

**1. Assoc. Prof. Dr. Pham Quy Nhan, Eng. Vu Ngoc Tran, PhD. Student. Tran Thanh Le:** *DRASTIC-Fm method for vulnerability assessment of fractured aquifers in Buon Ma Thuot City.*

**Abstract:**

The aquifer vulnerability assessment method, namely DRASTIC, in association with fractured aquifers' characteristics are developed into DRASTIC-Fm. By mean of analyzing application conditions, advantages and disadvantages of methods available worldwide, characteristics of fractured and fissured aquifers, as well as current situation in Vietnam, a new method namely DRASTIC-Fm is selected. Results of a case study in Buon Ma Thuot city, where basaltic fractured and fissured aquifers are main aquifers for water supply, showed that the proposed method is very promising and reliable.

**2. Assoc. Prof. Dr. Hoang Ngoc Quang, Eng. Bui Duc Toan, Eng. Dao Hoang Tung:** Making specialized maps and utilizing the results of their numerical simulation to provide a scientific and technical basis for planning maps of Phu Quoc, Con Dao marine space.

**Abstract:**

This article step by step approaches the Marine Spatial Planning (MSP) with 10 preparing and planning sections which identify the scope of boundary, the period of planning and methods of making maps of natural conditions, resources and current or future planning. These two tasks mentioned in the third, fifth and sixth sections are only carried out by using the results of numerical simulation in hydro-air dynamic processes combined with analyzing and evaluating objects presented on the maps with a role of providing a theory foundation for the MSP. In this article, the results of calculating ocean dynamic processes in marine space are taken into deep consideration. With the orientation of making specialized maps, current maps and planning maps of Phu Quoc - Con Dao marine space, the maps describing the climate of Phu Quoc - Con Dao marine space with a scale of 1:200 000 were introduced beforehand by the authors. All the above research orientations will be fully achieved in the process of conducting the national level project named "Researching, Providing a Scientific Basis and Proposing the Orientation of Phu Quoc - Con Dao MSP for a sustainable development".

**3. Dr. Huynh Phu:** *Operation, maintenance and management models for clean water supply systems in the Binh Luc district Ha Nam province.*

**Abstract:**

In Binh Luc, Ha Nam Province, there are 7 water supply facilities located in 7 communes: Hung Cong, Binh My, An Ninh, Phu Phuc, Boi Cau, Ngoc Lu, and Vu Ban. The management and operation of these are transferred to local level.. Survey results show that there are still various issues exist within the management and operation of these facilities, especially in the rural areas, including: (i) The quality of treated drinking water in some facilities is below the standards (monitoring level A) established by the Ministry of Health via Decision No. 1329 on 18/4/2002; (ii) High rate of water loss; (iii) Many treatment facilities were degraded or damaged; (iv) Inequadate watershed protection. Therefore, a model of operation, maintenance and management clean water supply systems in Binh Luc district is urgently needed.

**4. MSc. Nguyen Minh Ky:** *The study and evaluation of students' awareness of climate change in Thua Thien Hue province.*

**Abstract:**

This paper aims at providing several main information on students' awareness level of climate change in Thua Thien Hue province. The research results show that at the 5% significance level, there is a big difference between graduate and postgraduate students. Measurement variables in students' awareness model meet the CFA standards on climate change and reach a good conformity.

**5. Dr. Trinh Huu Lien, MSc. Pham Anh Tuan, MSc. Nguyen Thanh Hung:** *GIS technology application in establishing the database of current land use from the database of digital cadastral map serving land management.*

**Abstract:**

The fundamental foundation of modern Land Management System (LMS) is laid on the basis of the record system of land use right, statistical data, current land use and land use planning with modern technologies. This article points out the differences between statistical data from the database and the data of current land use from generalized maps. By analyzing the causes of those differences, the establishment of current land use database serving land management is proposed by the authors.

**6. MSc. Nguyen Quang Tuan, MSc. Nguyen Quyet:** *The relationship between economic growth and carbon dioxide emissions in Viet Nam.*

**Abstract:**

This paper focuses on the effects of different factors on carbon dioxide emissions in Vietnam which are analyzed and evaluated from both short-term and long-term angles. The econometric model used for analysis is mainly built based on the Kuznets hypothesis and decomposition methods. Granger causality test, Johansen cointegration test and Vector Error Correction model (VECM) are employed in this study. The results of the study pinpoint that there is a great difference between the outcomes from the both angles. Noticably, there is no evidence to say that economic growth can affect carbon dioxide emissions.

**7. Dr. Nguyen Thu Huyen:** *Research on optimal mixing ratio between faecal sludge and organic waste in the aerobic treatment process (Composting).*

**Abstract:**

This paper represents the research results of optimal mixing ratio between faecal sludge and organic waste in the aerobic treatment process (also known as composting) in order to achieve the highest efficiency. The results show that the mixture of faecal sludge and organic solid waste at 1:4 helps maintain the moisture. Thus, this ratio is considered to be of the highest efficiency. At the same time, with this ideal mixing ratio, the degree of decomposition is achieved at over 70 %.

