



WORLD
TRAVEL &
TOURISM
COUNCIL

CARIBBEAN RESILIENCE AND RECOVERY:
MINIMISING THE IMPACT OF THE 2017 HURRICANE
SEASON ON THE CARIBBEAN'S TOURISM SECTOR



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Hurricane Maria makes landfall in Puerto Rico in September 2017

As the voice of the private sector, the World Travel & Tourism Council (WTTC) plays a key role in raising awareness of the importance of Travel & Tourism and establishing links between government and private sector.

The need to demonstrate unity and leadership is especially critical in times of crisis. Actions need to be taken quickly in order to ensure a rapid recovery to those affected by natural disasters and to restore public confidence in Travel & Tourism.

In the autumn of 2017, the world watched on in shock at the media images of the strongest Atlantic hurricanes ever observed battering the islands of the Caribbean. Although the impact in many destinations was devastatingly severe, more than two thirds of Caribbean destinations were physically unaffected.

The Caribbean is one of the most tourism-dependent regions in the world. Travel & Tourism is a key economic driver and foreign exchange earner, and the sector contributes over 15% of Caribbean GDP and supports nearly 14% of all employment. In 2016, 46.7 million international visitors came to destinations in the region spending US\$31.4 billion dollars.

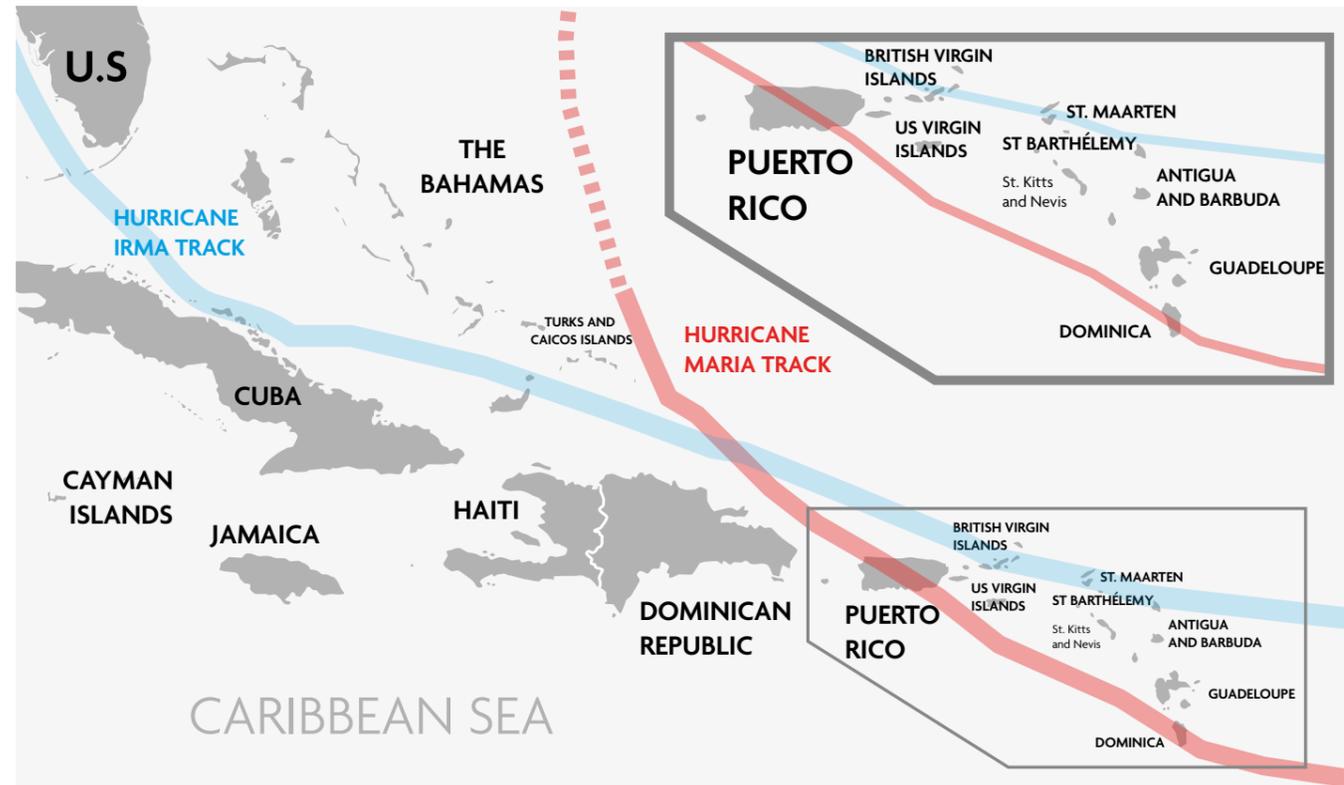
This new report from WTTC assesses the immediate and longer-term impact of the 2017 hurricane season on the Travel & Tourism sector across the Caribbean region. We describe the losses that the destinations have already experienced, forecast when Travel & Tourism is likely to return to its previous level of growth, and recommend government policies and strategies that can help speed economic recovery.

Quantifying the impact on Travel & Tourism post-crisis not only gives a level of understanding of the enormous economic contribution that the sector brings to the region and the imperative for its recovery, but it also provides investors and governments with an understanding of the scale of opportunities and gives reassurances for the future.

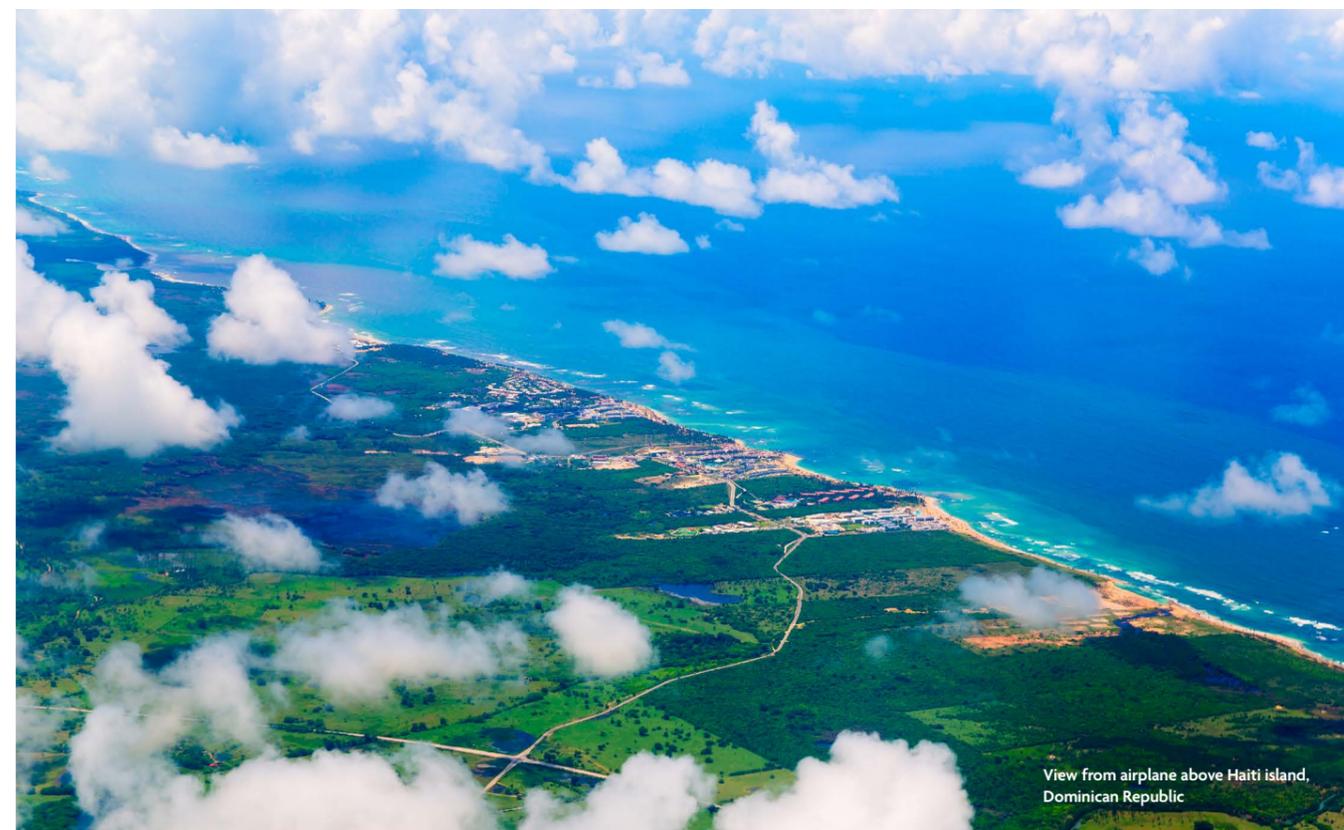
Timeframes for recovery can be significantly reduced when governments engage the private sector in both preparation and recovery plans. As part of this, government policy initiatives that are supportive for Travel & Tourism growth and for long-term economic and environmental resilience should be prioritised for implementation.

