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CULTURAL AND SPATIAL CHANGES CAUSED BY INTENSIVE MIGRATION IN URBAN AREAS; EVIDENCE FROM HATAY, TURKEY

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ABSTRACT: In the case of mass migration, mostly refugees try to synthesize their own culture and lifestyle into the culture and lifestyle of the country in which they migrate. Since the civil war in Syria started in 2011, almost every region of Turkey has been exposed to intense migration of Syrian refugees. Hatay, one of the cities on the Syria border, has received approximately 500.000 refugees which causes significant spatial and social changes in city structure. Refugees have created cheap labor in Hatay in many work areas, which caused economic problems by reducing the income of citizens living and working in that region. The increase in rents and the spread of the population from the center to the periphery of the city led to serious urban problems. The aim of this study was to examine and create a number of maps to indicate how uncontrolled migration affects the cultural, economic and urban change of the city over time (2009-2019). Landsat satellite images, which are obtained by remote sensing techniques, were processed in image processing software; therefore social, economic, cultural and urban changes were discussed with the result data generated by applying several image classification methods. Important issues such as urban identity, zoning, destruction of historical values, alienation of local people from the region attract attention. For example, Arab signs rising from shops and Arab music make the streets look like a small Syrian. Citizens who follow these developments closely and now accept the reality of Syria have complained that British names were once placed in stores in the city, now points out that Arabic signboards have increased.

Keywords: Immigrants, urban change, geographic information systems

KENTSEL ALANLARDA YOĞUN GÖÇLERİN SEBEP OLDUĞU KÜLTÜREL VE MEKANSAL DEĞİŞİKLİKLER; HATAY, TÜRKİYE'DEN BULGULAR

ÖZET: Kitlesel göç durumunda, çoğunlukla mülteciler göç ettikleri ülkenin kültürüne ve yaşam tarzına kendi kültürlerini ve yaşam tarzlarını sentezlemeye çalışmaktadırlar.2011 yılında Suriye'deki iç savaş başladığından itibaren, Türkiye'nin hemen her bölgesi Suriyeli mültecilerin yoğun göçüne maruz kalmıştır . Suriye sınırındaki şehirlerden biri olan Hatay'a, yaklaşık 500.000 mülteci kabul etmiş ve bu durum şehir yapısında önemli mekansal ve sosyal değişimlere neden olmuştur. Mülteciler birçok çalışma alanında Hatay'da ucuz işgücü yaratmış, bu da o bölgede yaşayan ve çalışan vatandaşların gelirini azaltarak ekonomik sorunlara yol açmıştır. Kiralardaki artış ve nüfusun merkezden şehrin çeperine yayılması ciddi kentsel sorunlara yol açmaktadır. Bu çalışmanın amacı, kontrolsüz göçün kentin zaman içindeki kültürel, ekonomik ve mekansal değişimini nasıl etkilediğini analiz ederek haritalamaktır (2009-2019). Çalışma kapsamında uzaktan algılama teknikleri ile elde edilen Landsat uydu görüntüleri, görüntü işleme yazılımında işlenmiş; sosyal, ekonomik, kültürel ve kentsel değişimler çeşitli görüntü sınıflandırma yöntemleri uygulanarak tespit edilmiştir. Kent kimliği, imar, tarihi değerlerin yok edilmesi, yöre halkının bölgeden yabancılaşması gibi önemli konular dikkat çekmektedir. Örneğin dükkanlardan yükselen Arap tabelaları ve Arap müziği sokakları küçük bir Suriyeli gibi gösteriyor. Bu gelişmeleri yakından takip eden ve şimdi Suriye gerçekliğini kabul eden vatandaşlar, bir zamanlar İngiliz isimlerinin şehirdeki mağazalara yerleştirilmesinden şikayet etti, şimdi Arapça tabelaların arttığına dikkat çekiyor.

Keywords: Göç, kentsel değişim, coğrafi bilgi sistemleri

INTRODUCTION

According to the 1951 Refugee Convention, refugees are defined as: "Someone who is unable or unwilling to return to their country of origin is a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion (Thompson S., 2000)".

