

Q2 2025

NEWSLETTER

ADAPTATION & RESILIENCE WORKING GROUP

قجابت قراوبهن اقليم نكارا بروني دارالسلام

BRUNEI **CLIMATE CHANGE** OFFICE

Fourth Workshop on ASEAN Regional Climate Data, Analysis and Projection



— 21 to 24 April 2025, Singapore, Republic of Singapore

The Brunei Climate Change Office (BCCO) in collaboration with the Brunei Darussalam Meteorological Department (BDMD) was invited to the ASEAN Regional Climate Data, Analysis and Projection workshop organised by the Centre for Climate Research Singapore (CCRS) in partnership with World Meteorological Organization (WMO).

The workshop introduced the latest advancements in high resolution global climate projections from Singapore's Third National Climate Change Study (V3). The V3 model represents a significant step forward in regional climate science, offering projections at a much finer spatial resolution up to 8 km in some areas. This can enhance the accuracy and reliability of climate risk and impact assessments for policy planning and resilience building.

Furthermore, the workshop provided a valuable platform for participants from ASEAN Member States (AMS) to exchange knowledge, share national experiences, and discuss best practices in climate data analysis and projection methodologies.

Community Based Disaster Risk Management (CBDRM) Programme in Mukim Kilanas





— 15 May 2025, Bandar Seri Begawan, Brunei Darussalam

Held at Dewan Kemasyarakatan Bengkurong, BCCO was amongst one of the many agencies invited to deliver a briefing for the Community-Based Disaster Risk Management (CBDRM) Programme. The briefing explained on the agencies' respective roles and functions, particularly flood incident management.

BCCO covered topics such as introduction of climate change, the contributing causes, the impacts and national actions taken to address the phenomena. The session ended with an interactive quiz, as well as a question and answer session with the villagers.

The programme is one of National Disaster Management Center (NDMC)'s annual initiatives, with the purpose of enhancing public comprehension on the different agencies' respective roles and responsibilities in disaster management. It also underscores the critical importance of community awareness and participation in disaster preparedness and responses, including climate-induced events.

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BRUNEI **CLIMATE CHANGE** OFFICE







NATIONAL CLIMATE VULNERABILITY (NCVA) WORKSHOP

— 29 to 30 April 2025,
Bandar Seri Begawan, Brunei Darussalam

The National Climate Vulnerability Assessment (NCVA) plays a pivotal role in evaluating a country's sensitivity, exposure, and adaptive capacity to the impacts of climate change. This comprehensive assessment is instrumental in informing the development of targeted strategies within the National Adaptation Plan (NAP).

For Brunei Darussalam, the NCVA specifically helps to assess climate-related risks, establish clear adaptation priorities, and formulate and implement prioritised research activities. This, in turn, facilitates informed decision-making on the allocation of resources for adaptation strategies.

By highlighting adaptation's crucial role in protecting people, livelihoods, and ecosystems, the NCVA directly contributes to Brunei Darussalam's efforts in enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change as mentioned in Global Goal on Adaptation (GGA) under the Paris Agreement.

> ***"The level of risk will depend on concurrent near-term trends in vulnerability, exposure, level of socioeconomic development and adaptation."***
>
> -IPCC AR6 Synthesis Report

2025	2027	2030
Submission of NAP to UNFCCC	*Completion of NCVA*	*Implementation of NAP*

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BRUNEI CLIMATE CHANGE OFFICE

Regional Training Workshop on "National Adaptation Plan: Strengthening Capacity for Multi-sectoral Inclusion in the NAP Process in the Asia Pacific Region"







— 28 to 30 May 2025, Bangkok, Thailand

The regional workshop was organised by the Asian Institute of Technology (AIT), Regional Resource Centre for Asia and the Pacific, in collaboration with the United Nations Framework Convention on Climate Change (UNFCCC) and with funding support from the Ministry of the Environment, Government of Japan.

2 officers from the BCCO attended the workshop, which is designed to support governments across Asia and the Pacific region in advancing their national adaptation planning processes.

The 3-day workshop delved into exploring the different nexus across GGA targets to foster cross-sectoral resilience planning. Participants worked together to conceptualise real-world adaptation proposals to build capacity and confidence to access international climate finance, as well as designing an inclusive and gender-responsive Monitoring, Evaluation, and Learning system to effectively track adaptation progress.

As Brunei Darussalam is preparing to submit its first NAP within this year, the insights and resources gained during the workshop will help to enhance adaptation planning, ensuring it is inclusive, accountable and impactful.

First Project Steering Committee (PSC) Meeting and Project Launch for "Supporting Socially Inclusive Climate Adaptation & Resilience (CLARE) in ASEAN"









— 3 to 4 June 2025, Jakarta, Indonesia

The research programme "Supporting Socially Inclusive CLimate Adaptation & REsilience (CLARE) in ASEAN" or "CLARE-ASEAN" was launched to focus on implementing evidence-based, gender-responsive, and community-driven strategies to build urban resilience, and advance socially inclusive climate adaptation in Southeast Asian cities. It is run by the AIT, in collaboration with ASEAN Secretariat, and funded by the UK Foreign, Commonwealth & Development Office and Canada's International Development Research Centre.