Beyond providing numbers, WTTC supports these conversations with governments. Together with our Members, we are also working hard to support local communities as they rebuild and recover.

Gloria Guevara Manzo
President & CEO
World Travel & Tourism Council



Source: Caribbean Disaster Emergency Management Agency



View from airplane above Haiti island, Dominican Republic

Travel & Tourism is one of the most important economic sectors in the Caribbean. The 46.7 million international visitors who came to the region in 2016 spent US\$31.4 billion which supported a total of \$56.4 billion in GDP and 2.4 million jobs. Meanwhile, the domestic market generates more than 25% of the region's Travel & Tourism GDP.

Overall, Travel & Tourism contributes 15.2% of the Caribbean's GDP and 13.8% of employment. However, in around half of the countries analysed, the sector accounts for over 25% of GDP – more than double the world average of 10.4%. In the case of the British Virgin Islands (BVI), the sector contributes 98.5% of GDP – the highest share of any country worldwide.

It is therefore vital to the Caribbean economy that Travel & Tourism recovers as quickly as possible from the damage caused by the unusually severe hurricanes of 2017 – most notably Hurricanes Irma and Maria in September. They had a major impact on popular tourist destinations such as the BVI and Puerto Rico, although around two thirds of the region avoided any damage.

This report by WTTC assesses the immediate and long-term impact of the 2017 hurricane season on the Travel & Tourism sector across the Caribbean as a whole and on specific islands.

Based on analysis from Tourism Economics (an Oxford Economics company), insights provided by the Caribbean Hotel & Tourism Association (CHTA) and the Caribbean Tourism Organization (CTO), contact with affected hoteliers, flight and accommodation data gathered from other analytics sources, and prior research of other crises, we describe the losses that the sector has already experienced, forecast when Travel & Tourism is likely to return to its previous level of growth, and recommend government policies and marketing strategies that can help speed economic recovery. The range of Caribbean countries analysed in the research was dependent on data availability during and immediately after the hurricane period.

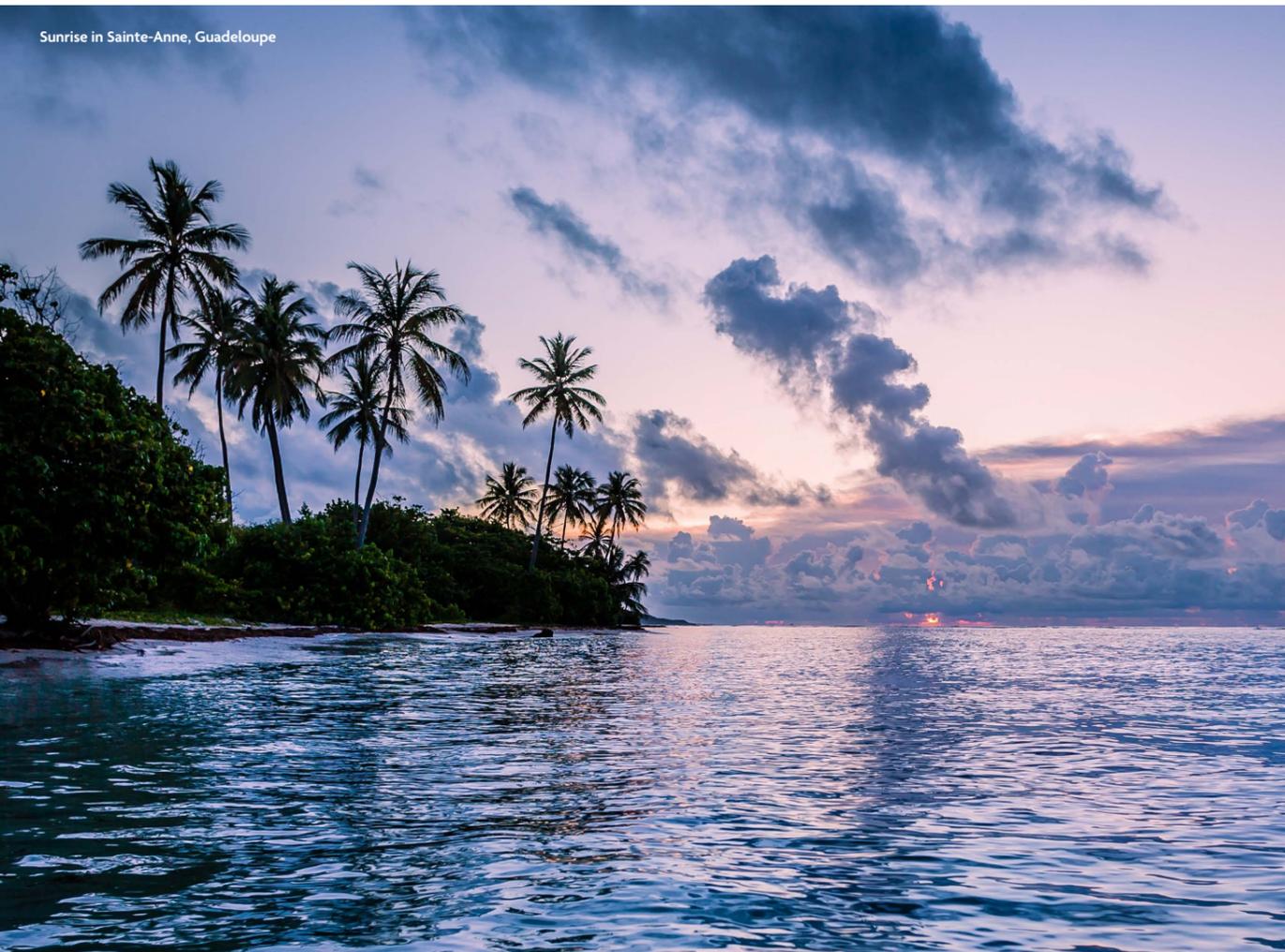
The key findings of the report are:

- The impact of the 2017 hurricane season on the Caribbean's Travel & Tourism sector was significant, and while the islands which were directly hit were worst affected, other islands which were not in the path of the hurricanes also suffered. A public misconception that the entire Caribbean was struck by the storms has been damaging to the region.
- The hurricane season resulted in an estimated loss in 2017 of 826,100 visitors to the Caribbean, compared to pre-hurricane forecasts. These visitors would have generated US\$741 million and supported 11,005 jobs.
- Research suggests that recovery to previous levels could take up to four years, and if this is the case, the region will miss out on over US\$3 billion over this timeframe.
- Governments across the region can work together and with the private sector to speed up recovery through a range of policy initiatives including:
 - **increasing access to capital for SMEs, and easing entry and work permit restrictions for specialised services**, which will incentivise the private sector to speed up recovery
 - **increasing duty-free exemptions on commonly-purchased goods and reduce tourism costs such as departure taxes and resort fees**, which will stimulate travel and traveller spending
 - **improving the ease and experience of traveller arrivals and departures**, through use of technology in airports and visa facilitation, which will increase customer satisfaction and the attractiveness of the region
 - **investing in tourism sector training and education to sharpen and upgrade the skills of temporarily displaced workers**, which will ensure the sector has access to a skilled workforce as it recovers and grows

- **improving connectivity between islands**, which will increase the competitiveness of the Caribbean as a destination and spread the benefits more widely
- **providing trip insurance when conditions in the host destination are unstable**, which will encourage visitors to continue to visit
- **adopting a specialised approach to marketing and public relations**, including establishment of a long term messaging strategy, creating a rainy-day fund for tourism marketing and supporting regional tourism marketing programmes

Even though the destructive hurricanes came and went in September 2017, their economic impact on residents and the Travel & Tourism sector is likely to continue for up to four years. Natural disasters such as this will continue to hit the Caribbean and elsewhere, perhaps on an increasingly frequent basis because of climate change. As the economies of many islands grow ever more reliant on the sector, it is imperative that governments and Destination Management Organisations (DMOs) in each destination develop and have in place plans and strategies to minimise this long-term impact and encourage visitors and spending to return to pre-hurricane levels of growth as soon as possible.

