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Impact on the Tourism Structure of Acapulco and Losses Due to Hurricanes Otis and John

Dr. Jorge Enrique Muñoz Sánchez[1], Dra. Teresa de Jesús Rivas Pérez[2],
Dr. Justino Arziga Castañón[3], Dra. Ma. Elvia Chavarría Solís[4]
[1]Autonomous University of Guerrero, Faculty of Tourism
Av. Ruiz Cortines s/n Acapulco, México.
[2]Autonomous University of Guerrero, Faculty of Tourism
Av. Ruiz Cortines s/n Acapulco, México.
[3]Autonomous University of Guerrero, Faculty of Tourism
Av. Ruiz Cortines s/n Acapulco, México.
[4]Autonomous University of Guerrero, Faculty of Tourism
Av. Ruiz Cotines s/n Acapulco, México

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Abstract

This document reflects on the impacts caused by the loss of tourist attractions in Acapulco due to the passage of two natural phenomena: Hurricane Otis (Category 5, 10/24/2023) and Hurricane John (09/23/2024). To collect information on the losses, official documents published by the federal government were reviewed, interviews were conducted with various actors in the tourism sector, and tours were carried out along the city's tourist strip to corroborate the state of the facilities; however, the figures published by official bodies are approximations that do not coincide with reality. More than two years after the first event, the city has not managed to recover its tourism and general service structure; which implies a series of problems among its inhabitants such as job loss, the need to migrate to other destinations, deficiencies in the provision of public services to the population, and a decrease in tourist arrivals, among other problems. The effects due to climate change on the planet are manifesting with increasing frequency and magnitude everywhere, including tourist destinations, which makes the participation of academia necessary in order to analyze the tourism development model with the aim of improving it and achieving sustainability in the activity, almost a century after tourism began in Acapulco as a sun and beach destination.

Keywords: Acapulco, tourist attractions, Hurricane Otis, Hurricane John, tourism resilience, tourism development models

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1. Introduction

Few tourist destinations have been impacted and devastated by natural phenomena in such a short period (less than a year, October 2023 and September 2024) as Acapulco was by Hurricane Otis and Cyclone John. Both phenomena dealt a brutal blow to the tourist destination and its economy. Hurricane Otis (Category 5, Saffir-Simpson scale), which essentially brought more wind than rain, destroyed hundreds of buildings located in the coastal strip of the port, in its three tourist zones: Diamante, Dorada, and Tradicional; causing material losses estimated in billions of dollars; in addition to the damage suffered by the populated area and all the equipment in a city of just over 750,000 inhabitants (INEGI, 2020). In the case of Cyclone John, Category 3, which brought more water than wind, it flooded a large part of the city and caused material damage and the overflow of rivers and lagoons and the flooding of tourist areas and generally throughout the entire city.

Undoubtedly, natural disasters caused by meteorological phenomena such as earthquakes, volcanic eruptions, tsunamis, storms, and cyclones, among others, bring with them the loss of urban equipment of incalculable value for cities because among them can be counted, in addition to urban equipment and structures of historical value, functionality, and tourist attractiveness for the destination. In many cases, these facilities also generate income for the city and the fact that they are destroyed or disabled implies that they cannot be used for an indefinite time, as was the case with schools of all levels, clinics, hospitals and health centers, roads, electrical power grid, drinking water and drainage network, to name a few; in addition to the cost of repair or total loss, whichever the case may be. The loss of the human factor, which makes the destination's existence and operation possible, must not go unmentioned; unfortunately, that cannot be recovered and has represented a great loss for Acapulco, for which there are no precise figures, those published by the authorities definitely do not coincide with what was observed by the researchers and stated by the study participants.

On the other hand, in the case of Acapulco, the material losses generated by the two hurricanes will hardly be quantifiable in their exact economic, tourism, and functional dimensions. Since tourist attractions represent great value for the tourism product and are income generators, through the sales they generate and tax collection. For tourist destinations, the loss of natural attractions is even more difficult to quantify because it is damage to nature itself, it becomes almost impossible to assign an economic value to a tree or an endemic species, a beach, or a landscape. In short, it will always be regrettable to have to record the loss of natural tourist attractions and also those created by man, although these can be recovered at a certain cost.

This work attempts to make a non-monetary estimation of the losses caused by the two aforementioned phenomena, which, in addition to what has been commented, also caused the total closure of the destination for a period of several months, although thanks to the enormous help received, its recovery has been slow and gradual. As a reminder, a list of events that occurred in the last decades of the last century and so far in this one, caused by large-scale natural phenomena, which have affected towns, cities, and regions, which in addition to being cities also develop tourism activities among their economic activities, and are equipped with

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special structures suitable for receiving tourists and visitors; in the case of tourist destinations, they have caused the suspension of such activities that represent their main income, as in the case of Acapulco.

