

## **Applied Climatology in tourism planning (Case study: Oshan-Fasham area, mountainous regions of Iran)**

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### **Abstract**

*Climate is an important part of a region's tourism resource base. Weather and climate information is of interest to both tourists and the tourist industry. Information on climate is useful for planning vacations. Processing information associated with tourism and a new era in human interactions, social and cultural structures, especially in urban areas the figure is estimated. Natural features of a place are considered as a bed for creation and extension of habitat, recognition of living system capabilities will be helpful as a guideline in future tourism planning and elimination of limits and obstacles. Natural features of a place are considered as a bed for creation and extension of habitat, recognition of living system capabilities will be helpful as a guideline in tourism planning and elimination of limits and obstacles. The region of our study is situated on the high level of central Alborz. This region is extended from 51° 225' to 51° 43' in eastern wing of Greenwich Meridian and also 35° 47' to 36° in the north of equator. Above position includes special climate because of height effect, some of its features are semi mild summers and cold winters and also its variation slope is lower than 1 degree. However Jajorod and Ahar valleys have a great effect on region's ecology but this region is a combined area of mountain and valley. So, height differences affect on temperature variation and slope effects are quite obvious in this region. Besides Jajorod river, earth slope is various from 5 to 51% and a town, Darkia, around this complexity. Generally Geographical directions related to warm and cold slopes, extended in all four main direction (south, west, east and north), can influence on the construction of effective tourism planning. This study presents the initial ecological studies in this field, moreover, people are more sensitive in weather changes and ecology situation, so the more we inform about these effects, the better we can manage daily activities. This research attempts to identify the role and factes of tourism climate their significance and impact & impact of natural environmental factors, particularly climatic elements such as effective temperature, rainfall and topography on the physical development, physical cities, particularly cities in the region like, Oshan and Fasham. In this article, analytical methods, field and library have been used and the results show the most important factors which affect normal physical development (tourism activite) such as temperature, ice, rainfall and topography. This research is based on effectiveness in tourism climatology data over a period of 12 years, the region's tourism potential areas of Iran and Tehran Oshan and Fasham, which is based on studies of descriptive - analytical using data collected from local weather stations*

**Keywords: climate Tourism, comfort conditions, Oshan-Fasham, Iran**

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## **Introduction**

Weather and climatic factors are major components of the tourism environment, and the success of tourist destinations around the world depends on these characteristics (Rátz and Vizi, 2005). Such serious measures widely discussed in relation to climate and tourism and the skeleton can be International Society of Biometeorology's Commission on Climate, Tourism and Recreation (ISBCCTR). The ISBCCTR was formed during the 15th Congress of the ISB held in November 1999 in Sydney, Australia (Freitas, 2003, p49). Facets of tourism climate their significance and impact is various (table 1). In a study as "climate and the selection of destination for German tourist" which was conducted by [3] has been considered some climate variables such as the temperature, rainfall, the number of freezing days and the number of sunny days that take attention in the selection of bound for raveling. Bioclimatic weather classification is based on thermal, physical and aesthetic facets and includes seven digits represent actual isothermal weather characteristics [4]. In a research which was conducted by [5], it revealed to consideration and tourism climate in Iran by using of tourist climate index (TCI). Results show that the best time of tourism for northern of Iran is spring and early in the autumn (including site of the study in this research). In a survey study which done in Lordegan province, climate and natural tourist were investigated due to identification the desired and suitable condition of climate for tourism. According to this investigation, May, Jun, July and August, September and October have excursion priority in the way of climatic parameters, ordinary [6]. In a research as investigation on thermal comfort in open space for using ecotourism in Babolsar of indicated that suitable condition of bioclimatic has existed in the way of time from May until at the end of November in studied region [7]. In a study has considered the condition of climate environment during the day and night atkiakalayeh wetland in Langaroud province by using of Evanz [8]. Results showed that the months of March, April, May, August, September, October and

November have climatic desired condition. [8] has conducted a research on recognition of human bioclimatic comfort at Masouleh basin by using of climatic elements such as temperature, humidity, the time of sunny and wind and Guini, Elgi Climo, gram bert – lankester,bikro makhdoom methods for determination of space and time limitation of bioclimatic comfort. Results indicated that the condition of comfort is ready in region from May to October and Bikro makhdoom methods have better efficiency towards other methods.In a study in Piranshahr has been identified the period of comfort by using of PET and PMV index at two months of Jun and September [9].Zoning with preparing objectives emphasized on identification of potential and actual aptitudes of region for the recognition of sustained and unsustainable grounds for development.



