

PERSONAL INFORMATION

Diep Ngoc Nguyen

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WORK EXPERIENCE

November 2021
– Present

Junior Researcher in Multi-risk Assessment and Climate Resilience

Ca' Foscari University of Venice – Venice, Italy

Euro-Mediterranean Center on Climate Change – Venice, Italy

Business or sector Education and Research

▪ **Research interests:** Applied complex systems, GIS, machine learning and multi-parameter approaches for assessing multi-risk from extreme climate events, anthropogenic activities, and climate change for societal and environmental impacts. Development of multi-risk scenarios in support decision-making process, disaster risk management and adaptation planning.

▪ **Projects:**

MYRIAD-EU (2021 – 2025) – Horizon2020 - MULTI-HAZARD AND SYSTEMIC FRAMEWORK FOR ENHANCING RISK-INFORMED MANAGEMENT AND DECISION-MAKING IN THE E.U.

• WP3 - Multi-hazard, multi-sector and multi-scale Pilots

- Development of a conceptual framework for multi-risk assessment and management specifically for environmental quality in the Veneto Region
- Application of multi-risk assessment methods for Veneto Region

• WP4 - Dynamic feedbacks between risk drivers

- Development of methods and models for the assessment of multi-risk dynamics for environmental and climate risks, under present and future scenarios

EO4MULTIHA (2023-2025) – European Space Agency – HING IMPACT MULTI-HAZARDS SCIENCE

• WP3: Advancing Fundamental Scientific Understanding of Multi-Hazards

- Advance the understanding, characterization, and quantification of hot and dry multi-hazard risks exploring the combination of EO and in-situ data at different spatial and temporal scales.
- Investigate the most relevant compound and cascading hot and dry events and their associated impacts on water resources that occurred in the Adige River catchment from mountains to sea.

• WP4: Advancing the assessment of exposure, hazard assessment and vulnerability leading to the quantification of risk

- Exploit the results of the scientific studies together with the latest advances in EO technology in combination with additional datasets, AI, and models to improve our capacity to better characterize the risk and vulnerabilities associated with high-impact compound and cascade events accounting for both natural and social/anthropogenic drivers

SRACC (2022) – Veneto Region - REGIONAL STRATEGY FOR ADAPTATION TO CLIMATE CHANGE

- Contribution to the development of a multi-risk indicator, investigating multi-hazard impacts on multiple receptors under climate change scenarios. Supporting the development of the regional strategy for adaptation to climate change in the Veneto Region.

ADRIACLIM (2020 – 2022) - Interreg Italy-Croatia - CLIMATE CHANGE INFORMATION, MONITORING AND MANAGEMENT TOOLS FOR ADAPTATION STRATEGIES IN ADRIATIC COASTAL AREAS.

• Act 4.2 Data transformation and climate impact indicators development

- Collection and transformation of climate and impact indicators in coastal areas

• Act 5.4 Veneto Coastal Pilot: Adaptation/Mitigation/Intervention Plan

- Contribution to the development of machine learning models in the prediction of societal impacts of extreme events and climate change in coastal areas, supporting disaster risk management and adaptation planning
- Contribution to the development of a conceptual framework for extreme event impacts on transitional water quality based on literature reviews. Assessment of the impacts of climate change on water quality in the Venice Lagoon using a multi-scenario analysis approach.

