



CLIMATE CHANGE AND ITS POSSIBLE IMPLICATIONS FOR TOURISM DEVELOPMENT IN TURKEY

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Introduction

Relevant research suggest that climatic conditions in addition to other natural resources have significant implications for global, regional, and local travel patterns, often acting as important “push” or “pull” factors in the process of destination choices.

Changes in some climatic variables such as temperature, precipitation, wind speed, humidity, or snow depth have direct or indirect impacts on the tourism industry including activities and experiences of tourists.

These changes in climatic conditions will effect the enjoyment of tourists & can lead tourists to alter the frequency, duration, timing & location of their future activities, or to shift to a different activity & destination altogether.

Most tourists visiting Mediterranean countries including Turkey are 3s oriented holiday makers, majority of whom are from wealthy European countries. Due to climate change the currently popular holiday destinations in the Mediterranean basin may become too hot, and tourist generating countries in the Europe may have a more encouraging climatic conditions for holiday makers particularly for summer months.

The results of several studies have indicated that more comfortable local weather often results in increased domestic tourism; colder, less hospitable weather at home, increases outbound tourism.

This may create a serious problem for economies of some Mediterranean countries including Turkey, because as shown in Table 1, around 5 % of GDP is generated by the tourism industry in these countries.

Relative Importance of the 'Travel' Account Receipts in the GDP (%), 1984-2006.

Countries	1984	1988	1993	1994	1995	2000	2003	2006	Average
Greece	3.9	4.5	4.6	3.9	3.6	6,3	6,4	7,5	5,0
Portugal	5.0	5.8	4.8	4.5	4.4	4,6	6,0	7,0	5,2
Spain	5.0	4.8	4.1	4.4	4.5	5,1	6,5	7,2	5,2
Turkey	1.1	3.3	2.3	3.5	2.9	3,8	5,5	4,2	3,3

Awareness of Implications Climate Change

There seems to be a low level of awareness regarding the implications of climate change in Turkey. There is very limited research on this subject matter. However, according to the report of the Research Group (2004) working on the effects of climate change the following effects are anticipated for Turkey:

- ⦿ Warming in summer would be more than the warming in spring and autumn.
- ⦿ An increase in drought has been observed since 1970s especially in Aegean, Mediterranean, Marmara and Southeast regions.
- ⦿ Data collected between 1984 and 2002 from Aegean and Mediterranean Sea shows that sea level has been raised annually between 3 and 10 mm.
- ⦿ Panel on Climate Change reports that temperature will rise between 1-4 degrees by 2080 based on the most optimistic and most pessimistic scenarios. Scarcity of water will be one of the primary problems. Additionally between 0% and 2.5% decreasing in agricultural products are estimated.
- ⦿ If those conditions continued, a hundred years later more arid and less productive climatic conditions, like in the Middle- east and African continent, would prevail in Turkey.

As implied above, there is almost no research about climate change and its implication for various sectors of the economy in Turkey. This is particularly true for tourism and hospitality industry.

Possible Implications of Climate Change for Tourism Development in Turkey

In order to fully understand the implications of climate change for tourism development in Turkey, it is important to estimate what larger effects of climate change will be.

The main tourist generating countries in Europe will be warmer: This means that those countries' people traveling for 3s would stay at home instead of spending their holiday abroad. Consequently, tourism demand from these countries for Turkey may decrease.

