2013, Scienceline Publication

Journal of Civil Engineering and Urbanism

Volume 3, Issue 3: 92-100 (2013) (Received: December 26, 2012; Accepted: April 18, 2013; Published: May 30, 2013) ISSN-2252-0430

The Role of Climatic Factors in the Process of Tourism in the Cities of Kohgiluyeh va Boyer Ahmad Province

Seyyed Chamran Mousavi[1], Houshang Sarvar[2], Asghar Rashidi Ebrahim Hesari[3], Ali Vahedi[4], Manije Laleh Pour[5]

[1]*M.S of Geography and Urban Planning, Iran*
[2]*Assistant professor, Department of Geography, Maragheh University, Iran*
[3]*PHD Candidate of Geography and Urban Planning, Kharazmi University, Iran*
[4]*M.S of Geography and Climatology, Iran*
[5] *Assistant professor, Department of Geography, Maragheh University, Iran*

*Corresponding Author's E-mail address: chamran.mousavi@yahoo.com

ABSTRACT: Beside cultural, social and economic factors, environmental factors also play an important role in the development of tourism industry and also attracting tourists. Tourism is formed in a geographical atmosphere. This atmosphere has a physical and natural structure including factors such as climate, geology and vegetation and also a human structure with elements such as facilities and equipments that tourists need. The methodology used for the present research is descriptive and analytical and is also based on library surveys and field studies that used a 20 year period data from five weather stations in the province of Kohgiluyeh va Boyer Ahmad (including the dry temperature, the minimum and maximum temperature, average, minimum and maximum relative humidity, precipitation, radiation and wind) to calculate the tourism climate index for this province and it was defined using zoning maps through GIS software. Based on the tourism climate index (TCI) in the Kohgiluyeh va Boyer Ahmad province July is the best month for tourists and in this month the climatic conditions are ideal for tourists. April, May, June, September and October also provide excellent climate conditions. In August and November the climate condition is very good for tourists and December and March are also good for this purpose. But the other months of the year including January and February are cold and the climate conditions are not proper for tourists. In fact the TCI diagram in Kohgiluyeh va Boyer Ahmad has two peaks. One of the peaks starts from the beginning of spring and continues to the end of this season and the other one starts from the beginning of summer and continues to the middle of the autumn. In the summer as the TCI is high and the condition is ideal, a tourist does not need cooling or heating devices and can enjoy their time in this province.

Keywords: Tourism, Climate, Tourism Climate Index, Kohgiluyeh Va Boyer Ahmad Province

ORIGINAL ARTICLE

INTRODUCTION

Today the tourism industry is one of the biggest economic activities in the world. Since tourism is an industry of production and consumption, its development has always helped national income and work and results in higher demands for many goods and services. At present it is considered as one of the main sources of foreign currency flow and capital and income transfer from one region to another. This industry results in interaction and social and cultural connections of different people, in a national and international level. In recent years, the tourism industry has gained attention of all of the countries of the world as an important section with increasing foreign currency income. In a way that many of the developed and under developed countries use this sector as the main source of the revenue, employment, the development of the private sector and infrastructures (Esmaeeli and et.al, 2011:15). The development of the tourism industry is of prime importance for under developed counties that deal with problems such as high rate of unemployment, limited currency sources and single-product economy (Khoshhal and et.al, 2007: 51). With the development of living facilities such as transportation routes, transportation facilities, more free time, income and more life span people go to trip more than any time in the past, in a way that the World Tourism Organization has predicted that by 2020 there will be more than one billion tourists (Ebrahimi, 2005: 49). Many factors influence this industry; one of the most important parameters is the climate conditions of the trip destination. In choosing the destination most tourists pay attention to climate conditions and always look for proper climates that satisfy their needs. In fact, weather, climate and tourism are interconnected in many different ways, in other words climate is both a limiting and a determining factor for the tourism industry (Gheyabecloo, 2002: 123). So, it is possible to say that climate can be considered as an economic asset for tourism, because climate determines tourist locations and affects environmental properties, the building types and their facilities. One of the factors that affects life, health and comfort of human beings is climate. By comforting climatic conditions we mean the set of temperature conditions that is proper for at least 80% of the people (Ranjbar, 2010: 41). Studying the effect of climate conditions on the comfort of human beings and also development of tourism is studied under an academic field named human bioclimatology. From

To cite this paper: Mousavi,S.C, Sarvar,H., Rashidi Ebrahim Hesari, A., Vahedi,A., Laleh Pour, M. 2013. The Role of Climatic Factors in the Process of Tourism in the Cities of Kohgiluyeh va Boyer Ahmad Province. *J. Civil Eng. Urban*, 3(3): 92-100.
Journal homepage http://www.ojceu.ir/main/

