ABSTRACTS

Zoning of Climatic Sub Regions of Kohgiluyeh and Boyer Ahmad Province By Emphasis on Land Roughness

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Kohgiluyeh and Boyer Ahmad province, due to its location in the frontal part of the middle of Zagros chains or its special mountainous arrangement named Jurassic roughnesses including successive anticlines and synclines which appears as parallel plains and mountainous areas and it is gently increased from west to the east and has created a height variation of 4000 m in the area. Obviously, such height variation has created climatic sub regions in the mountainous parts of this area. Therefore the location separation and identifying the characteristics of climatic sub regions for clarifying climatic capability of each climatic sub region of the province and its compliance with roughness configuration is of the main objectives of this study. To attain the said objectives, medium annual data of 36 climatic variables from 15 synoptic stations inside and around Kohgiluyeh and Boyer Ahmad province were extracted from the data base of the Iran Meteorological Organization .The data matrix was arranged in R mode (location- variable). Then a mesh with cell dimension of 5*5 km was laid on the province's map and the value of each variable were evaluated by kriging interpolation method on the nodes, so that 623 cells encompassed the province's border. The aforementioned matrix was standardized for removing the data dimension. Then, principal component analysis was made in a correlation style on pixel matrix of climatic variables (623*36) and finally , five principal components were determined, At the next step, For spatial detachment of the climatic regions in the research area, the agglomerative hierarchical cluster analysis was performed on the scores matrix of the five principal components and Kohgiluyeh and Boyer Ahmad province was divided in to seven different climatic sub regions. Their differences based on the temperature, rainfall, humidity and other atmospheric phenomenon like rainfall, and snow fall days frost days, thunder storm days, dusty days, atmospheric calmness and wind speed are significant, in which the greatest difference and contrast is between Yasooj and BiBi Hakimeh regions. Yasooj has a moderate temperature with a high precipitation region with low wind and dust and it seems a suitable area for all economical, industrial, Agricultural activity, especially ecotourism. BiBi hakimeh region has a warm climate, humid and wet weather heavy rainfall, rain storming and flooding rainfall with less rainy days. It also has varying rainfall distribution uneven weather with dust and wind with rough climatic features and undesirable among the other climatic regions of the province.

Keywords: Climatic Regionalization, Kriging Interpolation, Principal Component Analysis, Agglomerative hierarchical Cluster Analysis, Kohgiluyeh and Boyer Ahmad province.

Evaluation of Social Indicators of Urban Landscape from the Perspective of Citizens *Case Study: Iranshahr*

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Today, the concept of cities without the existence of effective green spaces in its various forms can not be considered. The consequences of urban development and the complexity of its resulting environmental problems has caused the presence of green spaces and its spread to be inevitable. Green space that forms part of the city feature, as one of the real phenomenon is the first issues that man has always been and will be faced with it .Therefore, the present research with an applied-development nature has studied the urban green space in social, cultural, psychological and security dimension and by analytical-descriptive and quantitative method and by using library-documentary and field data. The findings of the studies show that Iranshahr green spaces in addition to having positive effects, such as friendly gatherings, social communications Iranshahr's citizens, cultural capabilities of parks, deduction of depression and stress and their refreshing, have negative consequences such as increase of crime, drug purchasing , gathering of addicts and criminals and also decrease of entering women and girls. The negative impacts can be seen in regional and local parks.

Keywords: Green space, Socio-cultural, Psychological and security aspects, Iranshahr's citizens.

Comparative Analysis of Population Distribution Pattern in Urban System of Iran Decuple Regions

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Urban system pattern of countries and Regions has a close relation with regional development and territorial equilibrium. So, for explanation of the existing situation and offering suitable polices, it is necessary to analyze the quality of urban system of regions and countries. In this regard, because there is no comparative and systematic study of regions of Iran, main question offered as: how is the situation of the ten regions of Iran according to the primacy urban criteria, urban concentration and urban equilibrium indicators. To answer this question, after reviewing theoretical bases, the evaluation variables were recognized and the research hypothesis was offered based on the distance of the urban system of more than half of the decuple regions of the country with the desired amount of urban primacy, urban concentration and urban equilibrium indicators in 2006 and 2011. Then, based on the descriptive- analytical research method the required data were gathered by library method, the data analysis was also made by the use of urban primacy index, two-city index, Ginsberg index, Mehta index, Moomaw and Alwosabi index, Moosavi index, Herfindal and Henderson indexes, entropy index, and rank- size rule. The result confirmed hypothesis, also showed that regions such as south Alborz, Khorasan and Fars have the highest urban primacy and concentration. But regions such as Saheli-e-Shomali and Zagros have the lowest urban primacy and concentration 10 2006 and 2011. According to equilibrium index, none of regions are equilibrium. Finally, revision and long-time continuation and innovative regional development policies are necessary.

