

Portfolio of APN Engagements

Japan

History and mission of the Asia-Pacific Network for Global Change Research

The Asia-Pacific Network for Global Change Research (APN) is an intergovernmental network of 22 countries established in 1996. Originating from the US White House Conference on Science and Economics Research Related to Global Change in 1990, where President George H. W. Bush advocated for collaboration in global change research and emphasised the need for international networks in this field, APN is working towards an Asia-Pacific region that is successfully addressing the challenges of global change and sustainability through:

- **Supporting research action:** Empowering collaborative research and science-based strategies for effective change.
- **Bridging science and policy:** Effectively linking scientific outcomes with policy mechanisms applicable at all levels of governance and across diverse social sectors.
- **Building scientific capacity:** Enhancing scientific capabilities of early career professionals, policymakers and practitioners, extending to local communities and civil societies.

Notable statements from Japan

"Although each country has been promoting global change research by its own effort, we would think that it is now for Asia and Pacific countries to discuss a collaborating mechanism for pursuing global change research and formulate research programmes for the region." Mr Hiroshi Sawamura, Director General, Global Environment Department, Environment Agency of Japan [The Second Workshop on the Asia-Pacific Network for Global Change Research, 1994]



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"In the Asia-Pacific region, there are countries with differences in natural conditions, history, culture, religion and stages of development. In order to deal with global environmental issues, we must strive for mutual understanding and develop cooperative relations. I hope that the APN can help strengthen collaboration on global change research in APN countries." Mr Tsuneo Suzuki, Parliamentary Vice Minister, Environment Agency of Japan [The Second Intergovernmental Meeting, Japan, 1997]

"Following the Great Hanshin-Awaji Earthquake 18 years ago, various international organisations in fields such as disaster risk reduction, adaptation to climate change and public health were established one after another, including the APN Secretariat. Their presence contributed greatly to encouraging local communities to recover from the damage and loss caused by the earthquake." Mr Toshizo Ido, Governor of Hyogo Prefecture [18th Intergovernmental Meeting, Japan, 2013]



From L to R: Dr Ryutaro Yatsu (MOEJ), Dr Kazuhiko Takemoto (UNU), Mr Toshizo Ido (Hyogo Prefecture)

"It is my great pleasure that today the APN membership has expanded to 22 countries, and that it has earned a great reputation in supporting global change research and capacity building in the Asia-Pacific region." Dr Ryutaro Yatsu, Vice Minister, Ministry of the Environment [18th Intergovernmental Meeting, Japan, 2013]

History of APN and Japan's institutional engagement (1994-2023)

* Intergovernmental Meeting

1993
The Japan-U.S. Common Agenda for Cooperation in Global Perspective introduces APN as a new initiative under "Regional Networks/Institute for Global Change Research"

1990
President Bush advocates global change research collaboration, stressing the importance of international networks in the field

1994
Japan agrees to establish an interim Secretariat at the second workshop to establish APN

1996
APN is established

1997
The interim Secretariat transitioned into the Secretariat, reflecting Japan's strong and ongoing support for the long-term development of APN as confirmed by the Environment Agency of Japan at the 2nd IGM* Meeting hosted by Japan



2005
Japan hosts the commemorable 10th IGM* Meeting

2018
Japan hosts the 2nd Temperate East Asia Subregional Committee Meeting and the Proposal Development Training Workshop



1992
President Bush and PM Miyazawa initiated the US-Japan Global Partnership Agreement, committing to advance global change research and support regional networks

1992
Japan hosts the first workshop to establish APN



1995
Japan hosts the third workshop to establish APN

1999
Japan hosts the 4th IGM* Meeting

2008
Japan hosts the 13th IGM* Meeting

2003
CAPaBLE, APN's scientific capacity development programme, is launched and registered as a WSSD Type II Partnership/Initiative by the Ministry of the Environment of Japan



2013
China, Japan, Mongolia, Republic of Korea and the Russian Federation forms the Temperate East Asia Subregional Committee



2013
Japan hosts the 18th IGM* Meeting and announces increased funding to APN focused on climate adaptation, disaster risk reduction, and loss and damage