List of some natural disasters that have impacted the global tourism industry, documented from the 1950s to 2024

Table 1. Cyclones, hurricanes and typhoons

Ciclones, huracanes y tifones	
Año	**Nombre y lugar**
1955	Huracán Janet, Chetumal, Q. R. México (clasificados en escala Saffir-Simpson)[5]
1970	Ciclón Bhola, Bangladesh (500.000 muertos)
1992	Huracán Andrew, Florida, EE.UU.
1997	Huracán Pauline, Acapulco, México
1998	Huracán Mitch, Centroamérica
2005	Huracán Katrina, Nueva Orleans, EE. UU.
2007	Ciclón Sidr, Bangladesh
2012	Huracán Sandy, Mar Caribe y EE. UU.
2013	Tifón Haiyan, Filipinas
2017	Huracanes Irma y María, Mar Caribe
2019	Ciclón Idai, Mozambique
2021	Huracán Ida, Mar Caribe y EE. UU
2022	Inundaciones, Pakistán
2023	Huracán Otis, Acapulco, México
2024	Ciclón John, Acapulco, México
2024	Huracán Helen, Florida, EE. UU
2024	Huracán Milton, Costa Este, EE. UU

Source: Own elaboration based on bibliographic review data

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Table 2. Earthquakes, eruptions and tsunamis

Terremotos, erupciones y sunamis	
Año	**Lugar**
1957	Terremoto, Ciudad de México (magnitud 7,7)[6]
1960	Terremoto, Agadir, Marruecos (magnitud 5,9)
1963:	Terremoto, Skopje, Yugoslavia (magnitud 6,1)
1964	Terremoto en Alaska (magnitud 9,2)
1972	Terremoto en Nicaragua (magnitud 6,2)
1976	Terremoto en Guatemala (magnitud 7,5)
1980:	Terremoto en Italia (magnitud 6,9)
1985	Terremoto, Ciudad de México (magnitud 8,0)
1991	Erupción del Monte Pinatubo en Filipinas
1995	Terremoto de Kobe en Japón (magnitud 6,9)
26/12/2004	Terremoto y sunami, Costa noreste de Sumatra y Océano Índico (magnitud 9.1)
2008	Terremoto, Sichuan, China (magnitud 7,9)
2010	Terremoto, Haití (magnitud 7,0)
2011	Terremoto y tsunami, Tohoku, Japón (magnitud 9,0)
2014	Terremoto, Chile (magnitud 8,2)
2015	Terremoto, Nepal (magnitud 7,8)
2018	Terremoto y sunami, Indonesia (magnitud 7.5)

Source: Own elaboration based on bibliographic review data

Table 3. Health-related problems

Problemas relacionados con la salud	
2009	Epidemia causada por el AH1N1
2019 - 2021	Pandemia causada por el COVID

Source: Own elaboration based on bibliographic review data

1.2 Literature Review

Due to Mexico's geographical location between the two largest oceans on the planet, which makes it highly vulnerable, the federal government, through the Ministry of Tourism (SECTUR) and within the framework of the Inter-Ministerial Commission on Climate Change, has made efforts to study the extent of sectoral vulnerability and generate adaptation programs that address the problems of priority tourist destinations. Therefore, the Study of Vulnerability to Climate Change in the Tourism Sector (SECTUR, 2014) was carried out; which includes vulnerability studies for the following destinations: Acapulco, Cancún, Huatulco, Ixtapa Zihuatanejo, Los Cabos, Mazatlán, Nuevo Vallarta, Puerto Vallarta, Riviera Maya (Solidaridad -- Tulum) and Veracruz (Boca del Río -- Veracruz). In the case of the study on Acapulco, it includes aspects of

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Characterization of coastal dynamics, Threats, Physical vulnerability, Social vulnerability of the destination, Proposal for a climate change adaptation program; all of them relevant to the destination. Unfortunately, due to the speed of Otis's category change and the unknown magnitude of its effects, prevention and action measures were not taken in the face of the phenomenon. Early Warning Systems for Extreme Hydrometeorological Events were also developed to support prevention of mitigation efforts and develop adaptation capacities to foreseeable adverse impacts (Government of Mexico, 2023).

Among other actions and studies, it was found that some states and municipalities have already begun developing their Municipal and State Climate Action Plans (PACMUN), supported by ICLEI - Local Governments for Sustainability (ICLEI for its acronym in English). Although it is a non-governmental organization that focuses its work on supporting sustainability in cities, municipalities, and regions, as well as preparing for the impacts of climate change and other challenges, this organization also serves as an Official Observer of the United Nations (ICLEI, 2025).