Keywords: Iran, Ten Regions, Urban Systems, Urban Primacy, Urban Concentration.

Application of Landscape Metrics in Assessing Land Use Changes' Trend by Using Remote Sensing and GIS *Case study: Dehloran Desert Area*

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Changing the Land use induced by human activities, due to lack of attention to environmental constrains has a great impact on the landscape and the continuous developing trend of land use change, resulting from the complex actions and reactions of structural and operational factors, has had severe impacts on natural ecosystems. Therefore, in consideration with the negative effects of unsuitable use of land and land use change, knowledge and understanding about the changes is essential in environmental impact assessment due to development for sustainable planning and management of the land .This study was conducted to investigate the trend of changes in landscape ecology in Dehloran, Ilam. For developing maps of Land cover and analyzing the changes, we used, respectively , the satellite images of (1985) TM and (2007) ETM $^{+}$ were applied and landscape metrics of class area, density of patches, number of patches, mean of patches size, edge density and mean of shape index.Various class-level landscape pattern metrics were calculated using FRAGTATS software, in order to analyze landscape fragmentation. The analysis of landscape metrics revealed the extensive replacement of fair rangelands by agricultural lands, rangelands, residential areas and barren lands. The results showed that increase in the number of patches and decrease in the mean of the area size was an important indicator of significant index of degradation, and the process of degradation and destruction of landscape ecology was in an increase mood. Therefore the obtained results necessitates paying attention to the quality of land use and cover in the region to appropriate and sustainable exploit of natural resources.

Keywords: Land use, Landscape metrics, Landscape fragmentation, Dehloran region, Ilam province.

Meteorological Study of Foehn Phenomena in Guilan Province

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Foehn phenomenon is one of Mesoscale phenomenon in which large scale patterns of pressure fields have a great and important role in its creation and control. In northern part of the country, the condition is ready for occurrence of such events and remains a considerable effects. This phenomenon is typically associated with intense warm and dry winds which considerably increases temperature, decrease of relative humidity , drop and change of other meteorological parameters and has different consequences including firing the forests and meadows in these areas. In this study, by using meteorological data and maps during 2000-2008 for , fohen parameter was investigated forr Rasht, Anzali and Astara stations. The results showed that this phenomenon occurred in cold months and has the most frequency in the months of December and January . From spatial distribution view, Rasht has the most frequency and intensity, in all the studied cases, settlement of high pressure system in south part of Alborz and low pressure system in southern part of Mazandaran sea (Caspian sea) are the main factors of Foehn occurrence in Guilan.

These conditions is accompanied respectively with cold height ridge and warm height trough and low levels of troposphere. Pressure horizontal gradient between two low and high pressure systems force the mountainous cold air to the north part which due to cold air heaviness and after passing the mountain chains, descends and by moving to lower heights , while being warm , it will accelerate. Mechanism of this phenomenon occurrence in Guilan Province has a unique characteristics, so that settlement of cold air on Alborz heights and its southern parts together with pressure gradient between southern and northern areas of Alborz and the presence of Sefidroud Valley has caused Foehn phenomenon mechanism in Guilan to be a combination of air settlement and gap wind.

Keywords: Foehn phenomena, Pressure patterns, Temperature increase, Guilan province.

Evaluation of Spatial-location Suitability of Urban Parks Using GIS
Case Study: Local Parks of District 5 of Tehran Municipality

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Today, with the advance of urban society, the existence of green spaces and suitable distribution of them has become one of the most important concerns of the urban managers especially in metropolis. Extension of Tehran with concentrating internal space of it, has revealed the necessity of citizen's accesses to parks, the aim of this research is evaluating the adaptability of local parks of district No.5 of Tehran Municipality with neighboring uses, analysis of their compatibility with the existing standards and also locating appropriate lands for the establishment of such parks in the under study area.

This research, from the view point of objective is an applied research and its method is descriptive – analytical one. To study the compability status of local parks, district 5 of Tehran Municipality, GIS software and its techniques including overlay, Spatial Analysis, Proximity and Network have been used. The findings of performed analysis of the used techniques and also referring to the outputs of AHP model reveal that most of the area's parks are located in good and very good and suitable lands and the parks with moderate and weak location can hardly be found . Also, regarding the said map, none of the parks are placed in very weak areas. The important point in the final map is that there are a lot of very good lands in which the local usages is low or have an unbalanced distribution. Therefore, for planning the land use of the study area , it is possible to use these lands with high adaptability and appropriateness for the establishment and locating local parks.

Keywords: Spatial-temporal, Appropriateness, Green space, Neighborhood parks, GIS.