The people who have to leave their own countries to live with people from different cultures in different countries cause various changes in their new residence locations. The impact of such migration has been discussed in various urban planning literature (Allen and Slotterback, 2017; Seethaler-Wari, 2018; Al-Tal and Ghanem, 2019).

It is a fact that cities and societies effect and change each other in an interactive way (Gulgun et. al, 2014; Kalayci Onac and Birişçi, 2019). Migration has always been in the agenda of humanity and currently especially in the middle east it has been a great deal as the migration keeps going on in massive crowds. Since the violence started in Syria in April 2011 millions of Syrian emigrated from their countries. Turkey is the most preferred country by the refugees among the neighboring other countries and it is reported that there are 3.6 million refugees under record in Turkey (Refugees Association, 2019).

The cultural and spatial change caused by the massive immigration has become visible in some cities of Turkey that are mostly preferred by the refugees as residence location or a temporary location that they use before transition to Europe. One of the places that was exposed to these

changes is Hatay province of Turkey located on the Syrian border. Although Accommodation facilities have been established for Syrian migrants in the cities of Hatay, Malatya, Adana, Gaziantep, Osmaniye, Şanlıurfa, Mardin, Kilis, Adıyaman and Kahramanmaraş, due to the high number of asylum seekers coming to the country and the lack of accommodation camps caused asylum seekers to move to the center of these cities or to migrate to other cities. According to the BBC news, the 97.6 percent of registered Syrians in Turkey, are not living in camps, they are living in cities. Considering all these, it can be said that there are hundreds of thousands of Syrian refugees only in Hatay district and it caused serious changes in that region. Various studies have been conducted to examine the urban, economic and cultural changes that occur when a city with low migration rate is exposed to intensive migration waves. Adequate measures should be taken for the permanent changes that these intense migration waves may create. If not, cultural, economic and urban changes can occur and urban life can be stressing for both the citizens of the city and the immigrants. This study exposed the immigration effects on cultural, economic, urban structures of cities, in this way, necessary pro-cautions ca000000000000n be taken to protect these structures of the cities and required adaptations can be adjusted for citizens and immigrants to live together. To achieve the purpose of this research, the major research questions were set as seen below:

1) What are the physical and socio-spatial forms of Syrian settlements in Antakya?
2) What changes have been observed in the region over time? (2009 to 2019)
3) How has the region changed as a result of these observed changes?

MATERIAL AND METHOD

Definition of Study Area

Hatay, the city that has the longest land border between Turkey and Syria, which has been significantly affected by the immigration wave has been chosen as the study area for this research. Due to kinship and cultural ties as well as geographical proximity, Hatay has been one of the cities hosting the most of Syrian immigrants. Hatay is a bustling coastal city and the borders of Turkey. As of 2018, it has a population of 1,609,856. It lies between 35 ° 52 '- 37 ° 4' northern latitudes and 35 ° 40 '- 36 ° 35' longitudes in the eastern strip of the Mediterranean Sea. There are Syria in the east and south of Hatay, the Mediterranean Sea in the west and Adana in the northwest, Osmaniye in the north and Gaziantep in the northeast. Syrians generally reside in Reyhanlı and Yayladağı, Kırıkhan, Hassa, Altınözü and central Antakya districts (Figure 1).

Figure 1. Location of study area and districts that host the most population of refugees

Method

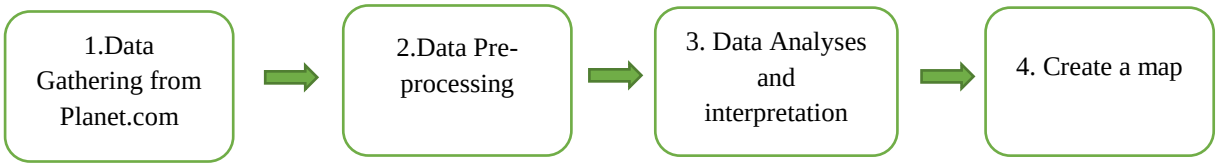

Figure 2. Flowchart about method

The method of the study was carried out in four steps. These four steps consist of acquiring, processing and analyzing and interpreting multispectral satellite images that have very high resolution and accuracy.