**8. Dr. Hoang Ngoc Khac, Eng. Nguyen Van Dung:** *The status quo of exploiting red sesarmid crab (Smithi neosarmatium H.Milne Edwards, 1853) in Ramsa, Xuan Thuy district, Nam Dinh province.*

**Abstract:**

Red sesarmid crab, *Neosarmatium smithi*, is a relatively large species. On the North coast of Vietnam, red sesarmid is mainly found in Con Lu mangrove, XuanThuy National Park. The research on *Neosarmatium smithi* in 2013 showed that the reserve of this species in the study area is approximately 50 tons. The exploiting output is about 12,375 tons per year. Exploiting activities of reaping red sesarmid in this area is booming with no specific planning and an increasing number of exploiting participants. According to the criteria of the IUCN, this species is listed as Vulnerable (VU). Hence, management plans, sensible conservation and exploitation of this resource are needed to obtain sustainable development. These activities must consist of an overall survey, determining the level of threatened species; restoring the mangroves, protecting the habitat of red sesarmid crab and studying its biological ecological and reproductive features, ect... so as to develop its breeding and maintain the livelihood of the local communities.

**9. Dr. Nguyen The Hung:** *Evaluating the ability of carbon accumulation in overground biomass in Acacia forest (Acacia mangium x Acacia auriculiformis) in Dinh Hoa district, Thai Nguyen province.*

**Abstract:**

Evaluating the ability of carbon accumulation plays a significant role in providing a scientific basis for forest evaluation in terms of clean development mechanism (CDM). The article suggests some research findings on assessing carbon accumulation in Acacia plantations at different ages in Dong Thinh and Bao Linh communes, Dinh Hoa district, Thai Nguyen province. At the age of 3, 4, 5, in Acacia plantations in Dinh Hoa district, the amount of CO<sub>2</sub> absorbed in the overground biomass is respectively 45,94 - 47,89 tonnes / ha, 49,94 - 53,24 tons / ha and 65,17 - 67,85 tons/ha.

**10. Dr. Luu Van Huyen, Assoc. Prof. Dr. Pham Quoc:** *Research on the ideal condition of symbioticing Zooxanthellae a lgae's isolating process in oceanic coral cells.*

**Abstract:**

The article researches the process of isolating zooxanthellae from oceanic coral cells using high-speed centrifugation method with the presence of antifoam solution and using the conventional one. The results gained from high-speed centrifugation method show that the zooxanthellae concentrations increases while the rate of host cells decreases. Meanwhile, the survival rate of zooxanthellae also increases considerably.

**11. MSc. Do Xuan Duc, MSc. Vu Thi Nu:** *Research some Experience of Integrating Natural Resource Use and Environmental Protection of the Thai Ethnic Community living adjacent to Son La Hydropower Reservoir.*

**Abstract:**

The paper clarifies traditional experience of using natural resources such as soil, forests and water of the Thai ethnic community in resettlement areas adjacent to Son La hydropower reservoir. It also indicates their farming experience on sloping land as well as their experience of exploiting and protecting natural resources for their suitable livelihood activities. On the basis of public consultation, the paper makes a number of conclusions and recommendations applied to the protection of natural resources, the environment and biodiversity along the lakeside area of Son La hydropower reservoir such as: the close coordination between the government law and the Thai community's regulation in exploiting and protecting natural resources; the allocation of forest land to each residential dwelling along the lake in order to create a community legal framework for land tenure; and the establishment of a sustainable ecological economic model thanks to assessing the resources along the lake associated with exploiting and protecting the landscape and the ecosystem of the lake with an orientation of sustainable development in Son La hydropower.

**12. MSc. Nguyen Van Binh:** *Analyzing and evaluating effects of geotechnical properties and distribution of soft soil layers on land subsidence in western area of Ha Noi city.*

**Abstract:**

Soft soil is understood as type of soil with low bearing capacity and high compressibility. The presence of soft soil layers in the structure of soil foundations often causes many difficulties for designing and constructing. As a result, it is very costly to overcome these difficulties. Hanoi's Western area is an area with both mountain and plain, which is considered to include few elements forming soft soil layers. However, the present research shows that soft soil layers with fairly thickness have complicated variation and distribution. This paper carries out a synthesis, analysis and evaluation of geotechnical properties of soft soil layers and their spatial variation. Meanwhile, it also focusses on the relationships between land subsidence and collapse of ground surface in Western Hanoi based on the research findings, the field and laboratory experiments. It is certain that these results can provide a scientific basis for preventive solutions.