Figure 1.Relation between climate and tourism (ANDREASMATZARAKIS,2006)

Table1 various factes of tourism climate their significance and impact (freitas,2003,p49)

Facet of climate	Significance	Impact
<b>Aesthetic</b>		
Sunshine/cloudiness	Quality of experience	Enjoyment, attractiveness of site
Visibility	Quality of experience	Enjoyment, attractiveness of site
Day length	Convenience	Hours of daylight available
<b>Physical</b>		
Wind	Annoyance	Blown belongings, sand, dust...
Rain	Annoyance, charm	Wetting, reduced visibility and enjoyment
Snow	Winter sports/activities	Participation in sports/activities
Ice	Danger	Personal injury, damage to property
Severe weather	Annoyance, danger	All of above
Air quality	Annoyance, danger	Health, physical wellbeing, allergies
Ultraviolet radiation	Danger, attraction	Health, suntan, sunburn
<b>Thermal</b>		
Integrated effects of air temperature, wind, solar radiation, humidity, longwave radiation, metabolic rate	Thermal comfort	Environmental stress Physiological strain Hypothermia Hyperthermia
	Therapeutic, restorative	Potential for recuperation

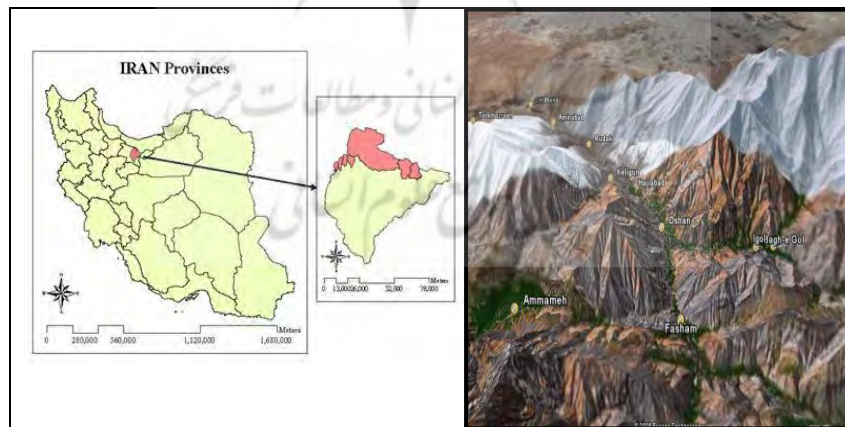
### Study area

Generally, ecotourism , mountainous and semi-mountainous climate using a beautiful landscape for tourism and recreation, the main attraction is OSHAN-FASHSAM Area especially in villages. So in

general, the whole area could be considered as a natural source of OSHAN-FASHSAM area (Natural resource) can be used for tourism, because this region is almost entirely from springs and rivers (water resources), gardens and trees (as cover), mountains and mountains (the rough) and the weather is good. The region of the study is a high level area at central Alborz (Table 1 and Figure 1). This region is extended from 51°, 225' to 51°, 43' in eastern wing of Greenwich Meridian and also 35°, 47' to 36° in the north of equator. Height effect on this climate is obvious. Some of its features are semi mild summers and cold winters and its variation slope is lower than 1 degree. Also Jajorod and Ahar valleys have a great effect on region's ecology. This region is a combined area of mountain and valley so the height difference effect is demonstrated as temperature difference and falling arte. Slope effects are completely obvious in this region. Besides Jajorod river, earth slope is various from 5 to 51% and around this complication, there are some towns like Darkia. Geographical directions are effective in eco system's quality and generally geographical directions from warm to cold. This situation can lead town construction process.