Zulfadhli Mahri, Head of the Adaptation and Resilience Unit, BCCO attended the First PSC Meeting which discussed the AMS' roles and responsibilities, the PSC Terms of Reference endorsement, and reviewing the project's workplan and implementation framework. The official launch also introduced 4 selected research projects aimed at helping ASEAN cities respond to climate challenges and featured feedback and guidance from stakeholders, with opening remarks by Dr. Vong Sok (ASEAN Secretariat) and H.E. Sarah Tiffin (UK Ambassador to ASEAN), followed by a keynote speech by Prof. Winston Chow (Co-Chair of IPCC Working Group II), highlighting inclusive adaptation.

CLARE-ASEAN sets the stage for stronger collaboration and research in climate adaptation across ASEAN. For Brunei Darussalam, it is a chance to learn, contribute, and ensure no one is left behind in the fight against climate risks.

كمنترين كصيحتن
KEMENTERIAN KESIHATAN
MINISTRY OF HEALTH



CLIMATE CHANGE AND HEALTH

Climate change directly and indirectly impacts human health. Addressing Climate Change is essential to protect public health, reducing preventable diseases and building resilience in the face of an evolving environmental hazard.

Ministry of Health is committed to strengthen the health system capacity to effectively respond to future global health challenges and climate crisis. Ministry of Health also recognizes that environmental sustainability and climate adaptation are integral to delivering an effective health care system. It is essential to build a health care system that not only withstand the challenges posed by climate change and natural disasters but also contributes positive environmental stewardship, securing the wellbeing of Brunei's population for generation to come.

NATIONAL BRIDGING WORKSHOP

— 22 to 24 April 2025, Bandar Seri Begawan, Brunei Darussalam

One Health Approach and Climate Change

One Health recognizes the intrinsic links between Human, Animal and Environmental Health. As Climate Change accelerate, it also exacerbates risks such as zoonotic diseases, habitat destructions and vector borne diseases.



The National Bridging Workshop was co-organized by Ministry of Health with support from Quadripartite (World Health Organization (WHO), World Organization for Animal Health (WOAH), Food and Agriculture Organization (FAO) and United Nation Environment Programme (UNEP). It is a part of a global initiative to help countries build stronger, smarter systems for detecting and responding to zoonotic diseases and other health risks at the human-animal-environment interface.

The National Bridging Workshop objective were:

1. To provide an opportunity for National human health, animal health and environmental health services to meet and discuss specifically on their coordinated work and collaboration.
2. To increase awareness and understanding on capacity assessment tools used by different sectors such as JEE and PVS and how these tools can be connected and used to explore joint strategic planning.
3. To evaluate the current collaboration between human, animal and environment sector.
4. To plan for operational activities to strengthen one health collaboration.

كمنترين كصيحتن
KEMENTERIAN KESIHATAN
MINISTRY OF HEALTH

‘IN COUNTRY’ TRAINING BASIC DISASTER HEALTH MANAGEMENT COURSE AND COORDINATION COURSE

— 17 to 20 May 2025, Bandar Seri Begawan, Brunei Darussalam



To strengthen preparedness and to equipped participants with the skills needed to effectively managed emergencies caused by climate related disasters, Ministry of Health has successfully conducted an ‘In Country’ Training on Basic Disaster Health Management Course (B-Course) and Coordination Course (C-Course) as part of ARCH Project’s regional capacity building initiatives to enhance disaster health management, training and educations. ARCH Project is an ASEAN collaboration mechanism on disaster health management to strengthen regional coordination. The course aims to reinforce national commitment to enhance national capacity in disaster medical response and establish operations mechanisms for Emergency Medical teams.



The workshop sessions were designed to maximize learning through a dedicated B-Course and C-Course module, group activities and a joint tabletop exercise to consolidate what has been learned during the workshop. Participants also received mentorship from ARCH project experts, Thailand Taskforce and ASEAN Institute for Disaster Health Management (AIDHM).



One of the outputs from the workshop was a jointly develop roadmap. The roadmap supports Brunei’s National One Health Joint plan of Action which also aligns with ASEAN one health initiatives. This also means a better perspective, resilient system that can prevent, detect and respond to health risks.



Another significant outcome from the workshop was an establishment of a National One Health Coordination Centre. This initiative will serve as the institutional anchor for Brunei’s One Health strategy to ensure continues collaborative efforts among human, animal and environmental sectors.

كمنترين كصيحتن
KEMENTERIAN KESIHATAN
MINISTRY OF HEALTH

SUSTAINABILITY AND WASTE MANAGEMENT WORKSHOP IN HEALTHCARE SECTOR

— 26 May 2025, Bandar Seri Begawan, Brunei Darussalam

To strengthen awareness and improve work practices among those who manages Waste, Climate, Health and Sustainability Taskforce in collaboration with Department of Environmental Health Services and the National Sanitation Issues Stewardship Committee conducted a workshop to raise awareness and reinforce best practices in the health waste management. Participants include cleaners, waste worker and waste contractors. The workshop is implemented under the broader Ministry of Health sustainability initiative and is in line with World Health Organization and Ministry of Health Healthcare Waste Management Guideline.

