>
<b>Definition</b>	Number of countries including climate variability and climate change information within public health practice in health and health-determining programs <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards the inclusion of climate variability and climate change in health and health-determining programs.
<b>Technical note</b>	To report on this indicator, climate variability and climate change trends and projections are required to be integrated in at least two health programs.  Health and health-determining programs include vector-borne diseases, food and nutrition safety and security, water and sanitation, air quality, disaster and emergency management, and waste management.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

<b>Indicator</b>	<b>I.3.3 Number of countries including climate variability and change indicators in surveillance systems of climate-sensitive diseases and conditions</b>
<b>Definition</b>	Number of countries including climate variability and change indicators/information in surveillance systems of climate-sensitive diseases and conditions <b>Baseline 2017:</b> 6 countries
<b>Purpose</b>	To assess progress towards the inclusion of climate variability and change in surveillance systems for climate-sensitive diseases and conditions, and to identify countries that have the information necessary to respond to climate-sensitive health risks.
<b>Technical note</b>	<i>Surveillance</i> refers to the compilation, analysis and continuous and systematic interpretation of health-related data, essential for the planning, implementation, and evaluation of public health practice. Surveillance systems address a need for specific information, such as the incidence or prevalence of a disease, the association between disease and a specific exposure, or the effectiveness of a public health intervention. They inform and direct public health actions.  Examples of climate-sensitive diseases and conditions include: mortality, injuries, and mental health conditions related to weather-related disasters; environmental heat or cold exposure; melanoma; water-, food-, and vector-borne diseases; respiratory illnesses (e.g. asthma, allergy, acute respiratory infections, and chronic obstructive pulmonary diseases); and protein/energy malnutrition.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

<b>Indicator</b>	<b>I.3.4 Number of countries with plans and procedures for weather and climate-related disaster preparedness, response, and recovery</b>
<b>Definition</b>	Number of countries with health sector-specific preparedness, response, and recovery plans for weather and climate-related disasters completed and up to date, considering climate change scenarios and their impact on disaster risk <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards the health sector capacity for preparedness, response, and early recovery of weather and climate-related disasters.
<b>Technical note</b>	The Sendai Framework for Disaster Risk Reduction 2015–2030 states the following: “Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk. Clear vision, plans, competence, guidance, and coordination within and across sectors, as well as participation of relevant stakeholders, are needed. Strengthening disaster risk governance for prevention, mitigation, preparedness, response, recovery and rehabilitation is therefore necessary and fosters collaboration and partnership across mechanisms and institutions for the implementation of instruments relevant to disaster risk reduction and sustainable development”.  To report on this indicator, the submission of the health sector preparedness, response, and early recovery plan for weather and climate-related disaster is required.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	For more information on disaster preparedness, response, and recovery, refer to: PAHO Knowledge Center on Public Health and Disasters: <a href="http://www.saludydesastres.info/index.php?lang=en">www.saludydesastres.info/index.php?lang=en</a> Sendai Framework for Disaster Risk Reduction: <a href="http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf">www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf</a>

