Vol. 8 (2): 189-192 (2018)

A SNOW DEPTH ANALYSIS FOR THE NEXT GENERATION OF GLOBAL PREDICTION SYSTEMS

Cezar Kongoli[12], Peter Romanov[42], Sean Helfrich[2], Jiarui Dong[3], Michael Ek[3], Tomas Smith[2]

[1]Earth System Science Interdisciplinary Center (ESSIC), University of Maryland College Park, USA;
[2]NOAA/National Environmental Satellite and Data Information Service (NESDIS), College Park, MD, USA;
[3]NOAA/Environmental Modeling Center (EMC), College Park, MD, USA;
[4]NOAA/CREST, City University of New York, New York, NY, USA;

*Correspondence author: Cezar Kongoli[12], e-mail: cezar.kongoli@noaa.gov;

Received August, 2017; Accepted January, 2018; Published January, 2018;

UOI license: http://u-o-i.org/1.01/ijees/73993194

ABSTRACT

Information on snow depth is a primary input to NOAA's operational numerical weather prediction (NWP) models. Current NOAA's National Centers for Environmental Prediction (NCEP) operational NWP models rely on snow depth observational data for their land surface model initializations. A new snow depth analysis system based on optimal interpolation method is being developed for NCEP NWP models with improved spatial resolution and utilization of multiple sources of observational data. The analysis blends bias-corrected satellite snow depth from the Advanced Microwave Scanning Radiometer 2 (AMSR2) instrument on board the Global Change Observation Mission 1st - Water (GCOM-W1) with an extended network of in-situ stations from the Global Historical Climatology Network (GHCN) to generate snow depth globally at 12 km resolution. A simplified snow accumulation and melt model driven by Global Forecast System (GFS)'s precipitation and temperature has been developed to estimate first guess snow depth fields. Details of the main components of the algorithm and evaluation results are presented.

Key words: snow depth analysis, generation, global prediction systems

Vol. 8 (2): 193-202 (2018)

INFLUENCE OF HEAVY METALS POLLUTION IN SOIL AND CLIMATIC FACTORS ON THE FUNCTIONING OF AGROECOSYSTEMS IN THE FOREST-STEPPE OF THE BAIKAL REGION

Lubov Vladimirovna Pomazkina*, Yuliaya Victorovna Semenova

Federal State Budgetary Institution of Science Siberian Institute of Plant Physiology and Biochemistry SB RAS, 132, Lermontov str., Irkutsk, 664033, Russia;

*Correspondence author: Lubov Vladimirovna Pomazkina, e-mail: lvp@sifibr.irk.ru;

Received December, 2017; Accepted January, 2018; Published January, 2018;

UOI license: http://u-o-i.org/1.01/ijees/66083471

ABSTRACT

Every year (1992-2005), the influence of climatic factors on the content of Cmic and the emission of CO_2 from the soils were investigated in the agroecosystems on the technogenically polluted with heavy metals alluvial soils of the forest-steppe of the Baikal region. The dependence of CO_2 emission on air temperature was revealed, especially in anomalous years. Changes in the eco-physiological indicators (Cmic / Corg, % and C-CO_2 / Cmic, mg/(g h)) and carbon transformation in humus-rich soils showed differences in the stability of the microbial community. Analysis and synthesis of results based on the methodology of comparative and system analysis revealed changes in the mode of functioning of agroecosystems, depending on environmental factors.

Key words: climatic changes, technogenic soil pollution, microbial transformation of carbon, functioning of agroecosystems.

Vol. 8 (2): 203-212 (2018)

DYE OF WASTE TEA EXTRACT WITH MORDANT-VARNISH AND THE EFFECT OF COLOR CHANGES ON WOOD

Abdi Atılgan[1], Hüseyin Tan[2], Hatice Ulusoy[3*], Hüseyin Peker[4]

[1]AfyonKocatepe University, Vocational School, Department of Furniture and Decoration, Afyon, Turkey;
[2]Recep Tayyip Erdogan University, Rize Vocational School, Program of Furniture and Decoration, Rize, Turkey;
[3]Muğla Sıtkı Koçman University, Köyceğiz Vocational School, Program of Forest, Muğla, Turkey;*
[4]Artvin Coruh University, Faculty of Forest, Department of Forest Industrial Engineering, Artvin, Turkey;

*Correspondence author: Hatice Ulusoy, e-mail: hatice.ulusoy@hotmail.com;

Received December, 2017; Accepted January, 2018; Published January, 2018;

UOI license: http://u-o-i.org/1.01/ijees/98690955

ABSTRACT

This study aimed to develop natural dyes for wood material that are harmless to humans and the environment. For this purpose, a tea stain and polyurethane single- and double-component water based varnish were applied by brush on the wood surfaces of pine (*Pinus sylvestris* L.), beech (*Fagus orientalis* L.), fir (*Abies*), and poplar (*Populus sp.* L.). The color change (*i.e.*, ΔL, Δa, Δb) and total color change (ΔE) of the samples was determined based on the ISO 2470 standard. According to experimental results, the highest color brightness change (Δl: -52.49) was seen in pine wood with tea dye, the highest red color change (Δa: 11.50) was seen in pine wood with tea dye+water-based varnish, and the highest yellow color change (Δb: 97.19) was seen in fir wood with tea dye+borax. The highest value of total color change (ΔE: 99.512) addition of borax fir wood in tea dye is obtained. Developed tea extract to waste paint, furniture processing industry has the aesthetic appearance of surface processes can be used.