Efficient, effective and safe management of clinical and nonclinical (domestic waste) is an important aspect of the health care system. Clinical and non-clinical waste management worker plays a key role in ensuring that waste is handled in a safe and proper manner to avoid health risk to staff, patient, visitors and public. Inconsistent waste management knowledge and practices among waste management workers can compromise effectiveness of waste management systems and impact on environmental safety and sustainability. This can also lead to environmental pollution, spread of Infectious Disease and workplace injuries.

This capacity development Programme and system improvement efforts focuses on management of clinical and non-clinical waste is not a stand-alone waste management program but rather a climate and sustainability related intervention that aims to reduce carbon emissions and optimize healthcare operations, build workforce capacity and meet the National goal in climate and health under the Green Protocol and Brunei Darussalam National Climate Change Policy. Hence, a proper waste management in the health sector are important aspects in ensuring a more sustainable and environmentally friendly health system.





جابتن ڤرهوتنن
FORESTRY DEPARTMENT
MINISTRY OF PRIMARY RESOURCES AND TOURISM



ASEAN CARBON FORUM: DEVELOPMENT OF CREDITING PROGRAM AND CARBON PROJECT, 9 October 2024, Kuala Lumpur Convention Centre, Malaysia





The Ministry of Natural Resources and Environmental Sustainability of Malaysia, in collaboration with the Malaysia Forest Fund, recently organized a forum in conjunction with the International Greentech & Eco Products Exhibition and Conference Malaysia (IGEM) 2024. The forum aimed to provide a platform for dialogue, collaboration, and knowledge exchange among policymakers and stakeholders on the development of carbon crediting systems—focusing on policy, finance, monitoring, and verification aspects.

The forum offered a comprehensive introduction to carbon markets, including policy and legal frameworks, involved agencies, and monitoring procedures. It also highlighted efforts from various ASEAN countries in implementing carbon markets, sharing challenges and strategies for overcoming them.

The forum served as a valuable opportunity for Brunei representatives to gain insights into regional efforts, frameworks, and challenges in developing robust carbon crediting systems, aligning with broader goals under the Paris Agreement and ASEAN climate cooperation.





SEMINAR ON SUSTAINABLE MANGROVE INDUSTRY: HARNESSING BIODIVERSITY FOR ECONOMIC AND ENVIRONMENTAL PROSPERITY, 17 - 18 January 2025, Hotel Corus Kuala Lumpur City Centre, Malaysia

Two representatives from the Forestry Department recently attended the Seminar on Sustainable Mangrove Industry: Harnessing Biodiversity for Economic and Environmental Prosperity, held under the ASEAN Mangrove Network (AMNET). The seminar brought together participants from ASEAN countries to share knowledge and best practices on sustainable mangrove management and utilization.

Mangrove ecosystems are vital for coastal protection, biodiversity, and local livelihoods, but they face threats from deforestation, pollution, and climate change. The seminar highlighted the need for integrated approaches combining science, community engagement, policy support, and sustainable business models. Participants also showcased mangrove-related products and innovations supporting conservation and economic development.

The Forestry Department's participation reflects Brunei's continued commitment to regional collaboration in promoting sustainable mangrove conservation and management.

TREE PLANTING ACTIVITIES IN COLLABORATION WITH FORESTRY DEPARTMENT AND OTHER GOVERNMENT AND NON-GOVERNMENT AGENCIES

Over the years, numerous forest restoration and rehabilitation initiatives have been undertaken to strengthen ecosystem resilience and promote environmental sustainability, benefiting both biodiversity and local communities.

As of June 2025, a total of 186,698 trees planted in support of National Forestry Policy and Strategy 2: Forest Cover under the Brunei Darussalam National Climate Change Policy.





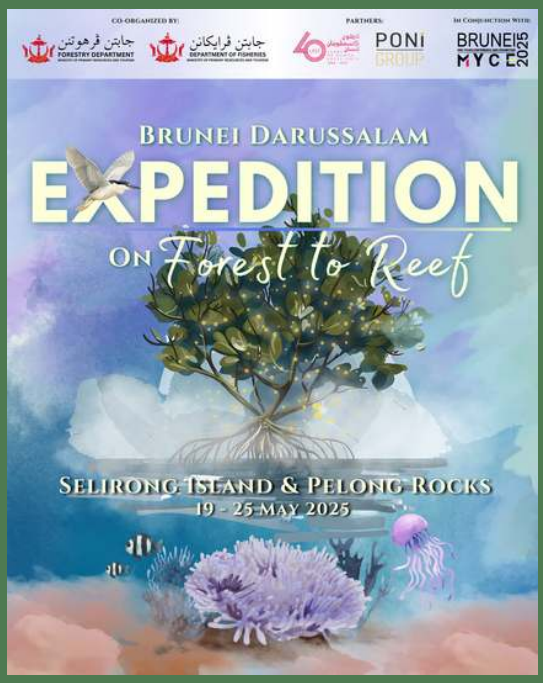




BRUNEI MID-YEAR CONFERENCE AND EXHIBITION (MYCE) 2025, BRUNEI DARUSSALAM EXPEDITION ON FOREST TO REEF, 19 - 25 May 2025, Selirong Island & Pelong Rocks, Brunei Darussalam