<b>Indicator</b>	<b>I.3.5 Number of health care facilities meeting safety and green standards, according to PAHO's Hospital Safety Index and Green Checklist</b>
<b>Definition</b>	<p>Number of health facilities meeting an "A" score on the PAHO Hospital Safety Index and a minimum 70 percent on the Green Checklist that is part of the Smart Hospitals Toolkit published by PAHO</p> <p><b>Baseline 2018:</b> N/A</p>
<b>Purpose</b>	To measure progress towards the greening and improvement of climate resilience of health facilities to the impacts of climate and weather events in the Caribbean.
<b>Technical note</b>	<p>The PAHO Hospital Safety Index provides a snapshot of the probability that a hospital or health facility will continue to function in emergency situations, based on structural, nonstructural and functional factors, including the environment and the health services network to which it belongs. The hospital's safety index score provides countries and decision-makers an overview of its ability to respond to major emergencies and disasters, and it allows health care facilities' level of safety to be monitored over time. Although the Hospital Safety Index does not replace detailed vulnerability studies, it is an important first step towards prioritizing a country's investments in hospital safety.</p> <p>The Green Checklist identifies areas that can conserve resources, cut costs, increase efficiency in operations and reduce a hospital's carbon emissions.</p> <p>See the Smart Hospitals Toolkit for more information on the application of the Hospital Safety Index and Green Checklist:  <a href="http://www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2495-smart-hospitals-toolkit-2017-5&amp;Itemid=1179&amp;lang=en">www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2495-smart-hospitals-toolkit-2017-5&amp;Itemid=1179&amp;lang=en</a></p> <p><i>Additional sources:</i>  PAHO Smart Hospitals webpage:  <a href="https://www.paho.org/disasters/index.php?option=com_content&amp;view=article&amp;id=350:safe-hospitals-new-page&amp;Itemid=1292&amp;lang=en">https://www.paho.org/disasters/index.php?option=com_content&amp;view=article&amp;id=350:safe-hospitals-new-page&amp;Itemid=1292&amp;lang=en</a></p> <p><i>Green Checklist:</i>  <a href="http://www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2489-green-checklist-2017-version-9&amp;Itemid=1179&amp;lang=en">www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2489-green-checklist-2017-version-9&amp;Itemid=1179&amp;lang=en</a></p> <p><i>Field Guide for Application of the Green Checklist:</i>  <a href="http://www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2490-field-guide-for-application-green-checklist-0&amp;Itemid=1179&amp;lang=en">www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2490-field-guide-for-application-green-checklist-0&amp;Itemid=1179&amp;lang=en</a></p>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Number of health care facilities, per country
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

<b>Indicator</b>	<b>I.3.6 Proportion of health care facilities implementing energy efficiency measures</b>
<b>Definition</b>	Proportion of health facilities with an energy conservation plan developed and efficiency measures implemented to reduce their carbon footprint <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards the improvement of climate resilience of health facilities and the reduction of their carbon footprint.
<b>Technical note</b>	<p>The term <i>energy efficiency measures</i> refers to measures aimed at energy conservation, the use of renewable energy sources, and the reduction of greenhouse gas emissions in health care facilities.</p> <p>To report on this indicator, a developed energy conservation plan and the implementation of energy efficiency measures are required. The specific measures to be implemented are at the discretion of PAHO Member States, but should include one or more of the following:</p> <ul style="list-style-type: none"> <li>• use of appropriate low-carbon technology for care;</li> <li>• low-carbon building design and construction;</li> <li>• investment in renewable energy and energy efficiency;</li> <li>• replacement of incandescent light bulbs or other inefficient bulbs with fluorescent or LED bulbs;</li> <li>• procurement policies for low-carbon supply chains;</li> <li>• efficient air-conditioning units;</li> <li>• use of clean renewable sources such as solar (e.g. photovoltaic systems) and wind;</li> <li>• minimizing use of high greenhouse gas-emitting anaesthetic gases;</li> <li>• sustainable transport management; and</li> <li>• construction of green roofs and/or vertical gardens.</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Percentage
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	For more information, see the PAHO Smart Hospitals Toolkit for additional resources on energy efficiency measures: <a href="http://www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2495-smart-hospitals-toolkit-2017-5&amp;Itemid=1179&amp;lang=en">www.paho.org/disasters/index.php?option=com_docman&amp;view=download&amp;category_slug=smart-hospitals-toolkit&amp;alias=2495-smart-hospitals-toolkit-2017-5&amp;Itemid=1179&amp;lang=en</a>