1990

1995

2000

2005

2010

2015

2020

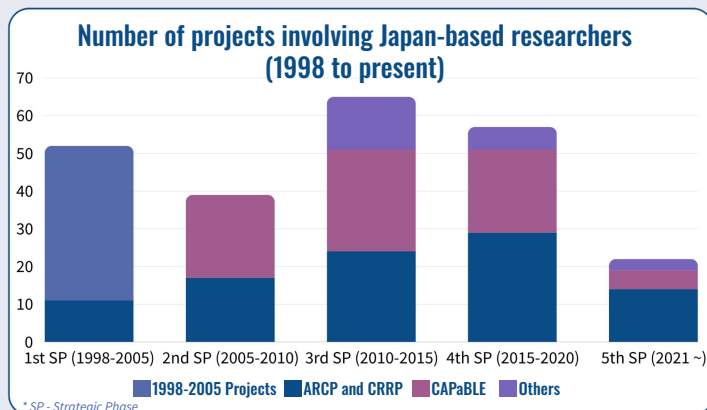
2025

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Overview of APN Global Change Research projects engaging Japan

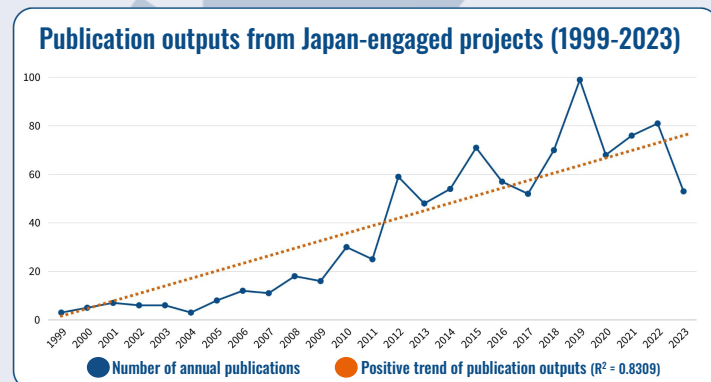
Since 1999, APN and Japan have been engaged in driving global change research towards sustainable development. Thus far, APN has engaged researchers from Japan to **implement 235 projects**.



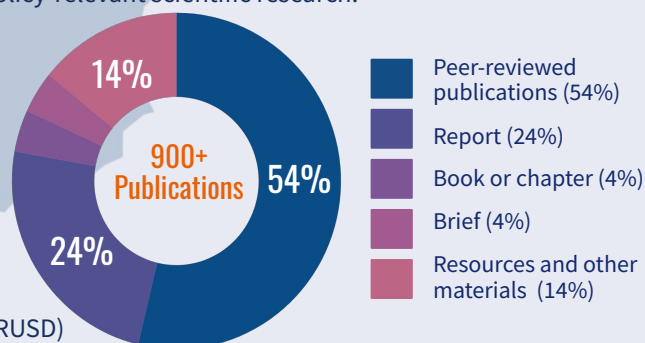
The thematic focus of APN projects with Japan underscores the transdisciplinary approach embraced by APN, highlighting its commitment to integrating diverse perspectives in designing science-based solutions. APN programmes and activities that have engaged and funded Japan-based researchers include:

- Annual Regional Call for Research Proposals (ARCP)
- Scientific Capacity Development Programme (CAPaBLE)
- Climate Adaptation Framework (CAF)
- Collaborative Regional Research Programme (CRRP)
- Collaborative Research Programme for Young Researchers (CRYS)
- Ecosystems, Biodiversity & Land Use (EBLU)
- Low Carbon Initiatives (LCI)
- Resource Utilisation and Pathways for Sustainable Development (RUSD)

Publications in focus



These projects generated over **900 publications** that support scientific advancements and science-based policymaking. Peer-reviewed publications comprise **54% of the total publications**, ensuring the integrity and quality of published policy-relevant scientific research.



Projects in focus

Several APN projects led by Japanese researchers developed innovative systems and approaches using **earth observation data** towards **sustainable water resource management**, benefiting countries across the Asia-Pacific region.

Project: The Global Earth Observation System of Systems (GEOSS) Asian Water Cycle Initiative Observation Convergence and Data Integration (GEOSS/AWCI/OCIDI) [GRANT DOI:10.30852/p.4360](#)

Engaging **18 countries** in establishing a **regional cooperative framework**, the project developed an information system to **advance integrated water resources management** and promote efficient water. The project launched a **capacity building programme to empower stakeholders** in using the system for further water cycle research and sustainable management.

PROGRAMME Scientific Capacity Development Programme
PROJECT LEADER Mr Chu Ishida, Japan Aerospace Exploration Agency

Project: River management system development in Asia based on Data Integration and Analysis System (DIAS) under the GEOSS [GRANT DOI:10.30852/p.4290](#)

Using DIAS, the project developed an **advanced river management system** to enhance river management in AWCI member countries. The system has been supported by **models for assessing climate change impacts** on water resources and **optimisation schemes** for integrated water resources management practices, also developed through the project.

