



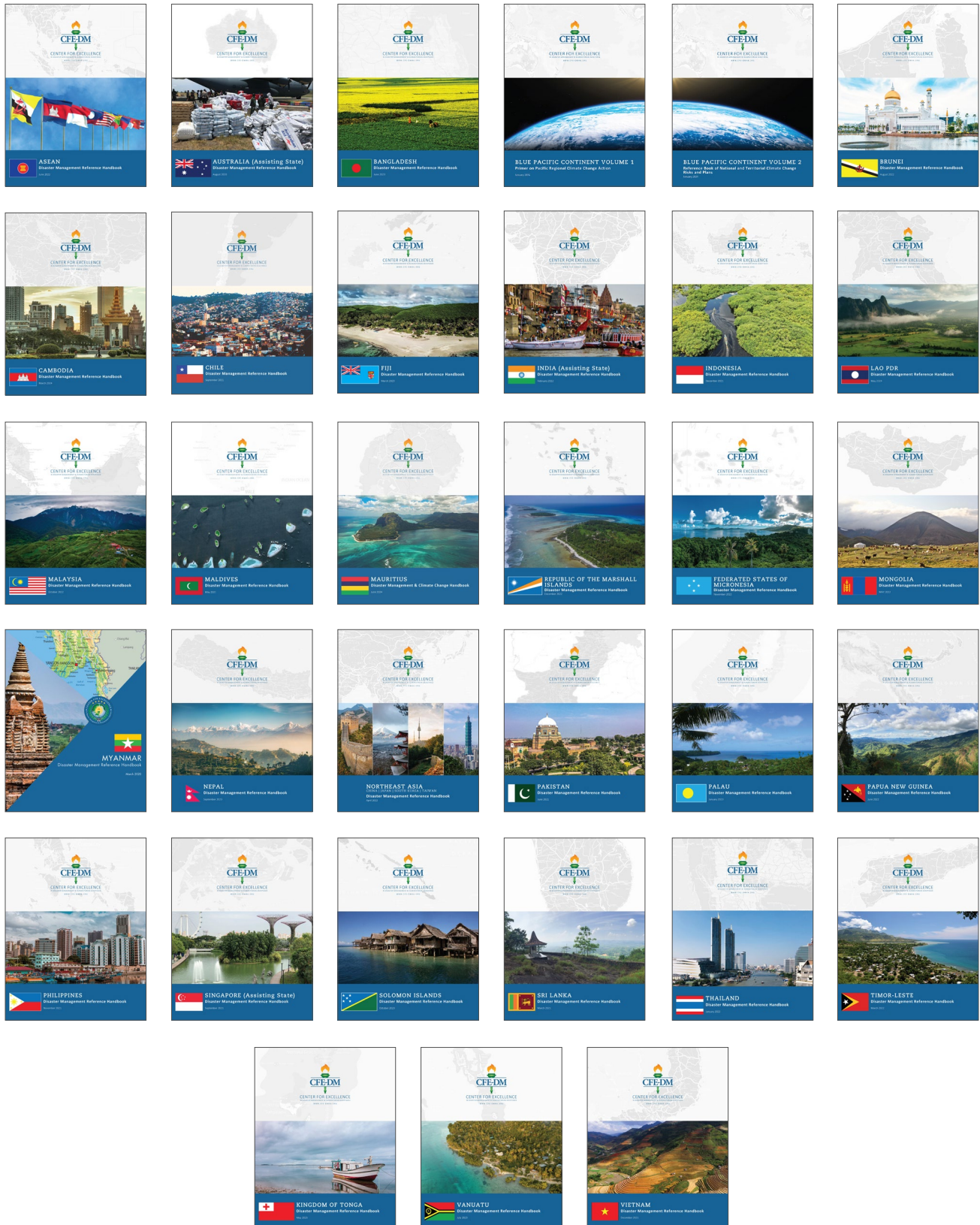
MAURITIUS

Disaster Management & Climate Change Handbook

June 2024

Disaster Management Reference Handbook Series

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Front Cover

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Table of Contents

Acknowledgements	3
Letter from the Director	7
About the Center for Excellence in Disaster Management & Humanitarian Assistance	8
Executive Summary.....	9
Country Overview	10
Population	10
Demographics	11
Vulnerable Groups	12
Environment.....	15
Geography.....	15
Climate	16
Economy.....	16
Infrastructure	18
Transport.....	18
Schools	21
Communications	23
Utilities	24
Health.....	26
Disaster Management and Climate Change Agencies and Actions	32
Government	32
Partners	43
Disaster Overview.....	51
Risk Profile.....	51
Hazards.....	53
History of Major Disasters	57
Climate Change	61
Overview	61
Small Island Developing States.....	65
Influences on Hazards	69
Impacts on Populations and Built Environments	72
Conclusion	76
Appendices	77
Participation in International Organizations	77
Sendai Framework.....	77
UN Framework Convention on Climate Change.....	86

Sustainable Development Goal #13	88
Acronyms and Abbreviations	91
Endnotes.....	95

Figures

Figure 1: Population Pyramid, Mauritius (2023)	11
Figure 2: World Economic Forum Gender Gap, Mauritius (2023).....	12
Figure 3: Map of Western Indian Ocean	15
Figure 4: Monthly Average Temperatures and Precipitation, Mauritius (1991-2022)	16
Figure 5: Road Map of Mauritius	19
Figure 6: Map of Rodrigues with Main Roads.....	20
Figure 7: Light Rail Network of Mauritius	20
Figure 8: Port Louis Facilities Map	21
Figure 9: Central Electricity Board Network.....	25
Figure 10: Central Electricity Board's Rodrigues Network	26
Figure 11: Organization of Mauritius Public Health System.....	27
Figure 12: Top 10 Causes and Risk Factors of Morbidity and Disability, Mauritius (2019).....	31
Figure 13: Disaster Risk Reduction and Management Structure	32
Figure 14: Structure of the National Disaster Risk Reduction and Management Centre.....	34
Figure 15: INFORM Risk Index Dashboard - Mauritius (2024)	52
Figure 16: World Risk Report Classification Matrix.....	53
Figure 17: Reported Disaster Events, 1960-2018.....	54
Figure 18: Flood Map of Mauritius Island.....	55
Figure 19: Landslide Potential Map	55
Figure 20: Observed Ocean Heat Content Increases Between 1958 and 2023 (WMO, 2024).....	61
Figure 21: Indian Ocean Dipole, Positive Phase.....	62
Figure 22: Indian Ocean Dipole Index, 1993-Present (NASA)	62
Figure 23: Sea Level Anomalies by 3-Month Average, 2023 (relative to 1993-2012 average) (WMO)	62
Figure 24: Climate Change Risks, Trends, and Adaptations of Small Island Developing States.....	67
Figure 25: Island of Mauritius, Extent of Sea Level Rise, 2050 Projection (PDC)	70
Figure 26: Island of Mauritius, Projected 32°C+ Days - 1.5°C Global Temperature Rise © 2021 Probable Futures.....	71
Figure 27: Island of Mauritius, Projected 32°C+ Days - 3°C Global Temperature Rise	71
Figure 28: Island of Mauritius, Changes in Annual Precipitation - 1.5°C Global Temperature Rise	71
Figure 29: Island of Mauritius, Changes in Annual Precipitation - 3°C Global Temperature Rise	71
Figure 30: Rodrigues Island, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)	73
Figure 31: Agalega Islands, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)	73

Figure 32: Port Louis, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)	74
Figure 33: Mahebourg Area, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)	74
Figure 34: Rodrigues' Port Mathurin Area, Land Projected Below Annual Flood Level by 2100 (Climate Central, by permission).....	75
Figure 35: Port Mathurin Area, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)	75
Figure 36: UN Sendai Framework for Disaster Risk Reduction 2015-2030	79
Figure 37: SDG 13 on Climate Action Infographic (2023).....	90
Figure 38: Mauritius' Sustainable Development Goals Climate Targets Status (2023)	90

Tables

Table 1: Details of Mauritius' Airports	19
Table 2: Details of Port Louis Terminals	22
Table 3: Indian Ocean Commission Strategic Development Plan 2023-2033 – Pillars and Strategic Objectives.....	48
Table 4: Air Temperature and Precipitation, Last Trimester 2023.....	63
Table 5: Projected Impacts of Climate Change-Influenced Phenomena	64

Letter from the Director

Mauritius is exposed to various hazards, and climate change is exacerbating the risk that the country will confront a catastrophe. Like other small island states, Mauritius is already experiencing more extreme events even as it works to mitigate and adapt to the impacts of both extreme events and slow-onset hazards like rising temperatures and sea levels.

The government of Mauritius is building a disaster management structure that works alongside climate change policies and plans as part of a larger effort to make the island nation more sustainable. Its national disaster management and climate change departments and committees engage with regional and international partners to harness resources in support of realizing disaster risk reduction and climate change mitigation and adaptation goals. Among these partnerships, Mauritius works closely with fellow western Indian Ocean island states, the African Union, southern and eastern African development communities, the Indian Ocean Commission, and the Indian Ocean Rim Association, as well as global alliances of small island States. The United States (U.S.) continues to engage with Mauritius both bilaterally and through these fora.

Key engagements between the U.S. Department of Defense (DoD) and Mauritius are generally undertaken by U.S. Africa Command (AFRICOM) and its components. They focus on ensuring that the island country has the resources and support it needs to manage maritime security challenges, including port security, pollution and oil spill response, and combatting illegal, unregulated, and unreported fishing. Annual regional exercises ensure that the U.S. and the region's navies, coast guards, and law enforcement agencies know how to work with each other, and they also offer opportunities to explore additional facets of cooperation, such as on developing emergency response procedures in the face of climate change-influenced hazards.

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) knows the potential for climate hazards to become disasters as has happened in our own back yard, the Pacific Ocean, where key stakeholders are small island states not unlike Mauritius. Our work with partners from around the region is building knowledge and a community of practice that supports exposed states' own efforts to build resilience and shore up coping capacity. The CFE-DM knows that it is island communities themselves that are the leading forces in planning and implementing projects that will secure the futures of their people and their islands.

As part of an effort to ensure that stakeholders have the best information, this Handbook provides the reader with a baseline understanding of Mauritius' national entities involved in disaster management and climate change action. It offers an overview of the country's people, geography, and infrastructure and details past disaster responses in addition to the country's disaster risk reduction policies. Moreover, it examines the regional and national implications of climate change with a maps section showing potential impacts on Mauritius' people. It is hoped that this Handbook will support planners or other personnel involved in disaster risk reduction or climate change adaptation projects alongside Mauritius' disaster management and climate change stakeholders.



Sincerely,

Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization comprised of nearly 30 subject matter experts that provide academic research, civil-military coordination training, and operational insights to support decision making before, during, and after crises. The Center is designed to bridge understanding between humanitarians, civilian, and military responders. CFE-DM partners with a diverse group of governmental and nongovernmental actors, as well as academic institutions to increase collaborations and capabilities in humanitarian assistance and disaster response. While maintaining a global mandate, the Indo-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice. The Center is a direct reporting unit to U.S. Indo-Pacific Command (USINDOPACOM) and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

Vision

Resilient Joint Forces, Allies, and Partners that are fully prepared to respond across the spectrum of humanitarian crises.

Mission

CFE-DM builds crisis response capacity in U.S. and Partner militaries, enhances coordination and collaboration with civilian and foreign partners, and strengthens those relationships to save lives and alleviate human suffering before, during, and after humanitarian crises in a changing climate environment.

Contact Information

Center for Excellence in Disaster Management and Humanitarian Assistance
456 Hornet Ave
JBPHH, HI 96860-3503
Telephone: +1 (808) 472-0518
<https://www.cfe-dmha.org>

EXECUTIVE SUMMARY

Mauritius, like many island nations, is exposed to multiple hazards, several of which are being exacerbated by climate change. The most common natural hazards posing a significant risk to Mauritius include tropical cyclones and flooding. The country's geographical location in the middle of the Southwest Indian Ocean Cyclone Basin means it is frequently exposed to tropical cyclones, floods, and torrential rains. Tropical cyclones and floods have contributed to Mauritius experiencing approximately US\$110 million in combined direct losses each year. Tropical cyclones account for about 80% of average annual losses for all hazards,¹ while flooding accounts for the remaining 20%.²

Increased urbanization in flood-prone regions has heightened flood risks and posed challenges for building resilience against recurring floods. Notably, in 2013, the capital, Port Louis, experienced flash floods that led to the deaths of 11 people.³ Since gaining independence in 1968, the country has successfully diversified economically beyond sugar production. The gross domestic product (GDP), among the highest of African countries, grew more rapidly than the population in the 1990s and 2000s and contributed to Mauritius' current World Bank ranking as an upper-middle income country. Mauritius has developed an open, free, democratic, and competitive political system. Moreover, it has built a substantial social security system with pensions and social aid, and the government provides free education, bus transport, and basic health services as part of a strong primary healthcare system.⁴ These social safety nets have played a critical role in substantively lowering the poverty rate to 9.6% in 2017; estimates indicate that the poverty rate would have been approximately 34% without the social welfare programs.⁵

The government of Mauritius, in recent years, has revised the disaster management structure as well as climate change policies and plans to address threats posed by climate hazards as part of a larger effort to make the island nation more sustainable. The National Disaster Risk Reduction and Management Act of 2016 laid out the roles and functions of the major components of Mauritius' disaster management architecture. The 2016 Act also detailed the roles of agencies activated during times of disaster or crisis, particularly the National Crisis Committee, National Emergency Operations Command, and Local Emergency Operations Commands. The Act was accompanied by a national policy, strategic framework, and action plan on disaster risk reduction and management for the period 2020-2030.

Mauritius has set a robust climate change goal to reduce greenhouse gas emissions by 40% by 2030. The Climate Change Act of 2020 established a legal framework for making Mauritius a climate-change-resilient and low-emission country. It established several new entities focused on climate change and outlined their functions, powers, and compositions; they include the Department of Climate Change, Inter-Ministerial Council on Climate Change, and Climate Change Committee. The development of accompanying national strategies and action plans on climate change were also mandated.⁶ Mauritius engages with a variety of regional and international partners to harness resources in support of realizing its disaster risk reduction and climate change mitigation and adaptation goals. Among these partnerships, Mauritius works closely with the United States (U.S.) on regional security and maritime law enforcement in the Indian Ocean.

COUNTRY OVERVIEW

The Republic of Mauritius consists of a group of sub-tropical islands stretching from the main island, Mauritius, northward and eastward. The capital is Port Louis. An independent country since 1968, in 1992, the country shifted from being a constitutional monarchy with the British monarch as head of state to a republic with a President as head of state.⁷ The country maintains a multi-party, parliamentary system of government with the Prime Minister as head of government and a unicameral legislature.⁸ On the main island, Mauritius, local governance is entrusted to five municipal and seven district councils, which, in turn, oversee villages and their councils. The municipal councils are Beau Bassin-Rose Hill, Curepipe, Quatre Bornes, Vacoas-Phoenix, and the City Council of Port Louis; the districts are Black River, Flacq, Grand Port, Moka, Pamplemousses, Rivière du Rempart, and Savanne. The Local Government Act of 2011 devolves responsibility for education, road and drainage maintenance, public health and sanitation, cultural activities, and economic promotion to local governments.⁹ The out-lying islands – Agalega, the Cargados Carajos Shoals (also known as St. Brandon), and Rodrigues – are administered as dependencies;¹⁰ Rodrigues gained autonomy in 2002 and maintains its own regional assembly with broad authority over most issues, excluding security, foreign affairs, health, and education.¹¹

Population

The people of Mauritius have ancestral ties to various parts of the world. Permanent residents were absent until the Dutch attempted to settle the islands in the 17th and 18th centuries;¹² as the Dutch had planned to develop sugar plantations, they began to bring in enslaved people from Africa.¹³ After the Dutch settlement attempts failed, France began to settle the islands and eventually colonized it; the French also brought enslaved people from Africa during the latter 18th century. Britain captured

the islands from the French early in the 19th century. Once slavery was ended in the islands in 1835, Britain began to bring in indentured laborers from British India (mostly from modern India but some from modern Pakistan and Bangladesh), and this system ended only in the 1920s.¹⁴ Additional Asian – especially Chinese – immigrants joined the community over the course of the 18th, 19th, and 20th centuries.¹⁵ Given this history, multiple ethnic groups have mixed on the islands, and the country is deeply multi-cultural with various ethnic and religious observances existing alongside each other.¹⁶

There has been a certain embrace of “mixed” heritage as a marker of Mauritian identity. Still, there is a strong correlation between ethnicity and religion, and these social structures can both foster communities and separate them. An estimated two-thirds of the population is Indo-Mauritian – of South Asian descent – while an estimated 28% of the population is Creole – of mixed African and other ancestry.¹⁷ Franco-Mauritians (of French or other European descent) and Sino-Mauritians (of Chinese descent) make up most of the rest of the population.¹⁸ Approximately 48% of the population is Hindu, 26% Roman Catholic, 17% Muslim (mostly Sunni), and 6% non-Catholic Christian. The remainder include animists, Buddhists, Baha’is, Jews, Rastafarians, and individuals who report no religious affiliation. Observers have found that the population of Port Louis is primarily Muslim and Catholic, while the remainder of the main island’s population is predominantly Hindu. Citizens of Indian descent are primarily Hindu or Muslim. Those of Chinese ancestry generally practice Buddhism or Christianity. Creoles and those of European descent are primarily Catholic.¹⁹ Unlike the country as a whole, Rodrigues’ population is mostly (98%) Creole with strong African roots, and Catholicism is the dominant religion on the island.²⁰

English is the official language of the

country,²¹ but many Mauritians speak at least two languages.²² Mauritian Creole (Kreol Morisien) – a French-based creole and the local lingua franca – along with French and Bhojpuri are the most commonly-spoken languages. Upwards of 90% of people report speaking only Creole in the home. Bhojpuri is reported as the only home language for 5.1% of the population and French for 4.4% of the population. Literacy among Mauritians aged 10 years and older stood at 91.9% in the 2022 population census.²³

Demographics

According to the 2022 national census, the population of Mauritius was 1,235,260, a decrease of less than 1% from the 2011 census. However, the decrease in population was entirely a male phenomenon. In 2011, the census recorded 611,020 males and 626,070 females in the country; the 2022 count recorded 608,090 males and 627,170 females. This decrease in population is the first ever recorded in 100 years of official censuses, although the population growth rate had begun to slow in the 1960s.

More than 96% of the population lives on the main island, Mauritius. The island was home to 1,191,280 of the country's residents in 2022; that number had fallen by more than 5,000 residents over 2011 numbers. Rodrigues was home to 43,650 people in 2022 versus 40,430 in 2011. Agalega also saw a rise from 270 people in 2011 to 330 people in 2022.²⁴ The Cargados Carajos Shoals (St. Brandon) are only a stopping point for fishing crews or staff from the national meteorological service and Coast Guard, who live temporarily on the main islet, Ile Raphael.²⁵

As of the 2022 population census, the median age of the population stood at 38 years of age, a rise of four years over the 2011 count. Alongside this “greying” is the phenomenon of a decrease in the age when females overtake males as a majority of the population.

In Mauritius, at age 65.1 years, females begin to make up more of the population than males do; this age is a full two years younger than the threshold in the 2011 census. Even as Mauritius' females live longer than their male counterparts, the fertility rate remains very low. As of 2022, children under the age of 15 years made up only 15.4% of the population versus 20.7% in 2011, while people over the age of 60 years made up 18.7% in 2022 versus 12.7% in 2011.²⁶ Figure 1 is a population pyramid illustrating the age and sex makeup of the Mauritian population.²⁷

The census found that aggregate population density stood at 615 people per square kilometer (km²; 1,592 people per square mile), making Mauritius the 11th most densely populated country in the world. However, there is a significant difference in population densities between urban and rural areas.²⁸ The five towns classified as urban areas – i.e., Port Louis, Rose-Hill, Vacoas-Phoenix, Curepipe, and Quatre Bornes²⁹ – together make up 12% of the land area but are home to 39% of the population for an urban population density of 2,100 people per km² (5,439 people per square mile) versus a rural population density of 400 people per km² (1,036 people per square mile).³⁰ Port Louis is the largest city at more than 155,000 urban residents; it is followed by Rose-Hill with 110,000 residents, Vacoas-Phoenix with 106,000 residents, and Curepipe and Quatre Bornes, both with approximately 80,000 residents.³¹

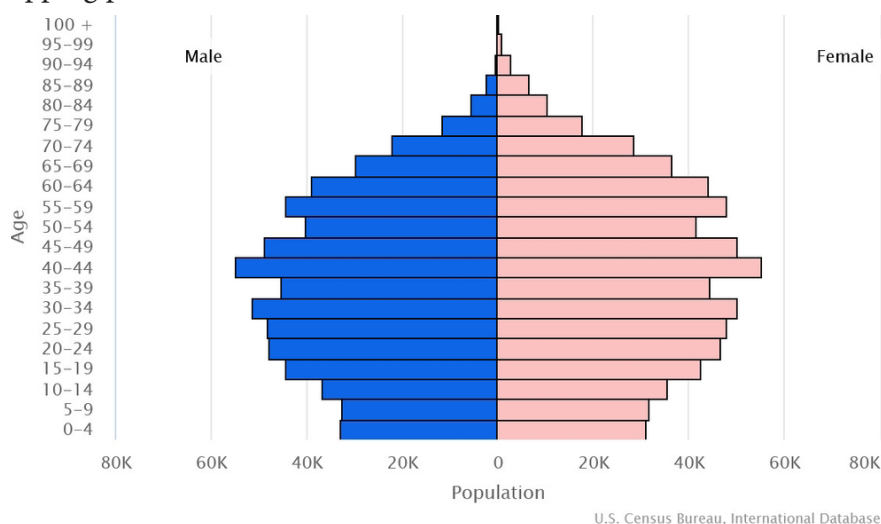


Figure 1: Population Pyramid, Mauritius (2023)

Vulnerable Groups

The impact of a hazard on individuals and groups within a society can vary significantly due to individual characteristics – e.g., age, sex, household income, or disability status. Vulnerable groups, due to their social position or circumstances, are likely to be disproportionately disadvantaged by adverse impacts from natural disasters, crises, and economic shocks. Not only do people without full economic or political access have less opportunity to shape disaster management or climate change preparedness, but higher poverty rates and political marginalization also mean less ability to build resilience or recover after a shock. Thus, marginalized groups rely more on assistance than their fellow residents who may have higher rates of economic or political integration. Factors exacerbating vulnerabilities are often cross-cutting.

While Mauritius retains a strong social safety net, a major disaster could disrupt access to schools, healthcare, pensions, or other resources to which vulnerable people have access in normal times. For example, the country's old-age pension scheme ensures at least a minimum source of income for every citizen over 60 years of age,³² but any incident that disrupts banking, electric power, or communications for a long period of time could mean a lack of access to pension funds and, given the higher rates of disability among elders, these people may have difficulty physically accessing relief locations or digitally connecting to assistance resources.

The groups covered below are not comprehensive but highlight some groups with heightened social vulnerabilities.

Women

The World Economic Forum's 2023 Global Gender Gap Report groups Mauritius with the Sub-Saharan African countries, a regional grouping that, in the report, comes in sixth best among the eight regional groups for amount of the gender gap closed. Within the region, Mauritius comes 20th best of 36 countries, and globally, the country comes 98th best of 146 countries; Mauritius' total score in the 2023

report stood at 0.689, which can be interpreted as 68.9% of the gap between men and women closed. Note that no country scores 1.000. Mauritius scores very high on sub-indices for Educational Attainment (0.993) and Health and Survival (0.980) but scores only 0.637 on Economic Participation and Opportunity and has a very low score for Political Empowerment (0.148). Figure 2 illustrates this imbalance.³³

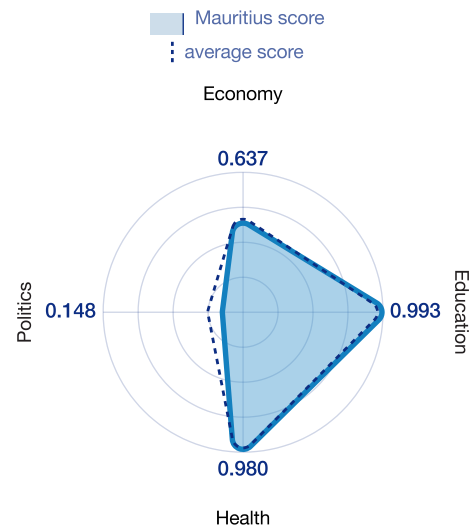


Figure 2: World Economic Forum Gender Gap, Mauritius (2023)

If one teases apart these scores, Mauritius does particularly well for having ensured complete parity between males and females in enrollment throughout the educational system and has been closing the literacy rate gap steadily for years. Moreover, the country has reached near parity for sex ratio at birth and has, in fact, overshot parity for healthy life expectancy. On the economy, Mauritian women have lower labor force participation rates, poorer prospects of equal pay for equal work, and much lower incomes across the board compared to Mauritian men. The political realm also reflects these workforce and participation shortcomings in that only 20% of parliamentarians are female, fewer than 15% of ministerial posts are held by women, and a female has been head of state (President) for three of the past 50 years.³⁴ Dr. Ameenah Gurib-Fakim's tenure as the President of Mauritius ran 2015-2018,³⁵ but the President's office is mostly ceremonial, and the

Prime Minister is the head of government with executive authority.³⁶ There has never been a female Prime Minister of Mauritius.

Men and women enjoy the same legal status and rights under the constitution and law. A 2023 World Bank assessment, “Women, Business and the Law,” found no legal restrictions on female freedom of movement or decisions around work and entrepreneurship; in fact, legally, there are no differences between male and female decisions around movement, work, pay, or assets. Moreover, there are legal strictures against sex discrimination and sexual harassment in the workplace.³⁷ Still, cultural and societal barriers prevent women from fully exercising some rights, especially in cases involving inheritance, and the government has shown little to no ability to regulate the private sector on the issue of equal pay.³⁸ The government has instituted a rule that females must make up a minimum of one-third of candidates for regional, municipal, and district elections,³⁹ but this rule does not hold for national polls, and female candidates remain few. Women continue to report discrimination in employment.⁴⁰

Cultural values and social norms still tend to assign Mauritian females traditional roles as providers of care for children and elders and assign them responsibility for domestic activities. A 2017 survey found that more than 70% of Mauritians say it is better for a family if a woman has the main responsibility for home and childcare.⁴¹ The associated burdens on time and energy funnel women into more flexible but less highly remunerated careers and, therefore, they are unable to accumulate cultural capital or financial resources to withstand shocks.

While there remains a slight difference in male and female adult literacy rates – 93.6% of males and 90.3% of females can read – the gap has been steadily closing for years as work to ensure female access to education has borne fruit.⁴² This large, educated population of females has not, however, translated into political power or female access to decision-making broadly. Women continue to suffer from a lack of enforcement of laws against gender-based violence with an

estimated one-quarter of Mauritian women experiencing some form of violence in their lifetimes.⁴³

The National Gender Policy Framework, established in 2022, does highlight positive outcomes from mainstreaming the gender perspective into development projects. It does not, however, cover sector-specific gender issues, including the differing needs of men and women or boys and girls within climate change or disaster scenarios.⁴⁴ Although Mauritian females, nationally, have the skills and knowledge to undertake key economic and political action, cultural obstacles mean they are less likely than Mauritian males to have a voice in disaster management or climate change action fora and are, therefore, somewhat more vulnerable to the adverse impacts thereof.

Minorities

The national census has not asked Mauritians to report their ethnic background since 1972, and, thus, there are no more than estimates of “minority groups” based on reported religion or other surveys. Yet, the country relies on the proportions dating to 1972 to determine electoral representation,⁴⁵ as detailed in the next paragraph. There have been no outbursts of ethnic violence since 1999. Since 2017, the government has had a ministry dedicated to human rights, and it serves as a national mechanism for reporting on commitments to international human rights conventions. The Ministry of Justice, Human Rights, and Institutional Reforms has undertaken consultations with non-governmental and civil society organizations (NGO and CSO) on a regular basis to ensure that provisions of both the national constitution and international conventions are not only followed to the letter but also do not have unexpected discriminatory effects. The Criminal Code contains provisions for offenses pertaining to racial (and religious) discrimination. Nonetheless, successive reports from the United Nations (UN) Committee on the Elimination of Racial Discrimination have pointed out that Mauritius continues to struggle

with social markers of discrimination based on national origin, skin color, and caste, all of which are also frequently linked to language or religion.⁴⁶

Under the electoral system, most seats in the national parliament are allocated to parties or individuals that contest directly within each constituency. However, a second tranche of seats is allocated based on communities spelled out in the Constitution; the four communities are Hindu, Muslim, Sino-Mauritian, and general population. The “general population,” tends to capture mostly the Creole community although it nominally captures anyone not specifically linked to either religious group or the community of Chinese descent.⁴⁷ Many observers note that the upshot of this categorization is that Creoles are frequently underrepresented. Moreover, poverty is more common among the country’s Creole (African descent) communities, and Creole activists continue to report discrimination in employment based on race and ethnicity. The government has repeatedly refused to release data disaggregated for race or ethnicity in recruiting and hiring for government employment, and this refusal has fed the sentiment that some ethnic groups receive preferential treatment. Many community leaders claim there is discrimination against the employment of Creoles and Muslims of Indian origin in the public service.⁴⁸

Chagossians (or Ilois) are people living in Mauritius and with roots in the Chagos Islands. They number approximately 2,000, according to the government of Mauritius. The initially uninhabited Chagos Islands were first settled by people enslaved by the French and subsequently, as with Mauritius itself, by laborers brought from India by the British. These groups eventually formed the present-day Chagossians. When Britain forced Mauritius to relinquish claims over the Chagos Islands in exchange for independence, approximately 1,200 residents of Diego Garcia (one of the Chagos Islands) were moved to Mauritius, and Ilois’ legal suits seeking the right to return to the Chagos Islands have meandered through the British and international court systems for decades. Those Ilois who reside

in Mauritius are granted full citizenship, but many of them express a desire to return either to visit or to live in the Chagos Islands.⁴⁹

People Living with Disabilities

The 2022 population census found that 6.8% of residents are living with a disability; this percentage was higher than in the 2011 count when 4.8% of people reported living with a disability. Such rises are expected to continue as the population as a whole ages, and the 2022 census found that 22.6% of people over the age of 60 years reported living with a disability whereas 3.4% of people ages 15-59 years and 2.3% of people aged 15 years and younger reported living with a disability. The most common types of disability reported in 2022 were: walking (36.8%), seeing (17.9%), self-care (10.2%), and behavior (8.1%). Troubles with memory, manual activities, speaking, and hearing were also not uncommon.⁵⁰

Although laws require public transport and buildings to be accessible to people living with disabilities, there are many reports that these people cannot access education, health services, public buildings, or transportation on an equal basis. The government has implemented programs to provide people living with disabilities access to information and communications, such as captions and sign language interpretation of news broadcasts. However, there is no provision to make government websites accessible to people living with disabilities. In addition, laws require that enterprises with more than 35 employees set aside at least 3% of positions for people living with disabilities, but the government has not been especially successful at enforcing this law.⁵¹

In the event of an emergency, people with mobility challenges will experience difficulty evacuating to shelters if they do not have assistance, and they may experience difficulty accessing relief distribution points. People with seeing, hearing, and intellectual disabilities may have difficulty receiving information on hazards and on advice regarding action to take in case of an emergency. Without specific

planning to address these needs, disaster managers may inadvertently exclude people living with disabilities from relief activities. By integrating groups representing people living with disabilities into planning for emergencies, disaster managers can begin to reduce this inequality.

Environment

Mauritius lies in the southern hemisphere between about 10°S and 20°S and between about 56°E and 63°E. The main island, Mauritius, lies some 800 km (500 miles) east of Madagascar. Rodrigues lies 550 km (340 miles) further east from Mauritius. The Cargados Carajos Shoals (also known as St. Brandon) lie 400 km (250 miles) northeast of the main island. Finally, Agalega lies 930 km (580 miles) north of the main island.⁵² Figure 3 illustrates the position of the islands in the Western Indian Ocean.⁵³ Note: This figure includes the approximate territory

and does not include the disputed Chagos Islands to the northeast of Mauritius.

Mauritius retains claims to the Chagos Archipelago, which lies 2,000 km (1,250 miles) northeast of the main island; the United Kingdom disputes this claim.⁵⁴ Negotiations on a resolution were on-going as of the writing of this book.

Geography

The Republic of Mauritius has a total land area of 2,040 km² (788 square miles); the island of Mauritius accounts for 1,865 km² (720 square miles) of land, and Rodrigues accounts for 109 km² (42 square miles) of land.⁵⁵ Agalega, which is divided into the North and South Islands, is 26 km² (10 square miles) in area.⁵⁶ The 28 islets that make up St. Brandon (Cargados Carajos Shoals) are mostly sandy cays, none of them as large as 1 km² (0.39 square mile); they can be found along a long, crescent-shaped reef, which is usually above water.⁵⁷ The country's claimed Exclusive

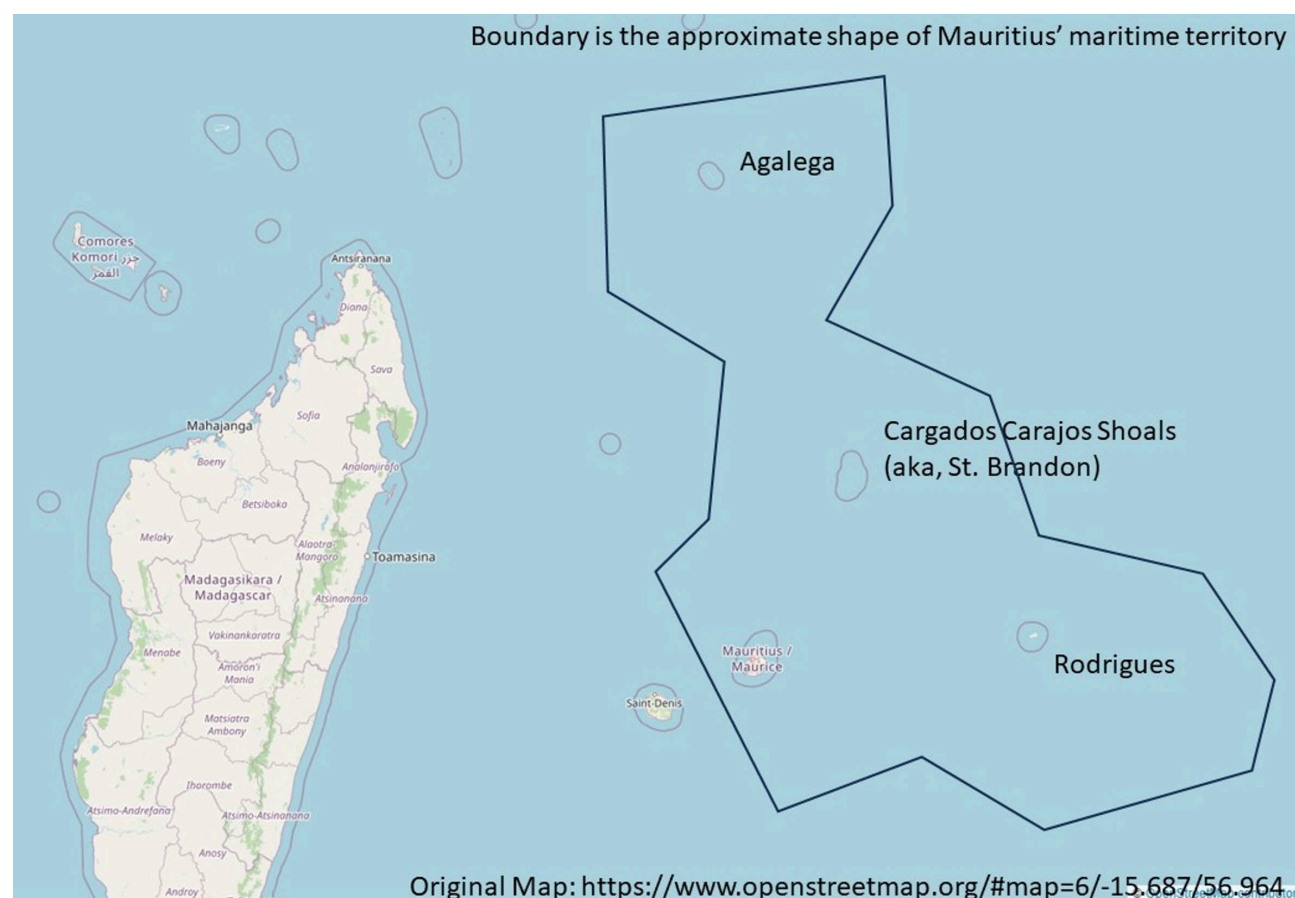


Figure 3: Map of Western Indian Ocean

Economic Zone (EEZ) covers 2.3 million km² (888,000 square miles) of ocean,⁵⁸ although not all of this claim is internationally accepted.

