

Air Quality in the Asia-Pacific Region and Opportunities for Regional Cooperation

Sangmin Nam

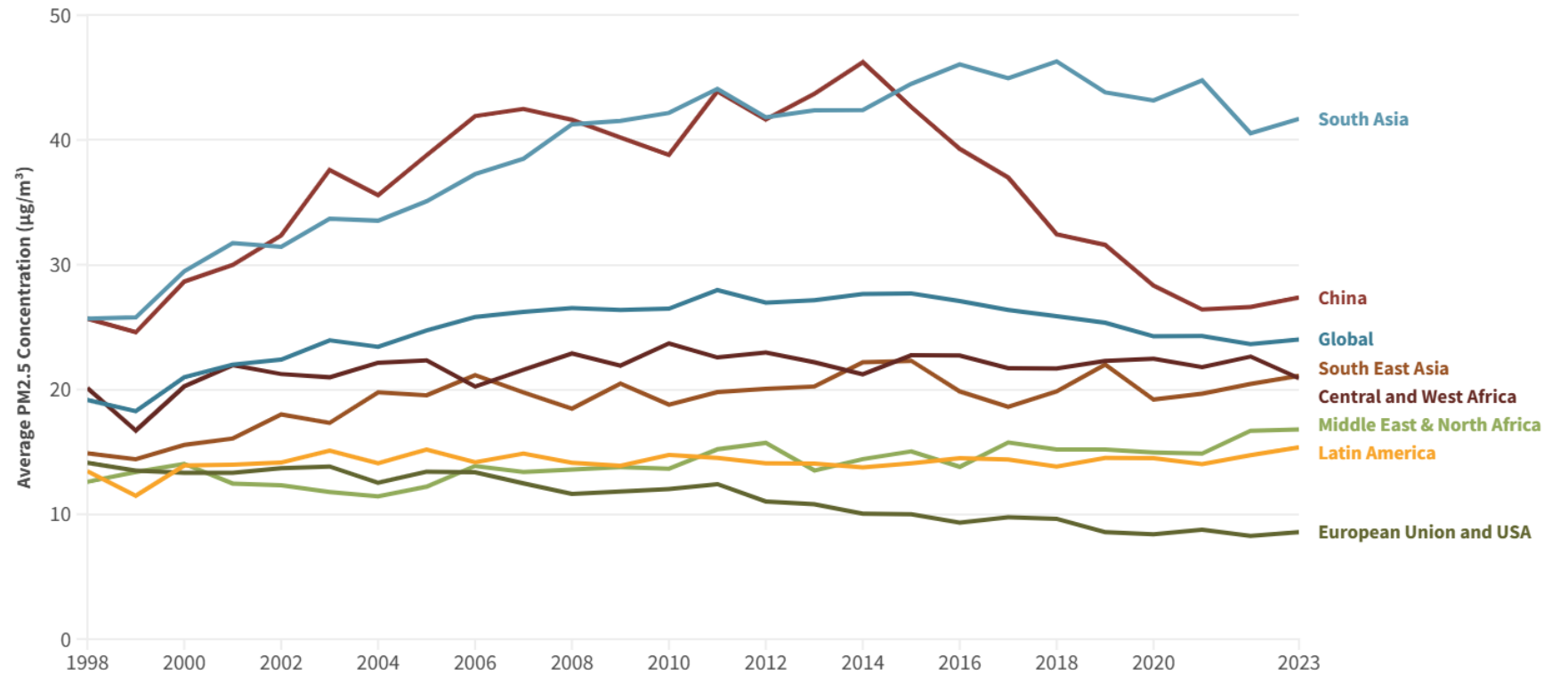
Director, Environment and Development Division, ESCAP

