UN environment programme

GEF-8 “Global Chemicals Monitoring Programme to Support Implementation of Stockholm and Minamata Conventions" (GCMP) 2026-2030

Stakeholder Consultation

31 October 2025, *Geneva, Switzerland and hybrid*

Agenda

Item 2: Adoption of Agenda		
9:40-10:00	- **Introduction of participants** - **Adoption of agenda** - **Nomination of Chair**	All participants
10:00- 10:30 Photo session and coffee break		

Item 3: Background and Objectives		
10:30-11:00	**Objectives, scope and expected outcomes of the GCMP**	Jitendra Sharma, GEF Unit, UNEP Chemicals and Health Branch Haosong Jiao, Knowledge and Risk Unit of UNEP Chemicals and Health Branch
11:00–11:50	**Regional implementation of the GCMP** - BCRC-SCRC-Caribbean - BCRC-SCRC-China - SCRC-Kenya - BCRC-SCRC-Senegal - BCCC-SCRC-Uruguay	Regional executing agencies

Agenda

Item 4: Thematic Topics		
11:50-12:30	**Methodologies, protocols, SOPs and sampling materials, followed by a group discussion**	Victor Hugo Estellano, Knowledge and Risk Unit of UNEP Chemicals and Health Branch
12:30-13:30 Lunch break		
13:30-13:50	**Coordination with the Stockholm Convention Global Coordination Group and Regional organizational Groups and the Minamata Convention Open-Ended Scientific Group**	Agustin Harte, BRS Secretariat Eisaku Toda, Secretariat of the Minamata Convention
13:50-14:00	**Reporting globally comparable data to the Minamata Conventions**	Alexandra Steffen, Chair of the Minamata Convention Open-ended Scientific Group
14:00-14:15	**Interlaboratory assessment for quality-control/quality assurance**	Philippe Bersuder, International Atomic Energy Agency (IAEA)
14:15-14:30	**Reporting globally comparable data to the Stockholm and Minamata Convention**	Tom Harner, Chair of the Stockholm Convention GMP Global Coordination Group

Agenda

14:30-15:10	**Strengthen chemical monitoring capacities in project regions** - Experience gained and lessons learnt from previous capacity building activities. - Emerging capacity building needs and expectations. - GCMP capacity building strategies. - Engagement of broader experts as extended programme review committee members. - Discussion.	Alejandra Torre, BCRC-SCRC-Uruguay
15:10-15:30	**Public participation (gender, youth, indigenous groups and vulnerable populations)**	Hadassah Bournes, BCRC-SCRC-Caribbean
15:30–16:00 *Coffee break*		
Item 5: Operational and Administrative Session		
16:00-16:45	- **Communication strategy and visual identity package** - **Supporting letters for ethical clearance and shipment of samples** - **Quarterly progress tracking sheets** - **Intellectual property and publications**	Haosong Jiao, Knowledge and Risk Unit, UNEP Chemicals and Health Branch
16:45-17:00	- **Progress and expenditure reporting templates** - **M&E frameworks (programme level reporting, annual report, harmonizing mid-term reporting and TE)** - **Risks and stakeholder response/grievance mechanisms**	Jitendra Sharma, GEF unit, UNEP Chemicals and Health Branch

Agenda

15:30–16:00 *Coffee break*		
Item 5: Operational and Administrative Session		
16:00-16:45	- **Communication strategy and visual identity package** - **Supporting letters for ethical clearance and shipment of samples** - **Quarterly progress tracking sheets** - **Intellectual property and publications**	Haosong Jiao, Knowledge and Risk Unit, UNEP Chemicals and Health Branch
16:45-17:00	- **Progress and expenditure reporting templates** - **M&E frameworks (programme level reporting, annual report, harmonizing mid-term reporting and TE)** - **Risks and stakeholder response/grievance mechanisms**	Jitendra Sharma, GEF unit, UNEP Chemicals and Health Branch
17:00-17:15	**Discussion on key issues and synergies:** - **Governance and lead agency coordination with other platforms** - **Inputs from GEF Secretariat, partners and multi-stakeholders on expectations**	All participants
17:15-17:30	**Summary, takeaways, and call to action for the programme's success**	Jewel Batchasingh, GEF Secretariat Jitendra Sharma, GEF unit, UNEP Chemicals and Health Branch
17:30	**Closure of the meeting**	All participants
17:30 Reception		



GCMP Implementation Plan

Global Chemicals Monitoring Programme (GCMP) - GEF ID 11534

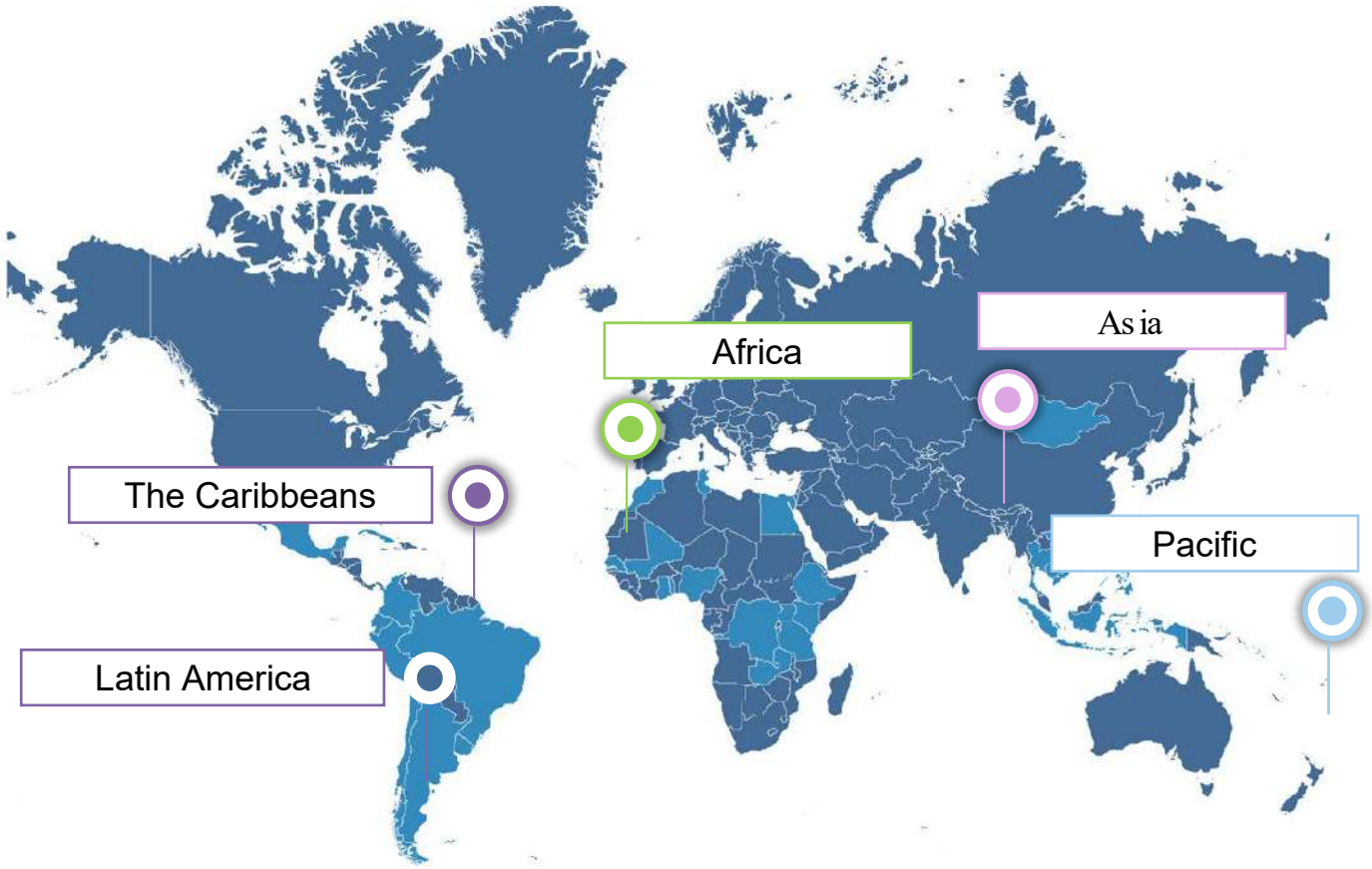
31 October 2025

Presented by
Jitendra Sharma
UNEP

Global Chemicals Monitoring Programme (GCMP)

Programme Objective: The objective of the programme on global monitoring of POPs and mercury is to contribute to the effectiveness evaluation of the Stockholm Convention and provide data to support the effectiveness evaluation mechanism of the Minamata Convention.

Overview



Objective

POPs and mercury monitoring to support the implementation of the Stockholm and Minamata Conventions

Scope

5 regions (Africa, Asia, Pacific Islands, Caribbeans Islands, and Latin America)

Implementation arrangement

Global coordination project + five regional projects

Duration

2026-2030

Budget

USD 23,500,000 (GEF Grant), Total anticipated co-finance- ~USD 65 mil

Regional coverage

Region	GEF Grant (in US$)	Indicative co-financing (in US$)
Global- 11535	5,500,000	17,140,000
Africa- 11536	5,000,000	12,185,000
Asia- 11527	4,000,000	9,770,000
Caribbean- 11538	3,000,000	7,750,000
Pacific- 11539	2,000,000	3,680,000
Latin America- 11540	4,000,000	14,950,500
Total	23,500,000	65,475,500

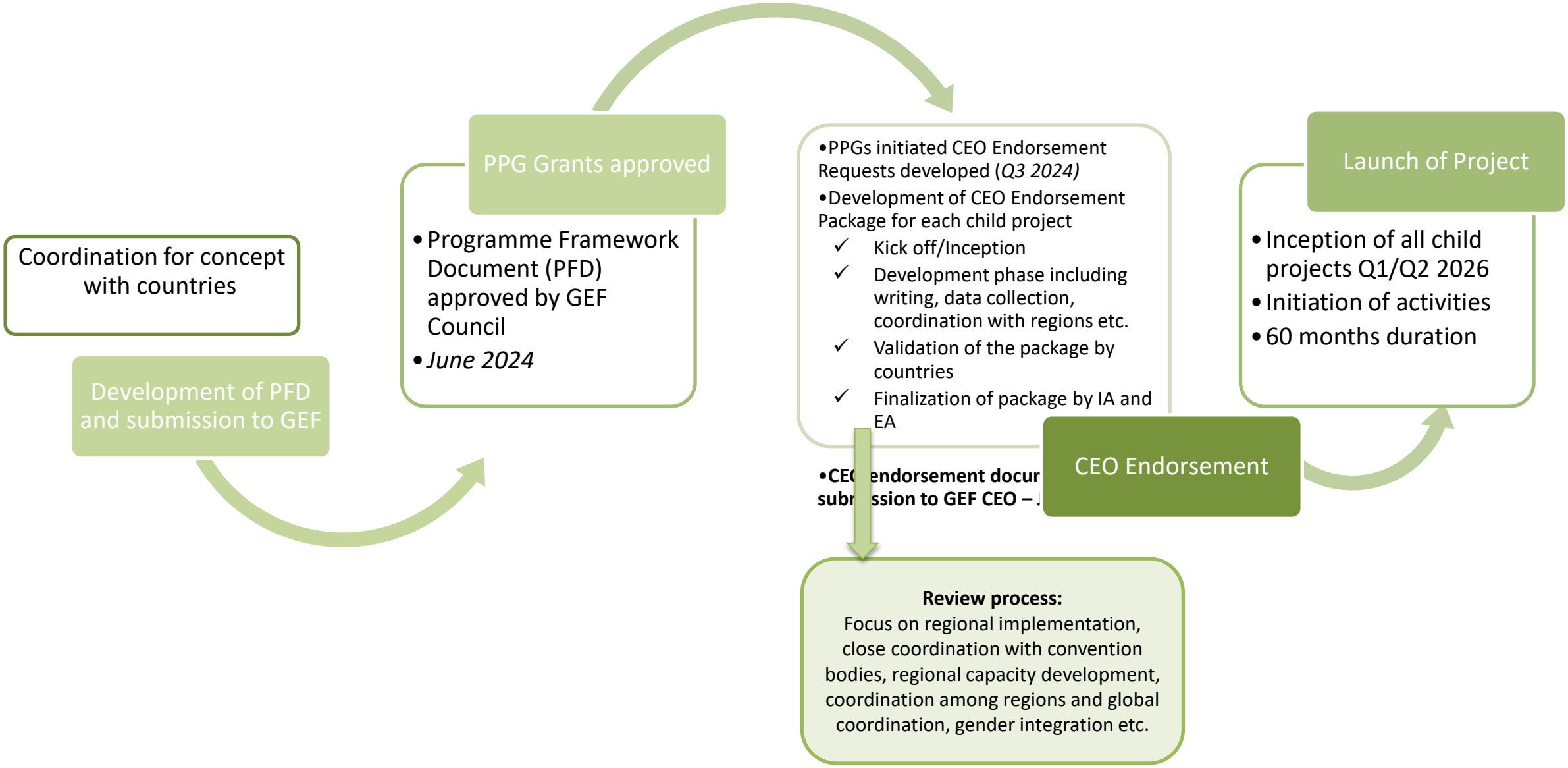
Executing Agencies

- ✓ Global: UNEP Knowledge and Risk Unit
- ✓ Africa: BCRC/SCRC Africa (Senegal and Kenya)
- ✓ Asia: BCRC/SCRC China
- ✓ Pacific: BCRC/SCRC China
- ✓ Latin America: BCCC/SCRC Uruguay
- ✓ Caribbean: BCRC/SCRC Caribbean

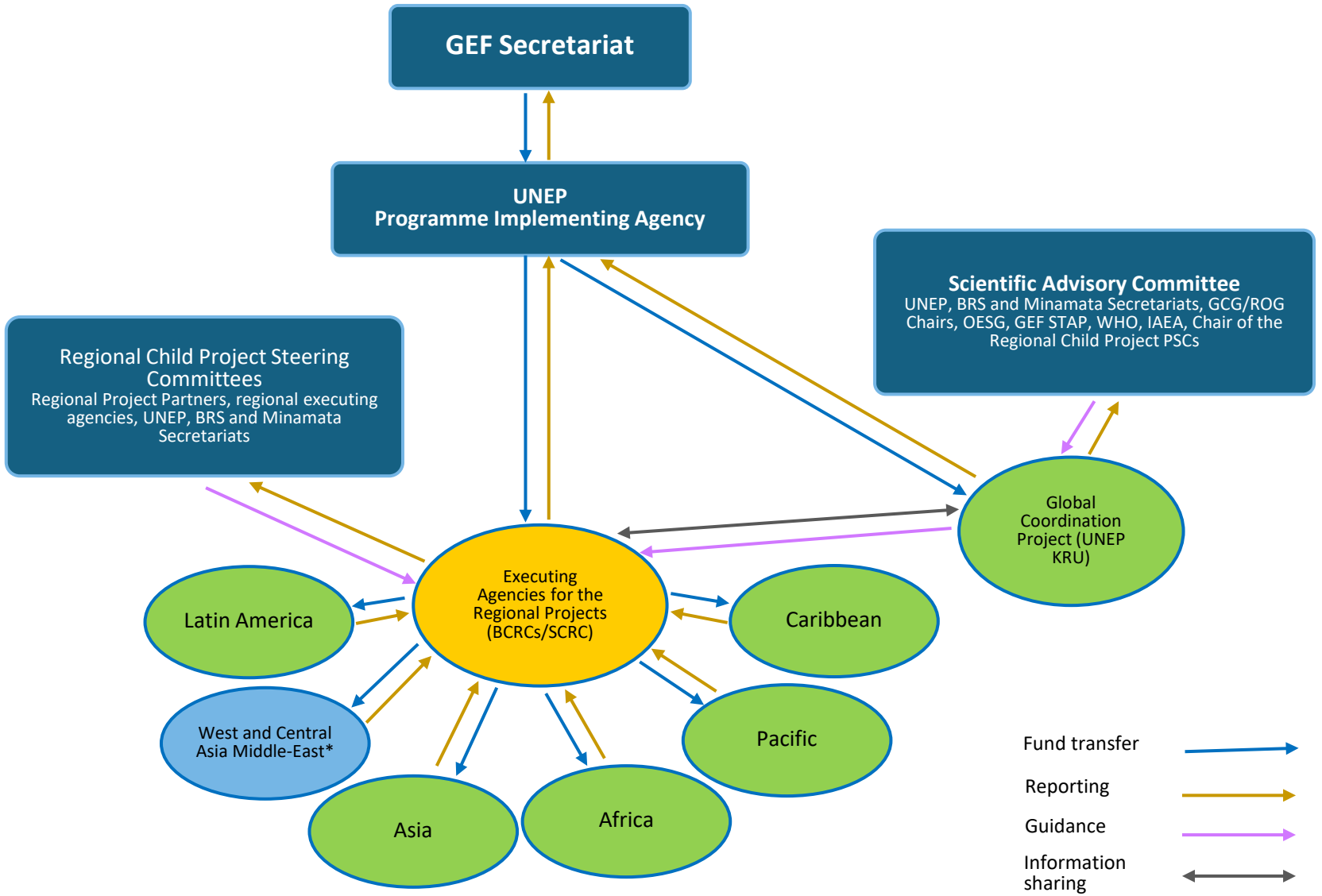
Project Information

Component 1	Sustainable capacity for global monitoring of chemicals under the Stockholm and Minamata Conventions
Component 2	Generation of high quality and comparable data
Component 3	Knowledge management, information dissemination, outreach and strengthen stakeholder engagement
Component 4	Project management (monitoring and evaluation)

Recap of the process to date



Institutional arrangement- GCMP Global



Programme Scientific Advisory Committee

- Provide scientific guidance on implementation issues, oversee the progress, coordinate assessments etc.
- Guidance on POPs and Mercury monitoring and quality control
- Support the use of data to assist policy and decision making
- Facilitate COPs information related to the programme integration into various documents
- Any other scientific and technical matters - to be discussed with SAC as needed

Project Steering Committee

- Established at inception, meets annually
- Oversees the project, provides overall guidance and ensures coordination among all parties
- Provides overall supervision for project implementation, especially safeguards, risks, gender, and other cross cutting strategies
- Approves annual workplan and budget
- Oversees implementation of corrective actions (last year PSC recommendations, MTR)
- Review risks and mitigation strategies
- Enhance Synergy between Project and other initiatives
- ToRs to be approved at inception

Implementation vs Execution

Global Environment Facility

Accountability to

Implementing Agency

- Implementation
- Dialog with GEF Sec
- Identification
- Conceptualisation
- Project preparation
- Inception
- Supervision
- Evaluation

Defined set of roles and responsibilities that CAN'T be passed on

Accountability to

Executing Agency

- Execution
- Reporting to IA
- Day-to-day Management
- In country representation

Can be either:

- Other UN Agency
- National Government
- Non-for-profit & Non-partisan entities

Implementing Agency Role

- Contracting of executing Agency)
- Supervision
  - Compliance with programme and child project framework strategies (procurement plan, risk management plan, stakeholder engagement plan, Gender and socio -economic plan)
  - Clear quarterly progress and expenditure reports
  - Submit annual PIR to GEF Secretariat
  - Supervision missions (coincide with annual SC meeting)
- Technical guidance as needed & quality assurance
- Mid term Review & Terminal Evaluation
- Coordination and consultation
  (GEF Secretariat, GEF operational focal points, BRS focal points and Secretariat)

Regional/Global Execution

- Execution on day -to-day basis - overall project management and HR
- Project Cooperation Agreements with project countries/partners as applicable
- Responsible to IA and PSC for achievement of outputs and activities
- Secretariat of PSC and support Scientific Advisory Committee (SAC), as needed
- Reports to IA on quarterly basis (expenditure and consolidated progress report) and annual (annual workplan & forecast, PIR, annual audit)

Key preliminary recommendations from GMP2

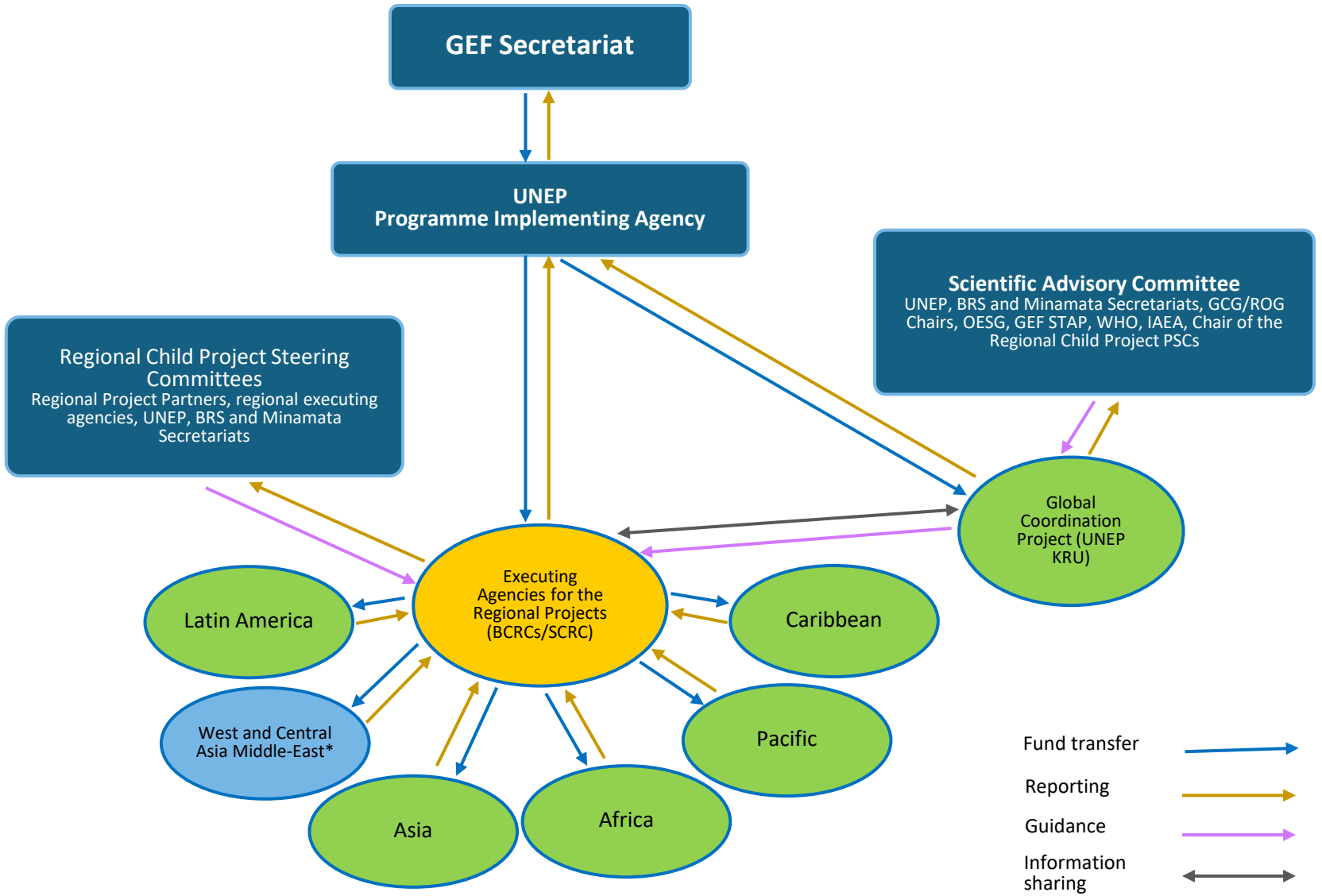
- Ensure systematic engagement of policy developers to integrate monitoring results into decision making process
- Develop closer collaboration with existing networks
- Detailed baseline and training needs assessment
- Consider involvement of private sector including private research institutions/laboratories
- Clear regional strategy to incorporate the requirements of the low-capacity countries
- Strong link between policy development and scientific plan, to support sustainability

UNEP/GEF Global Chemicals Monitoring Programme (GCMP) 2026-2030

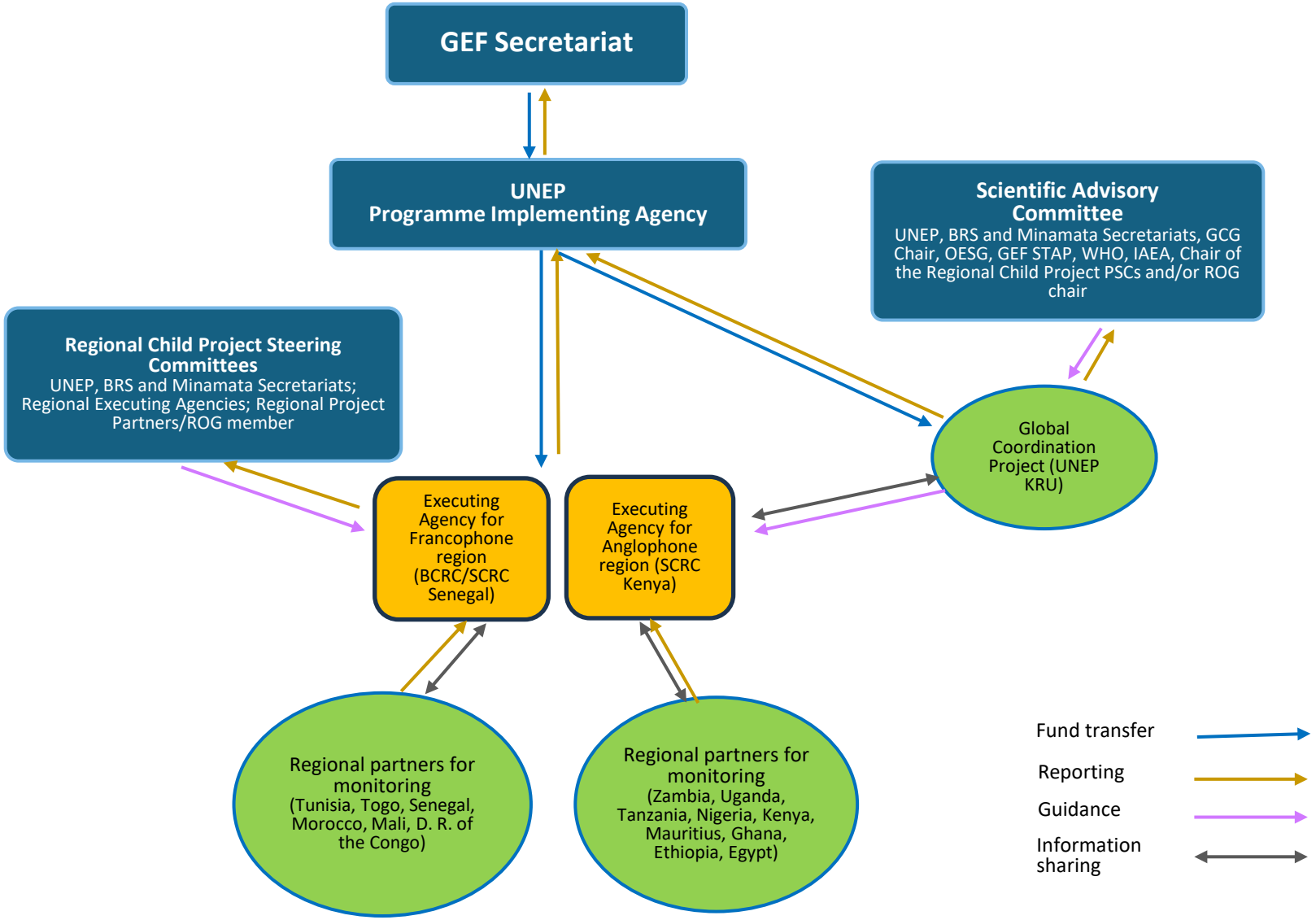
Haosong Jiao, *Associate Programme Management Officer*
Knowledge and Risk Unit, Chemicals and Health Branch, Industry and Economy Division

GCMP Stakeholder Consultation, Geneva, Switzerland
31 October 2025, hybrid

Institutional arrangement- GCMP Global



Institutional arrangement- GCMP Regional



Programme Components

1. Sustainable capacity for global monitoring of chemicals under the Stockholm and Minamata Conventions
2. Generation of high quality and comparable data
3. Knowledge management, information dissemination, outreach and strengthen stakeholder engagement
4. Project management, monitoring and evaluation

Major components and activities

Sampling

- Guidance and protocols.
- Sampling materials.
- Sampling in 54 countries.
- Sample shipment and analysis in qualified laboratories.

Data generation and quality control

- Interlaboratory assessment
- Trainings
- - make regional advanced labs qualified as data generators.
- - assist labs with basic capacities with improving their analytical performance.
- Mechanism to engage with broader researchers and experts at the regional level.

Data reporting, interpretation and use

- Reporting data to the Stockholm and Minamata Conventions
- Report and interpret data for broader use
- --- Establish a data platform to enable data use across topics.
- --- Support data interpretation linking to national policy and decision making.
- Report data to the general public and broader stakeholders for awareness raising (communication, indigenous groups, youth groups etc.)

Major outputs and outcomes

Sampling

- Project regions have enhanced collaboration and basic capacities to conduct and collaborate on POPs and mercury monitoring, including collaboration with experts and regional networks. .

Data generation and quality control

- Labs with existing capacities have improved analytical skills and can undertake more regular and high requirement analysis.
- Labs with basic capacities have access to guidelines and protocols, channels for peer collaboration, and opportunities for capacity building where conditions allow.
- Conditions established to support sustainable generation of data to make chemicals under review.

Data reporting, interpretation and use

- Data reported to support decision making of the MEAs.
- Data is available with data interpretation skills in place in project regions and countries to use the data and make follow-up decisions.
- Tools and platforms are in place to share the results with broader stakeholders.
- Stakeholders have the opportunities to participate.
- Content interpreted and communicated to the general public.

Workplan

Year 1	Year 2	Year 3	Year 4	Year 5
• Set up coordination and implementation mechanisms • Inception workshop • Interlab assessment • Guidance and trainings	• Capacity building • Data generation and reporting • Coordination with SC GMP and MC OESG • Partnerships	• Data generation • Data management and interpretation • Capacity building on data use and interpretation • Midterm workshop	• Data and knowledge management and dissemination • Data interpretation to support policy and decision making	• Finalization of project activities and technical reports • Final workshop • Terminal evaluation
• Air monitoring of POPs and Hg • Water monitoring of POPs • POPs human milk survey • Capacity building		• Data generation, reporting, interpretation and use		
• Communication, stakeholder engagement, gender integration, public participation (indigenous groups, vulnerable populations etc.)				



