

Determining the Contravention of Land Property on the Coastal Areas: an Example from Atakum/Samsun

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Abstract

It is clearly stated in the Constitution Law, Civil Law, Municipal Law, Cadastral Law and Coastal Law that the coasts are under the provision and authority of the government and that public interest shall be pursued for benefiting from these areas. In the Civil Law, Cadastral Law and Municipal Law, it is specified that private landownership cannot be in question on the coasts and those areas cannot be suspended. Additionally, in accordance with the 5th article of the Coast law, numbered 3621/3830, the determination of the shore border line is compulsory in order to perform planning and application on the coast and shore line. Since the available real estate on the coastal areas are very significant, where public interest shall be given particular importance, determination and planning of the shore border line shall be made very carefully. In this study, coastal areas were determined in the Samsun. The study areas located in Samsun and extends about 20 km during the Black Sea coasts. Investigated the relationships of the shore border line-landownership were examined in the given areas. In order to make researches and examinations in these areas, primarily; cadastre sheets were supplied from the Cadastral Directorate, landownership information related to the real estates were supplied from the Real Estate Registration Offices and determinations of the shore border line were supplied from the Provincial Directorates of Public Works. Digitizing the acquired data, softwares of the Geographical Information Systems and data which were kept on different layers could be superposed, shore border line was processed onto the status of landownership and the relationships of the shore border line-landownership were examined through making the required spatial analysis and inquiries. In the examinations, the extents of the shore border line contraventions were calculated for the parcels in which the shore border line passes through the landownership border. The examinations here were performed by taking the determination dates of cadastre and shore border line into consideration, as well. In this study; results show that the firstly, totally 235 parcels at the Black Sea coast having shore border line contravention were determined in the study area and the total amount of the shore border line contravention of these parcels was determined to be approximately 16.1 hectares. Work to be done is specified in the 10th Item of the regulations concerning the application of the same law that the proceedings of the annulment of titles shall be conducted by the relevant financial office for the real estates that remain on the coast by infringing shore border line.

Keywords: Coast, Shore Border Line, Landownership, Real Estate, Cadastre, Geographical Information Systems, Coastal Contravention

INTRODUCTION

Coastline changes maybe caused by natural processes and human activities. The natural processes include phenomena such as waves, currents, and storms. The human activities involve changes in the environment, sometimes expressed as modification at landscape levels. The magnitude of these activities and their effects are related to urban growth, and therefore urban development must be seen as part of the ecological systems (Bailly and Nowell 1996; Bedford 1999; Ji et al. 2001; Jackson et al. 2001, Ruiz-Luna and Berlanga-Robles, 2003). In recent years, the coastal zone, probably more than any other part of society has been exposed to pressure and processes of change. Among these changes are urbanization and new infrastructure, exploitation for recreation and tourism, acute nature and environmental problems, retreat of coastal occupations, reorganization of freight traffic between land and sea and changed functional demands and working conditions for harbours (Anker et al., 2004). The coastline can be defined as the line of contact between land and a body of water (Pajak and Leatherman, 2002; Alesheikh et al., 2004). In solving the coastal problems usually multidisciplinary studies including remote sensing and geomatics engineering have proved to be quite useful. So far, various studies have put forth solutions and similar approaches to overcome the aforementioned difficulties (Jensen 1996; Foody and Body 1999; Tapiador and Casanova 2002; Small 2002; Kaya and Curran 2006; Marangoz et al. 2013; Aydın and Uysal, 2013; Song et al. 2013).

Management of the spatial information have gained importance in all the worldwide studies for the decision-maker authorities and planners, the necessity of establishing a spatial data infrastructure arose for the control of natural sources and environmental changes. As a result of this, usage of developing information technologies such as Geographical Information Systems (GIS) came into prominence. Since GIS enables the analysis of the space-based data and information by means of visual and analytical tools after being processed and interactive use of information by the user, it has become more than a computer program and an effective system that could be used in problem solving.

Coastal Areas Management is described as a constant, precautious and adapted source management process for a sustainable development in the coastal areas. Sustaining the sustainable life within the triangle of nature, environment and creatures as a whole, determining and removing or minimizing the pollutive resources could be possible through GIS (Alkış, 1997; Kay and Alder, 1999).

GIS is an information system which executes the functions of collecting, hiding, processing the graphic-nongraphic information which are obtained through space-based observations and presenting them to the user as a whole (Yomralıoğlu, 2000). The use of the GIS technology in the coastal management could be considered as an extended field. With the help of this system which can manage the spatial information efficiently, the process of decision-making could be supported (Sesli et al., 2003). Developments within the GIS systems enabled the access to the functions to extend to personal computers or internet users. GIS provides a mechanism for storing, analyzing, using and displaying the geographical-based information (Aydınoğlu and Yomralıoğlu, 2002).

