

**1. Dr. Kieu Tran Duy:** *Trend in historical floods in Lam river basin.*

**Abstract:**

Identification of possible trends in historical floods is one of important studies in order to zone flood risks in Lam river basin. This is also an important criterion to indicate levels of flood risks among different river basins as well as different areas of a given basin. This study has detected possible changes in historical floods versus basin areas (unit: 100km<sup>2</sup>). These results will provide an overall picture of distribution of historical flood events which had happened over the Lam river basin.

**2. Asso Pro. PhD. Bui Xuan Thong, PhD. Tran Quang Tien, Eng. Bui Duc Toan:** *Identification of speed of sea level rise at monitoring stations in south west - east coast of Vietnam.*

**Abstract:**

The Thailand - EU collaboration project "GEO2TECDI - SONG" on marine surveying has revealed that average sea level rise (SLR) in the Thailand Gulf was about  $3,2 \div 5,8$  mm/year which was higher than the global average. In this study, analyses on observation data of annual mean sea levels in Vietnam also show that SLR here is also happening at rate of about  $1,2 \div 4,2$  mm/year. These conclusions reflect the similarities between the observation data of the two abovementioned projects.

Though the findings of this study were just initially concluded from observed sea level data at rather short period of time, they contribute to general conclusion that the speed of SLR in coastal areas in Vietnam is quite high and tend to increase for last 10 years.

**3. Asso Pro. PhD. Hoang Ngoc Quang, Dr. Nguyen Viet Thi:** *Application HEC - HMS simulation flood process in river Vu Gia - Thu Bon.*

**Abstract:**

In recent years, the increase in magnitude and frequency of flooding events in Vu Gia - Thu Bon river system has constrained the economic development and deeply impacted on the livelihood of the local residents. With the guideline of: "Proactive prevention and adaptation to develop", the study on determining and assessing the flooding impacts has played a very important role. This article presents the results of simulation of flood process in Vu Gia - Thu Bon using the HEC - HMS model to serve disaster prevention.

**4. Msc. Nguyen Dang Mau, Dr. Tran Quang Duc, Dr. Hoang Duc Cuong:** *Coupling REGCM3 with the CAM 3.0 model for climate simulation over Vietnam.*

**Abstract:**

RegCM3\_CAM coupled model ((RegCM\_CAM)) was run for 2 scenarios of domain size covering the entire Vietnam for the period of 1/1997 - 12/1999. For model validation, simulation results of RegCM\_CAM model were compared to observed data and re - analysis data to define effects of modeling domain to simulation performance. The results showed that winter temperature simulated in the scenario of domain extended to North - East was lower than the other. In addition, summer rainfall simulated in the scenario of domain extended to South - West was fair higher than the other.

**5. Dr. Bui Du Duong, Dr. Tran Duy Kieu, Msc. Tong Ngoc Thanh, Msc. Hoang Thi Nguyet Minh:** *A conceptual framework for urban flood risk management.*

**Abstract:**

Frequent floods have remained as key challenges to socio - economic activities and sustainable developments of many regions/countries around the world. Growing evidences show that traditional approach of flood management, which mainly focuses on flood control measures, has failed to manage recent floods, especially extreme floods due to climate change and rapid urbanization. This study thus proposed an innovative approach, based on risk management concepts, to deal with floodings. Conceptually, the proposed approach is composed of two main groups of measures: measures to reduce the occurrence of flood hazards; and measures to increase coping capacity/decrease vulnerability. The two components of the developed approach were

examined with two urban case studies: Hanoi and Tokyo, respectively. Though the proposed approach was initially developed at conceptual level, the findings provide useful outlook for developing a holistic framework to manage flood risks in cities.

**6. Dr. Pham Thi Hoa:** *Adding pragmatic formular for determining terrain effect in vertical deflection.*

**Abstract:**

This paper add pragmatic formular for determining terrain effect in vertical deflection by using difference of height ( $H - H_m$ ) between terrain and reference. Base on mathematical demonstration, the paper concludes: Determining terrain effect in vertical deflection by using  $H$  or  $(H - H_m)$  has the same results. Thus, in determining terrain effect in vertical deflection, if we can know  $H$ , we should use difference of height ( $H - H_m$ ) between terrain and reference.

