

CLIMATE CHANGE AND ITS IMPACT ON TOURISM DEVELOPMENT - THE CASE OF ALBANIA

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Abstract: *Climate change is a global environmental issue whose effects have been felt in society and the economy. The impact of Climate Change has also been felt in the Tourism sector. The object of the study is the assessment of climate change in the tourism sector. The methodology used to carry out the work will be in function of the purpose of the topic we are examining: descriptive through which the concept of climate change and the connection with the development of tourism will be explained; analytical and statistical where the Tourism Climate Index will be interpreted and calculated, cartographic through which will be evidenced the change of natural potential that affects the development of tourism over the years. At the end of the paper, we will have some findings such as: (1) climate change has changed the coastline in Albania, (2) increasing the number of fires and reducing the forest area, (3) increasing the days of the tourist season, (4) tendency to change the tourist offer. The paper will close with conclusions and recommendations.*

Key words: Climate Change, Tourism Climate Index (TCI), Tourism.

JEL Classification Codes: Q5

1. INTRODUCTION

1.1 CLIMATE CHANGE AND TOURISM

Climate change is now the subject of discussions at the tables of every level of government, entrepreneurial, communities. By climate change we mean long-term changes in temperature and weather patterns.¹ The effects of climate change have endangered the existence of planet earth and human society. According to the latest IPCC report it is emphasized that man is the main cause of climate change and that the red code for humanity has been lit.²

Climate change has led to an increase in temperature of 1.1⁰C, an increase in sea level by 2 m, warming of the oceans and seas and an increase in the level of acidity, melting snow in the mountains and glaciers, increasing the frequency and intensity of heat waves, extreme weather, increasing number of floods and drought³.

The consequences of climate change affect social, economic and environmental development at the global, regional and local levels. Therefore, special attention is paid to recognition, taking measures to reduce the effects of climate change.

Climate change and tourism are interrelated. Tourism is one of the contributors to climate change, but on the other hand it is burdened by the consequences of climate change.

1 <https://www.un.org/en/climatechange/what-is-climate-change>, on date 23/11/2021

2 Ippcc Report August 2021, [Link](#) on date 23/11/2021

3 Ippcc Report August 2021, [Link](#) on date 23/11/2021



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Tourism is developed on the basis of the presence of natural and cultural potentials found in a country. Tourism contributes to the increase of Co2 emissions:

- from the burning of fossils through the transport system. According to UNËTO / ITF, CO2 emissions from transport to tourism increased by at least 25% from 2016, with Co2, of which 5.3% are related to human activity.⁴Transport-related emissions from international tourism are expected to increase by 45% from 2016 to 2030 (from 458 Mt CO2 to 665 Mt Co2). Transport-related emissions from domestic tourism are expected to increase by 21% from 2016 to 2030 (from 913 Mt CO2 to 1103 Mt CO2).
- pollution from overcrowding of tourist areas: according to UNEP from tourism activity 4.8 million tons of waste are produced every year,⁵ acoustic pollution etc.
- lack of territorial planning etc.

Climate change on the other hand has a negative impact on the development of tourism activities for: natural tourism, cultural tourism, mountain tourism, sports tourism, etc.

The object of the paper is climate change and their impact on tourism, in this context the relationship between climate change and tourism will be addressed.

Climate change brings effects that are damaging natural and human potentials such as the loss of land surfaces (erosion), islands, biodiversity, various pandemics, loss of cultures and civilizations.

Consequences, which affect the normal development of tourism, but on the other hand climate change will affect the orientation of new forms of tourism.

But will we have the opportunity to develop tourism? How is Albania in relation to climate change?

Tourism is an activity that takes place away from the residence for the purpose of rest, relaxation and enjoyment while using all the promoted services.⁶

Tourism has a high sensitivity to climate change and its effects. Data coming from the IPCC show that climate change is undermining tourism potentials by losing the values that drive tourism movements.

Natural or cultural attractions that will survive climate change will face a low number of tourists.