**Table 1: Altitude of cities in the study area (Fasham area)**

Ruteh and Zaygan	Emame	Hajiabad	Meygon	Fasham	Oshan	The name of area
2300	2200	1850	2350	2000	1900	Altitude (m)



**Figure 1: Location of case study in Iran**

**Methodology**

In this study, based on Table 1 and Figure 2 climatology data over a period of 12 years and the impact on tourism activity in the region comes Oshan and Fasham, analytical methods, field and library have been used. In this study, using climate data on temperature, precipitation, wind and snow the synoptic stations of Tehran is to be used during the period of 1997 until 2010 are used. The next step in Given the importance of climatic factors affecting tourism comes from tourism, according to the following chart (FIG)NO 2

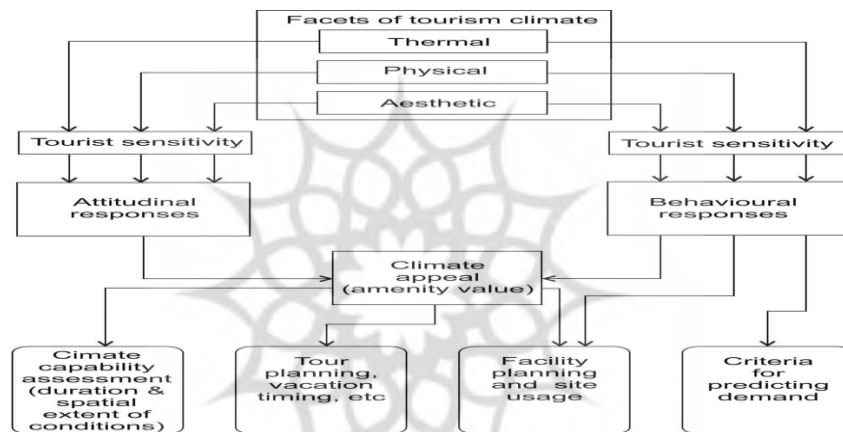


Fig. 2 Conceptual framework for the study of tourism climate showing the facets of climate and two independent methods (C. R. de Freitas12003)

In order to define an optimal method for confronting the Oshan-Fasham region, it has been tested several methods like analytical method, field and library. Details are as follow. Generally, Meteorological stations are belonged to different organizations in Iran (Table 2), such as:

- i. Meteorological stations belong to Power ministry
- ii. Meteorological stations belong to Meteorology organization (related to transportation ministry)

There are 91 synoptic, climatology and evaporateology stations in Tehran's water closet basin and its surroundings, and there are totally 110 hydrometric stations, that just 31 stations have been shared with Tehran. In this evaluation we used following stations' information.

**Table 2: Climatology stations in study area (.)**

Establisher Organization	Establishment year	Station Type	Altitude (meter from sub sea depth)	Longitude	Latitude	Station
Water organization	1968	Hydrometry	1700	5123	35 49	Darakeh
Water organization	1972	Hydrometry	1570	51 18	35 47	Kan
Water organization	1972	Hydrometry	1520	51 20	35 47	Farahzad
Meteorology organization	1972	Synoptic	1391	51 19	35 41	Mehrabad
Meteorology organization		Synoptic	2462	51 53 E	35 45 N	Abali
Meteorology organization	1972	Climatology	1360	51 18	35 47	Geophysics
Meteorology organization	1974	Synoptic	1900	52 48	35 B47	Firozkoh
Meteorology organization	1972	Climatology	1700	51 21	35 49	Sadabad
Meteorology organization	1995	Synoptic	1312	50 54	35 55	karaj

Regarding to statistic limitations and more data application at some Meteorological stations, it has been selected a set of high quality meteorological stations (Table 3). In this process, it is been tried to use enough and appropriate station for better data such as indicator station. After evaluation of these stations' data, the best statistic period was determined between 1986 to 2004, and also we tried to reconstruct some ordered stations' statistics for next applications.

**Table 3: Statistical reconstituted station with to take advantage of base station**

Reconstituted station	Base station
Oshan	Abali
Meygon	Hamband absard
Fasham	Abali
Hajiabad	Firozkoh
Rodehen and Bomehen	Davamand and Hamand

## Results and discussion

In this study, based on Table 1 and Figure 2 climatology data over a period of 12 years and the impact on tourism activity in the region comes Oshan and Fasham

### a) Annual Temperature

Average of daily temperature in any region's temperature indicator has a special meaning, although this parameter does not interfere directly, but because of several average databases, there is a bit frequency in various statistic periods. At the same time, comparison of 10, 20 and 35 average years of Tehran synoptic station can admit the above presumption. Table 4 shows comparison of weather's annual averages at different statistic periods.