Keywords: Tea extract, furniture industry, natural dyes, surface coating, environmental.

Vol. 8 (2): 213-220 (2018)

MULTIPLE LINEAR REGRESSION AND INVERSE DISTANCE WEIGHT (IDW) INTERPOLATION FOR SPATIAL ANALYSIS OF PM_{10} AND SO_2 IN BURSA CITY, TURKEY

Sukru Dursun[1*], Nahida Hameed Hamza Alqaysi[1, 2*]

[1*]*Environmental Engineering Department, Engineering Faculty, Selcuk University, Konya, Turkey;*
[2*]*Civil Engineering Department, Engineering Faculty, Diyala University, Diyala, Iraq;*

*Correspondence author Nahida Hameed Hamza Alqaysi, email: sdursun@selcuk.edu.tr; nahida_mml@yahoo.com;

Received December, 2017; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/44951941

ABSTRACT

Air pollution is one of the most significant environmental problems in Bursa city. The aim of this paper is to investigate the spatial distribution of air pollutants such as sulfur dioxide (SO_2) and particulate matter (PM_{10}) by using IDW interpolation method and influence of meteorological conditions on the levels of air pollution based on seasonality data collected from online website during the period summer 2014 to winter 2017. Then comparing the results with Turkish Air Pollution standards, where PM_{10} concentration levels at most stations in two seasons are above the permissible limit as 48 µg/m³, while SO_2 concentration is lower than the Turkish standards (20 µg/m³) in most stations. Lastly, the main relationships were used to obtain a multiple linear regression equation linking PM_{10} and SO_2 concentrations in summer and winter with meteorological parameters. Climatic variables also influenced as negative and positive on the PM_{10} and SO_2 concentrations, differ from season to another as shown in the Table 1. Where best correlation between the pollutant concentration and meteorological parameters happened in the summer 2015 for PM_{10} ($R^2 = 0.43$) and in summer 2014 for SO_2 ($R^2 = 0.48$).

Key Word: Air Pollution, Bursa, particulate matter PM_{10}, sulfur dioxide SO_2, Inverse Distance Weight IDW, Multiple linear Regression.

This paper has been produced from Nahida Hameed Hamza Alqaysi PhD. Thesis

Vol. 8 (2): 221-234 (2018)

SCHEMATIC MAP "ECOTONES AND PARAGENESE IN THE VEGETATION STRUCTURE OF THE BAIKAL REGION

Alexander Sizykh*

Siberian Institute of plant Physiology and Biochemistry, Russian Academy of Sciences, 664033 Irkutsk, Lermontova str., 132, Box 317, Russia;

*Correspondence author Alexander Sizykh, email: alexander.sizykh@gmail.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/87756538

ABSTRACT

Ecological and biocenotic importance of ecotones and communities reflecting paragenese (object) in the vegetation structure of the Baikal region appeals to reveal phtocenotic and typological diversity of communities, to indicate structural-dynamic organization and to forecast the development of vegetation under concrete physical-geographic conditions on wide territories including zonal, height belt and intrazonal differences of environments determining a different degree of natural and anthropogenic resistance of vegetation cover in a whole for the studied territorie.

Key words: phytocenoses-ecotones; communities reflecting paragenese (object); schematic map; species composition of plants on key sites; the Baikal Region.

Vol. 8 (2): 235-240 (2018)

ASSESSMENT OF PSEUDOMONAS AERUGINOSA AND SULFOREDUCTON BACTERIA AS AN INDICATOR OF HUMAN HEALTH RISK AND NATURAL WATER RESOURCE

Rrahman Ferizi[1], Qenan Maxhuni[2], Kadir Huseyin[3]*

[1,3]Paramedical Department, Faculty of Medicine, University of Prishtina, Prishtine, Kosova;*
[2]Department of Biology, Faculty of Sciences and Arts, Niğde Halisdemir University, Nigde, Turkey;

*Correspondence author: Kadir Huseyin, e-mail: kadir7@hotmail.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/98862452

ABSTRACT

The main objective of this study was to analyze *Pseudomonas aeruginosa* and *Sporogene sulforeducton bacteria* on the water alongside Sitnica, Lepenci, and Lumbardhi i Prizrenit rivers. Preparation and analyses of bacteria species from water samples was realized using standard bacteriological procedures. *Pseudomonas aeruginosa* and *Sulforeducton bacteria* was resulted from zero colonies (0 / CFU/100 mL) according to the allowable international standard value, number of *Sporogene Sulforeducton bacteria* in100 mL water is 10 (0-10 CFU /100 mL), while for *Pseudomonas aeruginosa* bacteria limit number is zero per 100 ml water (0 CFU /100 mL). Our results indicated that the types of *Pseudomonas aeruginosa* and *Sulforeducton bacteria* are not isolated from different water sources on the mentioned rivers, that it can justify the water purity of these rivers according to a microbiological aspect, which provides the internationally allowable level of pathogens in water of rivers. Also, our research has included physical and chemical analyses of water (pH, temperature, conductivity, turbidity etc.) were tested the water before treatment according to ISO method (5667-5: 2000). As we know, the variability of subtypes of different bacterial aspects reflected for research, risk management, and public health strategies.

