

MARE research framework

Organisation profile



The name of the partner organisation:

Ho Chi Minh City University of Natural Resources and Environment

Contact person and e-mail address:

Le Thi Kim Thoa

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Departments or other academic units at your organisation concerned with MARE-related topics:

- 1- Department of marine resources management

Current and past projects implemented at your institution and concerned with MARE topics:

Add as many lines as necessary

Project title	Funding agency	Project topics concerned (2-3 keywords)	Type of the project (research, education, mobility, capacity for the organization or external stakeholders building, promotion etc)	Possible links to MARE (joint activities, agreements, ...)
Sustainability alliance of urban	ERAMU S Plus	The activity aims to build the capacity of the universities in	capacity and delivery tools to	https://www.saunac.eu/

networks in Asian cities		Vietnam and their stakeholders to give them the tools to enable a transition in Vietnam through a number of activities that educate professionals and students to develop viable solutions for smart sustainable cities.	modernise education	
INTEGRATED DOCTORAL PROGRAM FOR ENVIRONMENTAL POLICY, MANAGEMENT AND TECHNOLOGY INTENSE	ERAMUS Plus	The project addresses such root causes of environmental problems in Mongolia, Ukraine and Vietnam, as poorly formulated policies, inadequate selection of management actions and the lack of suitable technology, by building capacity for academic excellence in doctoral training in environmental studies in partner countries (PCs) and beyond.	Higher education training	http://intense.network/
Strategic environmental assessment for capacity development in higher education (SEA-ASIA)	ERAMUS Plus	Enhance the quality of academic education in strategic environmental assessment (SEA) through the development of SEA assessment courses, modules, methods and tools	Higher education training	http://envi.hcmunre.edu.vn/tintuc/khoa-moi-truong/erasmus-sea-asia

PHD Programs available

none

Topics of PhD thesis (or other graduate works if you do not have a PhD program)

1. PhD student: Tran Thi Kim

Research title: Study on the hydrodynamic regime and sediment transport in coastal estuaries in Soc Trang province by using a numerical model on the curved coordinate system.

Supervisor 1: [Prof. Dr. Nguyen Ky Phung](#)

Supervisor 2: Prof. Dr. Nguyen Van Phuoc.

Research objectives

Researching the hydrodynamic regime and sediment transport in coastal estuaries in Soc Trang province by using a numerical model on the curved coordinate system

Research content

- Research on the theoretical basis of the 2D hydrodynamic and sediment transport modules on the Cartesian coordinate system: (i) Hydrodynamic module: The theoretical basis of the Reynolds equation system influenced by tides, waves and wind; (ii) Sediment transport module: Sediment transport Equations for Suspended Sediment and bottom change
- Converting the problem of hydrodynamics and 2D sediment transport on Cartesian coordinates to curved coordinates and constructing the computational grid: (i) Construct computational grid in curvature coordinates based on Poisson equation and (ii) Conversion of basic equations to the curved coordinate system
- Build hydrodynamic and 2D sediment transport module on the curved coordinate system.
- Verify and evaluate the reliability of the model
- Applying the model to simulate the hydrodynamic regime and sediment transport in the coastal estuarine area of Soc Trang province.

Methods of research

- Numerical methods: The numerical method is applied to provide a solution to the hydrodynamic problem, sediment transport and bottom evolution.
- Geographic information systems (GIS) and remote sensing: Specialized software for GIS are ArcGis, MapInfo, Surfer, AutoCad.
- Analysis and data processing

Research interests

- Hydrodynamics and sediment transport modeling in the river and coastal areas (waves, tides, distribution of salt)
- Climate change
- Environment

Implementation time: 07/2018 – 07/2022

2. PhD student: Ngo Nam Thinh

Research title: Study to build a model for calculating rip current and apply it on Bai Dai – Khanh Hoa sea area

Supervisor: [Assoc. Prof. Dr. Nguyen Thi Bay](#)

Research objectives

- Build/develop rip current computational model
- Applying the math model built into practice helps to identify the rip current and its variation in space and time in Bai Dai beach, Khanh Hoa province

Methods of research

- Experts' consultation
- Map and GIS method
- Math modeling method

Research interests

- Hydrodynamic model
- Marine environment
- Integrated coastal management
- Climate change and sea level rise

Implementation time: 07/2018 – 07/2022

Key personalities at your organisation publishing on MARE -related topics:

Name	Key words (2-3) describing research interests	Personal webpage, if applicable
Le Thi Kim Thoa	GIS, Remote sensing, Geography	https://marehcm.biendaohcm.com/?page_id=6317
Nguyen Ky Phung	Oceanography	https://marehcm.biendaohcm.com/?page_id=6326
Nguyen Thi Bay	Hydrology	https://marehcm.biendaohcm.com/?page_id=6332
Le Quang Toai	physics	https://marehcm.biendaohcm.com/?page_id=6336
Dang Thi Thanh Le	Environment	https://marehcm.biendaohcm.com/?page_id=6340
Nguyen Thi Van Ha	Environment	
Dinh Ngoc Huy	Oceanography	https://marehcm.biendaohcm.com/?page_id=6346
Ngo Nam Thinh	Oceanography	https://marehcm.biendaohcm.com/?page_id=6351
Tran Thi Kim	Environment	https://marehcm.biendaohcm.com/?page_id=6355
Nguyen Van Tin	Hydrology	

Current research profile of the organization in relation to MARE topics:

Hochiminh City University of Natural Resources & Environment is committed to providing the highest quality in education, research, and community service, with the aim of international recognition for quality in its operations, on the basis of promoting its core values, attracting and developing a diverse, both local and international, body of students and human resources in research, teaching, administration.

The development of Hochiminh City University of Natural Resources & Environment will be facilitated through the implementation of the following three core values "Creation, Quality and Efficiency"

Hochiminh City University of Natural Resources & Environment (HCMUNRE) is the only public university of the Ministry of Natural Resources and Environment in the South of Vietnam. With the experience of 40 years of development, HCMUNRE has become a trusted and reliable university supplying qualified manpower in the field of natural resources and environment management; association and cooperation in domestic and overseas training; scientific research and experimental; implementation of scientific services - technology and other duties prescribed by law; training and fostering of public servants, as assigned by the Minister of natural resources and the environment.

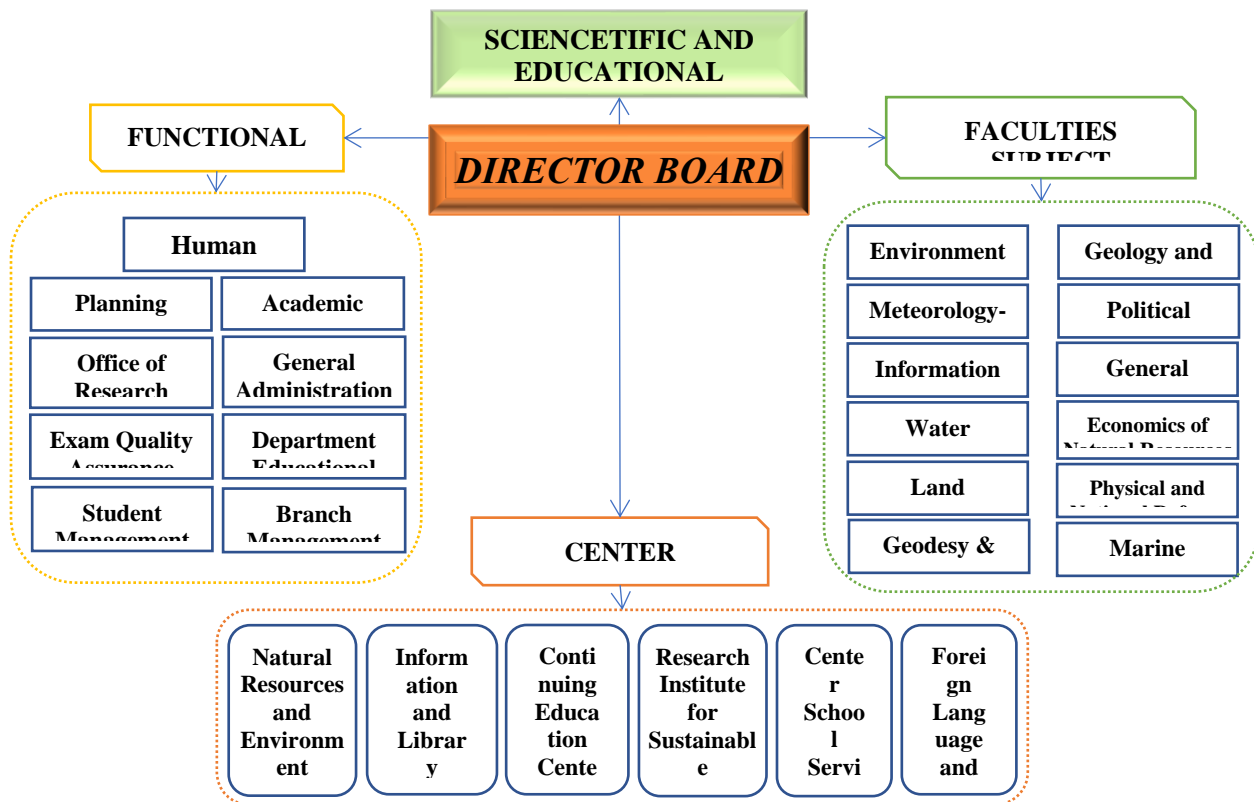
Mission of Hochiminh City University of Natural Resources & Environment is to become one of the leading universities with national recognized education in teaching and doing research. Educating the young generation of Vietnam to become top scientists, business leaders... in the field of natural resources and environment that serves the aim of sustainable development.