**13. Dr. Nguyen Thi Thuc Anh, Eng. Kham Pha Phom Ma Kay Son:** *The potential of Bauxite Mineral in Dakchung Area, Sekong province (Southern of Laos), signification in economics development and Co-operation between Viet Nam and Laos.*

**Abstract:**

Bauxite is one of the potential and strategic minerals in Laos. Chavan Highland is the area where bauxite is strongly developed in lateritic weathering crust on basaltic effusive formation at the age of Neogene - Quaternary. The results of the investigation, evaluation and exploration carried out by Vietnamese and Laos geologists show that the scale, the quality and the quantity of reserves and mining conditions of bauxite in Dakchung area are feasible enough to build an alumin -processing industrial complex with a capacity of at least 600,000 tons / year. The development and investment in bauxite mining and alumina processing in this area will greatly contribute to the development of local industries and promote the economic development strategy of a triangle region including three countries: Cambodia, Vietnam and Laos in the near future. Besides, a special solidarity and close co-operation between Vietnam and Laos will be strengthened and further developed.

**14. Dr. Trinh Le Hung, Dr. Vu Danh Tuyen:** *Applying remote sensing technology in researching soil moisture on the basis of temperature vegetation dryness index.*

**Abstract:**

Soil temperature and moisture are two important physical factors to water and energy exchange processes between land surface and the atmosphere. Compared to traditional reaseach methods, remote sensing technology with its advantages such as large area coverage and short revisit interval has been used effectively in studying soil moisture. The article represents the method of researching soil moisture based on analyzing the relationship between land surface temperature and vegetation cover-layer to build temperature vegetation dryness index (TVDI). The results received can be used to make and edit the map of soil moisture.

**15. Dr. Dang Tran Chien:** *Research on photovoltaic solar cells to gradually replace traditional fossil energy.*

**Abstract:**

Population growth and energy demand are exhausting the world's fossil energy supplies. Another important consideration of increasing the energy production based on fossil fuels is its impact on the environment. Global warming from the fossil fuel greenhouse gases which contributes to the climate changes is becoming a major concern. It is high time for us to seek environmentally clean alternative energy resources. The huge demand for clean energy potentially can be met by solar-to-electricity conversions. Solar energy is a clean endless energy resource, so research on photovoltaic solar cells to gradually replace traditional fossil energy is a very important mission of scientists.

**16. MSc. Phung Thi Hong Van, Assoc. Prof. Dr. Nguyen Van Hieu, Dr. Nguyen Duc Hoa:** *Fabrication of tungsten oxide nanowires - based semiconductor sensor for NO<sub>2</sub> detection.*

**Abstract:**

The paper reports our research findings on the on-chip growth of WO<sub>3</sub> nanowires based sensors and their NO<sub>2</sub> gas sensing characteristics. The high quality WO<sub>3</sub> nanowires having a diameter of about 100÷200 nm and a length up to several micrometers were directly grown on Al<sub>2</sub>O<sub>3</sub> coated W substrate with thermal evaporation method using WO<sub>3</sub> powder as a precursor. The gas sensing measurements demonstrated that the fabricated the sensors exhibited the highest response to NO<sub>2</sub> gas with fast response and recovery time at temperature of 250 °C. The sensor also exhibited good selectivity in which the response to 5 ppm NO<sub>2</sub> was 10 whereas that value for 10 ppm NH<sub>3</sub>, H<sub>2</sub>S, and CO was about 1,1 to 1,5.

**17. Assoc. Prof. Dr. Pham Quy Nhan:** **The system of assessing on Scientific Publication in the world and Viet Nam**

**Abstract:**

Along with the trend of globalization, the quantity and quality of internationally peer-reviewed scientific publications have been considered as an important measure and objective indicator reflecting the level of science and technology development as well as research performance of individual

scientist, institution and country. Many countries have been using the number of publications in international peer-review journals listed in ISI (Institute for Scientific Information), SCI (Science Citation Index), Scopus, Citation Index, Impact Factor, H Index, etc., as key indicators to evaluate research works. In Vietnam, however, research works are still mainly evaluated by traditional domestic criteria such as project reports and grading that leads to several negative implications for the country's science. Therefore, this research analyzed, compared, and pointed out the key differences between the scientific evaluation systems in Vietnam and the world. This article then proposed recommendations.

**18. MSc. Vu Van Tu:** *Developing environmental services (A strategy which needs to be well - aware and sensibly applied in our country today).*

Nowadays, environmental services are extremely crucial for the socio-economic development in the context of increasing environmental pollution and increasing consumer demand for environmentally friendly products. Developing environmental services will help prevent and reduce environmental pollution, for example, waste water treatment services, waste gas and clean water supply services, etc. In addition, environmental services contribute to improving our living standards along with creating a green and clean environment for the whole society. Moreover, the expansion of environmental services also plays an important part in improving the business environment and attracts more external forces for national economic growth in the context of globalization and international economic integration.