The Mascarene Islands, which comprise Réunion (French territory), Mauritius, and Rodrigues, are volcanic in origin, and they stretch eastward from Madagascar along a mid-ocean ridge.⁵⁹ Volcanic activity in Rodrigues and Mauritius ended at least 20,000 years ago.⁶⁰

The main island has a coastline of 330 km (205 miles),⁶¹ and Rodrigues has a coastline of 80 km (50 miles).⁶² Both islands are almost entirely ringed by coral reef,⁶³ and their interiors are rugged with many ridges and valleys. Mauritius itself has a coastal plain that rises to a plateau that stands at 300-600 meters (m; 980-1,968 feet) in elevation, and this central plateau is surrounded by some low mountains. Piton de la Rivière Noire, at 828 m (2,717 feet) is the highest point on the island of Mauritius. The rolling basaltic hills of Rodrigues lie significantly lower,⁶⁴ with the island's highest point, Mount Limon, reaching 396 m (1,299 feet) above sea level.⁶⁵ Mauritius has many rivers that flow from the mountains and plateau to the coast all around the island.⁶⁶ Meanwhile, the non-volcanic North and South Islands of Agalega are separated by a shallow sand bank with 1.2 km (0.75 miles) of water between them.⁶⁷

Climate

The climate is sub-tropical, with minor temperature fluctuations throughout the year. Average mid-day temperatures range from 22°C (71.5°F) in August to 28°C (82.5°F) in January.⁶⁸ The mean temperature at sea level is in the low to mid-20s °C (mid-70s °F), and at upper elevations, the mean temperature is in the upper 10s °C (upper 60s °F). The “hot” season runs December to April, and the “cool” season runs June to September. Annual rainfall also varies by region and elevation; the west coast receives approximately

900 millimeters (mm; 35 inches) of rain annually, while the southeast receives some 1,525 mm (60 inches), and the central plateau receives as much as 5,080 mm (200 inches).⁶⁹ The prevailing wind is from easterly to southerly. The islands are exposed to cyclones, and the cyclone season runs approximately November through May with cyclones generally moving in a southeasterly direction across the islands’ area of ocean.⁷⁰ Figure 4 graphs the monthly average minimum, mean, and maximum air temperatures and precipitation for the period 1991-2022 for Mauritius.⁷¹

Economy

Mauritius’ economy is a competitive, market-based system with strong trade and exchange ties to Asia and Europe and somewhat less strong trade ties to Africa. The country is highly attractive to investors and is an easy place to start a business or invest in one. However, because of its size, Mauritius remains a price-taker for key inputs, especially food and fuel, and global price

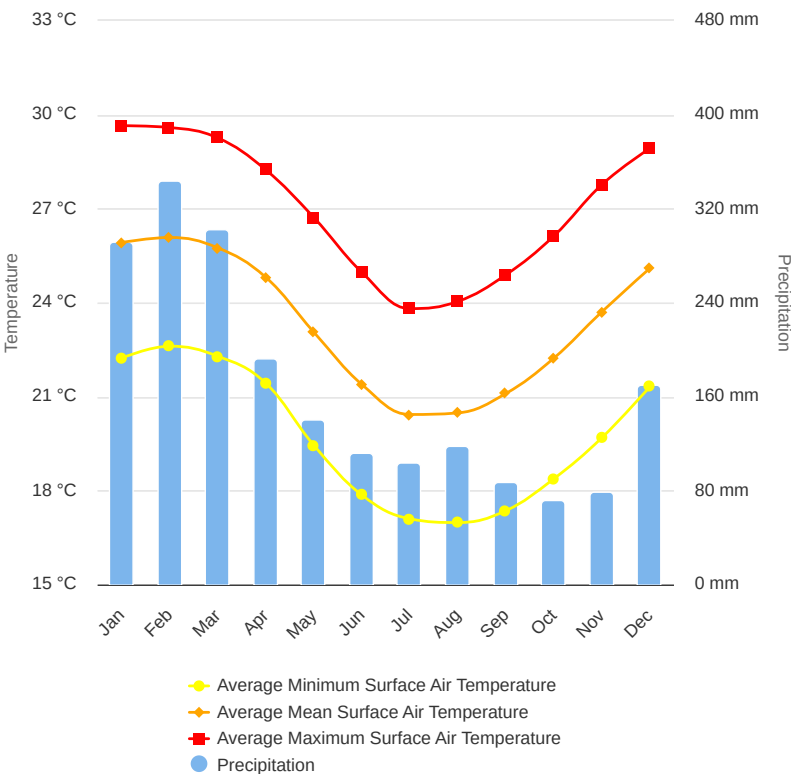


Figure 4: Monthly Average Temperatures and Precipitation, Mauritius (1991-2022)

shocks can disrupt the Mauritian economy when global prices suddenly spike and cause hardship among the country's lower-income residents.

The country is one of the world's Small Island Developing States (SIDS); it provisionally attained High-Income Country (HIC) status in 2019 but rapidly reverted to Middle-Income Country status in 2020 because of the economic effects of the Coronavirus Disease 2019 (COVID-19) pandemic. The temporary HIC graduation nonetheless marked the overall success of the country's transition from a remote sugar monocrop economy to its current digitally-linked system.⁷² Mauritius' GDP growth rate has been relatively stable since the early 1990s and, between 2010 and 2019, the growth rate ran 3.5-4.5% annually, according to the International Monetary Fund (IMF).⁷³ GDP growth topped 8% in 2022, up from 3.4% in 2021, as the country continued to recover from 2020's negative growth, which was linked to the COVID-19 pandemic. Growth continues to be driven by recovery in the tourism sector and by accommodative monetary policy. However, inflation rose sharply in 2022, to an estimated 10.8%, driven largely by surging prices for imported food and energy.⁷⁴ Nonetheless, the country enjoyed continued growth in 2023, notching an estimated 6.9% GDP growth rate with output having exceeded pre-pandemic levels.⁷⁵

The most important sectors are textiles, tourism, financial and business services, information and communication technology (ICT), seafood processing, real estate development, energy, and education.⁷⁶ In terms of GDP contribution, the business sector contributes some 8.5%, the tourism and ICT sectors each account for more than 7%, export-oriented enterprises contribute more than 4%, and agriculture accounts for approximately 4%. Tourism continues to grow orders of magnitude more swiftly than other sectors (more than 200% versus less than 10% annually).⁷⁷ The economy of Rodrigues is highly dependent on the main island. Most Rodrigues households depend on tourism-related activities and subsistence

agriculture, livestock herding, small-scale fishing, and micro-enterprises. Total livestock production generates a small surplus of 7,000 animals annually for export to the island of Mauritius.⁷⁸ However, Rodrigues small-scale farm and livestock concerns are highly exposed to storms that bring high winds and flash flooding with coconut plantations and small-scale livestock – mostly pigs and poultry – regularly suffering destruction and pushing owners into or toward poverty.⁷⁹

The export markets for Mauritius are, in order of importance, South Africa, France, the United Kingdom, and the U.S. Mauritius' main sources of imported goods are China, India, the United Arab Emirates, South Africa, and France. Mauritian exports are eligible for preferential access to the markets of the South African Development Community (SADC), the Common Market for Eastern and Southern Africa (COMESA), and the Indian Ocean Commission (IOC), and to members of the European Union (EU; under the EU-East Africa Interim Economic Partnership Agreement), to the U.S. (under the African Growth and Opportunities Act [AGOA]), and to many other countries, based on bilateral or multilateral agreements.⁸⁰

As of 2022, the labor force included 580,500 workers, and the unemployment rate stood at more than 7%. During the period between the 2011 and 2022 census exercises, the number of employed males fell by 1,600 while the number of employed females rose by 18,600, and the ratio of male to female employees also fell from 182 males per 100 females in 2011 to 165 males per 100 females in 2022. At the same time, the percentage of workers employed in the tertiary sector (services) rose from 63% in 2011 to 71.3% in 2022 while primary (agriculture and mining) and secondary (industry) sectors saw decreases in percent of the labor force by 3% and 5%, respectively.⁸¹ As the country continues to develop its services sectors, shifting workers into skills training to meet the needs of service industries will be crucial in order to maintain progress against poverty. Overall,

the poverty rate has remained below 10% for years. The poverty rate decreased steadily from 19% in 2012. However, due to the pandemic and the consequent dramatic contraction of GDP in 2020, it is projected that the poverty rate increased by over five percentage points but will again fall below 14% as the recovery strengthens.⁸²

The example of the COVID-19 pandemic illustrated the major challenges confronting Mauritius' economic development in the face of climate change and global instability that can scramble international lines of trade. The government continues to try to broaden the economic base as a means to insulate the country as a whole from shocks that are focused on one sector or region. Among the key developments are the "blue economy," or a land-based but ocean-focused sector, to include seafood, real estate, pharmaceuticals, financial services, tourism, ICT, and the knowledge economy. Mauritius' undisputed EEZ amounts to approximately 1.3 million km² (502,000 square miles), and the country jointly manages an additional 388,000 km² (147,000 square miles) of continental shelf with Seychelles. The government aspires for its "blue economy" to play a significant role in future development, especially in aquaculture, maritime services, marine biotechnology, and oil and gas exploration.⁸³

Infrastructure

The government directly controls, manages, or partly owns key service providers in the communications, health care, education, utilities, and transportation sectors through government agencies or parastatal companies, with the latter especially important in the power and water, broadcasting, and postal service sectors. The government plans to undertake major reforms in energy, transport, solid waste and wastewater, and other sectors in order to achieve climate change targets.

The Outer Island Development Corporation (OIDC), which serves under the Prime Minister's Office, is the key parastatal responsible for

ensuring that the islands of Agalega and St. Brandon (the Cargados Carajos Shoals) have opportunities for economic and social development. The major challenges to this mission are that transportation to the islands relies on ships, medical facilities are minimal, there are no secondary schools, and primary schooling is frequently disrupted by storms.⁸⁴ The Rodrigues Administration works under the aegis of the national government for health and education but can act independently on other facets of infrastructure, especially for transport and communications.

Transport

The Government Programme 2020-2024 and Vision 2030 are the strategies guiding investment in transport, a key component of sustained economic development and climate change resilience; these frameworks seek to ensure that safe and reliable transport is part of the effort to reduce Mauritius' carbon footprint.⁸⁵

Airports

Civil aviation is regulated by the Department of Civil Aviation, under the Department of External Communications.⁸⁶ The Department of Civil Aviation maintains control of the Mauritius airspace via the Area Control Centre in Plaisance (home of the main airport) and maintains a satellite-linked, remote Very High Frequency (VHF) station on St. Brandon's Ile Raphael to provide VHF air/ground coverage for communications between Plaisance and aircraft in the Mauritian airspace within a radius of 250 nautical miles from Ile Raphael.⁸⁷

Sir Seewoosagur Ramgoolam International Airport, the country's main airport of entry/exit, is owned and operated by Airports of Mauritius Co. Ltd (AML), a public company.⁸⁸ Under a new airports master plan, published in 2019, the international airport is slated to expand its terminal to double its capacity, with construction slated to be complete by late 2024.⁸⁹

Rodrigues' Plaine Corail Airport, operated by Airport Rodrigues Limited (ARL), a public company, is the island's primary port of entry/

exit for passengers. However, its runway can accommodate aircraft only as large as the ATR-72,⁹⁰ a small turboprop that seats fewer than 100 passengers.⁹¹ To allow larger aircraft for more direct flights from international locations and greater capacity in case of emergency, a new runway is proposed at Plaine Corail. The World Bank-backed project would build a new 2,100 × 45 m (6,890 × 148 feet) runway, as well as taxiways between the old and new runways, new aircraft parking stands, extension of the apron, and other drainage, lighting, control, navigation, and multimodal transport structures. The new runway would allow Plaine Corail to accommodate aircraft as large as the Airbus A321 or the Boeing 737.⁹²

In early 2024, the Prime Minister and his Indian counterpart inaugurated a new airstrip on Agalega's North Island.⁹³ Some observers estimate that the Indian-built airstrip stretches 3,000 m (9,843 feet) in length.⁹⁴

Table 1 shows some details of the country's airports.

Roads

The Ministry of Land Transport and Light Rail oversees policies for network operation, management, and safety, and its National Land Transport Authority (NLTA) is the regulatory authority.⁹⁵ NLTA has two divisions – Road Transport and Light Rail – which oversee the registration of vehicles and regulate safety.⁹⁶ Separately, under the Ministry of National Infrastructure and Community Development, the Road Development Authority is tasked with developing, preserving, and maintaining a high standard classified road network.⁹⁷ There are 2,356 km (1,464 miles) of roads,⁹⁸ which are classified as motorways (M1,

M2, and M3, all dual carriageway), Main Roads A (A1-A21, connecting districts), and Main Roads B (general surface streets).⁹⁹ Figure 5 shows the road network of Mauritius; green are motorways, red are “A” roads, and blue are “B” roads.¹⁰⁰ Among the major road works underway are slope stabilization and flooding and landslide mitigation projects.¹⁰¹

The road network of Rodrigues connects all areas of the 18 × 8 km (11 × 5 miles) island;

Airport	IATA/ICAO Code	Elevation	Runway Dimensions	Runway Surface
Sir Seewoosagur Ramgoolam International	MRU/FIMP	57 m (183 feet)	3,040 × 75 m (9,974 × 246 feet)	concrete
Plaine Corail	RRG/FIMR	29 m (95 feet)	1,287 × 30 m (4,223 × 98 feet)	asphalt

Table 1: Details of Mauritius' Airports

ROAD NETWORK OF MAURITIUS

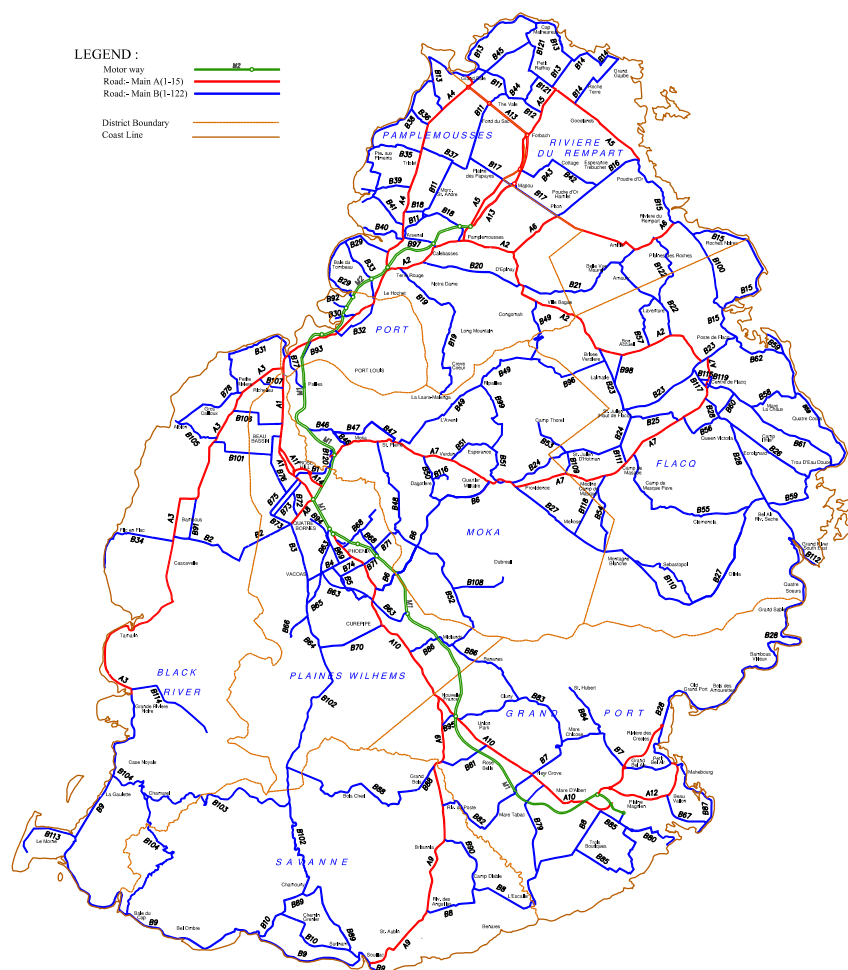


Figure 5: Road Map of Mauritius



Figure 6: Map of Rodrigues with Main Roads

roads generally cut across land rather than circling the island along the coast.¹⁰² Figure 6 shows the island's main roads; note Plaine Corail airport at the western end and Port Mathurin on the central northern coast.¹⁰³

Railways

Metro Rail Express is a public company that operates the new Metro Express,¹⁰⁴ a light rail line that comprises 29.4 km (18.3 miles) of track and 22 stations with multi-modal interchanges. It serves the urbanized central-west coast of the island of Mauritius. Figure 7 shows the Metro Express line;¹⁰⁵ all phases had been constructed and were operational as of 2023. This line is the first rail line in the country since Mauritius Government Railways closed in the 1960s.¹⁰⁶

Ports

Mauritius Shipping Corporation Limited (MSCL) delivers cargo and passengers to Rodrigues and Agalega. MSCL's M/s Mauritius Trochetia and M/v 'Black Rhino' sail to Rodrigues' Port Mathurin 3-4 times per month with bulk, breakbulk, and containerized cargo.



Figure 7: Light Rail Network of Mauritius

The passage between Port Louis and Port Mathurin takes 36 hours each way. Agalega is serviced by the M/s Mauritius Trochetia four times each year at the request of the OI DC.¹⁰⁷

Responsibility for port infrastructure and services rests primarily with two state-owned organizations – Mauritius Ports Authority

(MPA), which is the main body responsible for port planning, infrastructure investment, pilotage and towage, and port administration; and Cargo Handling Corporation Ltd (CHCL), which is responsible for cargo handling. Private companies own or lease dedicated facilities within the ports and provide their own handling services for specific bulk cargo such as wheat, petroleum products, cement, and fish.¹⁰⁸ The MPA is the sole landlord and regulatory agency. Port Louis handles 99% of all import-export traffic with cargo bound to or from Rodrigues or Agalega trans-shipped through Port Louis.¹⁰⁹

Port Louis - 20°08'47"S
57°29'54"E

Figure 8 shows the orientation of the port facilities at Port Louis, as of the 2017 publication of the port master plan,¹¹⁰ and Table 2 details the port's berths and facilities.¹¹¹

Port Mathurin, Rodrigues – 19°40'59.99"S
63°25'0.01"E

- Approach channel - 1,200 × 120 m (3,937 × 394 feet)
- Turning basin - 210 m (689 feet) diameter
- Quay wall - 175 m (574 feet), of which 130 m (427 feet) are of water depth to berth cargo vessels
- Port area - 2.5 hectares
- Yard - 175 terminal ground slots (maximum of three high stacking)
- Containers are handled by large forklift trucks, of 26- and 36-tons capacity, equipped with spreaders
- Passenger terminal - 1,000 m² (10,764 square



Figure 8: Port Louis Facilities Map

feet) for embarking/disembarking M/s Mauritius Trochetia passengers

- Granary shed - 875 m² (9,418 square feet) and 600 tons storage capacity

There is no harbor on Agalega. Ships anchor 500 m (1,640 feet) off the St. James Anchorage at La Fourche, at the northern end of North Island.¹¹² Barges move cargo and passengers from the anchored ships to the jetty. The concrete jetty does have one mobile crane to handle cargo.¹¹³ According to investigating journalists, Indian construction on Agalega appears to have built up the area of La Fourche village; the new construction includes two, more substantial jetties.¹¹⁴

Schools

The Ministry of Education, Tertiary Education, Science, and Technology (MoETEST) is responsible for the education sector. Mauritius'

Quay	Length (m / feet)	Dredged Depth (m / feet)	Type of Traffic
Port Louis' Terminal I – Old Port and Fishing Port			
A	210 / 689	12.2 / 40	Fuel and edible oils, general cargo, maize, molasses, soybean meal, wheat, passengers
D	170 / 558	12.2 / 40	Fuel and edible oils, general cargo, maize, molasses, soybean meal, wheat, passengers
E	135 / 443	9 / 30	General cargo, passengers
Trou Fanfaron I	160 / 525	5.5 / 18	Fish
Trou Fanfaron II	185 / 607	6 / 19.7	Fish
Froid de Mascareignes	310 / 1,017	4.6-8 / 15-26.2	Fish
Port Louis' Terminal II – Multi-Purpose			
1	123 / 404	13.5 / 44	Fuel oil, coal, fertilizers, mineral oil
2	180 / 590	12.5 / 41	Cement, coal, containers, general cargo
3	185 / 607	12.5 / 41	Cement, general cargo, containers
4	185 / 607	12.2 / 40	General cargo, containers, LPG, bitumen
Bulk Sugar Terminal	210 / 689	12.5 / 41	Bulk sugar, fuel oil
Cruise Jetty	124 / 407	12.5 / 41	Cruise and non-commercial vessels
Mauritius Freeport	118 / 387	7 / 23	Fish
Port Louis' Terminal III – Mauritius Container Terminal (MCT) at Mer Rouge			
MCT1	400 / 1,312	16.5 / 54	Containers
MCT2	400 / 1,312	16.5 / 54	Containers
Equipment at MCT: <ul style="list-style-type: none"> • 2 Super Post Panamax and 5 Post-Panamax Rail Mounted Gantry cranes • 14 Rubber-tired Gantries • Turning circle of 450 m (1,476 feet) diameter • Storage area of 21 hectares • 576 reefer points • Container Scanning Facility 			
Port Louis Oil Jetty Port Louis handles 1.5 million metric tons of petroleum products annually. MPA's Oil Jetty at Mer Rouge was commissioned in November 2008. It allows all Class A petroleum products to be handled at Mer Rouge; class B products may be discharged or loaded for bunkering purposes at the existing facilities in the inner harbor. The berthing facility at the oil jetty has been deepened to a depth alongside of 16 m (52.5 feet) to allow tankers with product parcels of 64,000 tons. Connecting pipelines run between the oil jetty and the storage tanks of all oil industry players. The oil jetty is also used to load out liquid petroleum gas (LPG) from the LPG storage farm at Port Louis (15,000 metric tons capacity) for distribution to other Indian Ocean islands and East Africa.			

Table 2: Details of Port Louis Terminals

education system consists of a 2+6+5+2 (years) system with pre-primary, primary, secondary, and tertiary levels. Pre-primary students are ages 3-5 years, but this level is not strictly compulsory. Primary (ages 5-11 years) and lower secondary (ages 12-16 years) are compulsory. Upper secondary (ages 17-18 years) and tertiary (18 years and older) are optional. All levels from primary through tertiary have been free of cost since 2019; most pre-primary schools are private, and there are many private tertiary and other training institutions. Students who do not wish to follow the academic stream can opt for technical and vocational education and training (TVET), which allows them to complete the compulsory phases of education while gaining job training.

The Mauritius Qualifications Authority regulates the TVET sector and develops and maintains the National Qualifications Framework.

As of 2021, there were nearly 800 pre-primary schools that served 23,600 children. The same year, there were 319 primary schools (302 on Mauritius and 17 on Rodrigues; 221 public and 98 private) with 84,129 pupils; gross enrollment at this level stood at 99.9%. Also in 2021, there were 178 secondary schools (170 on Mauritius and 8 on Rodrigues; 69 public and 109 private); gross enrollment at this level stood at 71.9%.¹¹⁵ Schools on Agalega are run by the OIDC; there are two pre-primary and two primary schools, one on each of North and South Islands. The Jacques Le Chartier secondary school on North

Island instructs students in the first three years of secondary school, after which Agalega students must go to the main island for secondary and tertiary education.¹¹⁶

There are nearly 50 institutions of higher (tertiary) education; main ones are the University of Mauritius; University of Technology, Mauritius; Mahatma Gandhi Institute; Open University of Mauritius; Université des Mascareignes; Rabindranath Tagore Institute; Mauritius Institute of Training and Development; and Mauritius Institute of Education. MoETEST also operates six technical institutions as well as the Polytechnics Mauritius Limited.¹¹⁷ In the 2022 census, 8.8% of residents reported holding a university degree or studying for one at the time of the census. The number of people in this group more than doubled over 2011 numbers, from 45,600 in 2011 to 106,300 in 2022. Between the two census exercises, the sex ratio of people holding a university degree or studying for one flipped from 138 males per 100 females in 2011 to 98 males per 100 females in 2022. For both sexes, the preferred course of study is Business, Administration, and Law; more than 37% of male university students are in this course of study, and more than 47% of female students are on this degree path.¹¹⁸

As a means to boost the resilience of the education sector to natural hazards, risk, and climate change-associated challenges, the country has begun to integrate disaster risk and climate change into the school curriculum. Topics on climate change have been incorporated into lessons for students in grades 4-6. The MoETEST has incorporated disaster risk topics in the Teacher Education Programme and in professional development seminars and workshops. Courses and degree programs on climate change and disaster management have been designed at the university level. Beyond educating students and teachers on the risks associated with natural hazards and climate change, schools are preparing plans to respond to disaster events. The School Emergency Response Plan identifies measures to be adopted to prevent an incident from escalating and establishes the

human and material resources required for a rapid and timely response. All schools are expected to develop their own tailored plans, and the National Disaster Risk Reduction and Management Centre (NDRRMC) and MoETEST have worked to familiarize heads of public and private primary schools. Schools that have developed a School Emergency Response Plan have also tested them in simulation exercises that familiarize students with actions to take in emergencies.¹¹⁹

Communications

Mobile telephone use far outstrips fixed telephone use. As of 2022, there were 263,100 fixed lines in the country (penetration rate 36 per 100 inhabitants), while mobile telephone subscriptions numbered 1,971,300 with a penetration rate of 152 lines per 100 people.¹²⁰ Liberalization of the telecommunications sector has seen new players join the industry and provide competitive connectivity rates.¹²¹ Mauritius Telecom, a state-run company, was a monopoly provider of telephone services until Emtel launched an analog mobile service in 1989. Mauritius Telecom was partly privatized in 2000, and the monopoly legally ended in 2002.¹²² There are two fixed line providers – Mauritius Telecom and MTNL – and three mobile service providers - Mauritius Telecom (as MyT), Emtel, and MTNL's Chili. All mobile providers deliver 4G service on the island of Mauritius. MyT and Emtel deliver 4G on Rodrigues,¹²³ and MyT provides 4G to both North and South Islands of Agalega.¹²⁴ MyT rolled out 5G service to Mauritius Island in 2021, and Emtel followed in 2023.¹²⁵ Undersea cables link the main island to Rodrigues. The country is also directly connected via undersea cables to India, Madagascar, Réunion (France), and South Africa; the country has landing points for the SAFE, MARS, IOX, METISS, and LION submarine cable systems that provide links to Asia, Africa, Southeast Asia, Reunion, and Madagascar.¹²⁶ Nearly 85% of mobile telephone handsets are Androids; just more than 15% are Apple devices.¹²⁷

Mauritius Telecom has completed the roll-out

of fiber-to-the-home to 100% of the main island to support broadband uptake.¹²⁸ As of 2024, 982,500 Mauritians (75% of the population) are internet users, and 820,900 are social media users.¹²⁹ The broadband penetration rate stood at 87 subscriptions per 100 people in 2022.¹³⁰ Industry reports found that in 2024, median down- and upload speeds for mobile broadband stood at 39.04 megabits per second (Mbps) and 13.62 Mbps, respectively. Median down- and upload speeds for fixed connections stood at 49.75 Mbps and 16.99 Mbps, respectively. More than 68% of Mauritian internet users browse via their mobile devices, and nearly 30% use a lap- or desktop. Facebook is the largest social network in the country with 83.5% of all Mauritian social media users. More than 64% of the adult population have used a digital payment service to purchase something.¹³¹

The constitution guarantees freedom of expression.¹³² Television and radio have long dominated the national information sphere; as late as 2019, 89% and 88% of Mauritians said they tuned in daily to news on radio and television, respectively. One-third said they read a daily newspaper. At least half say they get at least some news from on-line sources. The percentages of people relying on radio, TV, and print have been steadily decreasing, and internet use consumption has been steadily rising.¹³³ State-run Mauritius Broadcasting Corporation (MBC) dominates broadcast and operates the only television stations, but there are several private radio stations. Print is dominated by three media conglomerates – Le Défi Media Group, Le Mauricien Ltd., and La Sentinelle Ltd.¹³⁴ Media analyses generally find a bifurcated media sector with government-owned and -linked outlets, especially the MBC channels, that vocally support government policy alongside a pro-opposition sector that is also vocally anti-government policy.¹³⁵ The media regulatory agency is within the executive branch and lacks independence. Under 2018 revisions to the Information and Communication Technologies Act, journalists can face prison sentences for content that causes “inconvenience, distress, or

anxiety.”¹³⁶ Outer islands rely heavily on digital media via mobile telephones. On the smaller islands, there are three Community Centres, one on each of Agalega’s North and South Islands and one on St. Brandon; they are equipped with parabolic antennae, which enable reception of MBC’s TV1, TV2, and TV3, as well as radio programs.¹³⁷

Postal services in the country are provided by Mauritius Post Ltd. There are 114 post offices on Mauritius, five on Rodrigues, and one in Agalega.¹³⁸ In addition to letter and parcel delivery, Mauritius Post provides money transfer, courier services, banking, and handling of utility bills. Major international courier businesses serve Mauritius; they include FedEx, DHL, UPS, and others.

Utilities

The Ministry of Energy and Public Utilities oversees policies and strategies for energy, water, and wastewater. It oversees three parastatals directly involved in utilities delivery to customers – the Central Electricity Board (CEB), the Central Water Authority (CWA), and the Wastewater Management Authority (WMA) – as well as the Mauritius Renewable Energy Agency (MARENA), which promotes renewable energy projects. The Ministry is responsible for regulation of the electricity sector through its subsidiary, the Utility Regulatory Authority.¹³⁹

As of 2022, Statistics Mauritius reported that total primary energy use stood at nearly 1.5 million tons of oil equivalent, an increase of 8.6% year-on-year. Imported petroleum products account for more than 65% of energy with coal making up nearly one-quarter, and remaining demand met by sugarcane bagasse, hydropower, wind, solar, and wood.¹⁴⁰

Ninety-nine percent of households on Mauritius island are connected to the electric grid.¹⁴¹ The CEB reported that, in 2022, total electricity generation topped 3,100 gigawatt-hours (GWh), only 20% of which was generated by renewable resources. Of generated power, the CEB was responsible for 53%, which Independent Power Producers (IPP) generated

trial alternatives. In 2018, Rodrigues pioneered a solar desalination plant, which now produces 80,000 liters (21,000 gallons) of fresh drinking water every day, enough for approximately 5% of the island's inhabitants. Over the longer-term, solar-powered desalination is considered a means to build resilience to climate change as the island experiences ever more frequent drought and more intense cyclones, which threaten the electric grid to which the conventional desalination plants are connected.¹⁵⁸

An estimated 99.8% of the entire national population is covered by sanitation facilities, either through on-site disposal (i.e., septic tank, absorption pit, cesspit, or leach field) or through the piped sewerage network. Only 27% of the population was connected to the piped network as of 2020, and these customers were all on Mauritius island. The government plans to extend piped sewerage to 50% of the population by 2030.¹⁶⁰ WMA is responsible for collection and treatment of domestic, commercial, and industrial wastewater by ensuring the provision of appropriate water pollution standards,

Health

healthcare systems.¹⁶² In 2020, the country spent an estimated Rupees (Rs) 25,999 (US\$560) per capita on health care, and this spending represents 6.7% of GDP.¹⁶³ The country's system comprises public and private sectors. Mauritius has a universal, free, public system financed by taxpayers and meeting around 73% of the population's healthcare needs through the Beveridge system,¹⁶⁴ under which the government raises revenue through various means, including taxes, to fund the provision of social services, among them healthcare. The remaining 27% of healthcare needs are provided through the private sector on a fee basis. Patients who use public sector providers can also use private sector services, and vice versa. The private sector faces challenges, including inadequate interagency cooperation and expensive services. However, the launch of the Health Sector Strategic Plan (HSSP) 2020-2024 brings opportunities for the private sector to engage and collaborate with the government, as it outlines the roadmap to tackle health-related challenges of the population.¹⁶⁵

The Ministry of Health and Wellness (MOHW) has integrated Universal Health Coverage (UHC) into its health plan and is making significant progress in providing free, public sector health services to the entire population.¹⁶⁶ The MOHW comprises ten departments, including the HIV/AIDS and

Harm Reduction Unit; Hospital Services; Office Accommodation Unit; Planning, Finance and International Cooperation Unit; Primary Health Care Unit; Procurement and Supply Unit; Project Implementation Unit; Training and Research Unit; Public Health Unit; and Non-communicable Diseases (NCD), Health Promotion and Research Unit.¹⁶⁷ As of May 2022, approximately 12,800 staff members worked at the MOHW, 309 staff members at the Trust Fund for Specialised Medical Care, and 27 staff members at the Mauritius Institute of Health (MIH).¹⁶⁸

The public health system is structured into three levels: central, regional, and district. At the central level, the MOHW and autonomous institutions are responsible for policy formulation, resource mobilization, capacity building, and monitoring and evaluation. At the regional level, regional health directors oversee hospitals and public health care facilities and implement national policies. Finally, at the district level, the local government is responsible for ensuring food safety and environmental hygiene and sanitation. Figure 11 depicts the country's public health system.¹⁶⁹

The public health infrastructure comprises 128 community health centers, 22 area health centers, six medicine centers, two community hospitals, two district hospitals, five regional hospitals, and six specialized hospitals.^{170, 171} All regional, district, and specialized hospitals have an outpatient department. The five regional hospitals are Region 1—Dr. Abdool Gaffoor Jeetoo Hospital; Region 2—Sir Seewoosagur Ramgoolam National Hospital; Region 3—Dr. Bruno Cheong Hospital; Region 4—Jawaharlal Nehru Hospital; and Region 5—Victoria Hospital.¹⁷² As of late 2021, the

total number of beds available in these facilities was 3,803. In 2016, the private sector comprised 18 hospitals, 30 private medical laboratories, three imaging and diagnostic centers, and around 342 pharmaceutical retail outlets.¹⁷³

Health Strategies

Over the last five decades, Mauritians' life expectancy has improved from 63.96 years in 1974 to 75.66 years in 2024¹⁷⁴ due, among other things, to the provision of free and comprehensive healthcare services that cover from primary care to hospital care and include specialized and rehabilitative care services.¹⁷⁵ Despite health achievements, remaining challenges include the growing burden of NCDs, health needs of the ageing population, the growth of personalized medicine, and the rising expectation of patient-centered and improved quality of health care.

