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Synoptic Analysis of Tropospheric Ozone Variations Case Study: Tehran Metropolitan

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Abstract

Although the amount of tropospheric ozone in the troposphere is natural, but abnatural amounts of this molecule formed during the photochemical processes in the atmosphere, it has become one of the most important urban air pollutants. In this study relied on environmental approach to Circulating, to identify status of the tropospheric ozone in the period 2001-2011. Troposphere ozone values and the values of climatic were received through the environmental pollution monitoring center of Tehran Province - depending on the Environmental Organization-and Tehran Air Quality Control Company-depending on the Municipal. High atmospheric data prepared through the database NCEP/NCAR. Followed by circulation patterns that create the maximum amount of ozone, with the help of cluster analysis were extracted and classified. The results show that the highest concentration and intensity of this pollutant Occurs during the warm months of July and August, which the main its circulation patterns are surface low-pressure and Subtropical High Pressure. Although in other seasons of the year are observed ozone maxima. In general what causes the tropospheric ozone concentration in the Tehran Metropolis is surface stability. Because, stability increases photochemical processes in the atmosphere, consequently, increases the concentration of tropospheric ozone. Causes of this stability are patterns of upper dynamic high-pressure such as Subtropical High Pressure in summer and patterns of thermal high-pressure on the surface such as the Siberian high-Pressure in winter.

Keywords: Tropospheric Ozone, Ozone Maximum, Circulation Patterns, 850 hpa, Sea level Pressure.

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Determining landslide zones in Khorramabad- Pole Zaal freeway by using Hierarchical Analysis – Fuzzy Logic method

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Abstract

Road networks are threatened in the mountain areas through two major natural hazards, Slope instabilities and landslides. During construction of roads, this phenomenon shows more frequency due to disturpting the slope equilibrium. Khorramabad- Pole Zaal freewayy is a part of the Iran's north-South transit route which is threatened through (by) mass movements. In this research at first the eight factors including slope, aspect, precipitation, road, faults, stream, land use and lithology were identified as factors that caused the landslides of area. After providing data base of spatial layers in GIS, using the above parameters and adjusting each of the layers with layer of landslide distribution, potential hazard map was prepared by Analytical Hierarchy Process Model (AHP) and fuzzy classification and using Geographic Information System (GIS). To the performance of the model, using the technique Cross tabulate area، as one of the ArcGIS operators, was calculated compliance rate the risk zone with landslide occurred. The results of the model and its implementation with the landslides occurred on the road ،the suitable performance of the model in identifying high-risk areas (42%) and very high (15%), Indicate that the slope and lithology as the main factor in the occurrence of landslides, road construction has intensified. construction road landslide occurrence has intensified.

Key Words: Landslide, Zoning, F-AHP, Cross technique, Khorramabad-Pole Zaal freeway.

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Study on the Mesoscale Convective Systems (MCSs) using IR brightness temperature images over southwest of Iran

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Abstract

Convective systems cause many hazards in Iran. On the other hands, convective precipitation is the major proportion of total precipitation in southwest of Iran, and has important role on providing water resources. Thus, it is important to assess their climatology characteristics. In this research, spatial and temporal distribution of Mesoscale Convective Systems (MCSs) assessed over southwest of Iran by the use of Global merged IR brightness temperature images obtained from NCEP/NWS and synoptic stations data. MCSs was detected on the basis of temperature, maximum area and duration thresholds (228 k, 10000 km^2 and 3 hours respectively) in cases rainfall was more than 10mm during 6 hours and also convective phenomena recorded at least in three stations. A total number of 189 systems were detected during 2001-2005. The analysis revealed that the most of MCSs (54 cases) occurred in December. MCSs initiation location influenced by topography but windward slope of Zagros has not played important role in MCSs formation. In general, they were most predominant across northeast of study area with a decreasing southwestward gradient, that follows topography, but this pattern was different in cold and warm months, so that we have observed the most accordance in warm months and the least accordance in cold months.

