Morphometric Study of Landslide Monitoring Using Remote Sensing (Case Study Hardang Village South West Isfahan Province)

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Abstract
Landslide is one of natural hazards that cause fatality, compensation and natural resources damages. By combination of natural and human factors, the event of geomorphic transport processes is occurred by instability condition of hillside. The aim of this study was to Morphometry and determining heave and evaluating changes of an old active landslide in Hardang area which is located 75 kilometers from southern west of Isfahan Province. Various types of hillside instability have been seen in the region, and one of the giant heave is a coluvial near the Hardang village which has been greatly threatening the village. Investigation of Morphometry of the phenomenon and determining the mechanism of these heaves will guide us to control and prevent risks. To assessing the land slide, the scale of heave was determined using aerial photographs of the two periods in 1334 and 1370. Then, the landslide scale at the present time was determined using field works, Google Earth and GIS software. The changes of land slide can be evaluated by comparing the size and volume of the landslide. The results of this study indicates that average heave of this land slide in duration of 56 years was about 32/837 centimeters in year and differences in length, width, perimeter, area and volume of this landslide since 1334 to 1390 the upside is increased (respectively, from 18/389 to 885235/316 cubic meters) indicates that the rotational motion is translational landslides during these years.

Keywords: Landslide, Morphometric, Village Hardang.

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The Agro Climatic On Dices Zonation and Evaluation In The Charmahal & Bakhteyari Province

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Abstract
Climate cognition and plants climate requirement is the effective factor in the agriculture production. In this research, evaluated papadakis thermal and humidity indices for the Charmahal & Bakhteyari province agriculture development. The climate data from meteorological station for the 20 period, preparations, then based on papadakis method thresholds and indices delineated winter and summer type, humidity and thermal regime, climatic classes. Potential evapotranspiration (pet) calculated by Papadakos method. Based on the precipitation and evapotranspiration, evaluated lichening and humidity index. The summer condition based on the plants thermal requirements classified as: lower land region such as Lordegan station in the Rice thermal class (O), Semi mountain region such as Zamankhan station due to relative temperance is the summer type, Mize (M). Other stations located in the East mountain region (Brojen, Emam Chaise, Dozak, Shahrkurd and Avaregan) and North West province (Koohrang), is the Wheat and warmer (T). The winter thermal condition based on the plants tolerance and sensitivity delineated with the cold as: winter three type detected which they include: Colder oat (av) in the lower lands (Lordegan), Barley-Wheat class (TV) in the semi high land (Zamankhan bridge), warmer wheat class (Ti) in the higher land (Brojen, Emam ghayse, Dozak, Shahrkurd, Avargan and Kohrang). Aeeessment of thermal regime indicated from thermal regime all stations is the continental class (Co2). From humidity conditions is the dry Mediterranean (Me), all of the province stations.

Key Words: Agro climatology, Charmahal & Bakhteyari, Summer type, Papadakis, Winter type.

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Determination of Wind Chill Index Based on The Climatic Data in Iran

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Abstract

Climate is so important for the life and development of the living organisms on Earth. Among all the effects of different atmospheric variables on human comfort, the effect of combined wind and temperature is of particular significance. In this study, using statistical data of minimum temperature and wind speed of the synoptic stations during the period 1374 to 1393,which were obtained from the Meteorological Organization, the chill wind was zoned in the country. Results that were obtained from data analysis of 120 to 314 synoptic stations (for different time intervals) showed that we can consider the months of Aban to Farvardin as the start and end of wind chill in Iran, respectively. For days of Aban to Farvardin, the average reduction in minimum temperature of 4 degrees Celsius in Bahman due to the wind blowing has been felt. Zoning maps of the country that were traced for the cold months (from Aban to Farvardin), showed that the difference between minimum air temperature and the temperature that can be felt on human body (wind chill) is meaningful as Well (Level of significance is in the range of 0.51 to 0.74). The highest frequency of wind chill is related to the year of 1390 with 18088 cases from 330 stations that are under study and the lowest is related to the year of 1374 with 4321 cases. It should be noted that from the base year (1374) onwards, the frequency of the wind chill occurrence has increased and the numbers of cold days because of the wind existence in the cities of the country are increasing too. By investigating the frequency of wind chill occurrence in the months which are under the study, the month of Bahman with 47219 cases from 350 stations and the month of Aban with 17728 cases from 305 stations, had the highest and the lowest frequency of occurrence.

Key Words: Wind Chill, Minimum Temperature, Synoptic Station, Wind.