To strengthen the country's health sector, MOHW, the World Health Organization (WHO), and other stakeholders collaborated to create the HSSP (2020-2024).¹⁷⁶ The HSSP aims to provide a clear roadmap for health development and to outline specific actions to address health challenges of citizens from the islands of Mauritius, Rodrigues, and Agalega. The MOHW is responsible for leading the implementation of the HSSP through a coordinated mechanism under the Ministerial Committee, chaired by the Minister of Health and Wellness.¹⁷⁷ The

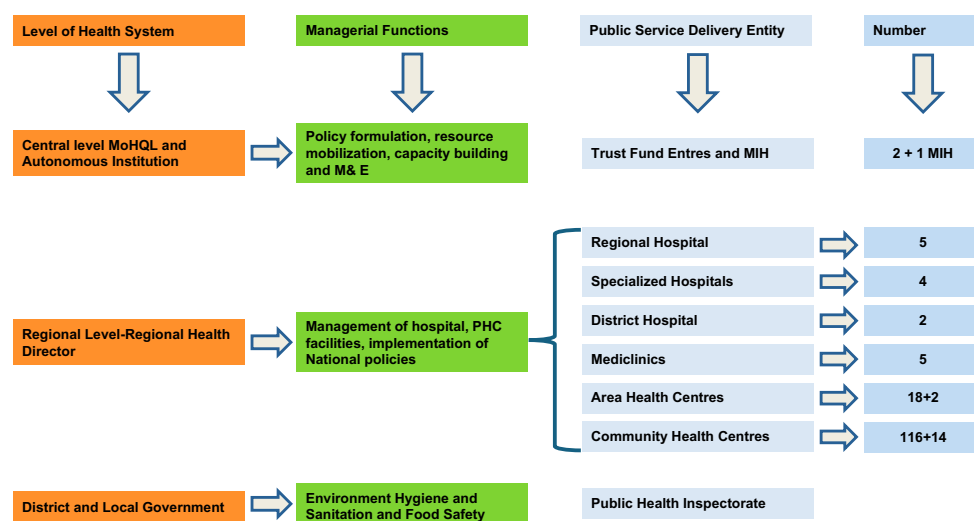


Figure 11: Organization of Mauritius Public Health System

Ministerial Committee oversees progress on implementation of the Plan. The HSSP includes 26 strategic goals, of which, the below goals are relevant to disaster risk reduction (DRR) and climate change:

- **Strategic Goal 8:** Sustain strong surveillance and response for emerging and re-emerging vector-borne and communicable diseases, including 2019's novel coronavirus disease, and eliminate Hepatitis C
- **Strategic Goal 16:** Improve health security through a sustainable, effective, and efficient national surveillance, response, and recovery system
- **Strategic Goal 22:** Safeguard health security through the promotion of food safety¹⁷⁸

Additionally, the HSSP integrates Mauritius' Vision 2030, which has five pillars that outline the country's long-term development priorities with the aim of accelerating sustainable economic diversification and supporting human development to achieve inclusive economic growth, and it recognizes the health sector as a key enabler in achieving the country's goal of attaining a high-income status.¹⁷⁹

The WHO is committed to improving Mauritius' health sector through the Country Cooperation Strategy (CCS) (2023-2026) to achieve the country's Vision 2030, Sustainable Development Goal (SDG) 3, and UHC.¹⁸⁰ The CCS's four strategic priorities to help Mauritius attain health and well-being across citizens' life spans are building resilient health systems to advance UHC; strengthening emergency preparedness and response; promoting health and healthy environments for all Mauritians through multisectoral engagement; and supporting use of data and innovation for integrated, people-centered care.¹⁸¹

Climate change adaptation and mitigation efforts are top priorities of the government as established through legislation such as the Government's Programme 2015-2019, the National Disaster Risk Reduction and Management Act (2016), and the National Climate Change Adaptation Policy Framework (2019).¹⁸² In 2017, WHO launched the Special

Initiative on Climate Change and Health in SIDS in collaboration with the UN Framework Convention on Climate Change (UNFCCC) and the Fijian Presidency of the Conference of the Parties to UNFCCC (COP) 23.¹⁸³ The global action plan developed by WHO outlines four pillars of action: empowerment of health leaders to engage nationally and internationally; evidence to build the investment case; implementation to strengthen climate resilience; and resources to facilitate access to climate finance.¹⁸⁴ Through this initiative, WHO aims to provide political, technical, and financial support to national health authorities in SIDS with a vision that, by 2030, all health systems in SIDS will be resilient to climate variability and climate change.¹⁸⁵

Despite contributing very little to greenhouse gas (GHG) emissions, SIDS are burdened by the impact of climate change in addition to climate-sensitive health risks - e.g., heat stress, vector-borne diseases, NCDs, and food insecurity. SIDS face acute and long-term risks that encompass but are not limited to floods, cyclones, droughts, increased average temperatures, and rising sea levels. In 2018, the Ministers of Health of Indian Ocean SIDS gathered in Mauritius to develop a regional SIDS action plan outlining the implementation of the SIDS initiative locally and to identify regional indicators to measure progress. The 2021 WHO UNFCCC Health and Climate Change Country Profile for Mauritius summarizes available evidence on climate hazards, health vulnerabilities, health impacts, and progress to date in the health sector's efforts to realize a climate-resilient health system. Four key recommendations outlined in the country profile are:

- Develop and implement a climate change and health strategic action plan for Mauritius
- Conduct a health vulnerability, impacts, and adaptation assessment
- Address barriers to accessing international climate change finance to support health adaptation
- Build climate-resilient and environmentally sustainable health care facilities¹⁸⁶

Additionally, the findings based on the 2018 WHO Climate and Health Country Survey for Mauritius were:

- The country does not possess a comprehensive national strategy or plan for addressing health and climate change issues.
- The country does not possess a national assessment of health vulnerability and impacts of climate change to inform policy.
- Agreements are in place in relation to health and climate change policy among MOHW, social services, and agencies in the water, sanitation, and wastewater management sectors.
- A monitoring system is in place to include meteorological information, and it may trigger early warning actions for vector-, food-, water-, and air-borne and respiratory diseases. The monitoring system is not yet monitoring thermal stress, nutrition, injuries, or mental health and well-being.
- An early warning system and health sector response plan to include meteorological information is in place to respond to storms and flooding.¹⁸⁷

Communicable Diseases

Mauritius is experiencing a significant demographic shift, where people live longer, have fewer children, and suffer fewer deadly communicable diseases even as they experience a broader variety of non-communicable conditions. The country has scored notable successes in controlling and monitoring communicable diseases and maternal and child health issues. For instance, Mauritius was able to achieve its first malaria elimination in 1973, and, after a reemergence of the parasite, it achieved a second elimination in 1998.¹⁸⁸ In 2019, there was a measles outbreak. As of 2021, only 77% of children had received the first dose of the measles vaccine, and 929 children had not received any doses.¹⁸⁹ The gap in vaccine uptake among children highlights the need for the country to strengthen its childhood immunization campaign. Additionally, HIV/AIDS prevalence remains high among key populations.¹⁹⁰ In 2021, Mauritius had a low

tuberculosis (TB) burden with an estimated incidence rate of 12 cases per 100,000 people.¹⁹¹ The TB mortality rate was 1.1 cases per 100,000 people, and about 3,088 individuals received antiretroviral treatment in 2020.¹⁹² Since 2015, estimates of mortality rates for TB co-infections with HIV have steadily risen. Consequently, the country is a long way from achieving the 95-95-95 goals for HIV and has only reached 56-47-69%.¹⁹³ The scale represents the percentages of people living with HIV who know their status, people living with HIV who know their status and are on treatment, and people living with HIV and on treatment and who are virally suppressed, respectively.¹⁹⁴

Mauritius is burdened by the following communicable diseases:

Coronavirus Disease 2019 (COVID-19)

During the COVID-19 pandemic, the government shifted priority away from the economy and to the health and well-being of its citizens. The country's first three cases of COVID-19 were reported on 18 March 2020.¹⁹⁵ From detection of the initial COVID-19 cases, the national response kicked off with the establishment of a High-Level Committee chaired by the Prime Minister.¹⁹⁶ The government-led response implemented several prevention and control measures such as closing borders and imposing a curfew and complete lockdown. Additionally, efforts were made to strengthen the existing health system, including a hotline telephone for public queries, implementing a home visit team for consultations and essential treatments, and launching a mobile application called BeSafeMoris to include real-time information on health and safety measures.¹⁹⁷ As a result of these measures, the country improved from a status of clustered local transmission to zero local transmission in a matter of weeks. As of 11 April 2024, the total number of confirmed cases of COVID-19 in the country stood at 43,025, with 1,051 deaths.¹⁹⁸ Mauritius has reported no daily new cases since 27 October 2023, when it reported 31 new cases.¹⁹⁹

Neglected Tropical Diseases (NTD)

In 2004, Mauritius was officially declared free of dracunculiasis disease (Guinea Worm disease). The country is still unaffected by any NTDs that can be prevented through chemotherapy.²⁰⁰ Among NTDs, dengue and leprosy are challenges for Mauritius.

Dengue

Dengue cases increased significantly in 2023, following a slight decline during the previous three years.²⁰¹ Between 11 December 2023 and 19 March 2024, health authorities recorded 3,311 cases on Mauritius, and Rodrigues detected 1,363 cases during the same period.²⁰² As of 19 March 2024, there were 276 active cases in Mauritius and 156 cases in Rodrigues, with four deaths having been attributed to dengue during the outbreak.²⁰³ An exceptionally wet summer was considered an enabling environmental factor conducive to the spread of the disease. The WHO, as an active member of the inter-ministerial committee on dengue, has worked with high-level authorities to mobilize resources, activities, and services to implement effective vector control.²⁰⁴ To implement vector control on the ground, WHO mobilized experts on malaria and vector-borne disease control, entomologists, epidemiologists, and a risk communication specialist. Additionally, the WHO Mauritius Country Office utilized the WHO's Contingency Fund for Emergencies to respond to dengue cases by providing approximately 12,000 insect repellent sprays, 3,000 insecticide-treated mosquito nets, 1,000 liters of K-Othrine, 25,000 rapid diagnostic tests, and 5,000 respiratory masks for field workers.²⁰⁵

Non-Communicable Diseases

Mauritius is burdened by NCDs such as cardiovascular diseases, chronic respiratory diseases, cancers, and diabetes. NCDs and injuries account for 84% and 7% of the total disease burden, respectively.²⁰⁶ In 2019, the three leading causes of death were diabetes, ischemic heart disease, and chronic kidney disease. These causes are closely associated with metabolic

risk measures such as high fasting plasma glucose, body-mass index, and blood pressure. Figure 12 shows the top 10 causes of mortality and disability, as well as the risk factors that contribute to death and disability.²⁰⁷

A national policy and plan to address NCDs has not been implemented at the national level, but efforts are being made to implement many NCD-related policies.²⁰⁸ In 2021, Mauritius conducted its seventh NCD Survey with the aim of defining the appropriate intervention strategies to reduce NCDs and risk factors.²⁰⁹ The NCD Survey consisted of 3,622 study participants between the ages of 20 and 74 years and sought to determine the prevalence and trends of diabetes, hypertension, excessive weight, obesity, high cholesterol, smoking, asthma, and alcohol consumption.²¹⁰ Based on the findings of the NCD Survey, the Minister of Health, Dr. Kailesh Kumar Singh Jagutpal, encouraged a whole-of-government approach to interpret and implement necessary preventive measures.²¹¹

Training for Health Professionals

The health workforce in Mauritius needs training and capacity to develop climate-resilient health systems and understand the climate risks confronted by individuals, communities, and health care facilities. Climate-resilient training and capacity-building is essential to protecting and promoting health in the country. It is worth noting that healthcare facilities in SIDS are often situated in low-lying areas, which makes them particularly vulnerable to flooding and storm surges.²¹² Extreme weather events usually increase the demand for emergency health services, but they can also damage the infrastructure of healthcare facilities and disrupt service provision by cutting of electric power or even keeping medical staff from reaching work. Increased incidence of climate-sensitive diseases will require greater capacity from already overburdened health services. Furthermore, current human resource requirements need to be revised to respond to climate-related events, and a national curriculum needs to be developed to

	Top 10 causes of mortality (2019)	Top 10 causes of disability (2019)	Top 10 risk factors driving death and disability
1.	Diabetes	Diabetes	High fasting plasma glucose
2.	Ischemic heart disease	Chronic kidney disease	High body mass index
3.	Chronic kidney disease	Ischemic heart disease	High blood pressure
4.	Stroke	Stroke	Dietary risk
5.	Hypertensive heart disease	Low back pain	Kidney dysfunction
6.	Alzheimer's disease	Neonatal disorders	Tobacco
7.	Chronic obstructive pulmonary disease	Road injuries	High Low-density Lipoproteins
8.	Lower respiratory tract infection	Depressive disorders	Air pollution
9.	Cirrhosis	Headache disorders	Alcohol use
10.	Colorectal cancer	Age related hearing loss	Malnutrition

Figure 12: Top 10 Causes and Risk Factors of Morbidity and Disability, Mauritius (2019)

train health professionals on the health impacts of climate change.

Local and overseas training is offered through the MOHW's Training, Research and Capacity Building Unit (TRCBU). The TRCBU also offers elective medical placement, clinical nursing placement, and placement in other health-related departments under the Health Professionals Training Framework.²¹³ Additionally, the MIH is the training arm of MOHW and serves as a regional training center that provides continuing education to local health staff.²¹⁴ MIH has trained over 837 health professionals in community health care, nephrology, physiotherapy assisting, catering management, and continuing professional development for doctors and dental surgeons, among others.²¹⁵ The Central School of Nursing provides programs such as First Aid Course, Diploma in Nursing, Certificate in Post Basic Community Health Nursing, and Certificate in Clinical Nursing Management and Ward Administration. Polytechnics Mauritius Ltd provides programs to acquire a Diploma in Midwifery and Obstetrical Nursing for acting midwives, principal midwives, senior midwives, and midwives. It is noteworthy that the MOHW

is in the process of providing training under a framework agreement on collaboration with the University of Mauritius, the University of Bordeaux, Centre Hospitalier Universitaire de Bordeaux, and the French Embassy to provide postgraduate courses to doctors; the courses focus on topics such as biomedical sciences, medical imaging technology, HIV/AIDS care, and family medicine, among others.²¹⁶ In 2011, the Indian Ocean Field Epidemiology Training Program (FETP) was established. It is hosted by the Indian Ocean Commission (IOC) and offers field epidemiology training to professionals from Comoros, Madagascar, Mauritius, and Seychelles.²¹⁷ The FETP focuses on areas of infectious diseases, NTDs, foodborne diseases, zoonotic diseases, disease surveillance, disease and emergency response, research and evaluation, and veterinary medicine. The Indian Ocean FETP is a two-year program based on IOC's SEGA One Health Network and consists of five workshops and mentored fieldwork.²¹⁸ The FETP aims to create a regional task force of field epidemiologists and supervisors to enhance regional health security.

DISASTER MANAGEMENT AND CLIMATE CHANGE AGENCIES AND ACTIONS

In partnership with various local, regional, and international organizations, the national and local governments of Mauritius lead and participate in efforts to reduce disaster risk, respond to emergencies, recover from disasters, and build resilience to hazards, especially those influenced by climate change.

Government

The national focal point for planning and coordinating disaster management activities in Mauritius is the National Disaster Risk Reduction and Management Centre (NDRRMC).

Disaster response activities are the purview of agencies activated during disaster events, particularly the National Crisis Committee, National Emergency Operations Command, and applicable Local Emergency Operations Commands. Several key agencies addressing climate change policy and action were created by the Climate Change Act of 2020; they include the Department of Climate Change (falling under the Ministry of Environment, Solid Waste Management and Climate Change), Inter-Ministerial Council on Climate Change, and Climate Change Committee. Figure 13 shows the disaster risk reduction and management (DRRM) architecture for Mauritius.²¹⁹

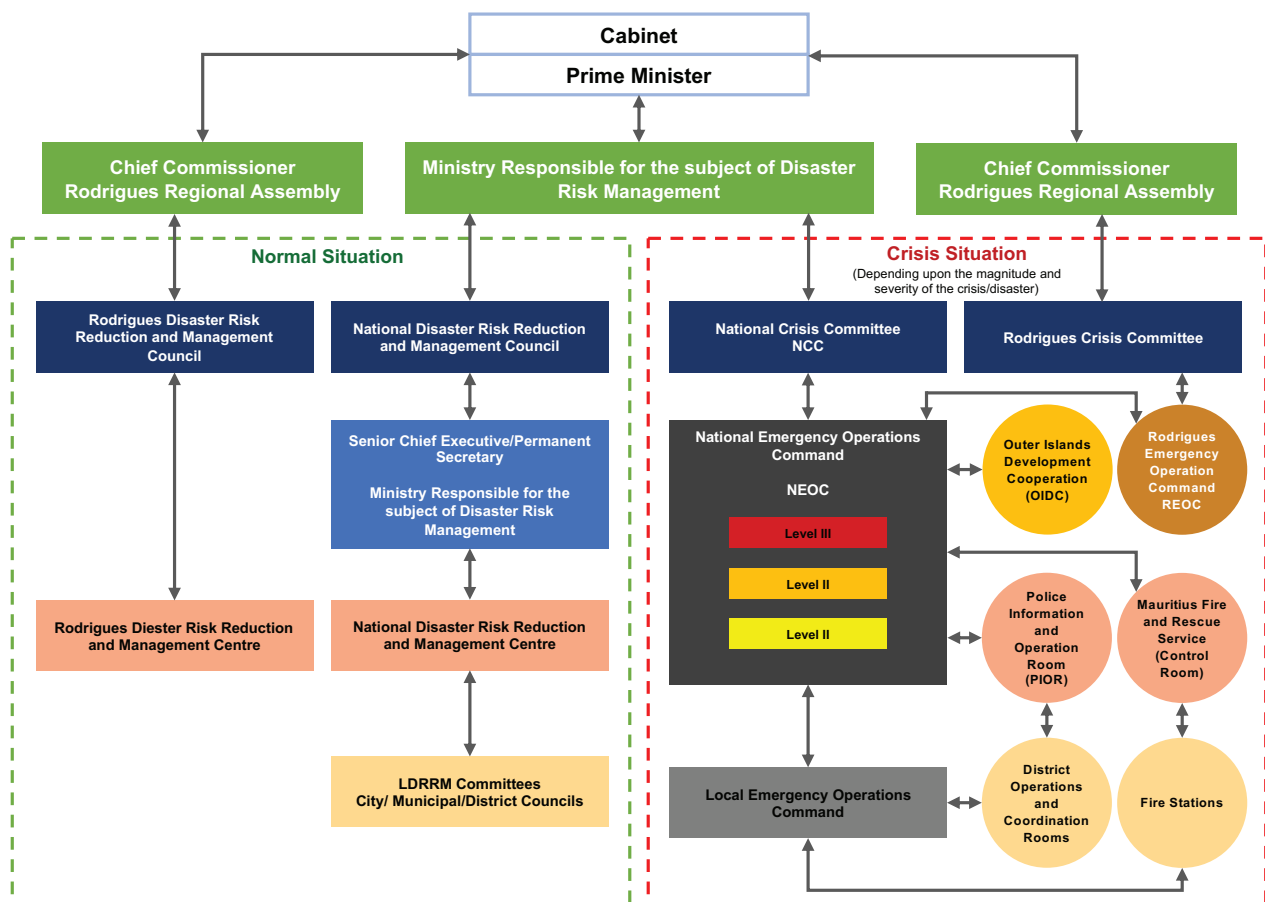


Figure 13: Disaster Risk Reduction and Management Structure

The Ministry of Local Government and Disaster Risk Management has oversight over the NDRRMC, Mauritius Fire and Rescue Service, the Mauritius Meteorological Services, and the Local Authorities, which comprise one Municipal City Council, four Municipal Councils, seven District Councils, and 130 Village Councils. The Ministry is responsible for the formulation of policies, strategies, and the legal framework to ensure that entities under it operate smoothly in contributing toward national objectives.²²⁰

The National Disaster Risk Reduction and Management Centre (NDRRMC), under the Ministry of Local Government and Disaster Risk Management, is the primary coordinating agency for national disaster management activities in Mauritius. It acts as Mauritius' focal institution for planning, organizing, coordinating, and monitoring DRRM activities. The NDRRMC was established in October 2013 by Cabinet decision and is overseen by the National Disaster Risk Reduction and Management Council.

National Disaster Risk Reduction and Management Centre

6th Floor, Citadelle Mall
 Corner Louis Pasteur and Sir Virgil Naz Streets
 Port Louis, Mauritius
 Tel: +230 207 3900
 Fax: +230 207 3927
 Facebook: nationaldisastermauritius

The NDRRMC collaborates with relevant stakeholders so that sustainable development policies and plans integrate disaster risk reduction (DRR), which may include various elements such as land use planning, natural resource management, social planning, building codes, and economic and sectoral policies. It supports stakeholders in developing DRRM education, training, and research programs with the goal of creating a culture of resilience. NDRRMC objectives and activities include:

- Coordinating implementation of national DRRM policies
- Developing and coordinating implementation

of the National DRRM Strategic Framework and Plans

- Promoting a culture of safety and resilience at all levels through the use of knowledge, innovation, and education
- Coordinating implementation of the obligations of the Republic of Mauritius under disaster management treaties to which the state is a party, through its disaster risk management policies, frameworks, plans, programs, and projects
- Reviewing or amending the National Disaster Scheme, as required
- Providing a timely response to emergency situations through the activation of the National Emergency Operations Command for monitoring and coordination of First Responders' ground operations
- Empowering vulnerable communities to be ready for disasters through the Community Disaster Response Programme, through which participants are introduced to basic rescue techniques
- Assisting Local Authorities in the preparation of contingency plans for vulnerable areas
- Sensitizing people in vulnerable areas on DRR through training programs, lectures, and workshops
- Providing information on DRR through the Documentation Cell, which is open to the public during office hours²²¹

Figure 14 shows the NDRRMC's structure.²²²

The National Disaster Risk Reduction and Management Council is chaired by the Minister responsible for disaster management and reports to the Prime Minister.²²³ Per the 2016 National DRRM Act, the Council comprises the Secretary to the Cabinet and Head of the Civil Service, the Commissioner of Police, the Chief Fire Officer of the Mauritius Fire and Rescue Service, the Director of the Mauritius Meteorological Services, the Port Master of the Mauritius Ports Authority, a representative of Business Mauritius, the Mauritius Red Cross Society, and the Mauritius Council of Social Service, as well as a representative from the ministries responsible

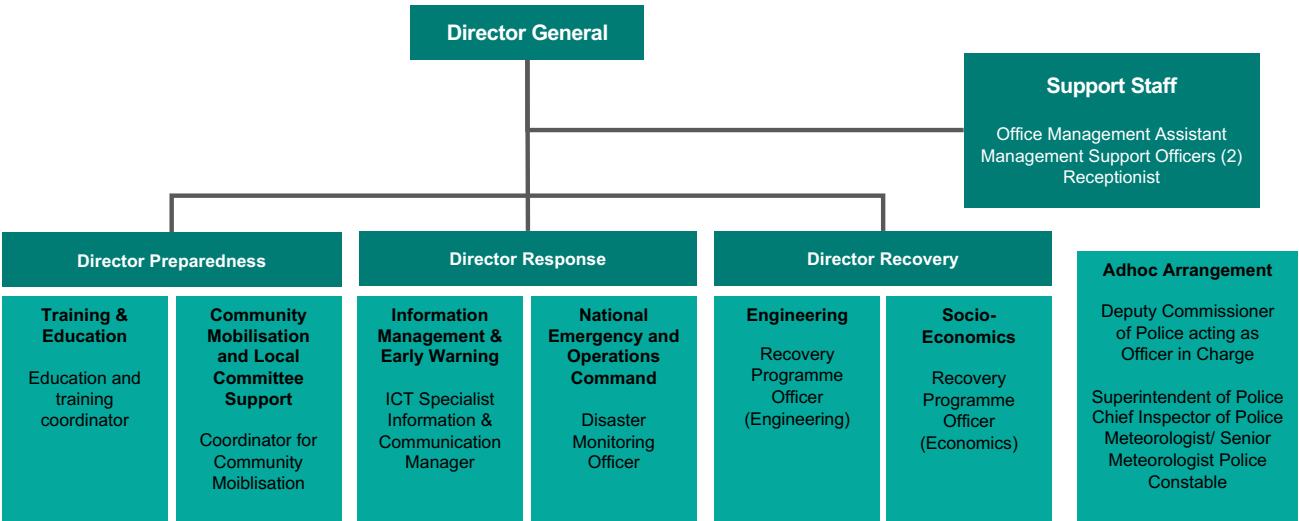


Figure 14: Structure of the National Disaster Risk Reduction and Management Centre

for agriculture, civil service, education, external affairs, external communications, finance, fisheries, gender equality, health, home affairs, housing and lands, local government, oceanography, public infrastructure, public utilities, social security, and tourism. The functions of the Council include:

- Formulating the National DRRM Policy
- Overseeing the implementation of the National DRRM Strategic Framework and National Plan
- Ensuring that ministries, departments, and local authorities have adequate human resources, tools, materials, and other resources for the effective implementation of DRRM activities at all levels
- Overseeing the implementation of post-disaster recovery and reconstruction activities
- Examining post-disaster review reports produced by the NDRRMC and recommending any remedial measures to be taken
- Ensuring that DRR becomes an integral objective of environment-related policies and plans, land use planning, natural resource management, educational plans, social development plans, economic policies, sectoral policies, and infrastructure through enforcement of building codes²²⁴

The management of active disasters or other

crises operates on a three-tier system:

1. **National Crisis Committee** at the Ministerial level
2. **National Emergency Operations Command** at the national level
3. **Local Emergency Operations Command** at municipal or district council levels²²⁵

National Crisis Committee (NCC) — In crisis situations, the NCC convenes and is chaired by the Minister of Local Government and Disaster Risk Management. When convened, the NCC has all the functions and powers of the National DRRM Council and may take timely, decisive actions through the National Emergency Operations Command to prevent loss of life.²²⁶

The NCC is comprised of:

- Minister of Local Government and Disaster Risk Management (Chairperson)
- Secretary to Cabinet and Head of the Civil Service
- Secretary for Home Affairs
- Supervising Officer of the Ministry of Local Government and Disaster Risk Management
- Commissioner of Police
- Director-General of the NDRRMC
- Chief Fire Officer of the Mauritius Fire and Rescue Service
- Director of the Mauritius Meteorological Services
- Director of Service d'Aide Médicale Urgente (Ambulance/Emergency Medical Service)

- Other persons, as determined by the Chairperson

NCC functions and powers include taking decisive and timely action through the National Emergency Operations Command to:

- Ensure that general preparedness plans are activated at all levels
- Safeguard the lives of persons in danger, including evacuation of persons at risk
- Supervise the organization of disaster response operations
- Provide relief assistance
- Take appropriate measures during the initial recovery phase

The NCC, after consultation with the Prime Minister, may also issue orders that include:

- Directing any person to remain indoors as long as it is unsafe to venture outside
- Directing any person to evacuate their premises or any public place
- Directing any person in a particular area to be evacuated within a specified time
- Directing any person not to carry out any outdoor activity
- Declaring a localized area a disaster or potential disaster area, ordering evacuation, and restricting access²²⁷

National Emergency Operations Command (NEOC) — The NEOC, established within the NDRRMC, is activated to coordinate and monitor all response and recovery activities whenever a disaster or other major crisis becomes imminent. It reports to the NCC. The NEOC follows Incident Command System (ICS) management principles.²²⁸ It makes use of the Mauritius Police Force's well-established command, control, coordination, and communication system to avoid unnecessary duplication.²²⁹ There are three NEOC activation levels that reflect the present or potential magnitude and severity of the disaster or crisis:

- Level I: The situation is monitored by NDRRMC staff
- Level II: Monitoring by NDRRMC staff is

assisted by representatives from the main First Responders, including police, fire, and other responders depending upon the situation

- Level III: Full-scale activation with all designated NEOC members²³⁰

The NEOC is headed by the Commissioner of Police and is multi-agency, including representatives from government ministries, emergency services, the public sector, private sector, and NGOs. Designated NEOC members include: Police; Mauritius Meteorological Services; Mauritius Fire and Rescue Service; MOHW; Ministry of Social Integration, Social Security, and National Solidarity; MoETEST; Ministry of Local Government and Disaster Risk Management; Tourism Authority; Ministry of Environment, Solid Waste Management and Climate Change; Government Information Service; Ministry of Housing and Land Use Planning; Ministry of Finance, Economic Planning and Development; Water Resources Unit; Ministry of Gender Equality and Family Welfare; Ministry of Blue Economy, Marine Resources, Fisheries, and Shipping; Central Electricity Board; Central Water Authority; Mauritius Broadcasting Corporation; and Mauritius Red Cross Society.²³¹

NEOC powers and functions allow it to:

- Cause to be closed or diverted any public road, which represents a potential risk to road users
- Cause the evacuation, either voluntarily or by using such force as may be necessary, of persons who are at risk
- Cause public facilities such as emergency shelters, educational institutions, stadiums, gymnasiums, parking spaces, or any other public place to be used for the purpose of sheltering displaced persons or storage of emergency supplies
- Direct the closure of any underground facilities, subways, underpasses, or such other places or facilities as may be necessary
- Cause to be deployed such resources that may be required in the circumstances²³²

Local Emergency Operations Command (LEOC) — LEOCs are activated at the local level and managed by staff of the Municipal or District Councils. LEOCs are headed by mayors or presidents of local authorities. LEOCs report to the NEOC and likewise include multi-agency stakeholders.

Local Disaster Risk Reduction and Management Committee (LDRRMC) — LDRRMCs exist at the level of districts, cities, and municipalities. LDRRMCs operate under the supervision of the NDRRMC and follow the guidance of the National DRRM Council. Local Disaster Management Coordinators are appointed, work directly with the NDRRMC, and facilitate DRRM activities undertaken by the LDRRMCs.²³³ LDRRMCs are at the forefront of risk reduction and management and directly engage in efforts with at-risk populations through planning, drills, and other activities.

DRRM Structures in the Outer Islands

RODRIGUES ISLAND — The Rodrigues Disaster Risk Reduction and Management Council (RDRRM Council) performs for Rodrigues the same functions as the National DRRM Council performs on the main island. The RDRRM Council reports to the Chief Commissioner of the Rodrigues Regional Assembly, who reports to the Prime Minister. The RDRRM Council has oversight over the **Rodrigues Disaster Risk Reduction and Management Centre (RDRRMC)**, which supports the RDRRM Council. The RDRRMC is responsible for planning, coordinating, and monitoring DRRM activities on Rodrigues. The RDRRM Council is comprised of:

- Chief Commissioner (Chairperson)
- Deputy Chief Commissioner (Vice-Chairperson)
- Every Commissioner who is assigned responsibility for a Department of the Rodrigues Regional Assembly
- Island Chief Executive
- Departmental Head of every Commission
- Divisional Commander

- Director, Health Services, Rodrigues
- Officer in Charge, Meteorological Services, Rodrigues
- Officer in Charge, Fire Services, Rodrigues
- Officer in Charge, Water Unit, Rodrigues
- Manager, Central Electricity Board, Rodrigues
- Chairperson, Rodrigues Council for Social Services
- Representative from the private sector
- Representative of the Mauritius Red Cross Society

The RDRRM Council's functions and powers include:

- Liaise and coordinate with the National Council in DRRM activities;
- Formulate policies on DRRM;
- Oversee the implementation of the Rodrigues DRRM Strategic Framework and Rodrigues DRRM Plan;
- Ensure that Commissions and departments have adequate human resources, tools, materials, and other resources for the effective implementation of DRRM activities at all levels;
- Oversee the implementation of post-disaster recovery and reconstruction activities;
- Examine post-disaster review reports carried out by the RDRRMC and recommend on remedial measures to be taken, if any; and
- Ensure that DRR becomes an integral objective of environment-related policies and plans, land use planning, natural resource management, educational plans, social development plans, economic policies, sectoral policies, and infrastructure through enforcement of building codes.

The **Rodrigues Crisis Committee (RCC)** oversees the work of the **Rodrigues Emergency Operations Command (REOC)**. For crises affecting Rodrigues, the NEOC works directly with the REOC. The same sequence of monitoring and activation used for the NEOC exists for the REOC. The REOC is supported by elements of the Police Force and Fire and Rescue

Service based on Rodrigues.²³⁴

AGALEGA AND CARGADOS CARAJOS SHOALS (ST. BRANDON) — For crises affecting Agalega and Cargados Carajos Shoals (St. Brandon), the NEOC works directly with the OI DC. The OI DC/Resident Manager, after consultation with the NDRMMC, leads all disaster response operations.²³⁵ **Disaster Management Coordinators** responsible for Agalega and Cargados Carajos Shoals (St. Brandon) report to the OI DC General Manager.

On Agalega, early warnings issued by the Mauritius Meteorological Services are relayed to both the OI DC Head Office on Mauritius island and the OI DC Resident Manager on Agalega. The LDRRMC in Agalega is chaired by the Resident Manager and is also comprised of the Officer In Charge of the Meteorological Station, representatives of the Police, National Coast Guard, and Special Mobile Force, staff of other departments, and local community leaders.²³⁶

Other DRRM Agencies

Mauritius Fire and Rescue Service (MFRS) is an all-hazards department that responds to all types of incidents, including fire, road traffic collisions, hazardous materials response, technical rescues, flood, special assistance, and others. The MFRS aims to minimize loss of life and property and environmental damage through enforcement of fire legislation, education, and rescue services. The MFRS conducts fire code enforcement inspections and promotes emergency preparedness, fire prevention, and fire safety education. The MFRS is comprised of more than 1,100 officers in the firefighter cadre, and it operates 10 fire stations on Mauritius and a fire post on Agalega.²³⁷

Mauritius Fire and Rescue Service, Head Office

Atalian Tower, 57 Labourdonnais Street, Port Louis, Mauritius

Tel: +230 212 0214/15

Fax: +230 208 3875

E-mail: mfrs_headoffice@govmu.org

The Geotechnical Unit of the Civil Engineering Section of the Ministry of National Infrastructure and Community Development is responsible for risk assessment of landslide-prone areas. Among the Unit's activities, it prepares and upgrades the Landslide Hazard Map for the island of Mauritius; provides advice on subsurface issues, including landslides; monitors existing landslide areas as required; contributes to the development and implementation of a landslide warning system; and reports, upon request, to the NDRRMC on the warning, evacuation, and termination stages during crises. Geotechnical Unit personnel include a geotechnical expert from the Japan International Cooperation Agency (JICA).²³⁸

The **Land Drainage Authority (LDA)**, under the National Development Unit of the Ministry of National Infrastructure and Community Development, is a key DRR player. Based on its mandate to implement the land drainage master plan, it monitors drains with a focus on sites classified by the National Development Unit as life-threatening or critical.²³⁹ In a 2024 study, the LDA identified 306 flood-prone areas, and 62 of these areas are classified as “high-risk.”²⁴⁰ The LDA formed under authority of the Land Drainage Authority (LDA) Act of 2017, and the country has had a Land Drainage Master Plan since 2022. The vision is to “ensure the protection of life and property” and to “minimize havoc and suffering.”²⁴¹ In addition to maintaining all natural and built drainage infrastructure in the country, the LDA is required to undertake studies based on hydro-meteorological and hydrographic surveys, to identify flood risk areas, and to produce and review a flood risk map.²⁴²

Climate Change Agencies

The Ministry of Environment, Solid Waste Management and Climate Change has a vision statement to achieve a greener Mauritius “through protection and management of our environmental assets, mainstreaming sustainable development principles in different

sectors of the economy, solid and hazardous waste management, enhanced resilience to disasters, and conservation and rehabilitation of beaches.”²⁴³ In a 2023 interview, Minister Kavydass Ramano stated that the most pressing environmental issues are climate change and disasters, environmental pollution, and coastal degradation.²⁴⁴

Under the Ministry is the Department of Climate Change, established following enactment of the Climate Change Act 2020, which came into force in April 2021. The Department of Climate Change has the following functions:

- Promote adaptation and mitigation measures to address climate change in relevant sectors
- Develop and coordinate policies, projects, strategies, programs, and action plans to address the adverse effects of climate change and oversee their implementation by relevant stakeholders, including government departments, statutory bodies, and private institutions
- Formulate and update guidelines for the conduct of vulnerability and risk assessments relating to climate change
- Establish procedures and issue guidelines to reduce emissions of GHGs
- Establish reporting mechanisms for public and private institutions, including statutory bodies, relating to climate change
- Establish and maintain a climate change database system to enable assessment, monitoring, and reporting
- Compile, analyze, and disseminate information on climate change
- Provide technical support and facilitate and coordinate research and studies by public and private institutions, including statutory bodies, in relation to adaptation and mitigation measures relating to climate change
- Promote the implementation of Article 6 of the UNFCCC on education, training, and public awareness on climate change and related matters
- Prepare, in collaboration with relevant stakeholders, the National Inventory Report, the report on national communications, and such other reports as may be required to meet the obligations of Mauritius under UNFCCC, the Kyoto Protocol, the Paris Agreement, and any other instrument relating to climate change
- Mobilize necessary technical and financial resources for the formulation and implementation of projects on climate change with a view to implementing the UNFCCC, the Kyoto Protocol, the Paris Agreement and any other related international instrument
- Promote and enhance the participation of stakeholders, including the business community, NGOs, and local communities in climate change matters
- Commission studies on climate change, taking into consideration, inter alia, human rights, cultural heritage, and gender issues
- Identify the particular and specific vulnerabilities and susceptibilities of Mauritius, as a SIDS, to climate change, and measures to address them
- Establish links and cooperate with SIDS and other regional blocks so as to mobilize resources to implement common mitigation and adaptation measures
- Establish a network at national, regional, and international levels with institutions and organizations that work on climate change issues
- Publish information relating to climate change, including initiatives and activities to address climate change
- Monitor the level of GHG emissions and removal by sinks to ascertain and ensure that GHG emissions are reduced as required under UNFCCC
- Monitor the implementation of sectoral climate change adaptation policy and measures to ascertain that the National Climate Change Adaptation Strategy and Action Plan is complied with
- Monitor the implementation of sectoral climate change mitigation policy and measures to ascertain that the National Climate Change Mitigation Strategy and

- Action Plan is complied with
- Carry out such other duties, not inconsistent with this Act, as may be entrusted to the Department in writing by the Inter-Ministerial Council on Climate Change or the Minister²⁴⁵

The Inter-Ministerial Council on Climate Change, also established through the 2020 Climate Change Act, is in charge of setting national objectives, goals, and targets to make Mauritius a climate change-resilient and low-emissions country. The Council's functions and powers include:

- Making climate change policies and setting priorities for adaptation and mitigation in agriculture, biodiversity, coastal zones, infrastructure, the port, marine environment, tourism, fisheries, water, and energy
- Monitoring and reviewing progress made by government departments on climate change projects and programs
- Ensuring coordination and cooperation between government departments, local authorities, and other organizations engaged in climate change projects
- Making such recommendations and issuing such directives as it may determine necessary to government departments²⁴⁶

The Climate Change Committee, likewise established through the 2020 Climate Change Act, is responsible for:

- Coordinating the preparation of the National Inventory Report, the report on national communications, and such other reports as may be required under UNFCCC
- Coordinating the implementation of measures related to GHG inventories, GHG emissions reduction, assessment of risks associated with and vulnerability to climate change, and adaptation to climate change
- Coordinating strategic planning and national policies relating to climate change
- Recommending methods to monitor and control the emissions of GHG in sectors such as agriculture, aviation, energy, industry, land use, forestry, transport, and waste, and such

other relevant sectors as may be necessary to ensure the stabilization of GHG and the reduction of emissions

- Recommending approaches for vulnerability and risk assessments and adaptation in agriculture, biodiversity, coastal zones, fisheries, infrastructure, the port, marine environment, tourism, and water sectors, and such other relevant sectors as may be necessary to ensure optimal resilience to the adverse effects of climate change
- Recommending approaches to monitor the adverse effects of climate change on human rights and vulnerable communities and their livelihoods
- Coordinating the use of resources and any assistance provided by donors and funding agencies for climate change projects
- Coordinating climate change related activities

The Climate Change Committee is comprised of:

- The supervising officer of the ministry responsible for climate change or their representative (Chairperson)
- The Director of the Department of Climate Change
- A representative of the Council of Registered Professional Engineers of Mauritius
- A representative of the civil society, having knowledge and wide experience in climate change matters, to be appointed by the Minister
- A representative of the private sector, having knowledge and wide experience in climate change matters, to be appointed by the Minister
- One representative from each of the Ministries, Departments, and other bodies specified in the Second Schedule of the Climate Change Act
 - The Ministry responsible for the subjects of agro-industry and food security
 - The Ministry responsible for the subjects of education, tertiary education, science, and technology
 - The Ministry responsible for the subjects of energy and public utilities

- The Ministry responsible for the subject of environment
- The Ministry responsible for the subjects of finance, economic planning, and development
- The Ministry responsible for the subjects of gender equality and family welfare
- The Ministry responsible for the subjects of health and wellness
- The Ministry responsible for the subjects of housing and land use planning
- The Ministry responsible for the subjects of industrial development, small and mid-size enterprises, and cooperatives
- The Ministry responsible for the subjects of land transport and light rail
- The Ministry responsible for the subjects of local government and disaster risk management
- The Ministry responsible for the subjects of blue economy, marine resources, fisheries, and shipping
- The Ministry responsible for the subjects of national infrastructure and community development
- The Ministry responsible for the subjects of social integration, social security, and national solidarity
- The Ministry responsible for the subject of tourism
- The Ministry responsible for the subjects of youth empowerment, sports, and recreation
- The Mauritius Meteorological Services
- The NDRRMC
- The Police de l'Environnement
- The Forestry Service
- The Mauritius Renewable Energy Agency
- The Land Drainage Authority
- The Ministry responsible for Rodrigues
- The Rodrigues Regional Assembly
- Statistics Mauritius
- The Outer Islands Development Corporation
- The Wastewater Management Authority
- The Solid Waste Management Division²⁴⁷

Security Forces Role in Disaster Management

The Republic of Mauritius does not have a standing military.