Keywords: MCSs, brightness temperature, spatial distribution, temporal distribution, southwest of Iran

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Socio- economic sustainability assessment of rural settlements of north and south Khave rural districts, Lorestan province

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Abstract

One of the most serious challenges of rural settlements in developing countries is the socio-economic sustainability. In spite of its systemic relation with environmental sustainability, this issue, considerably is over-shadowed and rarely conceptualized and investigated. These two dimensions that notably are underlying factors of the country's rural settlements instability, emphasizes on the concept of intergeneration justice. This research based on 29 socio-economic sustainability indices investigates 50 villages of north and south Khave rural districts in Delfan County. Required data obtained through filling questionnaire referring to local informants. For ranking villages based on their sustainability, TOPSIS technique and Moris coefficient in a comparative way employed. The results indicate that with TOPSIS technique 92 percent and with Moris coefficient, 96 percent of surveyed villages are in the semi-sustainable condition. There is significant difference between the two methods at 99 percent of confidence level. There is no correlation between population and sustainability level in TOPSIS method. However, there is positive and significant correlation between the same variables.

Keywords: socio-economic sustainability, TOPSIS technique, Moris coefficient, north Khave, south Khave

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Evaluation of the Role of Social Capital in Reduction of Earthquake Disaster consequences in Sojasrood County Khodabande Township

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Abstract

Social Capital as a multidisciplinary concept has been emphasized in recent decades in social and economic analyses on rural development; and emphasizes the role of local social structures such as reciprocity, networks and local institution, attitude, cohesion and trust. The aim of this study is the evaluation of the role of social capital in reducing vulnerability of rural settlements that originated from earthquake disaster. The reliability of used data has been calculated 0.875 by Cronbach's, appha. For this purpose, from a total number of 3510 settled households in Sojasrood County, 180 cases were selected as a sample by using modified Cochran formula. To achieve this objective, descriptive- analytical method based on a questionnaire among heads of households have been used; and for data analysis statistical methods such as Spearman correlation, one sample T test, Friedman and ANOVA tests were used. The results of statistical analysis indicate that the levels of all dimensions of social capital among sample households are lower than desirable level. So that, social capital in the aspects of local networks and social cohesion is even lower than the average. The analysis of the most important aspects of social capital, effective in reducing seismic vulnerability, indicates that from the perspective of the respondents, the local networks and institutions, participation and cooperation and trust indicators having negative standardized coefficient values of -0.331, -0.219 and -0.123 respectively, have had the most effect in reducing Vulnerability and the indicators of people attitude (0.163) and social cohesion (0.239) have had the lowest impact on reducing earthquake Vulnerability in sample rural.

Key Words: Social capital, Partnership, Disaster, Vulnerability, Khodabande Township

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Analyses of Economic - Social Effects of Rural Hand-Made Carpet Cooperatives in Hamadan Province

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Abstract

Rural hand-made carpet cooperatives established with the aim of supporting the deprived and productive of carpet weavers of country and organizing them in the cooperative discipline system for accessing social and economic justice in this art and national industry. This study aims at assessing the role of these cooperatives in improving social and economic situation of carpet- weavers. The statistical community of the study includes all members of carpet cooperatives of Hamadan province selected according to Cochran's formula. This sample included 214 of carpet – weavers. In addition, an equal number of carpet- weavers (214) who are not member of carpet cooperatives selected to compare the social and economic situation of two groups. The subject selected randomly through proportional stratified sampling. The most important tool for data collection was questionnaire. The validity of the questionnaire confirmed by specialists and its reliability computed using Cronbachs Alpha coefficient (0.81). Results indicate a significant difference between two groups of carpet-weavers. The members and non-members regarding the rate of production, income, access to loan and facilities of carpet-weaving, access to raw material and carpet- weaving tools, rate of social interaction, rate of social awareness and special carpet-weaving knowledge and this difference is almost one percent (1%) in such a way that in all seven economic and social indices studied on member carpet-weavers, they had a better condition compared with non-member ones. In addition, result revealed that there is a significant different between members and non-member carpet- weavers in regard with insurance services, getting loan and facilities and attendance in educational courses (1%). In general, handmade carpet cooperatives play an important role in improving the social and economic situation of carpet-weavers in Hamadan province.