Keywords: River pollution, *Sporogene Sulforeduction* and *Pseudomonas bacteria*, Sitnica, Lepenci and Lumbardhi i Prizrenit rivers.

Vol. 8 (2): 241-248 (2018)

IMPACT OF BUILDING FORM AND URBAN MICROCLIMATE ON ENERGY CONSUMPTION OF RESIDENTIAL BUILDINGS

Elnaz Mehrvar Kokhalou[1], Mehri Fadaei Haghi[1*]

[1]Department of Architecture, Jolfa International Branch, Islamic Azad University, Jolfa, Iran;*

*Corresponding author Mehri Fadaei Haghi: email: elnaz.mehrvar@gmail.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/15499932

ABSTRACT

In this study, certain correlations between the impacts of urban morphology, building characteristics and microclimate on the energy consumption of residential high-rise buildings were investigated. Therefore, influential elements such as morphology urban area, building form and geometric character as well as architectural characteristics, and microclimate as factors influencing the energy consumption of residential high-rise buildings located in Tabriz were tested. The analysis results revealed a comparison between OLS and gamma regression indicating that the gamma regression is more suitable for analyzing the energy consumption of buildings, and with the exception of a few elements, the urban form and architectural characteristics demonstrated a significant relation to the energy consumption of selected buildings. It was also found that some elements of urban microclimate including wind speed and humidity have the highest impact on the energy consumption of buildings. This study is expected to contribute to the improvement of planning and design approach to sustainable and resilient cities through the reduction of energy consumption in residential buildings.

Keywords: Architecture, City, Design, Residential Building.

Vol. 8 (2): 249-252 (2018)

EFFECTS EXAMINATION OF THE FACTORS AFFECTING CHOICE OF TYPE OF FURNITURE WITH DATA MINING TECHNIQUE (DECISION TREE)

Timuçin BARDAK[1], Hüseyin PEKER[2*], Selahattin BARDAK[3*]

[1]The University of Bartin, Bartin Vocational School, Program of Furniture and Decoration, Bartin/Turkey;
[2]The University of Artvin Coruh, Faculty of Forest, Department of Forest Industrial Engineering, Artvin/Turkey;*
[3]The University of Sinop, Faculty of Engineering and Architecture, Department of Industrial Engineering, Sinop/Turkey;*

*Corresponding author: email: selahattinbardak@hotmail.com; peker100@hotmail.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/09349922

ABSTRACT

Data mining is the process of analyzing data from different perspectives and summarizing it into beneficial information. Data mining is a very important technique in determining customer behavior. However, the work done on this subject is limited. By analyzing customer behavior, consumer needs can be identified and satisfaction can be increased at the same time. In this study, factors (age, gender, marital status, child status) affecting the selection of the furniture type (classical and modern furniture) will be analyzed using decision tree which is one of the techniques of data mining. Our analysis is intended to guide future research and to assist in the accumulation of knowledge on the implementation of data mining techniques.

Keywords: Data mining technique, type of furniture, factors.

Vol. 8 (2): 253-256 (2018)

NATURAL RADIOACTIVITY IN MAIN BUILDING AND RAW MATERIALS USED IN ALBANIA

E. Gjeçi[1*], P. Dhoqina[1], G. Xhixha[1], M. Shyti[2], Th. Karaja[1]

[1]Department of Physics, Faculty of Natural Sciences, University of Tirana, Blvd. Zogu I, 1001 Tirana, Albania;*
[2]Institute of Applied Nuclear Physics, University of Tirana, Rr. Thoma Filipeu, P.O. Box 85, Qesarake¨, Tirana, Albania;

*Correspondence author: Eranda Gjeçi, e-mail: eranda.lika@fshn.edu.al;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/72293415

ABSTRACT

This study has the aim to determine the radioactivity content in building materials in Albania in order to characterize their potential radiological hazard to humans. The natural activity concentrations of ^{226}Ra (^{238}U), ^{232}Th and ^{40}K are carried out using a high-resolution gamma-ray spectrometry. The average activity concentrations, measured by using HPGe gamma-ray spectrometry technique, of natural radionuclides of ^{40}K, ^{226}Ra and ^{232}Th in cements are found to be 203±38 Bq/kg, 48±4 Bq/kg and 21±12 Bq/kg respectively. While, the average activity concentration of natural radionuclides of ^{40}K, ^{226}Ra and ^{232}Th in clay bricks are found to be 646±65 Bq/kg, 36±8 Bq/kg and 36±13 Bq/kg respectively. The activity concentration indices are 0.11 for cements and 0.20 for clay bricks manufactured in Albania. These values are below the screening level of one, indicating that the annual effective dose criterion of less than of 1 mSv/y is fulfilled. Based on the ACI values, cements and clay bricks manufactured in Albania and Kosovo do not pose any significant risk to humans due to their use in dwellings. However, a more accurate evaluation must be performed on final building materials.