The Vulnerability Framework for Sustainable Tourism Development (VFSTD) evaluates and manages the impacts of climate change and other vulnerability factors in the sector; it provides a comprehensive approach including environmental, economic, and socio-cultural aspects to ensure sustainability and resilience in the face of environmental challenges (Ak Mohd Rafiq Ak Matusin et al., 2019).

According to Lew and Cheer (2018), the theory of resilience in tourist destinations proposes that a destination's capacity to recover from external shocks depends not only on its physical and economic resources but also on its social capital and adaptive capacity. Social capital and environmental capital are important resources for reinforcing and strengthening the resilience of tourist destinations.

Undoubtedly, tourist destinations that have suffered the onslaughts of nature or various types that test their resilience capacity must consider their recovery under better conditions. For Calgaro et al. (2014), resilience in the tourism context implies not only recovery to a previous state but transformation towards a more adaptive and sustainable state.

UNDP (2024) presents a series of recommendations aimed at providing guidance to expedite the implementation of inclusive initiatives in post-disaster recovery processes, specifically for the tourism reconstruction of the most affected municipalities in the state of Guerrero after Hurricane Otis. Among the main recommendations are the following: Promote inclusive and equal community participation; guarantee accessibility and inclusion in all aspects of Reconstruction; identify and address the protection needs of people in vulnerable situations; strengthen partnerships and coordination among involved parties for sustainable reconstruction; train and raise awareness among tourism sectors on inclusion, gender, and accessibility issues.

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In another study, Hall and Prayag (2024) address how large-scale natural disasters (cyclones and hurricanes) impact the tourism industry at various stages of the disaster process and address strategies for tourism management and recovery after these events, in addition to examining the ethical and socioeconomic complexities involved. With case studies from several countries, the work suggests a resilient and sustainable approach for tourism in affected contexts, highlighting the importance of collaboration in disaster management and tourism recovery.

Rosello, Becken, and Santana-Gallego (2020) evaluated the effect that different types of disasters have on international arrivals at the national level. The study showed that the occurrence of different types of events modifies tourism flows to varying degrees; in some cases a positive effect is estimated, however, the impacts are negative and as a result tourist arrivals are reduced after such events. For destination managers, who make important decisions regarding recovery, reconstruction, and marketing, understanding the relationship between disasters and tourism is fundamental.

2. Method

This is a descriptive study. The data collection included a bibliographic review, interviews with key subjects (entrepreneurs, public sector officials) in person and by telephone, exploratory tours along the city's tourist strip, and testimonies from local residents were collected. The information from the Acapulco Tourism Inventory (provided by the Municipal Tourism Secretariat) was refined and condensed according to what was observed on tours of the city's tourist strip. During the data collection, support was received from some students of the Bachelor's Degree in Tourism from the Faculty of Tourism of the Autonomous University of Guerrero.

It should be clarified that from the time the tours were made to the date these results are presented, rehabilitation work has progressed and the data may not be the same at present.

3. Results

The following tables present a summary of part of what was observed along the city's tourist strip after the passage of the two phenomena, which left it almost entirely destroyed.

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Table 4. Estimation of the percentage of damage caused to tourism facilities by Hurricane Otis and Cyclone John

Huracán/ Ciclón	Hoteles	Aeropuerto	Helipuertos	Oficinas de Administradora de playas
	16	1	3	2
Otis	100%	100%	100%	100%
John	40%	20%	20%	90%

Huracán/Ciclón	Restaurantes Zona Dorada	Restaurantes Zona Diamante	Restaurantes en Barra Vieja	Yates de recreo
	23	12	47	3
Otis	100%	100%	100%	100%
John	20%	40%	60%	40%

Huracán/Ciclón	Yates de propiedad privada	Museos	Casinos	Oficinas de turismo
	50	9	5	4
Otis	100%	100%	100%	100%
John	80%	30%	50%	40%

Huracán/ Ciclón	Plazas comerciales	Almacenes departamentales	Tiendas de autoservicio	Tiendas de decoración
	9	5	16	5
Otis	100%	100%	100%	100%
John	40%	40%	40%	50%

Huracán/ Ciclón	Estatuas	Esculturas	Clubes deportivos	Oficinas de renta de autos
	4	3	6	3
Otis	80%	100%	100%	100%
John	20%	40%	60%	20%

Huracán/ Ciclón	Plazas turísticas	Mercados de artesanías	Oficinas de correos	Hospitales
	7	3	2	12
Otis	100%	100%	100%	80%
John	30%	80%	30%	30%

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Important Considerations

The damage percentages assigned are estimates generated by the authors. They are based on information obtained through on-site observation. The images shown correspond to dates before and after the passage of Hurricane Otis.