Seasonal Prediction of Discharge Entering in to Uremia Lake by Using Climatic Large Scale Signals

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The main objective of this study is to evaluate the effects of climatic signals on the discharge rate of the two nominated stations and fluctuation of Uremia lake water, during the time period of 22-years (1986-2007).To do this, data of the two nominated stations, monthly data of Southern Fluctuation Index (SOI), North Atlantic fluctuation (NAO) and ENSO index in NINO1+2, NINO3, NINO4 and NINO3.4 were used. Large-scale climatic data signals were obtained from NCEP data center. Data about average monthly discharge rate of Dashband and Sarighmish stations was prepared from the data center of the Ministry of Energy. Firstly, for primary study of the data and the correlation between them in order to provide the best model to predict discharge rate , time steps of 0, 3 and 6 months were considered. In examining the discharge rate in various time intervals of the under study stations, it was obtained that the correlation in the delayed time intervals of six-months is more than the simultaneous and three months delay. After explaining the relation and its type, the forecasting model was designed using artificial neural network and the results of the model were evaluated and analyzed. Given the significant correlation in time intervals, it was realized that large-scale climatic indices, from the view point of common atmospheric circulation and large atmospheric systems in the study area have a significant impact on temperature, rainfall , discharge rate and fluctuation of Uremia lake water. Study the output models of artificial neural network indicates that the most effective signals of the discharge rate is NINO3.4, NINO3, NINO1+ 2and least effective signals are NAO, SOI. According to the findings, it can be concluded that a significant relationship exists between discharge rate and climatic signals.

Keywords: Prediction, ANN (Artificial Neural Network), Correlation, Large-scale climatic signals, Input discharge, Uremia Lake.

Prediction of Bank Erosion in Kashkan River Meanders

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Kashkan River is one of the important and water logged tributaries of Karkheh River which collects waters of a vast area of Lorestan province. This river at the south-west part of Poldokhtar in a region known as the Gel-Sefid River is joined to Seymare River and creates Karkheh River. Length of Kashkan river is about 270km, and the water basin area of this river at upstream of Kashkan - Poledokhtar station is 9400 km^2. This river due to its morphological and meandering characteristics and even in some floodplain points is arterial. There exists the problem of side erosion and displacement of river plan. Since, finding the appropriate technical method requires the recognition of the river behavior and effective geometric and hydraulic factors on the erosion and sedimentation process, therefore in the present research , topographic maps and satellite images have been used for reviewing and studying the temporal variations of Kashkan river plan.For this purpose, through performing a field survey and comparison of the new and old plan of the river by GIS software , the variation of river was investigated during a 52 years period and critical periods waere identified. Also the meander characteristics of the river and development rate of meandering in the current status in 49 of river bends at the reach of 108 km, between Varpo; and Teymorabad were investigated. The results showed that 6% of bends are undeveloped, 51% are developed and 43% are more developed. Finally, with respect to the geometrical characteristics of the river and using empirical relationships, the rate of bank erosion at critical reach in the future was anticipated. The prediction results show that at ,Upper Kalho and Chrkhstan, river will move 657 m. Also at Khatere, Doab, Dovale Bozorg and at upstream of Chame Pelk, its movement will be 1035m and 1297 m respectively to stabilize it naturally.

Keywords: Geomorphology, Bank erosion, Kashkan-River.

An Analysis on the Quality of Housing in Urban Districts, A Guideline to Improve the Guality of Citizens' life *Case Study: Dehgolan Districts*

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Clearly, quality of urban life and its development is the main and important approach in the urban planning and Housing as the basic requirement of human and with its expanded economic, social, cultural, environmental, and physical aspects has a great and effective impact on the life quality and sustainable urban development. This study with the aim of assessing the quality of housing and grading the city districts from this point of view has been conducted to investigate solutions for promotion and improvement the quality of life in Dehgolan city. The research method is descriptive-analytical one which is made by using TOPSIS technique and 4 indicators of Density, Nano particles, environmental and life facilities. VIKOR method was used for final grading of the city districts from the view point of life quality.

In this study, AHP method was used for data weighing and Linear de scaling method used for data de scaling . Results of the findings analysis show significant differences and inequality between different districts in Dehgolan city, so that in the final index of housing, only 27.3% of districts are placed in a desirable condition and 36.3% of districts in undesirable conditions which need to be empowered. Furthermore, there is a significant difference between housing in new and old districts which the instability and low quality of old districts has caused such a difference and inequality.

Keywords: Housing quality, Life quality, Neighborhoods, Dehgolan city.

The Socio-Economical Factors Effective on Interprovincial Migration in Iran (Based on Extended Gravity model in 1996-2006)

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Internal migrations has had a great impact on Iran's population dynamics in recent Decades. During 1996-2006, about 16.7 % of all population of the country have migrated inside the political territory, such rate has an increase of 2.7% comparing with time period of 1986-1996(14%). This shows an increasing trend of migration during the last decades comparing with the previous ones.

