

MINISTRY OF NATURAL RESOURCES
AND ENVIRONMENTAL SUSTAINABILITY

ASEAN Workshop on Sea Level Rise (SLR) 2025

"ASEAN's Response to Rising Seas: A New Chapter in Climate Adaptation"

Date:
11 - 12 June 2025
(Wednesday - Thursday)

Venue:
Raia Hotel & Convention Centre, Kuala Terengganu Terengganu



Introduction

As global sea level continues to rise, coastal communities worldwide are encountering unprecedented challenges, with ecosystems at risk and the livelihoods of millions hanging in the balance. For Southeast Asia, with its extensive coastlines, densely populated coastal regions, and reliance on maritime resources, the stakes are particularly high. The region faces intensified threats from coastal erosion, saltwater intrusion, and increasingly severe tidal and storm surge events, posing a critical challenge to both environmental sustainability and socio-economic stability.

Sea level rise is often linked to the melting of land-based ice sheets in the Antarctic and Arctic and other contributing factors. Thermal expansion of warming ocean waters, influenced by rising global temperatures, plays a significant role in regional sea level increases. Additionally, changes in ocean circulation patterns and localized subsidence due to factors like groundwater extraction compound the effects of global sea level rise, making Southeast Asia particularly vulnerable. This multifaceted threat underscores the urgency of understanding and addressing sea level rise to protect Southeast Asia's coastal ecosystems and the millions who rely on them.

This workshop seeks to foster a spirit of togetherness as we address the potential challenges of sea level rise at a regional scale. It provides a unique platform for ASEAN policy makers, scientists and stakeholders to network, explore the latest scientific insight, access regional vulnerabilities, and collaboratively identify strategies for resilience, adaptation and mitigation.

ASEAN CHAIRMANSHIP 2025

As Malaysia chair ASEAN in 2025, the region has an opportunity to collectively address one of its most pressing environmental challenges: sea level rise (SLR).

This workshop provides a timely platform for ASEAN to explore regional approaches, support science-based policymaking, and encourage coordinated action on climate action and adaptation. It also reflects a shared commitment among member states to advance sustainable development and build resilience across vulnerable coastal and island communities.

Malaysia is pleased to spearheaded this important regional initiative and to help pave the way for a more coordinated and collaborative ASEAN response to the challenges posed by sea level rise.

OBJECTIVES

Enhance Awareness and Knowledge on Sea Level Rise

Provide ASEAN policymakers, scientists, and stakeholders with a solid understanding of the science behind sea level rise, including its causes, mechanisms, and impacts specific to Southeast Asia, particularly those connected to climate change, polar melting, and regional oceanic processes.

Vulnerability Assessment and Adaptive Resilience Strategies

Provide understanding of sea level rise in ASEAN by exploring regional vulnerabilities and adaptive solutions. Participants will be exposed to the socio-economic and environmental impacts on coastal communities, infrastructure challenges, and potential mitigation strategies. This may include engineering-based defenses, nature-based adaptation approaches, and innovative coastal protection technologies.

By presenting data-driven insights from ASEAN and global contexts, the session aims to transform technical information into an accessible learning experience. Participants will gain knowledge about sea level rise dynamics, understand the interconnected nature of climate challenges, and be empowered with comprehensive information on potential risks and response strategies in the ASEAN region.

Facilitate Regional Collaboration on SLR Research and Data-Sharing Initiatives

Lay the groundwork for collaborative efforts across ASEAN nations, focusing on data sharing, regional risk assessment, and research on sea level rise to foster knowledge exchange and mutual support.

Position Sea Level Rise as a Priority within ASEAN's Climate Resilience Agenda

Align the outcomes of the workshop with ASEAN's broader climate resilience goals, fostering regional commitment to addressing sea level rise as a critical component of ASEAN's climate adaptation initiatives.

Collaborative Regional ASEAN Sea Level Rise Working Committee

To sustain the momentum of collaborative research and knowledge exchange, the workshop will propose the establishment of an ASEAN Sea Level Rise Working Committee. This interdisciplinary group will comprise scientific experts, policymakers, and climate resilience specialists from each ASEAN member state. The working group's mandate will include continuous research coordination, periodic knowledge sharing, joint research initiatives, and developing a region-wide framework for monitoring, assessing, and responding to sea level rise challenges. By institutionalizing this collaborative platform, ASEAN countries can ensure ongoing dialogue, research continuity, and coordinated adaptation strategies beyond the workshop.

This initial workshop aims to equip ASEAN policymakers and stakeholders with foundational knowledge on sea level rise, setting the stage for future action frameworks.