**Table 4: Comparison of annual average temperature in Tehran stations (oC)**

Average	Average of minimums	of	Average of maximums	Statistical period
17.3	12.1		22.5	10
17	11.5		22.4	20
16.8	11.2		22.5	35

According to this table, the difference between weather's annual averages at different statistic periods is about 0.5 centigrade degrees. In the statistic scope field, this difference is very impressive. In Table 3, we have presented annual weather's temperature parameters at selected stations. It has seen that average daily weather is differing from at least 13.6 degrees at Darakeh station to 16.8 degrees at Tehran synoptic station. Regarding to stations height, presented in the Table 5, we found that heights' changes do not have any influence on temperature frequencies in spite of its significant role. The other parameters such as highways, vegetation, locating around industrial regions, residential complex concentration and etc have been added to temperature's changes process with height.

**Table 5: Annual weather temperature in study area (Fasham) stations**

Absolute Temperature		Averages			Altitude (meter)	Station
Minimum	Maximum	Daily	Minimum	Maximum		
-14.5	36	16.6	11.2	21.9	1570	kan
-14.8	36.8	17.2	11.9	22.5	1191	Mehrabad
-13.1	31.6	12.8	7.7	18	1700	Soleghan
-15.5	36.5	13.6	8.2	19	1700	Sadabad
-16.5	39	14.4	9	19.8	1541	Tehran exhibition
-15.5	39.5	15.1	10.2	20.1	1360	Geophysic
-21.5	39.4	8.2	3.2	12.5	2450	Abali
-23.5	39.3	8.5	3	16.7	1950	Oshan Fasham
-	41	14.5	8	21.1	1560	Latyan
-30	35	7	0.2	13.2	2400	Meygon

**b) Temperature of the region**

In order to have correct comparison among mentioned region's temperature and roughness effect around Fasham city, new regions, like Bumehen, Abali and Roodehen have been added to previous database. The average of region's temperature at different heights was measured monthly and continually these measurements were reconstructed based upon current information and statistic methods. In the statistic period between 1986 to 2004, the average of annual temperature for Fasham city was 8.3 centigrade degree and 11.8 centigrade degree for Bomehen. The comparison shows that, the weather is warmer around 3.5 centigrade degree (Tables 6 to 8).

**Table 6: The monthly Alterations of the temperature in Fasham and Bomehen cities (1993-2003)**

Average temperature Bomehen)	Average temperature (Fasham)	Month	Average temperature (Bomehen)	Average temperature (Fasham)	Month
24.8	20.01	July	1	-1	January
23.7	20.1	August	-0.2	-0.6	February
19.6	15	September	4.5	-0.8	March
12.7	9.1	October	11.4	8.1	April
6.5	3	November	15.4	10	May
1.3	0.9	December	17.1	21.1	June
11.8	8.3	Annual average			

**Table 7: the monthly Alterations of the temperature in Rodehen and Abali cities (1993-2003)**

Average temperature (Abali)	Average temperature (Rodehen)	month	Average temperature (abali)	Average temperature (Rodehen)	month
20.1	20.2	July	-3.7	-0.8	January
20.55	20.3	August	-3.2	-0.6	February
16.5	15.1	September	0.1	-0.7	March
10	9.2	October	7.2	8.2	April
3.65	3.2	November	11.9	10.2	May
1.3	1	December	17.6	17.2	June
8.2	8.5	Annual average			

**Table 8: The monthly Alterations of the temperature in Meygon and Oshan cities (1993-2003)**

Average temperature (Oshan)	Average temperature (Meygon)	month	Average temperature (oshan)	Average temperature (Meygon)	month
20.1	18.5	July	-0.7	-5	January
20.2	18.3	August	-0.5	-4.8	February
15	14.6	September	-0.6	-0.7	March
9.1	8.8	October	8.1	5	April
3.1	3.9	November	10.1	11.1	May
0.9	-1.5	December	17.1	15.8	June
4.8	7	Annual average			

The average of changes slope in monthly temperature at Fasham city had an interval between min -0.6 (February) to max 20.1 (August), however at Bomehen the minimum of temperature at February was -0.2 and the maximum temperature was 24.8 at July. Based on approved definition, the lowest temperature of climate decreases to zero centigrade degree or lower. Number of freezing days it should be say that based on information of meteorological organization is presented in the Tables 8 and 9. Fasham has 141 freezing days and this duration in Bomehen is 125 days.