Interlaboratory assessment, capacity building and collaboration with broader experts



Operational and Administrative Session



Knowledge Management and Communication

Coordination with Stakeholders

IGOs and Partnerships

- Secretariats of the Stockholm and Minamata Conventions
- Stockholm Convention GMP Global Coordination Group and Regional Organizational Groups (including EMAP/AMAP as strategic partners)
- Minamata Convention Open-ended Scientific Group
- International Atomic Energy Agency (IAEA)
- World Health Organization
- Global Mercury Partnership
- UNEP World Environmental Situation Room (WESR)
- …

Regional Partners

- Stockholm and Basel Conventions Regional Centers (Caribbean, Uruguay, China, Kenya, Senegal)
- Project countries (~54)
- Tshwane University of Technology – South Africa
- Hokkaido University - Japan
- Ministry of Environment Protection of Nature and development – Cameroon
- (European Commission joint research center?)
- …

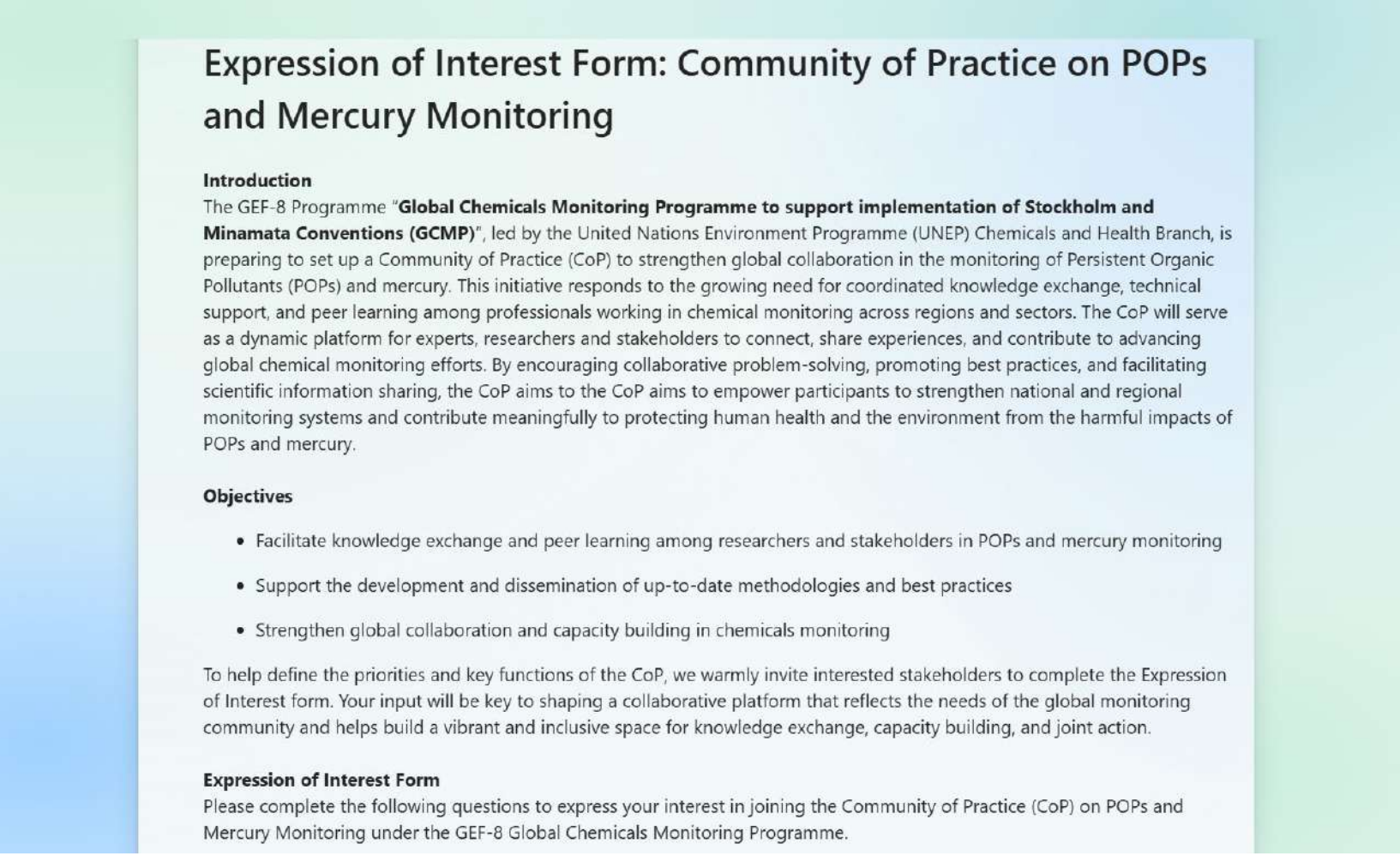
Regional Monitoring Networks

- POPs Monitoring East Asia Programme, Japan
- China new pollutants monitoring programme
- Air Quality Monitoring Programme (GAPS)
- Environmental monitoring networks and sampling programmes (MONET)
- Global Aquatic Passive Sampling (AQUA-GAPS)
- CSIR-NEERI
- …

International laboratories

- Atmospheric Science and Technology Directorate - Environment and Climate Change Canada
- Air Quality Processes Research Section - Environment and Climate Change Canada
- CVUA Freiburg, Germany
- RECETOX, Czech Republic
- University of Queensland – Australia
- …

Collaborating with broader researchers: Community of Practice



Expression of Interest Form: Community of Practice on POPs and Mercury Monitoring

Introduction

The GEF-8 Programme "**Global Chemicals Monitoring Programme to support implementation of Stockholm and Minamata Conventions (GCMP)**", led by the United Nations Environment Programme (UNEP) Chemicals and Health Branch, is preparing to set up a Community of Practice (CoP) to strengthen global collaboration in the monitoring of Persistent Organic Pollutants (POPs) and mercury. This initiative responds to the growing need for coordinated knowledge exchange, technical support, and peer learning among professionals working in chemical monitoring across regions and sectors. The CoP will serve as a dynamic platform for experts, researchers and stakeholders to connect, share experiences, and contribute to advancing global chemical monitoring efforts. By encouraging collaborative problem-solving, promoting best practices, and facilitating scientific information sharing, the CoP aims to the CoP aims to empower participants to strengthen national and regional monitoring systems and contribute meaningfully to protecting human health and the environment from the harmful impacts of POPs and mercury.

Objectives

- Facilitate knowledge exchange and peer learning among researchers and stakeholders in POPs and mercury monitoring
- Support the development and dissemination of up-to-date methodologies and best practices
- Strengthen global collaboration and capacity building in chemicals monitoring

To help define the priorities and key functions of the CoP, we warmly invite interested stakeholders to complete the Expression of Interest form. Your input will be key to shaping a collaborative platform that reflects the needs of the global monitoring community and helps build a vibrant and inclusive space for knowledge exchange, capacity building, and joint action.

Expression of Interest Form

Please complete the following questions to express your interest in joining the Community of Practice (CoP) on POPs and Mercury Monitoring under the GEF-8 Global Chemicals Monitoring Programme.

Link: Expression of interest form

Collaborating with broader researchers: Community of Practice

Key features:

- Sharing good practices and case studies
- Sharing relevant news, updates, and upcoming events with the community
- Supporting the development of tools and guidelines
- Participating in peer review of UNEP publications
- Engaging in technical discussions and troubleshooting through online forums

Members of the COP can:

- Connect with experts and peers for knowledge exchange and collaboration
- Seek support and advice when facing technical challenges
- Share and access up-to-date scientific information and communications
- Promote and learn about relevant events, seminars, and training opportunities
- Co-develop research proposals and funding applications
- Share or discover job opportunities in the field
- Contribute to policy discussions and practical solutions
- Stay informed about global and regional initiatives

Ethical Clearance for the Human Milk Survey

WHO Guidelines for Developing a National Protocol, 2007

- National Coordinator should assure that the survey meets all national ethical requirements for human subjects.
- Ethical issues, including informed consent of donors and confidentiality, are major considerations in any protocol.
- Given that breastfeeding reduces child mortality and has health benefits that extend into adulthood, every effort has been made to protect, promote and support breastfeeding in the context of these studies.

Ethics:

- Mothers donating samples of their milk should be informed of the nature and purpose of the survey and asked to sign an informed consent form for this purpose (Annexes 5 and 6 of the guidelines). These guidelines for developing a national protocol have been initially evaluated by the WHO Research Ethics Review Committee. …The results of this survey are expected to strengthen the factual basis for the health risk assessment for infants and children and to promote environmental and other measures likely to reduce the concentrations of these chemicals in human milk. (WHO guidance, 2007).

- Based on national requirements, National Coordinators should decide whether to provide donors with the results of individual and/or pooled samples. If such information is provided, considerable judgement must be used in drawing conclusions concerning levels of POPs. The provision of individual results should always be accompanied by an explanation giving the range of other results and a short interpretation of the health significance of the values. Once sufficient data are available, WHO will develop appropriate risk communication advice on this matter. In all cases, breastfeeding should be promoted as the best feeding mode for infants.

Ethical Clearance for the Human Milk Survey

Experience gained and tips from previous UNEP/GEF projects:

- Approval of national protocol including the ethical clearance can be time consuming.
- Attach the WHO guidelines and UNEP protocol can be useful.
- Establish collaboration with the Ministry of Health or WHO national office at the early stage of the project implementation.
- **Attach the supporting letter provided by the BRS Secretariat and UNEP and shared with Stockholm Convention National Focal Points – 4 October 2024.**

> We kindly request your continued support for the UNEP project management team, the relevant Basel and Stockholm Conventions regional centers, and the members of the Regional Organizational Groups (ROGs) during the preparation phase of the Global Chemicals Monitoring Programme. This includes assisting with interim sampling, securing ethical clearance for human milk monitoring, screening laboratory capacities in the region, and submitting cofinance letters.

- **Attach the BRS invitation letter to participate in the 4th phase of the Stockholm Convention Global Monitoring Plan- Jan 2025 to Stockholm Convention focal points.**

> At its eleventh meeting, the Conference of the Parties adopted decision SC-11/18, encouraging Parties to engage in the implementation of the Global Monitoring Plan and the effectiveness evaluation, particularly through continued monitoring of core media (air and human breast milk or blood), and initiate monitoring of per- and polyfluoroalkyl substances (PFASs) listed under the Stockholm Convention in surface water, where possible, to support future evaluations.

Ethical Clearance for the Human Milk Survey

Experience gained and tips from previous UNEP/GEF projects:

- Include clarifications on sample analysis and data privacy, such as:
  - Individual samples collected will be combined into one national pooled sample.
  - Results of national pooled samples will be used to reflect the national average exposure to POPs to support the effectiveness evaluation of the Stockholm Convention.
  - Laboratories selected to undertake human milk survey have passed UNEP global interlaboratory assessment and proved capability of generating credible and reliable results on POPs in human milk.
  - Emphasize that the WHO guidelines has gone through rigorous review by the WHO ethical committee and holds high ethical standards.
  - **Laboratorie(s) that analyze the samples will not have access to the names or contacts of the sample donors**.

Example of supporting letter for shipment of samples

Industry and Economy Division

Date	**16.12.2024**
Reference	**UNEP/GEF_POPs GMP2_Interim Sampling**
Subject	**Statement of non-commercial nature of UN material shipment to project countries for interim samplings of air and water**

To Whom It May Concern,

Please note that the United Nations Environment Programme (UNEP) and the Secretariat of the Stockholm Convention requested RECETOX – the Research Centre for Toxic Compounds in the Environment – Masaryk University, Brno, Czech Republic, to prepare materials for air and water monitoring of Persistent Organic Pollutants (POPs) and ship them to specific institutions in eligible developing countries that participated in the Global Environment Facility (GEF) funded POPs Global Monitoring Plan (GMP) project. These materials are needed for building capacity in the country of destination for environmental monitoring of POPs as part of the country's obligation under the Stockholm Convention.

The containers and the materials belong to the GMP project implemented by UNEP. These materials are a donation of UNEP to the assigned institution in the country of destination; the shipment does not have a commercial value and the materials contained are not hazardous.

Yours sincerely,

Kei Ohno Woodall
Senior Coordination Officer
Secretariat of the Basel, Rotterdam and Stockholm Conventions

Online Platform for Sampling Progress Tracking

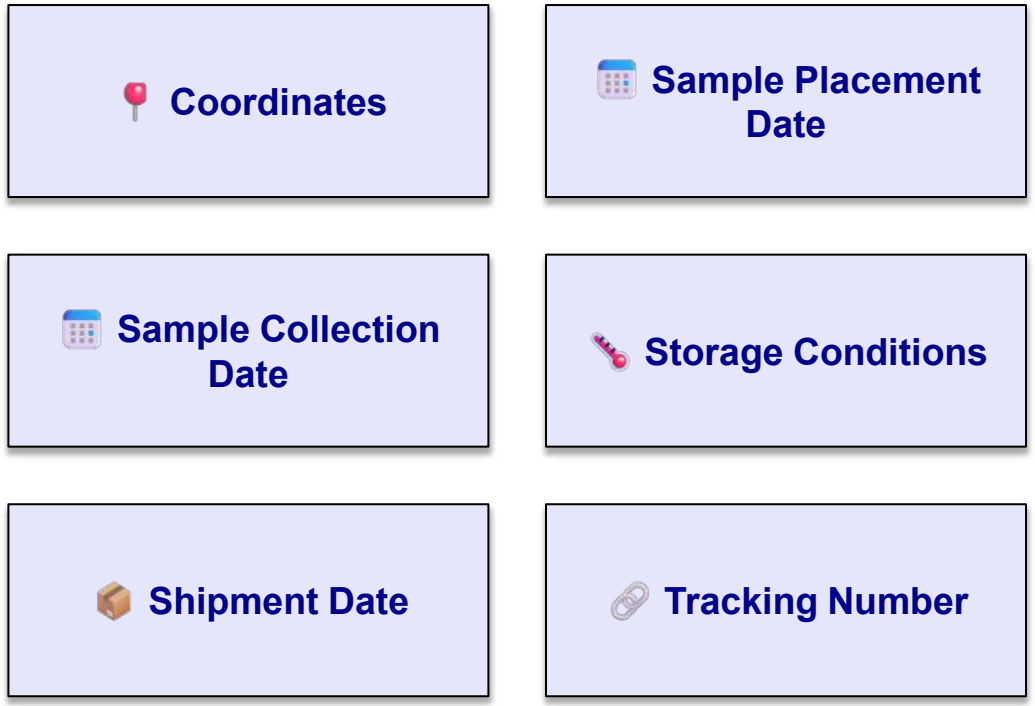
Key Features

- 📍 Coordinates / site lcations
- 🔢 Date of sample placement
- 🗓️ Date of sample collection
- 🌡️ Storage conditions and temperature
- 📦 Shipment date and tracking number

Benefits

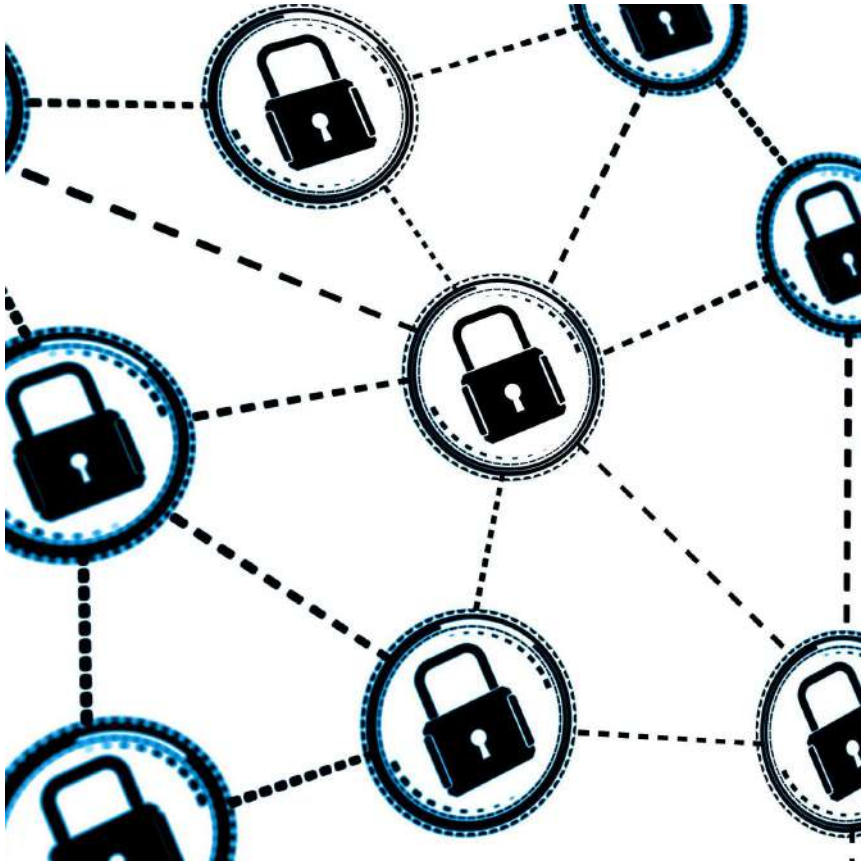
- ✅ Tracking sampling season progress easily
- 🚚 Shipment visibility
- 📊 Streamlined reporting
- 🌐 Data consistency across countries, regional agenies, laboratories and the global programme.

Online platform interface mock-up



Intellectual property and publications

Ownership and Sharing of Data



Data ownership

- UNEP and project countries hold the rights to data, samples, and results to prevent disputes and ensure clarity.
- Data generated under the GCMP do not require additional permission from countries for consolidation, reporting to the MEAs and publishing in the UNEP data dashboard.

Data sharing conditions

Data sharing among agencies, labs, and partners should uphold ethical standards to ensure trustworthy and credible programme outputs.

Access limitations

Before validation and finalization of sampling results, permissions are required for third-party access to sensitive data and samples.

Protection measures

Confidentiality and safeguards will be developed under the data management strategy to protect data security and maintain trust.

Intellectual property and publications

Publication Policies and Authorship



Clear authorship criteria
Authorship is based on substantial research, analysis, or writing contributions. UNEP is the author of UNEP official publications.

Defined approval process
Publishing requires clearances from partner organizations and UNEP internal reviews, including gender and map reviews, following UNEP publication guidance.

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Promotion of open access
Data generated under the GCMP will be made publicly available to support wider dissemination of findings and to encourage global researchers to conduct follow-up studies. Confidentiality will be guaranteed for sensitive data such as information about milk donors.

Standardized citation

- Ensure recognition of regional agencies, laboratories, and collaborators.
- Citation standards to ensure proper attribution and academic integrity.

Intellectual property and publications

Compliance and ethical standards



Global compliance
Ensure alignment with communication and publication guidelines of the GEF, the MEAs and those of other agencies.

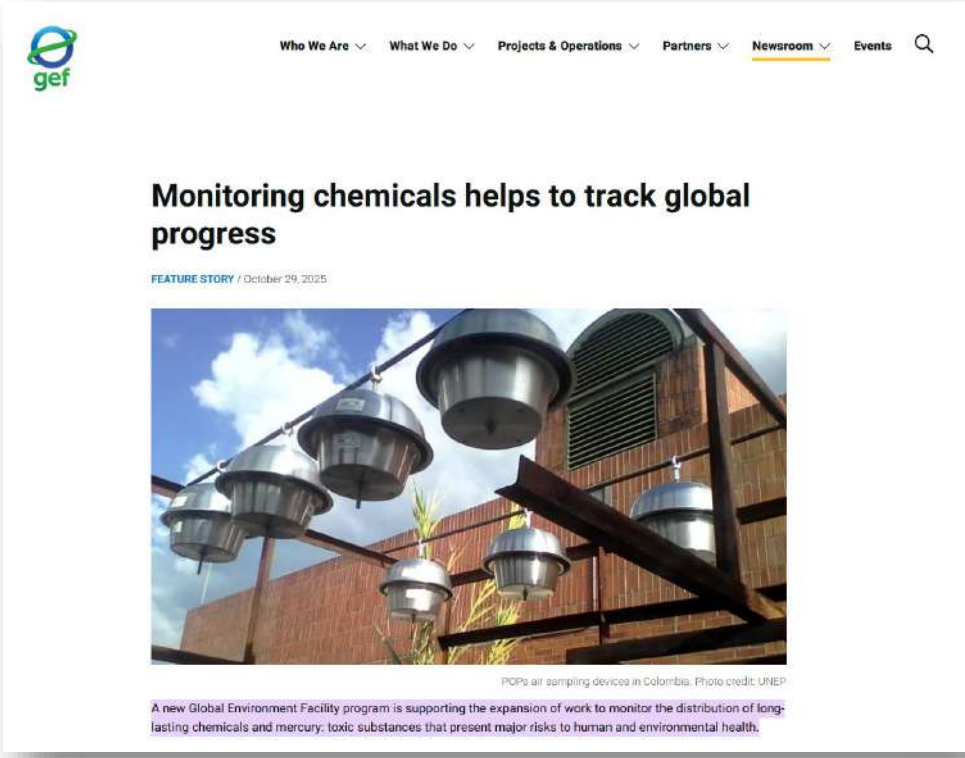
Ethical research standards
Maintain data integrity, transparency, and responsible conduct in research.

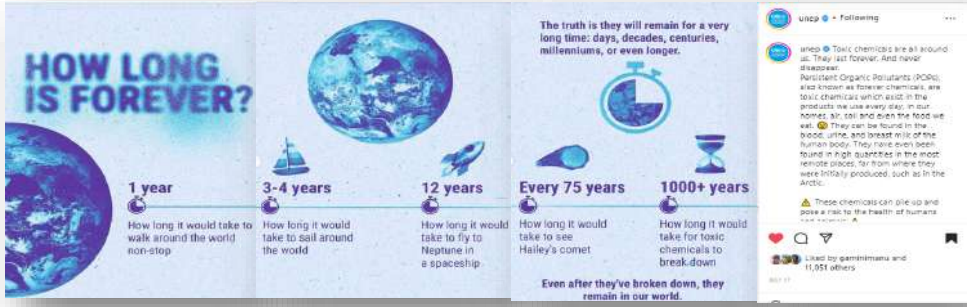
Collaborative innovation

- Promote joint research and publications for shared learning and innovation.
- Encourage national researchers particularly from project countries to use the publicly available data from the GCMP.

Moments from GMP2







Objective and Audience Segmentation

Different audiences have unique information needs, interests, and communication preferences.

OBJECTIVE

We propose a **targeted Communications Plan** that focuses on demonstrating the GCMP's **key findings** and raising **awareness among stakeholders and the general public**.

Press Release, Technical Reports:
Stakeholders and Professional Audience

Sharing technical reports and package of communication materials with stakeholders, professionals and media groups to facilitate broader dissemination of information.

Worst Friends Forever Campaign:
General Public

Social Media campaign to raise public awareness, understanding, and recall of toxic chemicals.

Communications

Unified brand voice: One look-and-feel and core message set cascaded from the Global Coordination Child Project (GCCP) to every regional child project for consistent, recognisable outreach.

Audience-segmented outreach: Tailored content for targted stakeholders – from SOP webinars for labs to social-media infographics for the public.

Global↔regional coordination hub: GCCP issues guidelines, runs comms-training, and curates regional success stories into high-level reports and COP briefings, ensuring messages land at both local and international tables.

Digital first: Dedicated GCMP knowledge platform/webpages + regional pages, webinars and press releases.

Inclusive lens: Gender equity, Indigenous rights and youth participation woven into campaigns through success-story spotlights, co-created materials and targeted partnerships.

GCMP Visual Identity

UN environment programme | Global Chemicals Monitoring Programme

Global Chemicals Monitoring Programme

Funded by: gef

Led by: UN environment programme

Partner with:

Secretariat of the Basel, Rotterdam and Stockholm Convention, Secretariat of the Minamata Convention, WHO, IAEA, BCCC-SCRC-Uruguay, BCRC-SCRC-Caribbean, BCRC-SCRC-China, BCRC-SCRC-Senegal, SCRC-Kenya

UN environment programme | Global Chemicals Monitoring Programme

Global Chemicals Monitoring Programme

Global Chemicals Monitoring Programme



UN environment programme | Global Chemicals Monitoring Programme

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Global Chemicals Monitoring Programme

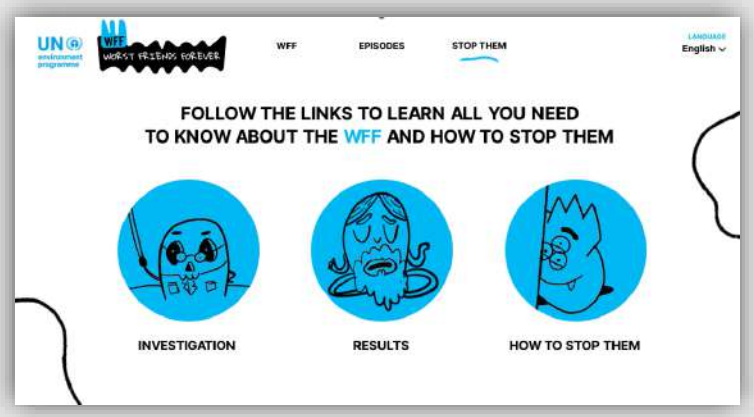
Global Chemicals Monitoring Programme

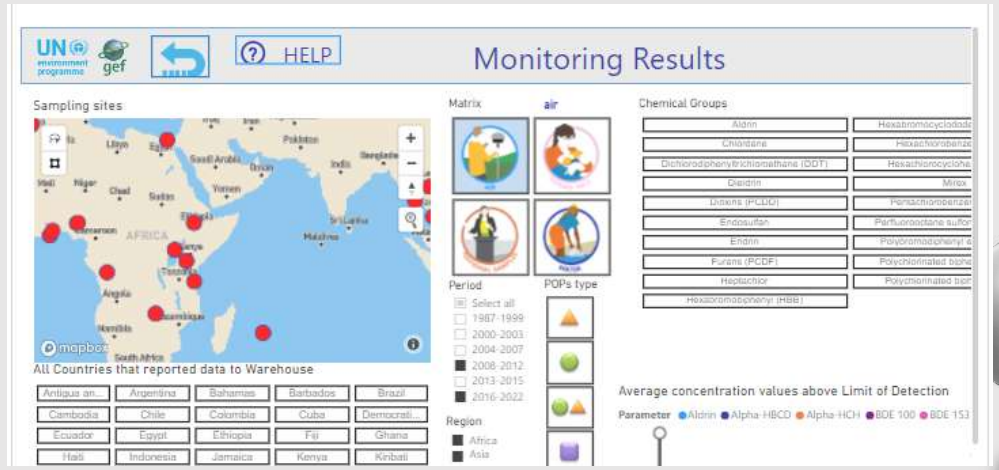


The “Ecosystem” Thinking

- UNEP regular pages for knowledge sharing (guidance, project documents, reports and meetings etc.)
- World Environment Situation Room dedicated page on chemicals and waste (dashboards for data sharing)
- **UNEP Interactive**







Knowledge Management

One-stop data hub: GCMP Knowledge-Management Platform layers onto the GMP Data Warehouse, UNEP Power BI Dashboard and WESR, giving a single entry-point for all POPs & mercury monitoring data.

Global comparability built-in: Harmonized sampling and QA/QC protocols mean data from five regions and multiple labs can be aggregated smoothly into COP effectiveness evaluations.

Dashboards: Custom, interactive views let policymakers, scientists and civil society pull the insights they need.

Connection with existing networks: Collaborates with existing networks like AMAP, GAPS, POPsEA, MONET to avoid duplication and keep methods and accreditation consistent as much as possible.

Sustained learning: Acts as a platform for South-South knowledge exchange, continual capacity-building and partnerships—locking in long-term sustainability of the monitoring system.