OUTPUT

The workshop will produce a Preliminary ASEAN Risk and Vulnerability Report on Sea Level Rise, covering:

1. **Regional Risk and Vulnerability Assessment :** An overview of ASEAN's coastal vulnerabilities.
2. **Collaboration Suggestions:** Recommendations for future collaborations in scientific research, data sharing, and funding.
3. **Initial Policy Recommendations:** Key policy considerations to guide ASEAN in addressing SLR incusing proposal to set up ASEAN SLR Working Committee.
4. **Dedicated ASEAN Working Committee on SLR:** Establishment of Regional ASEAN Sea Level Rise Working Committee to ensure ongoing dialogue, research continuity and coordinated adaptation strategies beyond the workshop.

OUTCOME

1. **Enhanced Awareness:** Increased understanding of the science, causes, and impacts of sea level rise, particularly within ASEAN.
2. **Baseline Knowledge for Policymakers:** ASEAN policymakers gain insights into initial policy options and adaptation strategies suitable for their contexts.
3. **Introduction to Adaptation Technologies:** Participants are introduced to technologies and approaches that ASEAN members may consider for adaptation.
4. **Foundational Collaboration Efforts:** Initial steps toward regional data sharing and scientific collaboration on SLR.
5. **Policy Advocacy for Global Forums:** Highlight SLR as a critical issue in the ASEAN Joint Statement on Climate Change for COP30/2025.

CONCLUSION

The first ASEAN Workshop on Sea Level Rise will provide an overview of the scientific mechanisms contributing to sea level rise and deepen participants understanding of the challenges posed by rising seas.

Engaging experts and encouraging collaborative discussion will help participants grasp the urgency of the issue and lay the groundwork for future research and policy initiatives. This workshop will empower ASEAN member states to address the complexities of sea level rise through informed dialogue, data sharing, and strategic planning, fostering resilience in the face of climate change.

PROGRAM

WEDNESDAY, 11 JUNE 2025	
TIME	**PROGRAM**
8:30 am	**Registration**: ASEAN Workshop on Sea Level Rise 2025
9:00 am	**Keynote Speech:** "Preparing ASEAN for Rising Seas: Building Awareness and Resilience against Sea Level Rise" **YBhg. Datuk Nor Yahati Binti Awang** Deputy Secretary General (Environmental Sustainability) Ministry of Natural Resources and Environmental Sustainability (NRES)
9:10 am	**Remarks by ASEAN Secretariat (pre-recorded video)** **H.E. San Lwin** Deputy Secretary General ASEAN Socio-Cultural Community ASEAN Secretariat
Session 1: Causes of Sea Level Rise Objective: Introduce the scientific basis of sea level rise, focusing on the contributing factors relevant to the ASEAN region. **Moderator: Dr. Muhammad Hafeez Jeofry** Faculty of Science and Marine Environment Universiti Malaysia Terengganu	
9:20 am	**Speaker 1:** "Bridging Science to Implementation: Role of Climate Research for Coastal Resilience" **Dato' Ir. Mohd Zaki Mat Amin** Director General National Water Research Institute of Malaysia (NAHRIM)
9:35 am	**Speaker 2:** "Polar and Glacial Melt: Global Impacts, Regional Implications" **Prof. Emeritus Dato' Dr. Azizan Abu Samah** Member, Board of Trustees Sultan Mizan Antarctic Research Foundation (YPASM)
9:50 am	**Speaker 3:** "Waves of Change: Ocean Dynamics and the Realities of Sea Level Rise" **Prof. Ts. Dr. Mohd Fadzil Mohd Akhir** Pro Vice-Chancellor (Strategy, Performance and Corporate) Universiti Malaysia Terengganu (UMT)

