



APN supports Southeast Asia in its pursuit of sustainability and resilience by advancing climate science, strengthening policy frameworks and empowering regional collaboration.

Empowering Southeast Asia: Advancing climate resilience through regional collaboration

Southeast Asia is among the world's most vulnerable regions to climate change, biodiversity loss, water scarcity and urban risk. Through science-policy linkages, collaborative research and capacity building, the Asia-Pacific Network for Global Change Research (APN) has played an important role in addressing these challenges. By supporting projects and engaging institutions, esteemed researchers and early career professionals, APN cultivates leadership in global change research in Southeast Asia.

Regional overview

APN has supported a portfolio of more than 390 collaborative research and capacity building projects across Southeast Asia, with a total investment of USD 23.3 million. Notably, USD 9.1 million was allocated to projects led directly by Southeast Asian institutions.

These projects have produced 1,536 publications, nearly half of which are peer-reviewed, forming a substantial body of work that supports regional policy responses and contributes to global scientific progress on sustainability. More than 100 articles have been published in the APN Science Bulletin, a Scopus-indexed, peer-reviewed journal, collectively gaining 314 citations. The regional impact of APN projects is also evident through its contribution to global assessments: 87 publications were cited in the IPCC Sixth Assessment Report (AR6), including 15 publications from the APN Science Bulletin.

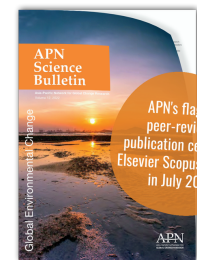
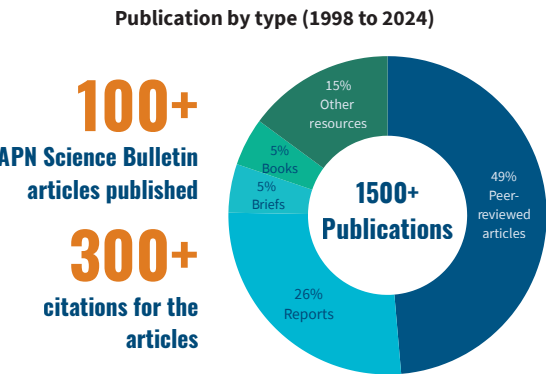
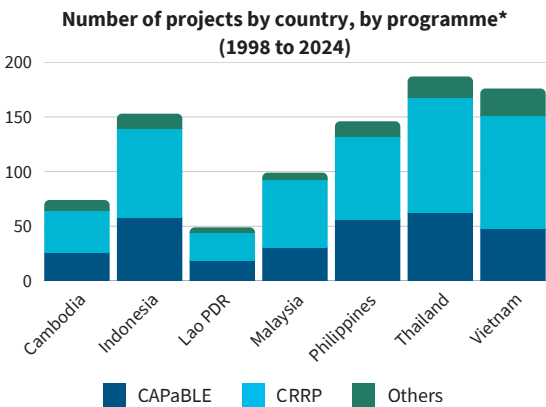
Subregional cooperation and collaborative activities

Since its inception in Jakarta, 2007, the Southeast Asia Subregional Committee has convened 13 meetings that promote alignment on research priorities. Recent meetings emphasised big earth data, loss and damage and climate finance readiness, anticipating the region's emerging needs.

Empowering early career professionals

Since 2010, APN's Southeast Asia Proposal Development Training Workshops have empowered 161 early career professionals, leading to 19 project proposals, eight of which have secured funding. Covering a wide range of themes, from climate impacts and disaster risk reduction to water security and regional governance, these workshops, guided by experts from APN, advance solutions for sustainability challenges in the region.

Note: All data are as of 2024; the source is the APN publication and project database.



APN's flagship peer-reviewed publication celebrated Elsevier Scopus indexing in July 2023!

87 **ipcc**
INTERGOVERNMENTAL PANEL ON
CLIMATE CHANGE
**publications cited
in IPCC AR6**



**Collaborative Regional Research Programme (CRRP) advances understanding of global change and provides scientific evidence to inform policy and decisionmaking. Scientific Capacity Development Programme (CAPaBLE) strengthens the capacity of scientists, policymakers and practitioners to assess global change issues and develop pathways toward sustainability.*

Scientific advancements shaping Southeast Asia's future

Across Southeast Asia, APN projects have gone beyond scientific outputs, shaping local action, national policies and global assessments. The following examples illustrate how scientific collaboration translates into practical solution.