13 March 2026



92% of the population in Asia and the Pacific is breathing unhealthy air

PM2.5 trends across regions



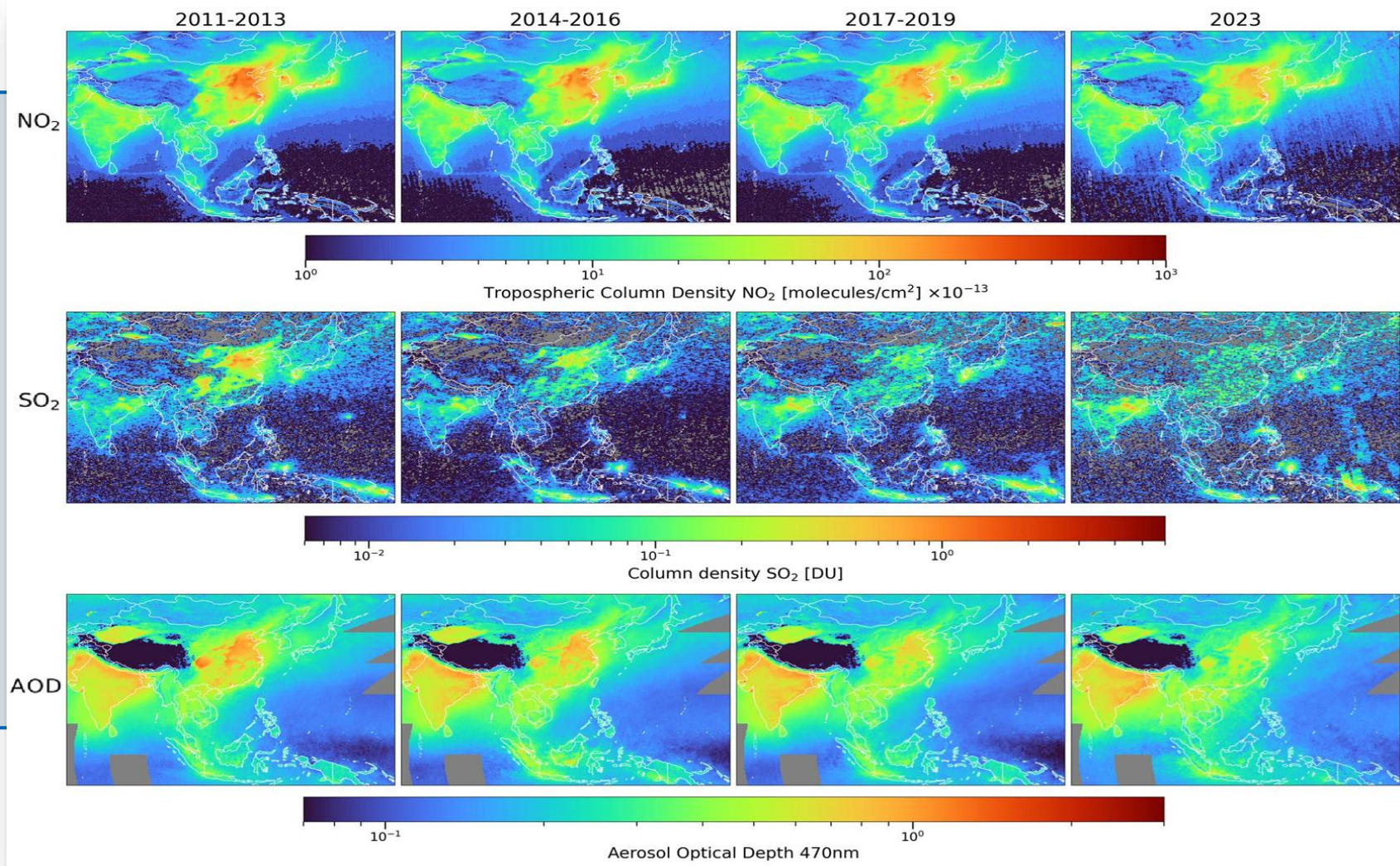
Source: AIR QUALITY LIFE INDEX® | 2025 Annual Update