PROGRAM

WEDNESDAY, 11 JUNE 2025	
TIME	**PROGRAM**
10:05 am	**Discussion and Drafting Points:** • Summarize the primary causes of sea level rise impacting ASEAN. • Identify specific areas where further research or data collection is needed. • Suggest initial steps for regional data-sharing initiatives. **Moderator: Dr. Muhammad Hafeez Jeofry**
11:05 am	**Coffee Break**
Session 2: Impacts of Sea Level Rise Objective: Examine SLR's impacts on ASEAN's environment, communities, and economies, highlighting case studies and real-world examples. **Moderator: Dr. Tamalia Amanda Putri Othman** Sultan Mizan Antarctic Research Foundation (YPASM)	
11:15 am	**Speaker 1:** "Environmental Impacts: How Rising Seas Transform Coastal Ecosystems" **Dr. Trialakita Sari Priska Ardhani** The Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF)
11:30 am	**Speaker 2:** "Finding from the Study of Loss and Damage in ASEAN focus on Sea Level Rise" GIZ ASEAN EU-Germany Climate Action Programme
11:45 am	**Speaker 3:** "Social and Economic Implications: Migration, Displacement, and Economic Loss" **Assoc. Prof. Dr. Thirunaukarasu A/L Subramaniam** Department of Southeast Asian Studies Faculty of Arts and Social Sciences Universiti Malaya
12:00 pm	**Discussion and Drafting Points:** • Assess which ASEAN regions are most vulnerable to SLR impacts. • Discuss the socio-economic implications, prioritizing key concerns for ASEAN. • Explore potential regional collaborations for sharing impact data and case studies **Moderator: Dr. Cheah Wee** Institute of Ocean and Earth Sciences (IOES) University of Malaya
1:00 pm	**Lunch**

PROGRAM

WEDNESDAY, 11 JUNE 2025	
TIME	**PROGRAM**
Session 3: Policy and Innovative Solutions to Sea Level Rise Objective: Sharing of policy, effective technologies and adaptation measures to address and mitigate SLR impacts within ASEAN. **Moderator: Prof. Ts. Dr. Mohd Fadzil Mohd Akhir** Universiti Malaysia Terengganu (UMT)	
2:30 pm	**Speaker 1 :** "Technological Innovations for Climate Resilience: Emerging Tools to Tackle Sea Level Rise" **Assoc. Prof. Dr. Yusri Yusup** School of Industrial Technology Universiti Sains Malaysia.
2:45 pm	**Speaker 2:** "Harnessing Geospatial Intelligence for Coastal Resilience: Innovations in Erosion Monitoring and Risk Adaptation" **Assoc. Prof. Sr Ts. Gs. Dr Khairul Nizam Abdul Maulud** Faculty of Engineering & Built Environment Universiti Kebangsaan Malaysia.
3:00 pm	**Speaker 3:** "Mangroves : A lighthouse for the future" **Assoc. Prof. Dr. Behara Satyanarayana,** Institute of Oceanography and Environment (INOS) Universiti Malaysia Terengganu (UMT)
3:15 pm	Sharing of current policies and best practice management by ASEAN Member States (AMS)
4:00 pm	**Discussion and Drafting Points:** • Highlight current policy among ASEAN countries • Identify promising technologies and nature-based solutions suitable for ASEAN. • Discuss opportunities for technical cooperation and knowledge exchange. **Moderator: Prof. Ts. Dr. Mohd Fadzil Mohd Akhir**
5:00 pm	**Coffee Break**
5:10 pm	**Wrap up Session** · Key take away from each session · Propose Way forward
5:30 pm	End of Workshop
END OF WORKSHOP	

PROGRAM

WEDNESDAY, 11 JUNE 2025 Dinner Reception Venue: Duyong Marina & Resort, Kuala Terengganu, Terengganu Hosted by YAB Dato' Seri Ir. Dr. Ahmad Samsuri Bin Mokhtar, Menteri Besar of Terengganu & Chairman of YPASM Board of Trustees *Dress code: National costume / batik attire	
TIME	**PROGRAM**
8:00 pm	Arrival of guests
8:25 pm	Arrival of YAB Dato' Seri Ir. Dr. Ahmad Samsuri Bin Mokhtar, Menteri Besar of Terengganu & Chairman of YPASM Board of Trustees
8:30 pm	Welcoming speech by YAB Dato' Seri Ir. Dr. Ahmad Samsuri Bin Mokhtar, Menteri Besar of Terengganu & Chairman of YPASM Board of Trustees
8:40 pm	Dinner and cultural performance
10:00 pm	End of programme

THURSDAY, 12 JUNE 2025	
TIME	**PROGRAM**
8:00 am	Depart from Raia Hotel
8:30 am	Technical visit to breakwater and coastal defence areas at UMT campus beach
10:00 am	Visit Terengganu Cultural Village
11:15 am	Depart from Cultural Village
12:00 pm	End of Program

ORGANISERS

MINISTRY OF NATURAL RESOURCES AND SUSTAINABILITY (NRES).

KEMENTERIAN SUMBER ASLI DAN KELESTARIAN ALAM

The Ministry of Natural Resources and Environment (NRES) is a key ministry in the Malaysian government, tasked with the stewardship of the country's natural resources and environmental management. It was established to address the increasing concerns over environmental degradation, resource management, and sustainable development in Malaysia.