Keywords: Rural Hand-Made Carpet Cooperatives, Carpet-Weavers, Economic Effects, Social Effects, Hamadan province.

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Investigation severity of desertification in geomorphology Facies Using with GIS in Khuzestan province

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Abstract

Percent 80 Iran territories situate in the arid and semi- arid region and third it is susceptible by desertification. This study by model medalus and touchstones; climate, soil, vegetation cover and management by Policy with tow watery and windy erosion touchstone assessment desertification present status and abilities medalus model at show regional model. By sensitive regions and significant process in desertification is identity. touchstones and respective indicators score in work envelope unit s. on base get results desertification present status at locale, severe %28.7 and very severe %71.3 area so sensitivity class is at totale of zone critical (C2,C3) and %71.3 of region is C3 critical class. results show that most effective for touchstone in desertification including; management by policy, vegetable cover, windy erosion, and climate by score average 176.4, 166.8,164.75 and 162.13 effecte very severe by most effective indicator average of touchstones. indicator effect ;at management by Policy at pasture using the destruction of pasture with average 186.4 has most effecte, maintenance activity by score 181.66,index of percent of vegetable cover at touchstones vegetable cover by score169.125., index of frequency erosivity wind has most score equal 187.9 that is more effect at desertification, in climate evaporation by average 182.56. soil by average 145.2 has severe effecte study index of soil show that percent organic material, rapport of sodium absorbent(SAR), percent of gravel and conduction electric tidy has score 169.6,164.35,159.4 and 148.7 that are more effecte at desertification in touchstones. Watery erosion effecte with average 132.5 is average. Average quantity value severity desertification for total region at six touchstone is studies DS=156/66 so for region total present status and sensitivity class to desertification is estimate at very severe by critical (C3) class.

Key Word: desertification, khozestan zone, medalus, touchstone, water erosion, wind erosion.

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Prioritizing vital, sensitive and important centers of Bandar-e Anzali and proposition defensive strategies from the passive defense perspective

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Abstract

Developing Security as one the most fundamental human needs, in addition to primary needs (physiological), can underlie other needs. Reducing the Human damages and decreasing the vulnerability of the critical facilities and equipment of the country in enemy hostile and malicious attacks with keeping support activities in crisis of war, are among essential acts in the planning of human settlements that are generally known as Passive Defense. In this paper, Bandar-e Anzali (Anzali Port), as a coastal city with high economic performance, was selected as a case to study and its gravity centers were reviewed and evaluated by implementing an analytical method so called proposed prioritization gravity centers matrix and finally defensive strategies for the city are proposed using SWOT matrix. Development and creating safe spaces in important and primary centers, creating several major centers instead of single critical centers, reducing the risk of hazardous land uses and distribution of main centers in the city, are among these strategies.

Key Words: Passive defense, important centers, Prioritization gravity ,centers matrix, Bandar-e Anzali (Anzali Port).

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Kurdistan's ecotourism development Strategies with applied of SWOT and QSPM model

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Abstract

One of the most important destinations is nature. In terms of natural and cultural attractions, Iran is among five top countries and in terms of historical attractions has been ranked 10. Kurdistan Province is one of the richest provinces in terms of natural attractions. Analyzing of strengthens, weakness, opportunities and threats of ecotourism activity in Kurdistan and offering strategies for its sustainable development is main aim of this research. The study by applied of SWOT and QSPM is analytical – descriptive research which is based on filed study (Questionnaire). For scientific analysis SWOT and Quantitative Strategic Planning Matrix (QSPM) is used. According findings in the matrix of evaluation of inner factors (strength, weak), sum of total mark was 2/43 which shows that strength are lower than weeks. This situation shows that management of ecotourism activities in field of inner factors is weak. The matrix of evaluation of external factors (opportunity, threat) with total mark of 2/91 indicated that in the existing situation, powering strength in contrast of threat can be strategic respond. So ST is the best approach toward development of ecotourism activities in Kurdistan.