Brunei Darussalam hosted a multidisciplinary "Forest to Reef" scientific expedition that gathered local and international researchers committed to understanding and preserving the planet's precious biodiversity. The expedition fostered collaboration, knowledge-sharing, and networking among experts exploring the ecological links between mangrove forests and coral reefs. Fieldwork at Pulau Selirong focused on documenting flora and fauna biodiversity and evaluating mangroves' role in carbon sequestration and fish breeding. At Pelong Rocks, researchers assessed the presence of macro- and microplastics in coral ecosystems to inform Brunei Darussalam's marine conservation strategies and support broader sustainability goals.

The expedition highlighted the collective efforts to promote integrated environmental management and strengthen regional scientific cooperation. It culminated in the Brunei Darussalam Conference on Forest to Reef, held from 17 to 19 June 2025 at the International Convention Centre in Berakas, where participants presented their preliminary findings. This initiative reinforced the importance of preserving Southeast Asia's blue carbon ecosystems and coral reefs in building climate resilience and advancing the sustainable blue economy.















BRUNEI MID-YEAR CONFERENCE AND EXHIBITION (MYCE) 2025, BRUNEI DARUSSALAM CONFERENCE ON FOREST TO REEF, 17 – 19 June 2025, International Convention Centre, Brunei Darussalam

The Ministry of Primary Resources and Tourism through the Forestry Department and Department of Fisheries in partnership with Universiti Brunei Darussalam (UBD) and Poni Group Sdn Bhd hosted the Brunei Darussalam Conference on Forest to Reef in conjunction with the Brunei Mid-Year Conference and Exhibition (MYCE) 2025. The conference highlighted the vital interconnections between forests, coastal ecosystems, and coral reefs in enhancing climate resilience and supporting biodiversity.

The conference featured six thematic areas that explored the critical roles of mangroves, seagrasses, salt marshes, and coral reefs as carbon sinks, sediment stabilizers, and biodiversity hotspots. Key sessions showcased innovations in ecosystem monitoring through cutting-edge tools such as drones, artificial intelligence (AI), and environmental DNA (eDNA), alongside discussions on integrated watershed and reef management, sustainable forest practices, and the economic valuation of ecosystem services.

In addition, the conference presented successful case studies from the ASEAN region and revealed findings from recent biodiversity surveys conducted in Pulau Selirong's pristine mangrove and marine habitats. By promoting cross-ecosystem synergies and sustainable land-sea climate solutions, the forum strengthened conservation frameworks and reaffirmed Brunei's commitment to building a resilient and sustainable blue economy.

















ASEAN TRAINING ON FOREST CARBON ACCOUNTING, 28 April – 1 May 2025, The Centrepoint Hotel, Brunei Darussalam

The Forestry Department, in collaboration with the Brunei Climate Change Office (BCCO), hosted the ASEAN Training on Forest Carbon Accounting from 28 April to 1 May 2025. Supported by the German Agency for International Cooperation (GIZ-CAP), the training brought together 60 participants from ASEAN Member States, including representatives from the ASEAN Secretariat, ASEAN Task Force on Peatlands (ATFP), and ASEAN Working Group on Climate Change (AWGCC).

Officiated by Acting Director of Forestry, Yang Mulia Awang Reni bin Haji Yahya, the training focused on international policies, carbon accounting principles, and the role of carbon markets under Article 6 of the Paris Agreement. Technical sessions covered forest and peatland carbon estimation; Measurement, Reporting and Verification (MRV) systems; carbon crediting standards; and project development cycles. A field visit to Badas Peat Swamp Forest offered practical experience in carbon stock sampling.

The training aims to build regional capacity in forest carbon accounting and supports Brunei's efforts to advance its National Climate Change Policy and explore carbon market opportunities within the forestry sector.



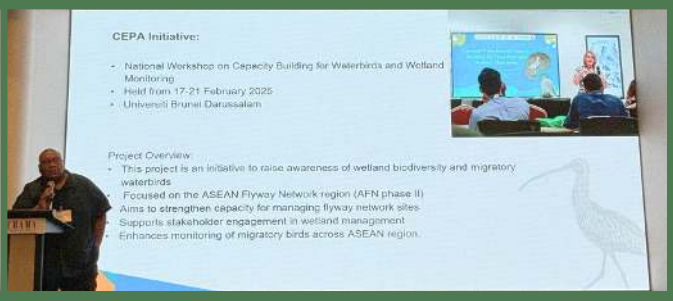


SUBREGIONAL WORKSHOP ON TARGET 3 OF THE KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK FOR EAST AND SOUTH-EAST, 17–20 June 2025, Bangkok, Thailand

The Secretariat of the Convention on Biological Diversity, in collaboration with ASEAN Centre for Biodiversity, IUCN Asia, and other partners, convened a regional workshop on Target 3 of the Kunming-Montreal Global Biodiversity Framework. Supported by the Governments of Japan, Denmark, and the Republic of Korea, the workshop brought together Parties, indigenous peoples, and stakeholders from East and Southeast Asia to enhance understanding of protected areas and other effective area-based conservation measures (OECMs), and to support the development of national actions aligned with Target 3.