The ministry is responsible for formulating policies, strategies, and programs aimed at the conservation of Malaysia's natural resources. NRES is also in charge of promoting sustainable environmental practices and addressing climate change. The ministry oversees various bodies and initiatives that ensure compliance with environmental regulations and standards.

SULTAN MIZAN ANTARCTIC RESEARCH FOUNDATION (YPASM)

YPASM was established by the government of Malaysia in 2012 to advance Malaysia's contributions to Antarctic research, exploration, and governance. YPASM's main function is to promote scientific research related to Antarctica and polar regions, focusing on issues such as climate change, environmental conservation, and sustainable practices. YPASM is under the purview of Ministry of Natural Resources and Sustainability.

Research projects funded by the foundation are targeted at contributing to our understanding of how the planet works and in predicting how it will change

UNIVERSITI MALAYSIA TERENGGANU (UMT)

Located by the South China Sea, Universiti Malaysia Terengganu (UMT) is geographically privileged by having the best location in the preservative of natural heritage and wonder of Malaysia for the students to gain first-hand knowledge and experience alongside the respective experts and researchers from various course. Having Marine Science and Aquatic Resources as the niche area, UMT possess the needed facilities and experts in ensuring the students to gain the best educations. UMT continuously performs variety of physical charging and activities that support the development and deployment of excellence through improved infrastructure and infostructure to support teaching and learning activities, researches, science and community developments locally and globally.

ORGANISERS

NATIONAL WATER RESEARCH INSTITUTE OF MALAYSIA (NAHRIM)

NAHRIM was established in 1995 and under the purview of Ministry of Energy Transition and Water Transformation (PETRA). NAHRIM's primary function is to conduct scientific research and provide technical expertise on water-related issues, encompassing a wide range of critical domains including water resources, climate change, river basin management, coastal and oceanographic studies, hydrogeology, and water quality and environmental assessment.

NAHRIM plays a crucial role in studying sea level rise in Malaysia, leveraging its expertise in coastal and oceanographic research to understand and address the potential impacts of climate change on the country's extensive coastline. The institute has developed comprehensive research capabilities focused on sea level rise, utilizing advanced monitoring techniques and predictive modeling to assess the vulnerabilities of Malaysia's coastal regions. NAHRIM's sea level rise studies are particularly critical given Malaysia's significant coastal population and economic infrastructure, which are potentially at risk from rising sea levels.

Through its rigorous scientific approach, NAHRIM provides essential knowledge that helps Malaysia prepares for and mitigates the potential challenges posed by sea level rise, demonstrating the critical role of research institutions in addressing climate change impacts.

NATIONAL ANTARCTIC RESEARCH CENTRE (NARC)

Yayasan Penyelidikan Antartika Sultan Mizan (YPASM) signed a tripartite Memorandum of Agreement (MoA) with University Malaya and University Malaysia Terengganu to jointly establish the National Antarctic Research Centre (NARC). NARC serves as a key platform for coordinating the research activities of the Malaysian Polar community and operates under the oversight of YPASM.

Its core functions include facilitating collaboration among Malaysian Polar researchers, expanding its network with international Polar research organizations, and organizing conferences, seminars, training, and outreach activities to benefit the community. Additionally, NARC provides advisory support to the Malaysian government through YPASM on policies related to Polar research and governance.

The centre's vision focuses on addressing climate change, conserving ecosystems, and fostering international cooperation in Polar research. Its mission is to enhance Malaysia's involvement in Polar studies by promoting effective coordination, fostering an inclusive work environment, and engaging stakeholders. NARC's objectives include facilitating Malaysian scientific contributions to global research, strengthening the capabilities of Malaysian Polar researchers, and ensuring Malaysia's continued presence as a significant player in Polar research.

List of Participants

ASEAN MEMBER STATES (AMS)

- **BRUNEI**
- **CAMBODIA**
- **INDONESIA**
- **LAO PDR**
- **MALAYSIA**
- **MYANMAR**
- **SINGAPORE**
- **THAILAND**
- **PHILIPPINES**
- **VIETNAM**

PARTICIPANTS (MALAYSIA)

P JEEVANANTH A/L PALIAH
Undersecretary
Strategic And International Planning Division
Ministry of Natural Resources and Environmental Sustainability

AZLINA BINTI MOHD SAID
Principal Assistant Secretary
Natural Resource Management Section
Ministry of Natural Resources and Environmental Sustainability

JURAINAH BINTI OTHMAN
Principal Assistant Secretary
Water Resources Division
Ministry of Energy Transition and Water Transformation

