





SR. DR. MUHAMMAD WAFIY ADLI RAMLI

Geography Section
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BIOGRAPHY

Sr. Dr. Muhammad Wafiy Adli Ramli is a Senior Lecturer in the Geography section at USM's School of Humanities. He specializes in the field of Geographic Information Systems (GIS). Sr Dr Muhammad Wafiy Adli Ramli has acquired extensive knowledge and experience in Environmental Management, Water Resource Management, and Flood Risk Management throughout his impressive 8-year career. Sr Dr Muhammad Wafiy Adli Ramli has a solid educational background, including a Bachelor's degree in Geoinformatics, a Master's degree in Engineering with a specialization in Environmental Management, and a PhD in Civil Engineering with a research focus on Disaster Risk Management.

Throughout my professional journey, I have actively participated in diverse consultancy projects with government agencies such as the Department of Irrigation and Drainage (DID), the National Hydraulic Research Institute Malaysia (NAHRIM), and the Badan Kawal Selia Air Johor (BAKAJ), as well as private companies including Sime Darby and PLUS. Through these experiences, I have gained expertise in developing practical solutions for critical infrastructure, flood modeling, evaluating susceptibility, and implementing actions to reduce risk.

AREAS OF EXPERTISE

- GIS
- DISASTER RISK ASSESSMENT
- ENVIRONMENTAL MANAGEMENT
- HYDROLOGY
- FLOOD MODELLING

ACADEMIC QUALIFICATION

- **PHD (UTM) (2023), (Civil Engineering)**
 Universiti Teknologi Malaysia (UTM)
- **M.ENG (UTM) (2016), (Environmental Management)**
 Universiti Teknologi Malaysia (UTM)
- **B.SC (HONS) (UTM) (2015), (Geoinformatics)**
 Universiti Teknologi Malaysia (UTM)

MEMBERSHIPS

- **MEMBER, ROYAL INSTITUTION OF SURVEYORS MALAYSIA**

2022 to present (National)

- **MEMBER, U-INSPIRE MALAYSIA**

2020 to present (National)

AWARDS AND STEWARDSHIP

- **TOP CITED ARTICLE 2021- 2022**

Wiley Most Cited Article, 2022 (International)

PUBLICATIONS

Article in Journal

WoS

1. Ramli, M. W. A., Alias, N. E., Yusof, H. M., Yusop, Z., Taib, S. M., Wahab, Y. F. A., & Hassan, S. A. (2023, December). Spatial multidimensional vulnerability assessment index in urban area- A case study Selangor, Malaysia. *Progress in Disaster Science*, 20, 100296. <https://doi.org/10.1016/j.pdisas.2023.100296>.
2. Ramli, M. W. A., Alias, N. E., Mohd Yusof, H., Yusop, Z., & Taib, S. M. (2021, September 28). Development of a Local, Integrated Disaster Risk Assessment Framework for Malaysia. *Sustainability*, 13(19), 10792. <https://doi.org/10.3390/su131910792>.
3. Sa'adi, Z., Alias, N. E., Yusop, Z., Chow, M. F, Muhammad, M. K. I., Ramli, M. W. A., Shiru, M. S., Mohamad, N, A., Rohmat, F. I. W., Khambali, M. H. M. (2024). Spatiotemporal Assessment of Rainfall and Drought Projection for Integrated Dam Management in Benut River Basin, Malaysia under CMIP6 Scenarios. *Environmental Challenges*.
4. Sa'adi, Z., Alias, N. E., Yusop, Z., Ramli, M. W. A., Muhammad, M. K. I. (2024). CHIRPS rainfall product application for analyzing rainfall concentration and seasonality in Johor River basin, Malaysia. *Journal of Atmospheric and Solar Terrestrial*. <https://doi.org/10.1016/j.jastp.2024.106203>
5. Sa'adi Z., Alias N.E., Yusop Z., Iqbal Z., Houmsi M.R., Houmsi L.N., Ramli M.W.A., Muhammad M.K.I., (2024). Application of relative importance metrics for CMIP6 models selection in projecting basin-scale rainfall over Johor River basin, Malaysia. *Science Of The Total Environment*. 912 (1). <https://doi.org/10.1016/j.scitotenv.2023.169187>.
6. Sa'adi, Z., Yusop, Z., Alias, N. E., Chow, M. F., Muhammad, M. K. I., Ramli, M. W. A., Iqbal, Z., Shiru, M. S., Rohmat, F. I. W., Mohamad, N. A., & Ahmad, M. F. (2023, December). Evaluating Imputation Methods for rainfall data under high variability in Johor River Basin, Malaysia. *Applied Computing and Geosciences*, 20, 100145. <https://doi.org/10.1016/j.acags.2023.100145>.
7. Sa'adi Z, Yusop Z, Alias NE, Shiru MS, Muhammad MKI, & Ramli M. W. A. (2023). Application of CHIRPS dataset in the selection of rain-based indices for drought assessments in Johor River Basin, Malaysia. *Sci Total Environ* 2023;892. <https://doi.org/10.1016/j.scitotenv.2023.164471>.