Pollutant	Averaging time	IT1	IT2	IT3	IT4	AQG level
PM _{2.5} , µg/m ³	Annual	35	25	15	10	5
PM _{2.5} , µg/m ³	24-hour ^a	75	50	37.5	25	15
PM ₁₀ , µg/m ³	Annual	70	50	30	20	15
PM ₁₀ , µg/m ³	24-hour ^a	150	100	75	50	45

Progress is uneven across the region

- **China** shows clear declines across different pollutants after 2013 policy measures
- South Asia, **especially eastern parts**, shows rising SO₂ and increasing AOD
- South & Southeast Asia continue to experience **seasonal burning and haze events**

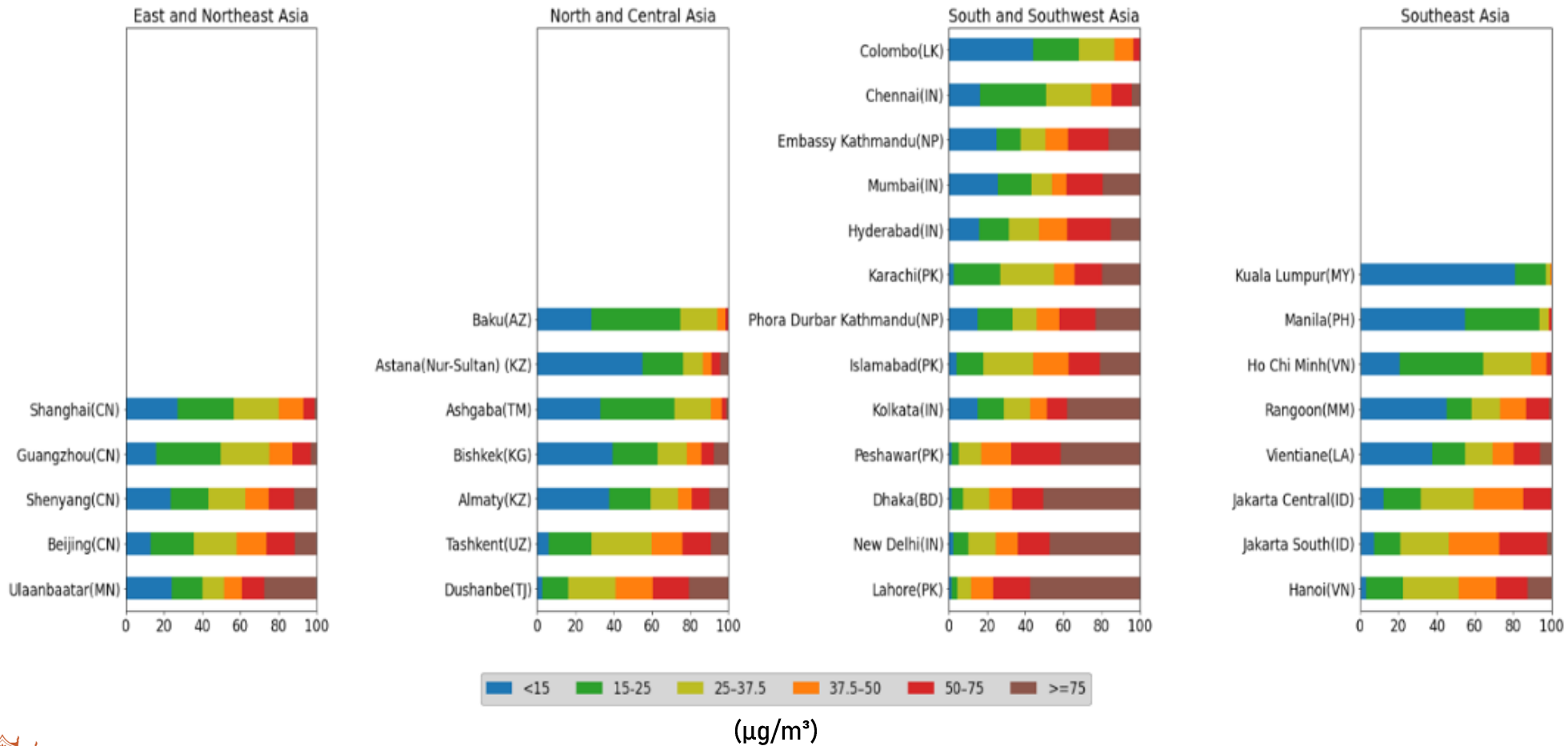
Interannual Trends in NO₂, SO₂ and AOD in the Asia-Pacific Region