**Table 9: Average Glacier day**

Number of Glaciations days average									Month
Fasham	Soleghan	Bomehen	Sadabad	Geophysic	Rodehen	Mehrabad	Exhibition	Tjrish	Annual
141	92	125	87	49	139	52	71	69	

**Table 10: Average of weather temperature in different seasons (1993-2003)**

summer	spring	winter	fall	Station
17.2	11.2	-4.3	2.8	Meygon
25.7	17.1	3.1	12.4	Latyan
20.8	14.4	-0.9	5.2	Oshan and Fasham



**c) Atmosphere fallings**

Generally, the most important air masses of the region are divided into two categories, summer and winter. West-east currents exist until mid of spring continually, but they are stopped on summer partly. Topographic condition of our case study causes plain-mountain winds and also topographic element at northern mountains of these two cities affects on the rate of resulted winds. This region belongs to basin of Jajorood Olia and formation of each region's ecology has a great influence on falling rate. According to present statistic data, annual falling of Fasham and Bomehen are 421.6mm and 319 mm respectively (Tables 10 and 11).

**Table 11: Annual alterations of precipitation regimen in the Fasham and Bomehen cities (mm)**

Bomehen city	Fasham city	month	Bomehen city	Fasham city	Month
2.5	1.6	July	42.2	48.5	January
2	4.1	August	43	66.8	February
2.1	7.5	September	48	73.1	March
18.2	14	October	37	55.1	April
32.2	32.6	November	36	36.9	May
44.7	71.4	December	11.1	9.6	June
319	421.6	Annual average			

**Table 12: The annual alterations of precipitation regimen in the Rodehen and Abali cities (mm)**

Abali city	Rodehen city	month	Abali city	Rodehen city	month
8.4	3.9	July	61.5	70.2	January
8.6	2.1	August	70.6	62.3	February
7.1	3.1	September	102.5	60.1	March
23.6	16.3	October	62.5	39.1	April
51.8	18.5	November	47.6	37.2	May
70.8	23	December	10.7	15.1	June
525.20	350.9	Annual average			

Changes slope of most rainy month at Fasham has been changed from max: 73.1mm (March) to min: 1.3 mm (June). It has been reported that the rainiest month of Bomehen was at March (48mm) and the lowest rainy time is at August (2mm). Seasonal falling percentage in these two cities during autumn and winter is different from each other. Based on information in Table 12, around 44.75% of Fasham fallings is occurred during winter and Bomehen's atmosphere fallings percentage is around 48.73% during this season. It is interesting that; fallings amount in Bomehen during autumn is 0.44% more than Fasham city.

**Table 13: Division of seasonal rain percent in Fasham and Bomehen cities**

Fall	summer	spring	winter	Rainy season
23.3	3.13	24.13	44.75	Fasham city
23.47	2.7	25.1	48.73	Bomehen City

Changes slope of rainiest month of Meygon city has been differed from max: 103 mm March to min: 45.1 mm (September).while the rainiest month of Oshan (March) has reported 48 mm and the lowest time of falling during August (with 2mm). Seasonal falling percentage distribution in these two cities during autumn and winter is different with together.

With observance to more than 30 ecological categories, we preferred to use of Demarten and Ambrege categories in this study which their results are summarized at tables 14 In formation process of each region's ecological face, there are various factors which some of them are recognized as manufacturing factors of ecology. In the studied region, the most significant manufacturing factors are height, latitude and immigrant air masses.

a) Climate classification approach

In this approach, the ecology of the region is assessed based on following drought indicator.

After measuring drought indicator, by using of Table 14, the type of ecologies of the region will be determined.