8. Alias, N. E., Salim, N. A., Taib, S. M., Mohd Yusof, M. B., Saari, R., Adli Ramli, M. W., Othman, I. K., Annammala, K. V., Yusof, H. M., Ismail, N., Yuzir, A., & Blenkinsop, S. (2019, June 26). Community responses on effective flood dissemination warnings—A case study of the December 2014 Kelantan Flood, Malaysia. *Journal of Flood Risk Management*, 13(S1). <https://doi.org/10.1111/jfr3.12552>

Scopus

1. Wahab, Y., Hamid, Z., Ahmad, F., Jusoh, R., Ghani, K., Anuar, A., & Ramli, M. W. A. (2021). A new approach on landslide vulnerability assessment and landslide risk index for critical infrastructures in Malaysia. *Malaysian Construction Research Journal*, 33(1), 23–45.

Chapter in Books

1. Ramli, M. W. A, Alias, N. E, Taib M.S.,(2022). Disaster Risk Management: An Overview of Disaster Risk Assessment in ASEAN Countries. In *Sustainability Management Strategies and Impact in Developing Countries, Community, Environment and Disaster Risk Management* (Vol. 26, pp. 15–27). Book Chapter in Scopus.
2. Ramli, M. W. A, Alias, N. E, Taib M.S., (2018). Evaluating Transportation Modes and Routes for Disaster Relief in Kelantan Using Geographical Information System, in Zulkifli Yusop, Azmi Aris, Nor Eliza Alias, Kogila Vani Annammala, William L. Waugh, Jr (ed.) *Improving Flood Management, Prediction and Monitoring* (Community, Environment and Disaster Risk Management, Volume 20) Emerald Publishing Limited, pp.63 – 71. Book Chapter in WoS.

Article in Proceeding

1. Ramli, M. W. A, Alias, N. E, Yusop, Z., Talib M.S., (2020), Disaster Risk Index: A Review of Local Scale Concept and Methodologies. *IOP Conf. Series: Earth and Environmental Science. Conference Proceeding in Scopus.*
2. Hani, U., Eliza, N., Azlan, K., Rahmah, Adli, M.W. (2023). Assessing the Impact of Climate Change on Flood Characteristics at Langat River Basin Using Rainfall-Runoff Inundation (RRI) Model. In: Othman, I.K., Mohd. Haniffah, M.R., Jamal, M.H. (eds) *Proceedings of the 5th International Conference on Water Resources (ICWR) – Volume 2. ICWR 2021. Lecture Notes in Civil Engineering*, vol 365. Springer, Singapore. https://doi.org/10.1007/978-981-99-3577-2_1
3. Bahar, A. F., Yusop, Z., Alias N. E., & Ramli, M.W.A (2021), Influence of Dam to Rainfall-Runoff Response in a Tropical Climate – A Case Study of Selangor River Basin, Malaysia. *IOP Conf. Series:Materials Science and Engineering. Conference Proceeding in Scopus.*