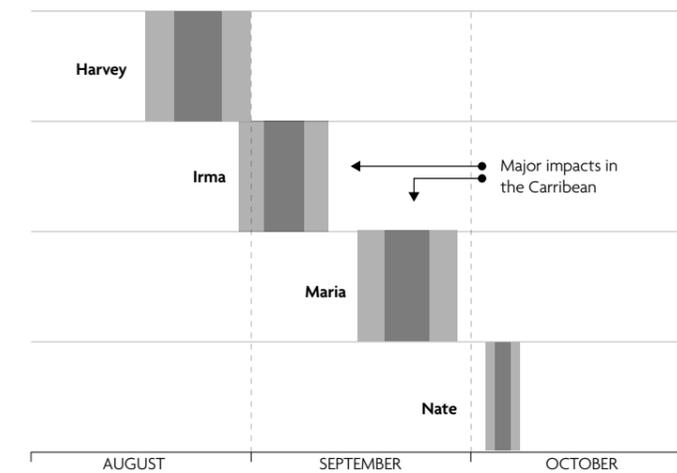
We hope this report provides the Travel & Tourism community in the Caribbean – and in other global destinations at risk of a natural disaster – with a starting point for this journey.



In 2017, the Caribbean experienced one of its most devastating hurricane seasons to date. While hurricanes crossed the region as early as August and as late as October, the bulk of the damage in the Caribbean occurred with hurricanes Irma and Maria in September.

September was a record-setting month for Atlantic hurricanes, with more accumulated cyclone energy than any other month in recorded history and warmer surface sea temperatures than usual.

Irma was the strongest hurricane ever observed in the open Atlantic Ocean, and its category-5 winds lasted an unusually long three days, during which time it directly hit islands such as Barbuda, St Maarten, St Barthélemy, Anguilla, the Virgin islands and Cuba.

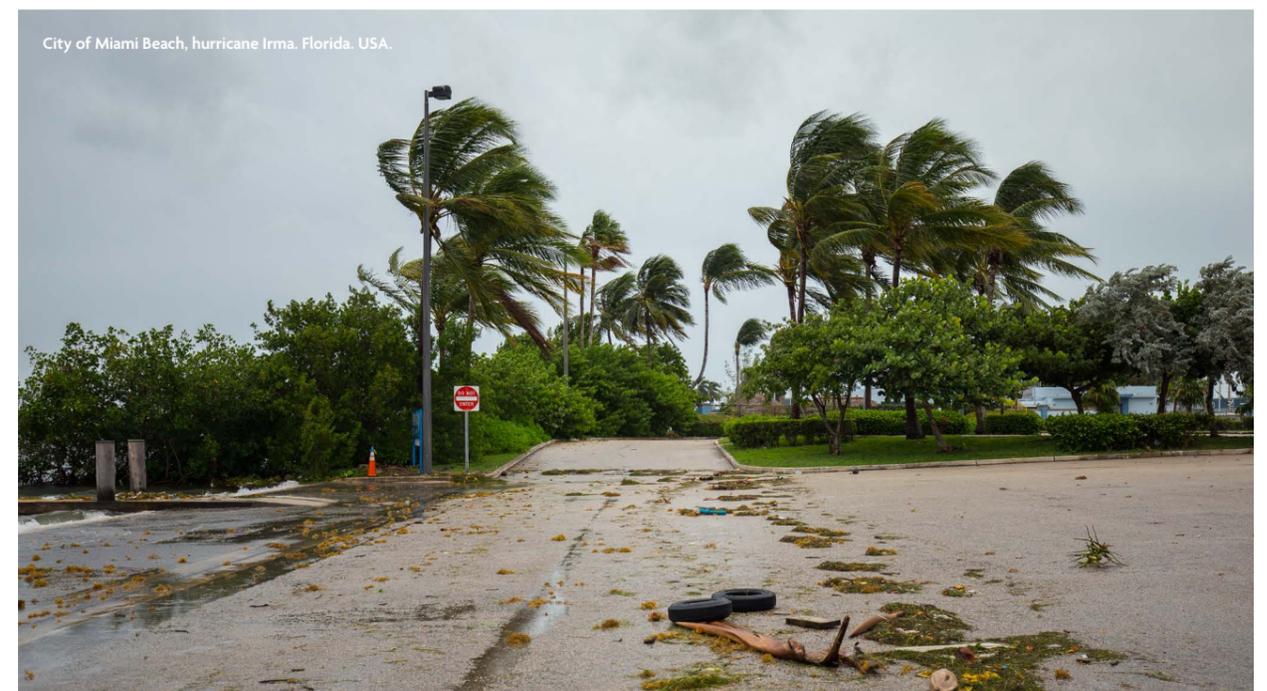


Maria reached the maximum category-5 level of intensity just as it hit Dominica. Its greatest impact then was on the US Virgin Islands and Puerto Rico.

However, more than two thirds of Caribbean destinations were physically unaffected by the hurricane season. For example, Aruba, Grand Cayman and St Lucia all escaped the path of the hurricanes.

Source: National Hurricane Center

Although the destructive hurricanes had gone by the end of September, the impact on residents and the Travel & Tourism sector is likely to continue for many more months.



01 THE CARIBBEAN TOURISM SECTOR: AN OVERVIEW

Tourism is a major and growing contributor to the Caribbean's economy

Tourism is one of the most important economic sectors in the Caribbean. The 46.7 million international overnight visitors who came to the region in 2016 spent US\$31.4 billion which supported a total of \$56.4 billion in GDP and 2.4 million jobs. Meanwhile, the domestic market generates more than 25% of the region's Travel & Tourism GDP. Overall Travel & Tourism contributes 15.2% of the Caribbean's GDP and 13.8% of employment.

Key Caribbean tourism indicators

Dollar figures in billions

46.7 MN

TOTAL INTERNATIONAL VISITOR ARRIVALS (2016)

196.1 MN

TOTAL INTERNATIONAL VISITOR NIGHTS (2016)

\$31.4

TOTAL INTERNATIONAL VISITOR SPENDING (2016)

\$56.4

TOTAL TRAVEL AND TOURISM-GENERATED GDP (2016)

2.4 MN

TOTAL TRAVEL & TOURISM GENERATED JOBS (2016)

13.8%

TOURISM'S SHARE OF TOTAL EMPLOYMENT (2017)

15.2%

TOURISM'S SHARE OF TOTAL GDP (2017)

Source: Oxford Economics, WTTC, UNWTO

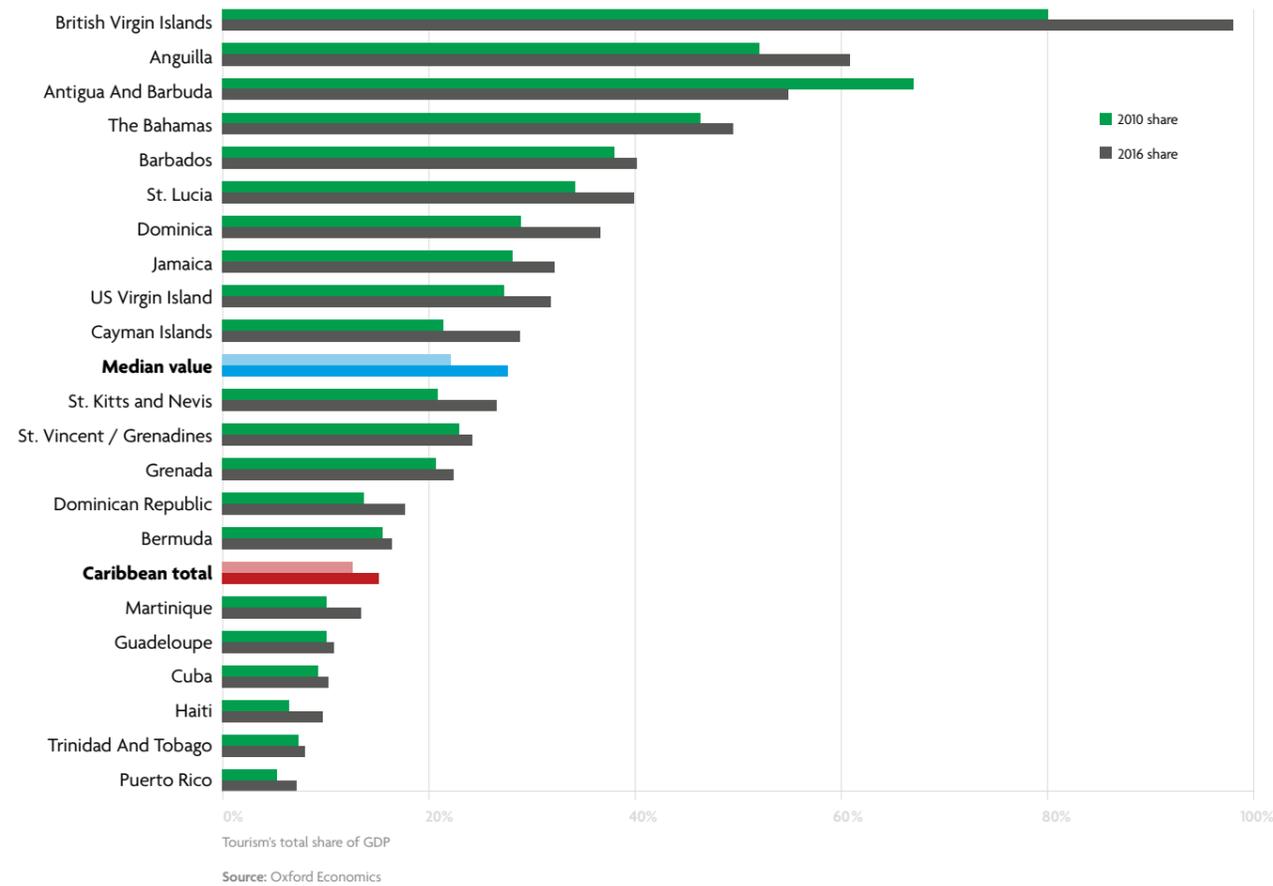
Note: Total T&T impacts include direct, indirect, and induced impacts as well as capital investment and government expenditures in support of tourism.