**Table 14 Climate classification (Research findings)**

System classification							region
kopan (i)	Karimi (i)	Gozoniviski (C)	silianov (c)	Boloor (Rain)	Ambregeh (Q2) $Q = \frac{2000P}{M^2 - m^2}$	Demarton (i) $AI = \frac{P}{T + 10}$	
Csb	Semi arid cold c i=cold	Semi arid cold c= 44/91	Semi arid cold C·	Semi arid cold	Semi arid cold	Mediterranean	Oshan
Csb Mediteranean	Semi arid cold c i=cold	Semi arid cold c= 44/91	Semi arid cold C·	Semi arid cold	Semi arid cold	Humid 23	Fasham
Dsb	Semi arid cold c i=cold	Semi arid cold c= 44/91	Semi arid cold C·	Semi arid cold	Semi humid cold	Mediterranean	Meygon
Bsk	Semi arid cold c i=cold	Semi arid cold c= 44/91	Semi arid cold C·	Semi arid cold	Semi arid cold	Mediterranean 20	Hajiabad

**Table 15: Demarton and Anberge's climatological coefficients**

Amberge coefficients	Minimum temperature average in the coldest month (Kelvin)	Maximum temperature average in the hottest month (Kelvin)	Demarton coefficients	Average of temperature annual (centigrade)	Average of annual precipitation (mm)	Station
23.7	272.2	309.8	10.1	17.2	263.3	Mehrabad
39.3	270.8	304.8	16.7	12.8	385.2	Soleghan
26.5	271.7	312.5	12	15.1	309.9	Geophysic
31.5	271.6	301.2	15.5	14.4	367.9	Tehran Exhibition
30.8	264.8	309.5	16.8	13.6	389.4	Sadabad
30.4	264.8	309.5	16.8	12.9	385	Farahzad
44.9	269.6	312	15.61	14.22	426	Darakeh

**Table 16: the table number 16 completion that show results to assign the climate types**

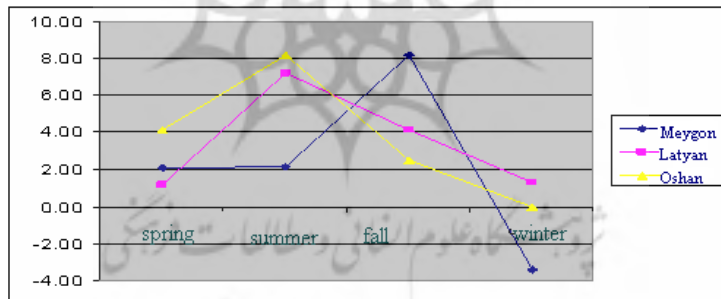
Amberge coefficients	Amberge	Kopen	Demarton	Average of annual temperature (°C)	Average of annual precipitation (mm)	Station
23.7	Arid cold	Bsk	arid	17.2	263.3	Mehrabad
39.3	Semi humid cold	Csa Mediterranean	Semi arid	12.8	385.2	Soleghan
26.5	Semi arid cold	Csa	Semi arid	15.1	309.9	Geophysic
31.5	Semi arid cold	Csa	Semi arid	14.4	367.9	Tehran exhibition
30.8	Semi arid cold	Csa	Semi arid	13.6	389.4	Sadabad
30.4	Semi arid cold	Csa	Semi arid	12.9	385	Farahzad
44.9	Semi arid cold	Csa	Semi arid	14.22	426	Darakeh

**Table 17: Demarton and Amberge's climatical coefficients**

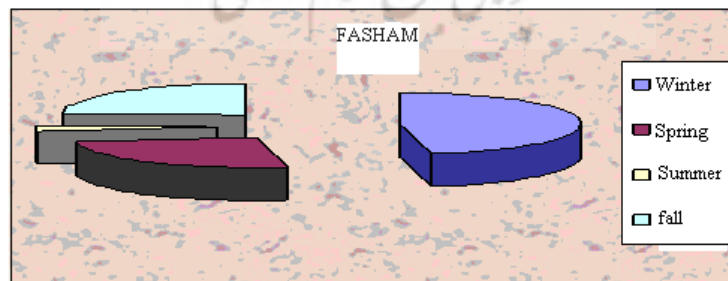
Amberge coefficients	Amberge	Kopen	Demarton	Average of annual temperature (C)	Average of annual precipitation (mm)	Station
23.7	Arid cold	Bsk	arid	17.2	263.3	Mehrabad
39.3	Semi humid cold	Csa Mediterranean	Semi arid	12.8	385.2	Soleghan
26.5	Semi arid cold	Csa	Semi arid	15.1	309.9	Geophysic
31.5	Semi arid cold	Csa	Semi arid	14.4	367.9	Tehran exhibition
30.8	Semi arid cold	Csa	Semi arid	13.6	389.4	Sadabad
30.4	Semi arid cold	Csa	Semi arid	12.9	385	Farahzad
44.9	Semi arid cold	Csa	Semi arid	14.22	426	Darakeh