The first step was to obtain satellite images of high resolution (5 meters resolution) for this application free of charge from the website which is called as 'Planet.com' in order to receive the spatial and temporal information about central and surrounding districts of Hatay. In order to analyze how uncontrolled migration affects the cultural, economic and spatial change of the city over time, a 10-year period has been determined as 2009 and 2019.

In the second step, the satellite images was uploaded to the program called ENVI 5.3 which is a software application used to process and analyze geospatial imagery.

Then satellite images were classified according to their geographical structure. A supervised approach was chosen for higher accuracy- a set of manually pre-classified training is used to train the automatic classifier (around 100 samples for each study area were included) and after this classification process, a method of supervised maximum likelihood classification was used. The classification stage will be completed by classifying the buildings, roads, bare land,

water bodies, agriculture1 (which represents cultivated land), agricultural land 2 (which represents harvested land), industrial areas and vegetation.

In the last phase, a map that shows the observed urban, economic and cultural changes occurred in Hatay from 2009 to 2019 was created and interpreted.

RESULTS

Manuel Classification of each class

Considering the structure of the district, it was decided to create 8 different classes. These classes are located in the district and are generally made classes. These are;

1. Vegetation
2. Buildings
3. Roads
4. Agricultureland 1 (which represents cultivated land)
5. Agricultural land 2 (which represents harvested land)
6. Bare land
7. Industrial area
8. Water bodies

In the study, the true color composite and false color composite were used to determine what each pixel represents and the pixels were selected for the classes to which they belong. A typical classification process was followed. Approximately 100 polygons were drawn for each classes. It was used as a line or point drawing type in small and narrow areas such as roads and buildings. Then, using the supervised maximum likelihood classification, classified maps for two different years (Figure 3 and Figure 4) were produced.