Looking at individual islands, however, the sector's contribution to GDP ranges enormously. Oil and gas-rich Trinidad & Tobago relies on the sector for 7.7% of GDP, compared with the British Virgin Islands (BVI) where Travel & Tourism contributes 98.5% of GDP – the highest share of any country worldwide. However, in 11 of the 21 countries analysed, Travel & Tourism accounts for over 25% of GDP. This is more than double the world average of 10.4%. The median value is 27.2%.

Furthermore, dependence on Travel & Tourism is increasing. In 20 of 21 countries, the sector comprises a greater share of the economy in 2016 than in 2010. Both visitor spending and the sector's share of the region's GDP have increased for six consecutive years. Visitor spending has grown by 42% since 2010, and Travel & Tourism's total GDP contribution has increased by 4.5% per year on average and its share rose from 12.6% of GDP in 2010 to 14.9% in 2016.

Beautiful sunset over the sea on a Caribbean island of Barbados

Tourism's total contribution to GDP in the Caribbean



02

OBSERVED IMPACTS OF THE 2017 HURRICANE SEASON

The Caribbean tourism sector was experiencing a strong year before the hurricane season, with a growth in demand of more than 4% prior to August.

While the hurricanes started to impact certain countries in August, no major economic impacts occurred until September. From then, losses were evident in every month from September until the end of the year, with demand declining by 4% or more compared to 2016.

The Caribbean hurricane season started in August and peaked in September

While hurricanes crossed the Caribbean as early as August and as late as October, the bulk of the damage in the Caribbean occurred with Irma and Maria in September. This was a record-setting month for Atlantic hurricanes, with more accumulated cyclone energy than any other month in recorded history and warmer surface sea temperatures than usual.

2016 was the warmest year on record, and extreme events such as hurricanes are becoming more frequent. Sea surface temperatures have continued the multi-decade warming trend, with the five warmest years occurring since 2010. Oceans absorb more than 90% of the excess heat caused by greenhouse gases warming, and they have warmed at all depths, with surface temperatures reaching a record 0.75°C above the 20th century average!

Several Caribbean islands that rely heavily on Travel & Tourism for a significant proportion of their national

economy are particularly vulnerable to the effects that climate change may bring. These include Antigua and Barbuda, Bahamas, St Lucia, Grenada, Barbados and Jamaica.

Irma was the strongest hurricane ever observed in the open Atlantic Ocean, and its category-5 winds lasted an unusually long three days, during which time it directly hit islands such as Barbuda, St Maarten, St Barthélemy, Anguilla, the US and British Virgin Islands (BVI) and Cuba.

Maria reached the maximum category-5 level of intensity just as it hit Dominica. Its greatest impact then was on the US Virgin Islands and Puerto Rico.

Islands that experienced major damage: Cuba, Puerto Rico, US Virgin Islands, BVI, Anguilla, St Barthélemy, St Martin, St Maarten, Barbuda and Dominica.

1 European Travel Commission: 'Tourism and Climate Change Mitigation', March 2018

Sheltering from the sun on a beach photo by Michael Mims



Destinations that experienced moderate damage include: Belize, Florida Keys, Cayman Islands, Cuba, the Bahamas, Turks and Caicos, Haiti, Dominican Republic, Guadeloupe, Martinique and Barbados.

Impact on jobs and GDP contribution

By comparing results from August-December 2017 with expected performance had the hurricanes not occurred, our analysts were able to model an estimation of the losses suffered to the Caribbean's tourism sector².

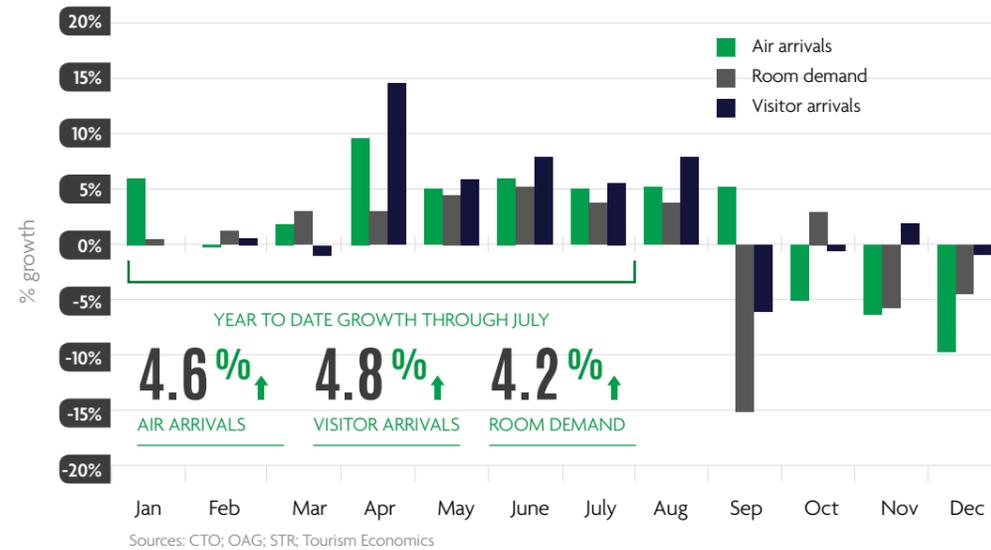
Results from the analysis indicate that the hurricane season resulted in a likely loss of 826,100 international overnight visitors to the Caribbean in 2017 – 2.5% of the region's expected visitor numbers. This equates to a loss of approximately US\$741 million in visitor spending which would have created US\$292.5 million in GDP and supported 11,005 jobs.

In terms of total lost visitors and spending, Cuba, Puerto Rico, and the Dominican Republic were the

most affected. The latter highlights that islands could lose out economically even if they hadn't experienced direct hurricane damage. Dominica, the US Virgin Islands, and the BVI experienced the largest percentage loss.

While the hurricanes were the major factor contributing to the losses, other events would have had a bearing on the decline in visits and spending. For instance, the 2017 change in US policy regarding Cuba lessened US arrivals to that island, news of an increased crime threat in Jamaica was well-reported and Venezuela's instability affected tourism in Trinidad, Aruba and Curaçao.

² For more detail on the methodology, please see Appendix.

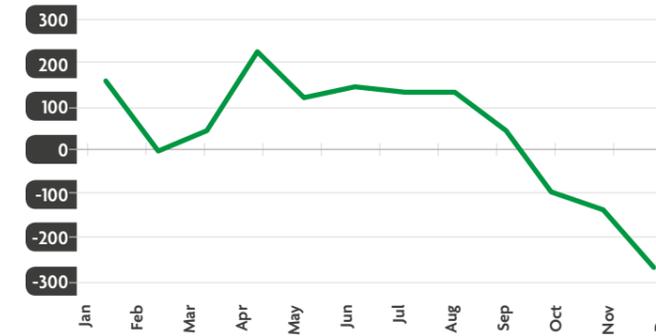


Impact on visitor arrivals

In September, air arrivals grew by 2%, albeit at a slower pace than their year-to-date figures. They then fell by 5% in October, with 18 countries experiencing lower volumes compared to what would have been expected given the previous pre-hurricane trend. Their decline continued in November (6% fewer arrivals) and December, when air arrivals were down by 284,000 (10%).

Change in Caribbean international visitor arrivals by air in 2017

Year to date change in visitor arrivals (000's)



At the Caribbean gateway airport of Miami, year-on-year air arrivals dropped by 37% during September and by 13% in the following ten weeks. Islands that continued to experience particularly steep declines in air arrivals in December include Dominica (-54%), St Maarten (-63%), US Virgin Islands (-59%) and BVI (-35%). See Appendix, fig 1.

In September, 14 countries showed a decline in overall international arrivals, and the region as a whole was down 6% compared to expectations. Volumes then seem to stabilise, falling slightly in October and November (-0.4% and -0.1% respectively), before

dropping by 2% in December – 57,000 lower than in the same period in 2016. Even so, these numbers are likely to have been boosted by the arrival of aid workers.