- Mar 2021 – May 2021 **Intern at the Urban Ecosystem Services Assessment Project**
StudioMapp – Ravenna, Italy
Business or sector Software Company
- To assess ecosystem services of the Darsena neighbourhood, Ravenna, Italy using Remote Sensing and Geographic Information System (GIS). The assessment involved the use of Sentinel-2 data and the Normalized Vegetation Index (NDVI) with the support of SNAP and QGIS platforms. The project quantified the ecosystem and the ownership of the green area to inform the Commune of Ravenna so that appropriate decisions could be made to improve the urban quality of life and promote climate resilience and sustainable development.
- Nov 2020 – Oct 2022 **Youth Research Advisor in Climate Resilience**
University of Hull – Hull, United Kingdom
Business or sector Education and Research
- To work alongside with international environmental researchers to support young people to develop imaginative ways to combat climate change challenges in the Red River Catchment in Vietnam. To advise youth researchers directly on a peer mentor basis.
- Aug 2020 – Nov 2020 **Intern at the Mekong Water Governance Program**
Oxfam Cambodia – Phnom Penh, Cambodia
Business or sector International NGO
- To conduct a review on youth activities in the Mekong Region where I coordinated and collaborated with the youths of each country to get information on the challenges of youth and ideas for further youth work in the Program. I conducted online surveys and group discussions with youths as well as stakeholder actors who have been working with youth within the Mekong Region. The final results were shared with program country officers in the region in a seminar and in a brief document of suggestions on youth intervention programs in water governance.
- Dec 2017 – Aug 2019 **Junior Researcher in Water Resources Management**
Can Tho University – Can Tho, Vietnam
Business or sector Education and Research
- **Research interests:** Integrated water resources management and governance. Water and environmental policy analysis and impacts of climate change on livelihoods. Land use and water management for sustainable agricultural development.
 - **Projects:**
 - **ODA project** (2018 - 2020) Adaptation Strategies On Sustainable Uses Of Natural Resources In The Context Of Climate Change And Environmental Degradation.
Funded by the Japan International Cooperation Agency
 - **BRAGS** (2017 – 2019) Building Resilient Agricultural Systems: Sustainable Livelihoods In Mega Deltas Under Environmental Change
Funded by the Biotechnology and Biological Sciences Research Council
 - **RAMESE** (2017 – 2020) The Resilience And Sustainability Of The Mekong Delta To Changes In Water And Sediment Fluxes.
Funded by the UK National Environmental Research Council and the Viet Nam National Foundation for Science and Technology Development
- Aug 2015 – Jan 2016 **Local Collaborator at the Enhancing Community Participation in Integrated Water Management Project**
The Center for Water Resources Conservation and Development – Hanoi, Vietnam
Business or sector National NGO
- Facilitate group discussions, participant rural appraisal and deep interviews with 70 households in Phu Tan district, An Giang province, Vietnam. The project established a participatory management board actively operated by local farmers to ensure sufficient and effective irrigation activities.

EDUCATION AND TRAINING

Sep 2023 – August 2026

PhD in Environmental Sciences

Ca' Foscari University of Venice – Venice, Italy

- **Thesis title:** MULTI-RISK METHODS FOR THE ASSESSMENT OF ENVIRONMENTAL AND CLIMATE RISKS AT THE REGIONAL SCALE

Contribute to a better understanding of spatio-temporally interacting risks and their drivers to environmental quality (water quality, biodiversity, air quality) degradation and create forward-looking multi-risk scenarios to support the decision-making process for disaster risk management and climate change adaptation.

- **Supervisors:** Prof. Andrea Critto and Dr. Silvia Torresan.

Sep 2019 – Jul 2021

Erasmus Mundus Joint Master's Degree in Water and Coastal Management

EQF Level 7

University of Bologna (Italy), **University of Cadiz** (Spain), **University of Algarve** (Portugal)

Date obtained: 07/07/2021

Final grade: 110/110

Thesis title: SPATIAL ANALYSIS OF SALINIZATION USING REMOTE SENSING AND WATER BALANCE APPROACHES TO DEVELOP ROBUST MANAGEMENT PRACTICES IN THE MEKONG DELTA

Evaluate the ability of satellite data in soil salinity assessment in the Mekong Delta and propose a Managed Aquifer Recharge (MAR) project for salinization prevention

Supervisors: Prof. Sonia Silvestri and Prof. Marco Antonellini.

Aug 2014 – Jul 2018

Degree of Engineer in Environment and Natural Resources Management

Can Tho University – Can Tho, Vietnam

Date obtained: 19/07/2018

Final grade: 3.62/4.0

Thesis title: THE LIVELIHOOD VULNERABILITY TO FLOODS IN FULL-DYKE SYSTEM IN CHO MOI DISTRICT, AN GIANG PROVINCE.

The measure of livelihood vulnerability to flood in the Cho Moi District, An Giang Province was conducted based on the Livelihood Vulnerability Index (LVI) developed by Hahn (2009) combined into the sustainable livelihoods framework developed by DFID (2000).