PROGRAMME Annual Regional Call for Research Proposals
PROJECT LEADER Dr Toshio Koike, International Centre for Water Hazard and Risk Management

Project: Flood Risk Management Demonstration Project under the Asian Water Cycle Initiative for the Global Earth Observation System of Systems (FRM/AWCI/GEOSS) [GRANT DOI:10.30852/p.4268](#)

The project aimed to generate the scientific basis for making **decisions and policies in flood risk management** for the Asia-Pacific Region. **Hydroclimate models and flood warning support systems were developed** and made available to GEOSS. The project benefited **19 countries** and provided them with the tools to enhance their flood risk management.

PROGRAMME Annual Regional Call for Research Proposals
PROJECT LEADER Deputy Director Kazuhiko Fukami, Public Works Research Institute

Project: GEOSS/Asian Water Cycle Initiative/Water Cycle Integrator (GEOSS/AWCI/WCI) [GRANT DOI:10.30852/p.4427](#)

The GEOSS AWCI Project built the **workbenches for convergence and integration of data** to aid the **assessment of adaptation measures and climate change impacts**. The workbenches were implemented in Cambodia, Pakistan, Indonesia, Myanmar, Vietnam and Japan to support building resilience to climate change and variability.

PROGRAMME Annual Regional Call for Research Proposals
PROJECT LEADER Mr Shizu Yabe, Japan Aerospace Exploration Agency

Policy-relevant project highlights led by Japan

Contributions to the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports

More than **100 peer-reviewed articles from APN projects**, including those from APN's flagship and Scopus-indexed "APN Science Bulletin" journal, were cited in the IPCC Sixth Assessment Report (AR6). As an example, IPCC AR6 featured **51 peer-reviewed articles from projects led by and engaging Japan-based institutions**. These citations demonstrate a testament to the impact of APN's scientific research and climate adaptation projects highlighting the vital role of APN and its partners in informing science policies in the Pacific and more broadly across the Asia-Pacific region.



Scientific impacts and outreach in the Asia-Pacific region

Project: Climate change adaptation through optimal stormwater capture measures - Towards a new paradigm for urban water security

With a focus on Bangkok, Hanoi and Tokyo, the United Nations University project addressed methodologies for local governments and communities for adapting to climate change by preserving local water cycle using **water-sensitive urban infrastructure development**. Global Climate Models for precipitation were projected for the three cities, supplemented by household survey review reports on understanding local perceptions of alternative infiltration and storage facilities, and concluded that the maintenance of stability of urban water catchments are a suitable alternative for urban water security.

From this project, two articles were cited in the [IPCC 6th Assessment Report](#), including one from APN's flagship peer-reviewed "Science Bulletin" journal. Further, the project engaged **33 experts from water fields to discuss stormwater capture measures**, and **trained seven postgraduate students** in analysing climate change impacts on precipitation extremes and stormwater.

PROGRAMME Annual Regional Call for Research Proposals
PROJECT LEADER Dr Binaya Kumar Mishra, United Nations University
GRANT DOI [10.30852/p.4510](#)

Project: Addressing non-economic losses and damages associated with climate change - Learning from the recent past extreme climatic events for future planning

With implementation in Bangladesh, India, Japan, the Philippines and Thailand, this project developed an assessment framework measuring non-economic loss and damage (NELDs) caused by climate-related disasters and their implications upon vulnerable sectors. The project trained **27 early career professionals** on NELDs, engaged more than **100 professionals, policymakers and researchers** in workshops and policy-sharing events, and **implemented approximately 900 household surveys** to collect relevant information about key NELDs.

The findings on locally-specific NELDs yielded direct evidence for national and local governments to mainstream key NELDs into existing decision-making processes. A cost-benefit assessment of India, Malaysia and the Philippines was published in the APN Science Bulletin and cited in the [IPCC 6th Assessment Report](#).

PROGRAMME Climate Adaptation Framework
PROJECT LEADER Dr Yohei Chiba, Institute for Global Environmental Strategies
GRANT DOI [10.30852/p.4510](#)

Community NELDs consultations in Koyra Upazila, Bangladesh

Project: Assessing community risk insurance initiatives and identifying enabling policy and institutional factors for maximising climate change adaptation (CCA) and disaster risk reduction (DRR) benefits

The regional project assessed the benefits accrued through community level risk insurance experiences in the Asia-Pacific region, with a focus on Australia, India, Japan, Malaysia, and the Philippines. Interventions were identified for the greater risk insurance penetration leading to CCA and DRR, with the engagement of **over 100 policy-makers and professionals**, and **eight early career researchers** trained through participation in interactive events. Of 26 articles published, **one peer-reviewed article was cited in the IPCC 6th Assessment Report**.