one point of view the climate of a region can be considered as a natural attraction in the tourism industry. Even in many cases when the motivation of a trip is not climatic, the tourists consider the climatic conditions. Also, developing tourism destinations is not just based on one source and needs a wide spectrum of sources including natural sources. In this regard, climate is considered as a fundamental or a complementary source in the tourism industry. The climatic conditions of a region are among the most important factors in the attraction of tourists or on the opposite hand, reducing the number of tourists (Alijani, 1997:74). Most of the tourists pay attention to the weather conditions while scheduling their trips, and in this case climate is considered as a natural and key factor in the tourism industry. Providing real and precise information about weather conditions for tourists by the tourist organizing managers, planners and tourism investors especially before and within the holidays is very advantageous and critical (Zolfaghari, 2008:134). So determining annual models that show the climatic changes of a destination is very advantageous in planning, investing and marketing activities. On the other hand, the tourism agencies and even the tourists themselves can choose proper travelling routes in different months of a year. On the other hand some tourism activities are directly related to the climatic conditions. In this regard the climate condition of different destinations is especially important in choosing a destination by a tourist. Depending on its climate, each place has a set of potentialities and attractions and also climatic limitations for tourists (Mohammadi, 2007:72). In some parts of the world predicting a tourism condition is done based on climate. With this idea in mind that tourism is one of the most important parts of world economy, there is great sensibility to climate. So, understanding the best welfare index and scientific analysis of this phenomenon can provide assured frameworks for the tourism industry planning. This subject becomes more important when it is considered in relation with climatic elements. Developments of the methods of climatic studies and climatic changes in different times and places and also their relation with tourism activities results in the development of methods and techniques needed for analysis of environmental conditions in tourism planning.

The importance and necessity of this research

Many factors affect tourism industry among which climate is one of the most important ones. Climate is an important part of tourism. In a way that usually the role of climate is clear in determining the capacity of the region for tourism and outdoor entertainment (Eskouro, 1999:56). In association with geographical place, topography, landscape, vegetation and animals, climate as one of the most important regional sources in the tourism industry plays an important role. It can be said that climate has the property of a great natural wealth that controls the health and even personal experiences of tourists by affecting environmental sources, time period and the quality of the tourism (Payande, 2006: 64). So, understanding the best welfare index and scientific analysis of this phenomenon can provide assured frameworks for the tourism industry planning. This subject becomes more important when it is considered in relation with climatic elements. Climate can be considered as an economic welfare for tourism (Sabagh, 2001:23). Since people are different from each other, their feeling of a climate condition can be different so there is no climate which can be considered totally unfavorable or favorable for all of the types of physical activities or welfare of people. In other words it should be said that there is no standard climate or human. So, welfare is not a hundred percent constant in a region and changes for people based on their age, health, physical activity, race, clothing. It is also based on different seasons of the year and acclimating to the environment in a relative way (Ranjbar, 2010:41). Usually tourists are attracted to a certain type of climate. The prevalent type of climate attraction is to look for cooler and not sultry weather to escape hot and humid cities. In general, in hot months tourists travel from warmer, lower regions to the higher cooler regions. Just in some cases this travels become vice versa. For example tourists who go to cold mountains for skiing or other winter sports (Dadfar, 2010:73). In cold months also they may travel to warmer regions. In order to enjoy the natural attraction of a tourist destination, there is a need to realize the bioclimatic comfortable times of the destination. Comfortable temperature condition is a temperature and humidity range in which the body temperature mechanism is in minimum activity (Farajzadehasl, 2009: 52). So, recognizing the comforting bioclimatic time periods of the destination for the tourists and guides is very important for the easement and enjoyment of tourists. So, as there was a lack of research in this area in Kohgiluyeh and Boyer Ahmad province and also its position for tourists from inside and outside of the country makes it necessary to consider the role of climate factors and especially bioclimatic times proper for tourists in this province.

Research hypotheses

- It seems that considering tourism climate comfort, spring and summer are the best seasons for tourist presence in Kohgiluyeh and Boyer Ahmad province.
- Using climate tourism index, it seems there can be an optimum location and timing for the presence of tourists in Kohgiluyeh and Boyer Ahmad Province.
- It seems that reduction of temperature in winter is one of the limiting factors for tourism in Kohgiluyeh and Boyer Ahmad province.

MATERIAL AND METHODS

Studying human bioclimatic from a geographic point of view and preparing collective maps for regions as infrastructure of different planning is of special importance (Razjooyan, 1989:25). The relation between tourism and climate is complicated. Tourism uses climate as a natural source. Tourism planning depends on the understanding of climatic properties in long term and short term weather forecasts (Massumpour and Khoshakhlagh, 2010:32). Climate has a significant effect on the behavior of tourists and is one of the most important criteria that tourists choose for their trips and activities (16, 29). Based on the development of tourism industry in recent years and the necessity of its planning, it is important to understand climatic conditions of the

regions in relation with human beings as one of the planning criterions for tourism. The research method in this thesis is descriptive and analytical and is also based on library surveys and field studies. In order to study the climate of Kohgiluyeh and Boyer Ahmad the climatology data parameters were provided in a monthly basis for all of the existing statistical periods in weather stations and based on TCI methods, traditional bioclimatic such as Olgyay and Terjong method and new methods such as the wind cooling index, degree of humidity, and temperature balance model was done by Bioclima software. In order to calculate TCI, 5 synoptic weather stations were used that were located in the center of the cities of the province. In order to determine the index based on long term information driven from the computer services of the national organization of climatology, the normal climatic variables of dry temperature, the maximum temperature, relative humidity, annual precipitation, the total sunny hours in the year and the wind speed were calculated for each of the studying stations.

In this study in order to evaluate the conditions of tourism climate and the climatic tourism attraction of Kohgiluyeh and Boyer Ahmad province, we have used TCI and climatic data of 5 synoptic weather stations of Yasuj, Dogonbadan, Dehdasht, Sisakht and Imamzade Jafar in a 20 year period (1991-2011). After collecting climatic data, a homogeneous run test was carried out and all of the data were verified. Then, the related information site was established and the data were processed.