Keywords: Building materials; Natural radioactivity; HPGe gamma-ray spectrometer; Activity concentration index; Radiological hazard.

Vol. 8 (2): 257-262 (2018)

DETERMINATION OF GROWTH AND NUTRIENT COMPOSITION VALUES IN MEAGRE (*ARGYROSOMUS REGIUS*) AQUACULTURE

Birol BAKI[1*], Dilara KAYA ÖZTÜRK[1], Murat KERIM[1]

[1]Sinop University Faculty of Fisheries, Department of Aquaculture, Sinop, Turkey;*

*Correspondence author: Birol BAKI, e-mail: bbaki@sinop.edu.tr;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/79896926

ABSTRACT

The aim of this study was to determine the growth and nutrient composition values of the meagre (*Argyrosomus regius*) from the cage stocking until the harvest weight. The study was conducted in a private farm operating in the Aegean Sea between 26 September 2015 and 30 November 2016. Fish were taken from the cages according to the random sampling method at specific periods and their growth values were calculated and biochemical analyses were carried out. The initial fish weight 8.22±0.13 g reached 373.96±15.65 g at the end of the study. During the study, feed conversion rate was found to be 1.92±0.19. At the end of the study, carcass yield value was 31.63±0.82%, crude protein value was 20.10±0.04% and crude fat value was 3.19±0.13%. Weight gain, specific growth rate and thermal growth values were found to be higher in the fingerling period of the fish compared to those obtained in the other periods. Also, changes in the seawater temperature had a significant effect on feed consumption and net feed conversion rate. While rapid weight gain is an advantage in meagre fish aquaculture, low carcass yield, low fat ratio, cost of feed, market status and consumer preferences have a negative effect on widespread meagre aquaculture. Increasing the fat content of the meagre and adopting different marketing techniques for meagre fish that will be fed with economical feed suitable to the species requirements will help meagre to find a place in cultured fish market.

Keywords: *Argyrosomus regius*, Growth, Meat Yield, Nutrient Composition

Vol. 8 (2): 263-272 (2018)

COMPARATIVE BETWEEN GEOSTATISTICAL MODELS WHICH APPLIED TO ANALYSE THE MAJOR ANIONS CONCENTRATION IN GROUNDWATER KARAPINAR, KONYA, TURKEY*

Sukru Dursun[1*], Mushtaq Abdulameer Alwan Almuslehi[1,2*]

[1]Environmental Engineering Department, Engineering Faculty, Selcuk University, Konya, Turkey;*
*[*2]Diyala University, Diyala, Iraq;*

*Correspondence author: sdursun@selcuk.edu.tr; mushtaq.abdulameer@yahoo.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/02789433

ABSTRACT

Groundwater is one of the most significant resources in arid and semi-arid areas and is essential for drinking, irrigation and industrialization. Land use classification map used based on 0.5 km MODIS-based Global Land Cover Climatology, GIS application are important tool that had been used for estimating and predicting the quality of groundwater. Samples were collected from 30 wells in summer and 20 wells in winter within the study, in addition to many wells out the study area to obtain best analysis of anions for year 2013 , the objective of this study is for predicting the spatial distribution of major anions concentration in groundwater of Karapinar in Konya city such as SO_4^{2-}, Cl^-, NO_3^-, HCO_3^- and PO_4^{3-} for assessing accuracy of various geostatistical wizard techniques like CoKriging, RFB and IDW, the map of anions concentration in groundwater was prepared for two seasons utilizing geostatistical models (Ordinary Kriging (OK), Simple Kriging (SK), Universal Kriging (UK), Inverse Distance Weighting (IDW) and Radial Basis Functions (RBF) methods) existing in the geographic information system (GIS) and compared between these methods then choosing the best model for observed the spatial distribution of pollutants, the optimum model was used to predict anions concentration in Karapinar. Where the best model of each anion has been chosen based on prediction errors, and on the relation between measured and predicted concentration for each anion. All the anions groundwater parameters were evaluated and compared with WHO 2008 Standards, some of the collected groundwater samples present the investigated parameter levels exceeded the permissible limits of WHO 2008. Therefore, most groundwater samples are considered unsuitable for drinking and irrigation due to its high salt content based on anions concentrations in this study and land use classification map that including Croplands (yellow), Grasslands (green), Barren or Sparsely Vegetated (Grey), Urban and Built-Up (red) and Open Scrublands (Chartreuse).

Keyword: Groundwater, Geostatistical Analysis, Geographic Information System (GIS), Sulphate, Chloride, Nitrate, Bicarbonate, phosphate.