Further, According to 1996 population census, just %35 of internal migration was interprovincial whereas in 2006, the share of interprovincial migration has increased to the 41 %. So that the figures seems that the analysis and review of the factors of interprovincial migration in the country for recognizing migration flows and planning for taking advantages of this phenomenon and preventing its harmful results, has a great importance.

The deep and significant social- economical differences between the areas will lead to interprovincial migration. Migration is different from one district to another one depending on the social , economical and geographical structures.

This paper presents an empirical study on the determinants of interprovincial migration in Iran. By using the data from the 1996 and 2006 population censuses, the extended gravity model of migration was developed. In the current research, by empirical test of migration gravity test for Iran and some main factors of migration , the correctness of this model and the recognition of the main characteristics of interprovincial migrants were studied. The results showed that both the economical factors including income differences and unemployment rates and also social factors such as the existence of social networks has a significant impact on migration.

Keywords: Interprovincial Migration, Gravity Model, Human Capital Framework of Migration, Social Network.

Relationship Between Tele Connection Patterns and Iran's Pervasive Frosts

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The aim of the present study is identifying the relationship between the tele connection patterns with the frequency variability of Iran's pervasive frosts in three scales namely, monthly, seasonal and annual. To this aim, two data sets were applied for analyzing the correlation between tele connection patterns and monthly, seasonal and annual variations of Iran's pervasive frost days: first, the minimal daily temperature data of 663 Iranian climatology and synoptic stations during 1962-2004 for October and April months acquired from Iranian Meteorological Organization, and second, tele connection indices extracted from two databases in National Center for Environmental Prediction/National Center for Atmospheric Research (NCEP/NCAR) and Climate Prediction Center, a subsidiary of US National Oceanic and Atmospheric Administration. In the next step, pervasive frosts (the days with temperature equal to or less than 0 °C) were counted for each month, season, and year based on a spatial principle which defines such frosts as occurring for 65% or larger percentage of Iran's surface area. Subsequently, multivariate regression models were used for extracting and determining the most significant tele connection indices and patterns affecting on variability of Iran's pervasive frosts. Results reveals the fact that frequency of pervasive frost days in winter and also in annual scale showed statistically significant correlation only with east Atlantic pattern; the variables were proved to be inversely related. December showed significant correlation with sum of three indices namely east Atlantic (EA) pattern, north fluctuation index (NOI), and tropical/north hemisphere (THN) patterns. January was only related to east Pacific/west Pacific (EP-NP) and February was correlated with Scandinavian (SCA) and polar or Antarctic oscillation (AO) patterns. Finally, monthly averages of sea level pressure patterns in the positive and negative phases of the indices under study were analyzed for December, January, and February.

Keywords: Iran, Pervasive Frost, Tele connection, East Atlantic pattern, Scandinavian pattern.

Study the Trend of Overnight Temperature Changes of Kerman Province and its Impressibility from Total Solar Irradiance (TSI) During the Past Half Century

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Scientific investigations in the field of climatic trends indicate that today, changes are happening faster than the previous periods. Most of the world researchers consider the air temperature and precipitation as an instance for proving their own hypothesis of climatic changes. In this research, for statistical clarification of climatic changes in geographical region in Kerman province, the data of average temperature of monthly night of 17 stations inside and outside of the province during the time interval of 1961-2010 have been used. Through using Kriging interpolation, the station data were converted to cells with dimension 8*8 and by using Mann-Kendall test, the zoning plan of the trend was drawn for each month. To evaluate the impact of GIS activity, the cell's trend was studied. To study the impressibility of solar activity on climatic changes of Kerman province, monthly data of Total Solar Irradiance, wavelet analysis method and comparing of drawn diagrams have been used. The results showed that during the statistical period, on average annually 66% of the province region have experienced climatic changes with increasing trend.The highest and lowest extent of dominant positive trend was occurred in summer and winter respectively. Also an increase of 2.62 degree of overnight temperature have been seen in Kerman province regions. Plains with a height of less than 2000 meters often have an increasing trend, western foothills of the province with height 2000-3000 meters have a decreasing trend and a strip along north west- south east direction which passes through the center of the province has not been affected by such climatic changes. The greatest influence of the 11-years cycle of solar activities has occurred in October, so that the occurred trend in night temperature of October in 1961-2000 can be attributed with a confidence of 95% to the main activities of solar activities. July is at the next level of impressibility and then December and September.

Keywords: Trend, Overnight's temperature, Kerman province, Mann Kendall, Wavelet analysis, Intensity of solar radiation.