The Mauritius Police Force (MPF) is the national law enforcement agency and is involved in various aspects of disaster management.²⁴⁸ The Commissioner of Police heads the NEOC and is part of the NDRRM Council and NCC. There are several components of the police force with specific roles in disaster response:

Special Mobile Force (SMF) — The SMF is a paramilitary force that is an integral part of the Mauritius Police Force. The main function of the SMF is to ensure the internal and external security of the islands. It is organized as a motorized Infantry Battalion with five Companies, an Engineer Squadron, and a Mobile Wing comprising two Squadrons equipped with armored vehicles. Among its disaster-related activities, the SMF helps with search and rescue operations, opening roads after cyclones, and bomb disposal.

Disaster Response Unit — Within the SMF, the Disaster Response Unit is a specialized unit that assists the NEOC, LEOCs, and REOC in disaster response operations. Per the NDRRM Act, the Disaster Response Unit is composed of police officers posted on a rotational basis and under the control of the Commanding Officer of the SMF. The police officers are mandated to be trained to respond to any disaster, and the Disaster Response Unit is to be provided with all the required resources and facilities to discharge its duties safely and effectively.²⁴⁹

National Coast Guard (NCG) — The NCG is a specialized branch of the Mauritius Police Force and is under the command of the Commissioner of Police. The NCG has the responsibility of safeguarding the country's EEZ and rendering assistance to seafarers.²⁵⁰ The NCG came into being on 24 July 1987, and its duties were broadly promulgated in the National Coast Guard Act of 1988. The NCG is responsible for the enforcement of any law relating to the security of the state; the protection of maritime zones; and

the detection, prevention, and suppression of any illegal activity, including piracy or maritime attack.²⁵¹

Maritime Air Squadron (MAS) — The NCG includes a Maritime Air Squadron, which has an inventory of three Dornier aircraft. The MAS is equipped with an Advanced Light Helicopter leased from the Republic of India, as well as a Passenger Variant Dornier (PVD) aircraft that was delivered in April 2022 by Hindustan Aeronautics Limited and financed under an Indian line of credit.²⁵²

Laws, Policies, and Plans

National Disaster Risk Reduction and Management (NDRRM) Act 2016 — The NDRRM Act is the main legislative document for DRRM and gives the Prime Minister the authority to declare a state of disaster when required. The NDRRM Act is supplemented by elements of the Police Act 1974, which defines the powers of the MPF, which has response duties during a disaster, and the Mauritius Fire and Rescue Service Act 2013, which defines the roles and responsibilities of the MFRS in case of an emergency.

National Disaster Risk Reduction and Management Policy 2020-2030 – This policy considers the multiple risks, hazards, and vulnerabilities faced by the Republic of Mauritius. It emphasizes that disaster impacts should be proactively reduced to the lowest levels possible with available local and external resources, and that everyone should be engaged in improving disaster risk governance, risk reduction, warning and alert, preparedness, and response.²⁵³ Gender, age, and health status considerations are set out in the Policy and mainstreamed across the National Strategic Framework and National Action Plan.

National Disaster Risk Reduction and Management Strategic Framework 2020-2030 – This framework identifies 41 hazards and summarizes the vulnerabilities and risks facing Mauritius. It provides a legal and institutional basis for managing disaster risks. The five

strategic pillars of the framework are:

- Understand disaster risk through a risk culture
- Strengthen disaster risk governance to manage disaster risk
- Invest in DRR for resilience
- Enhance disaster preparedness for effective recovery, rehabilitation, and reconstruction
- Strengthen capacities to build resilience to disasters²⁵⁴

National Disaster Risk Reduction and Management Action Plan 2020-2030 (National Action Plan) – The National Action Plan was developed with the input of various stakeholders and is organized into four strategic objectives as set out in the National Strategic Framework: 1) Disaster Risk Governance, 2) DRR, 3) Warning and Alert, and 4) Preparedness, Response, and Recovery. The National Action Plan identified 189 actions to be taken by 2030 to reduce disaster risk in Mauritius, in line with the National Policy and National Strategic Framework. The estimated cost of taking all identified actions over 10 years is US\$9,564,406, with funding to be drawn from domestic and international public and private sources.²⁵⁵

National Disaster Scheme 2015 (NDS 2015) — In 2015, Mauritius developed the NDS to improve DRRM; the government notes that the NDS is expected to be reviewed in 2024. The scheme encompasses the whole spectrum of the disaster management cycle, with emphasis on a coordinated multi-agency approach and a greater focus on disaster risk.²⁵⁶ The aim of the NDS is enhancing the safety of citizens. It has been used as a primary source of information for agencies and individuals working in preparation for and response to identified threats. The NDS is intended to be a functional document to support agencies and stakeholders in understanding and performing their roles and actions in emergencies, while acknowledging that some organizations need to further develop their capabilities to carry out their roles as outlined in the NDS.²⁵⁷ It provides detailed emergency schemes for the following natural

hazards: cyclones; heavy rainfall, torrential rain, and flooding; tsunamis; high waves; water crisis; earthquake; and landslide. It also details a Port Louis flood response plan.²⁵⁸

Other acts with links to DRRM

- The Mauritius Red Cross Act 1973 relates to DRR, warning, response, and recovery.
- The Civil Aviation Act 1974 relates to the safe operation of aircraft and related facilities.
- The National Coast Guard Act 1988 relates to the safety of lives at sea, search and rescue, and maritime pollution.
- The Environment Protection Act 2002 relates to natural hazards, development, spills, and environmental emergencies; the Act defines environmental emergencies and identifies planning and response actions through the National Environment Commission.
- The Planning and Development Act 2004 relates to sustainable development, which incorporates DRR.
- The Merchant Shipping Act 2007 relates to the safety of ships and safety and rescue while at sea.
- The Building Control Act 2012 relates to hazardous buildings.
- The Land Drainage Authority Act 2017 relates to flood risk management.
- The Mauritius Meteorological Services Act 2019 relates to warning and alert of severe weather and tsunamis.
- The Quarantine Act 2020 relates to the need to address the spread of communicable disease.²⁵⁹

Additionally, the **National Strategy and Action Plan to Eliminate Gender Based Violence** identifies the Ministry of Local Government and Disaster Risk Management as a collaborating agency to work with the lead agencies – the Ministry of Social Integration, Social Security and National Solidarity and the Ministry of Gender Equality and Family Welfare – to support the establishment of a network of social workers targeting groups at risk for domestic violence and a sensitization program

for community-based service providers to enable referrals for survivors and perpetrators.²⁶⁰

Climate Change Act 2020 – The Climate Change Act established a legal framework towards making Mauritius a climate-change resilient and low-emission country. The Act established and outlined the functions, powers, and composition of the Department of Climate Change, Inter-Ministerial Council on Climate Change, and Climate Change Committee. It also mandated the formulation of a National Climate Change Adaptation Strategy and Action Plan, a National Climate Change Mitigation Strategy and Action Plan, and the annual conduct of a National Inventory Report for GHG emissions.²⁶¹

Nationally Determined Contribution (NDC) Action Plan for the Republic of Mauritius 2021-2030 – The NDC Action Plan (2021-2030) was developed to support Mauritius in the implementation of the updated NDC, which was submitted to the UNFCCC Secretariat on 5 October 2021. The NDC 2021 represents the new framework for the orientation of national policy to climate change to enhance resilience and reduce GHG emissions by 40% by 2030. The main elements of the 2021 NDC of the Republic of Mauritius are:

- Reduction of GHG emissions by 40% in 2030 against a business-as-usual baseline scenario of 6,900 kilotons of CO₂ equivalent (ktCO₂eq)
- Priority actions on adaptation based on the updated National Climate Change Adaptation Policy Framework (NCCAPF) for all main sectors, such as infrastructure, DRR, coastal zones, water, biodiversity, agriculture, fisheries, and health
- Plan to achieve the NDC mitigation and adaptation contributions through a 35% national effort (unconditional) and a 65% international support (conditional)
- Seeking international finance through the implementation of cooperation mechanisms such as Clean Development Mechanism (CDM), Nationally Appropriate Mitigation Actions (NAMA), Article 6 of the UNFCCC, and access to multilateral finance, such as

the Green Climate Fund (GCF) and other programs²⁶²

Early Warning

The Mauritius Meteorological Services (MMS) is the sole authority mandated to provide weather and climate services for the general welfare of the citizens of the Republic of Mauritius. The MMS operates 24 hours per day, every day, with approximately 150 personnel. Its technical personnel work on a shift system at Vacoas Headquarters, Plaisance Aeronautical Meteorological Station, St. Brandon Meteorological Station, Agalega Meteorological Station, and Trou aux Cerfs Doppler Weather Radar Station.²⁶³

The MMS acts as the National Tsunami Warning Centre for Mauritius, receives advisories from tsunami service providers, issues appropriate bulletins for the Republic of Mauritius, and participates in the Intergovernmental Coordination Group of the Indian Ocean Tsunami Warning and Mitigation System.²⁶⁴ In addition to tsunami warnings, the MMS also provides early warning for other natural hazards, including for tropical cyclones, high waves, and torrential rains.²⁶⁵ For instance, during periods of heavy rainfall, different levels of warnings are issued based on the intensity and expected impact of the rain. The warnings are disseminated through various media, including radio, television, social media, and the official website of the MMS.²⁶⁶ Among its functions, the MMS keeps the NDRRMC and the NEOC informed of the evolution of weather and climate, including extreme weather. The MMS is governed by the 2019 Mauritius Meteorological Services Act.²⁶⁷

Mauritius Meteorological Services

St Paul Road, Vacoas, Mauritius
Tel: +230 686 1031; +230 686 1032
Fax: +230 686 1033
E-mail: meteo@intnet.mu

The National Multi Hazard Emergency Alert System Cap Aggregator has been set up²⁶⁸ and

the Cel Broadcast System is being implemented by the NDRRMC.²⁶⁹ In March 2023, the United Nations Office for Disaster Risk Reduction (UNDRR) announced that Mauritius was among the initial group of countries informed by the UN Secretary-General that it will receive coordinated and targeted support for its early warning system.²⁷⁰ This was part of the Early Warnings for All (EW4All) initiative, for which the UN Secretary-General launched the Executive Action Plan in 2022. As one of 30 countries initially selected, Mauritius, through the MMS, worked with the World Meteorological Organization to conduct a rapid assessment of the hazard monitoring and forecasting capacity in the country.²⁷¹ The MMS is evaluating messaging approaches after receiving criticism for delivering confusing messages during the passage of Tropical Cyclone Belal in January 2024.²⁷²

Partners

Mauritius Red Cross Society

Established in 1973, the Mauritius Red Cross Society (MRCS; Croix Rouge de Maurice [CRMu]) provides assistance in the areas of disaster preparedness and response, DRR, health care, organizational development, and humanitarian diplomacy. A member of the NDRRM Council and NEOC, the MRCS has disaster response teams at the local branch level. It regularly participates in disaster exercises organized in collaboration with local authorities.

The MRCS has an emergency ambulance service and has also developed a program to cover other medical transport services for conditions that are not immediately life threatening. MRCS assists with social services, distributes clothing and food, and supports a school food program. It offers first aid training to the public, police officers and other state officials, non-profit organizations, and businesses. MRCS also regularly operates first aid stations during sporting and other events.²⁷³ The MRCS has prioritized disaster preparedness and risk reduction since 2005 and aligns its work with the International Federation of Red Cross and Red Crescent Societies (IFRC) 2030 Strategy

objectives. MRCS' strategic aims are: 1) to build a strong and sustainable National Society that has a better impact at the community level and successfully carries out humanitarian advocacy; 2) to improve community resilience to natural hazards and climate-related disasters with a focus on DRR; and 3) to improve the quality of people's health and well-being by providing countrywide and local services that meet the population's needs. As of 2022, MRCS had 10 staff, 120 volunteers, and three branches in the main islands.²⁷⁴

The roots of the MRCS extend back to when Mauritius was still a British colony; at the start of World War II, Governor Sir Bede Clifford requested that a branch of the British Red Cross be established in Mauritius. After Mauritius' independence, a 1973 parliamentary decree incorporated the National Society, thus establishing the Mauritius Red Cross Society. The MRCS was then recognized as the 132nd member of the IFRC. The MRCS is a member of the Mauritius Council of Social Service, every Local DRRM Committee,²⁷⁵ and the National Humanitarian Law Committee. It is also a founding member of the Indian Ocean Regional Intervention Platform (PIROI; Plateforme d'intervention régionale océan Indien) for national disasters and epidemics in the Indian Ocean islands.²⁷⁶

MRCS Headquarters

Ste. Thérèse Street, Curepipe, Mauritius
Tel: +230 670 0276/ 670 1274
E-mail: mrcs.headquarters@outlook.com
Facebook: [croixrougedemaurence](https://www.facebook.com/croixrougedemaurence)
YouTube: [@mauritiusredcross7080](https://www.youtube.com/channel/UCmauritiusredcross7080)²⁷⁷

United Nations – The UN Multi-Country Office for Mauritius and Seychelles is located in Port Louis, Mauritius. It coordinates the work of 24 UN agencies, funds, and programs. The UN has signed with the Government of Mauritius a United Nations Sustainable Development Cooperation Framework for 2024-2028; it sets out the collective UN response to support Mauritius in addressing national priorities

and creating a more inclusive, resilient, and sustainable future.

The UN Country Team in Mauritius includes the Economic Commission for Africa (UNECA), Food and Agriculture Organization (FAO), International Atomic Energy Agency (IAEA), International Fund for Agricultural Development (IFAD), International Labour Organization (ILO), International Organization for Migration (IOM), Joint UN Programme on HIV/AIDS (UNAIDS), Office for the Coordination of Humanitarian Affairs (OCHA), Office of the UN High Commissioner for Human Rights (OHCHR), UN Development Programme (UNDP), UN Educational, Scientific and Cultural Organization (UNESCO), UN Entity for Gender Equality and the Empowerment of Women (UN Women), UN Environment Programme (UNEP), UN Human Settlements Programme (UN-Habitat), UN Industrial Development Organization (UNIDO), UN Office on Drugs and Crime (UNODC), UN Population Fund (UNFPA), UN Refugee Agency (UNHCR), the World Health Organization (WHO), and the World Tourism Organization (UN WTO).²⁷⁸

The activities of the UN Country Team are coordinated by the Resident Coordinator's Office, whose contact is: rco-mauritius-seychelles-registry@un.org

The Adaptation Fund – In November 2018, it was announced that the Governments of Mauritius and Seychelles received a US\$10 million grant from the Adaptation Fund to restore their coral reef ecosystems. The six-year project, supported through the UNDP, focused on coral reef restoration, which will contribute to protecting the growing tourism industries that employ a significant portion of the population in both countries. The reef restoration project will also ensure food security for fishers who depend on the reefs to feed their families and will reduce disaster risks from high-intensity storms.²⁷⁹

The Adaptation Fund is an international fund set up under the Kyoto Protocol of the UNFCCC; it finances projects and programs aimed at helping developing countries adapt to the harmful effects of climate change. It has

committed over US\$1 billion for climate change adaptation and resilience projects and programs since 2010. It is financed largely by government and private donors, and from a 2% share of proceeds of Certified Emission Reductions issued under the Protocol's CDM projects.²⁸⁰

Capacity for Disaster Reduction

Initiative (CADRI) — CADRI is a global partnership that helps countries reduce disaster and climate risks through providing access to a unique pool of multidisciplinary expertise in various socio-economic sectors to achieve the 2030 Agenda and leave no one behind.²⁸¹ The initiative is a global partnership of 20 organizations working towards achieving the SDGs by developing countries' capacity to reduce climate and disaster risk. In 2020, at the Mauritian government's request, the CADRI Partnership facilitated a government-led diagnosis of the disaster risk management system at the national and local levels. The diagnosis covered tourism, environment, agriculture, water and sanitation, health, and education, with infrastructure development as a cross-cutting theme.²⁸² A Diagnostic of Capacities to Manage Disaster Risk report was finalized in 2020 by the multidisciplinary team of experts mobilized through the CADRI Partnership (IOM, UNDP, UNEP, WHO, FAO, and OCHA in the field, supported by the wider CADRI team in Switzerland) and Mauritius' NDRRMC. The aim of the diagnosis is to provide direction for Mauritius to strengthen its capacities to pursue integrated solutions to reduce disaster risks across the SDGs.²⁸³ The contact for the CADRI partnership secretariat is: cadri.partnership@undp.org

Climate Risk and Early Warning Systems (CREWS) – In 2020, the CREWS initiative announced the launch of a five-year project to improve operational forecasting and multi-hazard early warning systems in Comoros, Madagascar, Mauritius, Mozambique, and Seychelles. The project seeks to enhance early warning capacities in these countries through a US\$4 million contribution intended to leverage wider ongoing and planned projects in the sub-

region.²⁸⁴

Resilience Building and Disaster Response Management in the Indian Ocean (RDRM-IO) – The RDRM-IO program is a UNDRR component launched in March 2022 to improve DRR understanding and governance capacities of Comoros, Madagascar, Mauritius, and Seychelles through activities that aim to improve their national institutional and operational preparedness for disasters. The program will support the countries to assess and develop national policies and regulatory frameworks on DRR. Implemented from 2022-2025, the main problems it will identify are: 1) weaknesses and gaps in institutional and operational capacity on DRR; 2) lack of financial and technical capacity to address DRR; and 3) deficiencies in information systems and data. The RDRM-IO is co-funded by the EU in partnership with the Indian Ocean Commission (IOC) and implemented by the IOC, PIROI, and UNDRR.²⁸⁵

South West Indian Ocean Risk Assessment and Financing Initiative (SWIO-RAFI) – SWIO-RAFI is a joint initiative between the World Bank Group and the IOC with each of the five participants - Comoros, Madagascar, Mauritius, Seychelles, and the Archipelago of Zanzibar, a semi-autonomous region of Tanzania - which are all highly exposed to adverse natural events. The initiative aimed to improve the understanding of the region's disaster risks, including through preparing country disaster risk profiles for specific hazards, as input for the future implementation of disaster risk financing mechanisms.²⁸⁶ The final stage of the initiative was the ISLANDS Financial Protection Program, a regional initiative designed to enhance the financial resilience of several IOC islands, including Mauritius. The program facilitated a reduction in fiscal risk in Mauritius through better data collection, developing risk profiles, and using their findings to inform disaster risk financing strategies.²⁸⁷

Coalition for Disaster Resilient Infrastructure (CDRI) – Mauritius is a member of CDRI, which promotes rapid development of resilient infrastructure to respond to the SDG

imperatives of expanding universal access to basic services, enabling prosperity, and decent work. CDRI strategic priorities are:

- Technical Support and Capacity-building – including disaster response and recovery support; innovation; institutional and community capacity-building assistance; and standards and certification
- Research and Knowledge Management – including collaborative research; global flagship reports; and a global database of infrastructure and sector resilience
- Advocacy and Partnerships – including global events and initiatives; marketplace of knowledge financing and implementation agencies; and dissemination of knowledge products²⁸⁸

Coalition for Disaster Resilient Infrastructure (CDRI) Secretariat

4th & 5th Floor, Bharatiya Kala Kendra, 1,
Copernicus Marg
New Delhi, 110001, INDIA
Tel: +91-11-4044-5999
E-mail: info@cdri.world

Indian Ocean Regional Intervention Platform (PIROI; Plateforme d'intervention régionale océan Indien) – The French Red Cross-led PIROI carries out a disaster risk management program in cooperation with seven regional National Societies, including the MRCS. In 2016, construction began on the PIROI Centre, a regional multi-activity center for expertise, training, and innovation focused on managing risk and climate change. Located on France's Indian Ocean island, Réunion, the Centre will help to build capacity in the areas of preparedness, early response, and post-disaster reconstruction; the Centre's headquarters was slated for completion in mid-2024. The France-based humanitarian think tank, Groupe URD, worked with the PIROI on this project and drew up the 2017-2020 action plan for the Centre.²⁸⁹ Based on the achievements under this action plan, PIROI presented a 2021-2025 strategic framework to support reduction of impacts from natural hazard-based disasters, health crises, and

climate change.²⁹⁰

The PIROI Center

1, rue de la Croix-Rouge
ZAC de la Mare
97438 Ste Marie, Reunion Island
Tel: +262 (0) 262 53 08 93
Fax: +262 (0) 262 72 17 02

African Union (AU) – The AU's 55 member-states, including Mauritius, consistently emphasize that they have great difficulty reporting disaster losses and generating other disaster and climate change-related data. In addition, member-states have committed DRR and climate funding but require significant support for coordinating across DRRM and climate sectors regionally and internationally. Finally, the continent lacks technical expertise and institutional strength for disaster- and climate-related data management. There is no working central AU statistical agency to record and report on disasters and losses.

The AU's Heads of State and Government met in January 2017 to adopt a program of action for how Africa implements the Sendai Framework. In addition to the standard Sendai Framework targets, the AU added targets that focus on integrating DRR programs into national educational systems and into national sustainable development and climate change adaptation frameworks, expanding sources of DRR financing, increasing development and testing of preparedness plans, and building regional networks for knowledge management and capacity development.²⁹¹

The AU's Climate Change and Resilient Development Strategy and Action Plan (2022-2032) sets out principles, priorities, and action for enhanced climate cooperation and climate-resilient development in support of the national plans and policies of the AU member-states, including Mauritius. The Strategy reflects demand for an effective multilateral approach through the UNFCCC and the Paris Agreement, and it therefore reiterates the need for equitable access to sustainable development resources in light of the specific needs and special

circumstances of African countries.²⁹²

African Union Headquarters

P.O. Box 3243, Roosevelt Street W21K19
Addis Ababa, Ethiopia
Tel: +251 11 551 77 00
Fax: +251 11 551 78 44
Website: <https://au.int/en>

The Alliance of Small Island States (AOSIS) is an inter-governmental organization, founded in 1990, that represents 39 small islands or low-lying coastal developing states, including Mauritius. AOSIS serves as a lobby and voice for members from the Caribbean, the “Africa, Indian Ocean, South China Seas” Group, and Pacific in negotiations and processes surrounding climate change and sustainable development.²⁹³ It also provides a collective means for small island states with minimal human or financial resources within their UN delegations to exercise influence in climate-oriented negotiations.²⁹⁴

AOSIS advocated at the 21st UN Climate Conference of Parties (COP21) in Paris, where, in partnership with the UNDP and the European Commission, it pooled the resources of its membership to press negotiators on GHG emissions levels and their responsibility for the long-term effects thereof.²⁹⁵

A key concern for AOSIS members is the impact of climate change on small island states’ maritime zones. The 2021 AOSIS Leaders’ Declaration expressed members’ will to see continuity of their rights and entitlements based on present territory rather than on territory left after the impacts of climate change-induced sea level rise are measured. Few member states had – at the time – submitted their full declarations of maritime zone information, and a key step is to depose that legal paperwork.²⁹⁶

In 2023, the University of Mauritius was among several organizations joining AOSIS in calling for a global plastics treaty. On 1 June 2023, at an official side event to the Second Session of the Intergovernmental Negotiating Committee on Plastic Pollution in Paris, the International Union for Conservation of Nature (IUCN), Dominican Republic, Fiji, Palau,

and AOSIS were joined by Common Seas, the University of Mauritius with the International Science Council, Ocean Cleanup, Searious Business, Blue Keepers, and the UN Global Compact, in calling for an ambitious UN Treaty to act across the whole plastics lifecycle. The event highlighted that SIDS contribute little to global plastic production and pollution; however, their blue economies are disproportionately affected by legacy plastic and its climate and environmental impacts.²⁹⁷

The Indian Ocean Commission (IOC) is an intergovernmental organization comprised of the five member states of the Union of Comoros, France on behalf of Réunion, Madagascar, Mauritius, and the Seychelles. It was created by the Port Louis Declaration in 1982 and institutionalized in 1984 by the General Cooperation Agreement, also known as the “Victoria Agreement.” IOC is the only regional organization in Africa composed exclusively of islands and embodies regional solidarity through cooperation projects covering the preservation of ecosystems, sustainable management of natural resources, maritime safety, entrepreneurship, public health, renewable energies, and culture.

The IOC Strategic Development Plan 2023-2033 emphasizes four strategic priorities or pillars, which cover eight strategic objectives. All are listed in Table 3, including Strategic Objective 2 focused specifically on climate.²⁹⁸

There are several ongoing IOC projects related to climate or disasters. The IOC is co-funding, along with the EU, and implementing, along with PIROI and UNDRR, Resilience Building and Disaster Response Management in the Indian Ocean program. The program aims to improve the understanding of DRR, the governance capacities of island states, and to strengthen DRR capacities in the Indian Ocean region.²⁹⁹ The ExpLOI project, or Expédition Plastique Océan Indien (Indian Ocean Plastic Expedition), is a 5-year project with the objectives of: 1) Improving knowledge of the impacts of marine plastic pollution, 2) Environmental education and raising awareness of plastic pollution, and 3) Development of a regional circular economy. RSIE 4 is the 4th phase of the IOC’s regional

Pillar	Strategic Objective
An Indianocean of resilience, peace, and security	1. Promoting political stability and good governance within the region as a zone of peace in the region, and as a region with the rest of the world, working for its security and guaranteeing inter-State dialogue
	2. Contributing to climate and environmental resilience and improvement, particularly by reconnecting with the ocean
An Indianocean of sustainable economic growth	3. Supporting the emergence of a better connected and better integrated economic and commercial space around major value chains and commercial agreements
	4. Supporting economic cooperation for energy and ecological transition through innovation, entrepreneurship, and training
An Indianocean of human development	5. Investing in health, education and training, science, and culture for the benefit of the socio-economic development of populations
	6. Promoting equity and inclusiveness in a systematic and transversal way to ensure the well-being of populations, more particularly women and young people
A strengthened institutional and partnership architecture	7. Modernizing the IOC governance and strengthening the means and resources necessary for its action and attractiveness

Table 3: Indian Ocean Commission Strategic Development Plan 2023-2033 – Pillars and Strategic Objectives

public health action, which receives funding from the EU through the Agence Française de Développement (AFD). The objective of RSIE 4 is to improve members' prevention and response capacities in the face of pandemic and epidemic risks. The project aims to complete health monitoring and response activities implemented in previous phases, strengthen national laboratory systems, and promote regional cooperation through the IOC's SEGA-One Health Network. Global Climate Change Alliance + (GCCA+, also known by its French acronym AMCC+), launched in 2008, is the EU's flagship initiative to help the most vulnerable countries face climate change by supporting efforts to strengthen resilience. In December 2019, the IOC signed a contract with the Secretariat of the Organization of African, Caribbean and Pacific States to implement a capacity building project to negotiate and implement commitments to the Paris Climate Agreement. Activities will be implemented over a 4-year period, with €1.6 million (US\$1.7 million) in funding received from the 11th European Development Fund.³⁰⁰

Indian Ocean Commission (Commission de l'océan Indien)

Blue Tower, 3rd Floor, Rue de l'Institut, Ebène, Maurice

Tel: +230 402 61 00

Fax: +230 466 01 60

E-mail: secretariat@coi-ioc.org

Website: www.coi-ioc.org

Indian Ocean Rim Association (IORA)

– The IORA, established in 1997, is an inter-governmental organization comprised of 23 member states that encourages socio-economic cooperation around the Indian Ocean Rim. Its priority areas include maritime safety and security, facilitating trade and investment, fisheries management, disaster risk management, tourism and cultural exchanges, and supporting academics, science, and technology.

IORA DRRM events have included:

- First IORA Expert Group Meeting on Disaster Risk Management, 19 January 2021, Online – The Republic of India, Lead Coordinator for IORA's DRRM priority area, in collaboration with the IORA Secretariat, hosted online the First Expert Group Meeting on Disaster Risk Management. The Meeting provided a roadmap for Member States to establish an IORA Working Group on Disaster Risk Management, providing a mechanism for engaging disaster and emergency response official, experts, and other stakeholders across the region to promote regional cooperation. The establishment of the Working Group aims to develop and adopt an evolving Disaster Risk Management Work Plan to achieve objectives in the IORA Action Plan (2017-2021). The meeting intended to finalize the IORA Guidelines for Humanitarian Assistance and Disaster Relief (HADR), aimed at

developing a speedy, responsive, coordinated, and effective HADR strategy for IORA Member States, when required and serving the purpose of establishing a common understanding of HADR operations.³⁰¹

- Webinar Launch of the “Geospatial Information Technology (GIT) for Operational Planning and Decision Making in Disaster Risk Management” training program in the Indian Ocean Region, 20-20 September 2021, Online – IORA launched a training program for Member States and Dialogue Partners in collaboration with the United Nations Satellite Centre (UNOSAT) and supported by the German Development Agency (GIZ). The webinar highlighted the importance and applications of GIT for DRRM in the Indian Ocean Rim region. Potential applications include how GIT as a tool can support the whole DRRM cycle, including preparedness, response, recovery, and reconstruction; implementing DRRM activities at national, regional, and local scales; and quantifying risk and expected future losses.³⁰²
- IORA-TIKA Training of Trainers Program for Disaster Risk Management, 16-22 May 2022, Ankara, Turkey – IORA in collaboration with the Turkish Cooperation and Coordination Agency (TIKA) hosted “IORA-TIKA Training of Trainers Program on Organising Community Leaders for Disaster Risk Reduction and Protection Against Infectious Diseases and Hygiene in Post Disaster Conditions.” Turkey became a Dialogue Partner of IORA in 2018 and training program was developed in accordance with the Country Statement that Turkey delivered at the hybrid-format 21st IORA Council of Ministers Meeting in 2021 in Bangladesh to strengthen IORA’s priority area of DRRM and the Work Plan of the IORA Working Group on Disaster Risk Management. The main objectives of IORA-TIKA week-long training program were to:
 - Acquire awareness on the occurrence of disasters and methods of protection from hazards and risks;
 - Disseminate knowledge and raise awareness among communities;
 - Prepare IORA community leaders to be well versed in DRR strategies and planning methods;
 - Improve skills and knowledge on effective DRRM training;
 - Raise awareness on behavioral change toward hygiene and sanitation practices in general and focusing on post disaster risks for hygiene and disease control; and
 - Enhance DRRM cooperation between IORA participants and TIKA.
- Participants came from 16 IORA member states: Australia, Bangladesh, Comoros, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Seychelles, South Africa, Sri Lanka, Thailand, the United Arab Emirates and Yemen.³⁰³
- Capacity Building on “Space Technology for DRM [Disaster Risk Management],” 6-8 September 2023, Online – The Capacity Building Workshop on Space Technology for Disaster Risk Management, organized by the National Remote Sensing Centre (NRSC), Indian Space Research Organization (ISRO), took place virtually with the participation of 19 officials from 11 IORA Member States. The 3-day training program focused on an overview of the role of Earth Observation and Geo-spatial technologies for disaster risk management. The objective was to demonstrate the potential utilization of Earth Observation technologies towards building a disaster resilient society. Space technology has become an integral part of DRRM and response efforts, including satellites providing critical data for early warning systems, real-time monitoring, and assessment of damage caused by natural disasters. Remote sensing technology, including synthetic aperture radar and LiDAR [light detection and ranging], provides high-resolution imagery of disaster-prone areas, for identifying regions that may be at risk of floods, landslides etc. The program consisted of expert lectures and interactive sessions, with the scope including technology applications, field applications,

data limitations, and knowledge sharing opportunities.³⁰⁴

IORA Secretariat

3rd Floor, Tower 1, NeXTeracom Building
Cybercity, Ebene
Republic of Mauritius
Tel: +230 454 1717
E-mail: hq@iora.int

Southern African Development Community (SADC) – The SADC focuses on integrating the economic development, peace and security, and growth of its member-states - Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. It also seeks to alleviate poverty and support socially disadvantaged people within the region. By treaty, the SADC's agenda includes achieving sustainable use of natural resources and effective protection of the environment.³⁰⁵

The DRR Unit of SADC is mandated to develop frameworks and programs to facilitate DRRM coordination, implementation, and monitoring and evaluation as aligned to the Sendai Framework through the SADC's Regional Indicative Strategy and Development Plan 2020-2030. It works by coordinating members' DRR activities and programs and promoting and supporting mainstreaming of DRR within members' development policies and programs.³⁰⁶

Among SADC program areas is "Environment and Climate Change" because of the links between sustainable use and management of the environment with reducing poverty and food insecurity. Members have ratified major multilateral environmental agreements and actively participates in negotiations of such agreements, including the UNFCCC, UN Convention to Combat Desertification, UN Convention on Biological Diversity, and various

other conventions. SADC has established three main environmental policy goals:

- Protect and improve the health, environment, and livelihoods of the people of southern Africa with priority given to the poor majority
- Preserve the natural heritage, biodiversity, and life supporting ecosystems in southern Africa
- Support regional economic development on an equitable and sustainable basis for the benefit of present and future generations.

Mainstreaming environmental issues is a focus area of the SADC's Food, Agriculture and Natural Resources Directorate. It complements and supplements national environmental and sectoral environmental impact assessment regulations and guidelines to ensure that all development efforts in the region take environment into consideration to ensure the region's sustainable development.³⁰⁷

In March 2023, SADC published its Regional Climate Resilience Program for Eastern and Southern Africa Stakeholder Engagement Plan, which aims to strengthen the resilience of populations to climate-related shocks across eastern and southern Africa. Although Mauritius is not eligible for the international funding that the International Development Association is managing for this plan, it continues to support the process as the overall Program focuses on reducing exposure to climate shocks, with a focus on water infrastructure and social safety nets.³⁰⁸

SADC House

Plot No. 54385, Central Business District
Private Bag 0095
Gaborone, Botswana
Tel: +267 395 1863
Fax: +267 397 2848 / +267 318 1070
E-mail: registry@sadc.int

DISASTER OVERVIEW

The remote islands of the Republic of Mauritius are exposed to a variety of natural and anthropic or technological hazards. In addition to tropical cyclones and occasional drought, the islands are exposed to the effects of sea level rise, and they have been impacted by maritime accidents that led to oil spills. The country has maintained strong socio-economic development in recent decades and has invested in reducing vulnerabilities and boosting coping capacities. However, the potential for a major hazard event to cause widespread destruction is high, and development itself means that more valuable infrastructure and property sustain damage more frequently and, thereby, increase the cost of damage. Moreover, the remoteness of the Republic – and the Republic's islands one from each other – makes all facets of disaster management difficult.

Risk Profile

Risk calculation takes into account exposure to hazards, vulnerability, and coping capacity. Addressing all of these elements is important in reducing and mitigating disaster risk. Various indices emphasize structural or institutional risk while others emphasize hazards or losses (human and economic). Regardless of emphasis, disaster risk calculations use some form of the equation:

$$\text{Disaster Risk} = (\text{Hazard} \times \text{Vulnerability}) / \text{Capacity}^{309}$$

Taken from the UNDRR glossary, definitions will help clarify this formula:

- **Capacity** - The combination of strengths, attributes, and resources available within an organization, community, or society to manage and reduce disaster risks and strengthen resilience.
- **Disaster risk** - The potential loss of life, injury, or destroyed or damaged assets, which could occur to a system, society, or a community in a specific period of time,

determined probabilistically as a function of hazard, exposure, vulnerability, and capacity.

- **Hazard** - 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.
- **Vulnerability** - The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.³¹⁰

In general, the goal of indexing risk is to inform decisionmakers and DRR and climate change adaptation practitioners of the level of risk to and underlying capacity of the target community. The various risk calculation models support proactive crisis management frameworks and are helpful for prioritizing allocation of resources and for coordinating actions focused on anticipating, mitigating, and preparing for humanitarian emergencies.