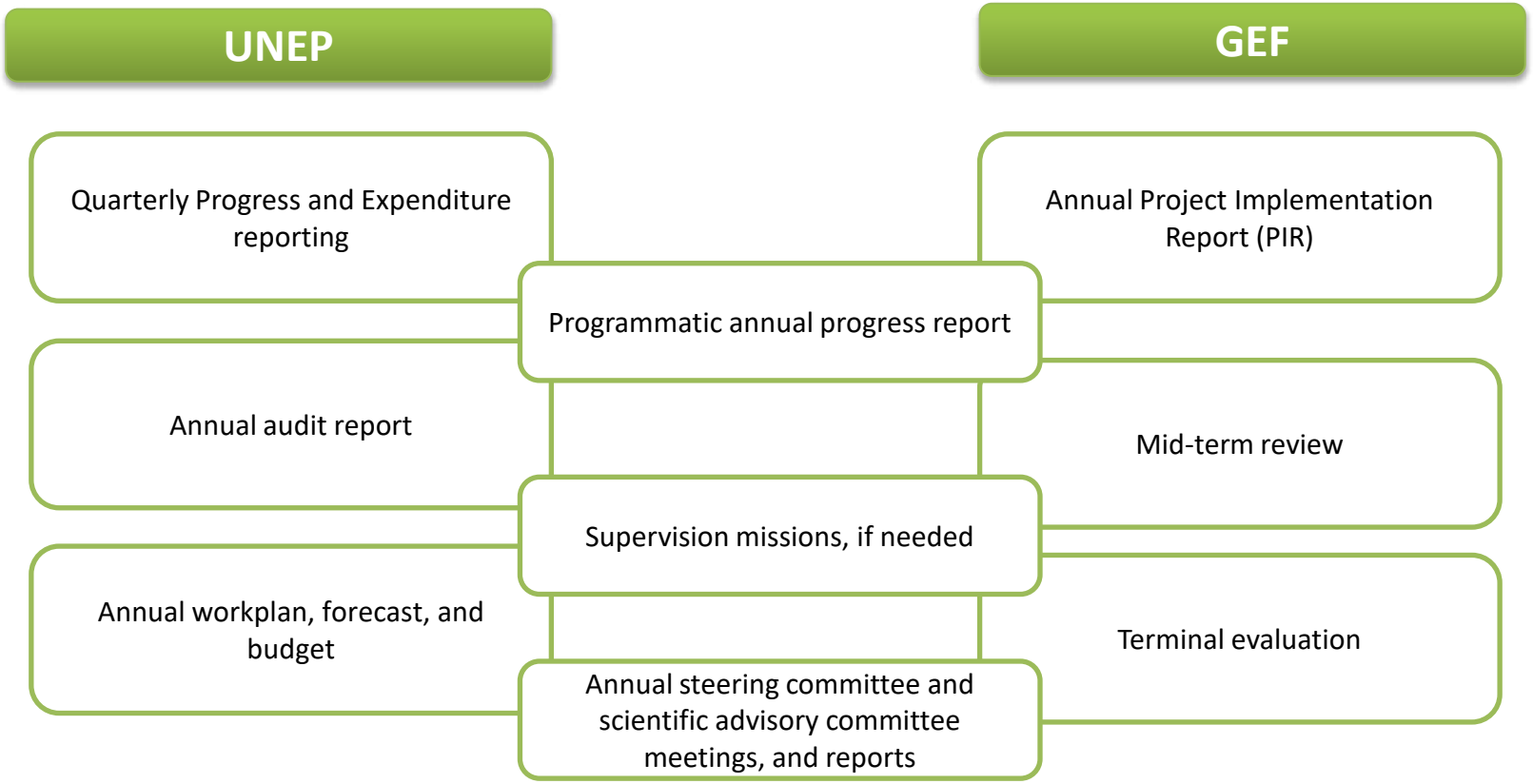
Join at menti.com | use code 1384 1440

Survey Purpose

- Gain feedback
- Support future design of knowledge management and communication products
- ; are heard

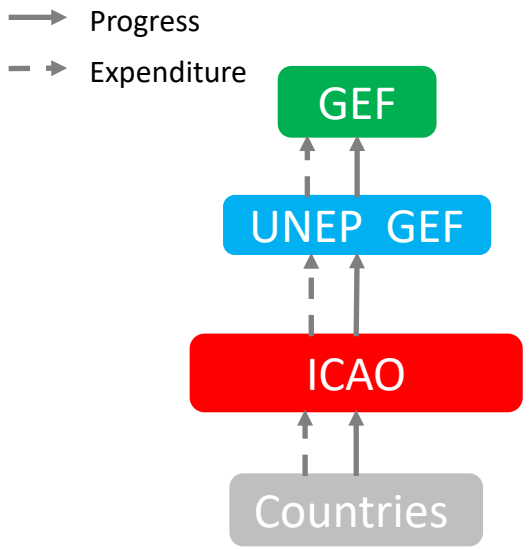


Reporting and supervision



Reporting

- Annual plan updated at the beginning of each year
  - Quarterly budget forecast
  - Workplan
  - Procurement plan
- Quarterly reporting
  - Quarterly financial statements
  - Progress reporting
- Annual review (PIR and Steering Committee)
  - Report actual activities and budget expenditure vs forecast
  - Discuss the reasons for delays/ learning lessons
  - Annual PIR in June

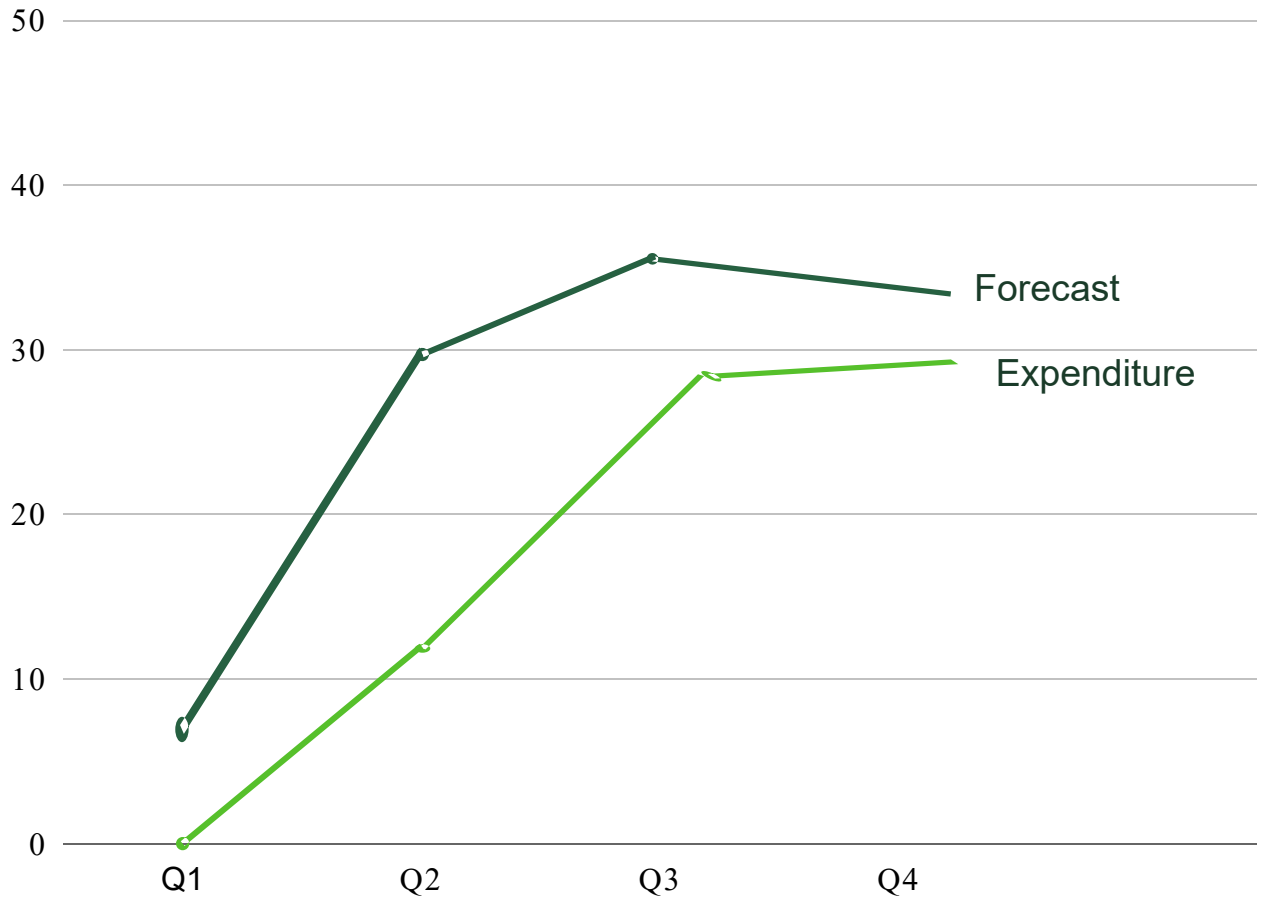


Quarterly Progress Reporting

Project Outputs		7a	7b	Quarterly Progress Update on Activities					8a	8b	8c
Output	Progress Report (1,200 Characters max - where applicable, please include any ESSM, Gender or Human Rights considerations where applicable) Fill		List of milestones and means of verification: List any LogFrame milestones and means of verification below if completed this quarter. Fill	Activities	Start date (expected)	End date (expected)		Tasks	Status Select	(but planned), DELAYED or DELIVERED LATE: Please provide a detailed description of the challenge, risk, or reason contributing to the delay. Additionally, include any proactive management actions taken to address the situation.	If delievered this quar provide the name deliverables below (TOI reports, etc)
import to disposal provided, including Convention reporting				1.3.2 Consult stakeholders for feedback on training materials and adapt accordingly;			1.3.2.3				
							1.3.2.4				
							1.3.2.5				
				1.3.3 Carry out training workshops in-person and online over the course of the project.			1.3.3.1				
							1.3.3.2				
							1.3.3.3				
							1.3.3.4				
							1.3.3.5				
Output 1.4: ICAO provisions for foam used in aerodrome rescue and firefighting services				1.4.1 Draft revised ICAO guidance for firefighting foams in coordination with relevant ICAO subject matter groups			1.4.1.1				
							1.4.1.2				
							1.4.1.3				
							1.4.1.4				
							1.4.1.5				
				1.4.2 Provide ongoing technical support for subject matter group deliberations;			1.4.2.1				
							1.4.2.2				
							1.4.2.3				
							1.4.2.4				
							1.4.2.5				
				1.4.3 Encourage adoption of foam guidance by ICAO member states.			1.4.3.1				
							1.4.3.2				
							1.4.3.3				

Quarterly Forecast & Expenditure

Be realistic with your forecasts!



Co-financing (monitoring and implementation)

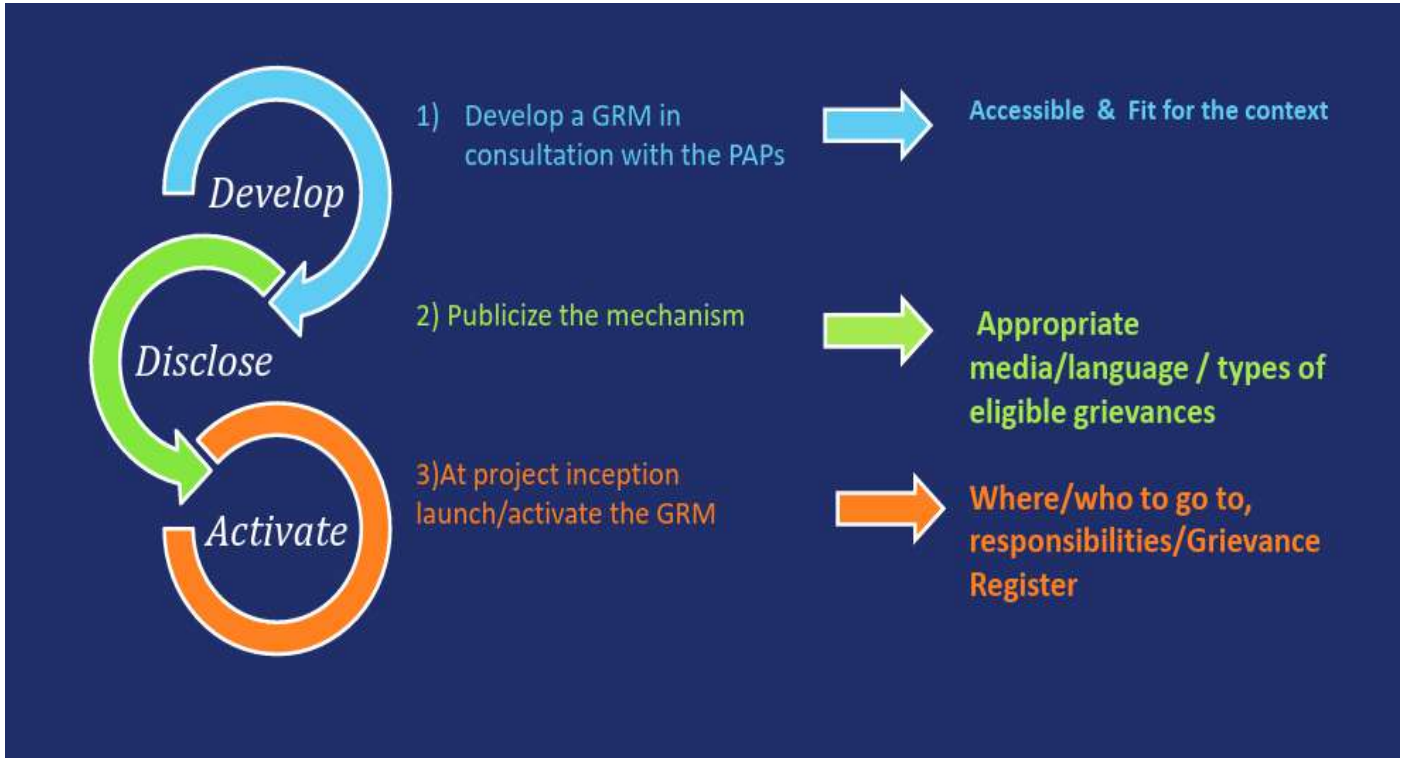
Executing Agencies (EA) are required to provide co-financing information materialized during the reporting period (1 July to 30 June) as part of the annual **Project Implementation Report (PIR).** The source of this information will be a communication from the co-financing partners either via formal letter, email or similar.

- Additional sources of co-financing that were not known at the time of CEO Endorsement/Approval can be reported provided there is accompanying supporting evidence.
- Any changes from the expected amounts, sources and types of co-financing provided at CEO Endorsement/Approval should be described.

GEF Agencies are also required to provide information on the actual amounts, sources and types of co-financing and investment mobilized as part of the **Mid-term Reviews (MTR)** and **Terminal Evaluations (TE)** to the GEF

Stakeholder Response Mechanism/Grievance Redress Mechanism

- A formal, accessible channel for individuals and communities affected by a project to raise concerns, complaints, or feedback related to environmental and social impacts, or to the project's processes and safeguards implementation.
- It includes clear steps for submission, intake, assessment, resolution, and feedback, with defined responsibilities and timeframes.



The global coordination will develop programme level mechanism while child projects will set up the project level mechanisms

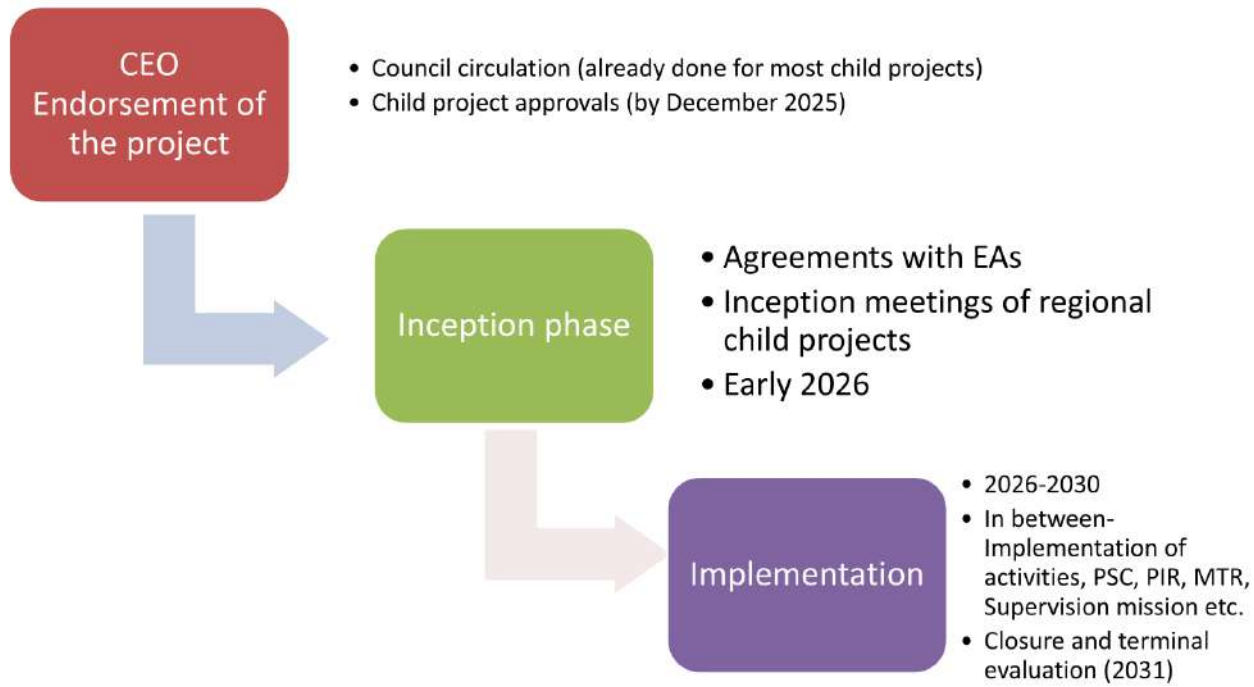
Example from planetGOLD programme:
https://www.planetgold.org/global-grievance-mechanism#:~:text=Anyone%20affected%20by%20the%20work,disclose%20it%20without%20your%20permission.

Communications & Visibility

- Any publications will give appropriate credit to GEF (GEF Communication and Visibility Policy)
- The GEF logo shall appear on, amongst others, project hardware purchased with GEF funds
- The Executing Agency may only use the name and emblem of the United Nations or UNEP with prior written consent of UNEP
- UNEP should be informed of any publications.

- EAs must publicize the projects referencing GEF funding and using the standard GEF 'boilerplate' text and approved logos
- Press releases are required at a minimum at the launch & close of projects

Next steps


CEO Endorsement of the project
• Council circulation (already done for most child projects)
• Child project approvals (by December 2025)
Inception phase
• Agreements with EAs
• Inception meetings of regional child projects
• Early 2026
Implementation
• 2026-2030
• In between- Implementation of activities, PSC, PIR, MTR, Supervision mission etc.
• Closure and terminal evaluation (2031)

Thank You

Contact Us

For any questions or clarifications

Jitendra K Sharma and Jiasheng Liu

Programme Management Officer/
GEF Task manager

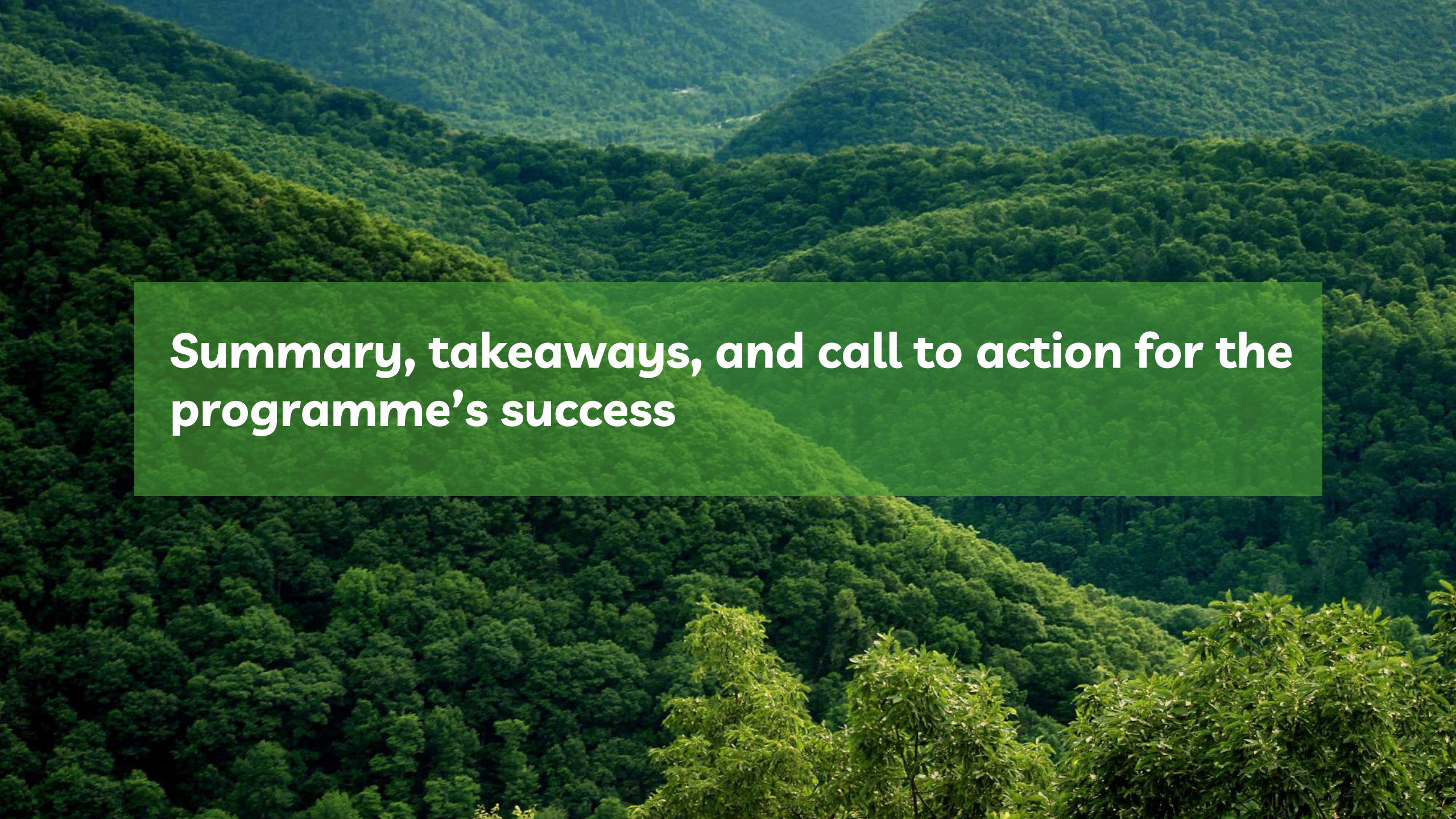
GEF Chemicals and Waste Unit,
Chemicals and Health Branch
Industry and Economy Division
UN Environment Programme

Jitendra.sharma@un.org



Discussion on key issues and synergies:

- **Governance and lead agency coordination with other platforms**
- **Inputs from GEF Secretariat, partners and multi-stakeholders on expectations**



Summary, takeaways, and call to action for the programme's success

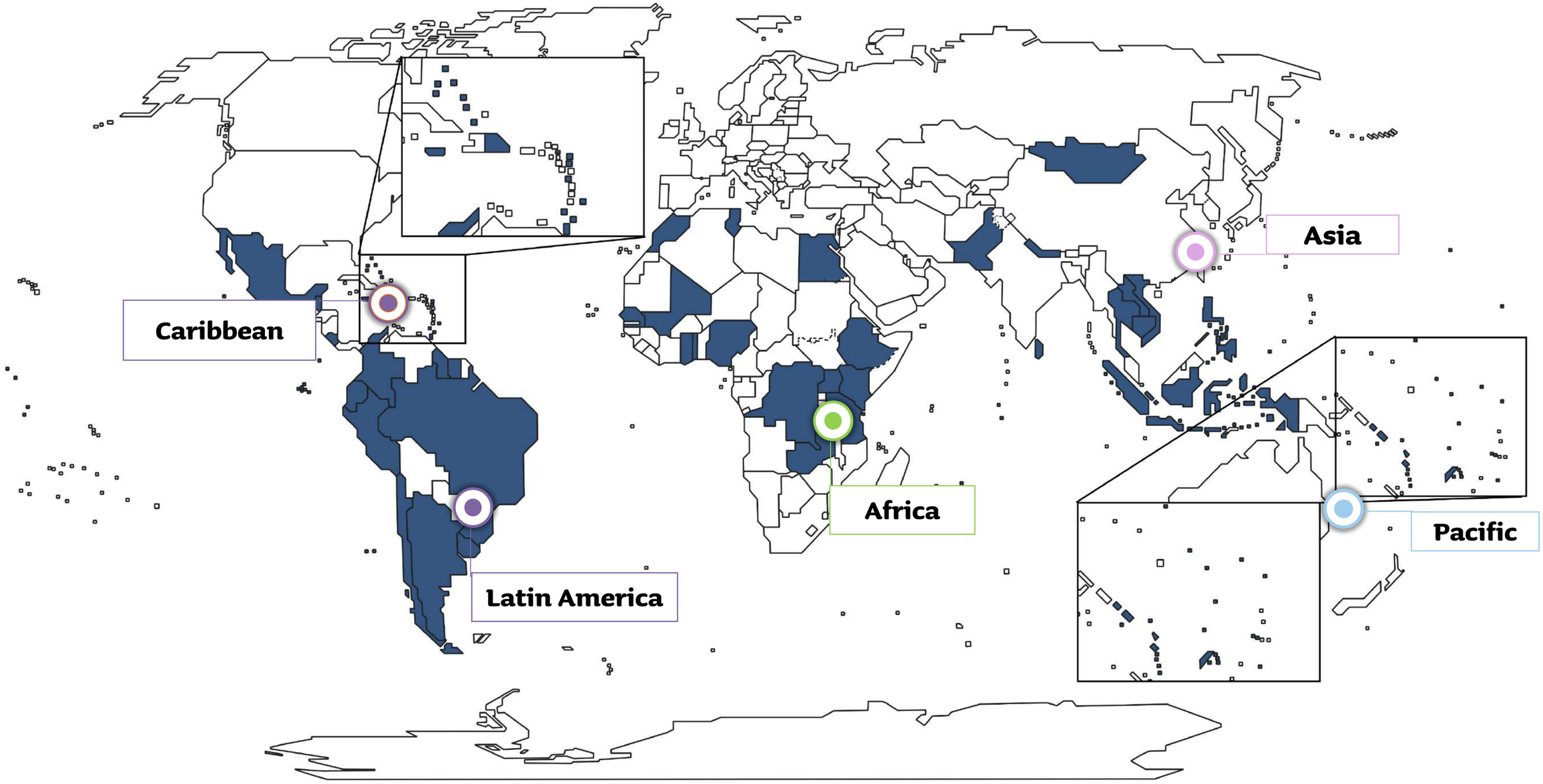
Thank you

GCMP Technical Consultation with the Scientific Advisory Group

Knowledge and Risk Unit, Chemicals and Health Branch, Industry and Economy Division

Global Chemicals Monitoring Programme (GCMP)

The objective of the programme on global monitoring of POPs and mercury is to contribute to the effectiveness evaluation of the Stockholm Convention and provide data to support the effectiveness evaluation mechanism of the Minamata Convention.



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UN environment programme | Global Chemicals Monitoring Programme



Methodologies for POPs and Hg monitoring

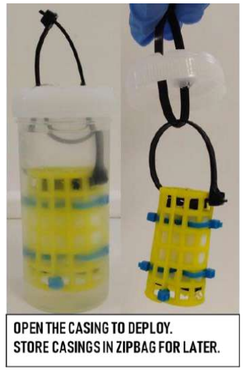
Monitoring of POPs and mercury

Consistent monitoring data across the five UN regions is essential for evaluating the effectiveness of the SC. Consequently, is essential a rigorous and continuous long-term monitoring programme for POPs :
Core matrices: a) air, b) human tissue, c) water (PFAS) other matrices of interests.

- The strategy on sampling builds upon recommendations of the 3rd report of the SC-GMP, from experts, as well as experience gained.







Article 22 of the Minamata Convention requires monitoring data on the presence, movement and trends of mercury in the environment.

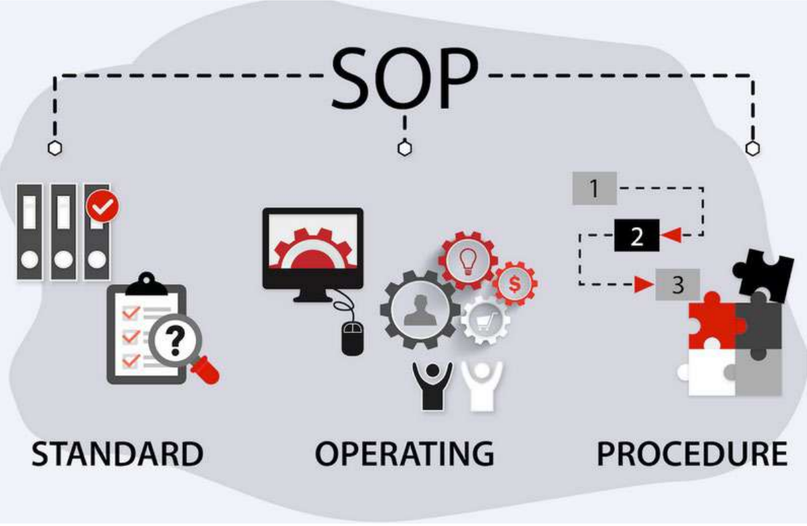
For mercury monitoring a passive sampling monitoring approach is included, for air.



Monitoring of POPs and mercury

Sustainable monitoring of POPs and mercury involves strategic planning of sampling activities based on regional circumstances including existing measures, technical capacities, and financial conditions. These workplans and strategies serve as strategic plans. Therefore, is essential to have such a plans and Procedures.

- Workplan for monitoring of POPs and mercury to ensure data coverage for the conventions' needs.
- Development of protocols on POPs and mercury monitoring to ensure harmonized methods across regions.



Method SOPs:

Methods	Draft	Update / new
Passive Air Sampling	1st Draft	Update from 2017
Guidance on Human Milk	1st Draft	Update from 2017
Passive Water Sampling	1st Draft	Update from 2017
Other Matrices	Pending	need update
Passive Air Sampling of Hg	1st Draft	Update from 2017

Monitoring of POPs and mercury

Analytical Protocols:



Protoclos	POPs or Chemical included	Update / new
Passive Air Sampling	Chlorinated POPs	Update from 2017
	Dioxin-like POPs	Update from 2017
	Brominated POPs	Update from 2017
	Fluorinated POPs	New method
	Other POPs	Partially new
Guidance on Human Milk	Chlorinated POPs	
	Dioxin-like POPs	
	Brominated POPs	
	Fluorinated POPs	
	Other POPs	
Passive Water Sampling	Fluorinated POPs (PFAS)	New method
Passive air sampling of Hg	Total Gaseous mercury	New method





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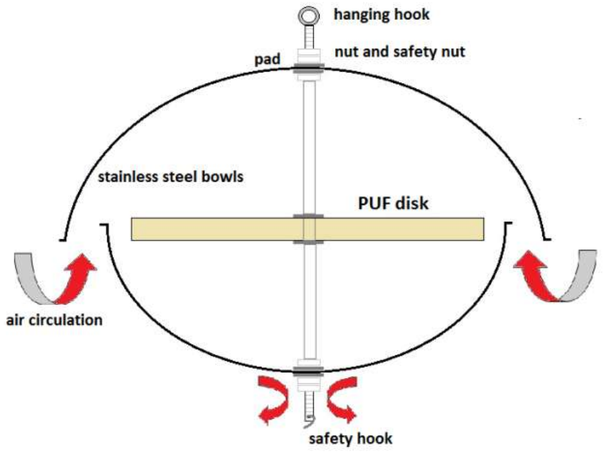
UN environment programme | Global Chemicals Monitoring Programme



Sampling of POPs and mercury

Passive air samplers (PAS)





- Passive air samplers (PAS) using PUF disks or SIP disks have been developed as simple and cost-effective method, and they have been recommended for use in the global monitoring projects under the Stockholm Convention.
  - Polyurethane foam PUF disks for: Cl-POPs, BFR, dl-POPs.
  - Sorbent Impregnated Polyurethane foam disk SIP disk for: PFAS and volatile POPs

- Several housing designs for PAS sampling are available and are regularly used to monitor POPs. In previous UNEP GEF-funded projects, the sampling housing designs employed were the same as those used by RECETOX, CSIC, and GAPS networks.

Passive air samplers (PAS)



- Two years of passive air sampling monitoring
- Continuing sampling at previous UNEP/GEF projects sites, and new countries Is essential to select sites that are not directly influenced by nearby sources.
- Sampling will start in July 2026.



POPs monitoring schedule for first year of sampling.

		2026						2027												2028					
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
OCPs, indicator PCB	**PAS 1 and 2**	1st Period			2nd Period			3rd Period			4th Period			5th Period			6th Period			7th Period			8th Period		
Dioxin-like POPs	**PAS 3 and 4**	1st Period						2nd Period						3rd Period						4th Period					
Br Flame Retardant	**PAS 5 and 6**	1st Period						2nd Period						3rd Period						4th Period					
PFAS and volatile POPs	**PAS 7 and 8**	1st Period - SIP-Disks						2nd Period - SIP-Disks						3rd Period - SIP-Disks						4th Period - SIP-Disks					

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Passive air samplers (PAS)

Executing Agency

Service Provider

Project Country

Regional data generators

- Regional PSC
- Scientific Advisory Group

Identification of regional data generators

2026

Q1

Purchase of the PAS, PUF disks and SIP disks

Preparation of the sampling material

Q2

Shipment of material to the 54 projects countries

Selection of sampling sites
Geeting ready for installation

Q3

Installation of PAS with PUF and SIP disk.

Q4

Changing and storing of PUF

Passive air samplers (PAS)

- Executing Agency
- Service Provider
- Project Country
- Regional data generators

2027

Q1

- Changing and storing of PUF and SIP disk
- Shipments of the PUF and SIP disks to labs

Q2

- Changing and storing of PUF
- Analyses of samples.