The hurricanes didn't cause destruction across the whole Caribbean. Instead, the impacts ranged from disastrous to positive. Some countries are also likely to have benefited from displaced tourism such as the Cayman Islands (arrivals up by 28% compared to expectations), St Lucia (up by 18%) and St Vincent and the Grenadines (up by 18%). See Appendix, fig 2.

Change in all Caribbean international visitor arrivals in 2017

Year to date change in visitor arrivals (000's)



Impact on hotel room supply and demand

The hurricanes caused damage to many hotels and reduced the supply of hotel rooms on the most impacted islands. These include Anguilla, the British and US Virgin Islands, Dominica, St. Maarten/St. Martin and Barbuda (which only had less than 100 hotel rooms before). The impacts on hotels in Puerto Rico were particularly severe, with 13,709 operating hotel rooms in December 2017 – a drop of 2,556 from August. Anguilla lost 51% of its hotel room supply between August and December. See Appendix, fig 3.

Hotel room supply is only beginning to recover in these destinations and so the impacts to the Travel & Tourism sector are likely to linger well into 2018 and beyond.

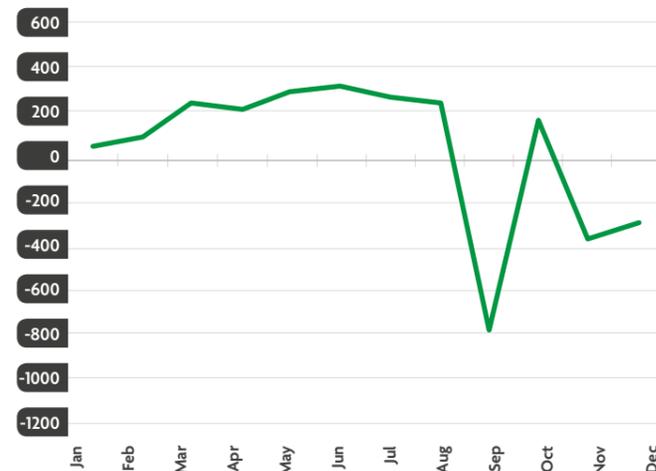
Room demand in the Caribbean fell sharply in September and then rebounded in October. Some of this rebound is likely to have come from displaced locals or aid workers booking hotel rooms. For instance, Puerto Rico experienced strong demand

in October and November, despite being heavily impacted by Hurricane Maria in September. See Appendix, fig 4.

The number of countries reporting declines in demand peaked at seven out of twelve in November and December. The largest single month decline was in September, when room demand registered 1,055,000 rooms below 2016 levels.

Change in Caribbean room demand in 2017

Year to date change in room demand (000's)



Source: STR

	Visitor loss compared to counterfactual ³	Lost visitors (000's)	Lost spending (\$m)	Lost direct GDP (\$m)	Lost jobs
Total	2.5%	826.1	\$741.3	\$292.5	11,005
Anguilla, Leeward Islands	7.9%	6.3	\$9.6	\$4.2	100
Antigua and Barbuda, Leeward Islands	1.2%	3.2	\$4.1	\$1.8	51
Aruba	0.1%	1.2	\$1.7	\$0.7	14
Bahamas	1.5%	22.9	\$30.5	\$17.9	536
Barbados	1.2%	7.8	\$11.1	\$4.8	142
Belize	0.2%	0.9	\$1.0	\$0.6	39
Cayman Islands	0.0%	-	-	-	-
Cuba	0.7%	292.0	\$211.7	\$85.3	4,519
Dominica	23.3%	17.4	\$24.0	\$10.4	668
Dominican Republic	1.5%	98.2	\$125.00	\$52.7	2,682
Grenada, Windward Islands	0.1%	0.1	\$0.1	\$0.0	2
Guadeloupe	1.6%	9.1	\$13.5	\$4.5	84
Guyana	2.6%	6.3	\$10.0	\$5.0	400
Haiti	0.9%	4.3	\$4.3	\$1.5	525
Jamaica	0.05%	1.1	\$1.5	\$0.6	44
Martinique	2.2%	11.7	\$15.7	\$6.5	100
Puerto Rico	5.3%	202.0	\$133.4	\$43.5	500
Saint Kitts and Nevis, Leeward Islands	0.5%	0.6	\$0.9	\$0.4	10
St Vincent and the Grenadines	1.0%	0.9	\$1.3	\$0.5	27
Trinidad and Tobago	0.9%	4.2	\$8.1	\$3.3	111
Virgin Islands, British	9.6%	40.6	\$70.1	\$30.4	286
Virgin Islands, US	13.4%	89.7	\$57.7	\$15.7	142

Source: Tourism Economics, OAG, STR, CTO

³ Counterfactual = what was expected given the previous pre-hurricane trend

03 FORECASTED IMPACTS OF THE 2017 HURRICANE SEASON

Recovery could take up to four years

To forecast impacts in 2018 and beyond, our analysts used prior crisis research, spoke directly with affected hotels and used data on <http://caribbeantravelupdate.com> to assess both lost hotel inventory and when hotel inventory is expected to return.

Before 2017's hurricane season, the Caribbean Travel & Tourism sector was forecast to continue growing at 4% (the average rate between January and July) from then until the end of the year. Instead, the hurricanes led to a decline of 4% or more compared to 2016. The hurricane season has already impacted visitor spending in 2017, and given the level of lost hotel inventory, continued negative impacts (in comparison to the prior growth path) are expected in 2018.

Total 'losses' are likely to peak in 2018 and could total \$3.1 billion over four years. Damage to key resorts, beaches, attractions and infrastructure could mean a negative impact into 2020. While some islands may experience ongoing challenges, on a regional basis, we expect a return to the levels previously forecast by 2021. This is based on the assumption that there are no further serious impacts from hurricanes in 2018, 2019 and beyond.

Lost visitor spending in the Caribbean (compared to prior growth path)

Lost spending, billions



Source: Tourism Economics

A four-year impact forecast based on individual property research shows that 2019-2021 are strong bounce-back years. Spending is set to grow by 8.6% in each year, and by 2021, this will have brought the Caribbean back to its prior growth path, matching the spending level (of around US\$43 billion) forecast if the hurricane damage hadn't occurred.

However, even with the hurricane impacts, across the region as a whole, enough islands were unaffected (or only mildly affected) for visitor spending to grow in 2017 and 2018. Losses are calculated based on a comparison with the prior growth path, not a comparison with 2016 values. See Appendix, fig 5.

04 USING CASE STUDIES TO UNDERSTAND THE POTENTIAL LONG-TERM EFFECTS OF A CRISIS ON TRAVEL & TOURISM

This section reviews the impact that crises can have on destinations and presents relevant cases that show the potential impact and duration of similar events.

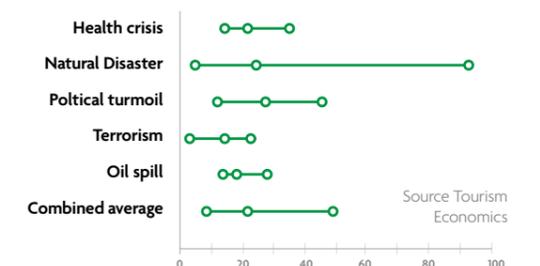
Several comparable crisis events have been considered to determine a range of possible direct impacts on tourism in the affected areas. The duration and scale of these previous crises have been considered at a national level (except for oil spills which are measured at a state or regional level) since data and case studies are more readily available at the national level. The impacts will clearly be higher for specific cities as most crises are localised to one city or small region. See Appendix, fig 6.

The disruption period is calculated as the combined length of time that there was physical disruption to tourism services in addition to the period for which perceptions were affected. This is measured as the time between the start of each event and the time that visits and spending return to business-as-usual estimates.

While the time from initial disruption to recovery can vary, crises often disrupt the tourism sector for months or even years after they occur. In our crisis case study data, international tourist arrivals can fall by as much as 60% (as seen on the Cayman islands after the 2004 hurricane), and the average natural disaster took 23 months to fully recover from.

Tourism disruption after crises

Months after initial disruption to visitation until return to pre-crisis level (minimum, maximum and average)



4.1 Haiti after the 2010 earthquake

Even well after the crisis is over, visitation may be dampened due to product damage, altered visitor behaviour, and enduring misperceptions.

Haiti was devastated by an earthquake in January 2010, with 100,000 fatalities. The disruption period lasted until November 2011 when visitor numbers returned to pre-crisis levels. During this 22-month period, the country lost 74,000 visitors. See Appendix, fig 7.