INFORM Risk Index

INFORM is a collaboration of the Inter-Agency Standing Committee (IASC) Reference Group on Risk, Early Warning, and Preparedness with the European Commission. It is a multi-stakeholder forum for developing shared, quantitative analysis relevant to humanitarian crises and disasters. The Joint Research Centre of the European Commission is the scientific lead. There are three operational dashboards – i.e., INFORM Risk, INFORM Severity, and INFORM Climate Change.³¹¹ The INFORM Risk Index measures the risk of humanitarian crises and disasters in 191 countries. The INFORM model is based on the standard dimensions of risk: Hazards and Exposure, Vulnerability, and Lack of Coping Capacity. The first dimension measures the natural and human hazards that pose the risk. The second and third dimensions

cover population factors that can mitigate against or exacerbate the risk. The Vulnerability dimension considers the strength of individuals and households relative to a crisis while the Lack of Coping Capacity dimension considers factors of institutional strength.³¹²

The INFORM model provides a quick overview of the underlying factors leading to humanitarian risk. INFORM gives each country a risk score of 1-10 (1 being the lowest risk and 10 the highest risk) for each of the dimensions, categories, and components of risk, as well as an overall risk score.³¹³ In the 2024 INFORM Risk Index, Mauritius had an overall risk score of 2.1/10, which INFORM categorizes as the “very low” risk class and earns Mauritius the rank of 157th most at-risk country in the Index. The Hazards and Exposure dimension score takes into account a combination of both natural and human hazards, and Mauritius rated 1.7/10 or 138th of 191 countries. The Vulnerability dimension score was 1.9/10 or 170th of 191, and the Lack of Coping Capacity dimension score was 2.8/10 or 146th of 191. The highest sub-indices in each of the dimensions are: physical exposure to Cyclones 7.8/10) in the Hazards and Exposure dimension, Aid Dependence (4.1/10) in the Vulnerability dimension, and Governance (4.2/10) in the Lack of Coping Capacity dimension. Figure 15 is a snapshot of the 2024 INFORM dashboard for Mauritius.³¹⁴

World Risk Report

The World Risk Report by Bündnis Entwicklung Hilft strives to raise awareness of disaster risk among the global public and political decision-makers and to provide practitioners with data to promote faster orientation to complex situations – i.e., societies experiencing disasters. This effort stems from the perception that disaster risks are not solely determined by the occurrence, intensity,

or duration of extreme events. Social factors, political conditions, and economic structures play an important role in turning these events into crises. Thus, this index is based on the assumption that every society can take precautions – e.g., effective disaster preparedness and management – to reduce the impact of extreme events and lower the risk of disasters.

The World Risk Report calculates the level of risk a country faces based on a formula of exposure to hazards and vulnerability. It provides an assessment of the risk that countries will confront disasters but does not indicate probabilities for the emergence of disasters, nor does it forecast the timing of future disasters. This index uses 100 indicators that include risk, hazard exposure, vulnerability, and coping capacity (as defined above), and adds two others:

- **Susceptibility** - The disposition to suffer damage in the event of extreme natural events. Susceptibility relates to structural characteristics and frameworks of societies.
- **Adaptation** - A long-term process that also includes structural changes and comprises measures and strategies that address and try to deal with future negative impacts of natural hazards and climate change. Analogous to “lack of coping capacity,” the lack of adaptive capacities is included in the Index.

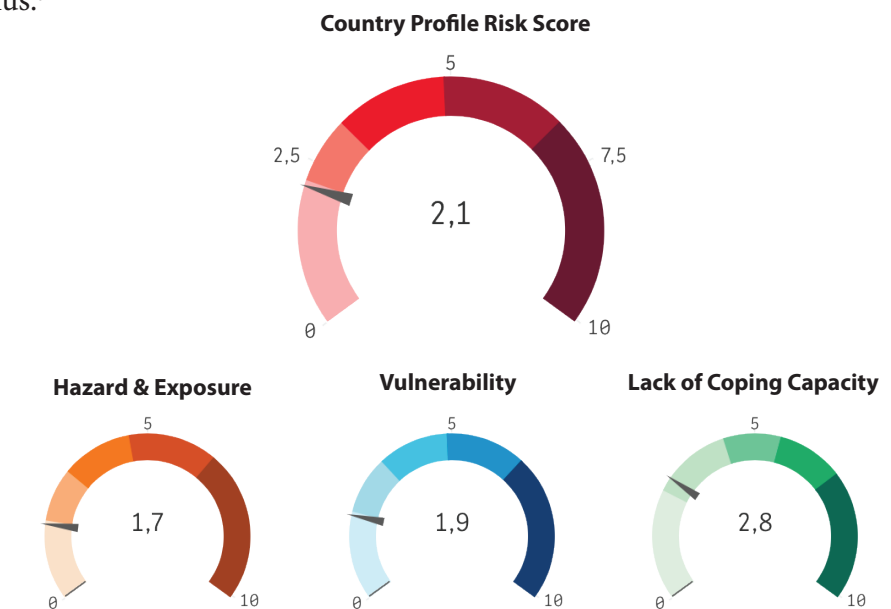


Figure 15: INFORM Risk Index Dashboard - Mauritius (2024)

In the 2023 World Risk Report, Mauritius ranked 106th of 192 countries wherein the lower the rank (1), the greater risk the country faces and the higher the rank (192), the less at-risk a country is. Mauritius' total Index score was 3.50 (on a scale of 0-100 wherein 0 connotes less risk and 100 more risk), putting the country in the “medium” risk class. The component scores were:

- Exposure: 0.73 (medium)
- Vulnerability: 17.77 (medium)
- Susceptibility: 12.43 (medium)
- Lack of Coping Capacity: 9.82 (low)
- Lack of Adaptive Capacity: 45.94 (medium)

For comparison, Mauritius' total score (3.50) is below the regional (Africa) median of 4.39 but above the sub-regional (South Africa) median of 1.97. Exposure essentially dictates this total score as Mauritius scores lower than its sub-region in all other categories. In the Exposure score, Mauritius is above the median for Africa (0.7) and South Africa (0.14) in a reflection of the country's exposure to tropical storms and their associated hazards – storm surge, winds, and extreme precipitation. In the Vulnerability dimension, the country is below the medians for Africa (30.53) and South Africa (26.7) in a reflection the country's overall effort to build socio-economic and government resilience. Under Susceptibility, Mauritius is below the medians for Africa (30.4) and South Africa (23.92) due, in part, to Mauritius' greater economic development, lack of violence and conflict, and developed health system. In the Lack of Coping Capacity dimension, Mauritius is also below the medians for Africa (14.68) and South Africa (12.83) as it has suffered relatively little damage from recent shocks and because it has institutionalized disaster management and climate change action. Finally, on the Lack of

Adaptive Capacity score, Mauritius sits below the medians for Africa (59.83) and South Africa (51.41) in a reflection of investment in capacity, including incorporating disaster resilience and climate change knowledge in the education system. Figure 16 illustrates the World Risk Report classification matrix.³¹⁵

Hazards

Historically, according to the NDRRMC, weather-related events are the most common events that become disasters in the country. Tropical cyclones (TC), other torrential rains, and floods are the most frequent hazards, but fire is increasingly common, and various technological hazards – gas and oil spills or aircraft and boat accidents – are estimated to account for more than 10% of all hazard events. Finally, large-scale hazard events in neighboring regions have the potential to affect Mauritius – e.g., a tsunami generated elsewhere in the Indian Ocean or a pandemic – and the implications of these events for Mauritius would be national due to the small size of the population and the islands' geographic size. Data sets covering 60 years of incidents indicate that some 98% of people impacted by disasters in the country are impacted by TCs. Figure 17 illustrates data from the NDRRMC for reported disaster events (2,892 in total) between 1960 and 2018.³¹⁶

Coastal Erosion

Over the short term, erosion of Mauritius' coasts is largely driven by intensive coastal development or construction, the effects of sea level rise, destruction and death of coral reefs, and tropical cyclones, which, when they pass very close or over the island, generate huge surges and waves. Areas that are considered

Classification	World Risk Index	Exposure	Vulnerability	Susceptibility	Lack of Coping Capacities	Lack of Adaptive Capacities
very low	0.00 - 1.84	0.00 - 0.17	0.00 - 9.90	0.00 - 7.17	0.00 - 3.47	0.00 - 25.28
low	1.85 - 3.20	0.18 - 0.56	9.91 - 15.87	7.18 - 11.85	3.48 - 10.01	25.29 - 37.47
medium	3.21 - 5.87	0.57 - 1.76	15.88 - 24.43	11.86 - 19.31	10.02 - 12.64	37.48 - 48.04
high	5.88 - 12.88	1.77 - 7.78	24.44 - 33.01	19.32 - 34.16	12.65 - 39.05	48.05 - 59.00
very high	12.89 - 100.00	7.79 - 100.00	33.02 - 100.00	34.17 - 100.00	39.06 - 100.00	59.01 - 100.00

Figure 16: World Risk Report Classification Matrix

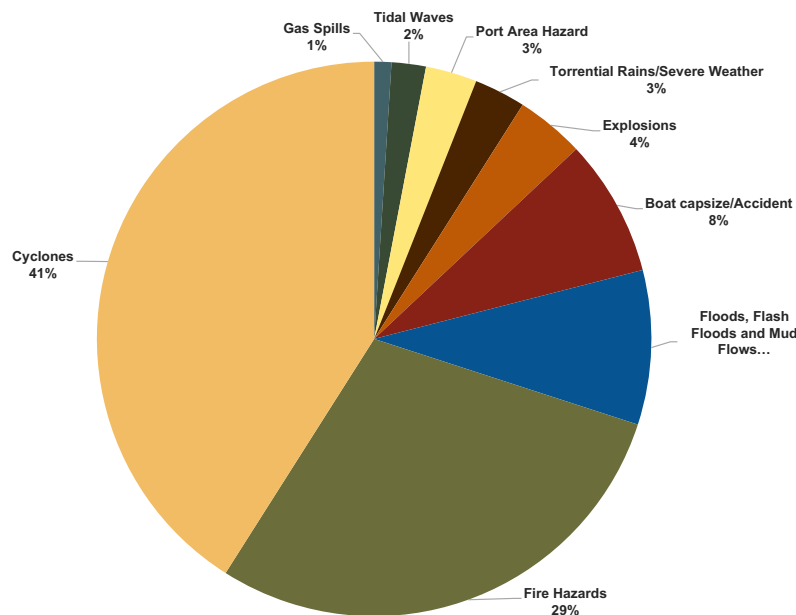


Figure 17: Reported Disaster Events, 1960-2018

by the government to be highly susceptible to erosion include coastal zones of Flic-en-Flac, Le Morne, Riambel, Pointe d'Esny, Cap Malheureux, and Grand Bay.³¹⁷ The country's strategic plan for tourism estimates that by the end of the century, half of the country's beaches will be lost to the point of not being able to support visitors, and this loss will lead to economic damage. Moreover, loss of coastal areas means not only loss of flora and fauna habitat but also that previously protected areas further inland will experience the direct impacts of coastal hazards – storm surge, high tides, high winds. Some mitigation measures have been put in place at key areas; these measures include planting mangroves and reforestation or replanting vegetation in dunes.³¹⁸

Drought

MMS reports episodes of drought, and the agency noted extreme deficiencies in rainfall in 1983/1984, 1998/1999, and 2011/2012. Long-term data (1905-2008) showed a decreasing trend in annual rainfall, and, in 2014, MMS noted a decrease in annual rainfall by 8% compared to the 1950s. Projections indicate that by 2050, usable water resources will decrease by up to 13%. The decline in rainfall is attributed to longer transition periods from winter to summer, longer intermediate dry seasons, and a shift in the start of summer rains.³¹⁹ The 1999 drought

caused a loss of US\$160 million to the sugarcane sector, while the 2011 water crisis led to restrictions on irrigation that subsequently caused shortages of vegetables on local markets. According to a 2019 assessment, droughts accounted for more than 96% of combined economic losses nationally for the period 1990–2014. Rodrigues is more exposed to long periods of water scarcity due to somewhat less abundant rainfall and less secure water sources.³²⁰

Earthquake / Tsunami

Earthquakes are not common hazards for Mauritius. However, the potential for one to occur is not zero. Nonetheless, the larger threat is that a seismic event far away in the Indian Ocean could cause a tsunami that impacts the country. A 2019 study found a low overall risk of seismic or tsunami damage across the country, but Rodrigues is somewhat more exposed than the islands of Mauritius, Agalega, or St. Brandon.³²¹ On Rodrigues, a wave runoff of 2.9 m (9.5 feet) was measured after the December 2004 Indian Ocean “Boxing Day” tsunami, generated by an earthquake off Indonesia's Sumatra island.³²²

Flooding

MMS assesses that the long-term annual mean rainfall for the main island stands at just more than 2,000 mm (78.7 inches); of this total, some two-thirds falls in the summer (November-May). There are significant variations in rainfall amounts by elevation and what direction a coast faces. Due to its lower topography and lack of a central plateau, Rodrigues' average rainfall is slightly lower than that of Mauritius. Moreover, MMS has noted rising rainfall variability linked to an increased occurrence of high-intensity rainfall events, which favor flash floods.³²³ A 2021 analysis found that the risk of flash floods has increased significantly, in part because urbanization and development have disrupted natural drainage systems. Flash floods accounted

for just over 26% of reported losses nationally between 1990 and 2014.³²⁴ In 2024, an LDA study identified 306 flood-prone areas.³²⁵ The most devastating floods in the country's history struck in March 2013, when a flash flood occurred in Port Louis after 152 mm (6 inches) of rain fell in fewer than three hours; 11 people were killed. Flooding is likely to occur on the windward side of the island. The threats could be more pronounced in areas of high population density and built-up areas. Annually, flooding not linked to a cyclone is estimated to cause some US\$22 million in damage. Figure 18 illustrates a map of the island of Mauritius' most flood-prone areas.³²⁶

Landslides

Heavy summer showers and cyclones can intersect with topography and a lack of vegetation to result in landslides. Maps have been developed to portray the areas susceptible to landslides, which are common in areas on the slopes at the bases of mountains, such as at Quatre Soeurs, Chitrakoot, La Butte, Montagne Ory, and Nouvelle Découverte. The Government announced that 11 families were relocated from Quatre Soeurs to Camp Ithier (Flacq district) due to the severe damage landslides had caused to their houses. Technical assistance from JICA for the project “Capacity Development on Landslide Management in the Republic of Mauritius” and implemented by the Ministry of National Infrastructure and Land Transport saw the formulation of a landslide management plan to establish a landslide monitoring system, implementation of a feasibility study and pilot project, and improvement of landslide management skills within the Ministry. JICA experts identified 37 sites potentially at risk of landslides. Chitrakoot, Quatre Soeurs, Vallée Pitot, and La Butte were categorized as the highest priority areas because of ongoing landslide activity, hazard risk potential, and the scale of landslide. Necessary countermeasures were implemented and stakeholder meetings for residents were held. Staff of the Ministry and JICA experts visited each priority site to explain

to residents the background and objectives of the project. Figure 19 shows the findings of the JICA-aided assessment of areas with greatest exposure to landslides, or landslide potential index (LPI).³²⁷

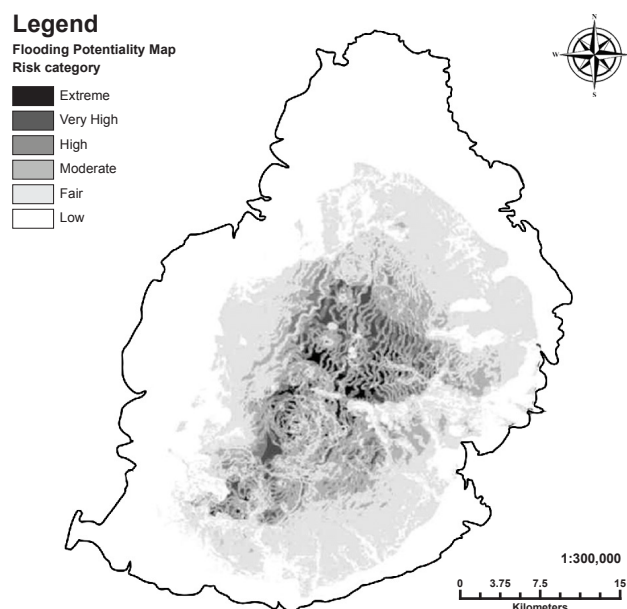


Figure 18: Flood Map of Mauritius Island

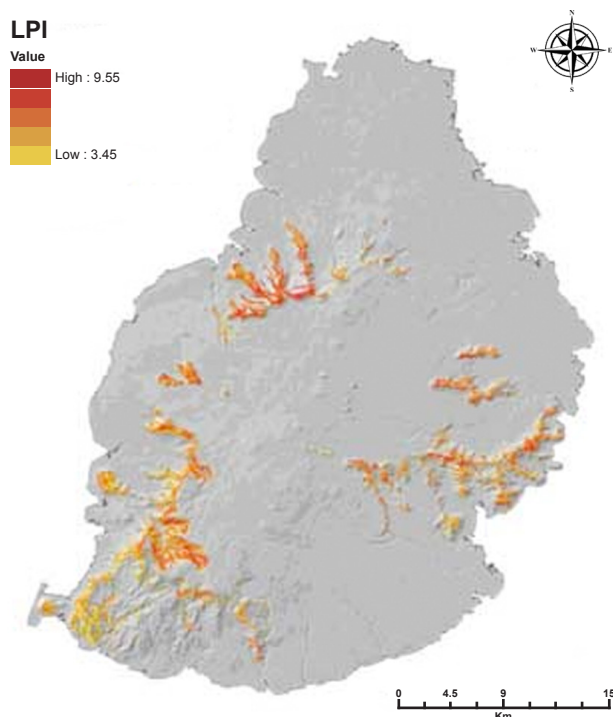


Figure 19: Landslide Potential Map

Sea Level Rise

The Intergovernmental Panel on Climate Change (IPCC) has forecast that global sea level will continue to rise throughout the 21st century. Based on long-term averages of tidal gauge records (1950-2001), there is evidence that the sea level has risen by 1.5 mm (0.06 inches) per year at Port Louis and by 1.3 mm (0.05 inches) per year at Port Mathurin. A continuation of this trend is expected to result in beach erosion, loss of bays, and severe damage to built-up areas. Government reports that the most at-risk areas for landmass loss are located in the southwestern and northern regions and the estuary of the rivulet of Terre Rouge. Public beaches that are most threatened by erosion caused by sea level rise are Flic-en-Flac, Le Morne, Riambel, Pointe d'Esny, Cap Malheureux, and Grand Bay. Moreover, the coastline is receding in certain places by 1 m (3.28 feet) per year, and the risk of salinization of the soil and low-lying agricultural land cannot be underestimated. Some 12–25 km (7.5-15.5 miles) of roads are at risk of permanent inundation or undermining. Less measurable but not negligible is the threat to the aesthetic beauty of the island that may affect the tourism sector. In total, some 12.2 km² (4.7 square miles) of built-up land and 11.8 km² (4.5 square miles) of other areas on Mauritius island are exposed to high or very high inundation hazard. The exposure is relatively lower on Rodrigues, where 0.56 km² (0.22 square miles) of built-up areas are exposed to higher hazard levels. The population exposed to inundation ranges from 22,800 to 63,400 people in Mauritius and 800 to 1,800 people in Rodrigues.³²⁸

Storm Surge

Key coastal villages, home to fishers and farmers, as well as to low-income people, are often threatened by extreme weather events. A recent government study found that it may be necessary to relocate certain communities, especially in the region of Case Noyale and Rivière des Galets. Residents of the latter live close to the shore, and their houses are at risk of being swept away during storm surges.³²⁹

Technological Hazards

Socio-economic development in the islands have brought the potential for toxic waste and contamination accidents. A 2020 assessment found that the textile industry is a potential source of serious environmental and health impacts. There have been reports of chemicals used in the textile industry causing abnormal fish mortality in northern and eastern fishing zones. In addition, Mauritius faced oil spills in 2016 from the MV Benita and in 2020 from MV Wakashio.³³⁰ Given the islands' location near key maritime transport lanes, the potential for a vessel to run into trouble – or aground – and require assistance is high. Not only do materials on board these vessels pose ecological risks, but Mauritian responders may be required to operate alone for long periods of time until other responders can reach the location of an incident.

Tropical Cyclones

The islands of Mauritius sit at the western end of the Indian Ocean cyclone belt and in the middle of the Southwest Indian Ocean Cyclone Basin, where an estimated 11% of global cyclones occur annually. Within the Basin, most storms form north and east of Mauritius, but tracks can vary, with some storms moving west-southwest and then turning to east-southeast and some storms moving east-southeast from origin to dissolution. France's national meteorological service, Météo-France, assessed that, from 1967 through 2013, 13 TCs came within 1° (of latitude or longitude) of the island of Mauritius (one every 3-4 years), 16 TCs (one every three years) came within 1° of the island of Rodrigues during the same period, 15 TCs (one every three years) came within 1° of St. Brandon, and five TCs came within 1° of Agalega.³³¹ Even when a storm does not directly hit the islands, the bands of rain and winds cause storm surge and flooding that bring damage.³³²

A World Bank profile estimated that Mauritius experiences annual losses of US\$88 million in damage from TCs.³³³ Very intense storms can generate gusts of wind exceeding 250 km per hour (155 miles per hour), accompanied by

torrential rains. Such tropical cyclones are also responsible for waves that threaten the lives of people, cause severe damage to public and private infrastructure, agriculture, and farming, and lead to beach erosion. Historic cyclones in the 1960s devastated sugar production and killed dozens of people. With the implementation of a formal cyclone warning system and progress in media and information technology, the number of deaths began to fall. Moreover, Mauritians invested in improved building methods and materials.³³⁴ By the 1990s, cyclones still brought significant destruction to sugar plantations, but their impacts on the population and the built environment were less serious. Nonetheless, by 2022, MMS had noted an increasing trend in the number of storms that formed in the region after 1990, and this increase is accompanied with an intensification of storm strength, with more storms every year reaching the threshold of 165 km per hour (103 miles per hour).³³⁵

History of Major Disasters

The following is a list of major disasters that have struck Mauritius over the past 10 years.

TC Belal – January 2024

TC Belal formed off Réunion on 14 January 2024, strengthened into a category-2 hurricane, and made landfall on Réunion on 15 January before moving toward Mauritius. On 15 January, Mauritius authorities issued a cyclone warning³³⁶ and ordered everyone except emergency and health workers to stay home. Flights into and out of the country were cancelled until the storm passed. The government's Disaster Response Unit, police force's tactical intervention unit, National Coast Guard, Fire and Rescue Service, and Special Support Unit deployed to pre-planned locations in preparation to support a response.³³⁷ Mauritius experienced high winds and heavy rains as the storm moved to the south of the main island. The storm continued southeastward with rain and strong winds still impacting Mauritius through 16 January.³³⁸ On 16 January, the MRCS reported that two people had been killed, 100,000 people were affected,

infrastructure had been damaged, and cars had been washed away or submerged amid the rains and subsequent flooding. More than 1,000 people were evacuated from their homes during the height of the storms, and 40,000 households were briefly without power. Alongside MOHW personnel, the MRCS and other partners conducted a needs and damage assessment and offered affected people psychosocial support as well as transport using SMF armored vehicles to regional hospitals.³³⁹

Dengue Outbreak – December 2023-March 2024

In the largest outbreak of dengue ever recorded in the country, Mauritius reported more than 4,600 cases of the disease (3,300 on Mauritius island and 1,300 on Rodrigues) over the course of four months. As of late March 2024, four deaths had been attributed to the disease. Authorities suggested that an especially rainy summer season had promoted explosive growth in the population of the dengue vector, the *Aedes* mosquito. An inter-ministerial team joined by WHO experts launched a large-scale vector-control program to include use of larvicide and mosquito fogging as well as public information campaigns to enlist the community in ensuring potential mosquito breeding sites were removed. Amidst the outbreak, Mauritius' authorities were supported by WHO staff and funding that financed 12,000 insect repellent sprays, 3,000 insecticide-treated mosquito nets, 1,000 liters of insecticide, 25,000 rapid diagnostic tests, and 5,000 respiratory masks for field workers.³⁴⁰

TC Freddy – February 2023

Early on 20 February 2023, TC Freddy approached Mauritius. Flights were cancelled and businesses closed as MMS issued warnings of high winds. That evening, a follow-on bulletin reported that the cyclone had passed north of the island of Mauritius at a distance of 120 km (75 miles). It brought strong winds and waves to the northern coast.³⁴¹ Media reported one fatality, and at least 500 families were displaced to shelters across the main island.³⁴² Meanwhile, Mauritius response agencies deployed in response to reports that a Taiwan-flagged fishing

vessel had capsized in the storm; it had been located just outside Mauritius' territorial waters, but no rescue was able to be effected.³⁴³

Flooding – March 2022

In mid-March 2022, several days of heavy rains brought damaging floods to several areas of the country. Homes, roads, and bridges were damaged.³⁴⁴ On 13 March, flash flooding affected Port Louis and other areas. One person was killed as they were hiking in the Rivière Noire district. Vehicles were swept away by floodwaters, and four people had to be rescued from their homes in Vallée-des-Prêtres, in the eastern suburbs of Port Louis, after more than 10 centimeters (cm; 4 inches) of rain fell over the course of three hours. Floodwaters blocked several roads, including parts of the M2 motorway in the capital.³⁴⁵

TC Batsirai – February 2022

TC Batsirai passed 130 km (80 miles) northwest of the main island on 2 February 2022. It brought heavy downpours and 120 km per hour (74.5 miles per hour) winds, with one gust of 151 km per hour (93.8 miles per hour) recorded in Port Louis. Public transport was cancelled, shops and banks closed, and air and sea transport was halted until after the storm passed.³⁴⁶ The National Crisis Committee met on 2 February to review the situation after the storm had passed. The Prime Minister noted that there had not been any major damage but that many trees had lost branches and electric lines had been damaged. The worst affected areas were in Port Louis and the lower reaches of Plaine Wilhems. The Committee reported that 138 people had evacuated their homes and took shelter in refuge centers, with the Tranquebar center in Port Louis District hosting the most evacuees. An estimated 7,500 people were without power immediately after the storm, but 5,000 had been reconnected swiftly.³⁴⁷ One report indicated that one person had been killed.³⁴⁸

Flooding and Landslides – April 2021

From 15 to 20 April 2021, heavy rains across

southern Mauritius island brought flash floods and landslides that triggered evacuations and caused damage to houses and roads. Local media reported that, in Bambous Virieux and Petit-Bel-Air, both in Grand Port District, nine people were evacuated. Authorities conducted several rescue operations, and houses and roads were damaged. MMS predicted continued heavy rains over the whole island for at least one more day after the floods and landslide.³⁴⁹

MV Wakashio Grounding and Oil Spill – July 2020

On 25 July 2020, a Japanese-owned bulk oil carrier, MV Wakashio, ran aground on coral reefs approximately 1.8 km (1.1 miles) off Pointe d'Esny, on the southeast coast of the island of Mauritius.³⁵⁰ On 6 August, the vessel began to leak oil, and the government declared a state of emergency the next day. The oil spill that resulted from the leak impacted 27 km² (10.4 square miles) that stretched from Blue Bay Marine Park to Ile aux Cerfs. It saw national authorities collaborate with local authorities as well as the UN, international community, CSOs, and local volunteers.³⁵¹

The national government, led by the Prime Minister, led the response with daily crisis meetings and technical coordination meetings that saw participation by marine pollution control and disposal experts.³⁵² From 7 August, the Ministry of Environment, Solid Waste Management, and Climate Change maintained continuous environmental monitoring at 27 sites across coastlines and associated maritime areas from La Cambuse to Trou d'Eau Douce, all of which had been impacted by the spill.³⁵³ An estimated 1,000 tons of oil spilled into the ocean although another 3,800 tons were successfully pumped out of the grounded vessel. To minimize the health effects of potential oil exposure, the government ordered fishing crews and locals to stay away from beaches and lagoons in the areas of Blue Bay, Pointe d'Esny, and Mahebourg, on the main island's southeastern coast.³⁵⁴ On 15 August, the grounded vessel broke into two sections, and the National Crisis Management

Committee publicized a plan for the bow section to be towed out to 8 nautical miles outside the reef.³⁵⁵ In late August, fishing communities in Rivière des Créoles and Deux Frères received food supply distributions and were made eligible for financial grants due to disruptions of livelihoods.³⁵⁶

On 17 August, the Indian Coast Guard dispatched a 10-member Technical Response Team, trained to deal with oil spills along with an Indian Air Force aircraft that brought specialized equipment for oil spill containment and salvage operations.³⁵⁷ During the response, two Japan Disaster Relief Teams were deployed to support the response and recovery efforts, especially related to removal of oil from the environment.³⁵⁸ By September, the African Development Bank (AfDB) had approved US\$500,000 in the form of an emergency assistance grant to help support ongoing cleanup, damage and loss assessments, and remediation actions by the government, development partners, and others.³⁵⁹

COVID-19 Pandemic – 2020-2023

Mauritius swiftly erected strict travel restrictions for the country when the WHO declared the COVID-19 pandemic. However, the healthcare system required support to develop testing and control processes and to roll out vaccines once they became available. From late January 2020 onward, the MOHW's Communicable Diseases Control Unit and a high-level committee on COVID-19 led the response under the direction of the Prime Minister and with support from various partners, including the WHO country office. With the WHO office's intercession and support, UN agencies helped Mauritius build testing centers and a laboratory information management system, develop and execute public information campaigns, and acquire key equipment. The first three cases of the disease in Mauritius were recorded on 18 March 2020, and this emergence triggered a strict lockdown for over one month. By late April, the country was seeing only sporadic, isolated, and imported cases. This situation continued until an explosion of cases

in March 2021, and this outbreak, which came as the country was rolling out its vaccination program, triggered an intensification in vaccination delivery and interest in the vaccines. By late 2021, the country had recorded more than 68,000 cases of COVID-19 and 786 deaths even as it had fully vaccinated more than 72% of the population, although full vaccination rates on Rodrigues lagged at just below 64%.³⁶⁰ By early 2022, more than 76% of the national population had been vaccinated. The MOHW reported that 928,000 people had been fully vaccinated and an additional 37,000 had received a first dose. Some 94% of people aged 15–17 years had been vaccinated alongside 44% of children aged 12–14 years.³⁶¹ May and November 2023 saw follow-on spikes of reported infections, but with high vaccination rates, the country's health sector was not overwhelmed. As of December 2023, the country had recorded a total of 315,100 COVID-19 cases and 1,056 total deaths.³⁶²

Measles Outbreak – April 2018 – June 2019

Along with Madagascar, Réunion, and Comoros, Mauritius saw an outbreak of measles in 2018-2019. The country reported a total of 1,482 cases and 4 associated deaths.³⁶³ Notwithstanding its nearly 100% measles vaccination coverage, the April 2018 - June 2019 outbreak had an overall incidence rate of 116 cases per 100,000 inhabitants, and a case fatality rate of 0.27%. The two most affected districts had an incident rate range of 150–225 per 100,000 inhabitants. Potential spurs for this outbreak include a drop in the vaccination rate in the worst-impacted districts in 2015, 2016, and 2017.³⁶⁴

TC Joaninha – March 2019

On 22 March 2019, a tropical depression in the Indian Ocean southwest of Diego Garcia strengthened into TC Joaninha, which soon had winds of up to 74 km per hour (46 miles per hour) and had begun to move east-southeast.³⁶⁵ On 28 March 2019, it tracked 400 km (249 miles) southeast of Rodrigues, with maximum sustained winds up to 213 km per hour (132 miles per

hour). Four people were reported injured and 83 displaced across the island. More than 100 houses were damaged by strong winds, and the electric grid was badly damaged.³⁶⁶

Dengue Outbreak - February-July 2019

After five years with no cases of dengue, an outbreak erupted between February and July 2019; by the end of the outbreak, there had been 141 confirmed cases, 11 of which were imported. The cases were recorded in five districts with a high concentration in Roche Bois, Vallée des Prêtres, and Cité la Cure. The incidence rate overall was 10.6 per 100,000 inhabitants; there were no fatalities. Rapid public health measures were taken in affected regions; they included fogging, larvicide distribution, indoor residual spraying, contact tracing, and fever surveys. House-to-house inspections were carried out alongside distribution of 7,000 mosquito coils and 8,000 mosquito repellent sprays. The Vector Biology Control Division conducted mosquito surveys in affected regions, and the MOHW mobilized personnel from the Municipality of Port Louis, the Special Mobile Force, the Ministries of Social Security and National Solidarity and of Environment and Sustainable Development, as well as the Mauritius Police Force to conduct clean-up campaigns to eliminate breeding spots for mosquitoes.³⁶⁷

TC Gelaya - February 2019

On 10 February 2019, Cyclone Gelaya passed south of Rodrigues with winds of up to 185 km per hour (115 miles per hour). As the storm moved south and east, 142 people evacuated to refuge centers across the island; 90% of the island's inhabitants were left without power, and there were significant transport disruptions.³⁶⁸ There were flash floods that caused follow-on displacement of 259 people and damaged infrastructure, private residences, and farms.³⁶⁹

TC Berguitta - January 2018

On 13 January 2018, a cyclone warning was issued for Rodrigues due to the formation of

a tropical disturbance centered 230 km (143 miles) northeast of the island and moving west-southwest. The storm system increased in intensity, and on 14 January, the warning related to TC Berguitta was upgraded for Rodrigues as the storm then packed winds of 50 km per hour (31 miles per hour) with gusts of up to 120 km per hour (74.5 miles per hour). On 15 January, a cyclone warning was issued for Mauritius island, and that warning was upgraded a day later. Active bands of clouds, rain, and winds passed over the main island overnight into 17 January. The storm then began to weaken and was downgraded to a tropical storm that continued to move in a southwesterly direction and passed 70 km (43.5 miles) south of Mauritius.³⁷⁰ The cyclone brought over 500 mm (19.7 inches) of rain in one day. In all, TC Berguitta affected 10,000 families, and 3,600 people evacuated their homes and were sheltered in 57 of the 171 evacuation centers that the government opened ahead of the storm's anticipated landfall. The NDRRMC activated the NEOC. There was significant damage to many roofs, and some houses flooded with the water damaging household items. Families affected by this flooding required assistance to purchase food and household items, especially mattresses and bedding. To reduce the risk of water-borne diseases, disinfection and cleaning was conducted before families moved back into affected homes.³⁷¹

TC Bansi - January 2015

On 16 January 2015, TC Bansi passed northeast of Rodrigues. Heavy winds and rainfall affected the entire island.³⁷² The NDRRMC reported that 1,400 people sought refuge in 14 evacuation centers nationally. A bridge collapsed at Notre Dame in the center of Mauritius island, and landslides impacted Kewal Nagar, on the western side of the island. In the wake of the storm's passage, the MOHW conducted public information campaigns regarding mosquito breeding habitats and how to eliminate them, and there was also a "boil water" advisory.³⁷³

CLIMATE CHANGE

Changes to the physical climate are already impacting and will continue to impact national development. A key example, cited by the World Meteorological Organization (WMO) in its State of the Global Climate 2023 report, is that changes in the acidity or temperature of the ocean affect marine life in ways that will impact coastal communities that depend on the local catch for their livelihood or food security.³⁷⁴ Even for small island states like Mauritius that have diversified, digitized economies, the impacts that changes within the ocean will have on coastal communities are key concerns, especially when paired with atmospheric changes that are shifting temperature and precipitation regimes that also underpin social and economic activities. Indeed, the country's exposure is exacerbated by the concentration of people, livelihoods, and infrastructure near or in low-lying coastal areas.

For Mauritius, climate shocks are already frequent, with an average of four adverse events every decade, and observers note that torrential rains and flash floods have increased in frequency. Mauritius' most recent, updated Nationally Determined Contribution (NDC) under the Paris Agreement identified severe weather and related events – e.g., cyclones, storms and tidal surges, torrential rains, floods and flash floods, and landslides – as significant threats to the country's people and economy. As the national energy sector is the main source (80%) of greenhouse gas emissions, a key thrust of mitigation has been a Green Climate Fund-funded series of projects to increase renewable electricity generation capacity.³⁷⁵

Overview

The increase in human emissions of carbon dioxide and other GHG causes a positive radiative imbalance – i.e., less energy is being released than is entering – at the top of Earth's atmosphere; this energy trapped within the climate system leads to an accumulation in the

form of heat, which is driving global warming. The ocean absorbs heat and, thus, can slow the rate of warming in the atmosphere even as the heat absorbed by the ocean leads to ocean warming which drives expansion in the water's volume that, together with the melting of sea ice and glaciers, raises sea levels. The ocean also absorbs carbon dioxide, which acidifies ocean waters. Warming waters, sea level rise, and ocean acidification all have significant effects on the plants and animals that live in the ocean and on the people who rely upon the ocean for their livelihoods.

Most data sets indicate that the Western Indian Ocean is not among the areas of ocean that have shown the greatest warming to date, but it is still warming, as illustrated in Figure 20.³⁷⁶

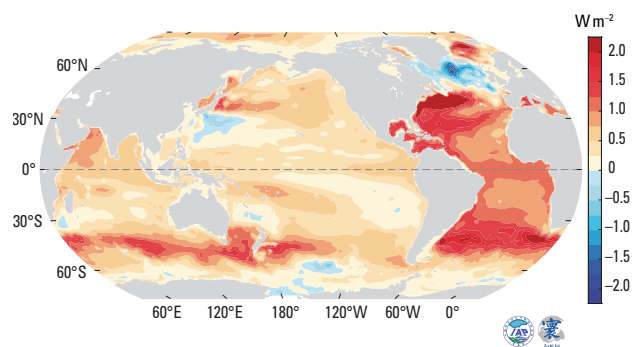


Figure 20: Observed Ocean Heat Content Increases Between 1958 and 2023 (WMO, 2024)

There are shorter-term natural phenomena that affect weather and climate on daily, monthly, yearly, and decadal scales. These phenomena are not explicitly linked to climate change but will interact with climate change in ways that contribute to more extreme weather and ocean events.