Q3

- Changing and storing of PUF and SIP disks
- Shipments of the PUF, SIP disks to lab

Q4

- Changing and storing of PUF
- Analyses of samples
- Analysis of POPs in international labs if no regional capacity exist

Passive air samplers (PAS)

Executing Agency

Service Provider

Project Country

Regional data generators

2028

Q1

Changing and storing of PUF

Q2

Changing and storing of PUF

Q3

Collecting last set of PUF and SIP disks

Shipments of the PUF, SIP disks to lab

Analyses of samples.

Analysis of POPs in international labs if no regional capacity exist

Q4

Data reporting

Data reporting

Sampling of POPs in Human Milk

- Human milk and human blood were chosen as core matrices of the Stockholm convention to assess human exposure to POPs.
- The Guidelines for Developing National Protocols (WHO, 2007) offer guidance for constructing national protocols. These guidelines were developed based on the advice and recommendations of the ad hoc WHO Human Milk Survey Advisory Group.
- Additionally, during previous UNEP/GEF projects, participating countries prepared national protocols that were approved by their respective national ethics committees.
- These protocols, along with the current Standard Operating Procedure (SOP), can serve as a foundation for developing new protocols.







Sampling of POPs in Human Milk

- Developing a National Protocol, the following principles should be observed:



- ✓ Breastfeeding should be protected, promoted and supported, and its health benefits to both mother and baby should be clearly and consistently communicated.
- ✓ Sampling should not be an undue burden on the mother, nor should it compromise the nutritional status of the infant.
- ✓ Ethical review, including prior informed consent, respected.
- ✓ Safeguarding of confidential information should be assured.
- ✓ Quality assurance of results should be independently confirmed.





- Mother should be primiparae
- One pool of 50 individual samples per country.
  - Eventually, a second pool for countries with more than 100 million.
- The recommended containers for collection of samples are high density polyethylene bottles (HDPE) with HDPE crew caps.

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Sampling of POPs in Human Milk

Executing Agency

Service Provider

Project Country

Regional data generators

- Regional PSC
- Scientific Advisory Group

Identification of regional data generators

2026

Q1

- Purchase of bottles HDPE
- Preparation of the sampling material
- Preparation of the National protocol for ethical clearance

Q2

- Shipment of material to the 54 projects countries
- National ethical clearance for sampling human milk.

Q3

- Identification of Hospital and potential donors
- Questionnaire and interview potential donors

Q4

- Collection of Samples

Sampling of POPs in Human Milk

Executing Agency

Service Provider

Project Country

Regional data generators

2027

Q1

- Sampling and preparing the pooled sample
- Shipment of the pooled sample to labs

Q2

- Analysis of POPs
- Analyses of specific group of POPs or all POPs.

Q3

- Reporting data to countries
- Data analyses, reporting to the SC.

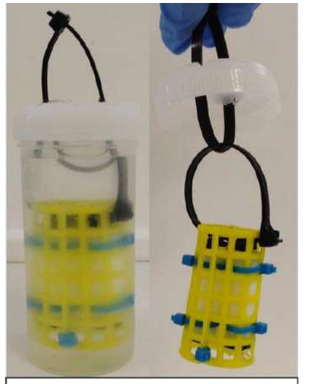
Q4

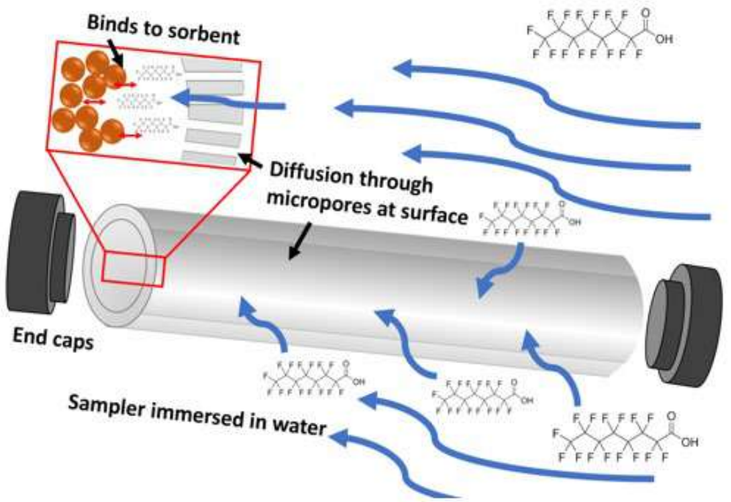
Passive sampling of POPs in water

- Water has been identified as a core matrix exclusively for for fluorinated POPs per- and poly-fluoroalkyls substances (PFAS) including: PFOS, PFOA, PFHxS, and the long-chain perfluorocarboxylates (C9-C18 LC-PFCAs).

- New method for GCMP, using passive sampling with Microporous polyethylene tubes (MPT).
  - Passive sampling offers the advantage of time-averaged concentration measurements over several weeks, reducing the impact of episodic events (e.g., extreme weather, spills, or industrial releases), relatively low limits of detection, cost effectiveness as well as ease and flexibility of deployment.
  - This method also lowers shipping costs and avoids import/export controls on natural water samples

- Two years of passive water sampling (2 samples per year for 2 years)





Passive sampling of POPs in water

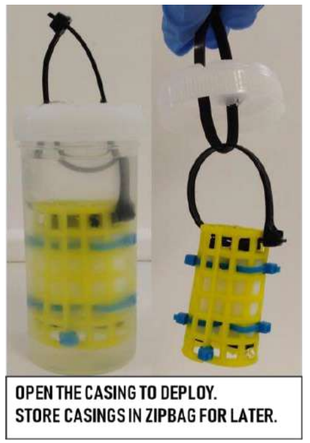
- Sampling location should be chosen taking into account the following characteristics:

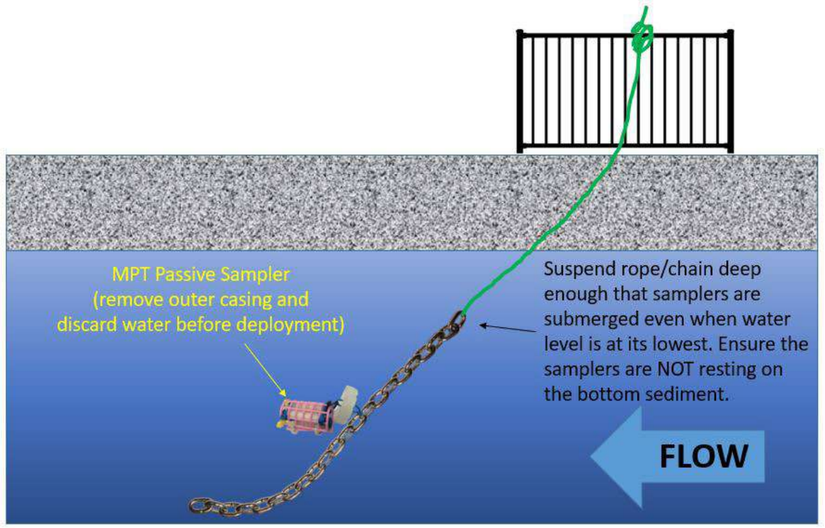
  ✓ Mouth of a larger river or estuary;
  ✓ Easy access of the sampling site, e.g., from the border of the water body, from boat, from a bridge.
  ✓ Safety, risk of vandalism or theft should be considered

- Rope (nylon) and/or chain for deployment. Ensuring the length is sufficient. If a chain is not used a weight will be required to keep the MPT passive sampler submerged.

Periods	First sampling year 2026-2027	Second sampling year 2027-2028
1st Period	early July-2026 to early Jan.2027	early July-2027 to early Jan.2028
2nd Period	early January to early July-2027	early January to early July-2028







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UN environment programme | Global Chemicals Monitoring Programme

Passive sampling of POPs in water

Executing Agency

Service Provider

Project Country

Regional data generators

- Regional PSC
- Scientific Advisory Group

Identification of regional data generators

2026

Q1

Purchase of the MPT and sampling material

Preparation of the sampling material

Q2

Shipment of material to the 54 projects countries

Selection of sampling sites
Geeting ready for installation

Q3

Installation of MPT and leave for 6 months

Q4

Passive sampling of POPs in water

- Executing Agency
- Service Provider
- Project Country
- Regional data generators

2027

Q1	Q2	Q3	Q4
Changing of MPT and storing	Analyses of PFAS	Changing of MPT and storing	Analyses of PFAS
Shipments of the samples to lab	Analysis of PFAS if no regional data generator	Shipments of the samples to lab	Analysis of PFAS if no regional data generator

Passive sampling of POPs in water

- Executing Agency
- Service Provider
- Project Country
- Regional data generators

2028

Q1	Q2	Q3	Q4
Changing of MPT and storing	Analyses of PFAS	Final changing of MPT and storing	Analysis of PFAS and data reporting
Shipments of the samples to lab	Analysis of PFAS if no regional data generator	Shipments of the samples to lab	Analysis of PFAS if no regional data generation and data reporting

Mercury monitoring





Mercury passive sampler MerPas®

The MerPAS® is designed to absorb mercury on a carbon trap to determine how much total mercury is in the air.

- Two years of passive air sampling using MerPAS ® (4 seasonal samples per year for 2 years).
- Location: background sites, could be the same locations as those for POPs.

To cover seasonality, the sample collection schedule is as follows:

Periods	First sampling year 2026-2027	Second sampling year 2027-2028
1st Period	early July to October-2026	early July to October-2027
2nd Period	early October-2026 to early Jan.2027	early October-2027 to early Jan.2028
3rd Period	early January to early April-2027	early January to early April-2028
4th Period	early April to early July-2027	early April to early July-2028

Mercury monitoring

Executing Agency

Service Provider

Project Country

Regional data generators

- Regional PSC
- Scientific Advisory Group

Identification of regional data generators

2026

Q1

Purchase of the MerPAS®

Preparation of the sampling material

Q2

Shipment of material to the 54 projects countries

Selection of sampling sites
Geeting ready for installation

Q3

Installation of MerPAS

Q4

Changing of MerPAS

Mercury monitoring

Executing Agency

Service Provider

Project Country

Regional data generators

2027

Q1

- Changing of MerPAS
- Shipments of MerPAS to regional lab for re-filling
- Analyses of total-Hg
- Re-filling of MerPAS and shipment to countries

Q2

- Changing of MerPAS

Q3

- Changing of MerPAS
- Shipments of MerPAS to regional lab for re-filling
- Analyses of total-Hg
- Re-filling of MerPAS and shipment to countries
- Analysis of total-Hg in duplicates

Q4

- Changing of MerPAS

Mercury monitoring

Executing Agency

Service Provider

Project Country

Regional data generators

2028

Q1

- Changing of MerPAS
- Analyses of total-Hg
- Re-filling of MerPAS and shipment to countries
- Analysis of total-Hg in duplicates

Q2

- Collecting last MerPAS
- Shipments of MerPAS to regional lab for re-filling

Q3

- Analyses of total-Hg
- Re-filling of MerPAS and shipment to countries
- Analysis of total-Hg in duplicates
- Data reporting

Q4

- Data reporting



Interlaboratory

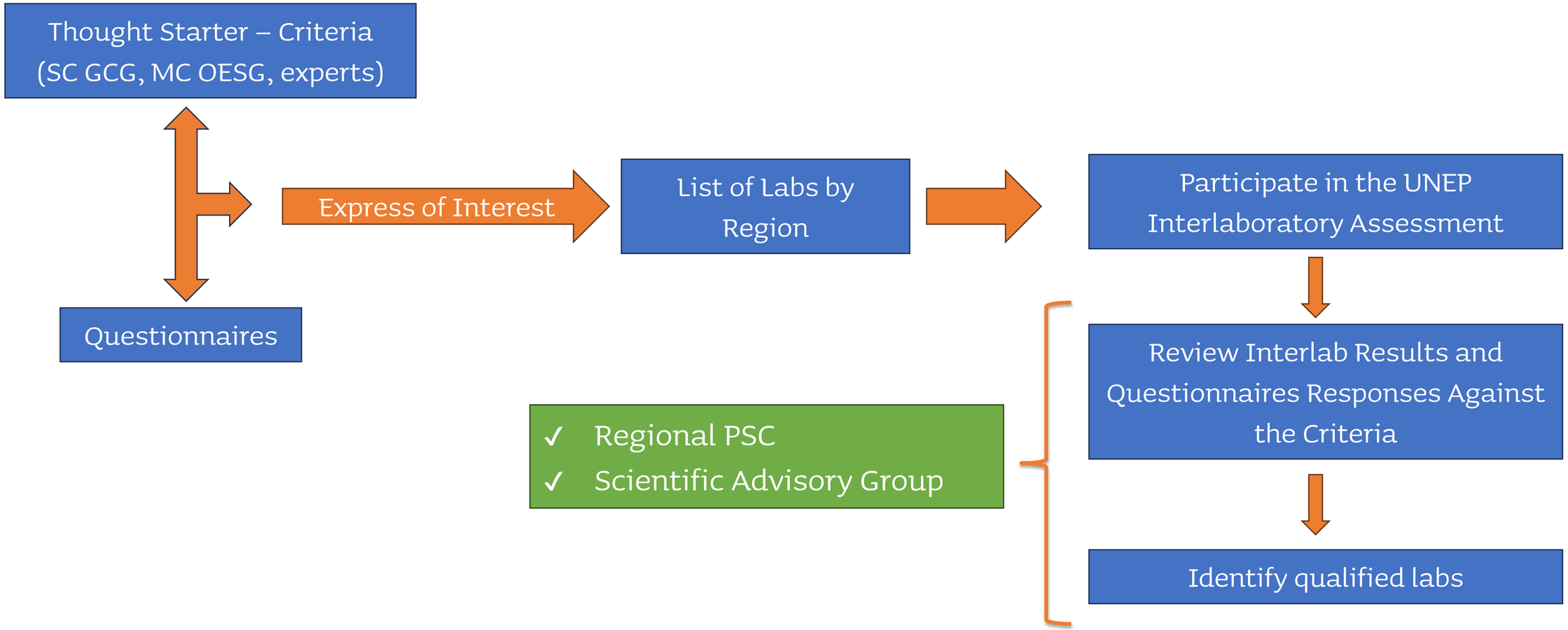
UNEP/GEF Global Chemicals Monitoring Programme

Scenario 1: All local laboratories pass the interlaboratory assessment

Scenario 2: Some local labs lack capacities to analyze certain chemicals/matrices - reliance on regional labs

Scenario 3: No regional lab meet the quality requirements - reliance on international expert labs

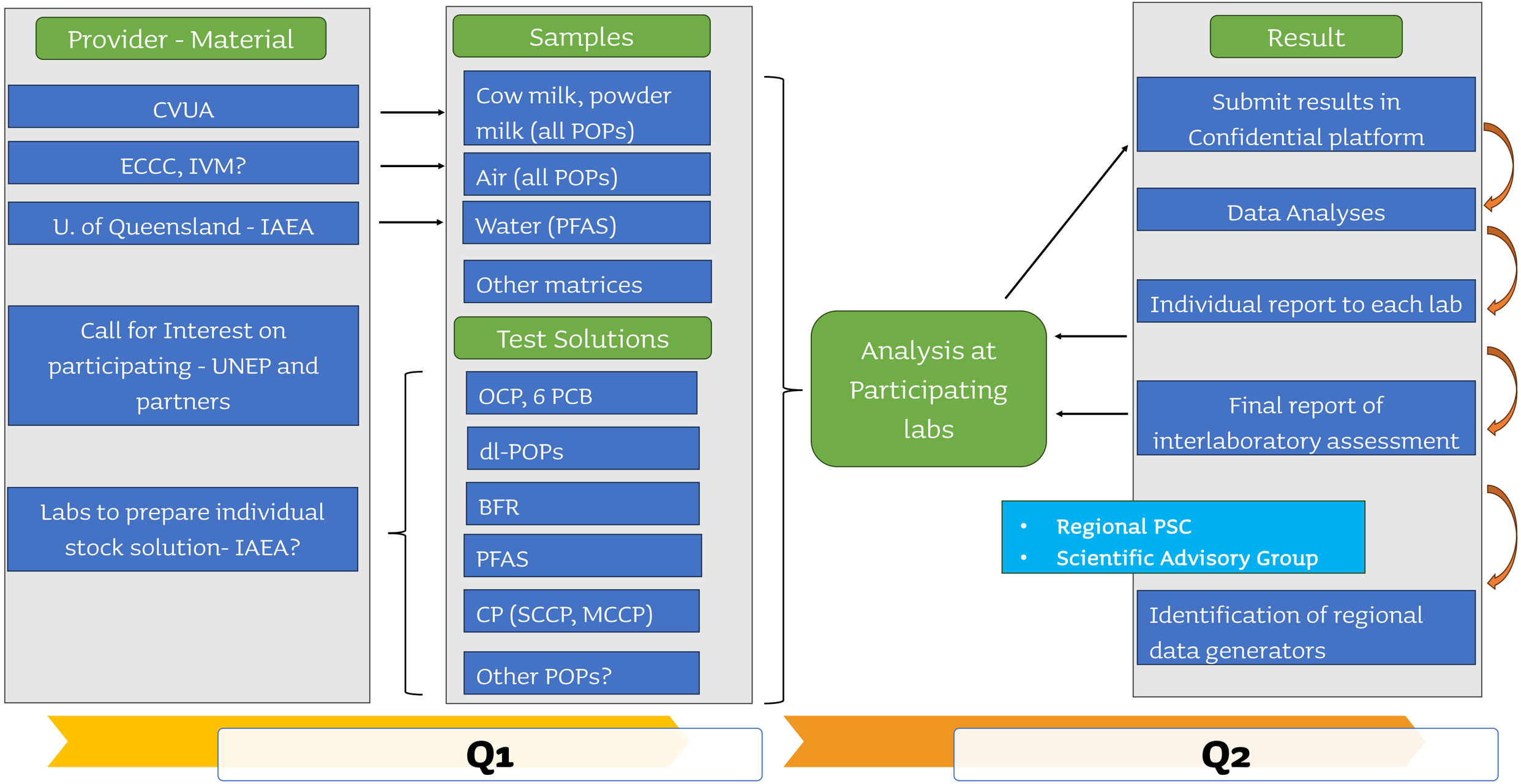
Several labs will be needed to ensure all the targeted chemicals in all the matrices are analyzed.



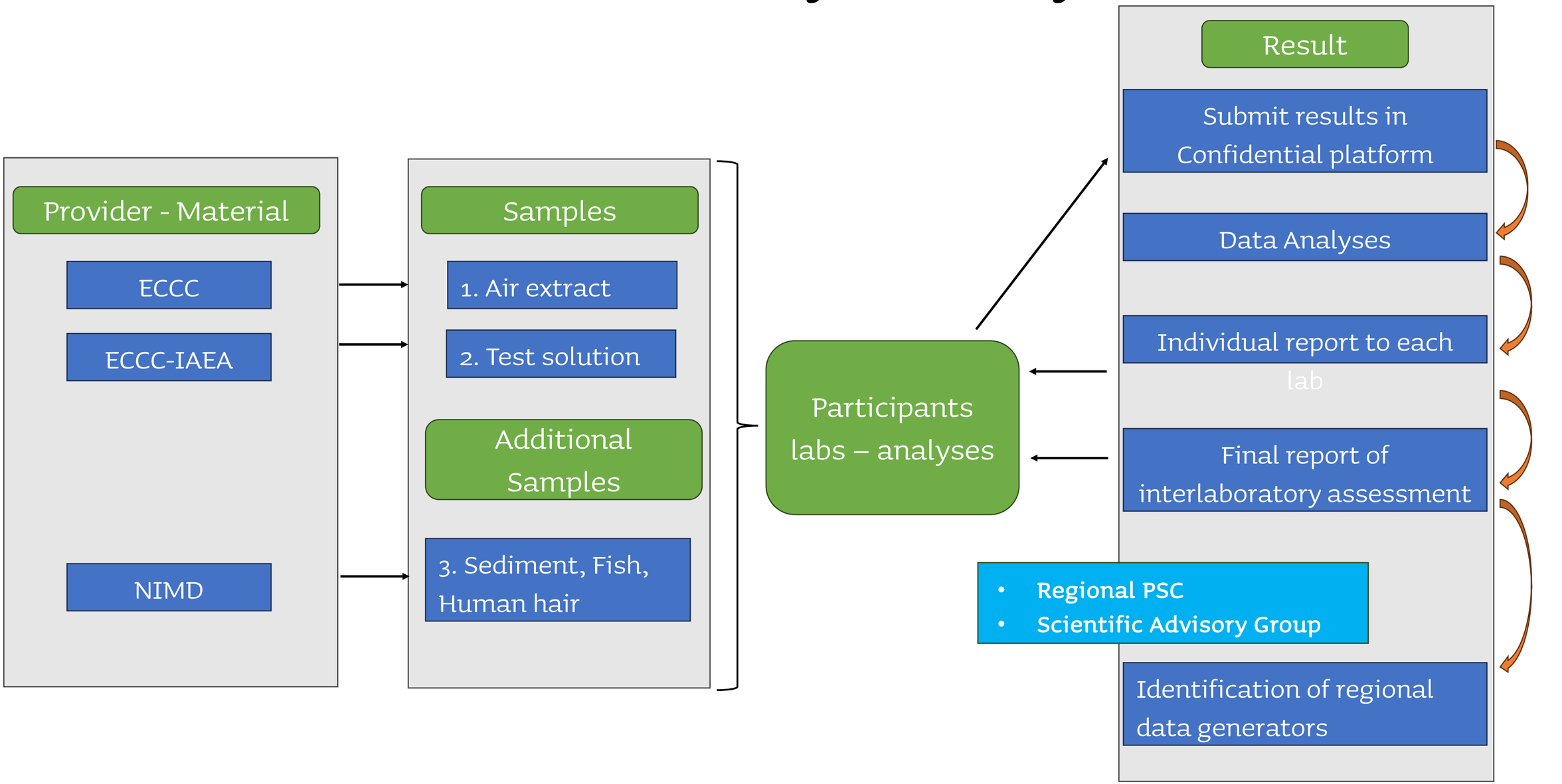
Capacity Screening Survey Responses

Region	POPs laboratories	Hg laboratories
GRULAC	30	40
Africa	18	18
WEOG	8	8
Asia-Pacific	17	26
CEE	1	4
Total	**74**	**96**

Interlaboratory POPs



Interlaboratory Mercury



Thank you

Victor Hugo Estellano Schulze: victor.estellano@un.org

MUNI | RECETOX

Stockholm Convention
Regional Centre

Chemical monitoring for informed policy and decision making to protect human health and the environment

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Director of the National Centre for Toxic Compounds and of
the Stockholm Convention Regional Centre in the Czech Republic (SCRC)
RECETOX, Faculty of Science, Masaryk University, Brno, Czech Republic

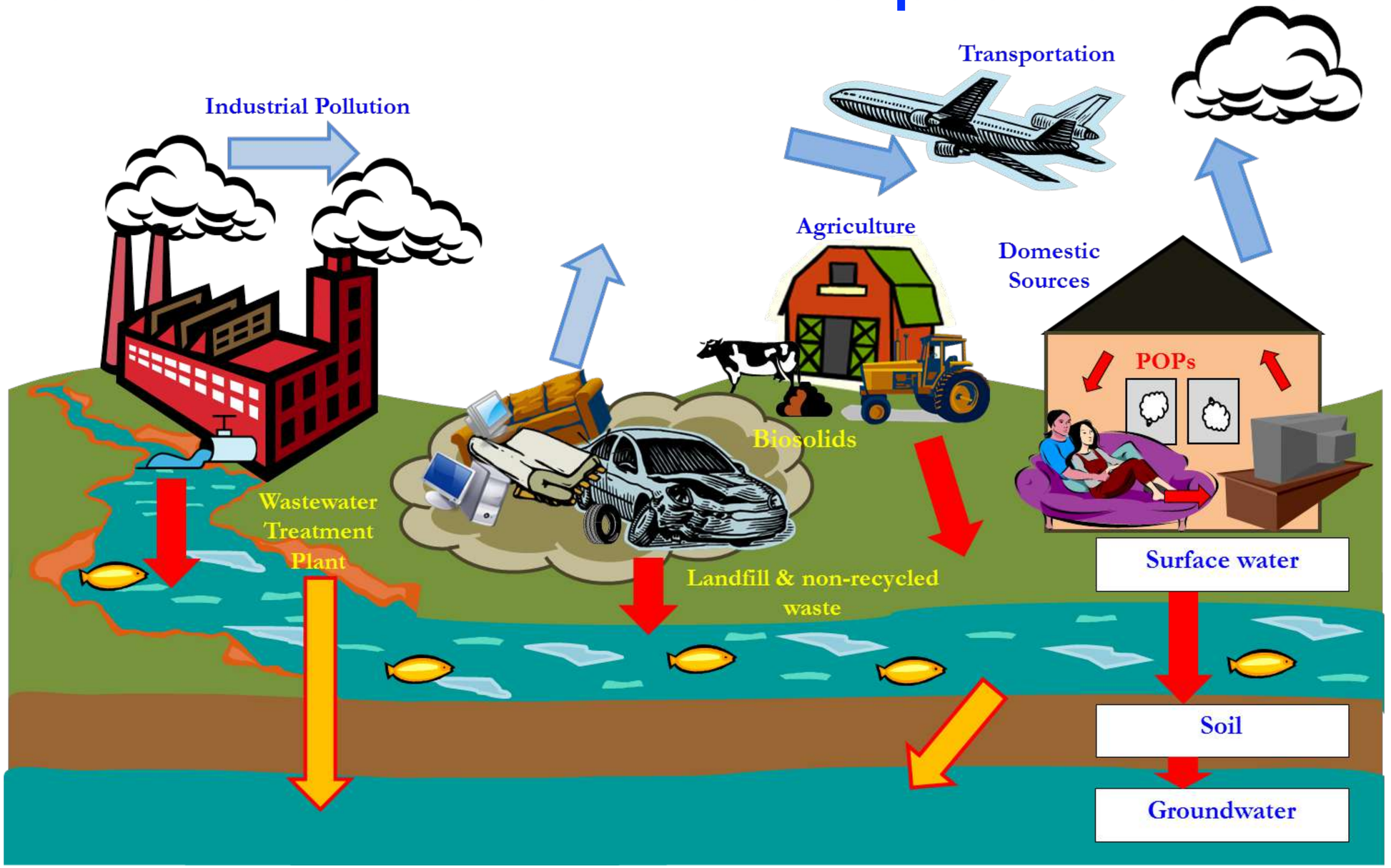


GCMP Stakeholder Consultation by UNEP chemicals and health branch, International Environment House II - Rhin, Geneva, Switzerland and online, 31 October 2025

Why do we need to measure chemicals in the environment and human exposure to them?

- Objective of the chemical MEAs: to protect the environment and human health from exposure to POPs (Stockholm Convention) and mercury (Minamata Convention)
- Parties have to implement the MEAs = need to put relevant measures in place to achieve the objective and minimize risks to its environment and population = need to know whether the target chemicals are present and what are the levels
- Parties are obliged to put in place their National Implementation Plans (Art 7 - SC) or action plans (ASGM and emissions for MC) and also report on their activities (Art 15 - SC, Art 21 - MC)
- Effectiveness evaluation of SC (Art 16) and MC (Art 22)

Why do we need to measure chemicals in the environment and human exposure to them?



example: Routes of POPs movement in the environment

How to measure chemicals in the environment and human exposure to them?

- need a procedure
- need methods (guidance and SOPs and instrumentation)
- need tools - to analyze samples, to work with data…
- need trained people and experts

- collaboration between science and policy

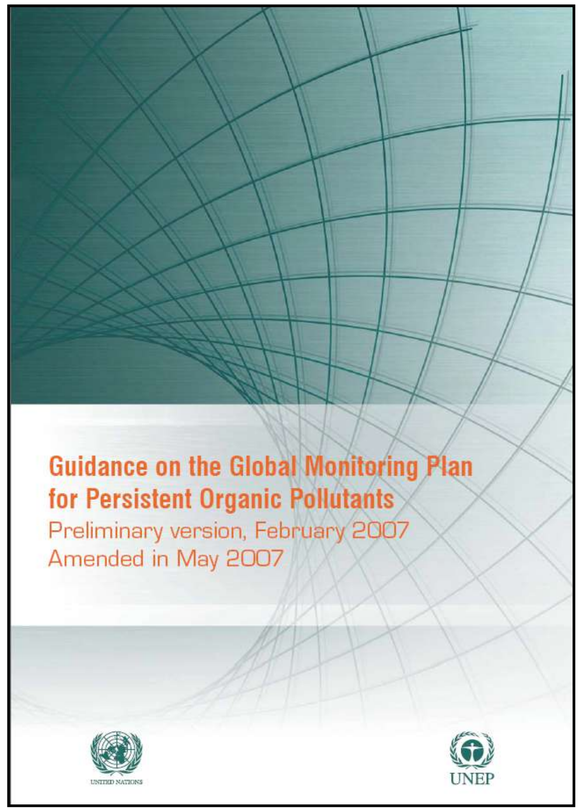
Arrangements for POPs Monitoring under the Stockholm Convention on Persistent Organic Pollutants (POPs)

- Objective: to protect environment and health from exposure to POPs
- Monitoring activities are organized on the basis of Convention text: **Article 16 - Stockholm Convention on POPs "…**provide a harmonized organizational framework for the collection of **comparable monitoring data on the presence of POPs from all regions, in order to identify changes in their concentrations over time, as well as on regional and global environmental transport**."