PROGRAMME Annual Regional Call for Research Proposals
PROJECT LEADER Dr S.V.R.K. Prabhakar, Institute for Global Environmental Strategies
GRANT DOI [10.30852/p.4453](#)



Expert workshop on NELDs at the Asian Institute of Technology, Thailand

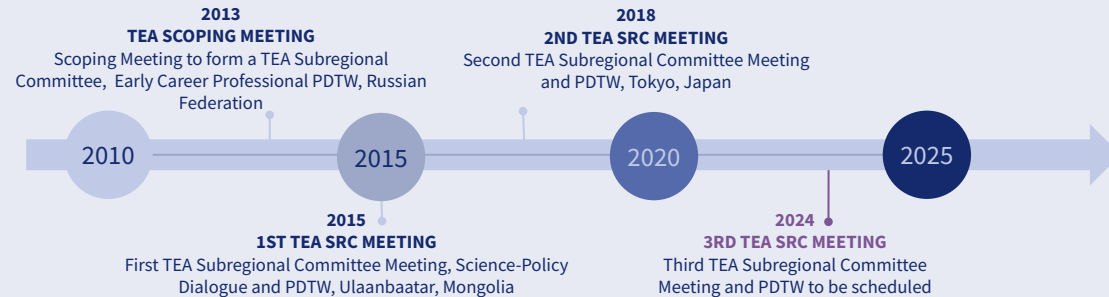


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Temperate East Asia Subregional Cooperation

A scoping meeting in Vladivostok, Russian Federation in 2013 underscored the importance of subregional cooperation. Subsequently, the APN Temperate East Asia Subregional Committee (TEA-SRC) was formed, comprising of members from China, Japan, Mongolia, the Republic of Korea and the Russian Federation.



Temperate East Asia Priority Topics (2020-2023)



Science-Policy Dialogue on Land Use and Climate Change in Temperate East Asia

The first Temperate East Asia (TEA) Science-Policy Dialogue (2015) stressed the need for swift adaptation to scientific uncertainties, recognising the effectiveness of individual decisions in urgent scenarios and highlighting the influential role of international collaboration in shaping national policies. It called for active and flexible approaches to achieve sustainable land use, **underscoring the importance of regional collaboration** among TEA countries for global change research.



Participants at the 1st TEA-SRC Meeting, Science-Policy Dialogue & Proposal Development Training Workshop, Ulaanbaatar, Mongolia, November 2015

Proposal Development Training Workshops (PDTW) in Temperate East Asia (TEA)

TEA PDTWs have **trained 61 early career professionals** (ECPs) across TEA in critical water security issues. The 2018 Tokyo PDTW, supported by the Kurita Foundation, significantly enhanced skills in managing water security projects, focusing on flood control, water quality, and the water-food-energy nexus, **training 21 ECPs** from China, Japan, Mongolia, Republic of Korea and the Russian Federation.



Prof. Kensuke Fukushi, SPG Member for Japan, trains ECPs at the 2018 PDTW in Tokyo to develop collaborative research proposals.

Financial contributions and impact

\$6,051,674 (USD)

APN investments in projects led by Japanese institutions since 1998

\$14,947,411 (USD)

APN investments in projects engaging Japanese researchers since 1998

\$52,091,970 (USD)

Direct financial contribution from Japan since 1996*

*APN received the funds in JPY



Breakdown of APN investments

- 1st Strategic Phase Regional Research, Capacity Building and Networking Projects: USD 2,413,374 (16.1%)
- Collaborative Regional Research Programmes (ARCP and CRRP): USD 7,477,181 (50.0%)
- Scientific Capacity Development Programme (CAPaBLE): USD 3,546,025 (23.7%)
- Collaborative Research for Young Scientists (CRYS): USD 15,000 (0.1%)
- Low Carbon Initiatives Framework (LCI): USD 186,505 (1.2%)
- Climate Adaptation Framework: USD 548,826 (3.7%)
- Ecosystems, Biodiversity and Land Use Framework (EBLU): USD 333,000 (2.2%)
- Resources Utilisation and Pathways for Sustainable Development (RUSD): USD 137,000 (0.9%)
- Other Activities: USD 290,500 (1.9%)