Vol. 8 (2): 273-282 (2018)

FLORA OF THE HOD VALLEY (ARTVIN, TURKEY)

Özgür Eminağaoğlu[1*], Emrah Yüksel[1], Hayal Akyıldırım Beğen[2]

[1]Artvin Coruh University, Faculty of Forestry, Department of Forest Engineering, 08000, Artvin – TURKEY;*
[2]Artvin Coruh University, Health Services Vocational School, 08000, Artvin – TURKEY;

*Correspondence author, e-mail: oeminagaoglu@artvin.edu.tr;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/83814923

ABSTRACT

This study was aimed to determine floristic content of Yukarımaden and Aşağımaden villages and their surroundings in Artvin between June and September 2015. It is located in the north-east of the Eastern Black Sea Region and is taken place in Colchic province of Euro-Siberian floristic area of Holarctic Region and lies between 400 and 2830 m. As a result of this study, total 566 plant taxa belong to 85 families and 358 genera were determined.7 of them belong to Pteridophyta, the remaining 559 taxa were Magnoliophyta which included 7 taxa from Pinidae, 1 taxa from Gnetidae and 551 taxa from Magnoliidae. The largest families recorded were as follows: Poaceae 38 taxa, Lamiaceae 38 taxa, Rosaceae 38 taxa, Asteraceae 36 taxa, Fabaceae 32 taxa, Brassicaceae 26 taxa, Caryophyllaceae 22 taxa, Boraginaceae 22 taxa, Ranunculaceae 20 taxa and Apiaceae 16 taxa. The percentage of phytogeographical origins of 227 taxa (40.1%) was determined. The distribution of the taxa according to the phytogeographical regions was as follows: 130 taxa (22.9%) Euro-Siberian, 83 taxa (14%). Irano-Turanian, 14 taxa (2.4%) Mediterranean, 339 taxa (59.9%) cosmopolit. In the study area, 57 rare plant taxa were identified, 18 of which were endemic. Endemism is 3.2% and included 18 endemic taxa. The endemic and rare non-endemic plants in the study area have been indicated to IUCN threat catagories. Also, one species has been identified under the BERN and CITES contracts in the field.

Key words: biodiversity, hotspots, endemic and rare non-endemic plants, Artvin's flora.

Vol. 8 (2): 283-292 (2018)

DETERMINATION OF PHENOLOGICAL PERIODS OF TREES BY THE METHOD OF CONDUCTOMETRY

Victor I. Voronin*, Victor A. Krasnobaev

Siberian Institute of Plant Physiology and Biochemistry, Russian Academy of Sciences, 664033 Irkutsk, Lermontova str., 132, Box 132, Russia;

*Correspondence author Victor I. Voronin, email: bioin@sifibr.irk.ru;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/04792896

ABSTRACT

The electrical conductivity of the near-cambium layer of four tree species in the Southern Baikal region was measured for two years: *Pinus sibirica* Du Tour., *Abies sibirica* Ledeb., *Betula pendula* and *Picea obovata var. coerulea* Malysh. The electrical conductivity of all the selected species has been established to vary from almost zero level to values above 20 μS depending on the season. This conductivity variation interval has two distinct ranges: 1) 0 - 13 μS; 2) 14 - 22 μS. The first range is typical for trees that are in the stage of induced or deep dormancy, the second – for a period of a high physiological activity. Changes from one to the other range are associated with the onset of different natural seasons and usually occur quite rapidly. During the periods of the winter rapid thaw (the period of the induced dormancy), the level of electrical conductivity, which we conventionally accepted as a criterion characteristic of the spring-summer vegetation, does not significantly exceed 20 μS in all trees, but it can enter the "start" boundary of the spring phase change in fir and cedar.

Keywords: Southern Baikal region, cambium layer, electric conductivity, phenological seasons of trees

Vol. 8 (2): 293-300 (2018)

IDENTIFY THE FACTORS INFLUENCING THE SELECTION OF ATTRACTIVE COMPANIES FOR INVESTMENT CASE STUDY: COMPANIES ACCEPTED IN TEHRAN STOCK EXCHANGE

Mah Ozar Mahmudinejad[1], Mahmoud Rahmani[2*], Hamid Lorestani[2]

[1]Department of Management, Kurdestan Science and Research branch, Islamic Azad University, Sanandaj, Iran;
[2]Department of Accounting, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran;*

*Correspondence author Mahmoud Rahmani, email: marahmani@iausdj.ac.ir;

Received January, 2018; Accepted January, 2018; Published February, 2018;

ABSTRACT

The purpose of this study was to determine the factors influencing the selection of attractive Shunner for this purpose. This A descriptive study was a type of correlation. Data Collection Procedures Review the LaGuardia Functions and Proprietary Relationships Was. The statistical population of this research was the same as those accepted in Tehran Stock Exchange.The results showed that its coefficient of generation and current ratio from the relativistic indices of relativity, The flow has a current flow of active relationships, and the relation between the yields of the properties of the eugenic They have a positive and invisible relationship with the attraction of the admitted securities on Tehran Stock Exchange.