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The Relationship Between Morphometric Parameters and Land Use In Sardab and Bidsobhan Watershed- Fars Province

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Abstract
Watershed morphometric features a huge impact on its land use, so that in addition to being somewhat rugged topography and steep river basin are defining characteristics of microclimate, based on land use type, vegetation and soil are also effective. This research is aimed to investigate the relationship between land use features and morphometric parameters in Sardab and Bid sobhan watershed in the northeastern of Fars provinces. Morphometric parameters such as slope, elevation, landform and vegetation index NDVI were examined in the study area. Landsat 8 satellite imagery, Landsat ETM (2015) was used to extract the vegetation index NDVI. As well as to determine the Elevation, landforms and slope of the digital elevation model (DEM) was used ASTER. After mapping the slope and elevation and landforms of the area using topographic position indicator (TPI), Each of the morphometric parameters and units relationship between land use in the study. The results showed that most of the working pile and seeding, the medium-term grazing and agriculture in Class 1, Class 10 and 9 respectively in the protected area and garden is located. While the lowest seed landforms units and protected area in Class 6, Class 2 Units pile of work and medium-term grazing and agricultural and garden plants, respectively located in Grades 4 and 9. The maximum amount of dip in units Protection Zone (45/24) and the lowest in a pile of work and seeding (375/0). The results showed that the maximum amount of DEM per enclosure medium term (3853 m) and the lowest in a pile of work and seeding (2539 m). The maximum and minimum NDVI values at a pile of work of the unit that represents the vegetation in the study area.

Keywords: Land use, Slope, Digital elevation model (DEM), Landforms, Topography Position Indicator (TPI).

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Analyzing The Potential of Geotourism Development in Semnan Province By Using SWOT

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Abstract

Iran has a lot of unknown potential in the development of geotourism and geological tourism frequency in which Semnan is one of the most prominent provinces. This study has been provided to consider introducing geotourism and its effect on the country, introducing the opportunities and challenges of geotourism industry, and geotourism development strategies and exploitation of it. Further introducing geotourism indexes by descriptive method and field studies, some solutions to develop the tourism, especially geotourism in Semnan province has been considered by determining internal and external factors using strategic planning model of SWOT. The result shows the study area has a lot of potential and talents and suitable opportunities to develop the geotourism which is not introduced appropriately and this requires choosing suitable competitive / aggressive methods and using relative advantages.

Key Words: Tourism, Geotourism, SWOT model, Semnan province.

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The Zoning of Slop Instabilities on The Mountain Roads By Artificial Neural Network (MLP) (Case Study: Dare Diz Strait)

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Abstract

Dre Diz strait is one of the most risky straits of east Azarbayjian province from occurrence of slop instabilities. Given، the coincidence of this strait on the only connection pass between MARAND_JOLFA towns، the best way to care and keeping the security of the road، is identification of risky areas or zoning the risk of slop instability in this strait. For this، the main data was collected then the needful layers were provided on the GIS software environment،later the zoning map of slop instability for zoning slop instability risk obtained in IDRISI software and on the ANN method (MLP) with 1-10-15 instruction provided،and the apt areas for occurrence of slop instability have been introduced in five different risk class: highest, high، medium، low،very low. And according to the result slop and distance of fault have the greater role on the happening of slop instabilities on the strait and therefor on the Insecurityof the road.

Key Words: Zoning risk, Slop instability, Dare-Diz strait, Mountain roads, Artificial network multi-layer Perceptron (MLP).

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Discharge Estimates and Paleofloods of The Stag Sirvan River With Using Geomorphological Evidence and Torrential

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Abstract

The outbreak of the severe floods, one of the most important hazards hydro - Geomorphic is the Sir van River catchment. Sir van River as one of the most significant rivers is located in the west. During the last half century, especially in the spring severely flooded and many local expert's melted snow and rain cause flooding intensifies over the day. To review the issue better flood data longer needed in this paper, using geomorphological data and flood reconstruction has been flooding. For the purposes of this paper, using satellite images stagnant water deposits and geomorphological evidences flood potential sites were identified. The river was divided into three periods, and the exact field visits to sites of stagnant water deposits on the sediment stratigraphy analysis was. With the mapping, map 1: 1000 area of study were produced and a total of 48 Section in three intervals, drawn and flood discharge was reconstructed in different periods. Software HEC-RAS, GIS was used to draw schematics and hydraulic analyzes. The maximum flood discharge for a period of 2 years, 103.66 and 4785.78 cubic meters per second for 1000-year period has been estimated as. Palangan in the first period, water level in the 2-year period, 1005.36 m 989.57 m and for the period of 1000 years. And the second period, Dalamarz border, for a period of 2 years, 868.42 m and for the period of 1000 years of 885.91 m. The third open Rodbar, water level in the 2-year period, 790.17 meters and 830.42 meters respectively for a period of 1000 years. Estimated maximum instantaneous flow old river floods showed that large floods is not unexpected. The results showed that using the Paleo stage indicator of PSI, the large floods (Discharge maximum) in the river channel using hydraulic model HEC-RAS and HEC-GEO-RAS estimated Software included and explained

Key Words: Sirvan River, Paleo stage indicator (PSI), Geomorphology evidence, estimation of discharge, Slack water sediments.

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