This led researchers to pay attention to the links between climate and tourism. They studied the recognition of optimal conditions for tourists to be involved in the tourist movement. An important indicator is the Tourism Climate Index. This indicator will serve to show how important the climate factor is in the development of tourism and its future in countries that prioritize tourism. The calculation of the Climate Tourism Index is done according to the following formula:

$$TCI = 8 CID + 2 CIA + 4 R + 4 S + 2 U^7$$

This formula proposed by Mieczkowski in 1985 takes into account the following climatic elements: monthly means for maximum daily temperature, mean daily temperature, minimum daily relative humidity, mean daily relative humidity, total precipitation, total hours of sunshine, and average wind speed) .⁸

4 <https://www.unëto.org/sustainable-development/tourism-emissions-climate-change>

5 <https://resource.co/article/managing-ëaste-tourist-cities-11319>

6 <https://www.britannica.com/topic/tourism>

7 Elham Mubarak Hassan, Katayon Varshosaz, Nasreen Eisakhani (2015) *Analysis and Estimation of Tourism Climatic Index (TCI) and Temperature-Humidity Index (THI) in Dezfou*, 2015 4th International Conference on Environmental, Energy and Biotechnology Volume 85 of IPCBEE (2015) DOI: 10.7763 / IPCBEE. 2015. V85. 6

8 Elham Mubarak Hassan, Katayon Varshosaz, Nasreen Eisakhani (2015) *Analysis and Estimation of Tourism Climatic Index (TCI) and Temperature-Humidity Index (THI) in Dezfou*, 2015 4th International Conference on Environmental, Energy and Biotechnology Volume 85 of IPCBEE (2015) DOI: 10.7763 / IPCBEE. 2015. V85. 6

This indicator will help provide an answer on the perspective of the future of tourism in general and tourism in Albania in particular.

2. DATA AND METHOD

To realizing aim of study are used data from: Institute of Geoscience, Institute for Environment Policy, Institute of Statistics, Climate Change Knowledge Portal for Development Practitioners and Policy, consulting with literature online and other scientific publication about the topic etc.

The methodology used to achieve the purpose of the study are: analyzing, comparative, statistics, graphic and cartography.

This methodology will be efficient to identify, treatment and suggest a solve of the problems.

3. CLIMATE CHANGE AND ITS IMPACT ON TOURISM DEVELOPMENT - THE CASE OF ALBANIA (DISCUSSION)

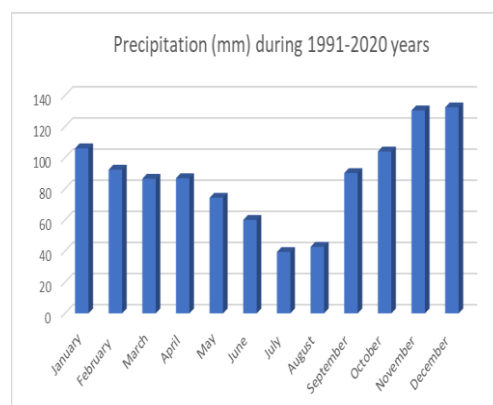
Albania's geostrategic position in Southeastern Europe, the western part of the Balkan Peninsula. Diverse natural features, intersection in a small area of mountainous and plain relief, Mediterranean climate, rich hydrography, part of the Mediterranean Sea, diversified biodiversity with endemic and sub-endemic plants. All these make Albania a favorite tourist destination by tourists. Accessibility, natural and cultural potentials promote a variety of forms of mountain tourism, adventure, sports, cultural, archaeological, historical, ethnographic, rural, culinary, etc.

Tourism is a priority in Albania and is realized in all its forms. The contribution of tourism to the Albanian economy is 2.5% of GDP⁹. In Albania, international tourism is represented by tourists of nationalities such as: Albanian of Kosovo, Europe (Greece, Italian, Macedonia, Montenegro), Americas, East Asia and the Pacific, Africa, South Asia and Middle East etc. In 2019 the number of international tourists was 6,406,000 tourists and Albanians who traveled abroad were 5,350,604, of which for personal purposes account for 95.1% of total trips, while business trips 4.9% of them.¹⁰

What is evidenced by the study of tourism data is that Albania's tourism profile has evolved over the years. If before the '90s we can only talk about domestic tourism and only after the 1990s, Albania managed to become part of the world tourism market. The tourist season in Albania from 1991-2000 started in May or June to September, while in the years 2001-2020 the tourist season starts in March or April to October. This extension of the tourist season is related to tourism policies, new lifestyle, leisure time and leisure, but climate change also has an important role.

In addition to the extension of the tourist season, in Albania identify and coastline erosion, heat waves, extreme cold temperatures, multiple fires and most recently the covid-19 pandemic.