LSR MUHAMAD NUR BIN MUHAMAD YATIM
Assistant Director of Survey
Department of Survey and Mapping Malaysia
Ministry of Natural Resources and Environmental Sustainability

SANISAH BINTI SHAFIE
Director
Regional Planning Division
Department of Town and Country Planning (PLANMalaysia)
Ministry of Housing and Local Goverment

DR. AIDA SORAYA BINTI SHAMSUDDIN
Senior lecturer
Southeast Asia Disaster Prevention Research Initiative (SEADPRI)
Institute for Environment and Development (LESTARI)
Universiti Kebangsaan Malaysia

List of Participants

MOHD FAIROZ BIN ROZALI
Principal Assistant Director,
Marine Environment Protection Unit
Marine Department Malaysia

NOR NADIA ZAHIRA BINTI ZAKARIA
Director
Lembaga Sumber Air Terengganu (LAUT)

CHEO SENG KONG
Climate Adaptation Coordinator
WWF-Malaysia

THERESE TIU
Programme Analyst, Climate and Energy
UNDP Malaysia, Singapore and Brunei Darussalam

SAYFUL ISLAM BIN MAT
Chief Assistant Director
Maritime Industrial Control Division
Marine Department Eastern Region
Marine Department Malaysia

ZULIARNI BINTI ZAHUDI
Research Officer
Malaysian Space Agency (MYSA)

DR.WAN LUTFI WAN JOHARI
Senior lecturer
Department Environmental Science and Technology
Faculty of Forestry and Environment
Universiti Putra Malaysia

DR TEH SABARIAH BINTI ABD MANAN
Senior lecturer
Institute of Tropical Biodiversity and Sustainable Development
Universiti Malaysia Terengganu

HUSNUL ARIF BIN MOHD
Assistant Director
Maritime Operation Division
Marine Department Eastern Region
Marine Department Malaysia

DR. MELISSA BEATA MARTIN
Senior lecturer
Universiti Malaysia Terengganu

DR. IILYA KHAIRANIS BT OTHMAN
Director
Centre for River and Coastal Engineering
Universiti Teknologi Malaysia

List of Participants

DR. CHEAH WEE
Senior lecturer
Institute of Ocean and Earth Sciences (IOES)
University of Malaya

DR. FIONA KENG SEH LIN
Senior lecturer
Institute of Ocean and Earth Sciences (IOES)
University of Malaya

DR. NIK NURHAZIRAH BINTI NIK OMAR
Chief Assistant Director
Lembaga Sumber Air Terengganu (LAUT)

MOHD ARRABE' AHMAD BAEI
Executive
Yayasan PETRONAS

LEAD RAPPORTEURS

PROF. TPR DR. GOH HONG CHING
Department of Urban & Regional Planning
Faculty of Built Environment
University of Malaya

RAPPORTEURS

ASSOC. PROF. DR. NURUL HUDA BINTI AHMAD ISHAK
Senior Lecturer
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

ASSOC. PROF. DR. MUHAMMAD HAFIZ BIN BORKHANUDDIN
Senior Lecturer
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

YUZWAN BIN MOHAMAD
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

MOHAMAD AMIR ZIKRI BIN ZANUAR
Research Assistant
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

NEERAN NIRAJ A/L SURESH
Postgraduate Student
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

NUR KHATIBAH BINTI MD YUNOS
Postgraduate Student
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

KEE SOO CHEN
Postgraduate Student
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

CONTACT PERSON

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL SUSTAINABILITY(NRES), MALAYSIA
NORFAZIRA SALLEH
Email : norfazira_s@nres.gov.my
Phone : +60172889301

SULTAN MIZAN ANTARCTIC RESEARCH FOUNDATION (YPASM)
MUHAMMAD FARDY MD IBRAHIM
Email : fardy@ypasm.my
Phone : +60192934980

UNIVERSITI MALAYSIA TERENGGANU (UMT)
DR. WAN MOHD RAUHAN WAN HUSSIN
Email : rauhan@umt.edu.my
Phone : +60199225364

NATIONAL WATER RESEARCH INSTITUTE OF MALAYSIA (NAHRIM)
IKMALZATUL ABDULLAH
Email : ikmalzatul@nahrim.gov.my
Phone : +60137046706

NATIONAL ANTARCTIC RESEARCH CENTRE (NARC)
PROF. DR. SITI AISYAH ALIAS
Email : saa@um.edu.my
Phone : +60123089294

DR. WAN MOHD RAUHAN WAN HUSSIN
Email : rauhan@umt.edu.my
Phone : +60199225364