Among the key influences over sea surface temperature, precipitation, and sea level in the Western Indian Ocean is the Indian Ocean Dipole (IOD), which is a wind-driven dynamic of coastal upwelling and downwelling that alters the depth of the thermocline³⁷⁷ – the transition layer between warmer mixed water at the ocean's

surface and cooler deep water below³⁷⁸ – and, therefore, drives differences in sea level and ocean temperatures.³⁷⁹ The IOD has a positive phase and a negative phase. In the positive phase, the Western Indian Ocean is warmer, and colder waters from the deep rise to the surface of the Eastern Indian Ocean. In the negative phase, the opposite is true. Figure 21 illustrates the dipole's positive phase and its associated impacts on Indian Ocean rim land masses.³⁸⁰

The U.S. National Oceanic and Atmospheric Administration (NOAA) points out that the IOD has only been studied since approximately 1999, but records of sea surface temperatures in the region have allowed identification of earlier events. The strongest IOD positive phase on record occurred in 2019.³⁸¹ Figure 22 shows satellite measurements of IOD phases (red=positive and blue=negative) from the U.S. National Aeronautics and Space Administration (NASA).³⁸²

Of note, there is some dispute about the IOD's links to the better-studied El Niño Southern Oscillation (ENSO), of which, the cooler La Niña phase tends to bring slight decreases in global mean sea level rise whereas the warmer El Niño phase brings rapid rises in sea level,³⁸³ due, in part, to the impact of temperature on water volume. There appears to be an IOD-ENSO link as El Niño's surface winds near Indonesia blow from southeast to northwest and help bring cold water to the surface near Java and Sumatra and initiate a positive IOD event. Similarly, La Niña tends to trigger negative IOD events.³⁸⁴ At present, the potential impacts of climate change on the IOD are poorly understood.

The sea temperatures and levels associated with the IOD influence weather. In the second half of 2023, the WMO noted a shift to the positive phase of the IOD that resulted in higher-than-average sea levels in the Western Indian Ocean, illustrated in Figure 23.³⁸⁵ The positive IOD's warmer, higher waters in conjunction with an El Niño in the Pacific ensured more active convection and a stronger-than-normal northeast monsoon (October-December) that brought more precipitation to much of the region.

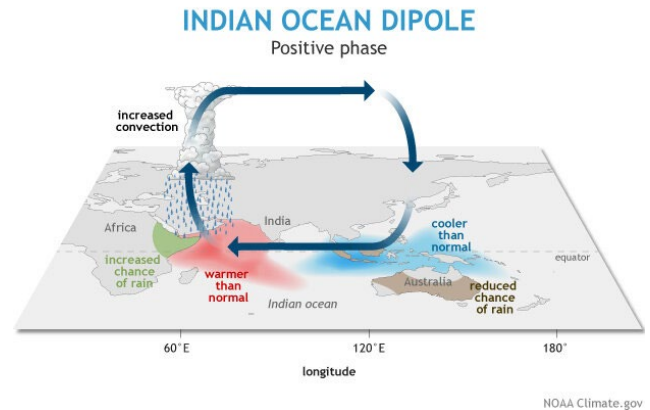


Figure 21: Indian Ocean Dipole, Positive Phase

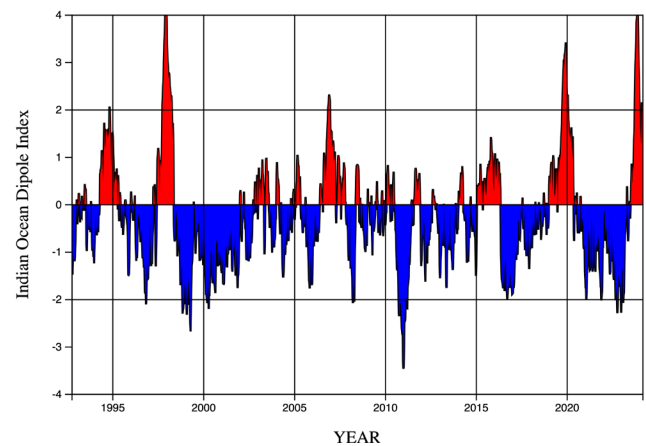


Figure 22: Indian Ocean Dipole Index, 1993-Present (NASA)

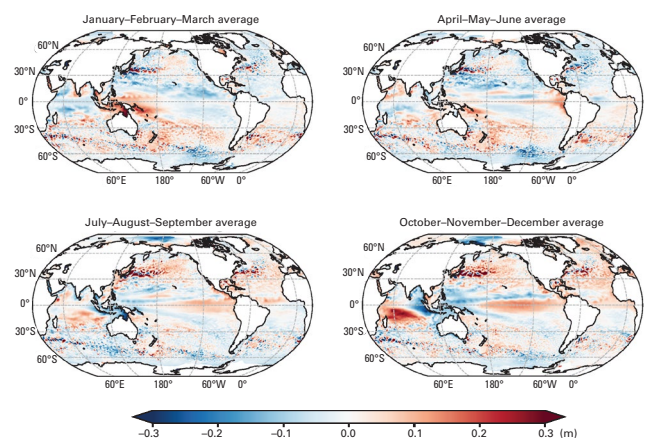


Figure 23: Sea Level Anomalies by 3-Month Average, 2023 (relative to 1993-2012 average) (WMO)

MMS' monthly climate bulletins for September, October, November, and December 2023 bear out the air temperature and precipitation impacts of the positive IOD of latter 2023, shown in Table 4 where excess precipitation is seen at the height of the monsoon in November and December.^{386,}

387, 388, 389

As the 21st century progresses, the variability of Mauritius' climate will be related to both shorter- and longer-term shifts in winds, sea surface temperatures, and other oceanic factors as climate change impacts the annual and decadal cycles discussed above. Given the importance of the ocean to Mauritius' environment, people, and economy, this variability has the potential to exacerbate the climatic, biological, geological, and technological hazards that already cause human casualties and physical and economic damage on an annual basis. In recent years, the frequency and intensity of cyclones have increased and brought torrential rains and flash floods, resulting in damage to lives and livelihoods. Alongside rising sea levels, rising sea temperatures, and ocean acidification, these events have also contributed to beach erosion and coral bleaching events. The potential for these losses to undermine various economic sectors is significant; for example, damage to beaches, resorts, and transport infrastructure, an uptick in the incidence of vector-borne diseases, and word spreading of disrupted vacations all have the potential to drive losses in the tourism sector, which contributes substantially to GDP.³⁹⁰

Climate records for the period 1951-2018 showed a significant warming trend alongside a decreasing rainfall trend. Trends also show a steady rise in sea level around the islands of Mauritius. Across all emissions pathway scenarios, modelling indicates that maximum daily temperatures in Mauritius

will rise significantly by 2050. Conclusions regarding localized precipitation through 2050 are less consistent; they vary significantly due to uncertainties in global efforts to mitigate carbon emissions and in the data modelling for small islands. There is also a lack of certainty around the impact of climate change on regional tropical storms although many models indicate a substantial increase in tropical cyclone-associated damage in the worst-case emissions pathway scenario. Table 5 details some of the ongoing shifts in Mauritius' climate with ranges of potential future trends based on the range of possible future emissions scenarios.^{391, 392, 393, 394,}

395

The country accounts for only 0.01% of global GHG emissions, but it is among the most exposed to natural disaster shocks and ranks low in adaptive capacity. Mauritius' updated NDC from 2021 suggests the country requires US\$2 billion for mitigation and US\$4.5 billion for adaptation by 2030.³⁹⁶ Under the NDC, the country updated its ambition to reduce emissions to a 40% reduction by 2030 compared to business-as-usual, instead of the initial NDC target of a 30% reduction. The government aims to achieve 60% of energy production from green sources by 2030, primarily by phasing out the use of coal and increasing energy efficiency by 10% based on a 2019 baseline. Under the NDC, domestic sources of public and private finance will fund 35% of the costs of climate action;³⁹⁷ this percentage is the "unconditional" target, and the remaining 65% of the target is "conditional" upon sufficient international assistance.³⁹⁸ However, according to the AfDB, Mauritius' cumulative climate finance needs stand at more than US\$7.4 billion, with adaptation representing some 60% of climate finance needs, and, as of 2023, annual climate financing flows stood at

Month (2023)	Mean Temperature (over 30-Year Mean)	Precipitation (% of 30-Year Mean)
September	+1.2°C (+2.16°F) - warmest September since 1960	56%
October	+1.05°C (1.89°F)	74%
November	+0.55°C (0.99°F)	336%
December	+0.35°C (0.63°F)	178% - wettest December in 30 years

Table 4: Air Temperature and Precipitation, Last Trimester 2023

Phenomenon	Trend	Projection	Potential Impacts
Cyclones	Increase in frequency with a fall in intensity during 20th century; long-term average of five cyclones per year in Mauritius' waters	Increased frequency of most intense storms; wind speeds expected to rise by 30 km per hour (18.6 miles per hour)	Damage to trees and buildings, inland flooding, storm surge-related flooding and erosion
Drought	Increased frequency and intensity during 20th century; longer intermediate dry season, and a later start of the summer rains; more consecutive dry days	Annual precipitation expected to decrease by 2040; periods of water scarcity to become more common	Pressure on the water sector to meet increasing demands of agriculture, tourism, and domestic sectors
Precipitation	Between 1905 and 2007, decrease in annual rainfall at an average rate of -57 mm (-2.24 inches) per decade; annual rainfall over the outer islands varies widely year-on-year with long-term decrease; flash flood occurrence increased	Lack of confidence – models indicate anywhere from 25% decrease to 25% increase in total precipitation	Rise in precipitation would bring more inland flooding; extreme rainfall events will increase incidence of flash floods and interrupt lives and livelihoods during the summer; a decrease would increase the risk of drought
Sea Level Rise	Average relative rise of 4–6 mm (0.16-0.24 inches) per year over the period 1990-2020; for 1987-2019, Port Louis tide gauge shows mean rise of 4.9 mm (0.19 inches) per year, and Port Mathurin tide gauge shows mean rise of 6.4 mm (0.25 inches) per year	Forecast of rises of 16 cm (6.3 inches) by 2050, 35 cm (13.8 inches) by 2080, and 49 cm (19.3 inches) by 2100	Coastal zones eroded and without vegetation or habitation; storm surges reach critical infrastructure
Temperature	Average temperature at all stations rose at the rate of +0.15°C (+0.27°F) per decade for the century 1912-2012; temperature at Agalega rising +0.11°C (+0.2°F) per decade; temperature at St Brandon and Rodrigues has warmed by +0.5–1.0°C (+0.9-1.8°F) over the reference century	Significant rise by 2050 - +1.3°C-1.7°C (+2.34-3.1°F), depending on emissions scenario	Heat stress on people and agriculture; rising ocean temperatures and consequent acidification result in coral bleaching and death that allow more violent wave action to exacerbate beach erosion

Table 5: Projected Impacts of Climate Change-Influenced Phenomena

US\$284.2 million, or just over 41% of the annual needs. At the time of the AfDB's assessment, most of Mauritius' climate financing was from public sources, with only 0.2% from the private sector, and most financing was directed towards mitigation. Mauritius's most active multilateral climate funders are the Adaptation Fund, the Global Environment Facility, and the GCF.³⁹⁹

The Climate Change Act 2020 provides a framework at the highest level of government to set national targets and objectives. This legislation also provides for the creation of a Department of Climate Change, which is now operational under the Ministry of Environment, Solid Waste Management, and Climate Change. The Environment Master Plan (2020–2030) establishes a broad framework for moving Mauritius toward a more environmentally sustainable future and a new model of economic development that fosters sustainability, inclusivity, and circularity.⁴⁰⁰ The National Environment Fund, established in 1991, was revised and renamed the National Environment and Climate Change Fund in 2020. It serves as

the government investment channel for financing environment-related projects.⁴⁰¹

“Vision 2030 - Transforming Our Future for the Better” and the five-year Government Programme (2020-2024) laid out strategic goals of promoting the “blue” ocean economy, building toward “smart” cities, and developing the country as a hub for investment, especially in high-employment areas related to maritime sectors.⁴⁰²

In May 2022, the government agreed to the Master Plan for the Environment in the Republic of Mauritius (2020-2030), which includes an action plan of policy recommendations for a culture of environmentalism, environmental urbanism and policy, climate change, coastal zones and the maritime environment, biodiversity and natural resources, pollution control, and management of waste, including plastic waste.⁴⁰³ Pre-dating these programs, the National Climate Change Adaptation Policy Framework (NCCAPF), originally established in 2012 and updated in 2021, laid out these strategies: 1) avoid, minimize, or adapt to the impacts of climate change on key sectors; 2)

avoid or reduce damage to human settlements and infrastructure; 3) promote capacity building for the better understanding and timely response to climate change impacts at the national level; and 4) integrate and mainstream climate adaptation and related issues into development policies, strategies, and plans.⁴⁰⁴ Moreover, the Climate Change Information, Education and Communication Strategy and Action Plan laid out strategic objectives to enhance: 1) public access to information on climate change; 2) public awareness raising and education on climate change; and 3) public participation and engagements in addressing and responding to climate change.⁴⁰⁵

Taken as a whole, the country's laws and programs seek to address multiple facets of climate change mitigation and adaptation, from finance mobilization through waste management. However, translating these policies and plans into action at the local level requires continued outreach to communities and mobilization of resources to drive local risk assessment, planning, and action.

Small Island Developing States

SIDS worldwide confront major threats from climate change-linked hazards.

Since the 1992 UN Conference on Environment and Development, SIDS have been recognized as particularly vulnerable to climate change impacts. A key set of documents from the mid-1990s – i.e., Barbados Programme of Action (BPoA), Mauritius Strategy of Implementation (MSI), and MSI+5 Outcome – recognized that SIDS are afflicted by economic difficulties and confronted by development imperatives both unique and similar to those of developing countries generally. SIDS' particular vulnerabilities were then highlighted at the UN Conference on Sustainable Development (Rio+20) in June 2012; this conference defined SIDS' vulnerabilities as small geographic and population sizes, remoteness, narrow resource and export bases, and exposure to global

environmental and economic shocks.⁴⁰⁶ These vulnerabilities increase the risk these states confront since these attributes connote an inability to build coping capacity and slow arrival of any help for acute crises.

The Organisation for Economic Co-operation and Development (OECD) has generalized the hazards and challenges confronting SIDS, as laid out by the IPCC, which considers SIDS' vulnerability a result of eight interconnected risks:

1. Marine and coastal biodiversity/ecosystem loss – Coral bleaching negatively impacts reefs, which frequently play an important role in SIDS' economies (e.g., fisheries, tourism) and, more importantly, play a role in climate change mitigation and resilience (e.g., carbon storage, wave attenuation). The influence of sea level rise and extreme storms over tides and surges erode beaches, which are vital ecosystems.
2. Terrestrial biodiversity/ecosystems loss – Avian and mammalian species are at risk of extinction due to climatic and human drivers. Sea level rise and extreme weather events cause coastal erosion, which undermines options for adaptation. Tourism, natural resource exploitation, and urbanization further degrade terrestrial ecosystems and increase wildlife-human interactions.
3. Sea level rise – A sustained rise will lead to significant flooding and storm surges that affect low-lying communities, industrial areas, and agricultural lands. Degraded coral reefs no longer provide natural protection.
4. Water security – Freshwater shortages affect populations' health and livelihoods.
5. Loss and damage – Settlements and infrastructure are increasingly exposed to extreme events in SIDS, where there are major impacts on climate-sensitive sectors such as agriculture, fisheries, transport, energy, and tourism, sectors that are key contributors to SIDS' GDP. These losses strain public finances by increasing expenses and the cost of borrowing after weather events strike. The WMO estimates that SIDS

have lost US\$153 billion since 1970 due to weather, climate, and water-related hazards.

6. Health and well-being – Temperature increases are expected to lead to higher mortality and reduce well-being among outdoor workers even as they make new areas of the world more hospitable to disease vectors and increase exposure to and prevalence of diseases (e.g., malaria or dengue fever). Climate change will also impact local food systems and, thereby, challenge food security, increase malnutrition, and lead to higher rates of food-borne and non-communicable diseases.
7. Economic decline – Economic growth in SIDS is, on average, low compared to other developing countries and is generally highly concentrated in a few sectors. As a result, SIDS are very exposed to external shocks.
8. Loss of heritage and cultural resources – SIDS have rich cultures that result from their complex histories, and they maintain a variety of languages and traditions. Under the MSI and the SIDS Accelerated Modalities of Action Pathway (SAMOA Pathway), cultural and natural heritage is key to advancing sustainable development, but climate change strains the capacity to safeguard cultural resources, the loss of which increases vulnerability to climate change because culture, historical knowledge of the natural environment, and social capital foster SIDS' adaptive capacity and resilience.

An illustration of how extreme events can intersect to exacerbate climate-related risks is the COVID-19 pandemic. In addition to its human toll, the pandemic triggered a global economic crisis, with significant costs for SIDS, which experienced 2.1% more GDP loss than the global average. While GDPs were recovering from the pandemic, Russia's invasion of Ukraine disrupted supply chains, shipping routes, the price of raw materials, and food and fuel security, and increased debt servicing, all of which reduced SIDS' ability to sustain recovery from the pandemic.

While SIDS' vulnerability can be reduced, these countries may not be able to fully contain the root causes of their vulnerabilities. On the whole, SIDS are not able to keep pace with growing climate-related risks and challenges without policies and reforms that foster economic recovery and curb the adverse impact of exogenous crises on public finances in a way that promotes resilience and limits the impact of future climate-related shocks. Thus, comprehensive global approaches that develop capacities are appropriate, and the international community plays an important role in complementing domestic efforts.

Article 6 of the UNFCCC recognizes the importance of improving programs to strengthen capacity through educational and public awareness programs and through better access to climate-related information and training. Under Article 11 of the Paris Agreement, capacity building is recognized as an avenue to address climate change and engage in sustainable development. Calls for greater donor support are made repeatedly in the annual UNFCCC COP, but many bottlenecks clearly remain in climate-related capacity development support, including for SIDS. Many of these bottlenecks interact, leading to vicious cycles that require comprehensive action to address multiple constraints simultaneously. Otherwise, climate-related capacity development aimed at a single stakeholder, policy, or institution is unlikely to succeed. SIDS' main barriers in this area include:

1. Limited finance and access to finance – Observers note that finance is SIDS' largest constraint. SIDS lack the financial resources for robust assessments of climate-related needs and priorities or for designing and implementing climate plans. SIDS often rely on external sources that may be unconnected to development plans.
2. Lack of climate-related data and information – Key historical, observational, slow-onset, and damage data, among other data sets, are not reliably collected in or available for many SIDS, and this lack can undermine modelling of observed impacts, understanding

exposure, and assessing losses and damages, among other challenges. Further, available data might not be sufficiently downscaled to capture local and specific characteristics, a particular problem for SIDS with microclimates or that are scattered across large ocean territories where country-level data might not correspond to local realities. Limited data also complicates monitoring, evaluation, and learning processes and undermines SIDS' efforts to formulate a case to access climate finance, such as for anticipatory action or insurance products.

3. Limited human capacity – SIDS often have small job markets with little ability to attract and retain skilled staff, and they consequently have a shortage of expertise in jobs that address climate change (e.g., meteorologists, hydrologists, geographers, biologists) or that facilitate access to opportunities to fund climate-related activities (e.g., preparing bankable projects, communicating in English).
4. Governance challenges – SIDS face important governance gaps around climate change, with small, stretched institutions, inadequate

policy frameworks, and limited coordination.

These barriers impact what SIDS can autonomously do, and most SIDS therefore engage in short-term, sectoral, and small-scale climate-related actions. Nonetheless, SIDS are not a monolithic group; they have different levels of capacity and different capacity development constraints and, therefore, require tailored and context-specific approaches. Many of the constraints listed above are documented in NDCs, and this listing can direct climate finance allocations to where needs are greatest. In 91% of SIDS' NDCs – versus 74% of other developing countries' NDCs – there is a call for capacity development as a condition for implementation. As of March 2023, only 10 SIDS had submitted National Adaptation Plans (NAP), but all include capacity development as a component to adapt to climate change risks.⁴⁰⁷ Figure 24 shows key climate change risks, trends, and adaptations of import to SIDS.⁴⁰⁸

The first International Conference on SIDS in Barbados in 1994 resulted in the BPoA, which prescribed specific actions that would enable SIDS to achieve sustainable development.

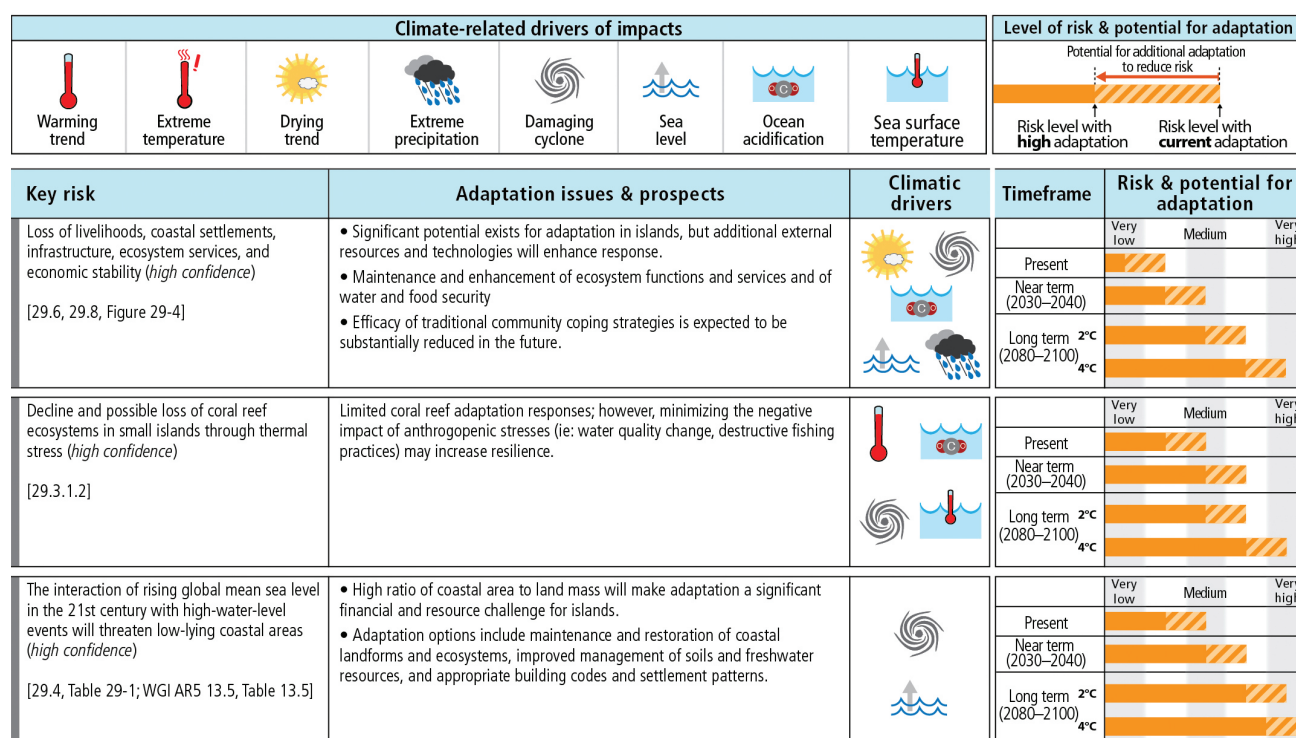


Figure 24: Climate Change Risks, Trends, and Adaptations of Small Island Developing States

The second conference, in Mauritius in 2005, resulted in the MSI to address remaining gaps in implementation of the BPoA. In 2014, Samoa hosted the third conference to seek a new pathway for SIDS' sustainable development. The result was the SAMOA Pathway, which recognizes the adverse impacts of climate change and sea level rise on SIDS' efforts to achieve economic development, food security, DRR, and ocean management. The SAMOA Pathway is crafted to help SIDS address the unique challenges they face and guide international stakeholders in supporting SIDS' development across five action areas:

- Promote sustained, sustainable, inclusive, and equitable economic growth with decent work for all, sustainable consumption and production, and sustainable transportation
- Act to mitigate climate change and adapt to its impacts by implementing sustainable energy and DRR programs
- Protect the biodiversity of SIDS and environmental health by mitigating the impact of invasive plant and animal species and by properly managing chemicals and water, including hazardous waste, as well as protecting oceans and seas
- Improve human health and social development through food security and nutrition, improved water and sanitation, reducing the incidence of non-communicable diseases, and promoting gender equity and women's empowerment
- Foster partnerships among SIDS, UN Agencies, development partners, and others to achieve these goals⁴⁰⁹

Antigua and Barbuda will host the fourth SIDS conference in May 2024, and this iteration is expected to involve a review of SIDS' sustainable development progress and propose a new decade of partnerships and solutions. In preparation for this conference, the Regional Preparatory Meeting for the Atlantic, Indian Ocean, and South China Seas (AIS) region was held in Mauritius in July 2023. Ahead of the AIS

meeting, on online consultation of stakeholders – dominated by NGOs – found that groups working in the AIS region identified the top three challenges to sustainable development as 1) adverse effects of climate change, 2) loss of biodiversity, and 3) accessing financing. The same survey respondents put forward key policy recommendations to address their top challenges; these recommendations clustered around comprehensive climate risk assessments, integration of climate change considerations into all sectors of development planning, involving local communities in decision-making processes, investing in the blue economy, and improving the status of “climate refugees” and migrants. Meanwhile, concrete actions promoted by these same respondents were to protect and restore biodiversity and vulnerable ecosystems, reduce marine pollution, invest in and expanding risk prevention systems and advanced monitoring, forecasting, and early warning systems, establish communication channels, and conduct public awareness campaigns.⁴¹⁰

The outcome of the AIS meeting in Mauritius in 2023 was an agreement on priorities and recommendations to serve as the basis of the AIS positions on a new SIDS development agenda that builds on the BPoA, MSI, and SAMOA Pathway. A key highlight was the confirmation that AIS states encounter significant limitations in terms of financial resources and access to finance and, therefore, confront challenges to effectively implementing development priorities. In terms of progress, the AIS states applauded mainstreaming of the SAMOA Pathway in national policies. However, they also noted that the COVID-19 pandemic disrupted work and compounded the adverse impacts of climate change, especially related to sea level rise and extreme weather events. All facets of energy, water, transport, demographics, and the digital economy are expected to play into the future SIDS program development as SIDS seek to ensure they gain better access to a reformed international financial architecture for climate finance and sustainable private finance.⁴¹¹

Influences on Hazards

Modelling for SIDS requires integration of global tools and data sets with elevation models accurate to small areas, wave and tropical cyclone effects, impacts of reefs and mangroves, and other flood inundation assessments. Data sets can vary as can the variables weighted and prioritized across different models. Thus, some models may project dire consequences under certain emissions pathways while others project somewhat rosier outcomes.

Regardless of model, taken as a whole, the Indian Ocean SIDS – Comoros, Maldives, Mauritius, and Seychelles – show the highest rise in exposure to flooding among world regions, with 13-17 times more people exposed by 2100 compared to the present day, depending on emissions scenario. Meanwhile, damages are projected to be 113-152 times higher. At the same time, these conclusions occlude the fact that, at a more granular level, flood exposure and loss vary substantially among regions and countries and depend greatly on local factors – e.g., character of the coastline, waves and currents, human interventions, and coral habitats' health.⁴¹²

In the IPCC's Sixth Assessment Report (AR6), projections for rainfall and tropical cyclones in the Indian Ocean in general were inconclusive, but there was substantial agreement that relative sea levels would be higher than average at Mauritius and Rodrigues.⁴¹³ This report reflects difficulty in modelling impacts on SIDS because they are impacted by more than just climate. Various available model visualizations display maps that illustrate the potential future impacts related to sea level, temperature regimes, and precipitation patterns.

The Pacific Disaster Center (PDC) maintains layers of data on worldwide boundaries, bio-surveillance, conflict, demographics, economics, hazards, humanitarian action, hydrology, infrastructure, and natural resources, and its map-based DisasterAWARE platform delivers impact assessments related to climate change, risk, and vulnerability via both quick, hazard event briefs and longer-range forecasts, based on demographic, economic, and climate trends.

The system is based on the world's largest, scientifically-vetted big data catalog for disaster management decision making; this catalog is derived in part from PDC's unique National Disaster Preparedness Baseline Assessment as well as its Global Risk and Vulnerability data.⁴¹⁴ PDC's recent assessments of potential sea level rise for the island of Mauritius for the year 2050, under a worse-case emissions scenario, is included in Figure 25.

Additional conditions related to climate change include heat and annual precipitation. Probable Futures interactive map data are sourced from the Coordinated Regional Climate Downscaling Experiment - Coordinated Output for Regional Evaluations (CORDEX-CORE) framework and using two regional climate models - REMO2015, maintained by the Climate Service Center Germany in Hamburg, Germany, and REGCM4, maintained in the Earth System Physics section of the International Centre for Theoretical Physics in Trieste, Italy. Probable Futures focuses on climate variables linked to heat and presents maps of many different temperature phenomena, based on modelling overseen by teams of scientists who vet and oversee the models.⁴¹⁵ Figures 26, 27, 28, and 29 illustrate areas of the island of Mauritius that will contend with days that top 32°C (90°F) under the two temperature regimes of +1.5°C (2.7°F) and +3.0°C (5.4°F) and changes in annual precipitation under the same temperature regimes. All of these figures are from Probable Futures.⁴¹⁶

Although difficult due to data and modelling constraints, some models do work at even smaller scales than the island of Mauritius. The Climate Central Coastal Risk Screening Tool presents interactive maps of areas threatened by sea level rise and coastal flooding by integrating visualizations of coastal elevation (produced by global models) and projections of future flood levels. Their proprietary CoastalDEM is a high-accuracy digital elevation model (DEM) for coastal areas, and their resulting maps are based on the latest sea level projections, including from the IPCC's AR6 and the 2022 Sea Level Rise Technical Report from an U.S. government

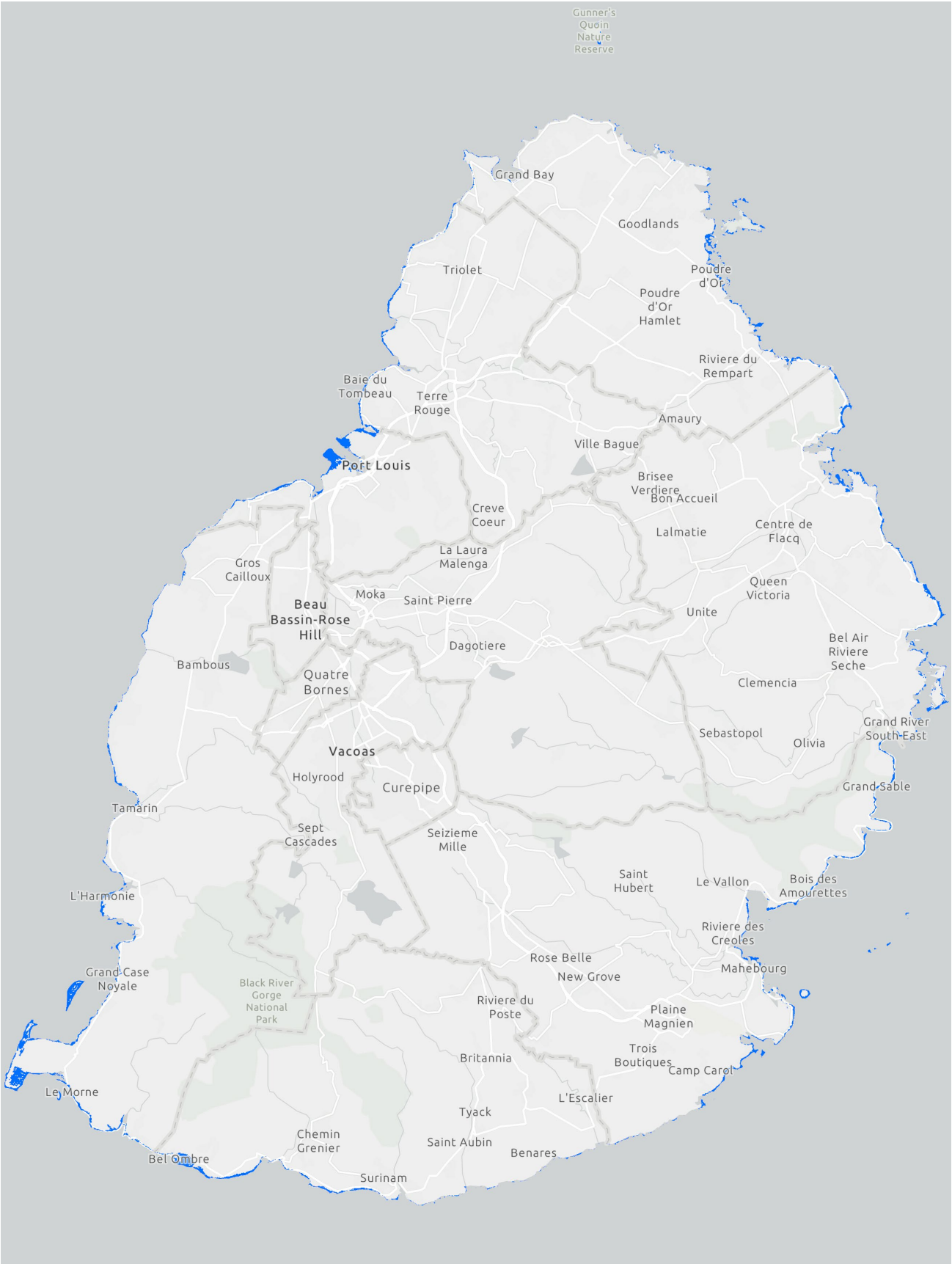
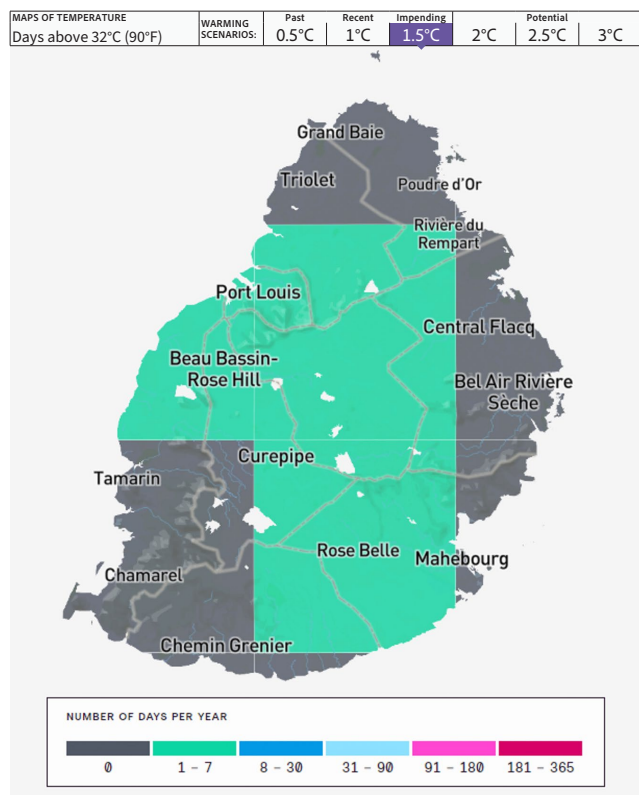
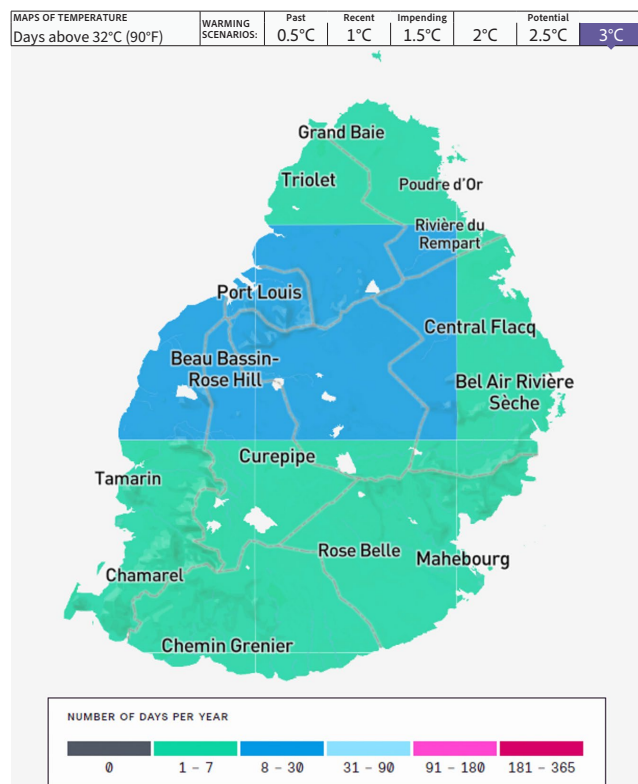
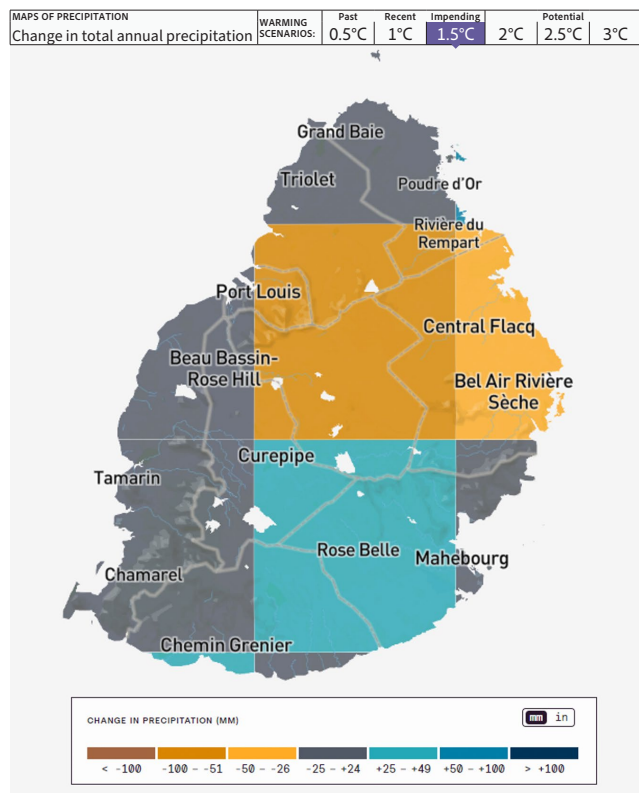
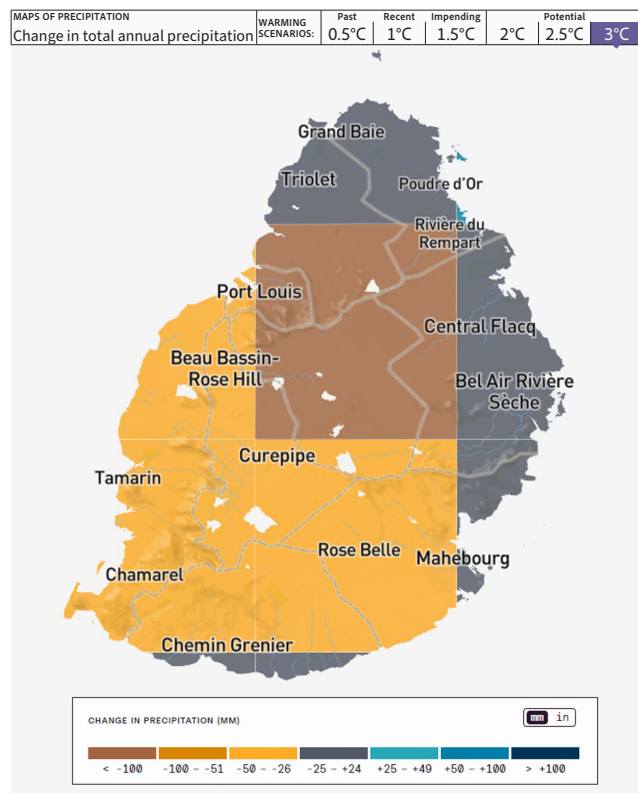


Figure 25: Island of Mauritius, Extent of Sea Level Rise, 2050 Projection (PDC)



inter-agency task force.⁴¹⁷ Figures 30 and 31 show Climate Central's comparisons of areas of Rodrigues and Agalega projected to be below the tide line after +1.5°C (2.7°F) and +3.0°C (5.4°F) changes in average world temperatures. Models that show temperature and precipitation regimes are not available for these islands.⁴¹⁸ Of note, these maps and projections do not take into consideration adaptations currently being undertaken, and they must be considered illustrations of potential rather than definite futures.