Foreign Visitors Arrivals by Selected Nationalities

Countries/Years	2003	2004	2005	2006	% (2006)
Germany	3.305.044	3.985.141	4.240.122	3.762.469	19
Russian Fed.	1.257.559	1.603.372	1.864.682	1.853.442	9,4
U.K.	1.090.629	1.398.412	1.757.843	1.678.845	8,5
Bulgaria	1.006.268	1.310.643	1.621.704	1.177.903	5,9
Netherland	938.483	1.199.474	1.253.885	997.466	5
Iran	494.977	631.522	957.245	865.942	4,4
France	470.071	544.917	701.190	657.859	3,3
Georgia	167.759	235.143	367.339	549.328	2,8
USA	222.675	289.290	434.991	532.404	2,7
Ukraine	225.452	293.644	380.392	487.917	2,5
Belgium	308.043	426.769	485.758	451.426	2,3
Austria	379.814	456.253	486.051	429.708	2,2
Greece	393.399	491.300	584.784	412.819	2,1
Italy	236.918	319.007	401.852	402.573	2
Azerbaijan	192.645	330.313	411.652	380.132	1,9
Sweden	204.134	285.032	405.956	326.255	1,6
Israel	321.096	299.944	393.805	362.501	1,8
Romania	185.111	169.348	202.623	245.941	1,2
Other	2.556.328	3.278.860	4.173.012	4.244.903	21,4
TOTAL	13.956.405	17.548.384	21.124.886	19.819.833	100

Source: Derived from Ministry of Culture and Tourism (2007)

Summer will be uncomfortably hot for tourists: Around 42 % of tourists arrive Turkey in summer.

Monthly Distribution of International Tourist Arrivals in Turkey

	2004	%	2005	%	2006	%
January	533.694	3,05	700.469	3,32	667.337	3,37
February	607.854	3,47	696.643	3,3	626.565	3,16
March	784.107	4,48	1.107.348	5,24	921.892	4,65
April	1.104.270	6,3	1.348.264	6,38	1.372.922	6,93
May	1.799.130	10,27	2.302.389	10,9	1.918.809	9,68
June	1.898.435	10,84	2.402.912	11,37	2.368.628	11,95
July	2.591.140	14,79	3.180.802	15,06	3.109.727	15,69
August	2.492.794	14,23	2.861.141	13,54	2.905.817	14,66
September	2.125.025	12,13	2.502.123	11,84	2.267.146	11,44
October	1.842.277	10,52	2.108.398	9,98	1.713.916	8,65
November	948.815	5,42	1.052.561	4,98	1.020.106	5,15
December	789.367	4,51	861.836	4,08	926.968	4,68
Total	17.516.908	100	21.124.886	100	19.819.833	100

It is claimed that summer temperature will rise up to 4 degrees in Turkey. This situation may cause an unpleasant condition for tourists. It is known that temperature above 40 C would cause heat stress and mortality for people.

With increasing temperatures many tourists may be discouraged from visiting at this time of the year. Instead, holiday makers may choose to visit at an earlier or later time of the year to avoid the hottest months or they may switch to alternative destinations in other countries

Consequently, an increase in summer temperature may spell a dramatic decrease in 3s oriented tourism demand for Turkey.

Beaches would remain under water:

As noted, sea level has been raised annually between 3 and 10 mm on the coast of Aegean and Mediterranean Sea since 1984. This may suggest that some **beaches** very popular for 3s tourism would face the risk of remaining under water. This may also bring about a decrease in 3s tourism demand for Turkey.

Problems of drought and scarcity of drinkable water: Due to reduction in precipitation regime, rivers and other water reserves will be under risk of drying. However, fresh water one of the natural resources which has been over-utilized by tourism facilities. Mass tourism has taken place on the coastal parts of Turkey which have relatively dry climates & where fresh-water supplies are scarce.

It is reported that in the Mediterranean Basin, while the hospitality industry can use 400 liters of water per customer per day, the local people may only consume a maximum of 70 liters per person per day (Hamele 1988). Moreover, some recreation facilities such as golfing can necessitate a significant amount of fresh-water for maintaining the course at the required standard.

The over-utilization of water supply by tourists and tourism facilities may suggest that tourism is exerting an unsustainable drain on renewable supplies including losses of greenery.

Over-utilization of fresh-water may cause conflicts among the stakeholders. Local people may protest against the tourism industry just because of the scarce water resources as it has happened in some Spanish islands.

How does Turkish tourism adapt to climate change?

Tourism has noticeable contribution to the Turkish economy with 16.9 billion \$ receipts in 2006. Five percent (5%) of gross domestic product (GDP) of Turkey is generated by the tourism industry. Around 20 percent of the export is made through tourism. And, more than 3 million people are employed in the tourism industry. These figures may suggest that the tourism industry is too important for the Turkish economy to be ignored.