Source: ESCAP 2025, Air quality status and trends in the Asia-Pacific region

Unequal Exposure & Health Burden Across Cities

% of days exceeding WHO's 24-hour AQG and interim targets for PM_{2.5} for 2023

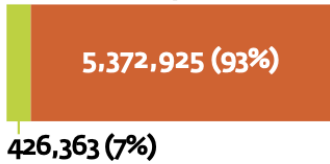


Air pollution Exposure in Indo-Gangetic Plains

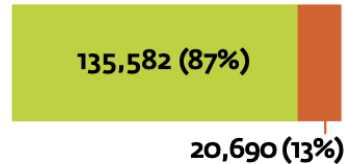
■ No risk/low risk ($\leq 35 \mu\text{g}/\text{m}^3$)
■ Hazardous risk ($>35 \mu\text{g}/\text{m}^3$)



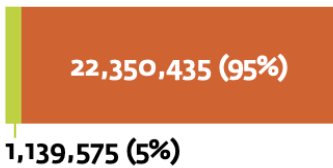
Nepal



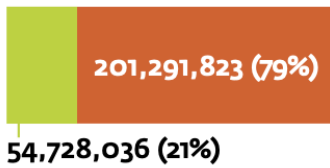
Bhutan



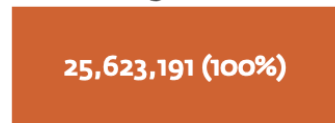
Pakistan



India

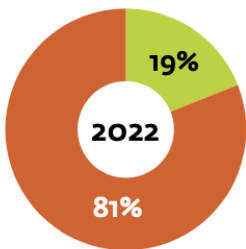
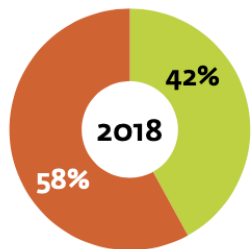