The workshop focused on strengthening regional cooperation and capacity-building to expand and improve conservation efforts, particularly those involving human rights, equity, and governance. Participants shared progress, identified key gaps and challenges, and explored tools and resources to implement Target 3 at the national level. The sessions also emphasized inclusive and gender-responsive approaches to empower local communities in protecting biodiversity.





ASEAN FLYWAY NETWORK CEPA LEARNING FORUM AND AFN SITE MANAGER CEPA WORKSHOP, 6 - 10 May 2025, Furama Riverfront Hotel, Singapore

The workshop underscored the importance of CEPA approaches—Communication, Education, Participation, and Awareness—in promoting the conservation of migratory birds and their habitats. By encouraging collaboration among local communities, authorities, and the private sector, the workshop highlighted the need for collective action to raise awareness and strengthen conservation outcomes.

Participants were also introduced to best practices in flyway site management, including the use of GIS and other technologies for continuous monitoring of bird populations and habitat conditions. The regional exchange of experiences and knowledge among ASEAN countries reflected the importance of volunteer and community engagement, and further reinforced the AFN as a critical platform for supporting the sustainability of migratory bird pathways through data and information sharing.

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BDMD
Brunei Darussalam Meteorological Department

World Meteorological Day 2025



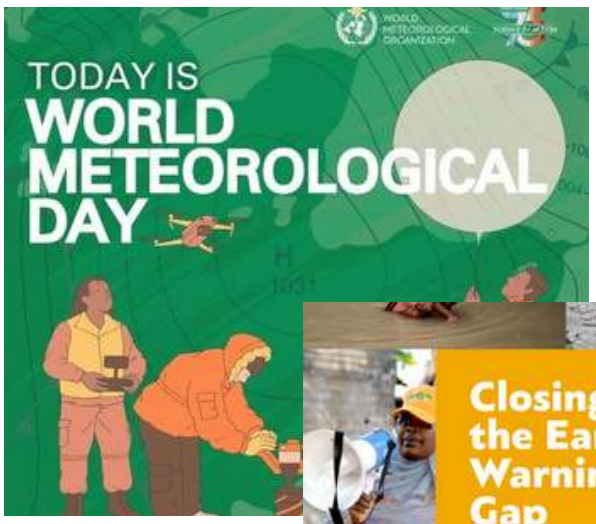
World Meteorological Day (WMD), celebrated every 23rd of March, honours the role of meteorology and climate science in building global resilience. This year marks the 75th anniversary of the World Meteorological Organisation with the theme of '***Closing the Early Warning Gap Together***'.

In line with the *Early Warnings for All* initiative, BDMD continues to enhance its early warning system to deliver accurate and timely weather information. A key feature is the colour-coded warning system—Yellow, Amber, and Red—which helps the public and relevant agencies understand weather alert levels and take appropriate action during extreme events.

Click **here** to discover how BDMD celebrated the 75th WMD from Pelita Brunei.

Early Warnings for All

This initiative seeks to provide universal protection from dangerous hydrometeorological, climatological, and related environmental events by the end of 2027, through life-saving multi-hazard early warning systems, anticipatory action, and resilience-building efforts, as called for by United Nations Secretary-General António Guterres in 2022.