**Table 18 glaciations day average**

Number of Glaciations days average								Month
Fasham	Soleghan	Bomehen	Sadabad	Geophysic	Rodehen	Mehrabad	Exhibition	Tjrish
141	92	125	87	49	139	52	71	69
Annual								



**Figure 4 The average of temperature in defferent seasons**



**Figure 5 the percent distribution of seasonal rain in Fasham city.**

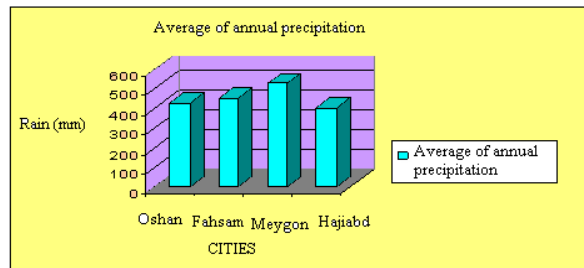


Figure 6 Average of annual precipitation in study are

Table 19 the average rate of minimum, maximum and middle daily approximate humid

annual	Sep.	Aug.	Jul.	Jun.	May	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Humid daily average	month station
58	45	43	43	46	56	61	66	71	68	71	66	57	Maximum	Latan
38	23	23	24	25	31	36	47	56	61	55	40	32	Minimum	
46	32	31	31	33	41	46	55	63	66	63	52	42	Average	Meygon
56	41	40	39	40	53	61	69	70	68	66	63	55	Maximum	
44	24	25	26	26	38	47	61	64	64	60	50	37	Minimum	
50	31	31	31	31	44	54	65	69	68	65	59	46	Average	Oshan and Fasham
62	48	48	44	47	57	64	76	79	79	79	71	59	Maximum	
41	22	22	21	23	32	39	58	69	71	63	44	30	Minimum	
53	32	30	28	30	43	52	71	77	75	70	64	44	Average	

Table 21: The table number 17compelition that show to results of classification

Minimum temperature average in the coldest month (Kelvin)	Maximum temperature average in the hottest month (Kelvin)	Demarton coefficients	Average of annual temperature (°C)	Average of annual precipitation (mm)	Station
251.5	312.4	22.55	8.4	415	Oshan
249.5	312.3	23.00	8,3	421	Fasham
243	308	30.8	7	525	Meygon
-	313	20	10	400	Hajiabad

Table 22: Matrix of internal factors affecting regional tourism

Weaknesses	Strengths	Development Dimensions
Lack of planning on how to utilize the features and capabilities. - Lack of coordination between the private sector and relevant organizations Tourism Distric -Lack of adequate sanitation facilities - The lack of skilled and trained forces in different parts of the region-	-Being able to limit investment Tourism in order to optimize the use of natural resource endowments and its introduction as a major hub for tourism in the province Certain traditional customs and local culture and people	Economic  Social and cultural
Inadequate physical infrastructure and environment - Inadequate facilities for sports and recreation - Non-compliance with environmental cleanliness around the lake by tourists - Inadequate accommodation and welfare	-There are beautiful mountain landscapes - There are mountains around the lake, mountain climbing, hiking - Close to downtown and easy access to the lake for tourists - Having different capabilities sports (skiing, rock climbing, ...) - Having springs and fresh probe - Pristine to enjoy a quiet and relaxing tourists	Ecology
Lack of training people in how to use the capabilities of the ecotourism	According to authorities, the tourism districts and public participation	Institutional

## **Conclusion**

Due to the topography and climatic conditions of the region Oshan and Fasham and administrative and political capital of Tehran near the Iranian population with a proper plan of Excellence

OSHAN-FASHSAM area is a region with an extended tourism but also with unused touristic potential especially before and after the main touristic season. The topography of OSHAN-FASHSAM area is very complex and highly variable (Fig. 1). This holds many possibilities and not only mountain or summer activities during the main touristic season.