Bangladesh

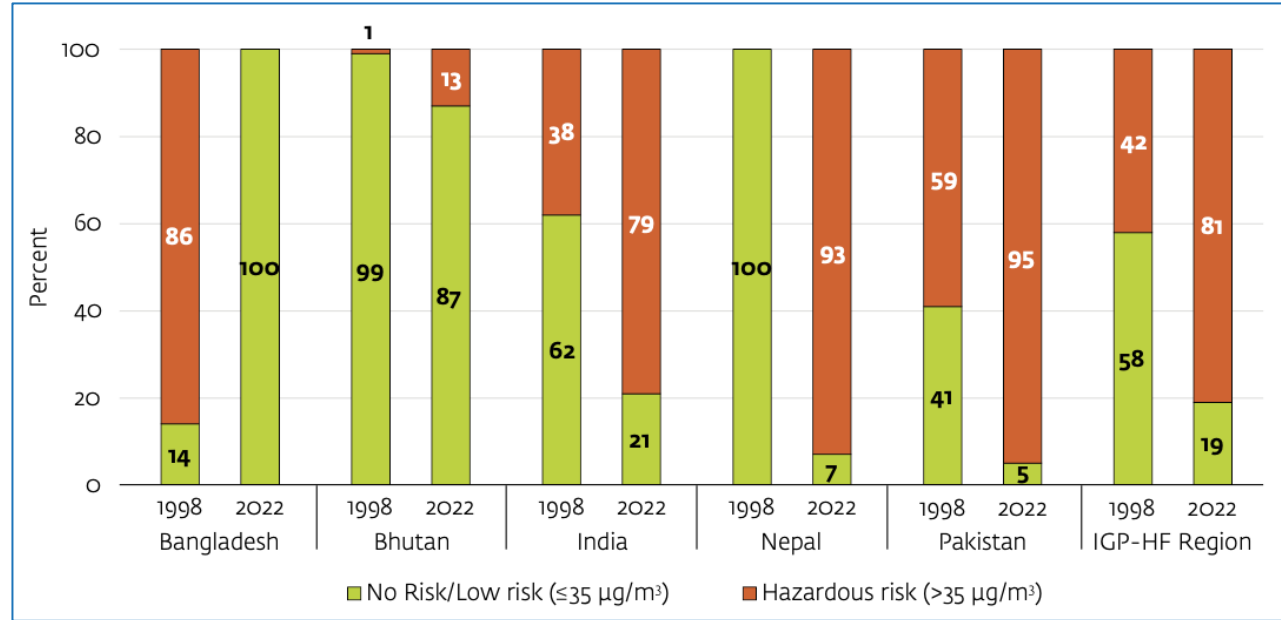
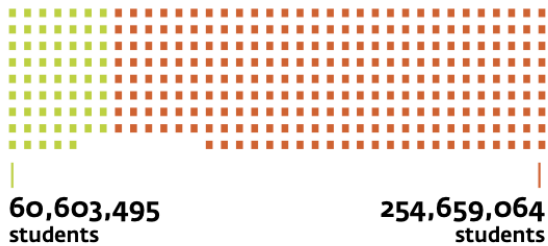


IGP-HF Region

Share of students



Number of students



In several countries, more than 80-90% of public-school students are exposed to PM_{2.5} above 35 $\mu\text{g}/\text{m}^3$

Source: World Bank (2025) A Breath of Change: Solutions for Cleaner Air in the Indo-Gangetic Plains and Himalayan Foothills

Evidence and Assessment from ESCAP's 2025 Regional Report

Diverse sources & anthropogenic dominance

- Urban clusters & solid fuels drive pollution
- Natural events amplify cross-border impacts
- Regional inventories & hotspot mapping needed

Targeted investment + enforced abatement


- Several examples of effective national plans leading to measurable gains
- Financing + enforcement drive results
- Monitoring-linked compliance is critical

Data transparency & harmonization required

- Comparable QA/QC protocols lacking
- Misaligned reporting metrics
- Need open, interoperable regional datasets

Existing cooperation & enforcement gap

- Subregional mechanisms exist
- Weak implementation & incentives
- No enforceable regional framework

 **Policy implication:** Reframe monitoring at the airshed level; invest in harmonized datasets and enforcement-linked funding

Recommendations & Roadmap for a Regional Air Quality System

Improve ground-level monitoring

Build regulatory-grade networks with sustainable funding and calibrated low-cost sensors

Promote satellite integration

Use GEMS, TEMPO, and Sentinel-4 with harmonized algorithms to fill monitoring gaps and validate models

Harmonize standards & reporting

Align national reporting with WHO targets and standardized pollutant definitions

Open data & common analytical frameworks

Create interoperable public datasets with formats and metadata

Regional monitoring & forecasting system

Develop real-time airshed-level early-warning platform integrating ground, satellite, and model data

Airshed-based management & targeted intervention

Prioritize actions by exposure and toxicity; and regional training programs

R&D, innovation & capacity building

Finance sensor innovation, AI-driven analytics, and regional training

Public awareness & stakeholder engagement

Communicate health risks transparently and promote protective behaviors

Asia-Pacific Regional Action Programme on Air Pollution (RAPAP)