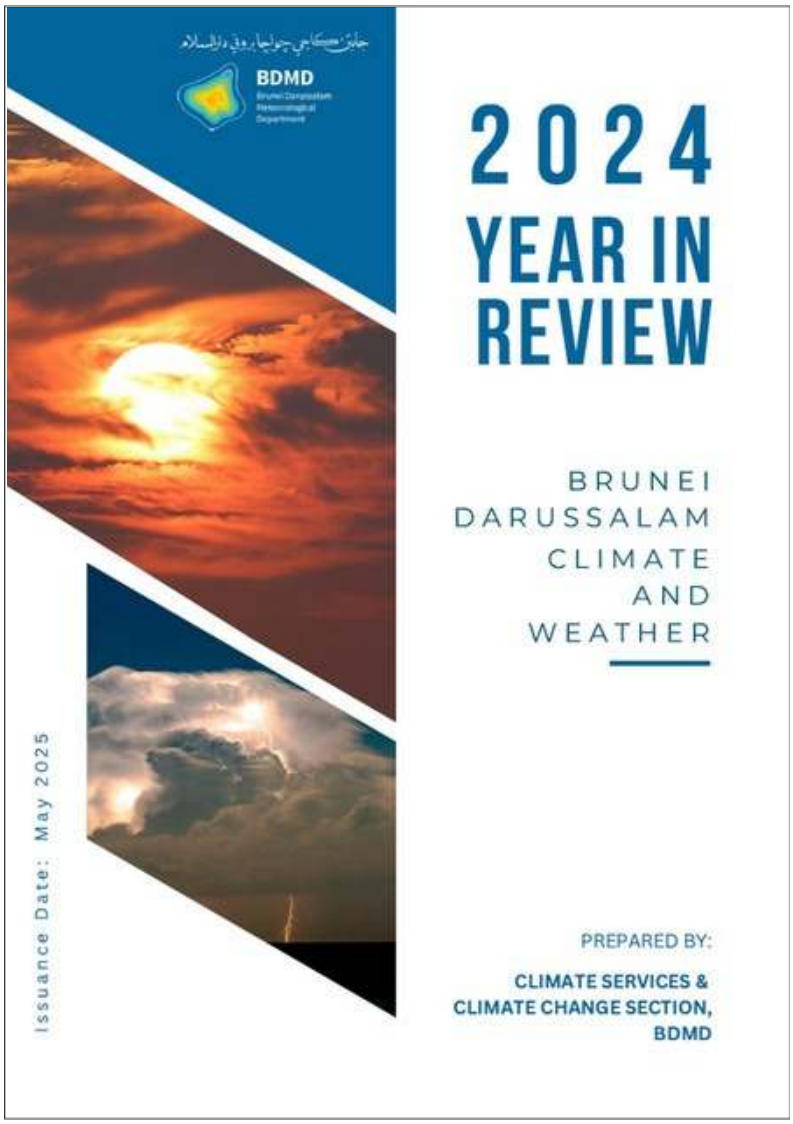


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BDMD
Brunei Darussalam Meteorological Department

2024 Year in Review

Brunei Darussalam Climate and Weather



As part of BDMD's initiative to enhance public awareness and understanding of climate trends, this annual report provides a comprehensive overview and valuable insights into the climate and weather conditions observed in Brunei Darussalam throughout the year 2024.

Temperature review

Brunei Darussalam experienced its warmest year on record in 2024, with temperatures rising 0.8°C above the long-term average since 1970, surpassing the previous record from 2016. The extreme heat was mainly driven by a strong El Niño event from late 2023 to May 2024, along with the ongoing global climate warming trend. Four of the months in 2024 also recorded the highest monthly mean temperatures in the last five decades.

Rainfall review

In 2024, rainfall varied between below- and above-normal levels, influenced by a strong El Niño early in the year, transitioning to ENSO- neutral conditions later. In Brunei Darussalam, the early months were drier and warmer due to lingering El Niño effects. As neutral conditions set in, rainfall returned to normal. A late-developing La Niña suggested wetter conditions ahead, but its impact in 2024 was minimal.

Click on the **link** or scan the QR code for the full report

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BDMD
Brunei Darussalam
Meteorological
Department

The 4th ASEAN Regional Climate Data, Analysis and Projections



In April 2025, representatives from BDMD and BCCO took part in the fourth workshop series of the ASEAN Regional Climate Data, Analysis and Projections (ARCDAP-4). This initiative was initiated by the Centre for Climate Research Singapore (CCRS), in partnership with the World Meteorological Organization (WMO) under the Climate Risk and Early Warning Systems initiative (Canada-CREWS) by Environment and Climate Change Canada (ECCC).

ARCDAP-4 intended to enhance regional collaboration, consolidate expertise and examine the use of climate projections in assessing climate risks and impacts.

Key highlights of ARCDAP-4:

- **Joint development of "Country Brief"—an assessment of climate change impacts at the national level;**
- **Deployment of data from CCRS's V3 Climate Study and the launch of the upgraded V3 Data Sharing Portal; and**
- **A draft on the new regional guideline on Best Practices for Climate Change Projections.**

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Brunei Darussalam Meteorological Department

25th National Weather Briefing

BDMD recently held the 25th National Weather Briefing (NWB) on 27th May 2025, which provides a comprehensive overview of the current weather conditions and key forecasts, with a particular focus on the upcoming of Southwest Monsoon in June 2025, the inter-monsoon period from October to November, as well as the seasonal outlook for the months ahead.

These briefings play a vital role in supporting early preparedness and planning, helping communities and stakeholders better respond to changing weather patterns.



ASEANCOF-24



Held in April 2025, the 24th ASEAN Climate Outlook Forum (ASEANCOF-24) focused on '***Climate Services and Heat Health***'. Experts reviewed recent extreme weather and produced a regional climate outlook covering rainfall, temperature, tropical cyclones, and key drivers like El Niño and monsoon patterns.

The outlook from this forum supports long-term climate adaptation strategies by providing data on expected climate conditions, helping policymakers and stakeholders address vulnerabilities in infrastructure, water resources, and ecosystems.

Click **here** for the Consensus Bulletin of ASEANCOF-24.

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RESTORING BADAS & LUMUT PEAT SWAMP FORESTS: THE CANAL BLOCKING PROJECT



A canal block constructed at the BLNG Pipeline Road

Tropical Peatlands

Tropical peatlands are critical ecosystems, serving as carbon sinks, biodiversity hotspots, and natural flood regulators. However, degradation due to drainage and deforestation has significantly impacted these fragile landscapes. The Badas and Lumut Peat Swamp Forests in Brunei have faced these threats, prompting hydrological restoration efforts through canal blocking projects.