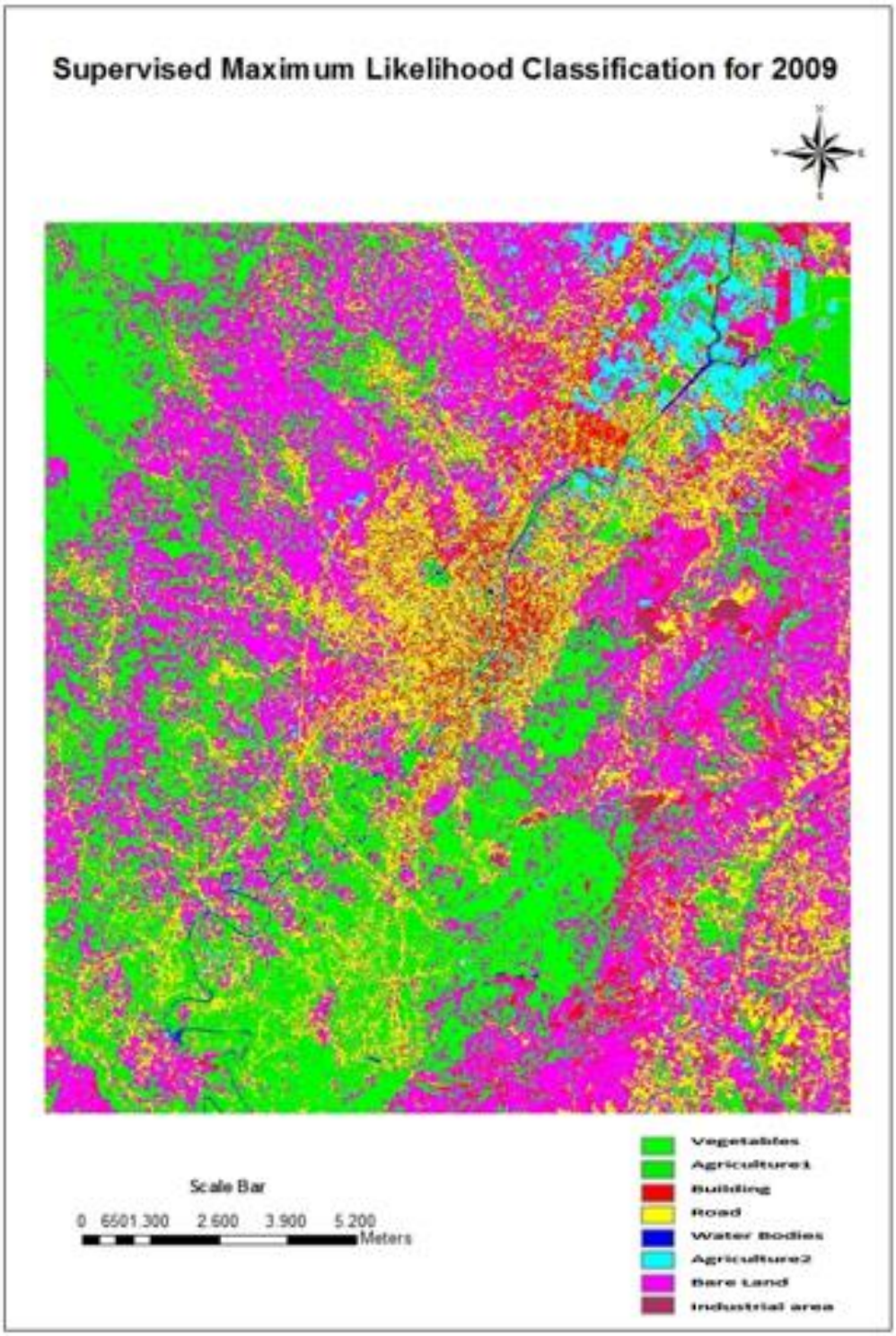

Figure 3. Land cover classification of Hatay in 2009 satellite imagery using supervised maximum likelihood method.