Keywords: Attractive Evil, Property Relations, Stock Exchange.

Vol. 8 (2): 301-308 (2018)

EDUCATIONAL AND MOTIVATIONAL SELF-TEACHING EFFECT ON THOUGHT CONTROL VERSUS DISTURBING THOUGHTS OF ADOLESCENT SWIMMER GIRLS

Nasim Hadadan[1], Afsaneh Sanatkaran[2*], Jaleh bagherly[2]

[1]Department of Sport Psychology, Karaj Branch, Islamic Azad University, Alborz, Iran;
[2]Department of Physical Education and Sports Science, Karaj Branch, Islamic Azad University, Alborz, Iran;*

*Correspondence author Afsaneh Sanatkaran, email: Sanatkaran@kiau.ac.ir;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/29650522

ABSTRACT

The purpose of the present study was to investigate the effect of educational and motivational self-talk on thinking control over the intruder's thoughts of teenage girls' swimmers. The method of this study was semi-experimental and applied in nature which information was gathered in field form. The statistical population of this study was all girls in swimmers in Tehran in the age group of adolescents (range from 12 to 18 years old) and 36 female teenage swimmers who have the ability to swim over 50 meters (in chest material) were selected as an available and targeted sample in Tehran and also they were randomly divided into three groups: self-spoken instructional (n = 12), self-spoken motivation group (n = 12) and control group (n = 12). Personal information form, company satisfaction, and Wels and Davis thought control strategies questionnaire (TCQ) were used as a tool. Experimental groups trained in a session under the supervision of their researcher and trainer. The group spoke motivationally after repeating the phrase "I can," and the group spoke with a repetition of the words "ankles" and "stretched hands" about 50 meters of the chest. Data were analyzed by covariance analysis. Results showed that there was no significant difference between thought control and intrusive thoughts of adolescent swimmer girls (p = 0.69), that is, self-spoken learning and self-spoken motivation did not have a significant effect on thought control versus disturbing thoughts, and there was no significant difference between the effectiveness of the two interventions. It is suggested that more studies be done on larger and larger samples and that intervention should be used over a longer period of time.

Keywords: Self-talk, educational and motivational, thought control, disturbing thoughts, swimming, teen.

Vol. 8 (2): 309-318 (2018)

THE EFFECT OF RATIONAL EMOTIVE BEHAVIOR THERAPY (REBT) ON NEGATIVE PERFECTIONISM AND BURNOUT IN ATHLETES

Mohammad Sadegh Rafat[1], Afsaneh Sanatkaran[2*], Shahram Mohammadkhani[3]

[1]Department of Sport Psychology, Karaj Branch, Islamic Azad University, Alborz, Iran;
[2*]Department of Physical Education and Sports Science, Karaj Branch, Islamic Azad University, Alborz, Iran;
[3]Department of Clinical Psychology, Faculty of Psychology and Education, Kharazmi University, Tehran, Iran;

*Correspondence author Afsaneh Sanatkaran, email: Sanatkaran@kiau.ac.ir;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/77719904

ABSTRACT

The main purpose of this study was examining the effectiveness of Rational-Emotive Behavior Therapy (REBT) on negative perfectionism and burnout in athletes. This study was a semi - empirical research and the design of that included pre-test, post- test with control group. Statistical population of this study was adolescent and youth wrestlers. By screening we selected 30 persons of these wrestlers who had high level of negative perfectionism and burnout. These selected athletes randomly divided into experimental and control group. In this study, positive and negative perfectionism scale and athlete burnout questionnaire were used for examining the perfectionism and burnout. For data analysis, independent t-test was used. The results showed that Rational-Emotive Behavior Therapy (REBT) made significant difference in negative perfectionism and decreased it. But, it didn't make significant difference in burnout and its subscales. Overall, this study showed that we can use Rational-Emotive Behavior Therapy (REBT) for decreasing negative perfectionism.

Keywords: Psychological Intervention, Rational-Emotive Behavior Therapy (REBT), Negative Perfectionism, Burnout, Greco-Roman Wrestler.

Vol. 8 (2): 319-328 (2018)

DETERMINATION OF CONTAMINANTS IN DRINKING WATER IN YOZGAT, TURKEY

Vugar Ali Türksoy[1], Meşide Gündüzöz[2], Servet Birgin Iritaş[3]*, Sultan Pınar Çetintepe[4], Mohammed Akkbik[5], Deniz Boz Eravcı[6], Lütfiye Tutkun[7], Serdar Deniz[8], Eun-Kee Park[9]