**7. Dr. Dinh Xuan Vinh:** *Modern deformation analytical methods.*

**Abstract:**

Deformation is a process formed by many different causes, there are subjective reasons and risks of nature. Characteristic of the movement is complex, so the process of deformation of the object is divided into several models. The University of Hannover, Stuttgart, New Brunswick, Delft, ... and scientists as Chrzanowski (Canada), Pelzer (Germany), Proszynski (Poland), Welsch (Germany), ... interest in the dynamic model, because this model addressed all the problems of the object deformation. The analysis of deformation model has been studying for more than 20 years (1975 - 2003) to unify theory and methods of modeling. FIG (Fédération Internationale des Geometres) has been proposed and futher developement.

**8. Dr. Vu Danh Tuyen , Dr. Trinh Le Hung:** *New method for coastline change detection based on muti – temporal image classification.*

**Abstract:**

Coastal dynamic is one of the most urgent and complex problem in monitoring environmental resources. Traditional methods based on field surveys only solve the problem on a small scale. Some methods of determining coastal dynamic using ratio images (G. Winasor, A. Alesheikh, ...) have the advantage to perform. However, these methods also have the drawback that only applying to a specific type of satellite images. This article gives a model monitoring coastal dynamics based result classification using images multiple time periods. This method can be applied to many types of satellite images, including single-channel image (radar, panchromatic image).

**9. Msc. Le Anh Cuong:** *Research on application of recurrent adjustment method for geodetic data processing.*

**Abstract:**

The report study on theory basis and the algorithm of recurrent adjustment method for software establishment which apply for geodetic data processing. The calculation process is mentioned in report which is closely and convenient to programme on computer.

**10. Msc. Tran Thi Ngoan, Msc. Vuong Thi Hoe:** *Buiding a set of art symbols for establishment of planning and agricultural maps.*

**Abstract:**

Art symbol system highlights map contents is necessary to build the set of symbol for establishment of planning and agricultural map. This article will show the way to creat the art symbol set as well as recommend the set of symbol including various kinds of plants and livestocks in agriculture.

**11. Dr. Huynh Phu:** *An application of mathematical models to study the water quality of La Nga river of Binh Thuan.*

**Abstract:**

La Nga River starts from Di Linh Plateau (Bao Loc - Lam Dong Province), which is one of the important tributaries of the Dong Nai River. This river is abundant in water resources, with a lot of beautiful sceneries. Its basin is agriculture and forestry center, beside a lot of industrial and handicraft zones. There are also lots of short-term industrial crops... Deforestation, wastewater from industrial zone cause water along La Nga River to become polluted. Decreased forest area means deprived shelters of animals, which is alarming now. An area increasingly shrinking forests, many species, loss of habitat is threatened seriously. Land contamination, water pollution due to industrial, domestic, farming activities wastewater are alarming pollutants, especially water quality

12. **Dr. Le Thi Trinh:** *Basic research in lead absorption in soil for Alternanthera philoxeroides.*

**Abstract:**

In Vietnam, upward trend in heavy metals pollution, especially lead contamination in soil at metal recycling handicraft villages is a difficult - to - solve problem. Soil washing, isolation, immobilization, physical separation and extraction could be effective remediation for metals - contaminated soils but costly and difficult to apply at the village scale. Phytoremediation that using plants to absorb heavy metals in the soil considering as a promising solution for remediation of metals-contaminated soils in terms of effectiveness, low investment cost, small - scale applicability, safety and environmentally friendly concern. This paper describes some research results on the absorption of lead in the different levels of lead in by Alternanthera philoxeroides plant.

13. **Msc. Bui Thi Thu:** *Study on determination of metal ions in water supply and wastewater by extraction - spectrophotometry method in Tu Liem of Ha Noi.*

**Abstract:**

Tu Liem is one of the districts of Hanoi where has water supply and wastewater polluted by metals. This paper will be given the result of study on the method of determining levels of Pb<sup>2+</sup> and Cd<sup>2+</sup> in water by extract - spectrophotometry method. The result show that the optimal extraction conditions; the composition and the mechanism of multi-ligand complexes in isoamylic alcohol for PAN - Pb<sup>2+</sup> - SCN<sup>-</sup>;  $\lambda_{max} = 560nm$  with  $pH_{opt} = 5,7$ ; PAN : Pb(II) : SCN = 1:1:1 and PAN - Cd<sup>2+</sup> - SCN<sup>-</sup>;  $\lambda_{max} = 555nm$  with  $pH_{opt} = 6,3$ ; PAN : Cd(II) : SCN = 1 : 1 : 1. The multi - ligand complexes was stable for long time after extracted. These methods determined contents of Pb<sup>2+</sup> and Cd<sup>2+</sup> in water supply and waste water in Tu Liem area of Ha Noi.