The TCI used in this study was developed using Mieszkowski and the climatic elements that were most related to the quality of tourism experience for most of the tourists were used. TCI methods for studies and prior researches about climatic classification for tourism and leisure time and theoretical discussions about bioclimatic are established by authors such as Brent (1963).

Since the acquired TCI for the used stations is in points, in order to zone the tourism climate conditions in Kohgiluyeh and Boyer Ahmad province it is needed that these data be generalized to a surface form. In order to do that the Inverse Distance Weighting was used in GIS. The TCI of the points was changed into surface information and the TCI map for all of the Kohgiluyeh and Boyer Ahmad province was driven. For each month of the year one map was provided and by using hierarchal classification and drawing tree diagram of the sites that had similar characteristics regions were classified by their TCI characteristics in individual groups. The Ward method has been used for the zoning purpose. This method was used because it uses variance analysis approach for the evaluation of distance between groups (Farajzadeh, 2008: 103) and it is more precise than the other methods.

REVIEW OF LITERATURE

So far there have been many worldwide efforts for the evaluation of the climatic effects on tourists and many researchers have tried to show the multi dimension nature of the tourism potential in some climate indexes.

Pantavou and et.al (2010) studied four biologic factors including ASV (Actual Sensation Vote), TS (Thermal Sensation-Ginovi method), DI (Discomfort Index) and HL (Heat Load Index) to study mortality in the summer of 2007 in Athens, the results show high rate of DI and HI that indicate drastic thermal stress for the last ten day period of June and July.

Liz and et al (2002) studied the impact of climate on tourists and declared the 21 degree of Celsius with 3 degrees of standard deviation is the most proper span for tourism. Also the age and income level of the tourists was considered as a factor for the violation of the established standards by the tourists.

Scot and et.al (2004) studied the changing effects of climate on the distribution of climatic sources and tourism using TCI model in North America and announced that the number of cities with excellent to ideal temperature (TCI>80) in winter is increasing. Also the northern cities have gradually acquired more TCI value and the southern cities find lesser TCI value.

Hamilton and et.al (2005) studied the tourists of 207 countries by modeling and simulating the relation between the climate change and international tourism by their own model, also they pointed that by the current trend of earth's heating the tourists will become more inclined to travel to the northern regions and heights.

Mishef and et.al (2008) also by using TCI studied the effects of climate change on tourism in Europe and compared it for two periods for 1961-1990 and 2071-2100 and declared that within the second period the southern parts of the Europe (France, Spain, Cyprus, Italy, Turkey, …) that have excellent to ideal temperatures right now (TCI>80) will experience an acceptable amount of decrease (60>TCI>40).

Frajzadeh and Ahmadabadi (2009) using TCI calculated climate conditions for tourism activities in 144 weather stations that had common statistics for a 15 year period (1990-2004) and finally zoned tourism climate of Iran in different months of the year.

Tourism Climatology

The tourism climatology studies are in relation with the concepts of "climate" and "tourism" in a general view. Climate has the concept of weather in itself, as a set of conditions and daily and seasonal incidents of weather in a long period and the atmospheric conditions in a certain time and place is called weather (Lashkari and pourkhadem, 2008:173). "Tourism" that includes the concept of "recreation and entertainment" is defined as travelling for recreation and entertainment and recreation is defined as a voluntary activity for interest and personal enjoyment. So there are equal elements in the two titles of climate and weather on the one hand and tourism and recreation on the other hand. They are used interchangeably in the studies related to tourism climate. Based on Hibs' (1966) idea, climate can be placed in a desirable to undesirable spectrum as a source of recreation in different places and times (Kaviani, 1994:203). So, tourism pays attention to climate as its source that can be evaluated and measured. So climate can be considered as an economic wealth for tourism. Wealth can be measured (Eskouro, 1999:56). The main problem is to choose climatology criteria. For example what are the precise criteria for identifying ideal, proper, acceptable or undesirable conditions? This question can only be answered after determining proper climatology criterions. From a climatic point of view when is the right time for visiting a spot? What equipments including clothing are

needed? What are the probable climatology dangers and atmospheric or climatic maximums?

Weather and climate as a factor in the demands for recreation and tourism

It is said that recreation is a personal voluntary activity that is done for enjoyment and personal satisfaction, recreation is a voluntary behavior that a person does it through free will. As a result, a tourist chooses places as destinations that have proper climatic conditions. The voluntary nature of recreation means that if the comforting and easement are reduced in a region, numbers of tourists are reduced in that region. So based on the effect of satisfaction and easement on the number of tourists in a region, it can be said that one of these factors is climatic sources that is considered as a demand factor (Jalali and et.al, 2011:21). Most of the researches in the tourism climate are done for the potential uses of climatic information in the design and planning processes for tourism and recreation. The emphasis of the researches on the subject of tourism climate is for the different decision making process that is applicable in relation with problems such as development and locating proper recreational facilities or determining the length of recreational season in which the facilities are prepared for and also in planning for tourism activities and subjects such as proper time and place for holidays. Also in the domain of this subject the indirect effects of climate is studied. Thus, based on the importance of climate in recreational activities, climatic information can help to design, plan and recognize recreational places (Kaviani, 1994, 203). There have been many efforts and works about the creation of climatic quantitative indexes that evaluate climate for tourism in a clear way. Because of the multi-variable nature of climate and the complex method that they combine with each other and create a certain type of climatic condition for recreation and tourism. These indexes facilitate the interpretation of the collective effects of different elements of climate and allow the comparison of the places. The common problem of all climate classifications is that they are optional and are based on observation and experience and are not tested from a theoretical point of view. Any way, it is clear that in order for the climate information to be useful they need to be clarified in a way for a solution. Tourists show more reaction to maximum atmospheric effects compared to the average climate.