4.2 Thailand and Japan

The tsunami at the end of 2004 that impacted Thailand and much of South East Asia depressed visitation for over a year, and cost Thailand 337,000 visitors over that time. The disruption period lasted from January 2005 to February 2006. See Appendix, fig 8.

The 2011 earthquake (and subsequent tsunami and nuclear meltdown) in Japan cost the country 2,095,000 arrivals over a 21-month recovery period. See Appendix, fig 9.

Mountains Over Haiti

4.3 New Orleans after Hurricane Katrina

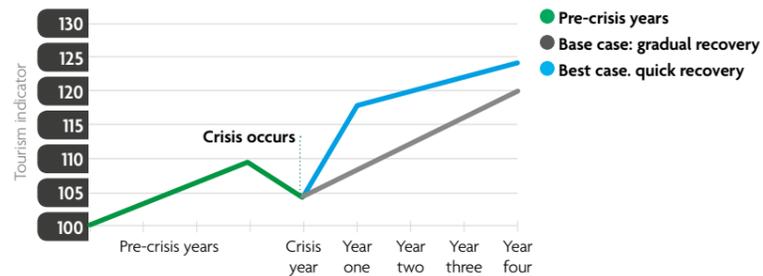
Hurricane Katrina hit New Orleans in 2005, but depressed arrival numbers to the city for years after. Even well after New Orleans recovered to its pre-crisis level, a persistent performance gap still remained in comparison to its competitor cities such as Houston and Tampa. This is likely to be due to a combination of lost hotel inventory and consumers' lingering negative perceptions. See Appendix, fig 10.

4.4 Analysis of the case studies

While destinations hope for a quick bounce-back after a crisis, typically the crisis creates persistent losses as the destination is set back from its previous growth path.

The long-term impact of a natural disaster

Even after a destination returns to its pre-crisis level, losses can continue to mount as the destination lags behind its previous growth trend.



Crises create significant and long-lasting impacts:

- The impact of crises on the tourism sector can vary greatly but often last far longer than the clean-up or physical recovery from the event
- A 10% reduction in visits and a 23-month recovery period is not uncommon after a major natural disaster

A quick "bounce-back" is unlikely:

- Travel plans are often made months in advance, so a crisis in the autumn may affect visits over the winter, spring, and summer
- A negative perception of the destination may linger for years and hamper future growth
- Damage to hotel inventory can take years to replace and therefore reduce capacity to host visitors
- Damage to the natural environment such as forests, beaches and coral reefs that form the essential tourism 'product' may further hinder recovery

05 MINIMISING THE IMPACTS ON CARIBBEAN TOURISM

Creating business-friendly policies will encourage investment and redevelopment in Travel & Tourism sector on the Caribbean islands which in turn will speed up their economic recovery.

In this section, we recommend several specific policy measures that authorities in the region could enact to enable faster recovery and greater prosperity for the local population.

We also show recommendations for effective marketing and communications strategies in the wake of natural disasters that others have made.

5.1 Restore jobs, visitor arrivals, spending and government revenue

Even well after the crisis is over, visitation may be dampened due to product damage,

■ Incentivise and ease recovery and redevelopment

Settling insurance claims and securing capital takes time, especially for small to medium sized hotel owners who lack the capacity and resources of many large hotel operators.

Governments should work to create policies that will incentivise the private sector to speed up the recovery by redeveloping damaged infrastructure in a timely manner. This might include tax and duty exemptions for building materials, furnishings, equipment and appliances for an extended period of time. External aid would help support the local governments in this.

Ensuring easy access to the technical skills needed for physical infrastructure will speed the tourism sector's recovery. Given the high demand for specialised services such as insurance claims adjusters, architects and engineers, consideration should be given to temporarily easing entry and work permit restrictions.

■ Increase access to capital

In addition to assisting the large hotelier and infrastructure developers, governments can assist local small and medium enterprises (SMEs) in developing and redeveloping. Government development banks and multi-lateral organizations should consider offering subsidised and guaranteed loans to assist smaller locally-owned businesses recover from the hurricanes. Additionally, loans could assist locals wanting to start new tourism businesses. While smaller in revenue than the multinationals, SMEs typically have strong local linkages and

high economic multiplier values and therefore have a comparatively large impact on a national economy.

5.2 Stimulate travel and recovery by lowering costs

■ Increase competitiveness in the tourism industry

Reducing duties will lower the cost of vacations in the Caribbean and increase tourism's global competitiveness. Reducing the costs of commonly purchased goods stimulates travel and traveller spending, creates more satisfied tourists and better word-of-mouth (and social media) advertising. Better industry performance could encourage more capital investment in tourism and create positive impacts through new construction and renovations.

Governments could introduce lower duties as a temporary measure for two years and then reconsider the policy based on its effectiveness.

■ Remove minor taxes

The number of different taxes and fees levied by the government is often frustrating for visitors in the Caribbean. Hotel taxes, VAT and departure tax applied by the government, combined with private sector add-ons such as hotel resort fees and automatically-added gratuities can make tourists feel they are not getting value for money. If smaller taxes, such as departure fees, can be eliminated or added automatically to ticket prices, the tourists will leave happier.

■ Encourage more local purchases

Reducing the duty on a variety of common, locally-produced household goods such as clothing will help to develop the local supply chain and create skills and employment that supports Travel & Tourism in the destinations. Both residents and visitors would find local prices more competitive and be encouraged to reallocate spending away from relatively cheap South Florida retailers to Caribbean stores; so curtailing the economic leakage of spending on common household goods.

■ Ensure better integration with the wider economy

Increases in visitor arrivals, visitor spending, disposable household income, and local purchases all have significant positive indirect and induced impacts. Households would be able to make more local purchases with increased disposable incomes, retailers would be able to add staff and bolster wages, and visitors would contribute more to both the local economy and tax base.

Added together, these channels of economic benefit could create a significant boost to the local economy and provide tax relief for every Caribbean resident.

5.3 Other recommendations

■ Increase investments in training and education

Additional support and new facilities could be provided to help residents develop the skills needed by the tourism sector. This could both help younger workers gain the skills required for their first job in the industry and provide the advanced training needed to turn experienced workers into managers and business leaders.

■ Improve the traveller arrival and departure experience

Working to create regional standards for border crossing and customs could alleviate concerns that tourists have over visa and passport issues. Furthermore, additional customer service training for customs agents combined with enhanced technology in airports and visa facilitation could help speed tourists' entry and ensure that host countries make a good first impression on visitors.

■ Provide travel insurance

Governments have also offered trip insurance when there is uncertainty in travel conditions. South Korea made policy announcements for insuring travel to South Korea during the MERS epidemic. Similarly, following the civil unrest in Bangkok in the spring of 2010, Thailand's Ministry

of Tourism offered free travel insurance to international visitors until March 31, 2011.

■ Improve island connectivity

Moving between islands and experiencing more islands in one trip has been a challenge in the Caribbean. Over the long-term, increasing regional cooperation and internal air routes would help to support tourism development of the region as a whole and spread the benefits more widely. Creating ferry services between islands could encourage visitors to stay in the region longer and see more of the Caribbean. These measures have been discussed for many years but they need to happen more quickly.

5.4 Marketing and public relations:

■ Establish a long-term messaging strategy

Marketing a tourist destination after a disaster requires a specialised approach. The first returning tourists are likely to be motivated by empathy and altruism. Ideal media stories include those of resilience and recovery. The visitors most receptive to marketing are those already familiar with the country, either through previous visits or friends and family.

In determining an effective message, a range of responses is possible⁴:

- Celebrity endorsements – seen as a particularly effective approach in the two years following a crisis
- Community readiness – overcoming the tourists' concern that they may not be welcome can also be an effective campaign
- Business as usual – showing that the destination is open and ready for business
- Customer testimonial – endorsement from the public who have visited the region during or after the event
- Curiosity enhancement – highlighting the beauty of a regenerating landscape is most effective one to two years after the disaster

- Promotion of events - focussing on scheduled festivals and events in the affected region is most effective one to two years after the disaster

- Short-term discounts – reducing prices temporarily will entice tourists who are looking at competitively priced alternative destinations.

■ Create a rainy-day fund

Having a strong reserve of funds will allow for a continued strong marketing effort during an economic downturn (in which traditional funding sources such as hotel tax may be in decline). Having funds available in a downturn will allow destination marketing organisations (DMOs) to continue their normal marketing efforts without loss of efficiency due to restricted funding. DMOs may also be able to take advantage of cheaper media prices during a downturn and place themselves in a good position for strong recovery when the growth cycle resumes.

■ Support regional tourism marketing programmes

The Caribbean is comprised of diverse destinations. Each is distinctive and offers unique attractions, culture and experiences.

However, in the mind of many leisure travellers, the region offers an essentially similar product: beautiful beaches and weather. The traveller decision framework often starts with a decision of whether to travel to the Caribbean and then proceeds to the research and evaluation of specific islands. As a result, the region would benefit from additional cooperative marketing and branding.