[1]Department of Public Health Bozok University, Yozgat, Turkey;
[2]Department of Family Medicine, Ankara Occupational Diseases Hospital Ankara, Turkey;
[3] Council of Forensic Medicine, Ministry of Justice, Ankara, Turkey;*
[4]Department of Public Health, Hacettepe University, Ankara, Turkey;
[5]Science and Technology Application and Research Center, Bozok University, Yozgat, Turkey;
[6]Center for Labour and Social Security Training and Research, Ministry of Labor and Social Security, Ankara, Turkey;
[7]Department of Medical Biochemistry, Bozok University, Yozgat, Turkey;
[8]Department of Public Health, Fırat University, Elazığ, Turkey;
[9]Department of Medical Humanities and Social Medicine, College of Medicine, Kosin University, Busan, Republic of Korea;

*Correspondence author Servet Birgin Iritaş, email: sbiritas@gmail.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/66576277

ABSTRACT

The aims of this study were to (1) ascertain the quality of diffused spring (drinking) water supplied to the city of Yozgat-Turkey for human consumptionby measuringthe major and trace elements, (2) compare the quality of the drinking water with valid international limit values, and (3) evaluate compliance with respect to International Agency for Research on Cancer (IARC) and World Health Organization (WHO) guidelines considering the occurrence of toxic and harmful elements in drinking water. All collected drinking water samples were analyzed in the Bozok University Science and Technology Application and Research Center (BILTEM) toxicology laboratory. The anions and cations of the water samples were analyzed by ion chromatography and the selected elements of the water samples were investigated using inductively coupled plasma–mass spectrometry (ICP-MS). The concentrations of contaminants were evaluated, and the levels of some parameters were above the WHO-specified maximum contaminant levels. This is the first study to investigate drinking water data for the province of Yozgat. It is also the first study to evaluate comprehensive parameters for drinking water in Turkey.

Key words: Contamination, Drinking water, Toxicity, Turkey

Vol. 8 (2): 329-334 (2018)

COMPARISON OF THE CHEMICAL COMPOSITION OF ESSENTIAL OIL AND HYDROLATES FROM *SATUREJA MONTANA*

Aurora Buci[1], Entela Hodaj-Çeliku[2,3*], Hasime Manaj[1], Sokol Abazi[4], Spiro Drushku[1], Diamanto Lazari[2]

[1]Department of Industrial Chemistry, Faculty of Natural Sciences, University of Tirana, Tirana, Albania;
[2]Laboratory of Pharmacognosy, School of Pharmacy, Faculty of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece;
[3]Department of Chemistry, Faculty of Biotechnology and Food, Agricultural University of Tirana, Albania;
[4]Canadian Institute of Technology, Center of Inovation Research and Development, Zayed Center, Tirana, Albania;

*Correspondence author Entela Hodaj-Çeliku, email: ehodaj@ubt.edu.al;

Received January, 2018; Accepted January, 2018; Published February, 2018;

ABSTRACT

For this study hydrolates produced during the distillation of *Satureja montana* L., were used, these waters have been analyzed for their organic content. The chemical compositions of essential oil and hydrolates from *Satureja montana* L., were compared. The essential oil and the hydrolates were sampled from the industry and their analyses were performed by capillary GC-MS with an HP-5 column and with an EI detector. Identification of the chemical contituents were made by comparison of mass spectra and retention indices with literature records. Essential oil of *S. montana* L. is composed mainly of oxygenated monoterpenes (66,9%) and monoterpene hydrocarbons (16.5 %). Totally were identified (98.2%) of the chemical constituents and the principal were: thymol (47,0%), p-cymene (8,4%), γ-terpinene (8.0%) and carvacrol methyl ether (7.4%). Both the essential oil and hydrolates from *S. montana* were assigned to thymol chemotype (47.0% and 14.2%, respectively). High content of bioactive compounds presented in hydrolates and also of their nice smell and beneficial effect in the skin, it has been suggested their uses in shampoos and other detergents. Trials on formulation of such products are undergoing in our laboratory.

Keywords: Essential oil, Hydrolates, GC-MS, *Satureja montana*.

Vol. 8 (2): 335-338 (2018)

VEGETATION MONITORING: SOME METHODOLOGICAL AND METHODIC ASPECTS OF MONITORING WHILE PLANNING TECHNICAL BUILDING

Alexander Sizykh*

Siberian Institute of plant Physiology and Biochemistry, Russian Academy of Sciences, 664033 Irkutsk, Lermontova str., 132, Box 317, Russia;

*Correspondence author Alexander Sizykh, email: alexander.sizykh@gmail.com;

Received January, 2018; Accepted January, 2018; Published February, 2018;

UOI license: http://u-o-i.org/1.01/ijees/66627243

ABSTRACT

Under the conditions of a rapid scientific and technological advance and of increase of industrial production, due to complicating of technical systems and to their impact onto the environment, the attention towards sustainable development of natural and anthropogenic systems and of their integrity at large territories drastically increased. Main principle of the solution of this problem is provision of economic activity ecological safety and conservation of natural systems as of the basis for the whole society sustainable development. The realization of ecological safety principle is based on a systematic approach to the analysis and the forecast of subsequent changes and consequences, which may arise both in natural systems and in the whole biosphere.

Key words: vegetation monitoring, ecological monitoring, vegetation formation, sustainable development of natural and anthropogenic systems.