So, it is generally accepted that standard atmospheric data or even secondary climate variables do not usually show the real atmospheric conditions. For example in any assumed temperature, the experienced temperature conditions depend on the relative effect to a great extent and usually the effects of wind, humidity, solar radiation and the level of personal activity.

The importance of climate for the tourism planning

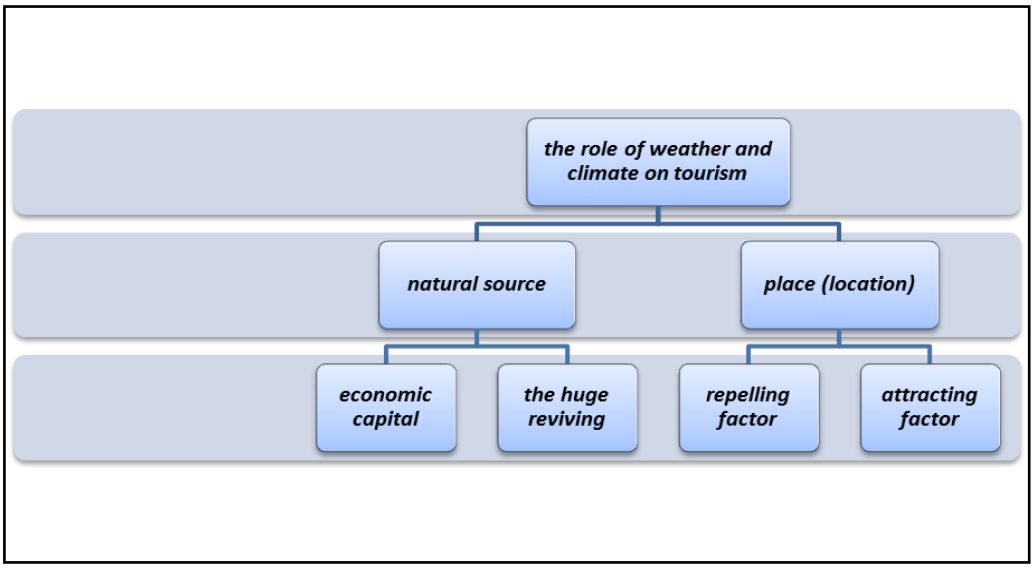
Each geographical place shapes the natural sources for tourism and recreation with geographical location, topography, landscape, plants, animals and climate (Gheyabecloo, 2002: 123). As each economic activity needs a geographical space, this space provides tourism activities. It should be noted that space does not play a neutral role in social and economic activities; rather the kind of land and its properties affects all of the social and economic activities of human beings. So, tourism activities are not distributed in space in a homogeneous way, rather tourist activities are distributed proportional to the conditions of space in an inhomogeneous way and different factors affect this modeling. The diversity and their combination are related to the type and tourism activities. Tourism as one of the most important activities of human beings stands first in this subject area. So, climate is considered important criteria in the establishment of tourism centers. Studying the climatic properties of each place can help planners determine the needed regions for certain types of tourism activities.

The relation between weather, climate and tourism has different and complex forms. The combined form of this subject matter on the one hand depends on the multi-variability of tourism and on the other hand to the effects of climate. Nonetheless, climate's effect on tourism is more obvious in comparison with other factors (Sabagh and amirian, 2001: 23). Climate forms a great part of the concept of environment that forms recreation. Since, tourism is a voluntary activity, most of the times it depends on desirable climate conditions (Razjooyan, 1989: 25). Apart being an attracting factor for tourists in a region, climate diversity in a region can provide larger tourism industry and the possibility of tourism activities in different seasons of the year. (Razjooyan, 1989:25)

The concept of tourism climatology expresses a source controllable by climate that can be classified as a powerful tourism and recreational source in times and places with an extensive spectrum of desirable to undesirable conditions. So, climate can be considered a part of a source that is used by the tourist. So, climate can be considered as an economic capital for tourism. A capital that can be calculated and evaluated (Razjooyan, 1989: 25). It can be said that climate as a natural source affects tourism industry and environmental sources and so controls the period, tourism quality, the health of the tourists and even the personal experiences of the tourists (4, 18). The climate properties do not necessarily determine tourism but, they are considered an important factor from a financial point of view for the tourism authorities and on the other hand it is considered as a personal experience for tourists. It can be considered as an attraction from this point of view, for example, a place with warm winter is of interest for people who live in cold areas. An example of this kind of weather in Iran can be found in Chabahar in which the winter is suitable for the people who live in North West of Iran (Ardabil, East Azarbaijan …) or it can be a repulsive factor like the desert areas of Iran. Tourism development in these regions besides transportation costs and inconveniences such as heat and cold and dramatic climate changes can bring about huge financial losses.

Daytime Comfort Index (CID): Variables that are used in this sub-index include maximum daily temperature and the average daily humidity. This sub-index shows the conditions for heat comfort at the time of maximum tourism activity and its share in TCI is 40 %.