⁴ Walters, G., & Mair, J. (2010, December 1). Post Disaster Marketing: what works? Taken from www.academia.edu.

06

APPENDIX

Methodology for measuring impacts

OBSERVED IMPACTS

To measure losses caused by the hurricane season, the modelling looked at what is likely to have happened to Travel & Tourism in the region if the hurricane damage had not occurred (a 'counterfactual'). In this scenario, all islands grew at their January–July 2017 rate (i.e. the year-to-date rate before the hurricane season) during and after the hurricane season (August–December 2017).

This counterfactual was then compared to actual results in August–December 2017. Where losses were detected, they were combined to calculate total losses for the island and total losses for the Caribbean. This was created using accommodation and aviation data from analytics sources STR Global and OAG, as well as data from the Caribbean Tourism Organization (CTO). In this counterfactual, all islands grew at their January–July 2017 rate (i.e. the year-to-date rate before the hurricane season) during and after the hurricane season (August–December 2017). This was then compared to actual results in August–December 2017. Where losses were detected, they were combined to calculate total losses for the island and total losses for the Caribbean. The range of Caribbean countries analysed in the research differed across the various data sources.

The three data sources were combined to estimate the losses in terms of number of overnight tourists. Data provided by Tourism Economics' Global Country Travel databank was used to calculate average spending per overnight tourist arrival and therefore calculate total lost tourist spending. Additional data from the Global Country Travel and the WTTC is used to calculate how lost tourist spending generates losses in national GDP and employment.

FORECASTED IMPACTS

To forecast 2018 impacts, analysts used data on <http://caribbeantravelupdate.com> and called affected hotels to assess lost hotel inventory and when hotel inventory is expected to return. Based on this research and prior crisis research, the analysis shows visitor spending returning to its pre-hurricane growth path in 2021.

Fig 1: Growth in international air arrivals, 2017

	July year to date growth	Changes compared to counterfactual				
		Aug	Sept	Oct	Nov	Dec
Total Caribbean	5%	5%	2%	-5%	-6%	-10%
Anguilla, Leeward Islands	22%	28%	6%	-13%	-25%	-11%
Antigua and Barbuda, Leeward Islands	-3%	-6%	1%	-2%	-8%	-5%
Aruba	-10%	-7%	-5%	-11%	-7%	-4%
Bahamas	2%	-1%	-5%	-5%	3%	-1%
Barbados	6%	11%	4%	4%	4%	5%
Bonaire, Saint Eustatius and Saba	-11%	-16%	-13%	-20%	-14%	-0%
British Virgin Islands	31%	30%	24%	-42%	-47%	-35%
Cayman Islands	2%	10%	20%	5%	12%	9%
Cuba	35%	39%	21%	9%	4%	-13%
Curaçao	-14%	-18%	-18%	-16%	-15%	-10%
Dominica	37%	-14%	-20%	-52%	52%	54%
Dominican Republic	1%	0%	3%	-3%	3%	2%
Grenada, Windward Islands	-5%	4%	-6%	3%	9%	8%
Guadeloupe	10%	11%	17%	6%	8%	-5%
Haiti	2%	-6%	7%	9%	17%	13%
Jamaica	1%	8%	6%	4%	11%	9%
Martinique	7%	5%	8%	4%	7%	-5%
Montserrat, Leeward Islands	-13%	-31%	-37%	-37%	-37%	-40%
Puerto Rico	2%	5%	-5%	-11%	-29%	-29%
St barthélemy	-10%	-10%	-12%	-24%	-37%	-36%
St Kitts and Nevis, Leeward Islands	-8%	-0%	-4%	-9%	-13%	-9%
St Lucia	0%	3%	1%	-2%	-4%	1%
St Martin	13%	6%	10%	5%	-4%	-15%
St Maarten	-6%	1%	-3%	-48%	-57%	-63%
St Vincent and the Grenadines	6%	15%	7%	18%	15%	18%
Trinidad and Tobago	-2%	-2%	-7%	-5%	8%	-7%
Turks and Caicos	2%	2%	-10%	-22%	-18%	-7%
US Virgin Islands	3%	-4%	-11%	-39%	-52%	-59%

Source: Tourism Economics, OAG

Fig 2: Growth in international tourist arrivals, 2017

	July year to date growth	Changes compared to counterfactual				
		Aug	Sept	Oct	Nov	Dec
Total	5%	8%	-6%	-0%	-0%	-2%
Anguilla	6%	66%	-44%	-45%	-25%	-11%
Antigua & Barbuda	-6%	-2%	-21%	-14%	-8%	3%
Aruba	-6%	-5%	0%	7%	10%	10%
Barbados	7%	19%	-3%	4%	-3%	1%
Bermuda	15%	9%	-4%	16%	11%	0%
British Virgin Islands	3%	91%	-48%	-48%	-47%	-44%
Cayman Islands	5%	11%	17%	17%	25%	28%
Curaçao	-10%	-16%	-6%	-6%	-2%	-0%
Dominica	17%	6%	-24%	-52%	-52%	-54%
Dominican Republic	6%	4%	-12%	1%	4%	3%
Grenada	6%	20%	13%	16%	18%	9%
Guyana	9%	21%	4%	12%	6%	-2%
Jamaica	6%	16%	10%	19%	17%	10%
Martinique	6%	-2%	-3%	0%	7%	-5%
Puerto Rico	7%	21%	-16%	-42%	-29%	-29%
Saint Lucia	10%	13%	11%	18%	23%	18%
St. Vincent & the G'dines	-2%	2%	-14%	-10%	15%	18%
Trinidad & Tobago	-2%	-4%	-9%	7%	-4%	-6%
Turks & Caicos Islands	-1%	2%	-10%	-22%	-18%	-7%
US Virgin Islands	3%	-4%	-11%	-39%	-52%	-59%

Source: CTO

Fig 3: Hotel room losses in heavily impacted islands

	Operating hotel rooms		Number lost	Percent lost
	Aug 2017	Dec 2017*		
Total Caribbean				
Anguilla	793	391	402	51%
British Virgin Islands	985	500	485	49%
Dominica	646	509	137	21%
Puerto Rico	16,265	13,709	2,556	16%
St. Maarten	3,526	2,396	1,130	32%
US Virgin Islands	4,473	2,809	1,664	37%

Source: STR

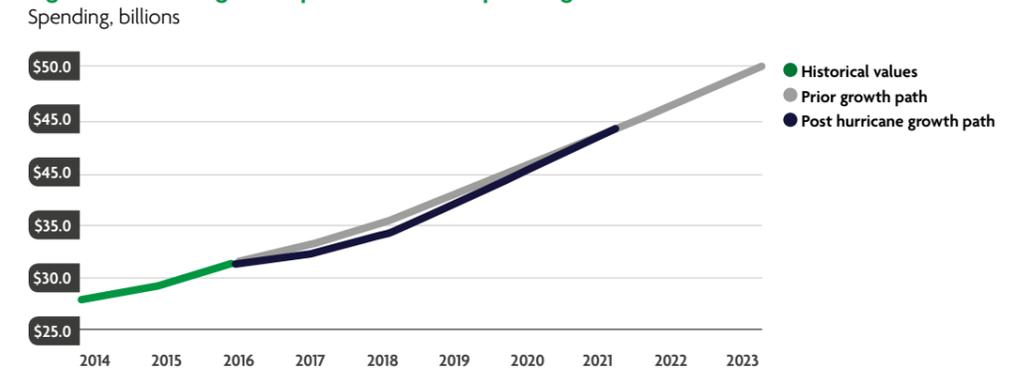
*Indicates those which are still in the hotel licensing pool, but not necessarily open.