Vision of HCMUNRE by 2035 aims to become the key university in training high-qualified human resource in the field of natural resources and environment, that's on a par with advanced universities in the region and reach to cooperation with well-known international universities.

HCMUNRE has 12 Faculties and Departments, 09 Functional Departments, 06 Centers and Institute and 01 Clinic with over 8.000 students at different levels. The HCMUNRE's staff is 359 people, in which there are 248 lecturers: 01 Prof, 10 Assoc.Profs, 41 PhDs, 180 Masters, ...

HCMUNRE has been training by credits in Vietnam. The existing training levels at HCMUNRE as follows:

- Undergraduate: covering the 25 fields, that are: Business Administration in Real Estate, General Business Administration, Environmental Geology, Technical Geology, Hydrology, Meteorology and Climate Science, Disaster Mitigation and Management, Environmental Engineering, Environmental Control Technology and Equipment, Cadastral Measurements, Construction Measurement, Cartography, Water Supply and Drainage Engineering, Information Technology, Land Administration, Landuse Planning, Cadastral Information System, Real Estate Management, Natural Resources Economics, Information Systems, Water Resources Engineering, Management of Natural Resources and Environment, Climate Change and Sustainable Development, Marine resources and Environment Management, Integrated Water Resources Management, Management of Mineral Resources.



Faculty of Marine Resources Management includes many researchers and lecturers who have the competence in teaching and marine resources research and management such as: Dynamics and coastal estuaries; Morphological change of coastal estuaries; Sediment transport and coastal protection; Marine Resources and Environment management; Integrated Coastal Zone Management; Application of GIS and remote sensing to marine resources management; Marine Hydrodynamics. Most importantly, the Faculty is bearing its prominent responsibility for training to students with state of the art of knowledge and cutting edge technologies in environmental protection and natural resource management in the South Vietnam.

<http://www.hcmunre.edu.vn/hcmunre/trang-chu/index>



Ambitions of the organization (in terms of research topics) or aspired activities in relation to MARE topics (i.e. research collaboration agreements, phd supervision, internships for phd students to Eu partners)

- Having the opportunities to cooperate in the training at undergraduate and postgraduate level in term of joint training program 2+2; internships; research collaboration; student exchange...)
- Improving the research and teaching capacity for university lecturers by cooperating with EU universities through short courses, international seminars, scientific research...

Obstacles and barriers hampering the aspired developments

- The project implementation process is usually very slow due to the many rounds of administrative procedures in Vietnam
- The financial principles of the project must be approved by the governing body of the project implementing unit.
- The staff cost in the project is quite low compared to the staff's effort. Therefore, the project did not attract many interested scientists to participate.

Enabling conditions and positive factor behind your current successes in relation to MARE -related research developments, and/or making you hopeful about your ambitions:

- New and updated online courses built in the project will make teaching and learning more convenient for teachers and students, especially in the complicated situation of the covid epidemic.
- This is the premise for the implementation of building more online courses to serve the learning needs of students

Specific capacities you want to develop to reach you aspired MARE-related research goals, such as equipment, training for academic or technical staff, access to international databases, external experts support or PhD supervision etc etc

- improve the research and training capacity of lecturers
- equipped with more modern equipment for teaching and learning

Are there any national research or development policy objectives that support your current or aspired MARE-related research developments? Please expand on this, if so

What are specific enabling conditions or obstacles for the development of research training at your organization – in general, and in MARE-related fields

- The process of purchasing equipment for the project is facing difficulties due to many problems, of which VAT is the biggest obstacle; Bidding process according to Vietnamese law is another problem; long procedure asking permission from the Ministry of Natural Resources and Environment (which is the governing body of the university) to approve the bidding package...



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