Initial construction of canal blocks at Jalan Badas in 2017



A completed canal block constructed at Jalan Badas

All photo credits go to Dr Jonathan Davies

The Importance of Canal Blocking

Peat swamp forests rely on high water tables to sustain their ecological functions. An undisturbed peat swamp contains large deposits of peat, comprising of undecomposed organic matter that has accumulated over thousands of years. These peat deposits naturally retain large amounts of water, which helps to prevent peat fires and ensures flooding is controlled downstream.

Drainage, primarily through man-made canals, lowers the water table, leading to peat drying and decomposition, increased carbon emissions, land subsidence, and heightened fire risks. These fires not only accelerate climate change but also produce hazardous smoke and haze, affecting human health and biodiversity.

The canal blocking initiative at the Badas and Lumut peat swamps, was implemented and funded by Brunei Shell Petroleum Company Sdn Bhd (BSP) and Brunei Liquefied Natural Gas Co Sdn Bhd (BLNG), between 2013 to 2017. It aimed to mitigate environmental damage, reduce fire risks, and restore the hydrology of the Badas peat dome that has been affected by the man-made canals. The primary goal was to raise water tables in degraded areas, preventing deep peat fires and creating suitable conditions for reforestation.

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Implementation and Monitoring

The canal blocking process involved constructing peat blocks every 200 meters along the BLNG Pipeline Road and every 180-350 meters along Jalan Badas. Peat for the blocks was sourced from adjacent areas, forming small borrow pits approximately 2 meters deep. An alternative nature-based canal blocking pilot project was also explored through the planting of Bakong (Hanguana anthelmenthica), a native plant known for its effectiveness in preventing fire spread.

Initial hydrological monitoring, funded by BSP, was established using transects with dipwells to assess water table levels before and after canal blocking. However, severe fires in 2016 destroyed several monitoring stations. Hydrological monitoring resumed in 2019 through a collaborative research project conducted by the Singapore-MIT Alliance for Research and Technology (SMART) and The Institute for Biodiversity & Environmental Research (IBER) at Universiti Brunei Darussalam (UBD), under the umbrella of the Brunei Heart of Borneo project. Automated logging was conducted with four rain gauges and 27 water level sensors deployed to track groundwater fluctuations. Findings indicated that canal drainage impacted water levels up to half a kilometer into the forest. Although blocking efforts could not fully reverse subsidence, they successfully stabilized the water table and prevented further degradation.



Successful establishment of the native plant, Bakong (Hanguana anthelmenthica), in the canals as an alternative nature-based canal blocking solution

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UBD's Role and Student Involvement

Research projects by IBER at the Badas peat swamps has played a key role in peatland rehabilitation, dating back to a 2009 reforestation project in Badas that was ultimately destroyed by fire due to a lack of prior canal blocking. IBER's Forest Ecology Group, led by Associate Professor Dr Rahayu Sukri, working with the Forestry Department Ministry of Tourism and Primary Resources and international collaborators, have significantly contributed to hydrological studies, peat subsidence research, and revegetation projects.

Student involvement has been integral to this initiative. Undergraduate and MSc students have conducted fieldwork in Badas, focusing on peat hydrology, restoration impacts, and fire risk assessment, providing valuable insights for future conservation efforts.



Unimpeded drainage in the canals at Jalan Badas



Intense peat fires at Jalan Badas during dry seasons in 2020

Photo credit goes to Suhailah Isnin

Challenges and Future Directions

However, challenges remain in preventing further degradation of the peat swamp. Rapid water drainage from the degraded areas continues to pose a significant risk, increasing the likelihood of deep peat fires particularly during drier periods and El-Niño weather events. Additional hydrological interventions and expanded monitoring are needed to enhance restoration outcomes. Ongoing studies, including methane emission assessments and nutrient cycling studies, will further contribute to a deeper understanding of peatland dynamics.

By integrating scientific research with conservation initiatives, Brunei can ensure the long-term sustainability of its peat swamp forests. The canal blocking project underscores the importance of proactive conservation efforts. With continued commitment from researchers, students, and stakeholders, Badas and Lumut Peat Swamp Forests can be revitalized, safeguarding biodiversity and climate resilience for future generations.

CORAL RESTORATION BRUNEI

— May 2025, Bandar Seri Begawan, Brunei Darussalam

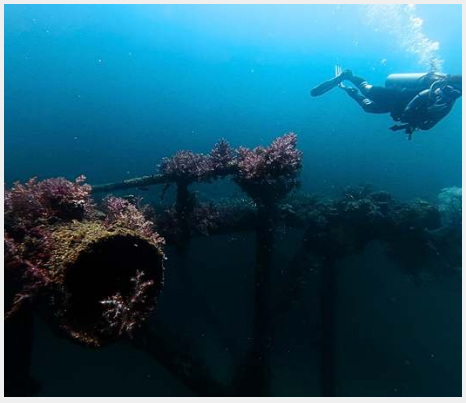
Since launching in 2022, Coral Restoration Brunei project has achieved remarkable success and being the first successful coral restoration in Brunei. Using the Mars Assisted Reef Restoration System, 38 frames were deployed and over 2,500 corals were planted, with two nurseries established at Pelong Rock. The project boasts a 36% growth rate and an impressive 87% success rate.