This panorama shows that tourism in Albania will soon be in a difficult situation due to climate change.¹¹ The trend of temperatures in Albania during the period 1991-2020 has been increasing by 1⁰C.¹²



9 INSTAT (2018) Tourism in Figures

10 Instat (2020) Albania in Figures, p. 81 <https://www.e-unëto.org/doi/epdf/10.5555/unëtotfb0008010020152019202007>

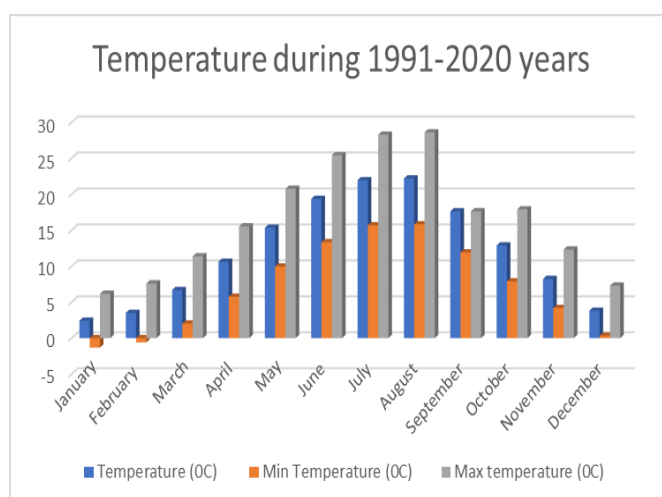
11 https://ec.europa.eu/neighbourhood-enlargement/system/files/202010/green_agenda_for_the_western_balkans_en.pdf

12 Climate Change Knowledge Portal for Development Practitioners and Policy Makers

Rising temperatures, increased rainfall in Albania are reflected in the frequency of droughts, increased erosion in marine areas, frequent floods. All these affect not only the environment, but also social and economic development. One of the sectors of the economy is Tourism, which is based on the use of natural and cultural potentials.

Tourism on the other hand requires to be developed in optimal climatic conditions. In these conditions, importance is given to the knowledge and study of the Climate Tourism Indicator. An indicator that will help us assess the future of tourism in Albania.

In this paper, the Climate Tourism Indicator for 5 tourist destinations are taken into consideration: Shkodra, Lezha, Tirana, Durrës, Vlora.*



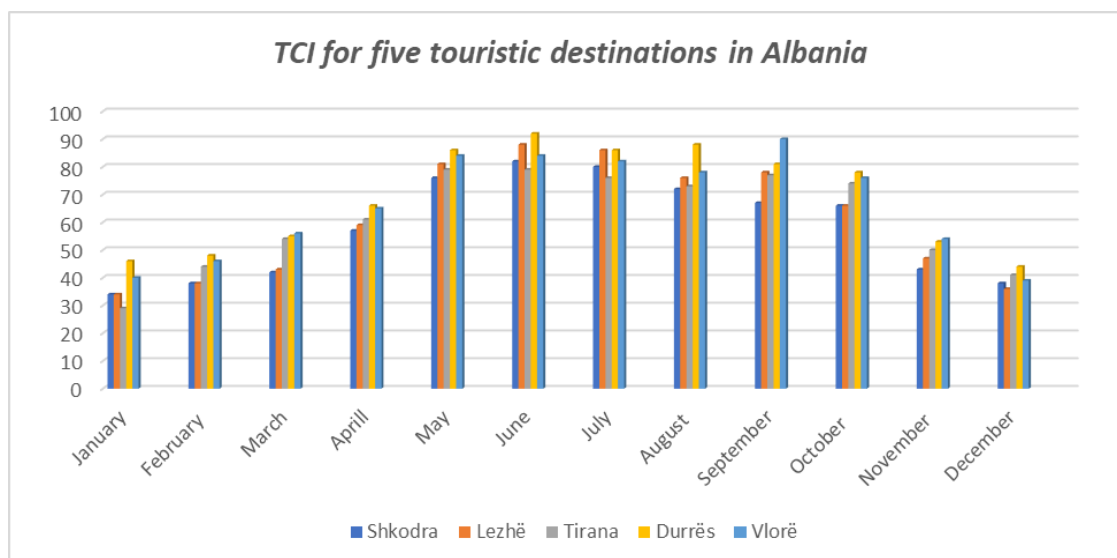
Source: Climate Change Knowledge Portal for Development Practitioners and Policy Makers

* Note: Data were processed by P. Zorba and G. Çela.