In this study, different areas were determined in the Atakum District in the Samsun Province. A coastal area of 20 km, including the towns of Taflan, Çatalçam, Çakırlar, İncesu, Büyükoymuca, Alanlı, Atakum from the town of Atakum on the western shore of the province of Samsun, was determined as the study area.

Definitions in Accordance with the Turkish Coastal Law and the Related Legislations in Turkey

According to the Coastal Law numbered 3621/3830 (Eke, 1995);

Coastline: It is a natural line on the sea, lakes and rivers that changes due to some meteorological events which is formed by the fusion of the points on which the water touches the earth on the positions other than flood.

Shore border line: It is a natural border of sandy, gravel, rocky, marsh, rushy, and other similar areas formed by the water motions against the earth after the coast line of sea, lakes and rivers. This border can't be changed even though sea is filled to obtain land.

Coast: This is an area between coast and shore border line.

Shore buffer zone: It is an area of at least 100 m with horizontally from the shore border line of sea, lakes and rivers to earth.

The detection of a sash as shore buffer zone especially in the developing countries, aims to prevent from coastal erosions, to provide public reach to the coast and to be open to coastal view (Sorensen, 1993). According to the article 43 of the Constitution Law of Turkish Republic, the coasts are at the disposal of the government. In utilizing from the sea, lake and river coastlines one must take care of first of all the Public Benefit. According to the 2001 date Turkish Civil Law, the places with no property and the goods in the benefit of the public are in no ones landownership and can never be a subject of a private landownership.

According to the Coastal Law numbered 3621, the detection of the shore border line is obligatory to be able to make plans and plan's implementation on the coast and shore buffer zone. But unfortunately, the usage out of public benefit is being seen because of the agitated in planning and the detection of shore border line not in the way or at the time it must be done (Sonmez, 2002).

MATERIALS AND METHODS

In In this study, different areas were determined in the Atakum District of Samsun. Samsun is located in the Black Sea Region. Samsun is a province in Turkey, located with a length of 208 km on the coast of Black Sea. Its adjacent provinces are Sinop to the west, Tokat and Amasya to the south, Black Sea to the north, and Ordu to the east. The climate is oceanic due to its close proximity to the Black Sea. The coastal zone is located between longitudes 37°08' E and 34°27' E and between latitudes 40°50' N and 41°51' N. In this study; a coastal area of 20 km, including the towns of Taflan, Çatalçam, Çakırlar, İncesu, Büyükoyumca, Alanlı, Atakum from the town of Atakum on the western shore of the province of Samsun, was determined as the study area (Figure 1).

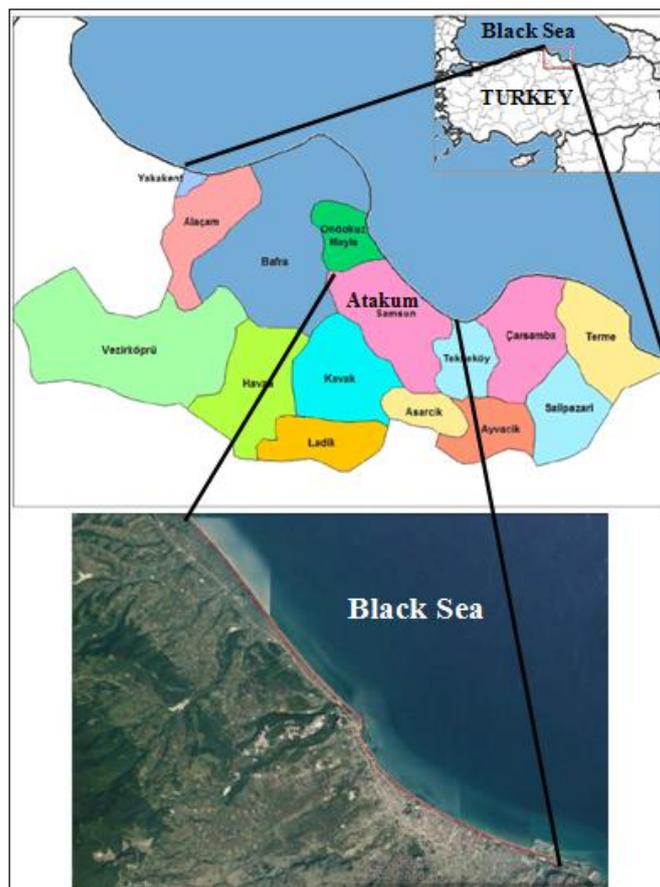


Fig - 1: Location of study area

The graphical analyses which can take a long time with classical methods or CAD programs and the statistical informations produced after these methods can be available by the softwares which are important tools in GIS. In the light of these informations by using GIS we are able to detect the amount of areas for the public benefit in the zoning plans made on the coastal areas. Graphic and nongraphic data required in this study classified and digitized as coverages with AutoCAD programme according to their properties.