Important weather and climate on tourism



Daily Comfort Index (CIA): variables that are used in this sub-index include average daily temperature and average daily humidity. This sub-index shows the condition of heat comfort in a 24 hour period and its share in TCI is 10 percent.

Precipitation (P): generally, precipitation has a negative effect in recreational and tourism activities. It has a 20 percent share of TCI.

Sunshine (S): generally sunlight has a positive effect on tourism activities. This effect provides good spirits and also provides a better photography quality. But this factor has an undesirable effect in hot climates and may cause sunburns.

Wind (average wind speed) (W): the effect of this variable depends on the weather temperature. In hot climates wind has a positive effect due to vaporization and the cooling effect, but in a cold climate it has a negative effect because it makes the weather colder. Human beings temperature comfort is affected by 6 variables, four of which are environmental and two of which are related to human beings. Environmental variables include temperature, vapor pressure or relative humidity, average emission temperature and wind speed and human variables include the amount of clothing (the amount of temperature resistance) and the level of human activity (Karimi ,2009: 55).

Generally two variables of DBT and RH are paid attention to in TCI and the other variables are treated as constant variables. The average radiation temperature is considered equal to weather temperature and the temperature resistance of the clothing is assumed between 1 to 6 CLO and for colder weathers seasonal clothing is considered and is assumed equal to the activity level of walking in open with a speed of 2.5-3 km/h that is appropriate for the tourists (Kasmaee, 2009:164).

RESULTS

Easement coefficients for five main sub-indexes with final TCI coefficient for different months of the year in Kohgiluyeh and Boyer Ahmad province are showed. Tables (1-6).

CONCLUSION

Based on TCI in Kohgiluyeh and Boyer Ahmad Province, July is the best month for tourists and tourism climate is in its ideal conditions. April, May, June, September and October are excellent for tourists. In August and November the climate condition is very good for tourists and December and March is good. But the other months of the year including January and February that are the cold months of the year are not good for tourists. In fact the TCI diagram in Kohgiluyeh and Boyer Ahmad province has two peaks. One of them starts from the beginning of the spring and continues to the end of the spring and the other one starts from the beginning of summer and continues to the middle of autumn. Iran has two prominent periods for travelling and tourism. One is the beginning of April and the other one is in summer. In the beginning of April and in Nowruz Holidays Kohgiluyeh and Boyer Ahmad Province has a suitable climate condition for tourists and the coldness is almost finished in this season. The second half of summer is good for tourists because the temperature has fallen. So we recommend that the province tourism authorities provide facilities for tourists in the two seasons of spring and summer and establish proper camps with at least minimum facilities especially at the heights of the province to attract tourists. At summer there is no need for heating or cooling devices so that tourists can enjoy their times without going through troubles.

The final point is that TCI is used as a basic method in this research and it shows that it has the proper application for the explanation of suitable conditions for tourism activities in different regions of the province. Although the provided maps show a general model of tourism climate in this province, they can provide a tourism calendar for smaller regions having different climate and topographic conditions within this province. So TCI method can be very useful for studying tourism climate of Kohgiluyeh and Boyer Ahmad province and the easy availability of the needed data for this method and the possibility to do the same research for different regions of the country is among the advantages of this method.

To cite this paper: Mousavi,S.C, Sarvar,H., Rashidi Ebrahim Hesari, A., Vahedi,A., Laleh Pour, M. 2013. The Role of Climatic Factors in the Process of Tourism in the Cities of Kohgiluyeh va Boyer Ahmad Province. *J. Civil Eng. Urban*, 3(3): 92-100.
Journal homepage http://www.ojceu.ir/main/

Table1: The desirable correlation of indexes and the final correlation TCI Yasouj station

Indexes		Months										
CID	April	May	June	July	August	September	October	November	December	January	February	March
CIA	5	5	5	3	3	4	5	3	2.5	2	2.5	2.5
WIND	2.5	4	5	5	5	5	3	2.5	2	1.5	1.5	2
RAIN	4	4.5	2.5	1.5	1.5	2.5	2.5	4.5	4.5	4.5	4.5	4
SUN	3	5	5	5	5	5	5	3	0	0	0	0
TCI	4	5	5	5	5	5	4.5	3.5	3	3	3	3.5
	81	84	87	77	77	87	89	64	45	40	44	46

Table2: The desirable correlation of indexes and the final correlation TCI Dogonbedan station

Indexes	Months											
CID	April	May	June	July	August	September	October	November	December	January	February	March
CIA	5	3	1	1	0	1	3	5	4	3	3	5
WIND	4	5	4	3	2	4	5	4	2.5	2.5	2.5	2.5
RAIN	2.5	1.5	0.5	0.5	1.5	1.5	1.5	2.5	2	4.5	4.5	4.5
SUN	3.5	5	5	5	5	5	5	4.5	2	1.5	2.5	3.5
TCI	3.5	4.5	5	5	5	5	3	3.5	3	3	3	3
	81	75	49	55	47	59	69	85	61	56	60	80

Table3: The desirable correlation of indexes and the final correlation TCI Dehdashat station

Indexes	Months											
CID	April	May	June	July	August	September	October	November	December	January	February	March
CIA	5	4	1	1	1	1	3	5	4	3	3	5
WIND	4	5	3	3	3	4	4	4	2.5	2	2.5	2.5
RAIN	3	0.5	1.5	1.5	1.5	0.5	1.5	2.5	4.5	4.5	4.5	4.5
SUN	3	5	5	5	5	5	5	4	1.5	1	2	3.5
TCI	3	3.5	4.5	4.5	4.5	5	4.5	3.5	2	3	2.5	3.5
	78	77	55	55	55	55	73	83	64	53	56	82