Table no. 1. TCI for five tourist destinations in Albania

Months	Shkodra	Descriptive-TCI	Lezha	Descriptive-TCI	Tirana	Descriptive-TCI	Durres	Descriptive-TCI	Vlore	Descriptive-TCI
<i>January</i>	34	unfavorable	34	unfavorable	29	very unfavorable	46	marginal	40	marginal
<i>February</i>	38	unfavorable	38	unfavorable	44	marginal	48	marginal	46	marginal
<i>March</i>	42	marginal	43	marginal	54	acceptable	55	acceptable	56	acceptable
<i>Aprilla</i>	57	acceptable	59	acceptable	61	you good	66	you good	65	you good
<i>May</i>	76	very good	81	excellent	79	very good	86	excellent	84	excellent
<i>June</i>	82	excellent	88	excellent	79	very good	92	ideal	84	excellent
<i>July</i>	80	excellent	86	excellent	76	very good	86	excellent	82	excellent
<i>August</i>	72	very good	76	very good	73	very good	88	excellent	78	very good
<i>September</i>	67	you good	78	very good	77	very good	81	excellent	90	ideal
<i>October</i>	66	you good	66	you good	74	very good	78	very good	76	very good
<i>November</i>	43	marginal	47	marginal	50	acceptable	53	acceptable	54	acceptable
<i>December</i>	38	unfavorable	36	unfavorable	41	marginal	44	marginal	39	unfavorable
<i>Averages</i>	58	acceptable	61	you good	61.4	you good	68.5	you good	66.1	you good

Source: Data by climatic bulletin, Geoscience Institute P. Zorba, G. Çela (2019).



Based on the Mieczkowski categorization, it is evident that tourist destinations create optimal conditions for the development of tourism. Shkodra has "acceptable" conditions for the development of tourism. In this city the tourist season based on TCI can start from April to October. In the cities of Lezha, Tirana, Durres and Vlora according to TCI (61-68.5) there are "Good" conditions for the development of tourism. Tirana, Durres, Vlora based on TCI values has a duration of the tourist season of one month. The values of the climatic indicator prove once again that the Albanian Riviera creates more suitable conditions for the development of tourism. This fact influenced by the natural features that the Albanian Riviera has.

In Northern Albania, based on the trend of temperatures, they will face an increase in the days of the summer tourist season, but winter tourism will have a reduction in days. This means that tourist destinations such as Theth, Valbona, Shishtavec, Dardha, Voskopoja that have priority for winter tourism to find new forms of tourism development and its activities.

4. RESULTS

However, the data obtained in the field show that the effect of climate impacts is expressed in the increase of marine erosion. Of the 427 kilometers of coastline that Albania has, 154 kilometers are affected by erosion: Shengjin, Kune, Qerret (Kavaja) etc. According to a report by the United Nations Development Program, land loss due to erosion is 2-3 times higher in Albania than in other Mediterranean countries and 10 to 100 times higher than in many other European countries.

Climate indicators and TCI identify bad facts about the future of tourism:

- Increase in the duration of the warm (summer) tourist season
- Temperatures with extreme values do not create suitable conditions for humans, for tourist movements
- Short time of winter tourism like skiing, mountaineering
- Rising sea level will lead to loss of sandy coastline beaches: Kune, Qerret, Shengjin
- Coverage of some cities with water, loss of lagoons and bays
- Loss of archeological, historical objects of coastal cities by rising sea level
- Loss of agricultural land and biodiversity
- The onset of social and economic crises
- The need to create new profiles of tourist destinations, tourist activity, etc.

The results show the importance that researchers should pay to climate change for the future of tourism in Albania. Damage to any natural and human tourism potential seriously endangers the future of tourism.

CONCLUSION AND RECOMMENDATION

➤ *Conclusion at the end of the study:*

Albanian tourism has been affected by climate change. The climate change now is reality. Tourism in Albania should be coordinated with recommendation UNWTO about “*plan for tourism to support the global commitment to halve emissions by 2030 and achieve net zero by 2050 and requests signatories to make tangible commitments around planning, measuring and reporting*”. This initiative should be followed by all the actors (private and public) which are working in the tourism sector. Albania government have taken measures to draft law on Change Climate.

➤ *Recommendation*

- Finding new alternatives for tourism development
- To become a green economy for all sectors directly and indirectly related to tourism
- Collaborate with all tourism actors to find new low carbon activities
- Orientation of the tourism industry to the green economy
- Encourage lifestyle change
- Encourage investment in technology for breakwaters along the coast
- To reduce CO2 emissions through biofuels used in the transport system
- Educating tourists to choose local tourism and green transport (bus, train, bicycle)
- Creation of a new tourist profile for a tourist destination at risk
- Use of artificial snow to preserve mountain tourism activities
- Construction of urban planning of integrated renewable energy system

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