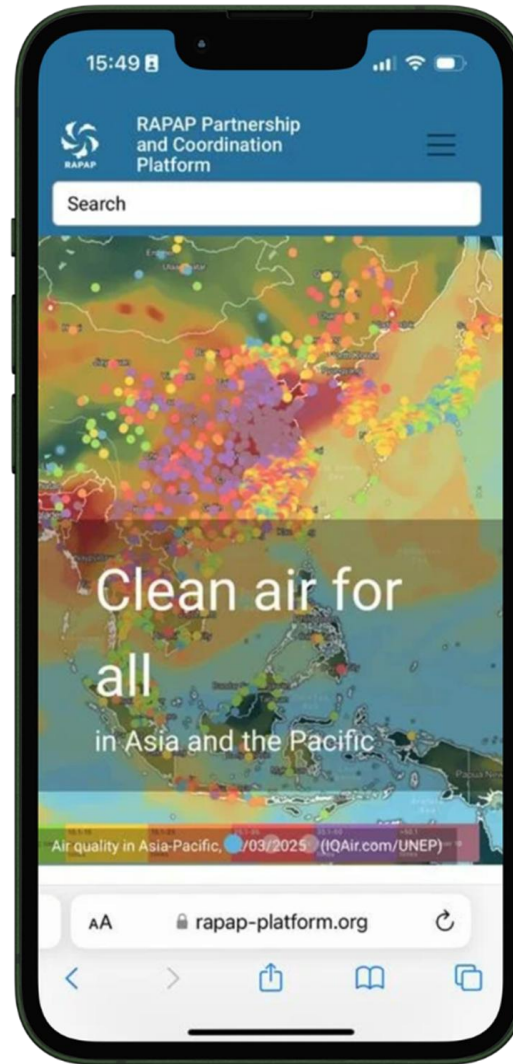
Promoting science-based and policy-oriented cooperation



Establishing an open regional platform for best practices exchange



Promoting domestic actions and regional cooperation



Identifying technical and financial resources for multilateral and cooperative action



Fostering dialogue and technical cooperation



More information

The RAPAP Action Areas

Air Quality Management

Improving existing national air quality standards and sectoral air quality management policies



Air Quality Monitoring and Data Sharing

Strengthening capacity for air pollution inventories and sharing data and good practices



Best Practices Exchange

Sharing solutions and best practices and encouraging engagement of multilateral and multi-stakeholder platforms



Capacity Building

Supporting national air quality policies and regulations, and building technical capacities for data management, sectoral policies and clean technologies



Commitment to Multilateral Cooperation

Strengthening existing platforms, engaging national experts in regional scientific and technical activities, and facilitating high-level dialogues and stakeholder engagement



Supporting the Multilateral Cooperation Mechanisms and Other Stakeholders

Southeast Asia



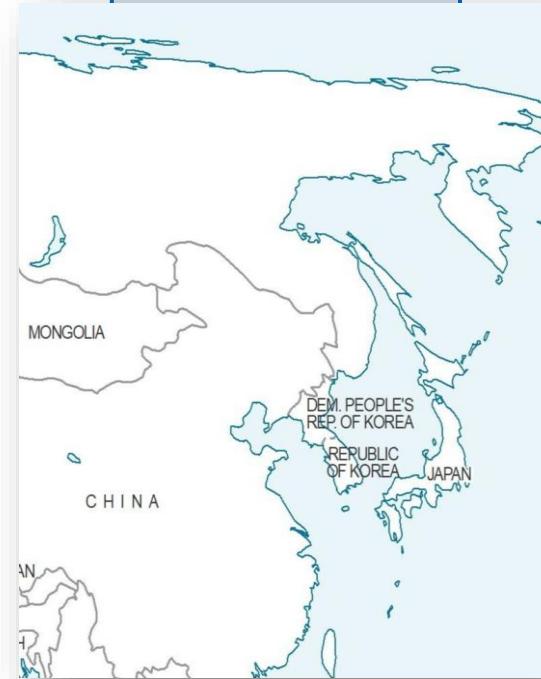
ASEAN Agreement on Transboundary Haze Pollution (Haze Agreement) (10 ASEAN countries)