Table4: The desirable correlation of indexes and the final correlation TCI station Sysakhat

Indexes	Months											
CID	April	May	June	July	August	September	October	November	December	January	February	March
CIA	3	5	4	0	3	4	5	3	2.5	2	2	2.5
WIND	2.5	3	5	3	5	5	4	2.5	1	1.5	1.5	2
RAIN	4	4	3	0.5	0.5	3	0	4.5	4.5	4.5	4.5	4
SUN	1.5	4.5	5	5	5	5	5	3.5	0.5	1	1	2
TCI	3.5	4	5	5	5	5	4.5	3	3	3	3	3.5
	57	88	88	47	75	88	86	64	43	44	44	54

Table 5: The desirable correlation of indexes and the final correlation TCI station Emamzade Jefar

Indexes	Months											
CID	April	May	June	July	August	September	October	November	December	January	February	March
CIA	5	3	1	0	1	1	2	5	5	3	3	5
WIND	4	5	4	3	2	3	5	4	2.5	2.5	2.5	3
RAIN	2.5	1.5	1.5	0.5	0.5	0.5	0.5	3	2.5	4	4	4
SUN	4	5	5	5	5	5	5	4	1.5	1	2.5	4
TCI	3.5	4	5	5	5	5	4.5	3.5	3	3	3	3
	83	73	59	47	45	55	65	84	68	53	59	82

(Statistical calendar of Kohgiluye and boyer Ahmad province, 2008: 24)

Table 6: Diffusion time and location tourism climate index on Kohgiluyeh and Boyer Ahmad Province

West		East		South		Center		North		Month
Conditions	point	Conditions	point	Conditions	point	Conditions	point	Conditions	point	
Low	40-50	Acceptable	50-60	Acceptable	50-60	Acceptable	50-60	Low	40-50	January
Low	40-50	Unpleasant	30-40	Acceptable	50-60	Unpleasant	30-40	Very unpleasant	<30	February
Excellent	80-90	Low	40-50	Very good	70-80	Good	60-70	Acceptable	50-60	March
Excellent	80-90	Very good	70-80	Excellent	80-90	Excellent	80-90	Excellent	80-90	April
Very good	70-80	Excellent	80-90	Very good	70-80	Very good	70-80	Excellent	80-90	May
Acceptable	50-60	Excellent	80-90	Good	60-70	Good	60-70	Very good	70-80	June
Very good	70-80	Ideal	90-100	Very good	70-80	Very good	70-80	Very good	70-80	July
Acceptable	50-60	Very good	70-80	Acceptable	50-60	Acceptable	50-60	Good	60-70	August
Acceptable	50-60	Excellent	80-90	Good	60-70	Good	60-70	Very good	70-80	September
Very good	70-80	Excellent	80-90	Very good	70-80	Very good	70-80	Excellent	80-90	October
Excellent	80-90	Good	60-70	Excellent	80-90	Very good	70-80	Very good	70-80	November
Acceptable	50-60	Acceptable	50-60	Acceptable	50-60	Acceptable	50-60	Acceptable	50-60	December

First hypothesis

It seems that considering tourism climate comfort, spring and summer are the best seasons for tourist presence in Kohgiluyeh and Boyer Ahmad province.

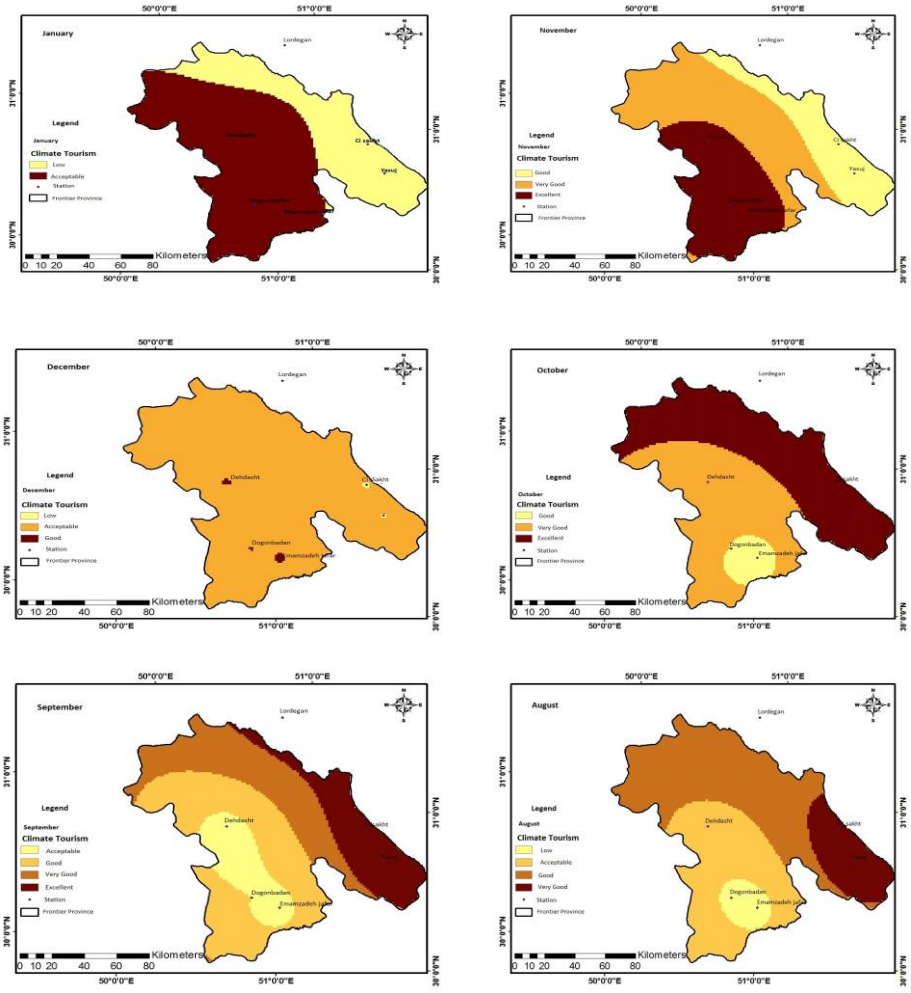
Based on the zoning maps of TCI for Kohgiluyeh and Boyer Ahmad province it was realized that with the beginning of spring and the increase of temperature and decrease of precipitations and the increase of sunny hours there is a proper tourism climate in most of the regions of the province. So this hypothesis is confirmed.