- the arrangements is a **framework** called the **Global Monitoring Plan for Persistent Organic Pollutants** with expert arrangements and technical guidelines.
- Outcomes of GMP (regional and global reports) are used as key input into the effectiveness evaluation of the Stockholm Convention and have a potential to be used also elsewhere - data and trends (i.e. Convention on Biological Diversity and Montreal-Kunming targets or possibly also within the Global Framework on Chemicals)

Stockholm Convention - Global Monitoring Plan - range

Technical background

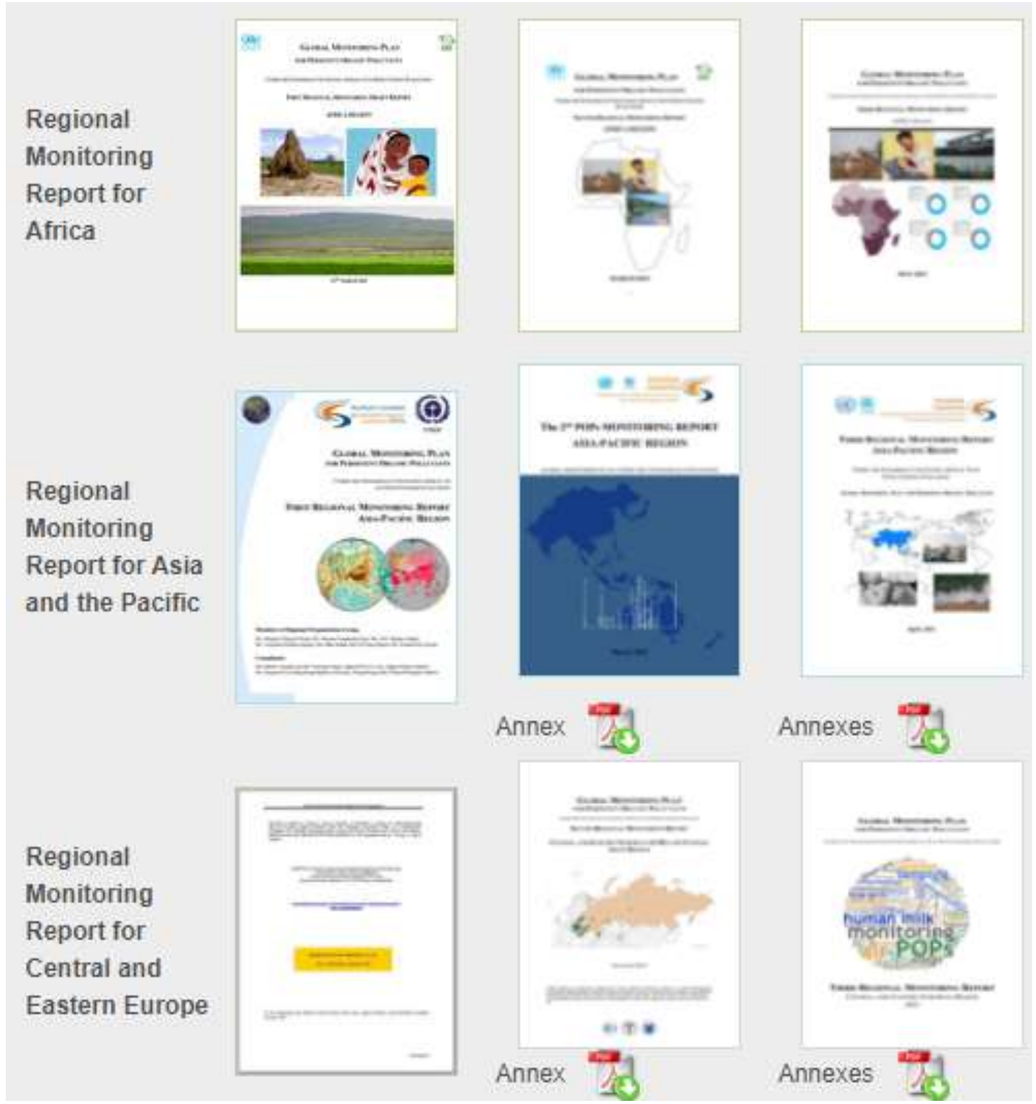


Stockholm Convention POPs
Included in UNEP First Global Monitoring Report (2009)[6] [Entry-into-force May 2004]
Aldrin
Chlordane
Dichlorodiphenyltrichloroethane (DDT)
Dieldrin
Endrin
Heptachlor
Hexachlorobenzene (HCB)
Mirex
Polychlorinated biphenyls (PCBs)
Polychlorinated dibenzo dioxins/furans (PCDD/Fs)
Toxaphene
Included in UNEP Second Global Monitoring Report (2017)[7] [Listed May 2009/2011/2013]
Chlordecone
Endosulfan
Hexabromobiphenyl (HxBB-153)
Hexabromocyclododecane (HBCD)
Hexachlorocyclohexanes (HCHs)
Pentachlorobenzene (PeCB)
Perfluorooctanesulfonic acid (PFOS)
Polybrominated diphenyl ethers (PBDEs)
New' Persistent Organic Pollutants [Listed May 2015/2017/2019]
Decabromodiphenyl ether (BDE 209)
Dicofol
Hexachloro-1,3-butadiene (HCBD)
Pentachlorophenol (PCP)
Perfluorooctanoic acid (PFOA)
Polychlorinated naphthalenes (PCNs)
Short-chain chlorinated paraffins (SCCPs)

- key document (2007) - regularly updated
- defines **scope** - chemicals, **core media** - air, human breast milk/blood, water, **procedures:** sampling procedures, analytical techniques, data handling, harmonization and comparability

Outputs of the POPs Global Monitoring Plan

periodic regional monitoring reports and the global report - prepared every 6 years in line with GMP cycle



Core media for GMP

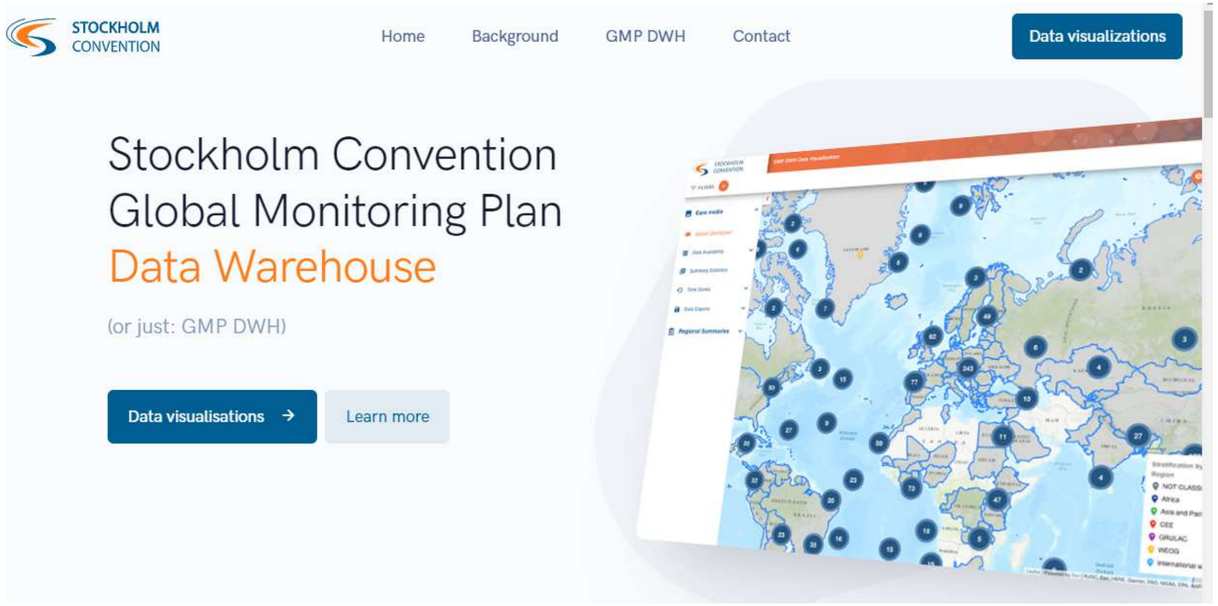
Air, human tissues (blood, milk)

Water – PFOS, PFOA, PFHxS

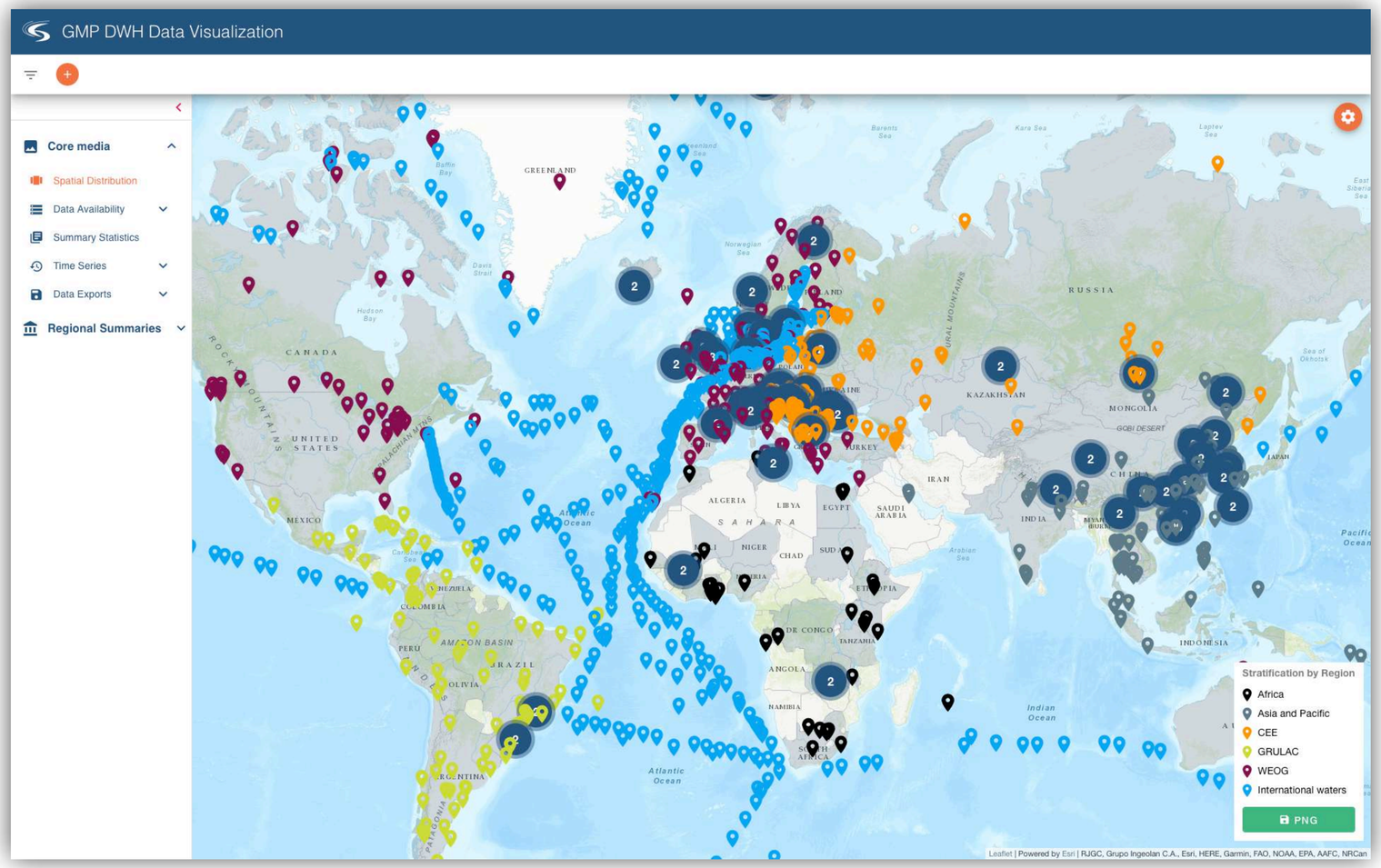
Other media - biota, soil, water for other than PFAS, food/ feeds…

UNEP/POPS/COP.11/INF/38, http://chm.pops.int/tabid/525

GMP DataWarehouse, https://www.pops-gmp.org/



GMP DWH Data Overview and Visualizations



Spatial Distribution Module

FORMAT: 5 modules

- Spatial distribution
- Data availability
- Summary statistics
- Trend analysis
- Data exports

CONTENT

4 core media
30 listed chemicals (POPs)
314 chemical parameters
111 monitoring networks/projects
126 countries
779 sites + a total of 1159 water sites and ocean cruises
time range: 1967-2021/2

visit : https://www.pops-gmp.org

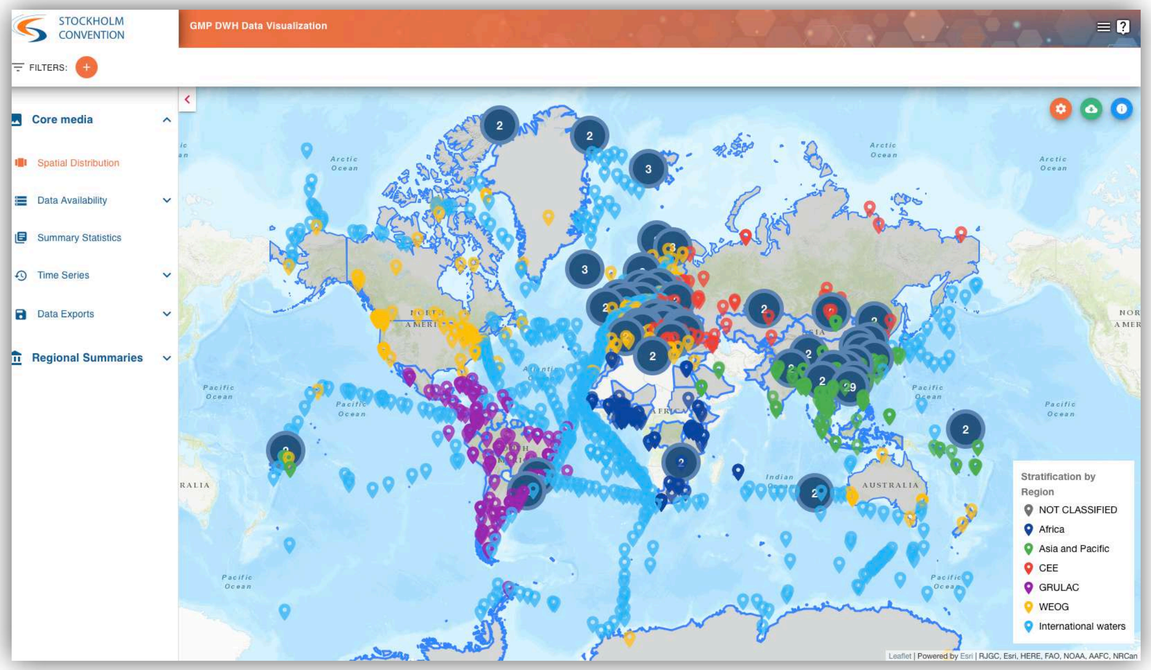
MUNI | RECETOX

SC data visualizations

- core matrices of the Stockholm Convention on POPs (air, human tissues, water)
- **fully harmonized data** and information structure
- POPs data format: **annually aggregated concentrations**
- largest pool of global POPs data available on one place
- user-friendly access

- GMP DWH updates defined by the Stockholm Convention - 6 year interval
- current content up to third regional reports (GMP3) - the latest information is 2022, the "oldest" data are 1960s or 1980s, depending on a matrix and a chemical.

Everyone can browse



GMP DWH Data Visualizations

https://www.pops-gmp.org

once approved by ROG experts and officially released, then available 24/7 online free of charge to all stakeholders and the broad public

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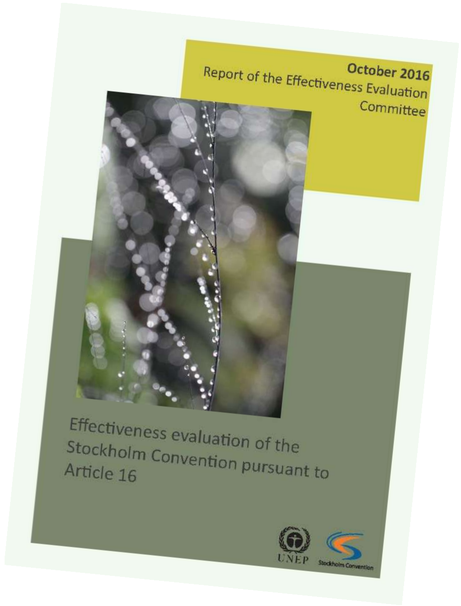
Major achievements to date (Stockholm Convention)
Comparable POPs monitoring data



5 regional monitoring reports and the global monitoring report integrate results of 11 years of POPs monitoring to date: air, water (PFOS), human milk and blood

Three sets of reports published (May 2021),

GMP-3 comprise +15 years of work (since entry into force)

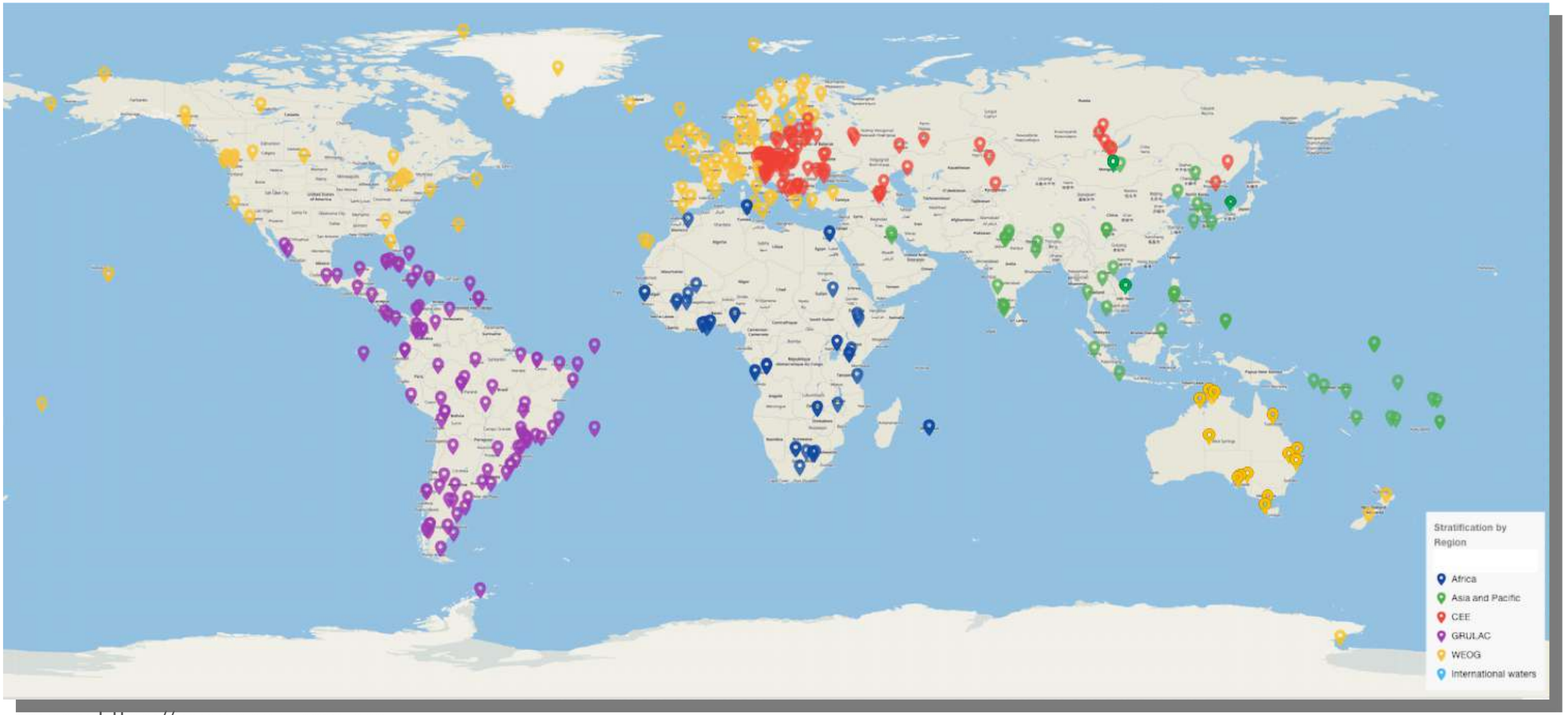


Key input to Effectiveness Evaluation

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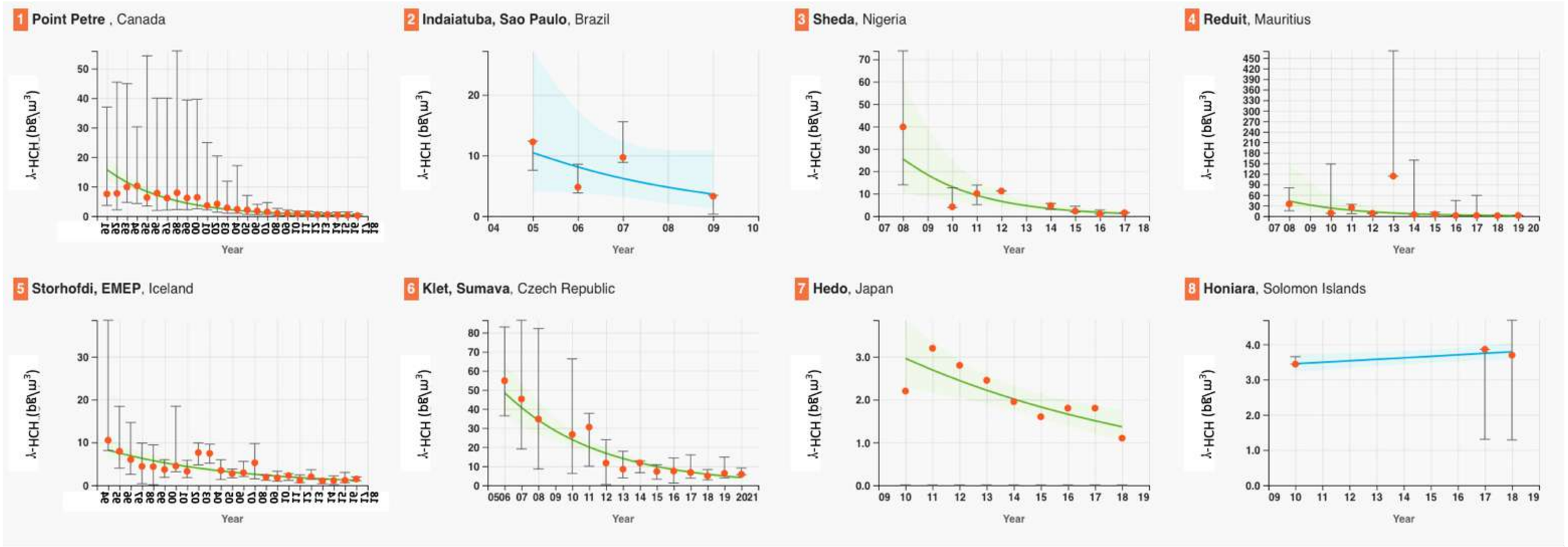
Global air monitoring stations contributed to GMP-3

(Passive air sampling sites)



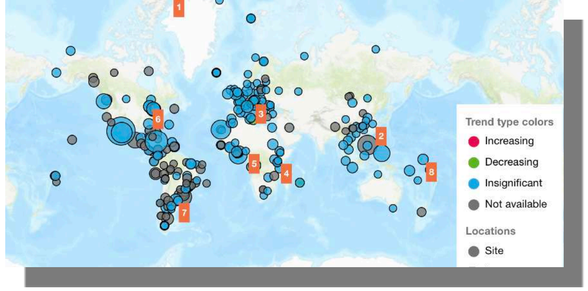
source: https://www.pops-gmp.org





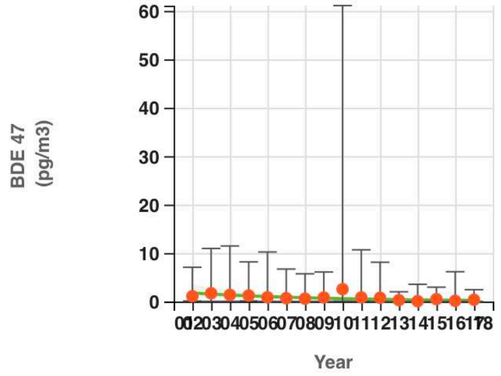
source: https://www.pops-gmp.org

Temporal trends of air concentrations of lindane at 8 sites: Brazil, Canada, Czechia, Iceland, Japan, Mauritius, Nigeria, Solomon Islands (1991–2021)

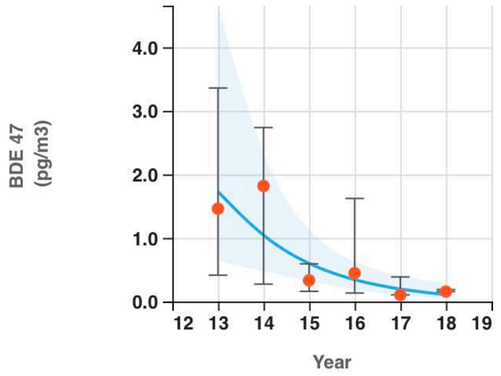


Temporal trends of air concentrations of BDE47 at 8 sites: Argentina, Canada, Czechia, Kenya, Kiribati, Nigeria, Republic of Korea (2001–2018)

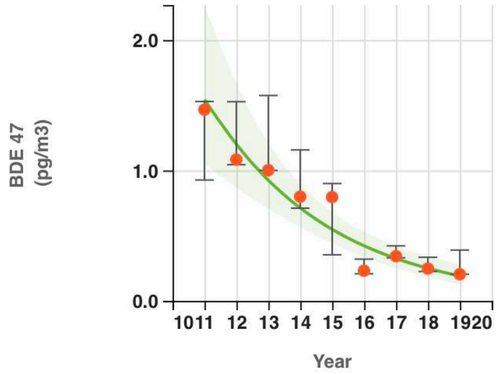
1 Alert, Nunavut, Canada



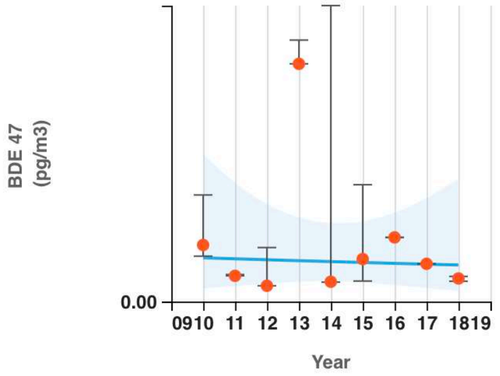
2 Jeju, Korea, Republic of



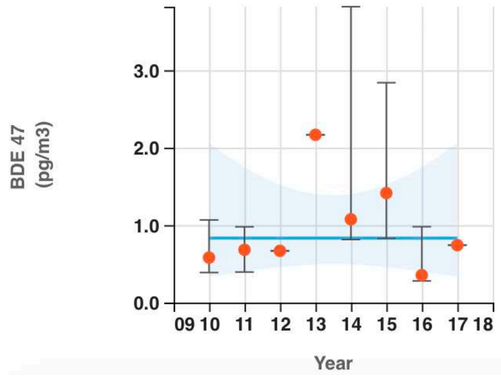
3 Churanov, Sumava, EMEP, Czech Republic



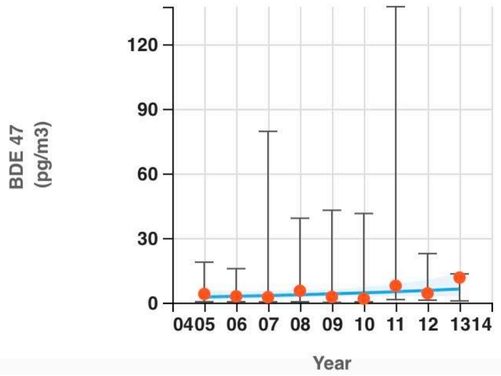
4 Mt. Kenya, Kenya



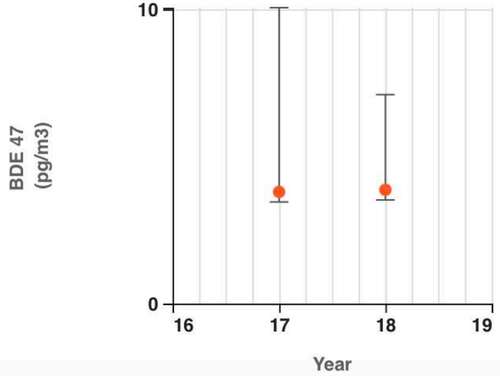
5 Sheda, Nigeria



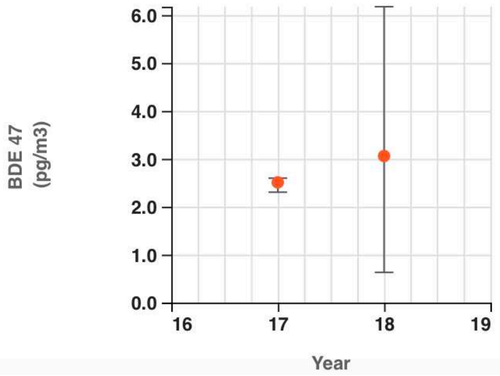
6 Burnt Island , Canada



7 Buenos Aires, Argentina



8 Bonriki airport, Kiribati

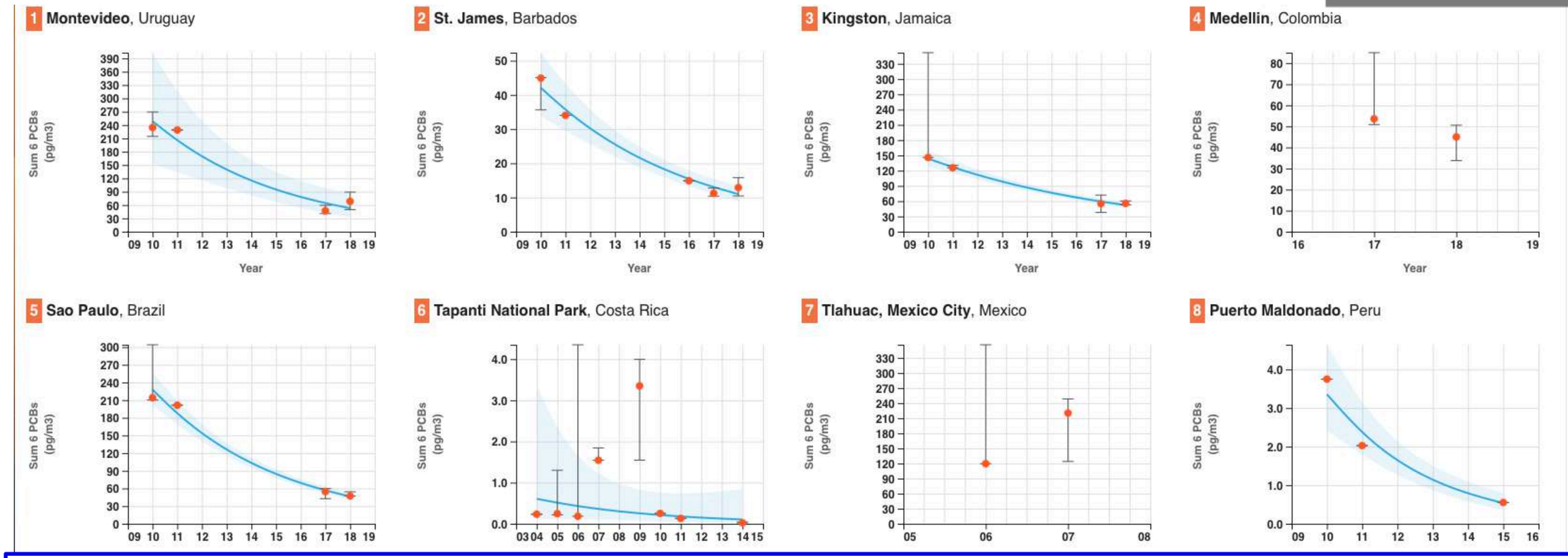


source: https://www.pops-gmp.org

Environmental Monitoring of POPs - GRULAC Ambient AIR



- data availability? mostly LAPAN network and GEF-GMPprojects
- trend availability (www.pops-gmp.org)



Temporal trends of air concentrations of 6 indicator PCB at 8 sites: Uruguay, Barbados, Jamaica, Colombia, Brazil, Costa Rica, Mexico and Peru (2004-2018)