CONSULTANCY PROJECT

- **Flood Risk Standard and Guidelines for Flood Risk and Vulnerability for Critical Infrastructure, CREAM CIDB.**
01 June 2023 – 29 February 2023 (National)
- **Study on Total Maximum Daily Load for Sungai Skudai Phase 2, Badan Kawal Selia Air Johor (BAKAJ)**
1 December 2022 - 30 Nov 2023 (National)
- **Project Plan for Management of Machap Reservoir Catchment Area, Kluang Johor, JPS.**
1 September 2022 - 30 Nov 2023 (National)

- **Vulnerability and Adaptation for Agriculture Sector, NAHRIM.**
30 August 2022 – 31 December 2022 (National)
- **Flood modelling and Mitigation measures for Sime Darby Plantation at Ladang Tennamaram, Sime Darby.**
30 October 2022 – 30 November 2023 (National)
- **Johor River Smart Disaster Risk Management Project funded by Smart-JAMP scheme under MLIT in Japan together with Iskandar Regional Development Authority (IRDA)**
1 February 2022 – 28 February 2022 (National)
- **Updating the River Basin and Sub-Basin as well as Geospatial Data of the Rivers in Peninsular Malaysia under the PRAB Phase 2, JPS.**
31 August 2022 – 31 December 2022 (National)
- **Sabo Dam Development Research Project in Gunung Jerai, Kedah, National Water Research Institute Malaysia, NAHRIM.**
August 2022 – 31 December 2022 (National)
- **Flood modelling and Mitigation measures for Sime Darby Plantation at Ladang Simpang Kiri Chaah, Sime Darby.**
20 October 2020 – 31 October 2021 (National)
- **Study on Total Maximum Daily Load for Sungai Skudai Phase 1, Badan Kawal Selia Air Johor (BAKAJ)**
1 December 2020 - 1 December 2021 (National)
- **Flood modelling and Mitigation measures for Sime Darby Plantation, Sarawak region, Bintulu, Sarawak. Sime Darby.**
20 October 2019 – 30 November 2020 (National)
- **Upgrading of the Johor Bahru city centre district area drainage system, IRDA.**
1 March 2018 – 31 December 2018 (National)
- **GIS Database Checking for PLUS Highway Assets Inventories, PLUS.**
1 January 2022 – 31 December 2022 (National)

PAPER PRESENTED

Conference

1. Development of a localized integrated disaster risk index – a case study of three urban district in Selangor (2022). 1st International Symposium on Integrated Flood and Sediment Management in River Basin for Sustainable Development (FSMaRT). Danang, Vietnam.
2. Disaster Risk Management: An Overview of Practices: Disaster Risk Assessment in ASEAN Country (2020). Regional Conference of Civil Engineering and Sustainable Development Goals 2020.
3. Disaster Risk Management: An Overview of Practices: Disaster Risk Assessment in ASEAN Country (2020). Regional Conference of Civil Engineering and Sustainable Development Goals 2020.
4. Disaster Risk Index: Review of concept and methodologies from various country at a local scale. (2019). The 7th AUN/SEED- Net Regional Conference on Natural Disaster (RCND 2019).
5. A Review on Disaster Risk Index of Various Country (2019).4th Global Summit of Research Institutes for Disaster Risk Reduction (4GSRIDRR2019). Kyoto, Japan.
6. The Effectiveness of Existing Disaster Management in Malaysia: A Case Study of December 2014 Flood Kelantan. International Sustainable Technology, Energy & Civilization Conference (ISTECC 2016).

Invited Speaker

1. Lecture on The Resilience Building Course for Sarawak Zone .2023. Construction Research Institute of Malaysia (CREAM). (National) (4 Oct 2023 – 5 Oct 2023)
2. Lecture on The Resilience Building Course for East Coast Zone .2023. Construction Research Institute of Malaysia (CREAM). (National) (8 Nov 2023 – 9 Nov 2023)

Event Organiser

1. Media and Publicity Committee. International Conference on Environmental Sustainability and Resource Security IC – ENSURE 2022.
2. Organizing Committee. International Conference on Environmental Sustainability and Resource Security IC – ENSURE 2019

ACADEMIC/PROF. SERVICES

Contribution to external organisation

1. (2023) Technical Committee, Flood Risk Assessment for Research on Construction Industry Standard (CIS) – Flood Risk Assessment CREAM CIDB (2023-2024), National, (Technical Committee)