Second hypothesis

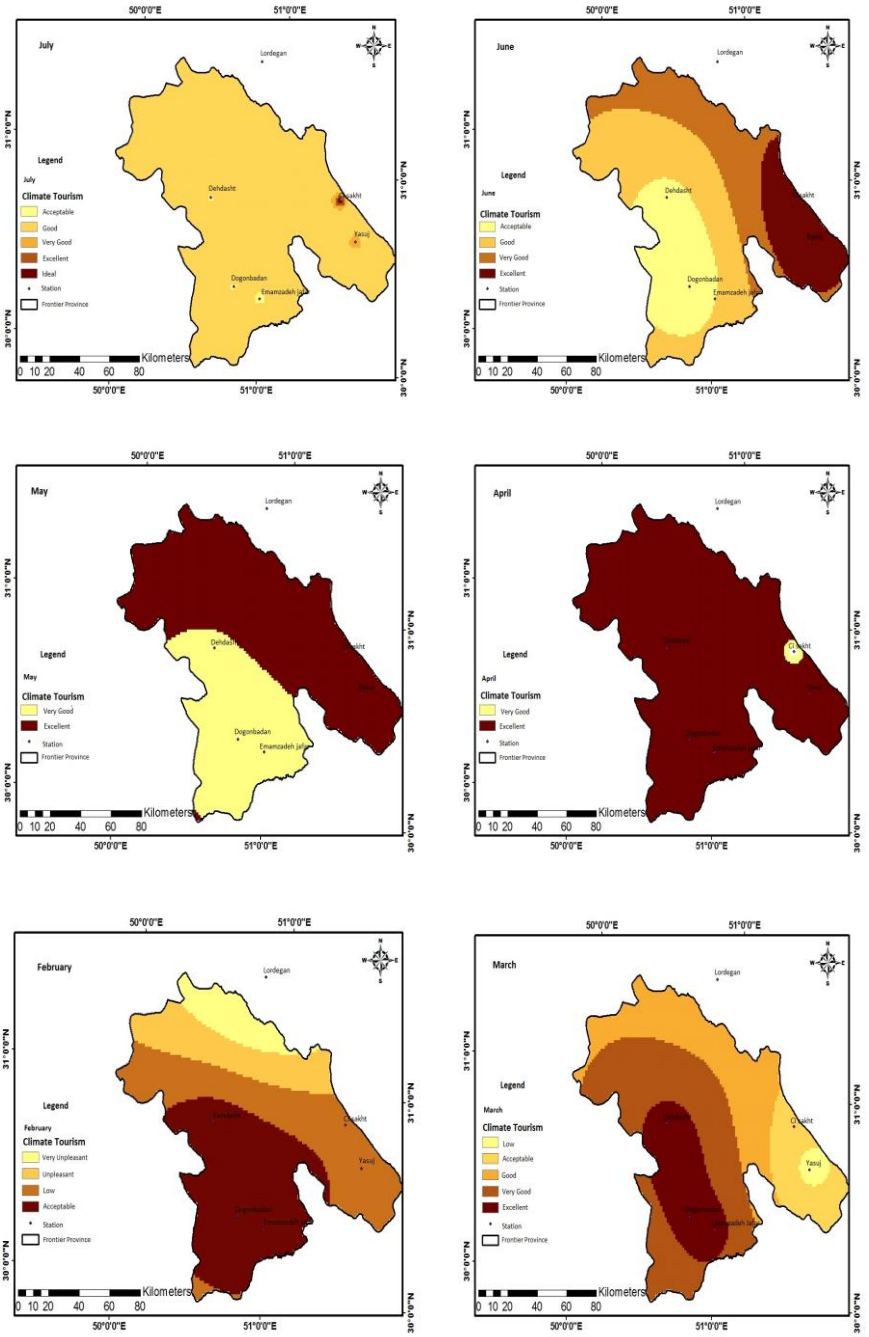
Using climate tourism index, it seems there can be an optimum location and timing for the presence of tourists in Kohgiluyeh and Boyer Ahmad Province. Based on zoning maps of TCI for this province in a monthly basis the best times and places in each of the months of the year for tourism in this province is recognized. So this hypothesis is also confirmed.