Map sheets provided on the digital environment have been transformed and graphical corrections and area quantity controls have been done. They have been made the topology of graphic datas by the NetCAD GIS programme as separate coverages. These map sheets' attribute information input on the same programme. Various samples to spatial query that can be available on the coastal areas with GIS are given.

RESULTS AND DISCUSSION

In order to make researches and examinations in these areas, primarily; cadastre sheets were supplied from the Cadastral Directorate, landownership information related to the real estates were supplied from the Real Estate Registration Offices and determinations of the shore border line were supplied from the Provincial Directorates of Public Works. Digitizing the acquired data, softwares of the Geographical Information Systems and data which were kept on different layers could be superposed, shore border line was processed onto the status of landownership and the

relationships of the shore border line-landownership were examined through making the required spatial analysis and inquisitions. In the examinations, the extents of the shore border line contraventions were calculated for the parcels in which the shore border line passes through the landownership border. The examinations here were performed by taking the determination dates of cadastre and shore border line into consideration.

TABLE -1: Amount of Shore Border Line Contravention on the basis of towns

Name of the Town	Number of Parcels Committing Shore Border Line Contravention	Amount of Shore Border Line Contravention (m ²)
TAFLAN	39	790,02
ÇATALÇAM	10	709,92
ÇAKIRLAR	23	23.532,58
İNCESU	43	23.079,99
BÜYÜKOYUMCA	40	3.995,71
ALANLI	8	99,35
ATAKUM	72	129.402,30
Total	235	160.909,87 (16.1 hectares)

TABLE -2: Landownership distribution of parcels within Shore Border Line

Owners of the Parcel Committing Contravention	Number of the Parcels Committing Contravention	Ratio %	Amount of Shore Border Line Contravention (m ²)	Ratio %
PUBLIC DOMAIN	39	16,6	122.617,14	76,2
CITIZEN	196	83,4	38.292,73	23,8
Total	235	100	160.909,87	100

In this study; as it is seen in Table 1-2, totally 235 parcels at the Black Sea coast having shore border line contravention were determined in the study area and the total amount of the shore border line contravention of these parcels was determined to be 160.909,87 m² (approximately 16.1 hectares).



Fig -2: Examples to parcels committing shore border line contravention during the Black Sea coasts

CONCLUSIONS

Totally 235 parcels having shore border line contravention were determined in the study area and the total amount of the shore border line contravention of these parcels was determined to be 160.909,87 m² (approximately 16.1 hectares). Work to be done is specified in the 10th Item of the regulations concerning the application of the same law that the proceedings of the annulment of titles shall be conducted by the relevant financial office for the real estates that remain on the coast by infringing shore border line.

All kinds of analyses and query associated with coastal areas are available by using GIS technology. By this way, meaningful plans can be made for the future. For the purpose of using the coasts for the public benefit;

The authorities must be determined clearly by the laws arrangement to ease the applications on the coastal region. An administrative structure providing the cooperation and coordination between foundations must be constituted,

Shore border line urgently must be detected, landownership boundary and their legal states must immediately be defined clearly.

The information required for the management of coastal areas must be provided, to be available to use the coastal areas for the public benefit. On the intensive coastal settlements the studies to obtain datas for the management of coasts is being performed with GIS,

The protection of natural balance on the coastal area and shore lines, the analyses of the land ownerships and the decisions of planning associated with these studies can be realized with Coastal Management Information Systems,

GIS and other information technologies for analyzing and querying functions related to

coastal areas must be used,

Coast is the place with no property and the goods in the benefit of the public are in no ones landownership and can never be a subject of a private landownership. Shore border line must be detected on all coastal region of Turkey. Land ownership boundary and their legal states must immediately be defined clearly. If there is an ownership on Coast, this gives up Public Benefit,

The information required for the management of coastal areas must be provided, to be available to use the coastal areas for the public benefit. On the intensive coastal settlements the studies to obtain data for the management of coasts is being performed with GIS,

Using the techniques of GIS Technologies for analyzing and querying functions related to coastal areas must be used seems promising for detecting changes in the coastal zone,

The protection of natural balance on the coastal area and shore lines, the analyses of the land ownerships and the decisions of planning associated with these studies can be realized with GIS Technologies.

Shore border line shall immediately be conveyed on all coasts and landownership limit and legal status shall be clarified as soon as possible, authorizations and missions shall be determined clearly by performing legislation regulation in order to simplify the applications on the coasts, and studies shall be started as early as possible in order to establish a system that would solve the determination problems with an integrated approach.

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