Data Availability… in GMP reports - human matrices



Data Availability Module

- time series
- chemical parameter
- matrices on site
- parameters on site in time

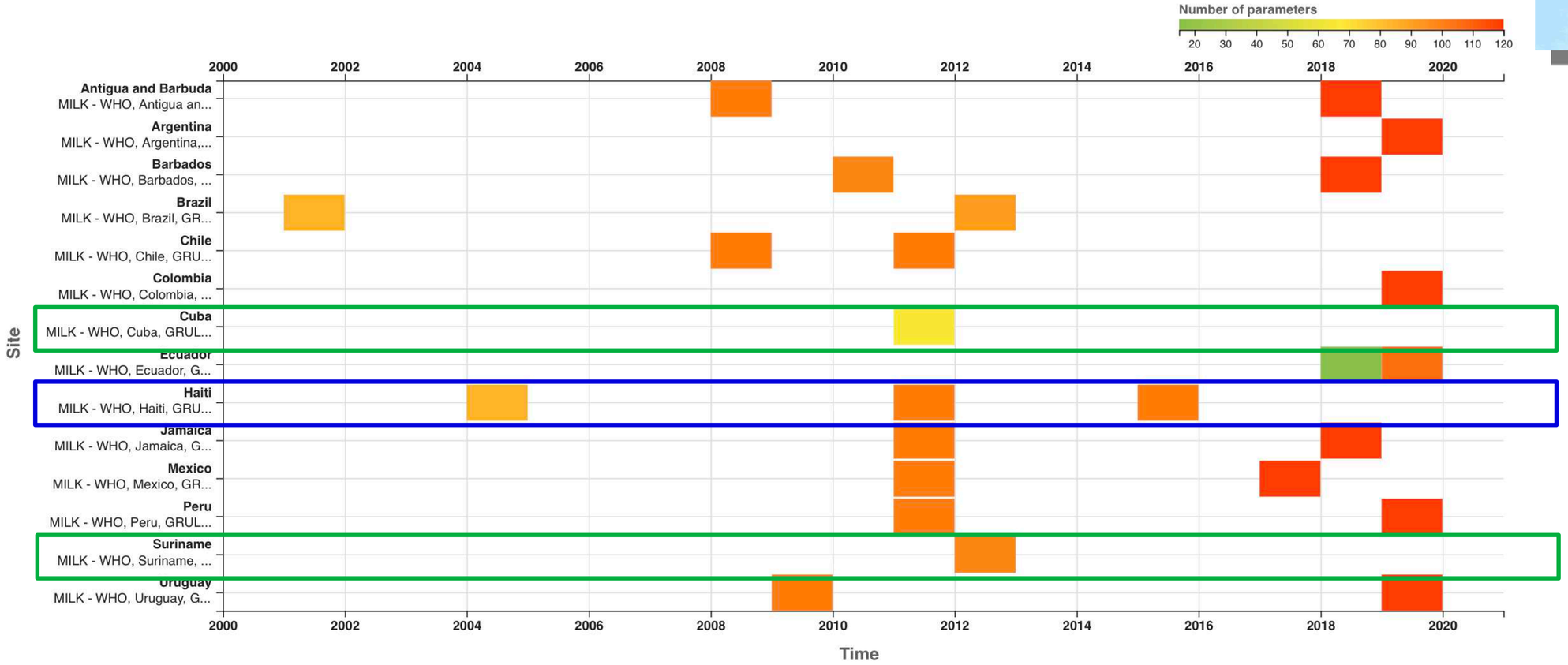
chart shown = availability of milk data in Central and Eastern European region over time. Countries that are not shown did not provide any data into WHO/UNEP survey

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Environmental Monitoring of POPs - GRULAC Human matrices - milk

- data availability? (www.pops-gmp.org)





participated 1x

participated 3x

participated 1x

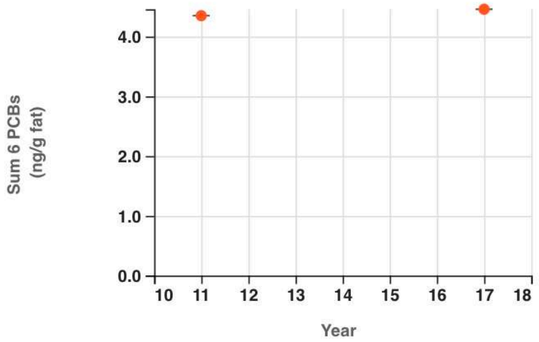
Data available for milk levels of 6 indicator PCB at 8 sites: Mexico, Haiti, Suriname, Peru, Antigua and Barbuda, Brazil, Uruguay and Chile (2004-2019)

Environmental Monitoring of POPs - GRULAC Human matrices - milk

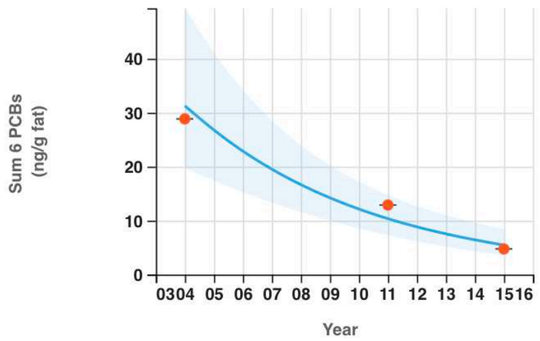
- data availability and continuation of activities?
- trend availability (www.pops-gmp.org)



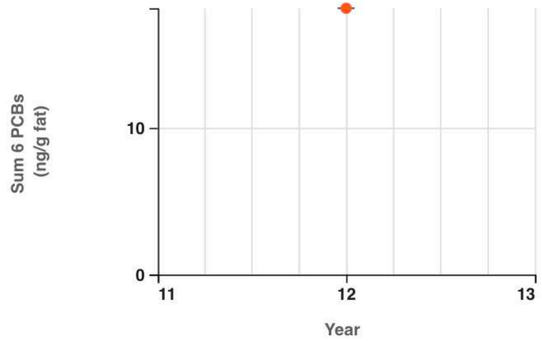
1 Mexico, Mexico



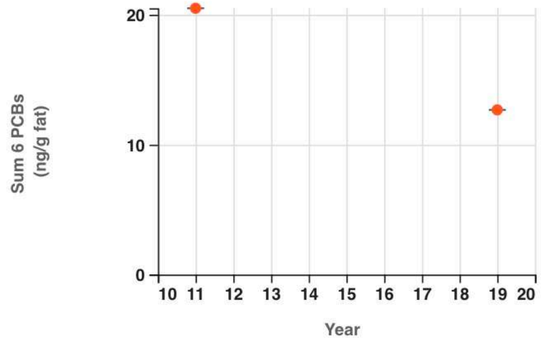
2 Haiti, Haiti



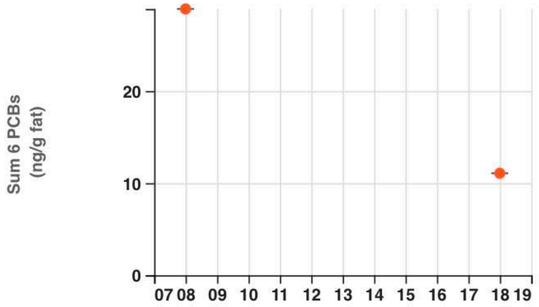
3 Suriname, Suriname



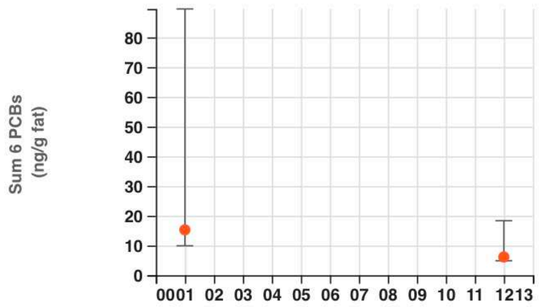
4 Peru, Peru



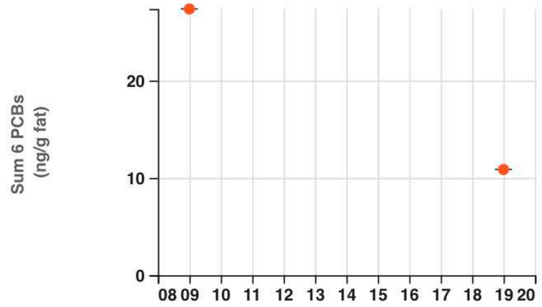
5 Antigua and Barbuda, Antigua and Barbuda



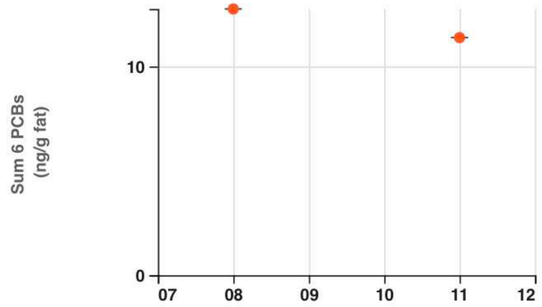
6 Brazil, Brazil



7 Uruguay, Uruguay



8 Chile, Chile



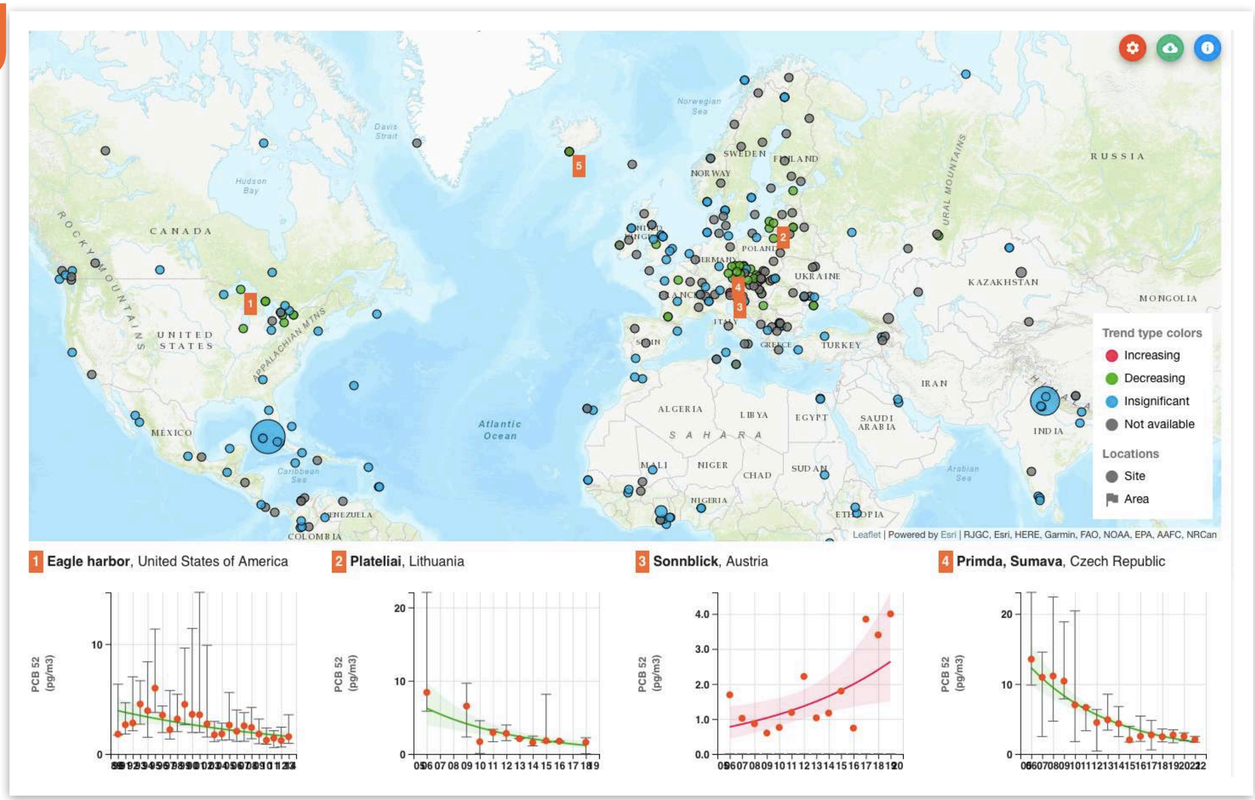
Data available for milk levels of 6 indicator PCB at 8 sites: Mexico, Haiti, Suriname, Peru, Antigua and Barbuda, Brazil, Uruguay and Chile (2004-2019)

GMP DWH for decision makers - new maps and charts

https://www.pops-gmp.org

- visualization available 24/7 online free of charge to all stakeholders and the broad public
- core matrices of the Stockholm Convention on POPs (air, human tissues, water)
- fully harmonized data and information structure
- POPs data format: annually aggregated concentrations
- largest pool of global POPs data available on one place
- user-friendly access

- GMP DWH updates - 6 year interval as per GMP cycle
- current content up to third regional reports (GMP3) - the latest information is 2022, the "oldest" data are 1960s or 1980s, depending on a matrix and a chemical.



GMP DWH Data Visualizations
trend in maps and trend exports

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trend maps and charts are shown in several regional POPs monitoring reports and in the global one, too

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Thank you for your kind attention!

katerina.sebkova@recetox.muni.cz

Basel Convention Coordinating Centre
Stockholm Convention Regional Centre
URUGUAY

STRENGTHEN CHEMICAL MONITORING CAPACITIES IN PROJECT REGIONS

Stakeholder Consultation "GEF-8 "Global Chemicals Monitoring Programme to Support Implementation of Stockholm and Minamata Conventions" (GCMP)

31 October 2025 Geneva, Switzerland (Hybrid)

Alejandra Torre
BCCC-SCRC Co-director

Ministerio de Ambiente

LATU

PRESENTATION SUMMARY

1. GMP 2 in GRULAC
2. "TOOLBOX" (with guides/manuals, infographics, awareness materials... recorded courses/explanatory videos of SOP...).
3. Success stories of previous capacity building activities conducted on POPs monitoring.
4. Lessons learnt and challenges in developing countries.
5. Capacity building gaps observed from the ROG's point of view.
6. Capacity building needs and commitments needed from local governments and researchers.
7. Capacity building ideas under the GCMP.
8. Conclutions

1.GMP2 in GRULAC



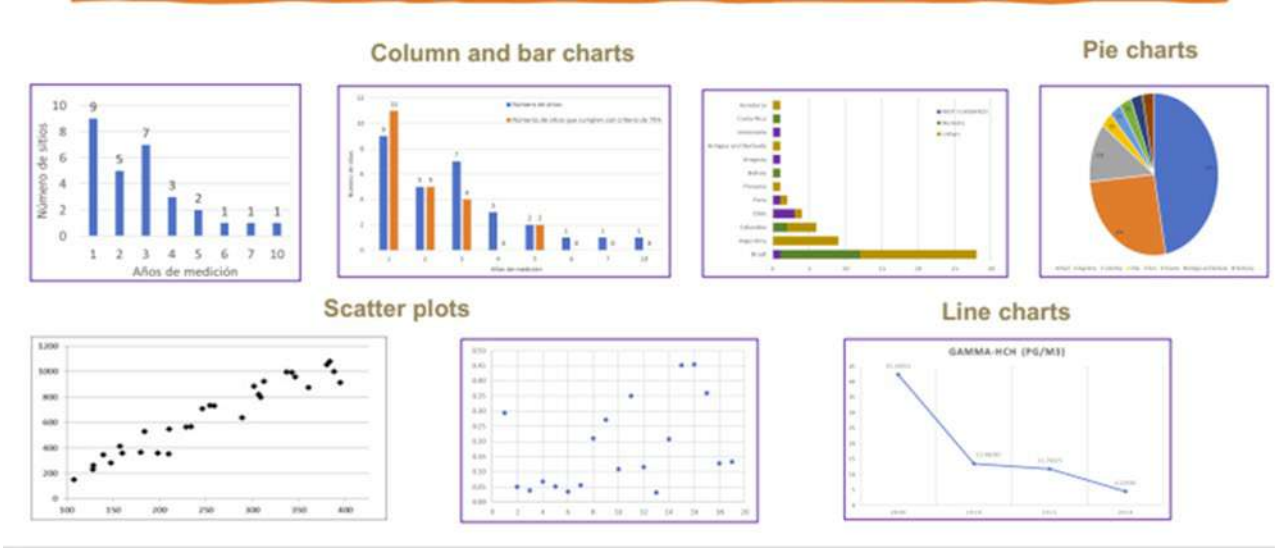
11 countries

All the objectives proposed by the project have been achieved.

Addition activities:

- **analyses of POPs that were not foreseen were carried out, for example, short-chain chlorinated paraffins (SCCPs) in breast milk**
- **training in POP analysis in plastics** and other on-line training.
- PFAS in plastic samples

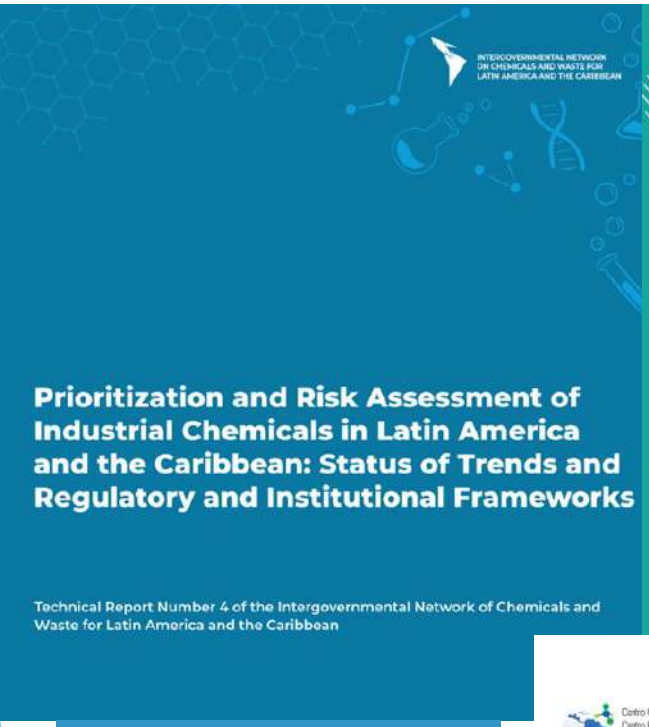




Great challenge, communicating data... awareness raising to decision makers and the community to promote changes in agricultural practices, consumption patterns...

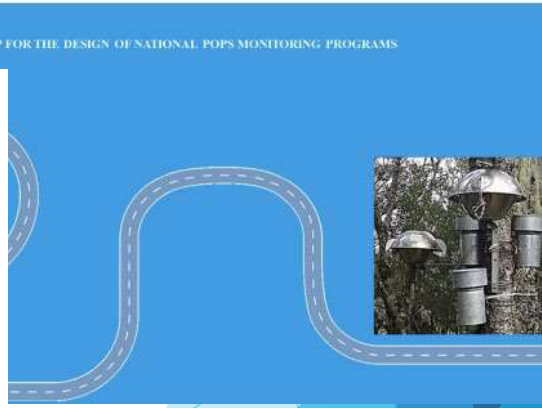


2.TOOLBOX - guidance documents and assessment

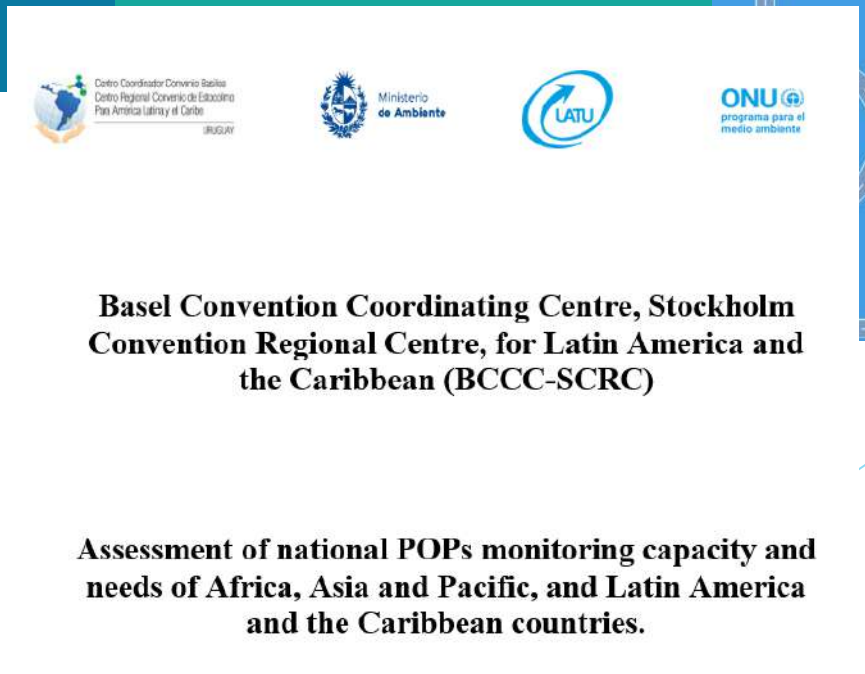












2.TOOLBOX - TRAINING



Efforts have been made to create documents and courses that transcend time we are working to encourage their use.

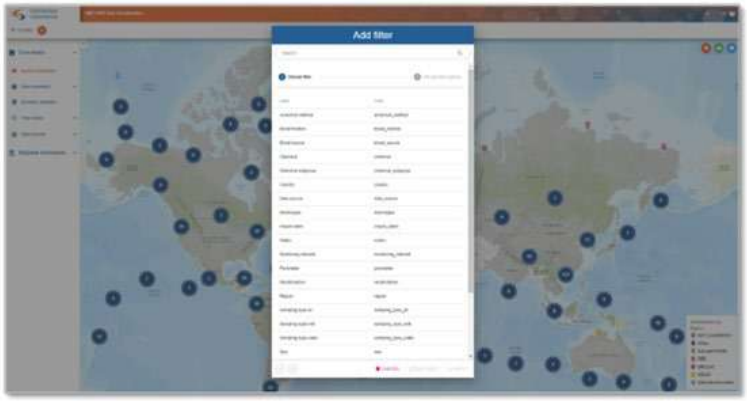
- **SOPs**
- **Human milk video**
- **POPs analisys video**
- **Guides for Data Management and Handling**

Efforts made in training and tools created to facilitate the reporting, for example integrated electronic toolbox of articles 7 and 15 . Theoretical-practical course “National Inventory and Environmentally Sound Management of the new Persistent Organic Compounds and Mercury - January 2022.

Development of two self-study courses in PBDE and HBCD based on available guidance documents.







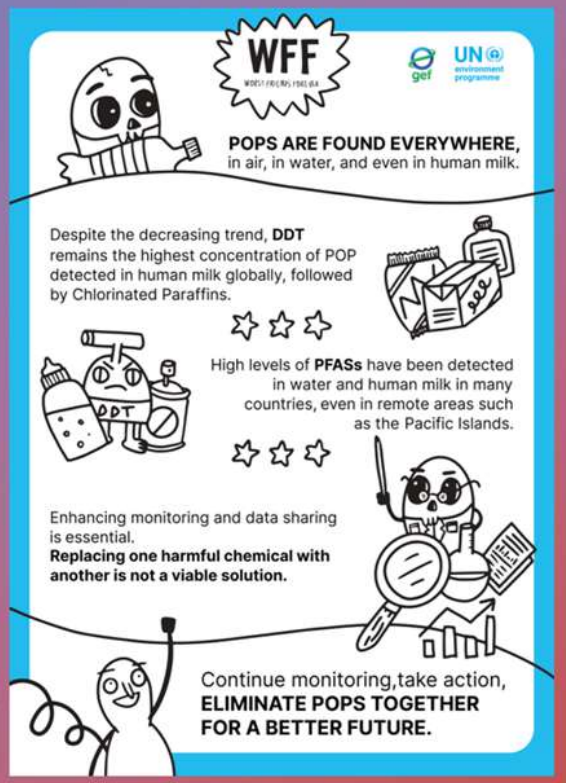
Self-paced course on data interpretation

2. TOOLBOX COMUNICATIONS









3. Success stories of previous capacity building activities conducted on POPs monitoring





CASE STUDY: Technical support was provided for the diagnosis and development of a proposed monitoring program in Ecuador and Mexico.

COUNTRY'S PROFILE

- Evaluation of all POPs data.
- Evaluate where POPs come from to provide a solution (local or global).
- Population health data.
- Allows establishing priorities for action.

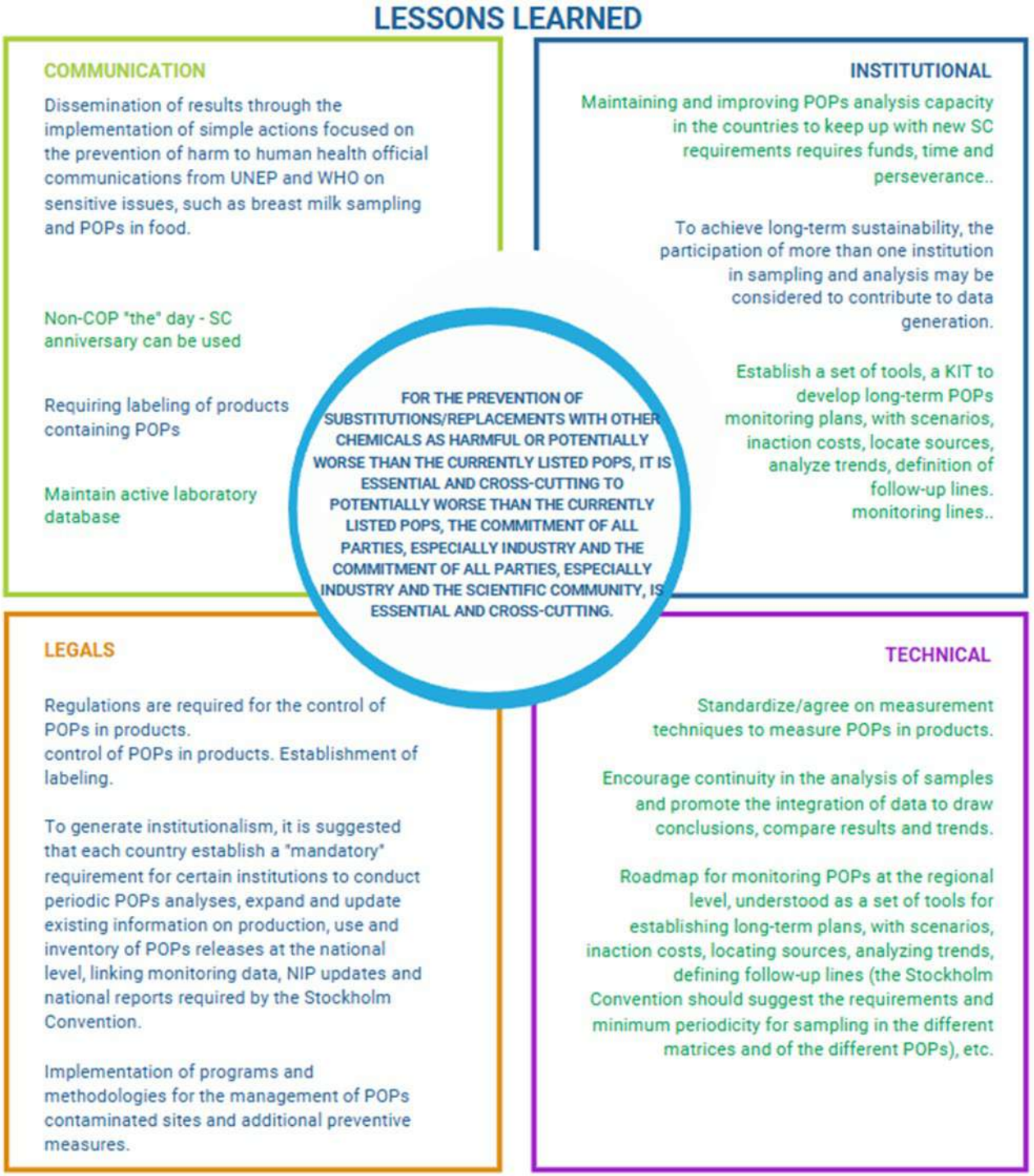
ECUADOR - Draft roadmap



- It focuses on problems found in the country's profile.
- Directed monitoring to measure the effectiveness of actions.
- Environmental management more focused on problems.

4. LESSONS LEARNED

For the prevention of substitutions/replacements with other chemicals as harmful or potentially worse than the currently listed pops, the commitment of all parties, especially industry and the scientific community, is essential and cross-cutting. The lessons learned have been grouped into 4 categories for better visualization, but they are linked together and presented as a circular chart.



4. LESSONS LEARNED

As a Summary:

- Training alone doesn't ensure sustainability, regular analysis of POPs often results in better data accuracy
- Work on mechanisms for future activities/projects to prevent issues with the shipment of samples for analysis
- Data comparability varies across methods and standards
- Few labs analyze new POPs (PFAS, brominated compounds)
- Funding gaps persist after project cycles
- Prevention of regrettable substitutions is essential to avoid the continuous additions of new POPs.
- Capacity building must be continuous and nationally owned (Dependence on project-based funding)
- Limited national mandates for POPs monitoring
- Data often not translated into policy action

5. Capacity Gaps (ROG Perspective)

- Limited capacity for complex POPs analysis
- The region should build its own capabilities (supported and managed by organizations from outside the región)
- Spatial coverage should also be improved; Central America is still one big gap in the region
- Weak data interpretation and policy translation
- Interaction between government, academia, industry and NGOs is needed both at national and regional levels to build a successful strategy for facing the challenge of monitoring POPs levels in the core matrices
- Continue building technical and institutional capacity.
- Strengthen partnerships for data sharing.
- Ensure long-term sustainability of monitoring networks

6.Local Governments & Researchers

- Governments: **clear mandates and regular budgets**, technical positions in national laboratories, include these activities in their national environmental monitoring plans
- Researchers and Academic Institution: **active engagement and collaboration.** science–policy communication, training, South–South cooperation

7.Capacity Building under GCMP

- Builds on previous GEF projects
- Strengthen regional capacity for sustainable monitoring of POPs and mercury
- Generate **high-quality, globally comparable data**
- Focuses on sustainability and harmonization
- Promote **knowledge sharing and collaboration** through a new online platform
- Collaboration between ROGs, researchers, policymakers

"GCMP is not just another project — it's a framework to make global chemical monitoring a permanent, collaborative effort"

8. Conclusions

- Progress is real — capacity and data improved
- Sustainability and coordination are challenges
- National commitment and stable funding are key
- GCMP: opportunity to make monitoring permanent
- “Monitoring should not be a project — it should be a shared responsibility.”