Satellite Images Before and After Hurricanes Otis and John

Image 1. Image of Acapulco Bay before and after Hurricane Otis

Image1. Source: <https://www.infobae.com/mexico/2023/11/08/acapulco-antes-y-despues-del-huracan-otis-nasa-comparte-imagenes-satelitales/>

Image 2. Outlet of the Magallanes sub-basin at Wilfrido Massieu Street and Avenida Costera M. Alemán (October 04, 2023)

Source: Maxar Reuters. At: :<https://www.infobae.com/mexico/2023/11/08/acapulco-antes-y-despues-del-huracan-otis-nasa-comparte-imagenes-satelitales/>

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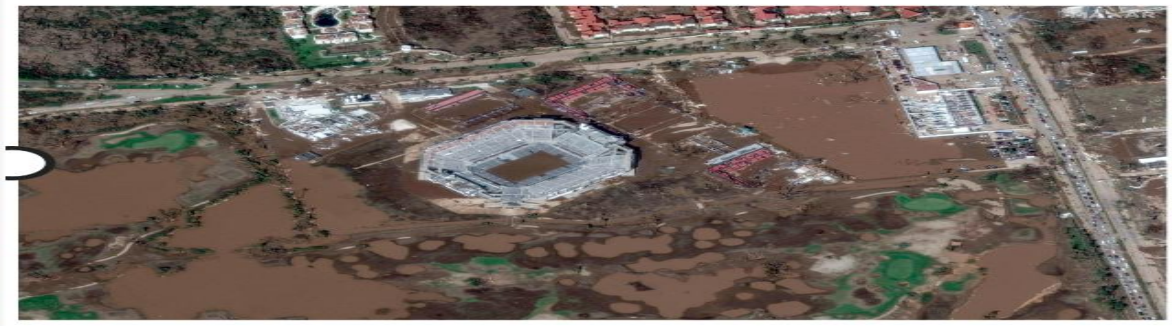
Image 3. Outlet of the Magallanes sub-basin at Wilfrido Massieu Street and Avenida Costera M. Alemán on October 26, 2023

Source: Maxar Reuters. <https://www.bbc.com/mundo/articles/c72rg2g5lyeo>

Image 4. Diamante Zone of Acapulco before Hurricane Otis

Source: Maxar Reuters. <https://www.bbc.com/mundo/articles/c72rg2g5lyeo> (October 04, 2025)

Image 5. Diamante Zone of Acapulco (October 26, 2025)



Source: Maxar Reuters. <https://www.bbc.com/mundo/articles/c72rg2g5lyeo>

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As a consequence of the 1985 earthquake, which greatly affected Mexico City and many other cities in the country, an awareness of risk and its consequences for the general population and for structures in cities began to take shape.

The vulnerability of Acapulco, in recent years, was made evident by the passage of Hurricane Pauline (1997), which destroyed a large part of the city, and due to its occurrence and consequences, attention began to be placed on the need for a civil protection organization in the city.

In more recent years, events have been recorded that have greatly affected populations, whether earthquakes, cyclones, and hurricanes, the latter with annual recurrence during the almost six months of the rainy season (May to November), so the damages seem to never be fully addressed due to the occurrence of the next event and its consequences.

4. Discussion

After the passage of the two hurricanes and the devastation they caused in the port, everything indicates that these events, especially Otis, are a turning point for the country's most iconic tourist destination. More than two decades ago, Acapulco stopped being among the top ten tourist destinations worldwide, several years ago its service structure began to slide towards the stagnation stage, similarly it has stopped being competitive compared to other sun and beach tourist destinations, it is enough to check the statistical data from the official tourism body to corroborate its stagnation in hotel occupancy, and of international tour operator programs that no longer include the port of Acapulco in their catalogs, nor do we see international hotel chains offering their luxury services in the port anymore, we no longer see international airlines arriving at the airport; all that is now part of the port's history. However, this setback does not mean the destination will be allowed to become extinct. Many efforts and resources have been given to the destination; Acapulco still has its dreamlike landscape, its exceptional climate, the warmth of its people, and the remains of the cultures inherited from its ancestors. Structures and constructions can be replaced, culture and resources cannot, they are there. What is missing is greater commitment from its citizens, joint work from all involved actors, and, it cannot be denied, more investment. But not to raise an Acapulco identical to the destroyed one, the destination and its government must work to rebuild a sustainable Acapulco, respectful of its culture and resources, safe, prosperous, equitable, and inclusive, with responsible but not servile citizens, proud of what it means to live in Acapulco, but knowing how to be inhabitants of a tourist destination. And it should not be forgotten that tourism is a very important activity for the economies of nations, however, tourism increasingly shows growing weakness in the face of various types of events that place it as an extremely fragile activity. To guarantee its sustainability, it is increasingly necessary to establish fundamental, transversal, and global measures that lead this activity to a level of strength that guarantees its enjoyment by tourists, sustainable use by host communities, and economic benefits for investors who risk their capital. In this sense, initiatives that can strengthen and allow development of the activity, spreading its benefits in society, should be implemented.

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