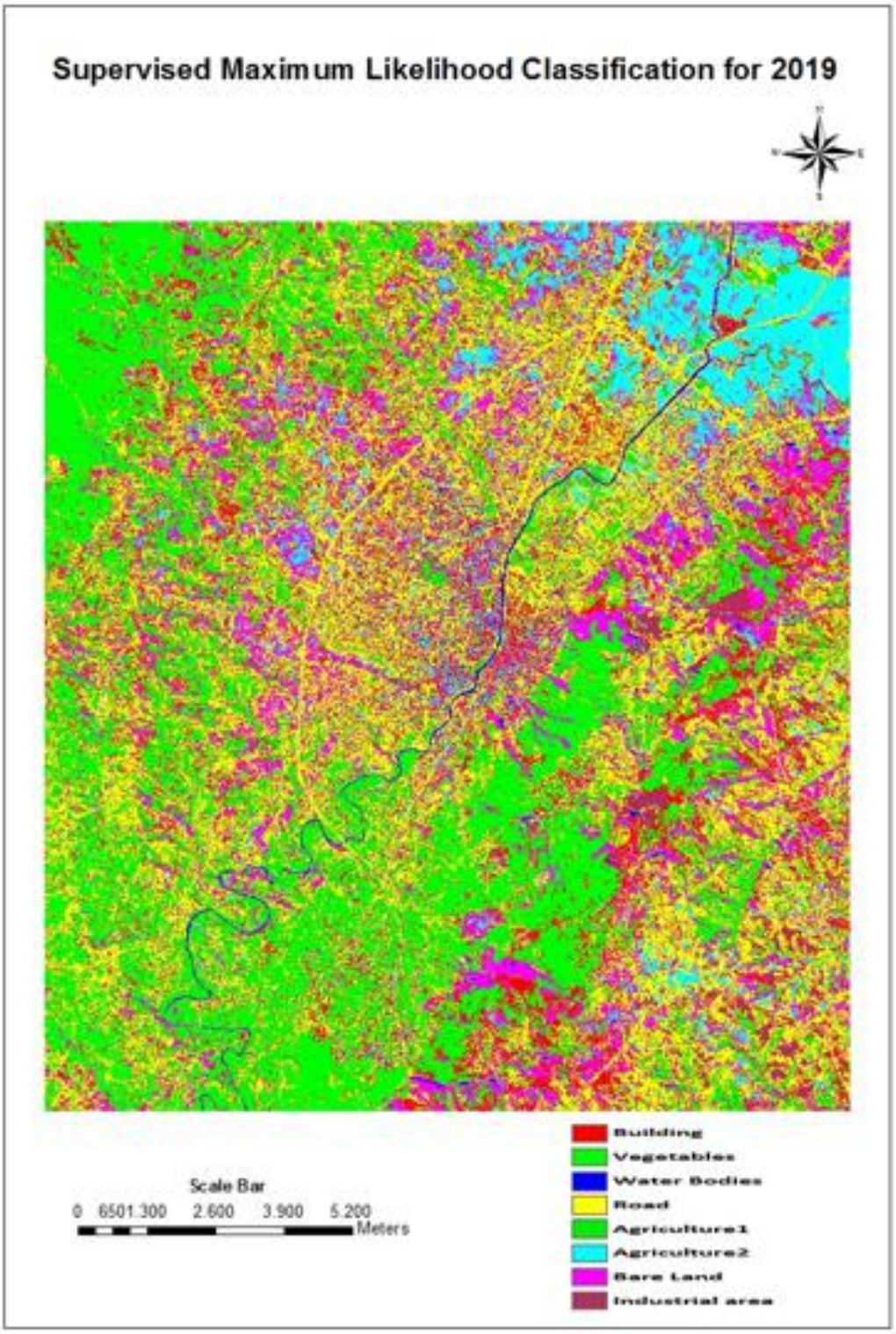

Figure 4. Land cover classification of Hatay in 2019 satellite imagery using supervised maximum likelihood method.

The 8 different classes were determined with this study conducted in Antakya (central) district of Hatay/Turkey. The change of these classes between the years 2009 to 2019 has been analyzed. The following tables presents the results of this analysis. Each of the 8 classes was identified by different colors and names. Vegetation, building, road, water bodies, bare land,

agricultural land 1 (which represents cultivated land), agricultural land 2 (which represents harvested land) and industrial area each represents a class. Table 1 present the spatial change of these classes in percentage.

Table 1. The change of the land-use classes for Hatay/Turkey (in percentage)

	Vegetation	**Building**	**Road**	**Water Bodies**	**Agriculture1**	**Agriculture2**	**Bare Land**	**Industrial Area**	**Row Total**	**Class Total**
Unclassified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building	8.39	18.45	12.43	4.16	7.76	5.62	13.90	11.91	100.00	100.00
Vegetables	48.50	1.97	7.13	13.32	1.32	30.02	9.82	0.68	100.00	100.00
Water Bodies	0.32	0.88	0.48	29.40	0.93	0.82	0.23	0.55	100.00	100.00
Road	14.97	35.80	44.70	10.99	25.61	20.26	35.00	33.76	100.00	100.00
Agriculture1	14.55	3.25	12.38	10.03	6.62	22.13	11.08	1.79	100.00	100.00
Agriculture2	1.02	13.53	6.47	5.39	36.81	13.78	6.33	8.31	100.00	100.00
Bare land	11.17	19.30	10.40	24.79	16.67	6.27	19.17	9.56	100.00	100.00
Industrial area	1.08	6.82	6.01	1.94	4.27	1.09	4.48	33.43	100.00	100.00
Class Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Class Changes	51.50	81.55	55.30	70.60	63.19	77.88	80.83	66.57	0.00	0.00
Image Difference	-20.22	83.98	70.26	32.12	89.40	51.21	-61.79	187.65	0.00	0.00

According to the data on Table 1 obtained via analysis of the satellite images, it was determined that the green area decreased by 20 %, constructed area (buildings) increased by approximately 83 %, roads increased by 70 %, water areas increased by 32 %, both agricultural lands increased, bare land decreased by 61 % and industrial land increased by 187 %. The reason for this increase in the water area is that the satellite image of the river passing through the center of the district in 2009 was recorded in summer (in August when evaporation is highest) and the satellite image in 2019 was recorded in November (period with heavy rainfall). The reason for the increase in the industrial area is the increase of the concrete production companies and mining companies opened in the region since 2009.

The reason of such increase of the built areas (buildings) is a result of uncontrollable increase of the population. Many structures such as refugee camps, residences and stadium in the region increase this ratio. It is observed that the number of buildings increased in the south-west direction of the city (Figure 5).