Valuable ecosystems in the buffer zone are drawn in Rudbar Qsran studies and ecological models for use in a wide promenade along the protected area are proposed. Horticulture with regard to shortcomings in the area of tourism development can flourish & Horticulture and animal husbandry finally sustainable development region. Ecological models, including models of ecological tourism and recreation center has a wide promenade

Lands for recreation center

A) very suitable for intensive recreation (Class A)

Percent Slope: 0 to 5 percent. Cardinal directions: east (summer) Southern (winter). Tree density: 80 to 40. Climate and Weather: The average temperature in the summer and spring seasons using 25 21 ° C, the number of sunny days in a year, in spring and summer season, using more than 15 days per month. Soil texture: loam, soil structure: semi-transformed or transformed with intermediate grindings

B) For recreation center (Level 2)

Climate and Weather: The average temperature in the summer and 21 ° C for spring 30. The number of sunny days in the months of spring and summer season, using 15 7 days a month. Percent Slope: 15 5 percent. Cardinal directions: north (summer), Western (Winter).

Conditions for recreation center

Percent slopes more than 15 percent.

Cardinal directions: west and south (summer and spring), eastern and northern (winter). The geographic location of the facility, not just for winter ski or bus.

1 - Allow applications

- Centralized recreation facilities including camping, picnic without any construction
  - User research and education structures without
  - Rehabilitation and upgrading of any vegetation and vegetation appropriate to the ecological conditions of the region (the use of plants native to the area)
  - Create lavatories septic tank
- 2 - User probation
- Means of communication to reach at least (or at least mostly pedestrian crossing for emergency vehicles such as fire, etc.)
  - Small cottages for overnight stay and sheltered accommodation
  - Lines of essential utilities (water and electricity) as required
- 3 - for forbidden
- Any building construction, especially hotels, motels, restaurants, etc. or Hrkarbry stumpage has led to the environmental or ecosystem damage.
  - Create original ways, roads, etc.

Land suitable for extensive outdoor recreation

A) very suitable for extensive outdoor recreation (Class 1)

Percent Slope: 15 to 25, under soil and rock like intensive recreation category (just for sidewalks, and Malraux is important otherwise the soil parameters is very important for the wide promenade). Climate and weather: the recreation center (Class A). Other parameters: does not matter much.

B) suitable for a wide promenade (Level 2)

Percent Slope: 25 to 50 percent. Soil and rock conditions: the two-story recreation center (just for sidewalks, and Malraux is important. Otherwise soil parameters is very important for the wide promenade). Climate and weather: the recreation center (class 2).

Studies within Fasham, Maygoon tried to close Central Alborz Protected Area and Varjin, land unit specifications are as follows:

Slope zone ranges between 30 to 45 degrees in Central Alborz Protected Area and is also even between 6 to 100 degrees. In terms of climate, the average temperature in spring Maygoon 2/11 degrees in winter, 2/17 ° C, in the spring Oshan 4/14 degrees in the summer, 8/20 ° C is. Many sunny days in the month. average 14 to 15 days

(about 327 hours in August), respectively. Vegetation generally bare or covered with forest steppes and scattered.

1 - Allow applications

- Authorized activities include: walking, climbing, winter sports, environmental education, wildlife viewing stations is created.

- Protection of slopes over 70 percent

2 - uses conditional

- Creating climbing routes, hiking, walking and possibly bike to Linear Park and visit the Nature

- Public facilities including drinking water supply, health services equipped with septic tanks, canopy, view

3 - uses Banned

- Creating access roads and trails on steep slopes that cause degradation and soil erosion is

- Create the main roads and road

According to the results, the following statements should be considered in urban planning:

A: choosing appropriate and optimal position

B: using elements in buildings adapted to climate circumstances.

C: considering strength of materials to endure weather factors

D: have a suitable plan, shape and design for buildings in order to climate changes

E: coefficients of a comfort-based architecture should be compatible with the climate

F: The most effective elements of climate and effective urban & tourism planning area are rainfall, temperature and ice.

G: - the other effective and efficient climate factors in urban planning are altitude and slope.

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