14. **Msc. Hoang Thi Hue:** *Estimation of economic value for Dam Vac ecosystem, Vinh Yen city, Vinh Phuc province.*

**Abstract:**

Economic evaluation of the ecological assessment tools as the economic value of ecosystems are convertible into cash. The rules of the monetary value of services and functions Heron Lake ecosystem enables a thorough understanding of the whole than their true values, as a basis for convincing scientists to propose planning and management approach. From the research rationale, research findings have estimated the economic value of the services, functions of Heron Lake ecosystem. The results will help policy makers to easily visualize the value of environmental resources to be able to make decisions and choices towards sustainable development.

15. **Eng. Nguyen Thi Vinh Hang, Dr. Do Khac Uan:** *Evaluating the effects of hydraulic retention time on domestic wastewater treatment using SBR operated at low sludge retention time.*

**Abstract:**

In this study, domestic wastewater was treated in a lab - scale SBR operated at low sludge retention time. The result showed that the sludge in the system was developed well and settled quickly. The system operates at low sludge retention time with aeration mode of 2h, 4h, 6h, 8h, MLSS range  $2000 \pm 200$  mg/l, which DO ranges  $1.5 \div 2$  mg/l. The obtained results show that the 2h, 4h aeration modes have low performance. Although 6h mode high TP removal was 79.3%, but the COD, TN removals were only 88.9%, 64.6% respectively. However, the results show that the

appropriate aeration time is 8h, which offer high processing efficiency. The processing efficiencies of COD, TN, TP were, 90.4%, 80.5%, 77.3% respectively.

**16. Dr. Le Canh Tuan:** *The significance of Geomorphology to geohazards study.*

**Abstract:**

There have been various studies on geological hazards, in which bedrock formation and topography provide basic layers of input data-set for model calculating. However, there is no relationship linkage between geohazards with bedrock and landforms - topography. Each geological formation associated with a certain type of terrain; in corresponding with these are characterized geohazards. It can be said that before a geohazard event, the “geomorphology” parameters is a sensitive information layer, which can be used to provide effective geohazards early warning.

**17. Msc. Nguyen Van Binh, Msc. Tran Van Vu:** *Research on characteristics distribution of soft soil layers in holocene age for planning construction in some district of center Hai Phong city.*

**Abstract:**

This paper presents some basic characteristics, including physical and mechanical characteristics as well as the distribution of soft soil. On the basis of research in relationships of different soil structures, the study determines the classification of typical soil structures for the planning and establishment of geotechnical survey projects, and the foundation treatment solution for specific construction in the some districts of Hai Phong city.

**18. Dr. Nguyen Hoan, Msc. Nguyen Tan Huyen:** *The economics of climate change: theory and practice.*

**Abstract:**

Climate change is a global pressing issue which have been taking great attention from various contries around the world. This research mainly focused on the issues of Climate Change Economics. Besides the analysis of the major impacts of climate change on Vietnam, research raised the theoretical and practical issues of Climate Change Economics. Climate Change Economics consists of two major matters: Economics of Climate Adaptation and Economics of Climate Mitigation. Finally, the research withdrew three major challenges in doing research on Economics of Climate Change including: Economic Analysis of matched methods for climate change, Economic Analysis of methods to mitigate climate change, Analysis of the impacts of climate change on the economic development.

**19. Asso Pro. PhD. Vu Van Phai, Luu Thanh Trung, Asso Pro. PhD. Nguyen Hieu, Msc. Duong Tuan Ngoc, Ba. Vu Le Phuong, Msc. Tran Duy Hien:** *A systematic approach in studying and assessment of shoreline change for coastal erosion management.*

**Abstract:**

System theory has been applied in natural and social sciences since a long time ago. Philosophically speaking, the systematic approach has been considered as the basis of the methodology for all fields of scientific research. System is categorised into various types and each system consists of various sub - systems. Among these, the concept of coastal system was introduced. In the coastal system, there are coastal geomorphic systems which interact with each other. Based on those interactions, we can undertake study on the shoreline change process, including erosion and deposition over time and space.