South Asia



Malé Declaration on Control and Prevention of Air Pollution and its Likely Transboundary Effects for South Asia (Malé Declaration) (inactive; 8 SA countries)

Northeast Asia



North-East Asia Clean Air Partnership (NEACAP) (6 NEA countries)

East Asia



Acid Deposition Monitoring Network in East Asia (EANET) (13 countries in East Asia, excl. DPRK)



Partners Engagement through the RAPAP Platform

(supported by Clean Air Fund and Energy Foundation China)

Regional & multilateral partners

Strengthening capacity for air pollution inventories and sharing data and good practices

Member States & stakeholders

Strengthening capacity for air pollution inventories and sharing data and good practices

Collective ownership

Strengthening capacity for air pollution inventories and sharing data and good practices

Thank you to our RAPAP Platform Partners!



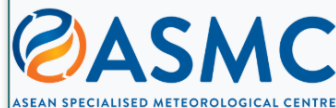
Acid Deposition Monitoring Network in East Asia

The Acid Deposition Monitoring Network in East Asia (EANET) is an intergovernmental regional init...



Agence Française de Développement

AFD Group finances and drives the transition to a fairer, safer and more resilient world, working...



ASEAN Specialised Meteorological Centre

The ASEAN Specialised Meteorological Centre (ASMC) is a regional centre under the Association of ...



Asian Disaster Preparedness Center

The Asian Disaster Preparedness Center (ADPC) is an international organization committed to reduc...



ASEAN Agreement on Transboundary Haze Pollution

The ASEAN Agreement on Transboundary Haze Pollution (AATHP) is a landmark environmental treaty ai...



Clean Air Asia

Clean Air Asia is an international non-governmental organization leading the regional mission for...



Clean Air Fund

Clean Air Fund is a global philanthropic organisation working with governments, funders, business...



Climate & Clean Air Coalition

The Climate and Clean Air Coalition (CCAC) is a voluntary partnership of over 190 governments, in...

Malé Declaration on Control and Prevention of Air Pollution and its likely Transboundary Effects

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The Malé Declaration on Control and Prevention of Air Pollution and Its Likely Transboundary Effe...



North-East Asia Clean Air Partnership

The North-East Asia Clean Air Partnership (NEACAP) is a subregional initiative established to add...



Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is the main German development ...



Energy Foundation China

Energy Foundation China (EFC) is a professional grantmaking charitable organization established i...



FHI 360

FHI 360 is a nonprofit organization dedicated to mobilizing research, resources, and relationship...



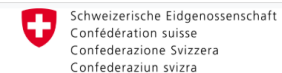
Japan International Cooperation Agency

The Japan International Cooperation Agency (JICA) is the world's largest bilateral aid agency, op...



Stockholm Environment Institute

The Stockholm Environment Institute (SEI) is a globally recognized, independent research and poli...



Swiss Agency for Development and Cooperation

The Swiss Agency for Development and Cooperation (SDC) supports efforts to improve air quality an...



Institute for Global Environmental Strategies

The Institute for Global Environmental Strategies (IGES) is an independent policy research instil...



International Centre for Integrated Mountain Development

The International Centre for Integrated Mountain Development (ICIMOD) is an intergovernmental kno...



International Union of Air Pollution Prevention and Environmental Protection Associations

The International Union of Air Pollution Prevention and Environmental Protection Associations (IU...



World Health Organization

The World Health Organization (WHO) plays a crucial role in addressing air pollution by providing...



United Nations Environment Programme

The United Nations Environment Programme (UNEP) is the leading global authority on the environmen...



World Bank Group

The World Bank plays a critical role in addressing air pollution through its investments, technic...

BAQ 2026

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Thank you for listening!

For any questions, feel free to reach out to
rapap.escap@un.org