WATER SECURITY, AGRICULTURE AND FOOD SYSTEMS

Livelihood security in the Lower Mekong Basin (Cambodia, India, Thailand, Vietnam): The LiSeRA framework and toolkit were developed to measure resilience under multi-hazard conditions. A user handbook and training for 140 practitioners strengthened disaster risk response.

DOI: [10.30852/p.20540](https://doi.org/10.30852/p.20540)

Scaling sustainable agriculture in Lao PDR (Bhutan, Indonesia, Lao PDR, Vietnam): Capacity building for 220 farmers and 176 extension workers promoted conservation agriculture, hybrid agroforestry and irrigation systems. Four policy briefs were produced to guide agricultural policies.

DOI: [10.30852/p.20542](https://doi.org/10.30852/p.20542)

SUSTAINABLE RESOURCE MANAGEMENT AND PLANNING

Community-based resilience planning in Cambodia (Australia, Cambodia, Vietnam): Over 70 community members and 30 officials piloted resilience planning frameworks. Multilingual guidebooks and policy dialogues supported integration of adaptation into local planning.

DOI: [10.30852/p.4537](https://doi.org/10.30852/p.4537)

Ecosystem services tools for forest management

(Indonesia): In Aceh, Indonesia, three ecosystem services measurement tools were created to measure forest carbon, tree biodiversity and forest health.

DOI: [10.30852/p.13876](https://doi.org/10.30852/p.13876)

CLIMATE, DISASTER RISK REDUCTION AND LOSS AND DAMAGE

Urban heat island effect in Southeast Asia (Indonesia, Japan, Thailand): Research linked the urban heat island effect to energy use, health impacts and planning.

DOI: [10.30852/p.4538](https://doi.org/10.30852/p.4538)

Reconstruction of sea level change (Indonesia, United States of America, Vietnam, Italy): This project reconstructed sea level changes using combined coastal tide-gauge records and satellite altimetry observations. A dedicated data-sharing platform was also established to facilitate collaboration among researchers and improve access to regional climate information for risk assessment.

DOI: [10.30852/p.4308](https://doi.org/10.30852/p.4308)

Integrating adaptation, disaster risk reduction and loss and damage (Indonesia, Philippines, Thailand, Vietnam): This project developed a framework to integrate loss and damage with climate change adaptation and disaster risk reduction and provided recommendations on governance and finance mechanisms to address gaps.

DOI: [10.30852/p.4494](https://doi.org/10.30852/p.4494)

Learning labs on disaster risk management (Cambodia, Lao PDR, Malaysia, Vietnam): Hands-on disaster risk management (DRM) workshops trained over 120 participants and produced a practical DRM reference book.

DOI: [10.30852/p.4495](https://doi.org/10.30852/p.4495)

Impact stories

CLIMATE SCIENCE AND MODELLING

Climate data built to the scale Southeast Asia needs



Local risk assessment has long been constrained by a lack of high-resolution climate information. To address this gap, APN supported three successive projects in regional climate downscaling, each building on the last.

~30 regional climate simulations, including 5 km projections for the most vulnerable areas

Results directly informed national climate scenarios in Vietnam and Thailand, Indonesia's National Action Plan, Thailand's Fourth National Communication to the UNFCCC, and research and planning on rice production, marine and coastal resilience, and geospatial climate risks. The third project extends this work to Megacities (Bangkok, Hanoi, Jakarta, Kuala Lumpur and Manila), where climate risks are increasingly concentrated in dense urban systems.

DOI: [10.30852/p.4452](https://doi.org/10.30852/p.4452); [10.30852/p.4553](https://doi.org/10.30852/p.4553); [10.30852/p.26687](https://doi.org/10.30852/p.26687)

DISASTER RISK REDUCTION · CLIMATE RESILIENCE

Blueprint for climate resilience



Philippine local governments are required to prepare climate action plans, but face data, capacity and staffing constraints. In the province of Aurora, an APN project helped all eight municipalities complete Climate and Disaster Risk Assessments, identifying flooding as the risk with the greatest potential impact across the province.

8 municipalities completed a Climate and Disaster Risk Assessments and Local Climate Change Action Plans, while the province produced a provincial plan incorporating the municipal results

Lessons from Aurora shaped the first national Technical and Policy Forum on Climate and Disaster Risk Assessment, where government agencies, universities and local officials developed recommendations on capacity building and monitoring requirements.

DOI: [10.30852/p.4564](https://doi.org/10.30852/p.4564)