Even though the models are inadequate to estimate effects of climate change on tourism demand, it is inevitable that climate is changing even if we stop all the greenhouse gases emission right now. Models suggest that summer temperature in Turkey will not be appropriate for tourism in the coming years. This may mean that losing around 45 % of total tourist arrivals.

In this context, the following strategies and policies may help Turkey to adopt her tourism industry to the challenging situation emerging due to the climate change:

Shifting Coastal Tourism Demand to Highlands (Yayla): The highlands have much to offer such as fresh clean air, unspoiled environment, crystal clear rivers, cool weather, organic fruit and vegetables, etc. In brief, highlands could be marketed as alternative destinations to coastal destinations that may not be desirable any more because of high temperature.

Shifting mass tourism demand from summer to spring & autumn may be an option to deal with climate change; giving the fact that summer will be too hot and autumn will have more encouraging climatic conditions.

However, education calendar and school terms seem to be a great obstacle for the potential tourists who may wish to have a holiday in spring and autumn. Obviously, parents cannot go on holiday by leaving their children at home.

Special Interest Tourism: The following forms of special interest tourism could be promoted as alternatives to coastal mass tourism in the case of discouraging weather conditions:

- ⦿ Hunting
- ⦿ Thermal springs and alternative medicines
- ⦿ Botanic
- ⦿ Spelunking (exploring caves)
- ⦿ Mountaineering
- ⦿ Rock climbing
- ⦿ Rafting
- ⦿ Trekking and hiking
- ⦿ Ornithology
- ⦿ Adventuring and more

Faith Tourism: It is a truism that Turkey cuts across geographical, political, cultural, religious and economic categories. In particular, relics of various religions and civilizations seem to offer great potential for cultural and faith tourism. This potential could be promoted as alternative forms of tourism to mitigate negative impacts of reduction in coastal tourism demand due to uncomfortable climate conditions that may become a reality in the near future.

Rural Tourism could also be utilized as a tool to reduce the negative implication of climate change for mass tourism.

Short Break Holidays during certain periods such as Easter, Christmas, Islamic festivals, and other occasional days can be promoted through various marketing policies to compensate the losses of mass tourism due to the inevitable climate change in particular when these breaks are not in summer.

Foreign Settlers: Many retired European people have permanently settled on coastal parts of Turkey just because of cold climatic conditions in their home countries. However, these foreign settlers may go back to their home countries due to increasing temperature that may not be healthy for retired people living in Turkey.

These people may be attracted to the highlands where temperature and other climatic conditions more suitable. So as to achieve this policy suggestion infrastructure of highlands should be developed and relevant marketing strategies should be designed.

Domestic Tourism: Given the fact that average per capita & level of education are increasing steadily in Turkey, domestic tourism could be induced as one another alternative form of tourism. When the family structure is taken into account, VFR during short breaks & summer holidays could be promoted in particular to move people from coastal regions to the non-coastal regions where climatic conditions may be more pleasant.

Conclusions

It is clear that climate changes will have an effect on both tourism demand profile & its supply components. Consequently, this will have negative implications for particularly coastal mass tourism development, which have a considerable contribution to the economies of many countries in the Mediterranean Basin including Turkey.

Thus, urgent strategies and policies should be determined and applied to minimize the negative impacts of climate changes. In this regard, the following policy recommendations may be suggested;

- Shareholders of the tourism industry must work in collaboration and cooperation to deal with the challenging conditions emerging to the climate change.

- ⦿ Tourism demand and supply profile should be modified
- ⦿ Measure should be taken to reduce greenhouse effects of the tourism industry,
- ⦿ Product differentiation should be encouraged
- ⦿ School breaks may be shifted to spring/autumn.
- ⦿ Tourists should be educated to change their consumption patterns and habits which have negative implications for climate change
- ⦿ Both tourists and local people should be made aware of climate changes and its impact on daily life.

Thank you
for your
attentions!