Impacts on Populations and Built Environments

Modelling also takes into account community coping capacity and vulnerability as well as infrastructure exposed to climate change-influenced hazards. The impacts on people, ecosystems, and the built environment vary widely among the world's SIDS because the islands all have differing topographies, building codes (and adherence to them), settlement patterns, and ways of managing coastal and inland resources – including but not limited to water sources, off-shore fisheries, and beaches. The following maps illustrate some of the areas of Mauritius – especially ports, airports, and coastal resort areas – that are exposed to sea level rise. As illustrated in the previous section, much of the island of Mauritius will be exposed to more days each year of hotter temperatures, and rainfall regimes are expected to change for the islands although increases and decreases in rainfall will differ depending on overall global temperature rises and specific location on the islands. Overall, the impact on people will relate to heat stress, disease burden, and to the availability of fresh

water. Additional disruption to the country's remaining agricultural activities – sugar and palm plantations – is likely to affect livelihoods and government export revenue. Even within Mauritius, there will be vastly different outcomes. As Figure 31 in the preceding section illustrated, all of Agalega, including its port and airport, may be below tideline after only +1.5°C (2.7°F) global average temperature increase. According to the IPCC's AR6, "In the considered scenarios and modeled pathways, the best estimates of the time when the level of global warming of 1.5°C is reached lie in the near term (2021-2040)." It should be noted that this rise refers not to temperatures passing that mark on a given year but to when temperatures consistently exceed a 1.5°C increase longer term.⁴¹⁹

Figures 32 and 33, both from Climate Central, illustrate the potential for sea level rise to disrupt transport and trade at Port Louis and Mahebourg (both on Mauritius), respectively.⁴²⁰

Based on available models, most of Rodrigues' communities and facilities will not be directly exposed to sea level rise or flooding. Schools, hospitals, roads, and the airport are, in general, situated outside of the areas projected to be impacted by flooding even under worst case assessments for 2100, as illustrated in Figure 34, from Climate Central.⁴²¹ However, the facilities that are exposed to sea level rise – the port and bus terminal as well as most of the islands' resorts – are key economic drivers. Figure 35, also from Climate Central, shows a comparison of greater Port Mathurin's areas projected to be below the tideline after +1.5°C (2.7°F) and +3.0°C (5.4°F) changes in world temperatures; the figure illustrates that key transport links and large areas of Port Mathurin will be under water after 3.0°C (5.4°F) of global temperature rise.⁴²²

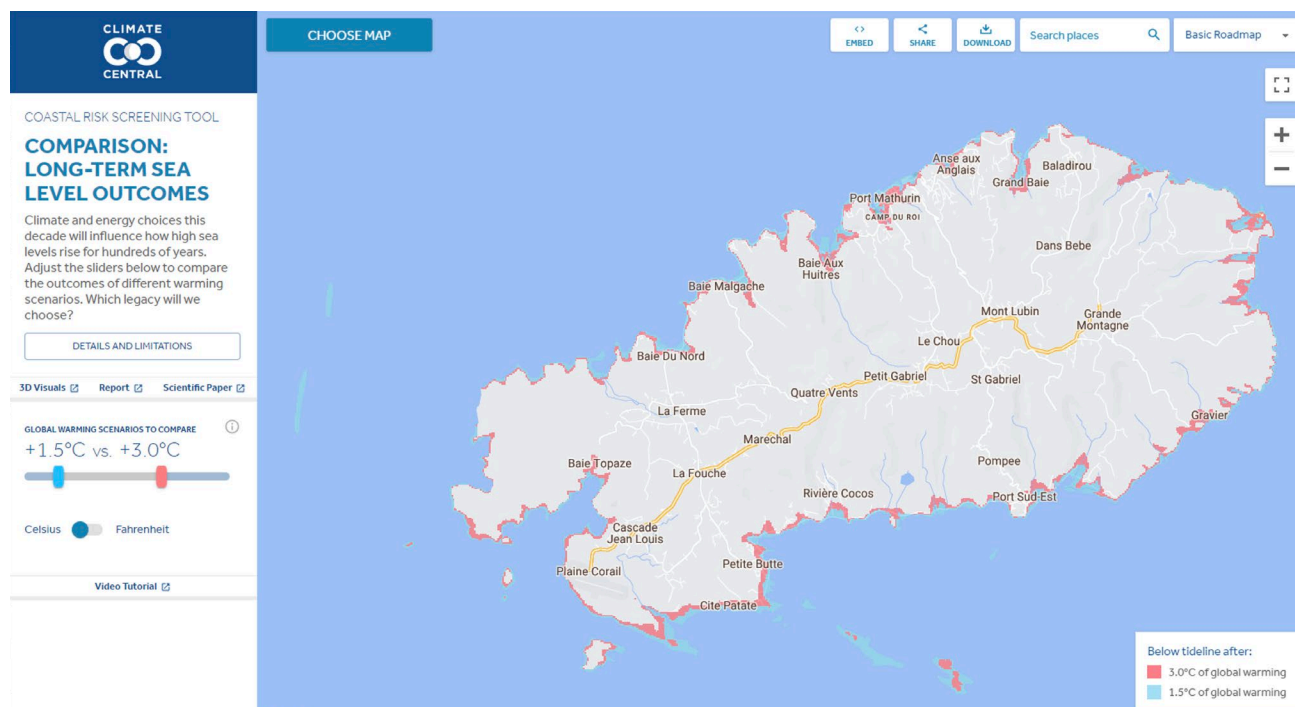


Figure 30: Rodrigues Island, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)

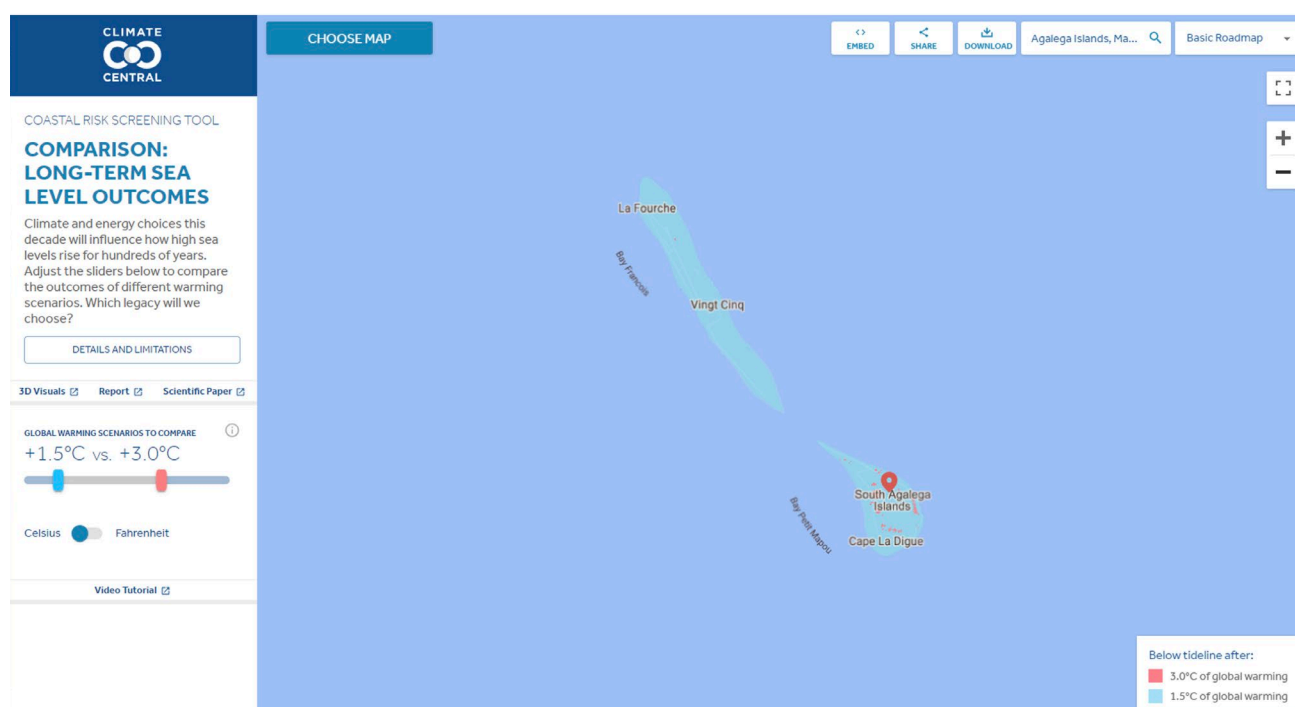


Figure 31: Agalega Islands, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)

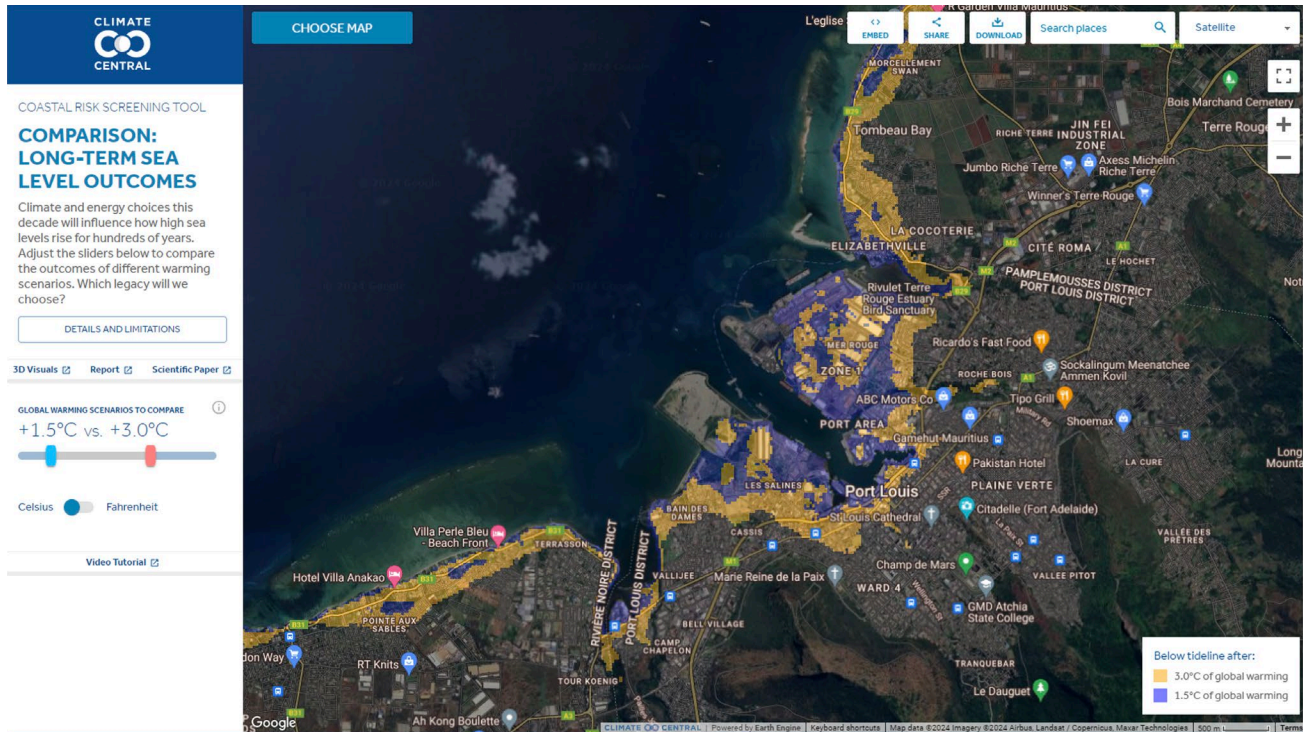


Figure 32: Port Louis, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)

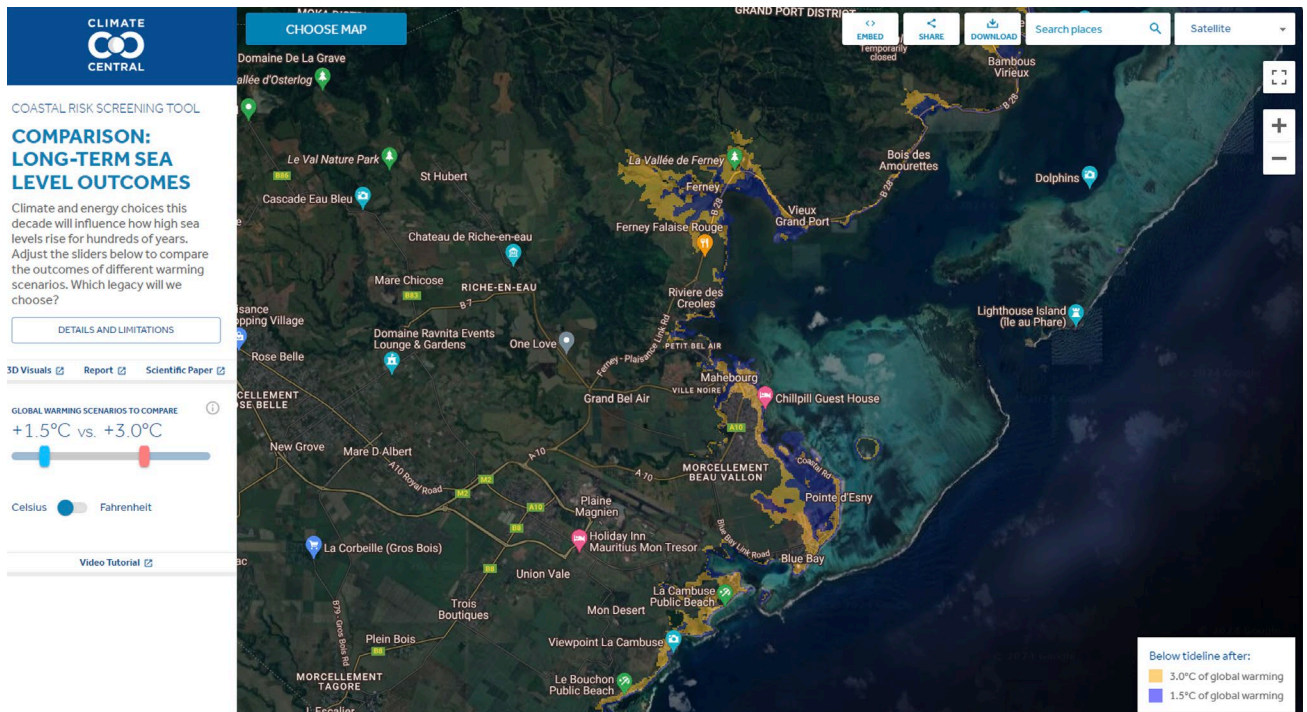


Figure 33: Mahebourg Area, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)

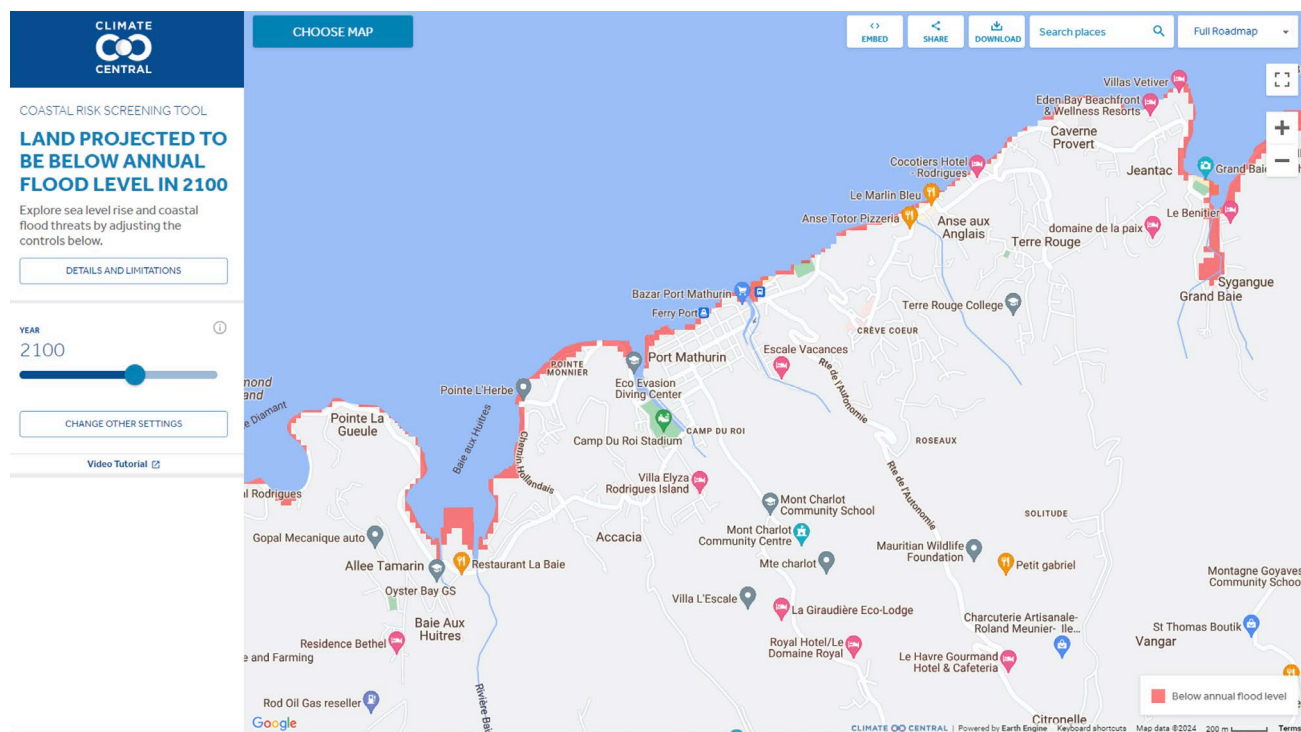


Figure 34: Rodrigues' Port Mathurin Area, Land Projected Below Annual Flood Level by 2100 (Climate Central, by permission)

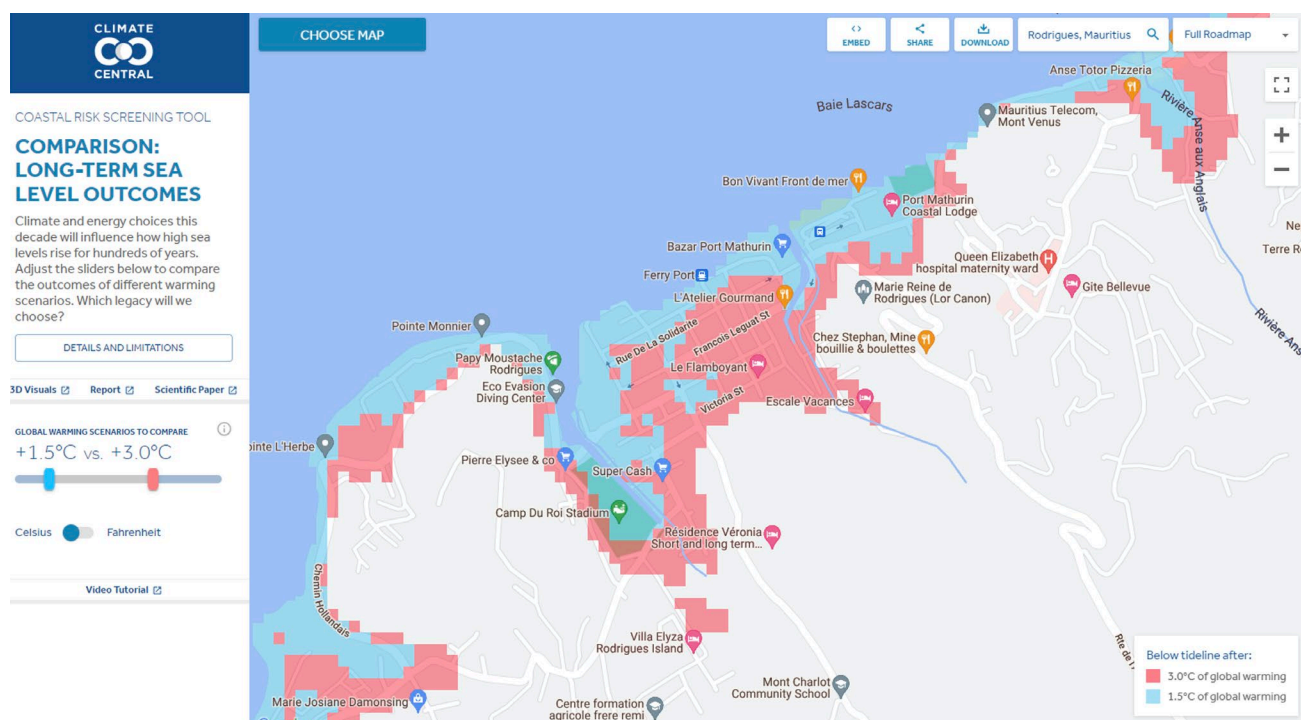


Figure 35: Port Mathurin Area, Long-Term Sea Level, Projected Under 1.5°C and 3.0°C Global Temperature Rise (Climate Central, by permission)

CONCLUSION

Mauritius, like other SIDS, confronts increased overall risk due to the influence of climate change on already present natural and human-made hazards. The country's small geographic size, population, resource base, and remoteness, impact its ability to reduce vulnerability and boost coping capacity. In the near future, it can be expected that the country's least economically robust communities will be increasingly vulnerable to danger because they are less able to adapt; communities on the outer islands are of particular concern as they have fewer assets to use to boost resilience and are simultaneously extremely difficult to reach in case of emergency.

From the 2012 DRR Strategic Framework and Action Plan and its focus on cyclones and flooding, coastal and marine ecosystem conservation, spatial data, and an emergency fund, through the 2015 National Disaster Scheme that focused on response and recovery and established the National Disaster Risk Reduction and Management Council and NDRRMC, Mauritius has continued to build its DRR, disaster management, and early warning systems. Most recently, the National Disaster Risk Reduction and Management Strategic Framework (2020–2030), National Disaster Risk Reduction and Management Policy (2020–2030), and National Disaster Risk Reduction and Management Action Plan (2020–2030) have affirmed that managing disaster risk means managing climate change impacts.⁴²³

In recent years, the frequency of torrential rains, tropical cyclones, storms, tidal surges, floods, landslides, tsunamis, and hazardous materials spills has risen. The country's health system can expect more frequent outbreaks of vector-borne diseases even as inadequate

drainage infrastructure and waste management systems struggle to ensure that high waters and human resource shortfalls do not result in unlivable spaces and derail high levels of socio-economic development enjoyed by much of the population.

Climate change is well established on the agenda of the government and is central to various policies. Future habitability of some areas will require serious consideration in policymaking as human mobility – domestic and international – is a long-standing response to social and economic stressors and could become a political challenge if a brain drain worsens. Planned relocation became a topic of government discussion as early as 2007, when massive flooding struck the southern part of the main island. As of 2013, the government had noted the need to establish a climate change-related migration framework.⁴²⁴ The National Migration and Development Policy of 2018 does emphasize the need for enhanced data collection on migration as a result of environmental drivers, a better understanding of the role of migration as a climate change adaptation strategy, and an assessment of the effectiveness of disaster risk management to cope with the realities faced by migrants. Moreover, a Migration and Development Steering Committee was established to achieve the Policy's objectives. Finally, the IOM partnered with six countries, including Mauritius, on the Migration, Environment, and Climate Change: Evidence to Policy (2014–2016) program, which contributed to the global knowledge base on the linkages between migration, climate, and other environmental change and presented policy options on how migration can serve as a climate adaptation strategy.⁴²⁵

APPENDICES

Participation in International Organizations

Mauritius is a member of, participates in, or cooperates with the following international organizations and agreement frameworks either as a government or via a national NGO or other entity:

African Development Bank (AfDB), African Union (AU), Alliance of Small Island States (AOSIS), Common Market for Eastern and Southern Africa (COMESA), Community of Portuguese Language Countries (CPLP - associate), Conference on Disarmament (CD), Food and Agriculture Organization of the United Nations (FAO), Group of 77 (G-77), Indian Ocean Commission (IOC), Institute of Catastrophe Risk Management (ICRM), Inter-Parliamentary Union (IPU), International Atomic Energy Agency (IAEA), International Bank for Reconstruction and Development (IBRD), International Chamber of Commerce (ICC-NGOs), International Civil Aviation Organization (ICAO), International Criminal Court (ICC), International Criminal Police Organisation (INTERPOL), International Development Association (IDA), International Federation of Red Cross and Red Crescent Societies (IFRC), International Finance Corporation (IFC), International Fund for Agricultural Development (IFAD), International Hydrographic Organization (IHO), International Labour Organization (ILO), International Maritime Organization (IMO), International Mobile Satellite Organization (IMSO), International Monetary Fund (IMF), International Olympic Committee (IOC), International Organization for Migration (IOM of the UN), International Organization for Standardization (ISO - correspondent), International Organization of La Francophonie (OIF), International Telecommunications Satellite Organization (ITSO), International

Telecommunications Union (ITU), International Trade Union Confederation (ITUC - NGOs), Multilateral Investment Guarantee Agency (MIGA), Non-Aligned Movement (NAM), Organisation for the Prohibition of Chemical Weapons (OPCW), Organisation of African, Caribbean and Pacific States (ACP), Permanent Court of Arbitration (PCA), South Asian Association for Regional Cooperation (SAARC -observer), Southern African Development Community (SADC), United Nations (UN), United Nations Conference on Trade and Development (UNCTAD), United Nations Educational, Scientific, and Cultural Organization (UNESCO), United Nations Industrial Development Organization (UNIDO), Universal Postal Union (UPU), World Customs Organization (WCO), World Federation of Trade Unions (WFTU NGOs), World Health Organization (WHO), World Intellectual Property Organization (WIPO), World Meteorological Organization (WMO), World Tourism Organization (UNWTO), World Trade Organization (WTO)

Sendai Framework

The Sendai Framework for Disaster Risk Reduction 2015-2030 is the global blueprint and 15-year plan to build the world's resilience to natural disasters.⁴²⁶ The Sendai Framework is the successor instrument to the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.⁴²⁷ Adopted at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan, in 2015, the Framework aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries by 2030.⁴²⁸

The Framework outlines seven targets and four priorities for action to prevent new and reduce existing disaster risks.

The Seven Global Targets include:

- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality rates in the decade 2020-2030 compared to the period 2005-2015.
- Substantially reduce the number of affected people globally by 2030, aiming to lower average global figure per 100,000 in the decade 2020-2030 compared to the period 2005-2015.
- Reduce direct disaster economic loss in relation to global GDP by 2030.
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.
- Substantially increase the number of countries with national and local DRR strategies by 2020.
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this Framework by 2030.
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.⁴²⁹

The Four Priorities of Action include:

- Understanding disaster risk
- Strengthening disaster risk governance to manage disaster risk
- Investing in disaster reduction for resilience
- Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation, and reconstruction.

Figure 36 shows the Sendai DRR Framework.⁴³⁰

In the country’s 2022 Voluntary National Report for the Midterm Review of Implementation of the Sendai Framework (MTR SF), the NDRRMC highlighted the main achievements and outlines the challenges

faced between 2015 and 2022, and it lays out prospective views on the implementation of the Sendai Framework in Mauritius through 2030 and beyond. The MTR SF examines how initial DRR activities conducted between 2015 and 2020 led to the adoption of the National DRRM Policy, Strategic Framework, and Action Plan (NDRRMPSFAP) for 2020-2030. Of note, to understand the implementation of the Action Plan 2020-2030, 189 actions are presented in a 5-year Action Plan (2020-2025) and a Beyond 5-year Action Plan (2026-2030).

The following descriptions are highlights and summaries from the Voluntary MTR SF.⁴³¹

Priority 1 – Understanding disaster risk

Organizations focused on capacity for risk assessments are the Land Drainage Authority (LDA), responsible for flood risk assessment, and the Ministry of National Infrastructure and Community Development, responsible for landslide-prone areas through the Geotechnical Unit. An Environmental Impact Assessment (EIA) license is required to assess the appropriate risks and their remedial measures and may be obtained from the Ministry of Environment, Solid Waste Management and Climate Change for development projects. Challenges remain to completing risk assessments for all 41 hazards identified in the Strategic Framework. A review of existing laws and legislation and alignment are required together with sharing risk information among different sectors.

For 10 years, Mauritius contributed substantial resources to coastal rehabilitation to safeguard natural assets. The program rehabilitated some 10 km (6.2 miles) in 23 coastal regions. Per the Planning Policy Guidance and through the EIA and Preliminary Environmental Report mechanisms, there is a minimum setback of 30 m (98.4 feet) from the high-water mark for the construction of structures on the shoreline.

In 2019, UNDP and France’s Bureau de Recherches Géologiques et Minières (geological survey agency) conducted a study to determine the vulnerability of Mauritius to seismic hazards and tsunamis. As a result of the study, it was

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and Purpose						
The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological, and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors						
Expected Outcome						
The substantial reduction of disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries						
Goal						
Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political, and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience						
Targets						
Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality during 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 during 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global GDP by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030
Priorities for Action						
There is a need for focused action within and across sectors by States at local, national, regional, and global levels in the following four priority areas.						
Priority 1	Priority 2	Priority 3	Priority 4			
Understanding disaster risk	Strengthening disaster risk governance to manage disaster risk	Investing in disaster risk reduction for resilience	Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation, and reconstruction			
Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics, and the environment	Disaster risk governance at the national, regional, and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations, and public policies that, by defining roles and responsibilities, guide, encourage, and incentivize the public and private sectors to take action and address disaster risk	Public and private investment in disaster risk prevention and reduction through structural is non-structural measures are essential to enhance the economic, social, health, and cultural resilience of persons, communities, countries, and their assets, as well as the environment. These can be drivers of innovation, growth, and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses, and ensure effective recovery and rehabilitation	Experience indicates that disaster preparedness needs to be strengthened for more effective response and to ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation, and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to “Build Back Better” through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases			

Figure 36: UN Sendai Framework for Disaster Risk Reduction 2015-2030

recommended that an operational study of coastal risk be conducted, with the Ministry of Environment, Solid Waste Management and Climate Change taking the lead. Separately, in January 2022, the Ministry conducted a comprehensive audit of rivers and watercourses to assess their carrying capacity and identify areas that experience recurring flooding. The audit investigated the causes of flooding and recommended remedial measures to mitigate flooding in those areas. The findings and recommendations were shared with the LDA to align with the National Land Drainage Master Plan (2022). Completed in May 2022, the Plan includes the following:

- Detailed flood risk map
- Mapping of historical flood-prone areas for the whole island of Mauritius
- Mapping of potential flood-prone areas based on projected new land use development changes
- Formulate action plans to improve drainage infrastructures implementation for the short and middle terms
- Vulnerability of different zones
- Action plans for future investment

To better understand disaster risk, the country cooperated with the UNDP in developing the Mauritius Disaster Information Management System (MauDIMS). Since 2021, the MauDIMS has analyzed disaster data for DRR, informed development planning, and monitored global progress in line with the Sendai Framework Monitor and the SDGs. Additionally, since 2022, the NDRRMC has been receiving support from Statistics Mauritius for setting up a statistics unit to provide statistical data to inform decision making. Several organizations also contribute to enhancing the country's capacity in terms of disaster risk assessment and understanding risk and information. For example, the Water Resources Unit (WRU) conducted a Dams Break Analysis from 2018 to 2020, and the Central Electricity Board identified its vulnerability to cyclones through past experiences and yearly preparedness plans to assess risk and required

actions. On 30 April 2021, the UNDP also published "Technical Support for the UNDP Climate Promise in the Republic of Mauritius," a study focused on the causes of flood/flash flood due to surface runoff from agricultural land.

In November 2016, the World Bank prepared a Mauritius Disaster Risk Profile with an emphasis on cyclones, floods, and earthquakes. Through the improved understanding of disaster risk, the Southwest Indian Ocean Risk Assessment and Financing Initiative sought to inform disaster risk financing.

Using a multi-stakeholder capacity-building approach, the Ministry of Environment, Solid Waste Management and Climate Change, with support from AFD, conducted a study in 2020 with focus on six priority sites on Mauritius. The six sites are Port-Louis, Flic-en-Flac and Tamarin, Bel Ombre and Riambel, Belle Mare, Pereybere and Grand Baie, and Nouvelle France.

Mauritius has positioned itself as a trade hub (re-export, logistics, and distribution), with Port Louis harbor as the center of the supply chain. The country imports most of its national food requirements. Thus, a disaster affecting Port Louis harbor would jeopardize the import of vital goods. In 2018, the country's economy was affected by the closure of the port for 40 days due to storm swells and winds above 70 km per hour (43.5 miles per hour). Between 2018 and 2021, a fund of US\$325,000 was awarded for a vulnerability assessment for Port Louis through the Climate Technology Centre and Network and GCF with an aim to enhance the port's resilience to adverse impacts of climate change. The study recommended the construction of a 1.2-km (0.75-mile) breakwater by 2025 as the port's main adaptation measure to build resilience and decrease the number port operations stoppages due to adverse weather conditions.

In 2018, the tourism sector accounted for 8.5% of the country's GDP, and the sector is one of the main drivers of economic growth. The sector was negatively impacted by the COVID-19 pandemic and remains vulnerable to climate change, adverse weather events, and environmental accidents such as the 2020 MV Wakashio

incident. Ninety percent of hotels are located in coastal zones and are directly exposed to storm surges and floods, coastal erosion, and the loss of biodiversity.

The Ministry of Fisheries has established seven coral nurseries since 2018; there are five in the Blue Bay Marine Park, one in the Balaclava Marine Park, and one in Trou aux Biches. The Ministry has identified areas where exposure to climate change risk could be minimized, and it has worked to improve fisheries infrastructure to withstand extreme weather events. Since April 2022, the Ministry of Fisheries has been implementing the Assistance Scheme for Coral Farming and Fish Breeding, funded under the National Environment and Climate Change Fund. The project aims to train 300 fishermen in coral farming techniques, to manage and maintain coral nurseries, and to create and sustain coral gardens. Since 2021, the Ministry has been an implementing partner of the UNDP AFD-funded project, Restoring Marine Ecosystem Services by Restoring Coral Reefs to Meet a Future Climate Change. The UNDP AFD Coral Restoration Project aims to reduce climate change's impact on local communities and coral reefs in Mauritius and Rodrigues, as well as in Seychelles, by husbanding thermal-tolerant corals to respond to climate change.