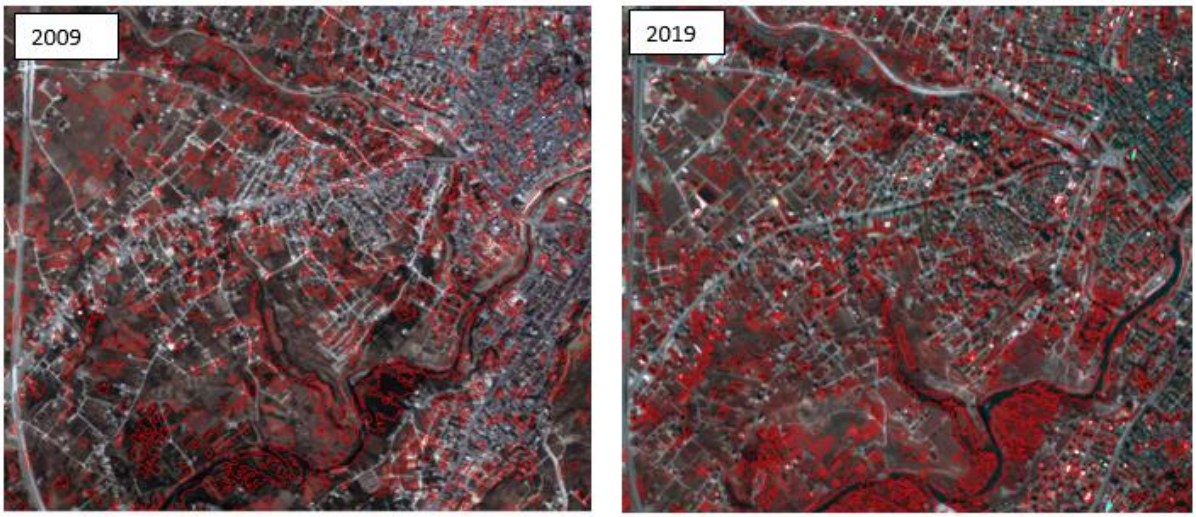

Figure 5. The change of the area on south-west direction between years 2009-2019

Due to the increase in the number of buildings, the number of roads in the region shows a significant increase. Depending on the needs of the region, agricultural lands have increased. The most affected land-use classes are vegetation areas and bare lands by all these increases. Because empty areas and vegetation show a serious decrease. The change of all land-use classes are presented on Figure 6.

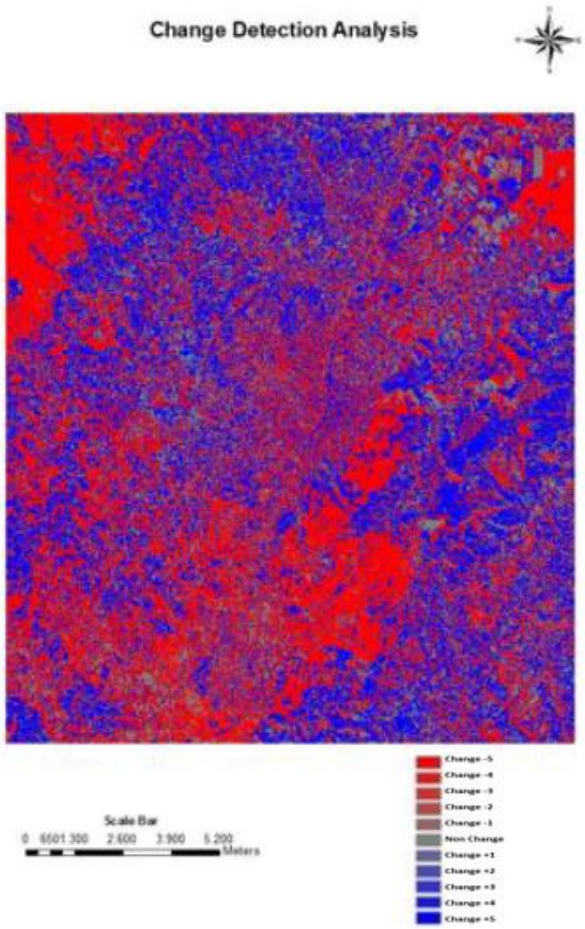

Figure 6. The areas of change. Reds represent increase and blues represent decrease values. The gray color indicates where there is no change.