“Let’s continue building a global culture of cooperation and excellence in POPs monitoring”

Thank you, Merci, gracias!!

http://www.ccbasilea-crestocolmo.org.uy

Basel Convention Coordinating Centre
Stockholm Convention Regional Centre
URUGUAY

Ministerio de Ambiente

LATU





Global Chemical Monitoring Programme to Support Implementation of Stockholm and Minamata Conventions (GCMP)

Stakeholder Consultation

Geneva, Switzerland – 31 October 2025

Interlaboratory assessment for Quality Control/Quality Assurance

Philippe Bersuder

Head Marine Environmental Studies Laboratory

IAEA Marine Environment Laboratories, Monaco

IAEA Marine Environment Laboratories

- Long-term assistance to Member State laboratories since early 1960's
- IAEA Reference Materials for radionuclides, trace elements and organic pollutants (accreditation ISO 17034),
- Proficiency Tests and Interlaboratory Comparisons
- Recommended Analytical Procedures
- Environmental Monitoring, Assessment, Remediation, Network, (i.e. Marine Pollution, Ocean processes, Climate change..)
- Training courses

=> All activities require utmost care for precision, accuracy and related quality control



Why Quality Matters

- Quality Control (QC) – *Data-oriented*: ensures precision of results
- Quality Assurance (QA) – *Process-oriented* : ensures reliability and comparability
- Reliable data underpin environmental monitoring, data assessment, and decision-making.

Why Quality Matters for POPs and Mercury Monitoring



1. Ensures Reliable Data



2. Enables Comparability



3. Supports Policy and Compliance



4. Builds Trust and Credibility



5. Optimizes Resources

What is an Interlaboratory Assessment?

- Also known as Proficiency Testing (PT) or Interlaboratory Comparison (ILC)
- Multiple labs analyze the same blind sample; results are statistically compared
- A cornerstone of ISO/IEC 17025 - compliant QA/QC systems.

How it Works

Example: Worldwide Interlaboratory Comparison on the Determination of Organochlorine Compounds, Polybrominated Diphenyl Ethers and Polycyclic Aromatic Hydrocarbons in a Fish Sample (ILC-IAEA-MESL-2019-01-OC)

1. Preparation and characterization of reference materials



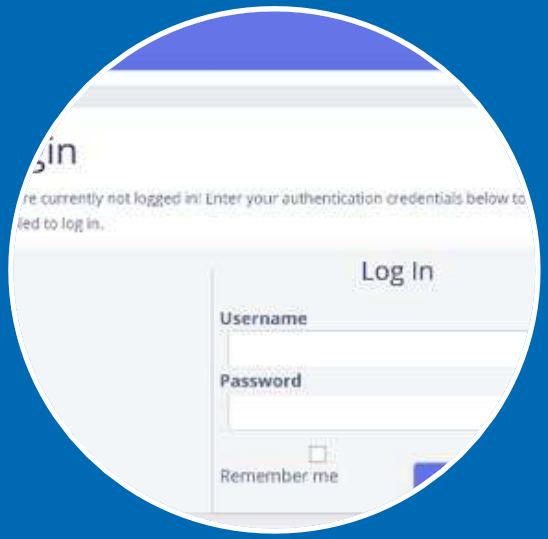
2. Distribution to laboratories



3. Routine analysis under normal conditions



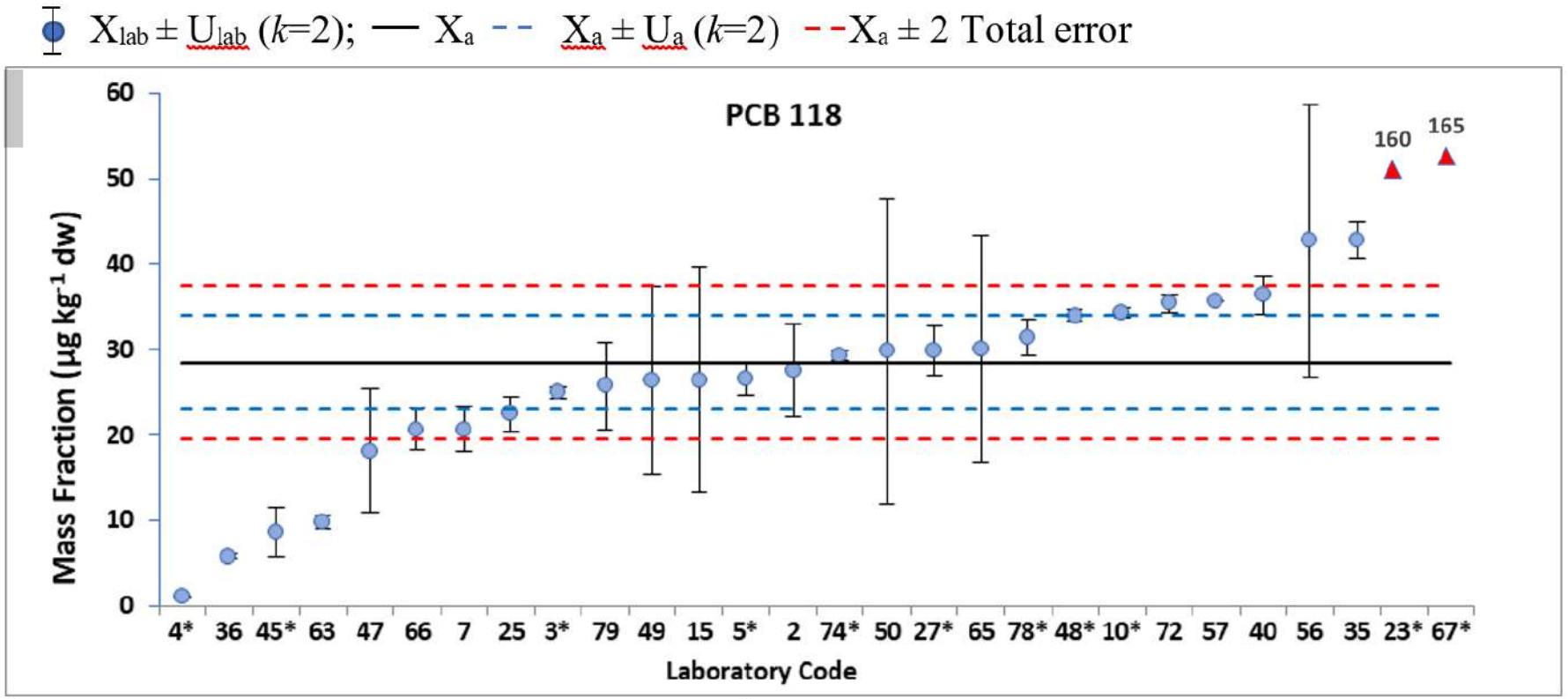
4. Results submission



How it works - Results Evaluation

Laboratory results vs Assigned value

Reported results and expanded uncertainties:



*Uncertainty not reported by participant and calculated as: $2\frac{s}{\sqrt{n}}$ where s is the standard deviation and n is the number of measurements reported.

How it works - Results Evaluation

Normalisation of Results

$$z = \frac{x_{lab} - X_{ass}}{\sigma_p}$$

$$\text{zeta} = \frac{x_{lab} - X_{ass}}{\sqrt{u_{lab}^2 + u_{ass}^2}}$$

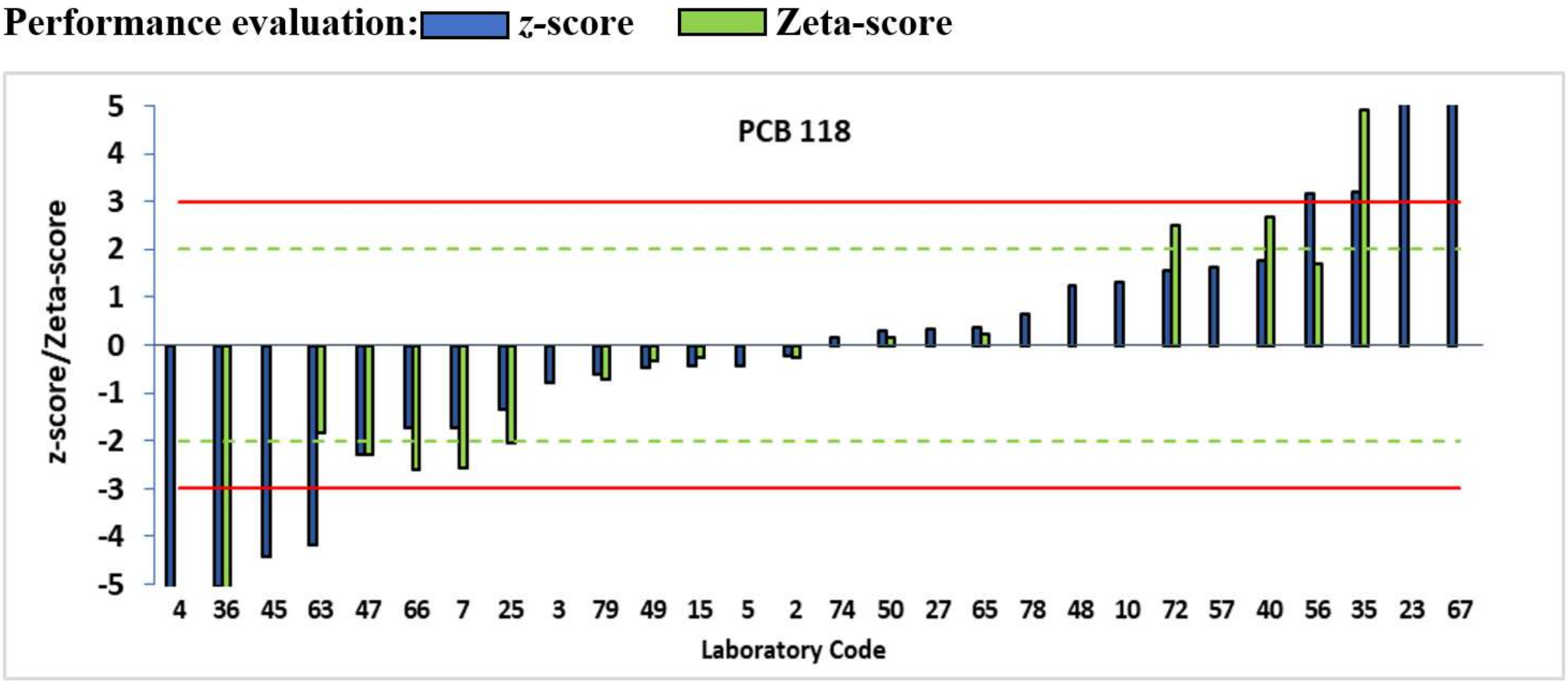
X_{lab} : Reported Mean
X_{ass} : Assigned value
σ_p : Target standard deviation
u_{lab} : Reported combined uncertainty
u_{ass} : Assigned combined uncertainty

$|z \text{ or Zeta}| \leq 2$ **Satisfactory**

$2 < |z \text{ or Zeta}| < 3$ **Questionable**

$|z \text{ or Zeta}| \geq 3$ **Unsatisfactory**

How it works - Results Evaluation



How it works - Results Evaluation

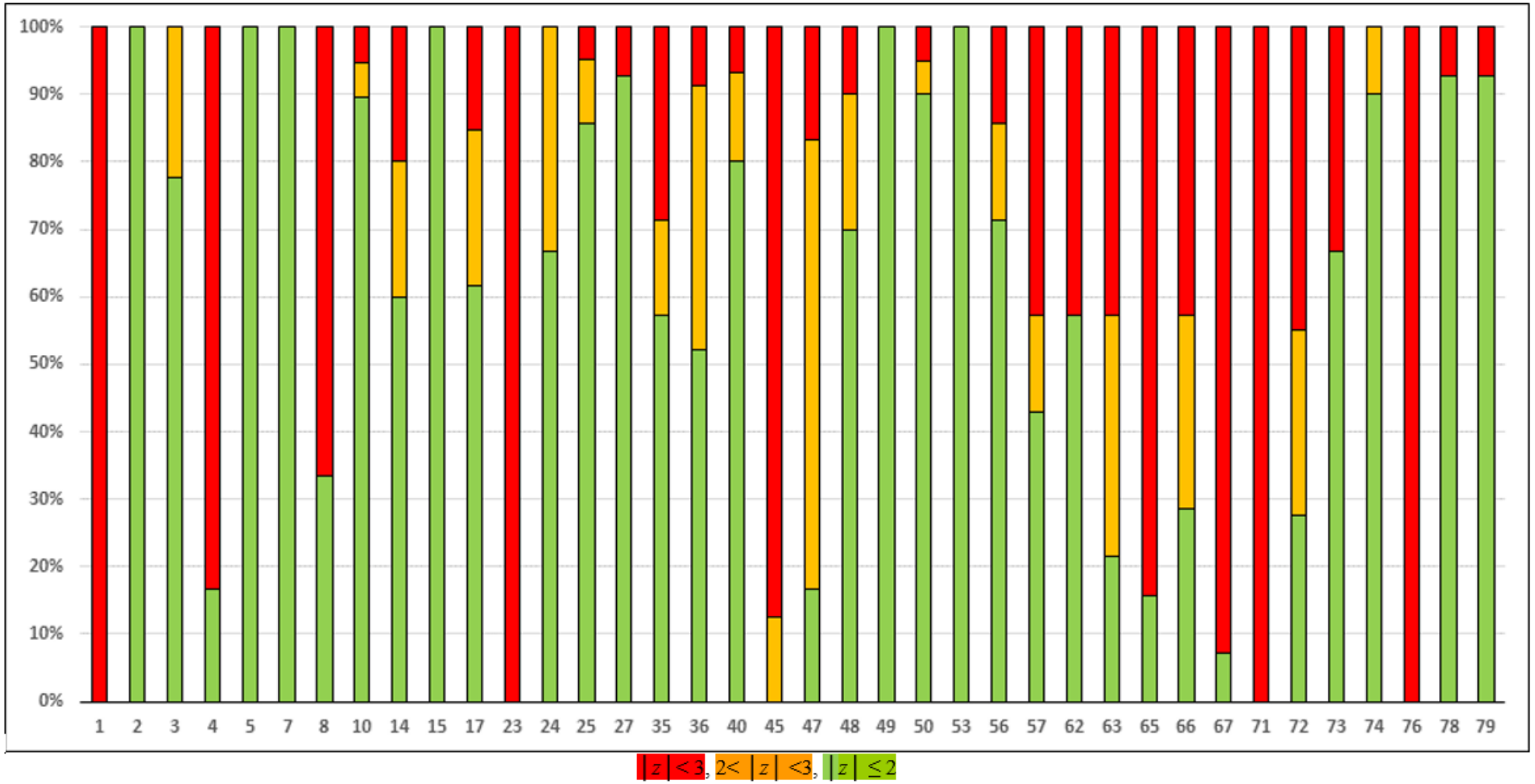
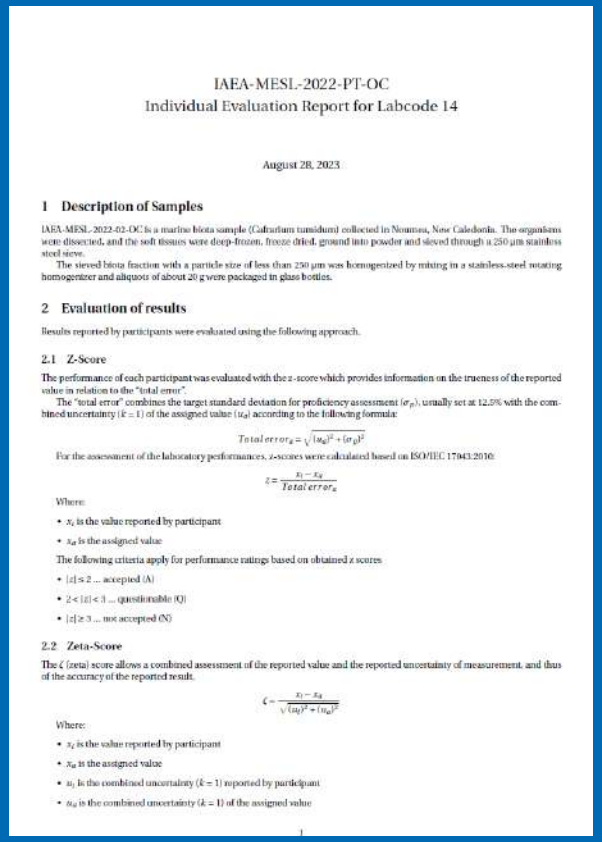


FIG. 5. Percentage distribution of the z-scores of PCBs results reported by participants per laboratory.

How it Works – Feedback and corrective actions

Individual Laboratory Report



IAEA-MESL-2022-PT-OC
Individual Evaluation Report for Labcode 14

August 28, 2023

1 Description of Samples

IAEA-MESL-2022-02-OC is a marine biota sample (Cellarium tumidum) collected in Noumea, New Caledonia. The organisms were dissected, and the soft tissues were deep-frozen, freeze dried, ground into powder and sieved through a 250 µm stainless steel sieve.

The sieved biota fraction with a particle size of less than 250 µm was homogenized by mixing in a stainless-steel rotating homogenizer and aliquots of about 20 g were packaged in glass bottles.

2 Evaluation of results

Results reported by participants were evaluated using the following approach.

2.1 Z-Score

The performance of each participant was evaluated with the z-score which provides information on the trueness of the reported value in relation to the "total error".

The "total error" combines the target standard deviation for proficiency assessment (σ_p), usually set at 12.5% with the combined uncertainty ($k = 1$) of the assigned value (u_a) according to the following formula:

$$Total\ error_a = \sqrt{(u_a)^2 + (\sigma_p)^2}$$

For the assessment of the laboratory performances, z-scores were calculated based on ISO/IEC 17043:2010:

$$z = \frac{x_i - x_a}{Total\ error_a}$$

Where:

- x_i is the value reported by participant
- x_a is the assigned value

The following criteria apply for performance ratings based on obtained z scores:

- $|z| \leq 2$ ... accepted (A)
- $2 < |z| < 3$ ... questionable (Q)
- $|z| \geq 3$ ... not accepted (N)

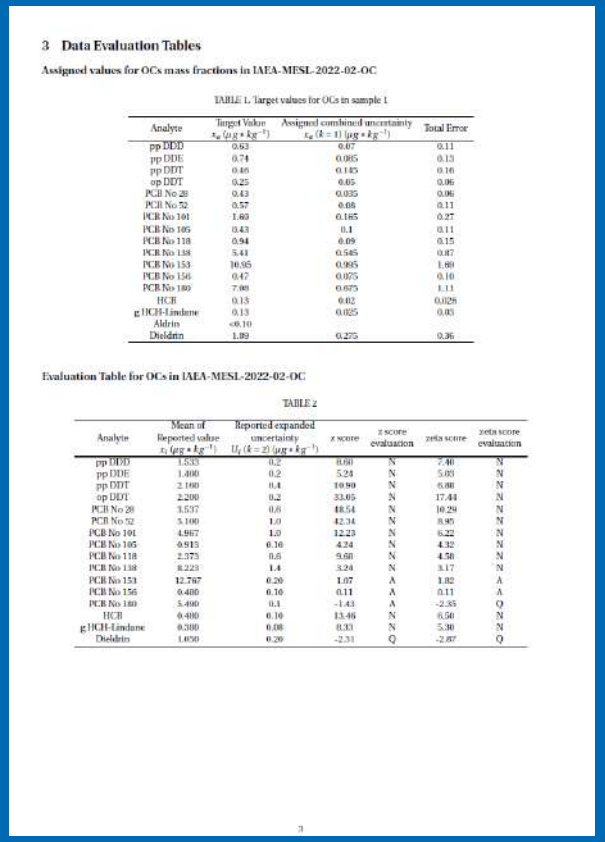
2.2 Zeta-Score

The ζ (zeta) score allows a combined assessment of the reported value and the reported uncertainty of measurement, and thus of the accuracy of the reported result.

$$\zeta = \frac{x_i - x_a}{\sqrt{(u_i)^2 + (u_a)^2}}$$

Where:

- x_i is the value reported by participant
- x_a is the assigned value
- u_i is the combined uncertainty ($k = 1$) reported by participant
- u_a is the combined uncertainty ($k = 1$) of the assigned value



3 Data Evaluation Tables

Assigned values for OCs mass fractions in IAEA-MESL-2022-02-OC

TABLE 1. Target values for OCs in sample 1

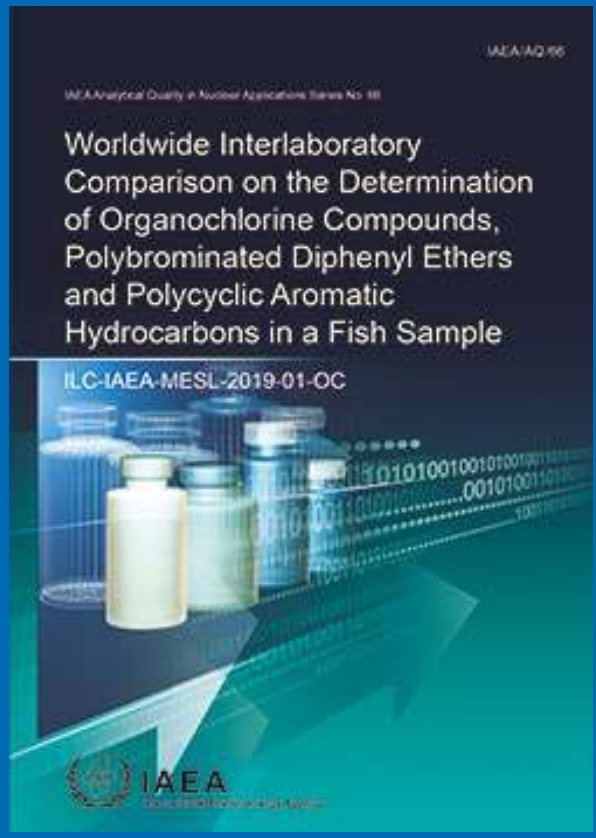
Analyte	Target Value x_a (µg * kg^{-1})	Assigned combined uncertainty u_a ($k = 1$) (µg * kg^{-1})	Total Error
pp DDD	0.63	0.07	0.11
pp DDE	0.74	0.085	0.13
pp DDT	0.46	0.145	0.16
op DDT	0.25	0.05	0.06
PCB No 28	0.43	0.035	0.06
PCB No 52	0.57	0.08	0.11
PCB No 101	1.60	0.165	0.27
PCB No 105	0.43	0.1	0.11
PCB No 118	0.94	0.09	0.15
PCB No 138	5.41	0.545	0.87
PCB No 153	10.95	0.985	1.69
PCB No 156	0.47	0.075	0.10
PCB No 180	7.00	0.975	1.11
HCB	0.13	0.02	0.028
g HCH-Lindane	0.13	0.025	0.03
Aldrin	<0.10		
Dieldrin	1.89	0.275	0.36

Evaluation Table for OCs in IAEA-MESL-2022-02-OC

TABLE 2

Analyte	Mean of Reported value x_i (µg * kg^{-1})	Reported expanded uncertainty U_i ($k = 2$) (µg * kg^{-1})	z score	z score evaluation	zeta score	zeta score evaluation
pp DDD	1.533	0.2	8.00	N	7.40	N
pp DDE	1.400	0.2	5.28	N	5.03	N
pp DDT	2.160	0.4	10.90	N	6.86	N
op DDT	2.200	0.2	33.05	N	17.44	N
PCB No 28	3.537	0.6	18.54	N	10.29	N
PCB No 52	5.100	1.0	42.34	N	8.95	N
PCB No 101	4.967	1.0	12.23	N	6.22	N
PCB No 105	0.915	0.30	4.24	N	4.32	N
PCB No 118	2.575	0.6	9.68	N	4.58	N
PCB No 138	8.223	1.4	3.24	N	3.17	N
PCB No 153	12.767	0.20	1.07	A	1.82	A
PCB No 156	0.400	0.10	0.11	A	0.11	A
PCB No 180	5.400	0.1	-1.43	A	-2.35	Q
HCB	0.400	0.10	13.46	N	6.50	N
g HCH-Lindane	0.300	0.08	0.33	N	5.30	N
Dieldrin	1.050	0.20	-2.31	Q	-2.87	Q

Interlaboratory Report



Overall Benefits

- Evaluate analytical performance and detect biases
- Improve traceability and comparability
- Support accreditation and training
- Enhance confidence among laboratories worldwide.

Lessons Learned and Challenges

- Challenges
  - Materials
  - Logistics
  - sample stability
  - Analytical methods variation
  - resource limits

- Lessons: regular participation builds capacity

QA/QC should be integrated daily, not just tested periodically.

Key Takeaways

- Interlaboratory assessments ensure accuracy, comparability, and trust.
- They are vital elements of effective QA/QC systems.
- IAEA supports laboratories globally to maintain measurement excellence.


THANK YOU

Mercury monitoring in the context of the Minamata Convention

GEF Global Chemicals Monitoring Programme Stakeholders Consultation

31 October 2025, Geneva

Secretariat of the Minamata Convention

Article 19 – Research, development and monitoring

MINAMATA CONVENTION ON MERCURY

1. Parties shall endeavour to cooperate to develop and improve, taking into account their respective circumstances and capabilities:

(a) Inventories of use, consumption, and anthropogenic emissions to air and releases to water and land of mercury and mercury compounds;

(b) Modelling and **geographically representative monitoring** of levels of mercury and mercury compounds in vulnerable populations and in environmental media, including biotic media such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples;

(c) Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts, particularly in respect of vulnerable populations;

(d) Harmonized methodologies for the activities undertaken under subparagraphs (a), (b) and (c);

(e) Information on the environmental cycle, transport (including long-range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition;

(f) Information on commerce and trade in mercury and mercury compounds and mercury-added products; and

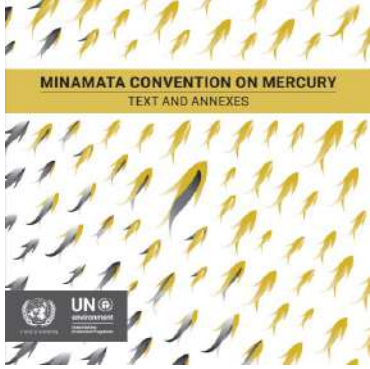
(g) Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques and best environmental practices to reduce and **monitor emissions and releases** of mercury and mercury compounds.

2. Parties should, where appropriate, build on existing monitoring networks and research programmes in undertaking the activities identified in paragraph 1.

Mercury measurements to implement the Minamata Convention

MINAMATA CONVENTION ON MERCURY

Article 4 (Mercury-added products) – Mercury content in products (e.g. cosmetics) may need to be measured
Article 5 (Manufacturing processes) – Emission and release control may involve emission/effluent monitoring
Article 7 (ASGM) – Secretariat and UNEP developed technical document on ASGM site monitoring (UNEP/MC/COP.5/INF/9)
Public health strategies may involve Hg measurement in food and humans
Article 8 (Emissions) – Emission control may involve emission monitoring
BAT/BEP guidance refers to emission monitoring
Emission inventory may involve emission monitoring
Article 9 (Releases) – Release control may involve effluent monitoring
BAT/BEP guidance being developed
Release inventory may involve effluent monitoring
Article 11 (Waste) – Mercury content in waste may need to be measured
Emission, effluent or leachate from waste management sites may need to be monitored
Article 12 (Contaminated sites) – Site identification, assessment and management may involve Hg measurement
Article 16 (Health aspects) – Health strategies may involve Hg measurement in food and humans
Article 18 (Information, awareness and education) – Monitoring results are to be made available to the public
Article 19 (Research, development and monitoring) – Parties to cooperate in monitoring



Article 22
Effectiveness evaluation

1. The Conference of the Parties shall evaluate the effectiveness of this Convention, beginning no later than six years after the date of entry into force of the Convention and periodically thereafter at intervals to be decided by it.

2. To facilitate the evaluation, the Conference of the Parties shall, at its first meeting, initiate the establishment of arrangements for providing itself with comparable monitoring data on the presence and movement of mercury and mercury compounds in the environment as well as trends in levels of mercury and mercury compounds observed in biotic media and vulnerable populations.

3. The evaluation shall be conducted on the basis of available scientific, environmental, technical, financial and economic information, including:

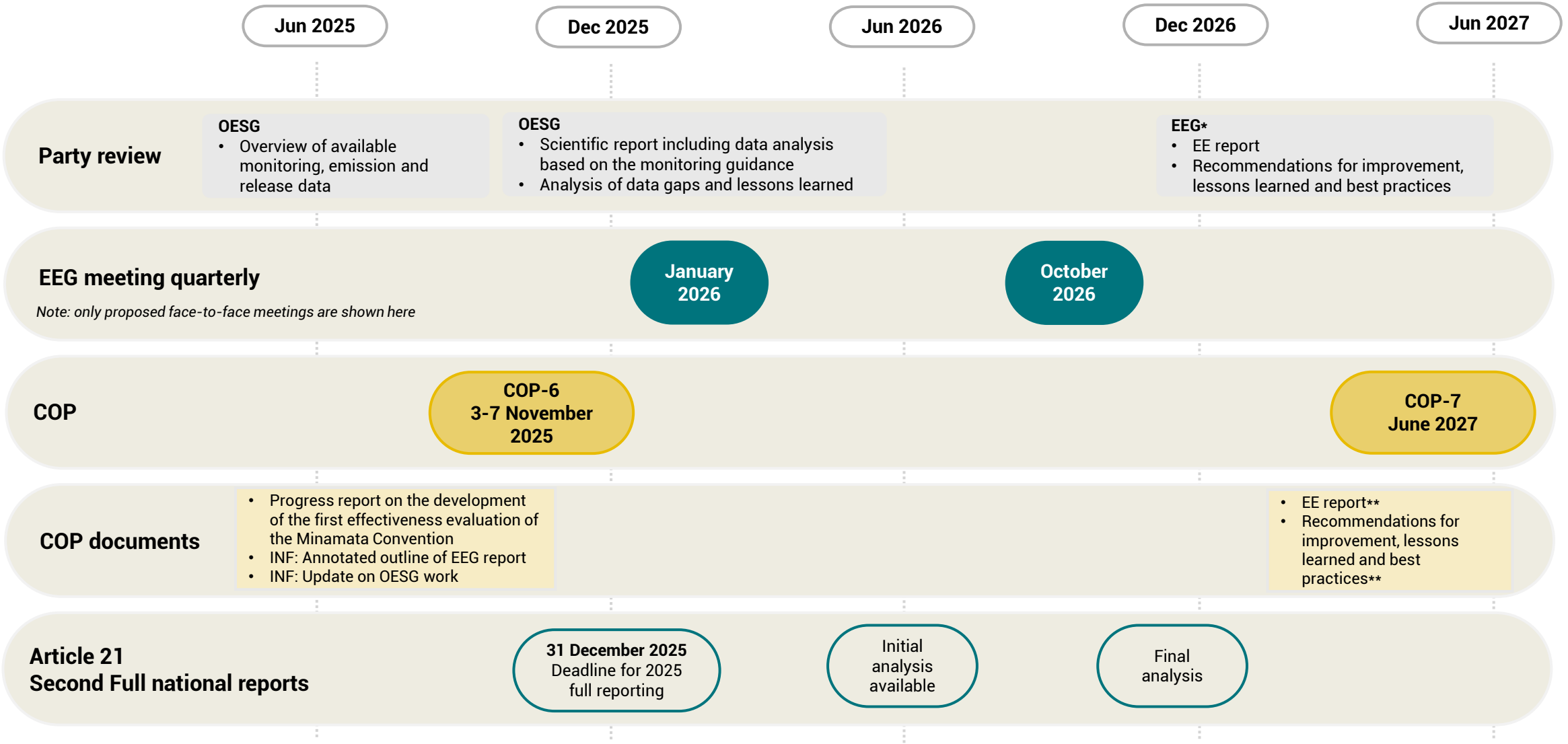
(a) Reports and other monitoring information provided to the Conference of the Parties pursuant to paragraph 2;

Arrangements for Effectiveness Evaluation

MINAMATA CONVENTION ON MERCURY

- **COP-4 (2024), in decision MC-4/11:**
  - Agreed to begin the first effectiveness evaluation;
  - Established the Open-Ended Scientific Group (TOR in annex II).
- **COP-5 (2025), in decision MC-5/14:**
  - Agreed to consider the outcome of the first effectiveness evaluation at COP-7;
  - Established the Effectiveness Evaluation Group (TOR in annex I);
  - Adopted 36 indicators to support the evaluation of effectiveness of the Convention (annex II).
- **Effectiveness Evaluation Group**
  - Co-chaired by Katrina Sebkova (Czechia) and Linroy Christian (Antigua and Barbuda)
  - Met 7 times on-line since COP-5.
- **Open-ended Scientific Group**
  - Co-chaired by Sandy Steffen (Canada) and Dominique Bally Kpokro (Cote d'Ivoire)
  - Collected mercury monitoring, emission and release data.
  - Developing a data analysis report and identifying data gaps and lessons learned.
  - Met once face-to-face in Minamata (March 2025) hosted by Japan and ten times on-line since COP-5.