Supervisor: Prof. Van Pham Dang Tri

ADDITIONAL INFORMATION

Honours and awards

- **Erasmus Mundus Scholarship** funded by European Union, to study Erasmus Mundus Joint Master Program on Water and Coastal Management (2019 – 2020).
- **OKP Fellowship Program** funded by the Netherlands Government, to participate short course on Water and Environmental Policy Analysis in the IHE Delft Institute for Water Education in the Netherlands (2019).
- The **award for graduated students with excellent degrees** granted by the President of Can Tho University (2018).
- **Student research grant.** The Implementation of Rainwater Harvesting Model for Water Supply in the Mekong Delta Coastal zones under the impact of climate change (2017)
- The **exchange scholarship** in EarthRights Mekong School, Chiang Mai, Thailand for top 02 excellent students of a course (118 students) granted by Can Tho University (2018).
- The scholarship for **the first in the university entrance exam** (1st/118 students) granted by Can Tho University (2014).

Mother tongue

Vietnamese

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	B2	B2	B2
	IELTS 7.0				
Italian	B2	B2	B1	B1	B1

Spanish

A1

A1

A1

A1

A1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Computer skills

- Good command of Microsoft office tools (Word, Excel and Powerpoint)
- Good command of Geographic Information System (QGIS, MapInfo, Google Earth)
- Good command of remote sensing platforms (SNAP, Google Earth Engine)
- Good command of programming languages (R, Python)
- Good command in online conferencing platforms (MS Teams, Zoom, Google Meets, etc.)

Annexes

Annex 1. List of publications

ANNEX 1. LIST OF PUBLICATIONS

PEER-REVIEWED JOURNALS

- Lisa Jones, Katie J. Parsons, Florence Halstead, **Diep Ngoc Nguyen**, Huong T.M. Pham, Dinh-Long Pham, Charlotte R. Allison, Mae Chew, Esther Bird, Amy Meek, Sam J. Buckton, Khang Lê Nguyễn, Alison Lloyd Williams, Thu Thị Võ, Huệ Lê, Anh T.Q. Nguyễn, Christopher R. Hackney and Daniel R. Parsons. 2023. “Conversations on grief and hope: a collaborative autoethnographic account exploring the lifeworlds of international youth engaged with climate action”. *Journal of the British Academy*. 11(s3), 69–117. <https://doi.org/10.5871/jba/011s3.069>
- Silvestri, S., **Nguyen, D.N.** & Chiapponi, E. Comment on “Soil salinity assessment by using near-infrared channel and Vegetation Soil Salinity Index derived from Landsat 8 OLI data: a case study in the Tra Vinh Province, Mekong Delta, Vietnam” by Kim-Anh Nguyen, Yuei-An Liou, Ha-Phuong Tran, Phi-Phung Hoang and Thanh-Hung Nguyen. *Prog Earth Planet Sci* 9, 45 (2022). <https://doi.org/10.1186/s40645-022-00490-7>
- Diep Ngoc Nguyen**, Emilia Chiapponi, Dong Minh Nguyen, Marco Antonellini, Sonia Silvestri. 2023. “Detection and mitigation of soil salinization risk from saline/brackish water aquaculture in coastal areas: an application of remote sensing and managed aquifer recharge”. *Science of the Total Environment*. Under reviewed.
- Diep, Nguyen Ngoc**, Tran Thi Le Hang, Van Der Heiden Dion, Dinh Diep Anh Tuan, and Van Pham Dang Tri. 2019. “The Current State of Domestic Water Consumption and the Feasibility of Implementing a Rainwater Harvesting System in the Coastal Zone of the Vietnamese Mekong Delta: The Case Study of the Vinh Chau Town, Soc Trang Province.” *Vietnam Journal of Science, Technology and Engineering* 61 (3): 90–96. [https://doi.org/10.31276/VJSTE.61\(3\).90-96](https://doi.org/10.31276/VJSTE.61(3).90-96)
- Trang, Nguyen Le, Tran Thi Le Hang, **Nguyen Ngoc Diep**, Nguyen Thai An, and Van Pham Dang Tri. 2018. “Assessing the Impact of Groundwater Degradation on Domestic and Agricultural Activities in Vinh Chau District, Soc Trang Province.” *HUAF Journal of Agricultural Science and Technology* 2 (3): 987–98.