Fig 4: Growth in room demand, 2017

	July year to date growth	Changes compared to counterfactual				
		Aug	Sept	Oct	Nov	Dec
Total Caribbean	3%	4%	-15%	3%	-9%	-8%
Aruba	11%	5%	8%	18%	3%	-0%
Bahamas	2%	-8%	-21%	-3%	-4%	3%
Barbados	0%	6%	-0%	-5%	-9%	-4%
Cayman Islands	-4%	1%	4%	6%	27%	24%
Cuba	4%	10%	-39%	-0%	-22%	-21%
Curaçao	-2%	-7%	0%	-5%	-0%	9%
Dominican Republic	7%	6%	-15%	0%	-10%	-5%
Jamaica	8%	7%	9%	13%	-5%	-4%
Former Netherlands Antilles	2%	-4%	24%	15%	-37%	-43%
Puerto Rico	-2%	6%	-16%	9%	10%	-5%
St Lucia	1%	14%	7%	4%	6%	9%
Trinidad and Tobago	-3%	1%	3%	-0%	3%	6%

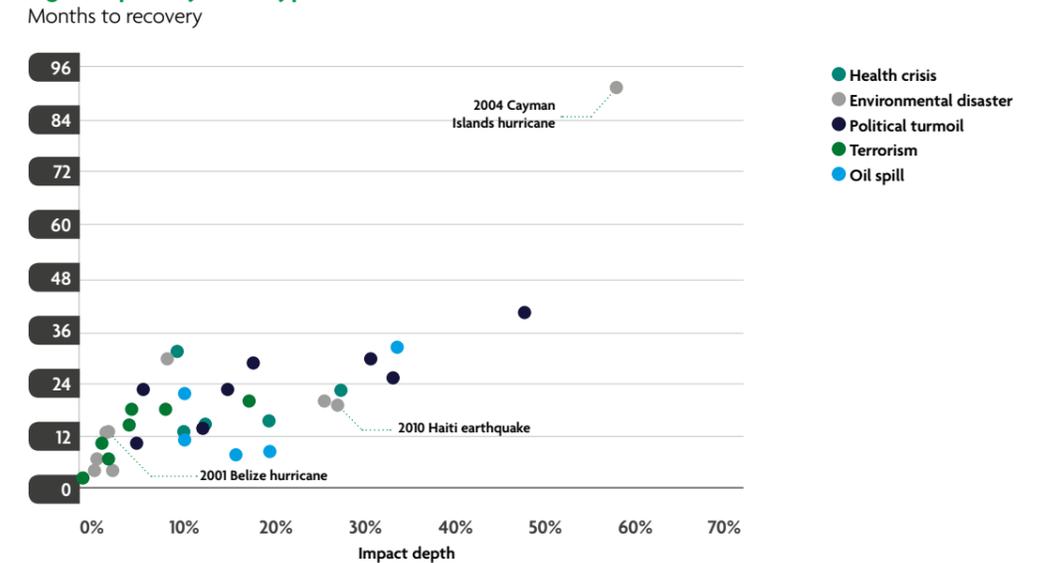
Source: Tourism Economics, STR

Fig 5: Forecasted growth path for visitor spending in the Caribbean



Source: Tourism Economics

Fig 6: Impact by crisis type

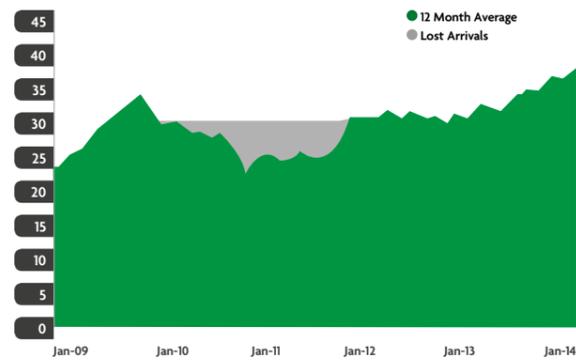


Source: Tourism Economics

Note: 'Months to recovery' is measured as the time between the start of each event and the time that visits (or spending in the case of oil spills) return to business-as-usual estimates.

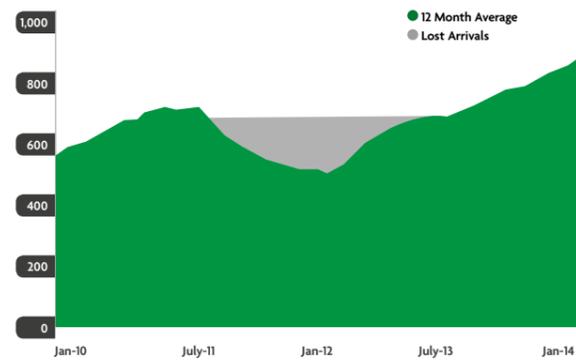
Impact depth measures the largest percentage drop in monthly visitor arrivals (or spending for oil spills).

Fig 7: Impact of the 2010 earthquake in Haiti
International arrivals (thousands)



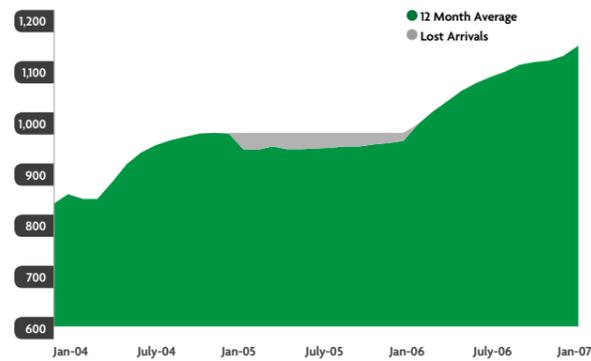
Source: UNWTO

Fig 9: Impact of the 2011 earthquake in Japan
International arrivals (thousands)



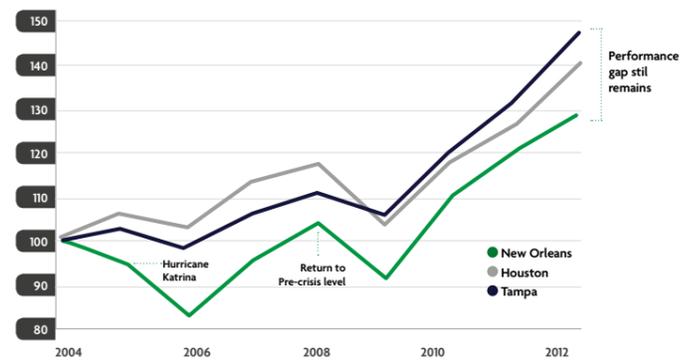
Source: UNWTO

Fig 8: Impact of the 2004 tsunami in Thailand
International arrivals (thousands)

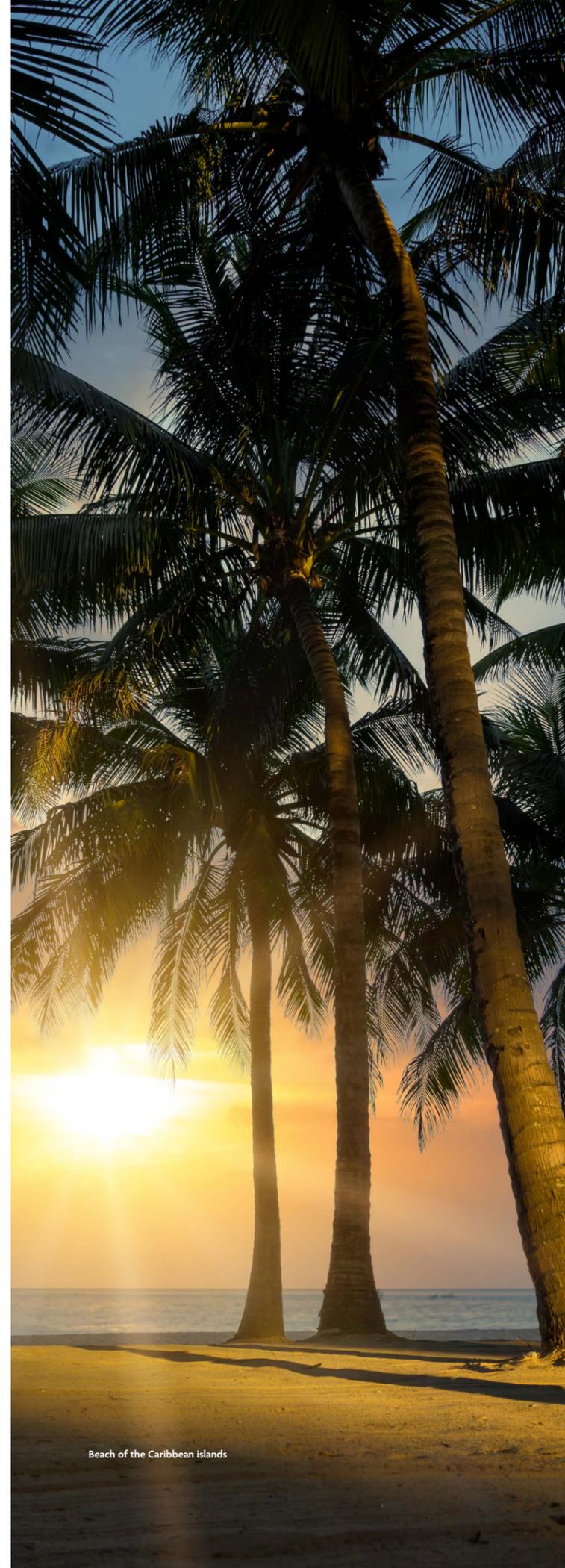


Source: UNWTO

Fig 10: Impact of Hurricane Katrina on major Gulf Coast cities, USA
Index (2004 = 100)



Sources: NTTO, StatsCan, BTS, Tourism Economics, Pew Research, OAG, STR



Beach of the Caribbean islands



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