Reef Check Brunei continuously exploring innovative restoration methods to find the most effective and cost-efficient solutions for Brunei's corals, strengthening reef ecosystems and combating global warming by helping stabilize sea temperatures.











All photo credits go to Reef Check Brunei

DIVE AGAINST DEBRIS

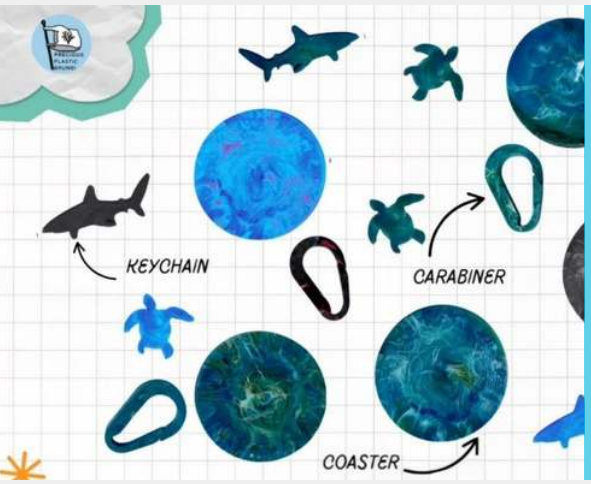
— May 2025, Bandar Seri Begawan, Brunei Darussalam

In collaboration with PADI Aware since 2016, Dive Against Debris initiative has removed over 550 kg of debris, including ghost nets, from Brunei's dive sites. A highlight was a planned dive with the Department of Fisheries to recover a 180 kg ghost net, suspected to be from illegal commercial fishing boats.

This project educates divers and fishermen about the dangers of illegal littering, protects marine life, and preserves dive sites for Brunei's dive tourism industry.









NATIONAL CORAL SURVEY

— May 2025, Bandar Seri Begawan, Brunei Darussalam

Partnering with the Department of Fisheries, National Survey provides a comprehensive overview of Brunei's coral reefs, tracking coral cover and trends. This critical data supports research and informs strategies to ensure sustainable fish populations and assess the impacts of global warming and rising sea temperatures. By understanding the health of our reefs, informed decisions can be made to protect Brunei's marine biodiversity.

PRECIOUS PLASTIC BRUNEI

— May 2025, Bandar Seri Begawan, Brunei Darussalam

Precious Plastic Brunei is Reef Check Brunei's flagship project promoting a circular blue economy. Inspired by the Precious Plastic organization, the project aims to give single-use plastics a second life by sharing blueprints for shredders and injectors. This initiative empowers communities, especially schools, to recycle plastic waste into new items. Recently, Reef Check Brunei made a visit at Sekolah Rendah Pengiran Setia Negara Pengiran Mohd. Yusof, conducting an engaging outreach session on ocean conservation and plastic pollution. In collaboration with the dedicated team from SC Tubular, the session featured fun activities, hands-on learning, and meaningful conversations.

Reviving Nature: Green Brunei's Peat Swamp Restoration Project

GREEN BRUNEI

500 Kapur Paya Trees Planted & Carbon Sequestration Potential

— September 2024 to February 2025, Bandar Seri Begawan, Brunei Darussalam

Under the ASEAN Blue Innovation Challenge (ABIC), supported by UNDP Indonesia, ASEAN Coordinating Committee on MSME, and the Government of Japan, Green Brunei successfully completed the Peat Swamp Restoration Project in the Anduki Forest Reserve. This area was severely affected by a forest fire in 2016, resulting in the degradation of 274 hectares of peat swamp land. To address this, 500 Kapur Paya (Dryobalanops rappa) saplings were planted across 0.11 hectares, initiating the ecological recovery process.

Over the next 60 years, these 500 trees have the potential to absorb 600 tonnes of carbon dioxide, making a significant contribution to Brunei's climate goals.



500 kapur paya trees planted in Anduki Forest Reserve, which was previously destroyed by forest fires

Other Efforts









Social Media Campaigns

Social media campaigns on platforms such as Instagram and TikTok were leveraged to raise awareness about the importance of peat swamps, reaching a broad audience and amplifying the message of environmental conservation.

Collaborative Support

The project was further strengthened through collaboration with key partners, including the Forestry Department under the Ministry of Primary Resources and Tourism and the Department of Schools under the Ministry of Education, showcasing the power of inter-agency cooperation.

Educational Visits

A total of 317 students and 33 teachers from 11 schools visited the Tropical Biodiversity Centre to learn about Brunei's forests and biodiversity. These visits were designed to inspire the next generation of environmental stewards and deepen their understanding of the importance of peat swamps.

All photo credits go to Green Brunei

ADAPTATION & RESILIENCE WORKING GROUP



Wishing you a blessed and prosperous year ahead.
May the new Islamic year bring peace, growth, and
success to all ARWG Members.