<b>Indicator</b>	<b>I.3.7 Number of countries revising building codes to address climate change impacts to infrastructure</b>
<b>Definition</b>	Number of countries that are in the process of or have revised building codes and standards to enhance the climate resiliency of infrastructure to the impacts of extreme weather climate events, including the incorporation of historic weather data and climate projections into design parameters <b>Baseline 2018:</b> 7 countries
<b>Purpose</b>	To measure progress towards the resilience of infrastructure to the impacts of climate change in the Caribbean.
<b>Technical note</b>	The Sendai Framework for Disaster Risk Reduction 2015–2030 highlights the importance of investing at national and local levels: “To encourage the revision of existing or the development of new building codes and standards and rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable within the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, survey and enforce such codes through an appropriate approach, with a view to fostering disaster-resistant structures”.  To report on this indicator, submission of revised building codes incorporating climate considerations is required.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

## STRATEGIC LINE OF ACTION 4: RESOURCES

<b>Indicator</b>	<b>I.4.1 Number of countries with personnel responsible for the management of climate change funds and projects in the Ministry of Health</b>
<b>Definition</b>	Number of countries with a technical officer and/or team responsible for the preparation, management, and implementation of climate change and health projects <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To identify countries with technical capacity in the Ministry of Health for the preparation, management, and implementation of climate change and health projects.
<b>Technical note</b>	To report on this indicator, provide the name(s) of the responsible technical staff for the preparation, management, and implementation of climate change and health projects, in the Ministry of Health.
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

<b>Indicator</b>	<b>I.4.2 Number of countries with projects approved on climate change and health with funds from main international funding mechanisms on climate change and development partners</b>
<b>Definition</b>	Number of countries that are in the process of or have revised building codes and standards to enhance the climate resiliency of infrastructure to the impacts of extreme weather climate events, including the incorporation of historic weather data and climate projections into design parameters <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To measure progress towards the increase in climate change funding by international funding mechanisms on climate change.
<b>Technical note</b>	To report on this indicator, countries should have at least one project on climate change and health approved between 2019 and 2023, with funds from main international funding mechanisms on climate change and/or development partners. Examples of international funding mechanisms on climate change and development partners include: <ul style="list-style-type: none"> <li>• Green Climate Fund</li> <li>• Global Environment Facility Adaptation Fund</li> <li>• Global Environment Facility Least Developed Countries Fund</li> <li>• Global Environment Facility Special Climate Change Fund</li> <li>• Inter-American Development Bank</li> <li>• The World Bank Pilot Program for Climate Resilience</li> <li>• United States Agency for International Development</li> </ul>
<b>Indicator type</b>	Absolute
<b>Measurement units</b>	Yes or No (with access to the PAHO Country Survey on Health and Climate Change)
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	Useful resources: <a href="http://www.adaptation-fund.org/">www.adaptation-fund.org/</a> <a href="http://www.thegef.org/topics/climate-change">www.thegef.org/topics/climate-change</a> <a href="http://www.unfccc.int/topics/climate-finance/resources/reports-of-the-special-climate-change-fund">www.unfccc.int/topics/climate-finance/resources/reports-of-the-special-climate-change-fund</a> <a href="http://www.worldbank.org/">www.worldbank.org/</a> <a href="http://www.iadb.org/en">www.iadb.org/en</a> <a href="http://www.usaid.gov/climate">www.usaid.gov/climate</a> <a href="http://www.climateinvestmentfunds.org">www.climateinvestmentfunds.org</a>

<b>Indicator</b>	<b>I.4.3 Proportion of national budget allocated for climate change and health personnel, programs, and actions</b>
<b>Definition</b>	Percentage of Ministry of Health total budget allocated to climate change and health personnel, programs, actions, and activities <b>Baseline 2018:</b> N/A
<b>Purpose</b>	To present the situation of fund allocation to climate change and health in Ministries of Health, and to identify trends and countries with higher resource needs, aiming to increase funding allocation.
<b>Technical note</b>	To report on this indicator, the percentage of allocated national budget for climate change and health personnel, programs, and actions should be provided.
<b>Indicator type</b>	Proportion
<b>Measurement units</b>	Percentage
<b>Measurement frequency</b>	Annual
<b>Data source</b>	Data will be obtained from the annual PAHO Country Survey on Health and Climate Change
<b>Recommendations</b>	—

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