CONFERENCE PROCEEDINGS

- Davide M. Ferrario, Remi Harris, Maria Katherina Dal Barco, **Diep Ngoc Nguyen**, Heloisa Labella Fonseca, Olinda Rufo, Marcello Sano, Margherita Maraschini, Silvia Torresan and Andrea Critto. “Towards an Intelligent-Multi-Risk Framework to model the impacts of extreme climate events on socio-economic and natural systems”. In *AGU General Assembly 2023, United States*.
- Fabienne Horneman, Silvia Torresan, Elisa Furlan, **Diep Ngoc Nguyen**, Asrat Telke Asresu, and Andrea Critto. “Indicators and metrics to evaluate the effectiveness of nature-based solutions for climate risk management and adaptation: A systematic review”. In *EGU General Assembly 2023, Austria*.
- Maria Katherina Dal Barco, Davide Mauro Ferrario, Margherita Maraschini, **Diep Ngoc Nguyen**, Remi Harris, Stefania Gottardo, Emma Tosarin, Sebastiano Vascon, Silvia Torresan and Andrea Critto. “A Machine Learning approach to support multi-risk assessment and climate adaptation planning in the Veneto region”. In *EGU General Assembly 2023, Austria*.
- Maria Katherina Dal Barco, Davide M. Ferrario, Margherita Maraschini, **Diep Ngoc Nguyen**, Sebastiano Vascon, Silvia Torresan, Andrea Critto. “A Machine Learning approach to assess coastal risks related to extreme weather events along the coast of the Veneto region (Italy)”. In *SISC 10 th Annual Conference “SISC2022: Governing the Future”, Italy*.
- Nguyen, Diep Ngoc**, and Marco Antonellini. 2021. “Application of Managed Aquifer Recharge as a Robust Solution for Salinization Prevention in the Mekong Delta, Vietnam .” In *International Conference on Water and Coastal Management, Italy*. ISBN: 9788412400533. p198-202.
- Nguyen, Diep Ngoc**, Emilia Chiapponi, Dong Minh Nguyen, and Sonia Silvestri. 2021. “On the Applicability of Remote Sensing Techniques to Detect Soil Salinization in the Mekong Delta, Vietnam .” In *International Conference on Water and Coastal Management, Italy*. ISBN: 9788412400533. p74-78.
- Diep, Nguyen Ngoc**, Tran Thi Le Hang, Nguyen Xuan Thinh, and Van Pham Dang Tri. 2018. “The Livelihood Vulnerability to Floods in Full-Dyke System in Cho Moi District, An Giang Province.” In *International Symposium on Low Land Technology 2018*, edited by Nguyen Canh Thai & Nguyen Cao Don, 198. Hanoi, Vietnam: Construction Publishing House. ISBN: 978-604-82-2483-7
- Trang, Nguyen Le, **Nguyen Ngoc Diep**, and Van Pham Dang Tri. 2018. “An Assessment of Agricultural Productivity in the

Up-Stream of the Vietnamese Mekong Delta under Water Resources Change.” In *International Symposium on Lowland Technology 2018*, edited by Nguyen Canh Thai and Nguyen Cao Don, 209. Hanoi, Vietnam: Construction Publishing House. ISBN: 978-604-82-2483-7.

PROJECT DELIVERABLES

Analisi preliminare propedeutica alla elaborazione della “Strategiar egionale di adattamento al cambiamento climatico”:
sviluppo di un indice di rischio climatico relativo alla scala regionale (SRACC project)

D.4.2.1 Tools, procedures and dataset for all developed indicators (ADRIACLIM project)

D.5.4.1 Report on climate-related impacts on critical societal sectors to support disaster risk reduction and climate adaptation with a focus on Venice and its Lagoon (ADRICLIM project)

D.5.4.5 Multi-risk assessment in the Veneto Region pilot area: comparative analysis and prioritization of main impacts, vulnerabilities and risks related to climate change (ADRIACLIM project)

Venice, 12/01/2024

Diep Ngoc Nguyen