Vol. 8 (2): 339-346 (2018)

EVALUATION OF ROAD CONSTRUCTION PROJECTS BY VALUE ENGINEERING APPROACH AS A TOOL FOR SUSTAINABILITY

Masoud Reihanifar[1*], Sepanta Naimi[2]

[1*]Civil Engineering Department, Istanbul Aydin University, Istanbul, Turkey;
[2]Civil Engineering Department, Istanbul Aydin University, Istanbul, Turkey;

[1*]Email: masoud.reihanifar@upc.edu; sepantanaimi@aydin.edu.tr;

Received January, 2018; Accepted February, 2018; Published March, 2018;

UOI license: http://u-o-i.org/1.01/ijees/25872134

ABSTRACT

A great part of financial resources of Iran is spent on civil projects annually. Various problems in implementation of these projects especially road construction projects emphasizing on three factors of time, cost, and quality necessitate a reliable planning and policy making system to upgrade the quality of these projects. Besides, lack of consideration to value engineering in national and large scale projects have caused sense of lack of comprehensive, applicable, and pervasive policy as a solution for managers and experts of these projects and also has led to negative environmental impacts during construction and maintenance. Therefore, due to the importance of this matter, in this research, an innovative approach towards road construction projects considering value engineering has been discussed and evaluated as a tool for achievement of sustainability.

Keywords: construction, project, sustainability, value engineering, management.

Vol. 8 (2): 347-352 (2018)

INTENSITY OF CHESTNUT DRYING AND NATURAL RESTORATION OF FOREST IN KEDA MUNICIPALITY (AJARA, GEORGIA)

Dumbadze Guguli[1*], Gokturk Temel[2], Vasadze Revaz[1], Lomtatidze Nino[1], Chakhvadze Khatia[1]

[1]Batumi Shota Rustaveli State University, Batumi, Georgia;*
[2]Artvin Coruh University, Artvin – Turkey;

*Correspondence author Dumbadze Guguli, email: dumbadze.guguli@bsu.edu.ge; temel.gokturk@gmail.com;

Received January, 2018; Accepted February, 2018; Published March, 2018;

UOI license: http://u-o-i.org/1.01/ijees/70133049

ABSTRACT

Sweet chestnut (*Castanea sativa*, Mill.) is one of the major and most common trees in natural forests. The last few decades have been marked with the intensive drying process of the chestnut throughout the world in general and Georgia in particular. The main reason of the chestnut drying in Georgia as well as in Europe and America is the fungus causing the chestnut blight (*Cryphonectria parasitica or Endothia parasitica*), certainly linked to other abiotic, biotic and anthropogenic factors. The aim of the research was to study how intensively the trees are drying and the condition of the natural restoration of the chestnut forests in Keda Municipality (Ajara, Georgia). The field trips employed the methods of traditional route walk, expedition/excursion, and visual recognition common for the forest typology. The pathological condition of the diseased chestnut stands have been evaluated with the methods recognized in the forest pathology. According to the research, it was identified that phytopathological conditions of the chestnut groves is strictly unsatisfying; at the research area (9 600 m²) intensive dying process was fixed; here 24.4 % of chestnut trees (total 164) are healthy, 36.6 are in the dying process and 39.02% overdrided. The natural restoration process of the chestnut is hindered because of solid covering shelter of the dead residuals of plants, intensive development of evergreen sub-forest as well as factors of anthropogenic impact.

Keywords: Chestnut, *Cryphonectria parasitica*, Ajara, Natural Restoration.

Vol. 8 (2): 353-358 (2018)

ECOLOGICAL-GEOGRAPHIC COMPOSITION OF PLANT SPECIES OF TAIGA-STEPPE COMMUNITIES ON LAKE BAIKAL WESTERN SHORE

Alexander Sizykh*

**Siberian Institute of Plant Physiology and Biochemistry of Russian Academy of Sciences,664033 Irkutsk, Ulanbatorskaya str., 1, Russia;*

*Correspondence author Alexander Sizykh, email: alexander.sizykh@gmail.com;

Received February, 2018; Accepted February, 2018; Published March, 2018;

UOI license: http://u-o-i.org/1.01/ijees/49751240

ABSTRACT

Phytocoenoses in environmental contact zones reveal in more detail modern trends in the genesis of ecosystems of any range of their organization. Phytocoenoses formed under the extrazonal conditions within definite environmental zones (plant types) play a role of informational models of environmental changes. Such communities can serve as indicators of existing processes and of occurred changes for last decades as well as reflect trends of spontaneous and anthropogenic dynamics of plants formation under definite physical-geographic conditions on a concrete territory. We revealed ecological geographic composition of plants species in taiga-steppe communities reflecting modern structural-dynamic organization of plants at one Pre-Baikalian site, which is contrast by its environmental conditions. It reflects the peculiarities of phytocoenoses formation at the contact of light-coniferous taiga and extrazonal steppe of Lake Baikal western shore.

Key words: ecological-geographic composition, plant species, taiga-steppe communities, Lake Baikal western shore