Third hypothesis

It seems that reduction of temperature in winter is one of the limiting factors for tourism in Kohgiluyeh and Boyer Ahmad province. Because the most common type of tourism in Kohgiluyeh and Boyer Ahmad province is in the form of eco-tourism the decrease of weather temperature in the winter and frozen and slippery roads will result in the limitation of related activities with tourism. Nonetheless, in some areas of the province snowfall is the beginning of winter tourism and sport related tourism can reach its peak in this season. So this hypothesis is also confirmed. Map of 1 to 12, show the status of tourism in different months of the year.



To cite this paper: Mousavi,S.C, Sarvar,H., Rashidi Ebrahim Hesari, A., Vahedi,A., Laleh Pour, M. 2013. The Role of Climatic Factors in the Process of Tourism in the Cities of Kohgiluyeh va Boyer Ahmad Province. *J. Civil Eng. Urban*, 3(3): 92-100.
Journal homepage http://www.ojceu.ir/main/



Maps1-12: Status of tourism in different months of the year in Kohgiluyeh and Boyer Ahmad' cities

REFERENCE

Alijani B (1997). A new idea in climatology application in country developing and sources management. Surveys geography quarterly, no.4

Dadfar H and Afshin, S (2010) Iran geography tourism, fourthEdition, Tehran, Taravat

Ebrahimi, N (2005). Climate evaluation for tourism in Sardasht township.MA thesis in natural geography course.Geography College, Tehran University

Eskouro, ZH (1999) climate and city, translate by Khaledi Shahriyar, Tabiat publication

Esmaeeli, R & Saberhaghighat, A & Malbusi, Sh (2011). Evaluation of climate comfort in the port of Chabahar to promote tourism, proceedings of Fourth Congress of the Islamic world geographers, Iran- Zahedan, pp. (1-9)

Farajzadehasl M (2009). Geographical information system and its application in tourism planning. Second edition; Tehran, samt

Farajzadehasl M, Ahmadabadi, A (2010). Iran touristy climate zoningand evaluation with using of touristy climate indicator. Physical geography surveys, no.71, pp. (31-42) TCI

Gheyabecloo, Z (2002). The ways of thermal comfort filed estimation, beautiful artsquarterly, n: 10

Gholami Beiraghdar, M (1999). Project simulation rural settlement design with climate.Climatology national center, Mashhad

Iran Static Center (2007). Formal conclusions population common static and buildings Kohgiluye and Boyerahmad province

Jalali T & Zeinali B & Rahimimoghadam S & Asghari, S (2011). Determine the appropriate time to turn the calendar in the city Piranshahr using the approach of planning and environmental management, second National Conference on Geography and urban planning Pet, PMV, pp. (1-12)

Karimi Y (2009). The relationship between climate and tourism in Tabriz.MA thesis in physical geography filed. Geography College Tehran University

Kasmaee, M (2000). Climate and architect, Baztab publications, Tehran

Kaviani MR (1994). Survey and map providing Iran human environmental, geography researches, n.48

KHaledi, Sh (1996). Practical climatology (climatology of regional planning) Tehran

Khoshhal J and Ghazi I and Arvin, AA (2007). The use of cluster grouping on human climate zoning of biology (Case study: Isfahan province) Journal of research Isfahan University (humanism).Volume 20, no.1, pp. (171-186)

Lashkari, H and Pourkhadem Namin, Z (2008). Free space optimizing in Ardabil city according to climate conditions geography researches n.79

Massumpour, J and Khoshakhlagh F (2010). Theory, concepts and ways in climate research- Tourism, Sepehr journal, n.7

Mohammadi H and Saeedi A (2008).Indicators effective bioclimatic on human comfort evaluating, case study: Qom city, bioenvironmental journal, series 34, no.87

Mohammadi, HM (2007). Climatology applied. Tehran, Tehran University publication

Payande, NA (2006). Effective temperature zonation in the country, Geography doctoral thesis (climatology), Esfahan University

Ramezani Goorabi, B (2007). Identifying the echo tourist potentials of the comfort bioclimatic in Langrood Kalayeiekiapond with Evanz method, geography and area development Journal, no.7, pp. (74-87)

Razjooyan, M (1989). Relaxation and comfort using climate related architecture, second edition, Tehran, Shahid Beheshti University publication

Sabagh Kermani M and Amirian S (2001). The survey of economic effect tourism in Iran Islamic republic with using of data analysis. Commercial research journal. No.16, pp. (57-64)

Sadeghi R and Mohammad H (2009). Determining the scope of heat comfort in the dry weather condition urban case study: Yazd, hoviiate shahr journal, no.4

Sari Sarraf, B & Mohammadi, GhH & Hosseini S (2011). Determine the most appropriate RAYMAN index for thestudyofclimatesin thenorthernprovinceof West Azerbaijan, 14th Iranian Geophysics conference, Tehran, geophysical Institute, Oral Proceedings , space physics, pp. (100-105)

Statistical calendar of Kohgiluye and Boyer Ahmad province (2007). management and Budgeting organization

TCI Ranjbar F (2010). The assessment of climate conditions to develop and promote tourism industry in the manner of MA thesis, Geography College, Tehran University

Zolfaghari H (2008). Determining time schedule to tour and visit Tabriz using the criteria of physiology equivalence temperature, Geographical researches Quarterly, series 39, no. 62, pp. (129-141 PMV) and the average of predicted survey (pet)