Key words: Tourism, approach, ecotourism, SWOT, QSPM, Kurdistan

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The Impacts of Political Globalization on Shanghai Cooperation Organization

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Abstract

The phenomenon or process of globalization is the result of global distribution of goods, ideas, etc.; and entails profound consequences on the political, social, economic and cultural indices of different countries. In the political sphere, globalization has numerous features such as corrosion of national sovereignty, intensification of regionalism, and entry of new national and international actors into the decision making arena at national and transnational level. Regional organizations are among the new actors of international arena which have expanded during the second half of the 20th century along with the trend of regionalism occurring simultaneously with globalization. One of the biggest regional organizations in terms of size and population is the Shanghai Cooperation Organization founded in 2001. The present study, using descriptive-analytical method and positivist approach, addresses the impacts of political organizations on this organization. The findings revealed that two factors contribute to the impacts of "political organization" on "Shanghai Cooperation organization", namely, "security and defense considerations and political goals of the founders of the organization" and "the effect of issues like religious extremism, separatism, and terrorism on the Central Asian member states.

Key words: Globalization, Political Globalization, Regionalism, Regional organizations, Shanghai Cooperation Organization.

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Geomorphological Thresholds Gullying in Kechik Basin, Northeast of Golestan Province

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Abstract

Gullying is a complicated process controlled by so many factors and dependent on thresholds which cause its formation. It is important to have innovation in application of an appropriate model in order to make spatial formation predication and development of gullying in addition to determining geomorphologic thresholds which affect it and also make a zonation of this process. Using existing materials in Kechic watershed located in the northeast of Golestan province which is 3598/8 acre in size, we selected 35 gullies as samples in a field survey. Then, we wrote down their morphometric and quantitative characteristics. Analyzing satellite images and basic maps, we produced maps for 9 geomorphologically influential factors in gullying in GIS. Proportion of every gully at geomorphologic factor of maps was determined. Afterwards, produced maps were turned into two categories of gullying and non-gullying. Finally, having produced the related maps for each factor and map overlaying, we produced the ultimate map and thresholds. The results showed that all geomorphologic factors, based on their effect range and thresholds, are involved in the formation and development of gully in the area.

Key words*:* Geomorphologic threshold, loess, gullying, Kechic basin

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Prioritization of urban green land suitability in the process of switching places with MCDM techniques

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Abstract

Urban green space is one of the most important urban land use which are known as cities' breathing's lungs. Since the main objects of urban planning are health, comfort and beauty; from citizens point of view locating the green spaces as one of the most important elements of urban environments, have great impact on desirability and amenities of space. Therefore special attention to spatial organizing of this landuse, is an important step in ensuring the welfare of citizens. Due to the multiplicity of standards in locating the urban green space, in the present study by selecting zone one of Tabriz city as a case study, the feasibility of TOPSIS model as one of the multi-criteria analysis technique (MCDM) has been tested in land suitability analysis in the site selection of urban green space process. In this study, after identifying the effective factors in location green space, the criterion maps generated and then have been standardized and weighted. In the final map, area's land has been classified for selecting the suitable site for green space. Results of applying the model in study area show that the model is outputted pixels from the model, have the optimal conditions in terms of the defined criteria. Thus use of practical techniques such as TOPSIS model and capabilities of GIS can help civil affairs authorities in allocating lands for the required land use in general and green space in particular.

Keyword: Urban green spaces, location, multi-criteria analysis, TOPSIS model, zone one of Tabriz

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