DISCUSSION

From the results obtained with a detailed data analysis, the effects of refugee settlements showed that there were environmental reflections during that period. Among the effects highlighted by host countries, governments are environmental degradation and depletion of natural resources (Berry, 2008). It has been widely accepted that the flow of refugees has a significant socio-economic impact as well as natural resources (Andria, 2005).The aim of this study is to examine social, cultural and economic changes in regions receiving intense refugee migration. One of the high immigration cities of Turkey is examined by analyzing changes due to the changes in Hatay year. As a result, when mass migrations occur, intense changes are observed in certain parts of the city. Serious settlements are observed, especially in areas where the settlement was less. This change affects both economically and culturally negatively. For example, unemployment increases due to cheap labor, intensive migration to certain regions causes reductions in agricultural lands, which created competition with the host community. One of the main causes of conflicts between the refugee and the local population is due to the growing pressure on the vital natural resources that the host community depends on (Kahl, 1999; Crisp, 2003). Considering the values obtained as a result of the change analysis, the significant increase in roads and buildings draws attention. Also, the decrease in agricultural lands and forest areas indicates the change experienced. The host community and refugee population implemented illegal logging of living trees, rather than traveling long distances to find dead wood, which further contributed to the degradation (UNEP, 2005). Increases in the industrial field are not the workplaces where refugees opened, but the factories established in the region after 2009. While the aim of opening these factories is to develop the region, unemployment continues to be a major problem after the migration in 2011.

CONCLUSION

The spatial changes in areas where the Syrian refugees have been located during the last decade in Hatay was investigated in this study. According to the data obtained through the analysis that were conducted within the scope of this study, there are easily noticeable changes in the last decade. The spatial spread of the district to the surrounding area, the decrease of green area, the formation of more roads and shelter areas are visible and distinctive findings. In addition, socio-cultural and economic change in the region can be easily understood in accordance with the information in many news bulletins. The city, which has approximately half a million refugees, has experienced various interactions in language, religion, race and culture and will continue to live. Living in an unknown city in an unknown country connects people living in the same country with invisible bonds. This rapprochement reveals an effort to keep their language, culture and lifestyle alive. These people, who have come from Syria as a necessity, are concentrated in certain regions. This is due to these invisible bonds and their attachment to their roots. Al-Tal and Gnahem (2019) as stated in their study, these people live among themselves and as a group depending on their roots. They give importance to kinship relationships and make decisions accordingly. Although living as themselves is an innocent human-right this situation constitutes risk for the culture of the hosting countries. This process cause various spatial and cultural changes as seen on Figure 7 and meanwhile those changes may be irreversible for the hosting cities. For example, the change in the dominant population in that region is sociologically important how the Turkish people's 'social perception' and the 'culturalization' tendencies (such as integration or separation) will change. The Syrian Refugees

who choose to stick to their own culture therefore constitute a majority in collective and certain regions. After a certain period of time, this dominant majority may influence local people and even cause a cultural change. Can impose his own customs and traditions on society. Being in the majority and being together may create a region of their own. Considering all these, it is seen how important cultural and economic interaction is in human life.

Figure 7. Views from a shop belonging to Syrians and a refugee camp in Hatay.

As seen in Figure 7, refugees emigrating from Syria sustain their own language and culture in the shops they open and their environments. They speak in their own language in the community, have signs in their own language and live according to their own culture. This leads to a distinct separation in society, social, cultural and even economic conflicts. Although these conflicts are not yet advanced, one or two generations will make themselves felt clearly.

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AUTHOR CONTRIBUTIONS

Ayşe Kalaycı Önaç: Designing the research, obtaining the materials for the analysis, conducting the analysis, writing and reviewing the manuscript and supervising. **Hayrünnisa Altunsoy**: Conducting the literature review, analyzing the data, writing the manuscript.

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