Pertaining to the agricultural sector, adaptation, DRR, and management are mainstreamed into the country's national policy and planning documents. Moreover, despite the absence of indigenous populations, the local communities possess valuable knowledge, particularly small-scale planters who have encountered diverse inclement weather conditions.

Priority 2 – Strengthening disaster risk governance to manage disaster risk

Since 2015, Mauritius has been committed to working towards achieving the goals of the Sendai Framework by collaborating with the CADRI Partnership; in 2020, it conducted a national capacity assessment for DRR. The 200+ recommendations from the CADRI Report

were instrumental in developing the disaster management NAP for the country and aligned targets to the Sendai Framework. The country established DRR governance through the NDRRMPSFAP 2020-2030 and set up a Steering Committee to oversee the implementation of the Plan. The NDRRMPSFAP comprises 189 actions grouped under four strategic objectives:

1. Disaster Risk Governance – To ensure risk governance systems are enabled to face current and future disaster risks
2. Disaster Risk Reduction – To progressively reduce disaster risk during the decade to 2030
3. Warning and Alert – To put in operation a multi-hazard, impact-based warning system and effective means of alert by 2030
4. Preparedness, Response, and Recovery – To reduce the overall impact of disaster through better preparation, more efficient and rapid response, and recovery.

The National DRRM Act 2016 provided the legal mandate for disaster management coordination at the executive level and established the institutional framework. The main objectives of the DRRM Act 2016 were to provide for prevention and reduction of the risk of disasters, mitigation of the adverse impacts of disasters, disaster preparedness, rapid and effective response to disasters, and management of post-disaster activities, including post-disaster recovery and rehabilitation. The Act strengthens the DRR governance of the NDRRMC and enabled the setting up of the National DRRM Council in 2016, the National Crisis Committee in 2018, and the LDRRMCs, as well as development of the Coordinated Response Approach for Emergency and Crisis Management and decentralization of DRRM through coordinated training and simulation exercises through the LDRRMC with support from the NDRRMC.

The Land Drainage Authority (LDA) Act 2017 is the main legal foundation for funding DRR activities as derived from the country's yearly national budget. The LDA is responsible

for developing and implementing the national land drainage master plan, coordinating the construction of drainage infrastructure by local authorities and other relevant stakeholders, and ensuring that the drainage infrastructure is routinely and periodically upgraded and maintained.

The Local Government (Amendment) Act 2018 gives local authorities the power to increase penalties for illegal construction and development, and it mandates that District Courts issue pulling-down orders for illegal construction and development.

The Climate Change Act 2020 (No. 11 of 2020) is the country's legal framework on climate change resilience and low emissions. The Act establishes the Inter-Ministerial Council on Climate Change, which sets national objectives, goals, and targets, and the Department of Climate Change within the Ministry of Environment, Solid Waste Management and Climate Change. Aside from policymaking duties, the Department is responsible for:

- Promoting adaptation and mitigation measures in all sectors
- Establishing mitigation procedures and reporting mechanisms
- Establishing and maintaining a climate change database
- Promoting the implementation of Article 6 of the UNFCCC on education, training, and public awareness on climate change and related matters
- Monitoring the implementation of mitigation and adaptation policies
- Publishing an annual National Inventory Report on GHG emissions by sources and removal by carbon sinks

Following Cabinet approval, the National Disaster Scheme (NDS) 2015 replaced the previous annual publication of the Cyclone and Other Natural Disasters Scheme. The NDS is the primary source of information at the national level to inform relevant stakeholders on decision-making regarding preparation for and response to various disaster threats. The NDS outlines

response schemes for cyclone emergencies, heavy rainfall/torrential rain/flooding, landslides, tsunamis, high waves, water crises, earthquakes, and Port Louis floods.

The National Land Development Strategy (NLDS) superseded the 2003 National Development Strategy as the primary Land Use Planning Strategy. With a focus on sustainable development principles, the NLDS will chart the country's vision, strategy, and policies up to 2040. By assessing 18 years of previous land policies and management practices, the NLDS recommends corrective measures and changes to land use planning laws. To ensure compliance with planning and building legislation, regulations, norms, and guidelines, the Local Government Act, the Building Control Act, the Town and Country Planning Act, and the Environmental Protection Act form the foundation for self-adherence. The National Development Strategy, which regulates land use across the islands, and the NLDS both incorporate DRR considerations into their policies and actions.

Priority 3 – Investing in disaster reduction for resilience

Mauritius' revised NDC consist of key adaptations in the water, agriculture, tourism, fisheries, Blue Economy, infrastructure, coastal zones, biodiversity, and health sectors. The NDC also includes considerations for cross-cutting sectors - i.e., gender, DRR, social security, and education. In order to fortify the resilience of the country, the government made significant investments in the form of funds, grants, and aid provided to victims, coupled with compensation measures. The National Environment and Climate Change Fund (NECCF) offers compensation to those affected by environmental emergencies and spills. They provide support for a range of projects, programs, and schemes focused on areas such as the rehabilitation, protection, and management of beaches, lagoons, and coral reefs, solid waste management, DRR, cleaning and beautification projects, landslide management, green economy initiatives, and

environment protection. The disbursement of government grants to support agricultural needs, victim assistance, and flood and cyclone allowances is facilitated through three channels: the Prime Minister's Relief Fund, the Ministry of Social Integration, and provisions for evacuee shelters. These grants also aim to aid in the reconstruction of homes destroyed by natural disasters, and they are particularly targeted at vulnerable individuals. To address the oil spill caused by the grounding of MV Wakashio and to enhance capacity building efforts on DRR, international assistance totaling US\$3 million was received; the total includes US\$2.5 million from the United Nations Recovery Fund and US\$500,000 from the AfDB. Established in October 2016, Mauritius' Lotto Fund finances projects, schemes, and events, and provides support to victims of natural disasters.

In response to the 2020 MV Wakashio oil spill, an Integrated Environmental Monitoring Plan (IEMP) was established to manage the long-term impact of the oil spill on corals, seagrass, and mangroves in the affected areas. The progress of the IEMP is evaluated quarterly through update reports. Notably, the IEMP follows a multistakeholder approach, which entails the involvement of organizations such as the Mauritius Oceanography Institute and the University of Mauritius.

The Ministry of Environment has undertaken an Operational Study since July 2022 to identify and evaluate potential risks to coastal areas and assets that result from storm surges and marine submersion. The study aims to be completed by 2024. In addition, the Ministry has conducted a preliminary vulnerability assessment of coastal zones, agriculture, and infrastructure, along with a desk study for updating the NCCAPF. The Land Drainage Master Plan 2022 seeks to manage surface water holistically by emphasizing the use of Sustainable Drainage Systems. Local authorities are required to allocate budgets for maintaining these areas at least twice a year.

The government has made significant investments in infrastructure to benefit its citizens. As part of the national Flood

Management Program, the construction of drains and installation of Gabion Nets in coastal regions affected by storm surges or high waves have been prioritized. From January 2016 to December 2020, roughly 400,000 trees were planted as part of the national tree planting campaign. In addition, there were several private initiatives to plant trees. Furthermore, a policy has been developed to replace casuarina trees in the dynamic beach zone with endemic plants that are better suited to coastal areas. To mitigate the risk of fires, fire breaks spanning approximately 20 km (18.6 miles) have been created and maintained in fire-prone areas.

The MoETEST has taken a proactive approach to incorporating climate change and disaster risk issues in the Teacher Education Program. This effort has been reinforced by a rigorous multi-disciplinary curriculum that is further supplemented by seminars and workshops.

In addition to its national investments, Mauritius requested technical assistance from Japan, which established a Landslide Management Project in May 2012. As a result, the Landslide Management Unit (now known as the Geotechnical Unit) was established. With support from JICA, the Ministry of Public Infrastructure implemented a landslide management project in 2015, and it identified Quatre Soeurs, Chitrakoot, and Vallée Pitot as high-risk landslide-prone areas. In 2019, relocation procedures were implemented, and 11 families from Quatre Soeurs were relocated to Camp Ithier, with compensation packages provided to the affected families. In 2021, a steering committee on landslide management and other slope-related disasters was established, along with a Technical Committee comprising relevant stakeholders to develop the Landslide Management Plan.

Priority 4 – Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation, and reconstruction

Mauritius established the NEOC, the LEOCs, and the REOC to enhance the coordination

of multi-agency emergency efforts. In 2017, the NEOC adopted the ICS and is activated in response to a disaster or any other major crisis. The NEOC is activated at three levels - I, II, and III - with Level III being the highest. In the event of a disaster, the Commissioner of Police leads disaster response operations jointly with the Ministry of Local Government and Disaster Risk Management along with other agencies as appropriate. At the Municipal/District Council level, the LEOC is headed by the Mayor/President of the District Council. The LEOC is activated in response to a disaster or any other major crisis within the area of jurisdiction, and it directly reports to the NEOC. For the island of Rodrigues, the REOC has similar functions as the NEOC.

As per the DRRM Act 2016, the Disaster Response Unit comprises officers from the SMF with the aim of achieving highly skilled rescue and relief operations. The Disaster Response Unit has delivered major search and rescue operations in response to flooding and flash floods, collapsed structures, major road accidents, landslides, high waves, and oil spills inland and along coasts. The objectives of the DRU are:

- Provide specialized response during disasters
- Deploy proactively during impending disaster situations
- Impart basic- and operational-level training to other stakeholders
- Organize a Community Capacity Building Programme with other local authorities and stakeholders
- Carry out public awareness campaigns and train the local community as first responders
- Maintain air- and water-borne swift water rescue response capabilities
- Support local authorities in the conduct of simulation exercises or workshops.

NDRRMC has procured a Mobile Command Post Vehicle (MCPV) to bolster command, control, coordination, and communication during multistakeholder interventions. The MCPV has been used in simulation exercises and during site visits of disaster events. The MCPV

has been used as an Incident Command Post on several occasions to include the 2020 MV Wakashio oil spill incident. Communication equipment in the MCPV include VHF Radio Systems (1 Desktop +10 Handheld, coverage 3 km [1.86 miles]), telephone lines (2 lines), internet/WIFI, satellite communication, and built-in public address system; there is a backup generator (8 hours), GPS navigation system, observation point/drone platform, laptop, television, printer/scanner, air conditioning, first aid kit, front winch (4.5 ton), protective grill, roof hatch, and a whiteboard. Furthermore, the NDRRMC procured satellite phones for first responders and senior officials for use during emergencies in the event that terrestrial communication is unavailable. However, challenges remain in terms of funding to procure satellite phones for broader distribution to other key sectors.

Institutional preparedness plans are in place within the 65 vulnerable flood-prone areas and an Emergency Plan for Residential Care Homes has been developed. A major Flood Response Evacuation Plan for the Capital City Center of Port Louis is being developed. Schools are each expected to develop their own School Emergency Response Plan to prevent an incident from escalating and determine the resources in manpower and equipment for a timely response to an emergency. School Emergency Response Plans have been tested during simulation exercises, and students are familiar with what to expect and how to act in real situations. Additionally, the NDRRMC in collaboration with the MoETEST organized sensitization campaigns with heads of public and private primary schools on Mauritius and Rodrigues. All regional hospitals have Hospital Emergency Preparedness, Response, Communication, and Recovery Guidelines. For example, the 2013 DRR Report identified that the Dr. A.G. Jeetoo Hospital is located in a flood-prone area; thus, a Flood Emergency Plan has been prepared to define actions to be taken by hospital staff and other stakeholders in the event of flooding to enable minimal disruption to patient care.

In consultation with the WRU, the Emergency Action Plan for Bagatelle Dam was established to define the roles and responsibilities of relevant stakeholders to ensure public safety downstream of the dam, an area that encompasses major built-up areas with dense populations. In June 2018, Phase 1 of the Plan was completed, and several wet test programs were carried out. Since December 2017, the Rock Fall Emergency Scheme has been included as part of the annex to the NDS 2015 to identify the roles and responsibilities of relevant stakeholders in the event of a rock fall.

The Protocol for Heavy Rainfall for Public Sector was established and obtained Cabinet approval in April 2017. Relevant amendments have been made to include the private sector in the “The Worker’s Rights Act 2019” within Section C.32 of the “Annex to Budget Speech 2020-2021.” Specifically, the amendments will facilitate the implementation of the Protocol for Heavy Rainfall for the Private Sector regarding remuneration of private sector workers whose work has been disrupted due to climatic conditions, including heavy rainfall, or due to general preparedness for cyclones.

An off-airport aviation emergency plan and crash simulation exercise has been devised to provide coordinated preparation arrangements for a timely response to an aviation emergency within the territorial area of Mauritius but outside the jurisdiction of the airport operator. In case of such an off-airport incident, the Civil Aviation Department is the lead and is responsible for the management of the incident.

To emphasize the importance of DRR, the government and relevant stakeholders devise sensitization/awareness campaigns, training programs, lectures, and workshops focusing on hazards such as cyclones, flooding, and storm surge, among others, and these efforts aim at educating vulnerable groups in disaster-prone areas. During the International Day for Disaster Risk Reduction, on 13 October every year, the community is educated on DRR through the media and local authorities.

As part of the Climate Change Adaptation

Program, the country’s early warning system (EWS), managed by the MMS, covers hazards such as cyclones, heavy rain, heavy swells, strong wind, storm surges, mini tornado, lightning, heat waves, earthquakes, tsunamis, landslides, and others. The EWS is enhanced with Doppler Radar, a real-time weathercasting system, and provides 3-day forecasts every six hours. Additionally, the EWS issues warnings for heavy and torrential rain. Despite the EWS covering multiple hazards, challenges remain in terms of risk identification, information management, and investment for flooding and flash floods. There are approximately 33 automatic weather station installations around the country. Extensometers have been installed in landslide-prone areas of Chitrakoot and Vallée Pitot to measure ground movements and alert nearby inhabitants.

In addition to the national EWS, several stakeholders have developed their own emergency alert tool to disseminate information to the public; these systems include the Blast SMS used by the Tourism Authority to alert licensed pleasure craft operators, hotel operators, and tourist operators to ensure the safety and security of tourists. The NDRRMC also created a mobile application, the Emergency Alert app, to disseminate timely information between NDRRMC and the general public before and during disasters. Upon receipt of weather bulletin from MMS regarding particularly bad weather conditions, the NDRRMC issues a detailed email communication to concerned stakeholders to strengthen vigilance and be ready to activate emergency plans and initiate appropriate actions. Another emergency alert tool is the MyT Weather App, which provides alerts, communication, vital information, daily weather forecasts, and a hotline for all responders and incorporates maps.

Since 2013, the Community Disaster Response Programme (CDRP) has bolstered the disaster response capacity within the country’s communities, especially in vulnerable areas. The CDRP empowers community volunteers through training on basic techniques such as fire safety, rope handling, first aid, water

rescue activities, basic camp management, team building, sand bagging, and other techniques for an emergency situation. Trained volunteers can provide immediate assistance to victims, give critical support to responding authorities as appropriate, and conduct vulnerability and capacity assessments to provide on-the-ground information to ensure better coordination and decision-making for NEOC and LEOC. From 2015 to 2022, 53 CDRP activities were conducted, and from 2018 to 2022, 17 refresher courses were conducted with an average of 25 to 30 participants in each course.

As part of an Adaptation Fund Project, the novel Quatre Soeurs Refuge Centre aims to increase climate resilience of communities and livelihoods in coastal areas around the Quatre Soeurs region. The Refuge Centre has an area of approximately 1,000 m² (10,764 square feet) and is hi-tech, user-friendly, and eco-friendly.

UN Framework Convention on Climate Change

In June 1992, leaders and decisionmakers from Mauritius joined those from over 150 states to sign the UNFCCC at the United Nations Conference on Environment and Development, held in Rio de Janeiro, Brazil.⁴³² This instrument was designed to initiate the process of controlling GHG emissions to reduce global warming and predicted sea level rise. Recognizing the potential climate change threats and risks coupled with existing environmental issues, Mauritius ratified the UNFCCC in September 1992 and bound itself to the terms of the Convention when it came into force in March 1994.⁴³³ As part of the UNFCCC, all Parties to the Convention are required to publish, update periodically, and make available to the COP their national inventories of sources of GHG and removals by sinks.⁴³⁴ In addition to cooperation in research, Parties are mandated to take climate change into consideration in relevant social, economic, and environmental policies and actions.⁴³⁵

On December 2021, the government of

Mauritius submitted its First Biennial Update Report (BUR) to the UNFCCC. Following from the Third National Communication (2017),⁴³⁶ the First BUR contains updates of national circumstances and institutional arrangements; the national GHG inventory; mitigation actions and their effects; constraints, gaps, and related financial, technical, and capacity needs; level of support received to enable preparation and submission of the BUR; national measurement, reporting, and verification framework; and any other information relevant to the BUR process.⁴³⁷

Between 2016 and 2021, the total amount of grant funding the country received was approximately US\$90 million. Since 2018, the government established a special financial portfolio, the NECCE, with an annual budget of approximately Rs 2 million (US\$50 million) to provide sector support for flood management, coastal zone protection, and DRR measures.⁴³⁸

According to the Public Environment Expenditure Review published in 2018, the country is spending an equivalent of 2% of its GDP (approximately US\$265 million) on climate related measures for fiscal year 2017-2018.⁴³⁹ Other than the BUR items assessed, the country has also undertaken additional work to address climate change; these efforts include the Renewable Energy Program, the Capacity Building Initiative for Transparency, the Nationally Appropriate Mitigation Actions for Low Carbon Island Development Strategy for Mauritius, and the Development of Country Specific Emission Factors.⁴⁴⁰

On 12 December 2015, at COP21 in Paris, the UNFCCC Parties reached a significant agreement to combat climate change. The Paris Agreement⁴⁴¹ represents the first time that all nations joined forces in a concerted effort to address this critical issue and take bold steps to adapt to its consequences. The Agreement also offers greater assistance to developing nations in their efforts to take action. Its objective is to expedite and heighten endeavors and investments towards a sustainable low-carbon future, with a main goal to enhance the worldwide effort in response to the risks of

climate change. The Agreement's goal can be achieved by ensuring that the global temperature rise during this century is kept well below 2°C (35.6°F) above pre-industrial levels. Additionally, efforts are made to further limit the increase in temperature to 1.5°C (34.7°F). In 2016, Mauritius ratified the Paris Agreement.

According to Article 4, paragraph 2 of the Paris Agreement, Parties are required to prepare, communicate, and maintain successive NDCs that the country intends to achieve.⁴⁴² The NDC reflects the country's ambitious goals and mitigation and adaptation strategies. The Paris Agreement requires that all Parties report regularly on their emissions and implementation efforts. The NDCs are submitted every five years to the UNFCCC Secretariat regardless of individual implementation timeframe.⁴⁴³ According to Article 4, paragraph 11 of the Paris Agreement, Parties may at any time adjust their existing NDCs with a view to enhancing their levels of ambition.⁴⁴⁴

Mauritius submitted its Intended Nationally Determined Contributions to the UNFCCC Secretariat on 28 September 2015 ahead of the COP21. That document was superseded by the NDC in 2016.⁴⁴⁵ On 1 October 2021, the country updated its NDC for the 2021-2030 timeframe.⁴⁴⁶ The updated NDC consists of information to facilitate clarity, transparency, understanding, and adaptation communication. The country aims to reduce GHG emissions by 40% in 2030 based on current projections compared to the business-as-usual scenario of around 6,900 ktCO₂eq.⁴⁴⁷ To bolster mitigation efforts, sector-wide specific mitigation targets for energy, transport, waste, and industrial processes and product use have been implemented, with the energy sector representing the largest share of GHG emissions reductions – i.e., 2,311 ktCO₂eq.⁴⁴⁸ The government has set a target to achieve 60% of energy production from renewable sources by the year 2030.⁴⁴⁹ This ambitious goal involves phasing out the use of coal and improving energy efficiency by 10% based on a 2019 baseline. Additionally,

the NDC addresses adaptation and resilience measures pertaining to tourism, biodiversity and ecosystem, agriculture, forestry, coastal zones, health, infrastructure, and disaster risk management sectors.

On 22 April 2021, the Climate Change Act entered into force. Under the Act, the Department of Climate Change holds responsibility for overseeing the execution of pertinent agreements to ensure alignment with global climate change policies.⁴⁵⁰ To achieve this, an Inter-Ministerial Council on Climate Change has been instituted and is tasked with defining national objectives, goals, and targets to make Mauritius a sustainable and low-emission nation. Additionally, a Climate Change Committee has been established to encourage the involvement of multiple stakeholders in devising national strategies and action plans for mitigation and adaptation.⁴⁵¹

The updated 2021 National Climate Change Adaptation Policy Framework provides key adaptation actions with the potential of nature-based solutions and provides orientation to key adaptation sectors to build resilience.⁴⁵² The key adaptation actions are:

- Enhance the knowledge base regarding the risks of climate change and the impacts on communities
- Develop and implement an integrated approach, which combines the fisheries (Blue Economy), tourism, biodiversity (terrestrial and marine), forestry, agriculture, and coastal zone sectors
- Enhance strategic frameworks to address policy gaps and improve expertise in the health sector, including through integrating climate risks into planning and developing policies in the NAP
- Increase resilience of human-led activities while preserving ecosystem functions through improving governance and enhancing disaster preparedness and response mechanisms for infrastructure and DRR sectors.⁴⁵³

Sustainable Development Goal #13

Mauritius has adopted the UN's 2030 Agenda for Sustainable Development and its 17 SDGs. SDG 13 is "Take Urgent Action to Combat Climate Change and Its Impacts." It integrates three main targets and two targets specific to developing countries, and each target integrates various indicators or progress.

- Target 13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
 - Indicator 13.1.1 - Number of deaths, missing persons, and directly affected persons attributed to disasters per 100,000 population
 - Indicator 13.1.2 - Number of countries that adopt and implement national DRR strategies in line with the Sendai Framework
 - Indicator 13.1.3 - Proportion of local governments that adopt and implement local DRR strategies in line with national DRR strategies
- Target 13.2 - Integrate climate change measures into national policies, strategies, and planning
 - Indicator 13.2.1 - Number of countries with nationally determined contributions, long-term strategies, national adaptation plans, and adaptation communications, as reported to the secretariat of the UNFCCC
 - Indicator 13.2.2 - Total GHG emissions per year
- Target 13.3 - Improve education, awareness-raising, and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning
 - Indicator 13.3.1 - Extent to which global citizenship education and education for sustainable development are mainstreamed in national education policies, curricula, teacher education, and student assessment
- Target 13.a - Implement the commitment

undertaken by developed-country parties to the UNFCCC to a goal of mobilizing jointly US\$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the GCF through its capitalization as soon as possible

- Indicator 13.a.1 - Amounts provided and mobilized in US\$ per year in relation to the continued existing collective mobilization goal of the US\$100 billion commitment through to 2025
- Target 13.b - Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing states, including focusing on women, youth, and local and marginalized communities
 - Indicator 13.b.1 - Number of least developed countries and small island developing states with NDCs, long-term strategies, national adaptation plans, and adaptation communications, as reported to the secretariat of the UNFCCC⁴⁵⁴

As of 2023, the UN SDG monitor reported that the extant climate actions and plans for action to address climate change were insufficient and that the lives of more than 3 billion people worldwide would be at risk because of this insufficiency. Barring a sharp reduction in GHG emissions in the 2020s, the UN projected an increase in the incidence and deadliness of heatwaves, drought, flooding, wildfires, and sea level rise, and the consequences of these hazards, including food insecurity and famine. Nonetheless, there had been some progress on the SDG 13 Targets.

- Target 13.1 - The number of deaths and missing persons due to disasters per 100,000 population has steadily decreased from 1.64 during 2005-2015 to 0.86 during 2012-2021. The average disaster mortality stood at 47,337 in absolute terms in 2015-2021. However, the number of persons affected by disasters per

100,000 people rose from 1,198 during 2005-2015 to 2,113 during 2012-2021, respectively. The number of countries with national strategies for DRR has increased from 55 in 2015 to 126 by the end of 2021. Based on this, a total of 118 countries have reported having some level of policy coherence with other global frameworks, such as the 2030 Agenda and the Paris Agreement.

- Target 13.2: Global temperatures have already risen by 1.1°C (1.98°F), with the rise attributed to increasing global GHG emissions, which reached record highs in 2021. Real-time data from 2022 showed emissions continuing an upward trajectory. Instead of decreasing emissions as required by the target to limit warming, carbon dioxide (CO₂) levels increased from 2020 to 2021 at a rate higher than the average annual growth rate of the last decade and is already 149% higher than pre-industrial levels. Projected cumulative future CO₂ emissions over the lifetime of existing and currently planned fossil fuel infrastructure exceed the total cumulative net carbon dioxide emissions in pathways that limit warming to 1.5°C (>50%) with no or limited overshoot.
- Target 13.3: An analysis of 100 national curriculum frameworks reveals that nearly half (47%) do not mention climate change. In 2021, despite 95% of teachers recognizing the importance of teaching about climate change severity, only one-third are capable of effectively explaining its effects in their region. Additionally, in 2022, 70% of young people could only describe the broad principles of climate change.
- Target 13.a: According to the OECD, total climate finance provided and mobilized by developed countries for developing countries amounted to US\$83.3 billion in 2020, a 4% increase from 2019, but still short of the US\$100 billion target. Climate finance remains primarily targeted to mitigation; adaptation finance continues to lag, with international finance flows to developing countries 5-10 times below estimated needs.⁴⁵⁵

Figure 37 is the UN's infographic regarding the status of climate change in 2023 and the need for additional action.⁴⁵⁶

Mauritius is committed to achieving the SDGs by 2030. The country ranked 93rd of 166 countries in the 2023 Sustainable Development Report, with a score of 68, above the Sub-Saharan Africa regional average of 53.⁴⁵⁷ Scores may be interpreted as a percentage of achievement; thus, a 100 indicates the SDGs have been achieved. Figure 38 depicts Mauritius' achievements and remaining challenges related to SDG 13 climate targets, where green represents success exceeding the set target; the columns from left to right are "value," "year," "rating," and "trend," where "value" represents the metric per indicator.⁴⁵⁸

Despite making progress in carbon dioxide emissions embodied in fossil fuel exports, fossil fuel combustion, and cement production, Mauritius' progress for SDG 13 is stagnating, and challenges remain. Under the updated NDC and according to the "SDG alignment analysis" developed by Heat GmbH, a climate consultancy, in 2021, the adaptation of the 2021 National Climate Change Adaptation Policy Framework contributes to the achievement of various SDG targets to include SDG 13.⁴⁵⁹ The National Climate Change Adaptation Policy Framework prioritizes nature-based solutions, green jobs creation, managing the impacts of COVID-19, and biodiversity and sustainable resource management.⁴⁶⁰ In alignment with the National Biodiversity Strategy and Action Plan 2017-2025, the National Climate Change Adaptation Policy Framework promotes ecosystem-based adaptation, which uses biodiversity and ecosystem services to reduce vulnerability and build resilience to climate change. Furthermore, the updated NDC identified two NAPs to enhance climate change resilience; one of them uses US\$2.5 million from the GCF for infrastructure, bridges and culverts, and flood-prone areas and coastal zones, and another uses US\$425,000 from the GCF for health programming.⁴⁶¹

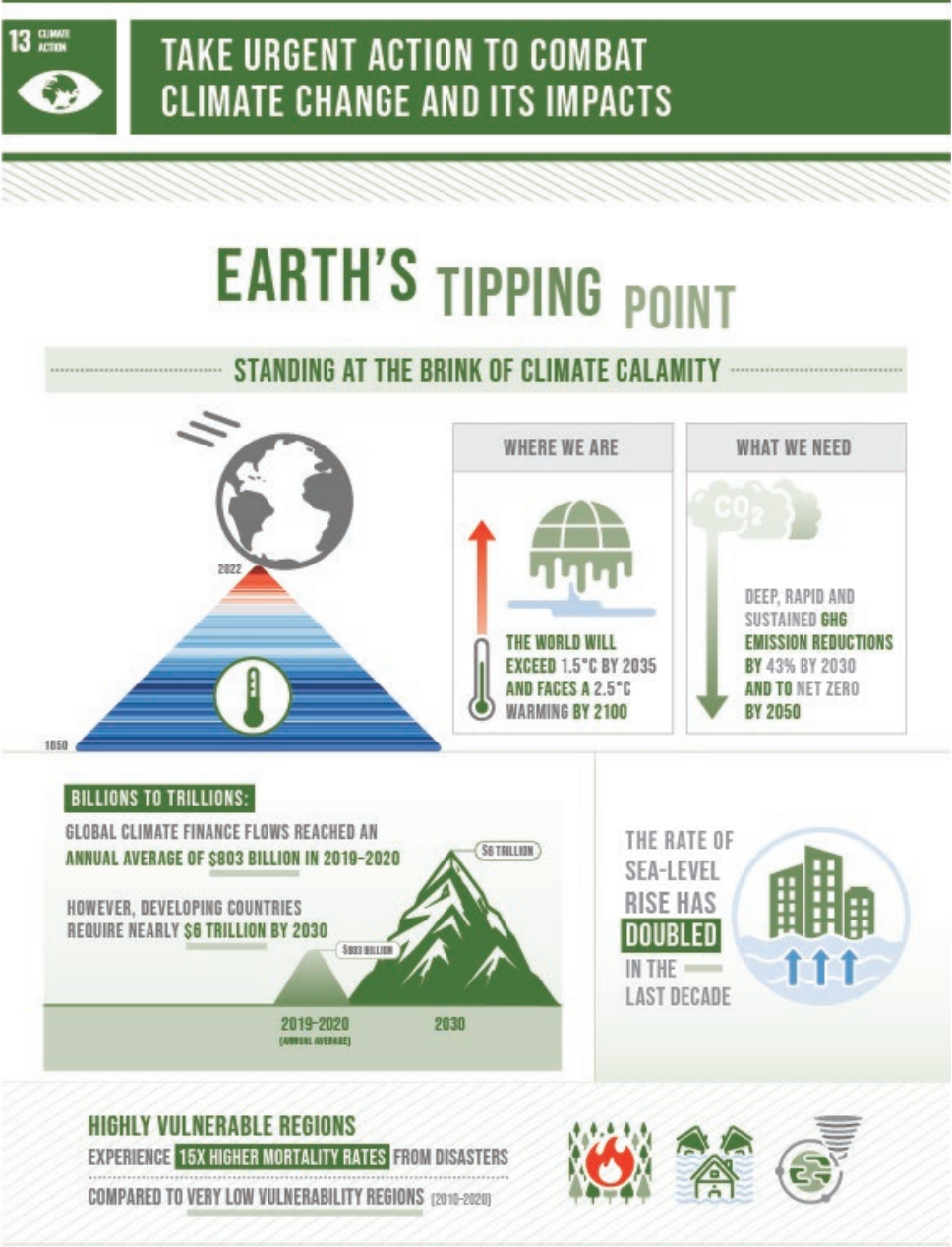


Figure 37: SDG 13 on Climate Action Infographic (2023)

SDG13 – Climate Action				
CO ₂ emissions from fossil fuel combustion and cement production (tCO ₂ /capita)	3.4	2021	● →	
CO ₂ emissions embodied in imports (tCO ₂ /capita)	NA	NA	● ●	
CO ₂ emissions embodied in fossil fuel exports (kg/capita)	*	0.0	2021	● ●

Figure 38: Mauritius’ Sustainable Development Goals Climate Targets Status (2023)

Acronyms and Abbreviations

°	Degree(s) – of latitude and longitude (°North, °South, °East, and °West); or of temperature (°Celsius or °Fahrenheit)
\$	dollar(s) – of the U.S.
AFD	Agence Française de Développement
AfDB	African Development Bank
AGOA	African Growth and Opportunities Act
AIS	Atlantic, Indian Ocean, and South China Seas [regional grouping]
AML	Airports of Mauritius Co. Ltd
AOSIS	Alliance of Small Island States
AR6	Sixth Assessment Report (of the IPCC)
ARL	Airport Rodrigues Limited
AU	African Union
BPoA	Barbados Programme of Action
BUR	Biennial Update Report (to the UNFCCC)
CADRI	Capacity for Disaster Reduction Initiative
CCA	climate change adaptation
CCS	Country Cooperation Strategy
CDM	Clean Development Mechanism
CDRP	Community Disaster Response Programme
CEB	Central Electricity Board
CHCL	Cargo Handling Corporation Ltd
cm	centimeter(s)
CO ₂	carbon dioxide
COMESA	Common Market for Eastern and Southern Africa
COP	Conference of the Parties (of the UNFCCC)
COVID-19	Coronavirus Disease 2019
CSO	civil society organization
CWA	Central Water Authority
DRR	disaster risk reduction
DRRM	disaster risk reduction and management
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ENSO	El Niño Southern Oscillation
EU	European Union
EWS	early warning system
FAO	Food and Agriculture Organization
FETP	Field Epidemiology Training Program
GCF	Green Climate Fund

APPENDICES

GDP	gross domestic product
GHG	greenhouse gas
GW / GWh	Gigawatt(s) / gigawatt-hours
HADR	Humanitarian Assistance and Disaster Relief
HIC	High-Income Country
HSSP	Health Sector Strategic Plan
IASC	Inter-Agency Standing Committee
ICS	Incident Command System
ICT	information and communication technology
IEMP	Integrated Environmental Monitoring Plan
IFRC	International Federation of Red Cross and Red Crescent Societies
IOC	Indian Ocean Commission
IOD	Indian Ocean Dipole
IOM	International Organization for Migration
IORA	Indian Ocean Rim Association
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producer
IUCN	International Union for Conservation of Nature
JICA	Japan International Cooperation Agency
km / km ²	kilometer(s) / square kilometer(s)
ktCO ₂ eq	kilotons of carbon dioxide equivalent
kV	kilovolt(s)
LDA	Land Drainage Authority
LDRRMC	Local Disaster Risk Reduction and Management Committee
LEOC	Local Emergency Operations Command
LPG	liquid petroleum gas
m / m ² / m ³	meter(s) / square meter(s) / cubic meter(s)
MARENA	Mauritius Renewable Energy Agency
MAS	Maritime Air Squadron
MauDIMS	Mauritius Disaster Information Management System
MBC	Mauritius Broadcasting Corporation
Mbps	megabits per second
MCPV	Mobile Command Post Vehicle
MFRS	Mauritius Fire and Rescue Service
MIH	Mauritius Institute of Health
mm	millimeter(s)
MMS	Mauritius Meteorological Services
MoETEST	Ministry of Education, Tertiary Education, Science, and Technology
MOHW	Ministry of Health and Wellness

MPA	Mauritius Ports Authority
MPF	Mauritius Police Force
MRCS	Mauritius Red Cross Society
MSCL	Mauritius Shipping Corporation Limited
MSI	Mauritius Strategy of Implementation
MTR SF	Midterm Review of Implementation of the Sendai Framework
MUR	Mauritian rupee
MW	Megawatt(s)
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan or National Action Plan
NASA	National Aeronautics and Space Administration (of the U.S.)
NCC	National Crisis Committee
NCCAPF	National Climate Change Adaptation Policy Framework
NCD	Non-communicable Disease
NCG	National Coast Guard
NDC	Nationally Determined Contribution
NDRRMC	National Disaster Risk Reduction and Management Centre
NDRRMPSFAP	National Disaster Risk Reduction and Management Policy, Strategic Framework, and Action Plan
NDS	National Disaster Scheme
NECCF	National Environment and Climate Change Fund
NEOC	National Emergency Operations Command
NGO	non-governmental organization
NLDS	National Land Development Strategy
NLTA	National Land Transport Authority
NOAA	National Oceanic and Atmospheric Administration (of the U.S.)
NTD	Neglected Tropical Disease
OCHA	Office for the Coordination of Humanitarian Affairs (of the UN)
OECD	Organisation for Economic Co-operation and Development
OIDC	Outer Island Development Corporation
PDC	Pacific Disaster Center
PIROI	Plateforme d'intervention régionale océan Indien (Indian Ocean Regional Intervention Platform)
RCC	Rodrigues Crisis Committee
RDRRM (Council)	Rodrigues Disaster Risk Reduction and Management Council
RDRRMC	Rodrigues Disaster Risk Reduction and Management Centre
REOC	Rodrigues Emergency Operations Command
Rs	rupees (currency)
SADC	South African Development Community
SAMOA Pathway	SIDS Accelerated Modalities of Action Pathway
SDG	Sustainable Development Goal
SIDS	Small Island Developing State

SMF	Special Mobile Force
TB	tuberculosis
TC	tropical cyclone
TRCBU	Training, Research and Capacity Building Unit
TVET	technical and vocational education and training
U.S.	United States
UHC	Universal Health Coverage
UN	United Nations
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VHF	Very High Frequency
WHO	World Health Organization
WMA	Wastewater Management Authority
WMO	World Meteorological Organization
WRU	Water Resources Unit

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Center for Excellence in Disaster Management & Humanitarian Assistance
456 Hornet Avenue, Building 76, Joint Base Pearl Harbor - Hickam, Hawaii 96860-3503
Telephone: 808.472.0518 | DSN: 315.472.0518
<https://www.cfe-dmha.org>

  @cfedmha