Timeline for the first evaluation of the effectiveness of the Minamata Convention on Mercury (Annex II)



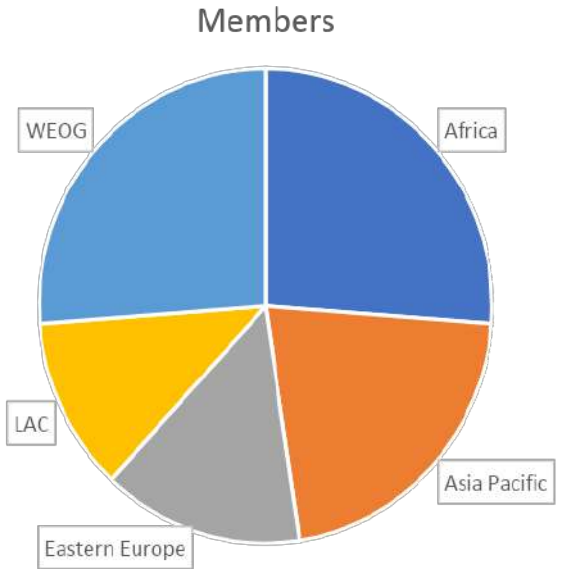
** EEG integrates reports and develops final EE report and report on lessons learned and recomendations.*

*** As per the EEG's terms of reference, draft COP documents will be open for Party comments and finalized by the EEG at least four months before the next COP meeting.*

Open-Ended Scientific Group

- OESG members – one expert nominated by each Party
- Parties and observers may nominate experts to a roster, who contribute to the work of OESG
- Met online 19 times by October 2025, 1st face-to-face meeting in March 2023, 2nd face-to-face meeting in March 2025

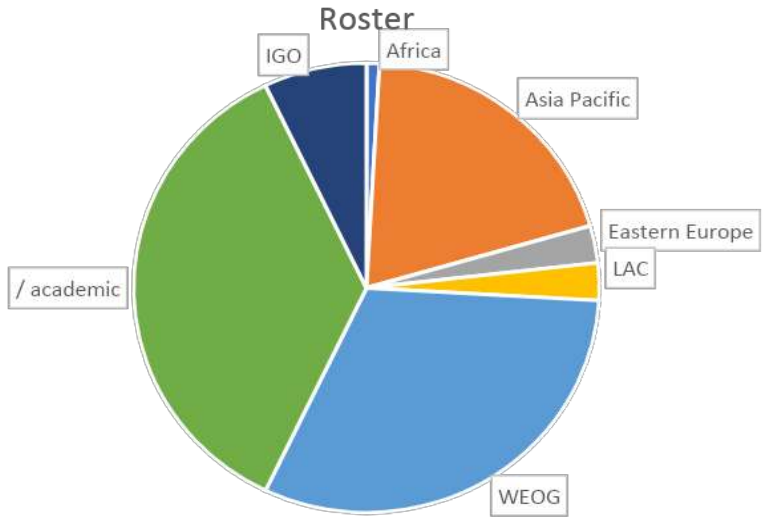




42 OESG Members

112 Experts on Roster

(As of 31 May 2024)



Effectiveness evaluation indicators (Decision MC/5-14)

Indicators	Possible sources of information for measuring progress against the indicator	Notes
#1: Levels and trends of mercury and mercury compounds in the environment and in humans due to anthropogenic emissions and releases	Reports and other information provided by the Open-ended Scientific Group Submitted data from Parties	As the analysis of monitoring data progresses, the OESG may elaborate on this indicator (e.g. by proposing sub indicators).
#29: Mercury levels in vulnerable human populations	Reports and other information provided by the Open-ended Scientific Group	As the analysis of monitoring data progresses, the OESG may elaborate on this indicator (e.g. by proposing sub-indicators). The monitoring guidance, as contained in document UNEP/MC/COP.4/INF/12, may also support considerations regarding this indicator.

OESG team structure: where the work gets done

Role	OESG Member	Country
Co-Chairs	Sandy Steffen	Canada
	Dominique Bally Kpokro	Côte d'Ivoire
Air Lead	Sandy Steffen	Canada
Biota co-Leads	Karina Miglioranza	Argentina
	Olga Furman	Australia
Other Media co- Leads (Soil, Water, …)	Adrien Mestrot	Switzerland
	Svetoslava Todorova	Bulgaria
Humans Lead	Janja Snoj Tratnik	Slovenia
Emissions and Releases co-Leads	Lynwill Martin	South Africa
	Ronnie Frazer-Williams	Sierra Leone
Integrated Analysis Lead	Noriyuki Suzuki	Japan
Future Vision Lead	Ben Yu	China
Secretariat	Eisaku Toda, with support of Biodiversity Research Institute	



MINAMATA CONVENTION ON MERCURY

Thank you for your attention

Secretariat of the Minamata Convention on Mercury
United Nations Environment Programme
11-13, Chemin des Anémones - 1219 Châtelaine, Switzerland

WEB: www.mercuryconvention.org
MAIL: MEA-MinamataSecretariat@un.org
TWITTER: @minamataMEA
#MakeMercuryHistory

BRS COPs
BASEL | ROTTERDAM | STOCKHOLM
CONVENTIONS

Make Visible the INVISIBLE
Sound management of chemicals and wastes

Uncovering POPs in the Environment through the Global Monitoring Plan

Tom Harner
Co-chair Global Coordination Group
GCMP Technical Consultation, October 31, 2025









BRS COPs
BASEL | ROTTERDAM | STOCKHOLM
CONVENTIONS

Make Visible the INVISIBLE
Sound management of chemicals and wastes

Stockholm Convention POPs
Annex A - elimination
Annex B – restriction
Annex C – unintentional production
(* - specific exemptions)

Listing of Chemicals under SC - Article 8 (POPRC)

- ✓ Persist
- ✓ Bioaccumulate
- ✓ Toxic
- ✓ Potential for long-range transport

"Dirty Dozen"

Aldrin - A
Chlordane - A
DDT – B*
Dieldrin - A
Endrin - A
Heptachlor - A
Hexachlorobenzene – A,C
Mirex - A
Toxaphene - A
PCBs – A*,C
PCDDs – C
PCDFs – C

2004 → 2009 2011 2013 2015 2017 2019 2021 2022 2023 2025 ...

Endosulfan – A*

HCBD – A
Pentachlorophenol – A*
PCNs – A*, C

Dicofol – A
PFOA – A*

Dechlorane Plus
Methoxychlor
UV-328

A-HCH - A
B-HCH - A
Chlordecone - A
Hexabromobiphenyl - A
Hexa- and Hepta- BDE – A*
Lindane – A*
Pentachlorobenzene - C
PFOS – B**
Tetra- and Penta-BDE – A*

HBCD – A*

Deca-BDE – A*
SCCPs – A*

PFHxS – A*

Chlorpyrifos
Long-chain PFCAs
MCCPs

?

Regional Reporting

Stockholm Convention on Persistent Organic Pollutants (POPs)

GMP core media
- Air
- Human milk / blood
- Water (PFOS/PFOA/PFHxS) ✓

EE Committee → **Global Report for EE**

Global Coordination Group '<u>GCG</u>' → **Global Report**

Global Report for EE

Informing Effectiveness Evaluation (EE), ***Article 16***
*(2017, 2023, **2029** etc…)*

*(2009, 2015, 2021, **2027**)*
Compilation

Global Report



Regional Organizational Groups (ROGs)
(n=6 from in each region)

WEOG | GRULAC ✓ | Africa ✓ | CEE | Asia/Pac ✓

✓ - GEF-GCMP data

GMP3 Highlights
& Recommendations

GMP3 – Revealing POPs Temporal Trends (table showing for Air)

- Despite progress…GMP data gaps continue to increase for listed POPs ☹
- Monitoring isn't keeping pace *(exceeding the planetary boundary for novel entities, Persson et al., 2022)*
- Need to make better use of published air monitoring data for POPs, not currently reported in GMP

	Adequate information on trends
	Limited information on trends
	No information on trends

Original 12 POPs (2005)					
Chemical	**Africa**	**Asia-Pacific**	**CEE**	**GRULAC**	**WEOG**
Aldrin					
Chlordane					
DDT					
Dieldrin					
Endrin					
Heptachlor					
Hexachlorobenzene					
Mirex					
Toxaphene					
PCBs					
PCDDs					
PCDFs					
"New" POPs Listed in 2009					
a-HCH					
b-HCH					
Chlordecone					
Hexabromobiphenyl					
Hexa-/Hepta-BDE					
Lindane					
Pentachlorobenzene					
PFOS					
Tetra-/Penta-BDE					
"New" POPs Listed in 2011					
Endosulfan					
"New" POPs Listed in 2013					
Hexabromocyclododecane					
"New" POPs Listed in 2015					
Hexachlorobutadiene					
Pentachlorophenol					
Polychlorinated Naphthalenes					
"New" POPs Listed in 2017					
Deca-BDE					
SCCPs					
"New" POPs Listed in 2019					
Dicofol					
PFOA					
"New" POPs Listed in 2022					
PFHxS					

Air

- Important role of passive air sampling and consideration of particle-associated POPs
- Limited trend data for PFASs
- Use of precipitation and ice core data to supplement trends for PFASs
- Linking air data with toxicity
  e.g. transcriptomics and bioassays
- Transformation products / chemical mixtures

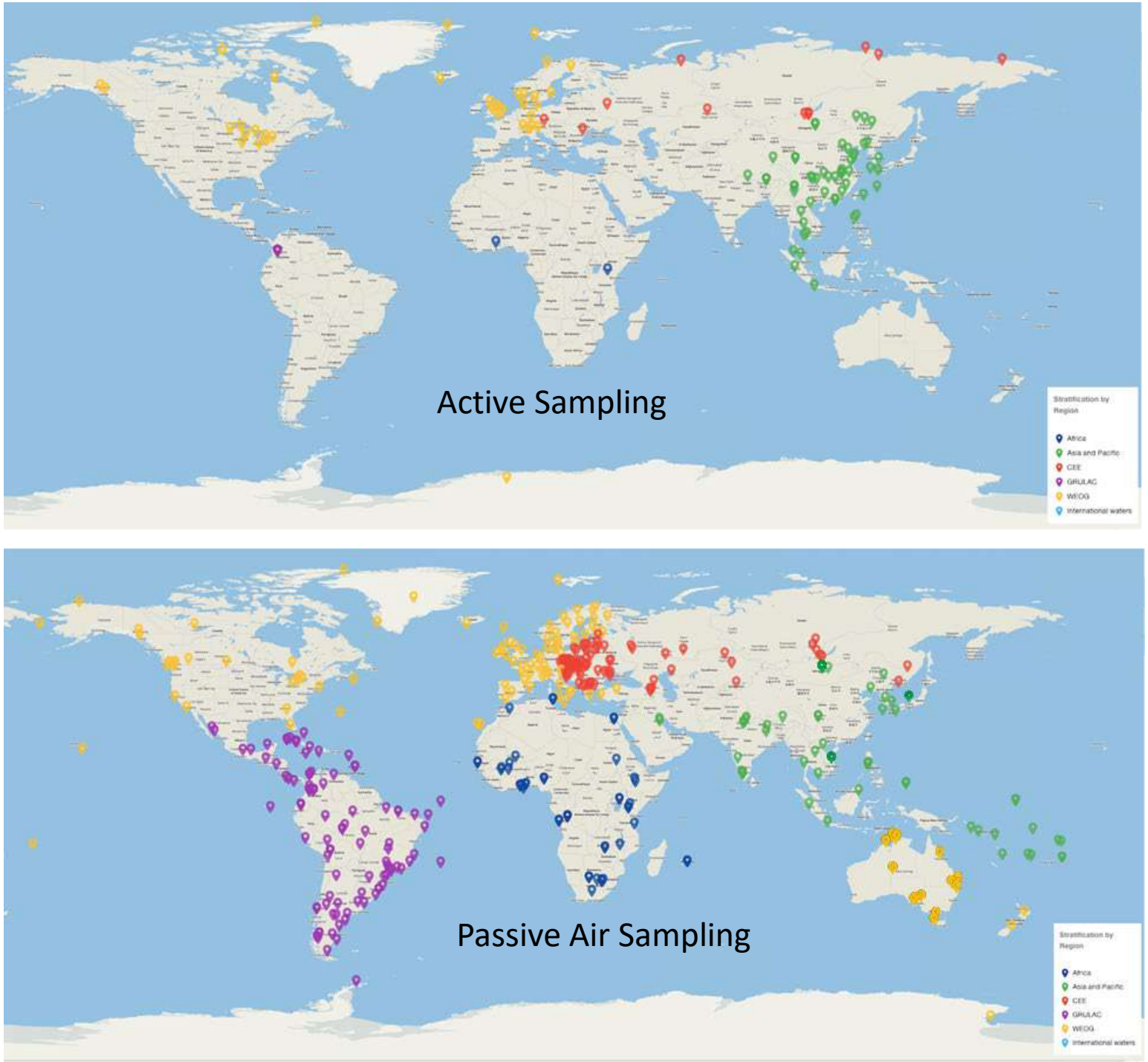
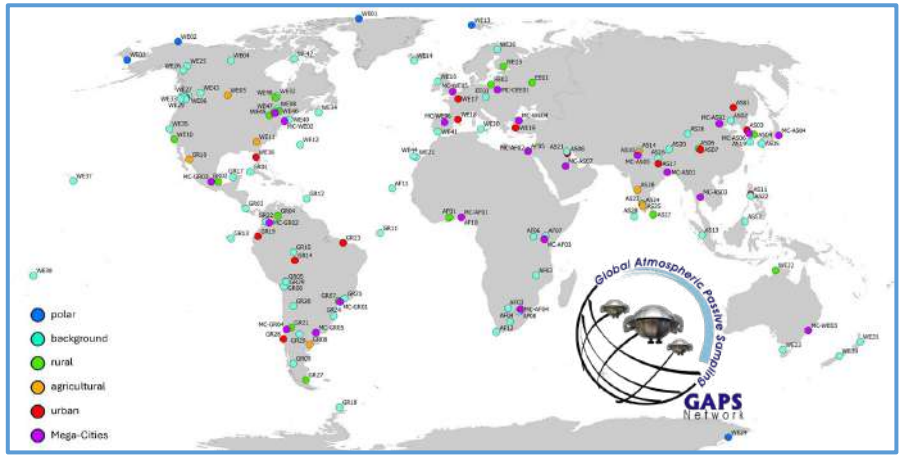
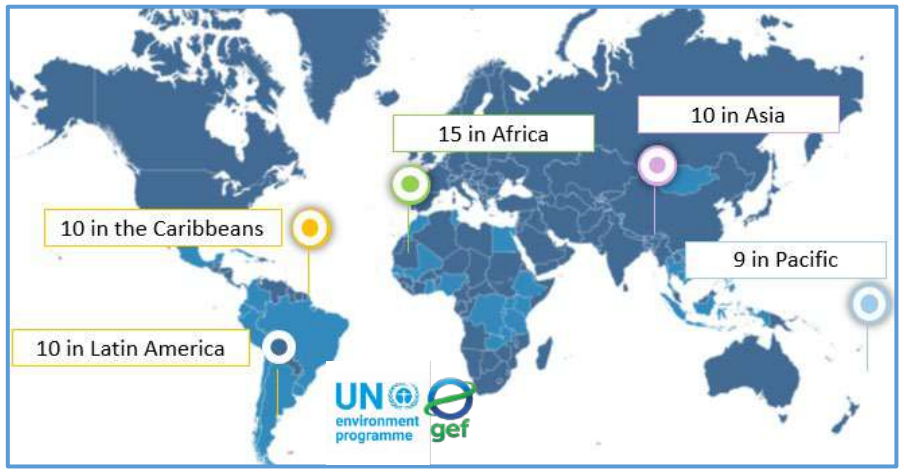


Figure 4.1.2 Air monitoring stations contributing data to the Third GMP Report. Air monitoring stations using active air sampling methods (upper panel) and those using passive air sampling methods (lower panel).

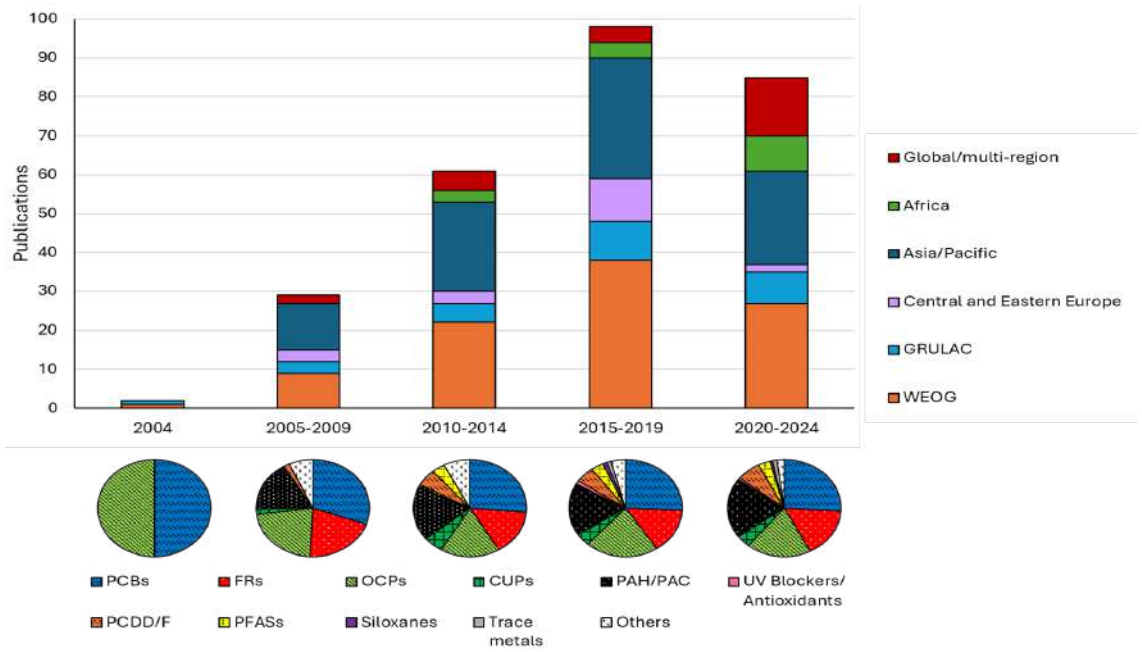






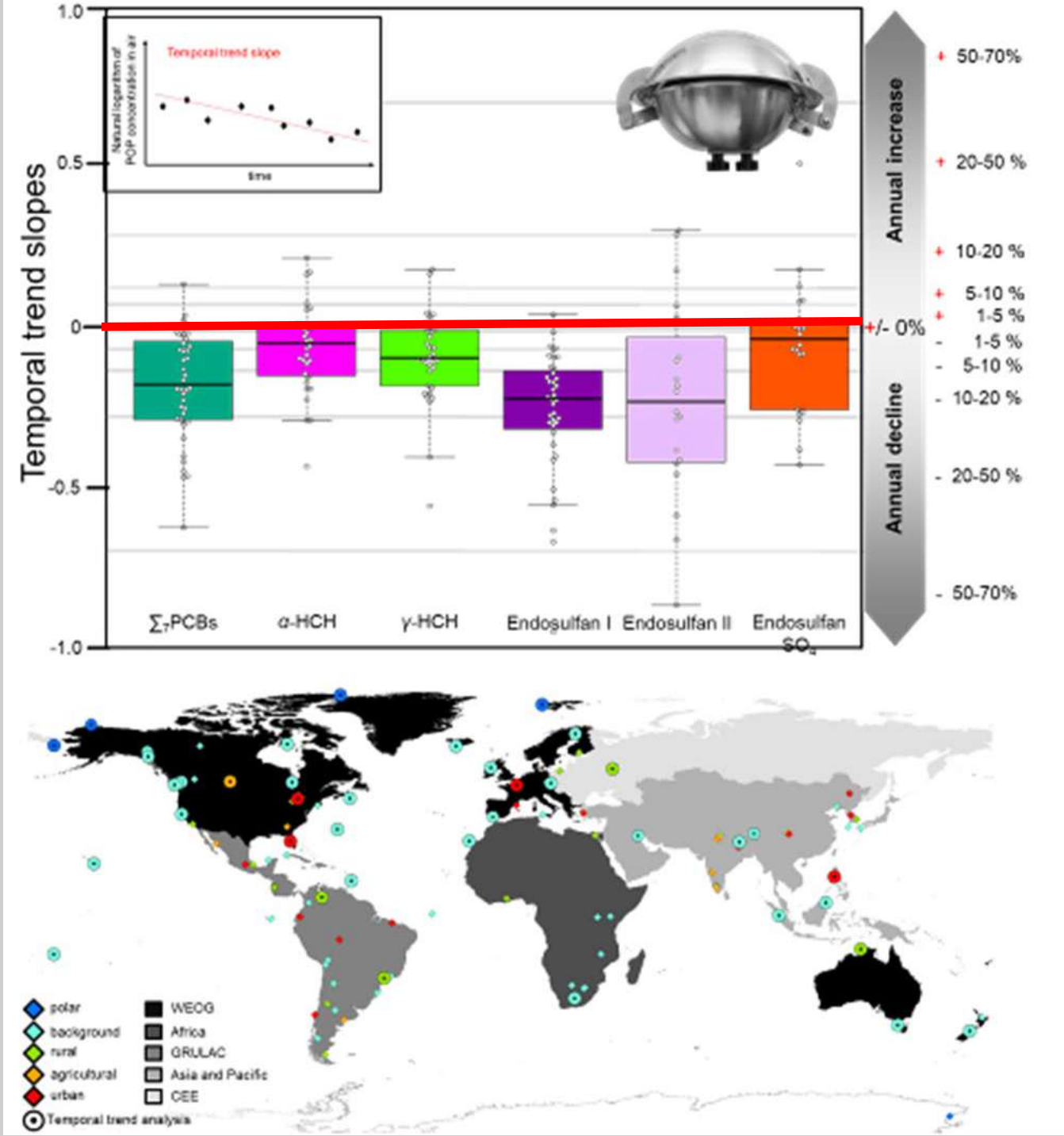
Global and Regional Monitoring for POPs in support of the GMP

- Temporal trends in air for listed POPs
- Baseline data
- Spatial trends
- Information on chemicals of emerging concern
- National programs and research studies

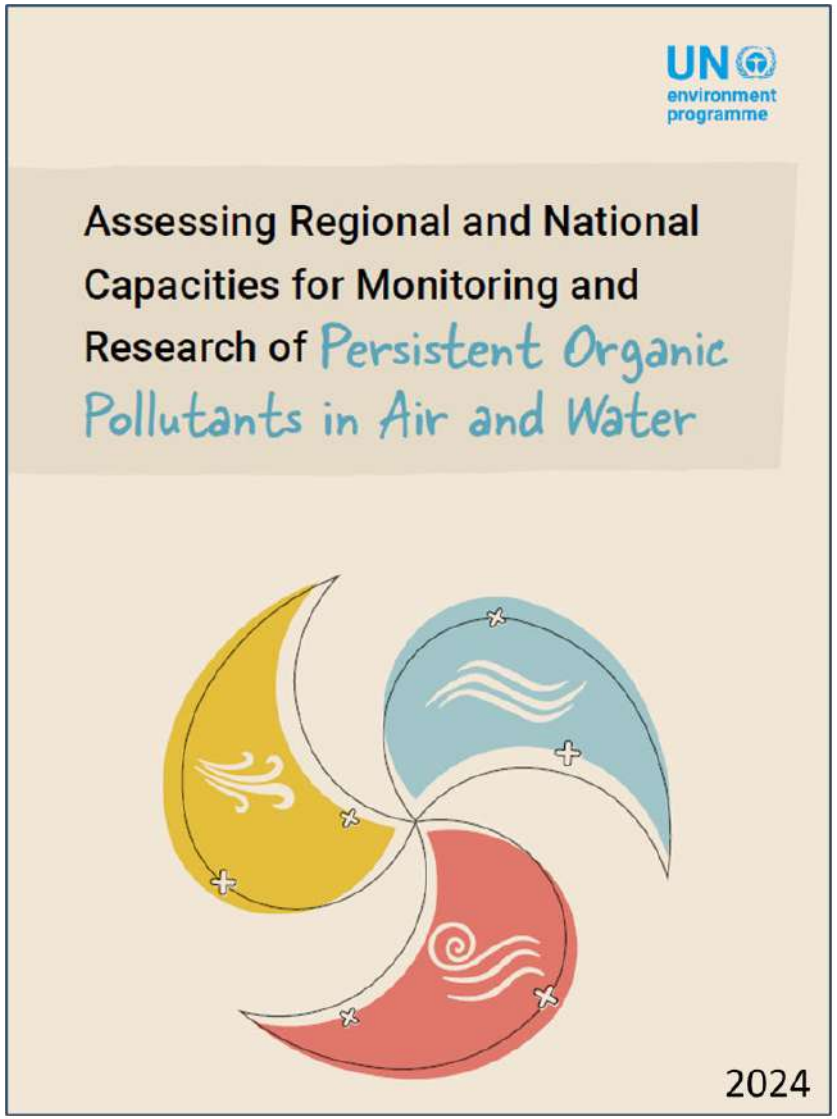


Air

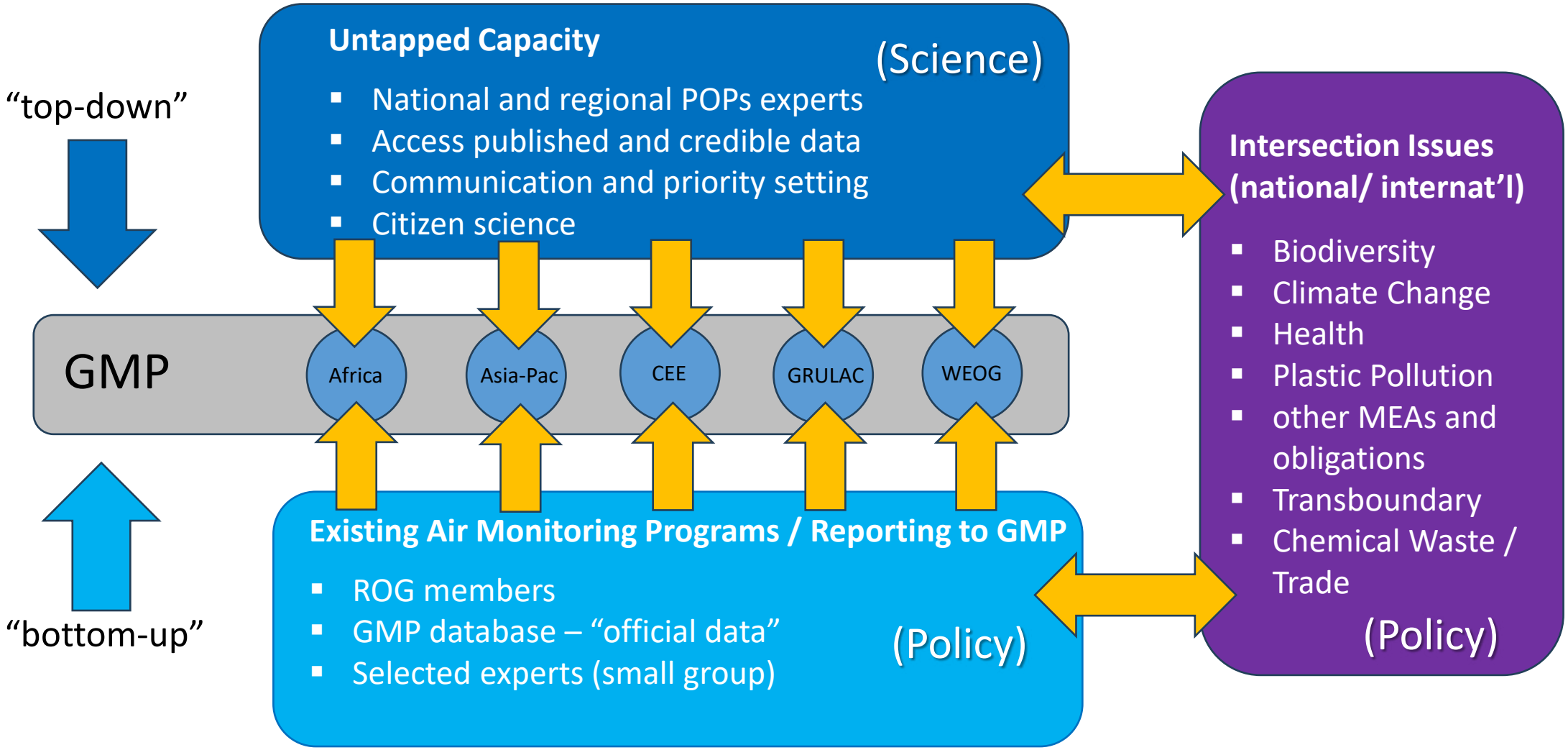
- Declining trends continue for legacy POPs at the global scale. A few exceptions.
- Need for efficiencies and partnerships to meet growing challenges for air monitoring.



Enhancing POPs Measurements to support GMP…



Enhancing POPs Monitoring in Air – Build Bridges!



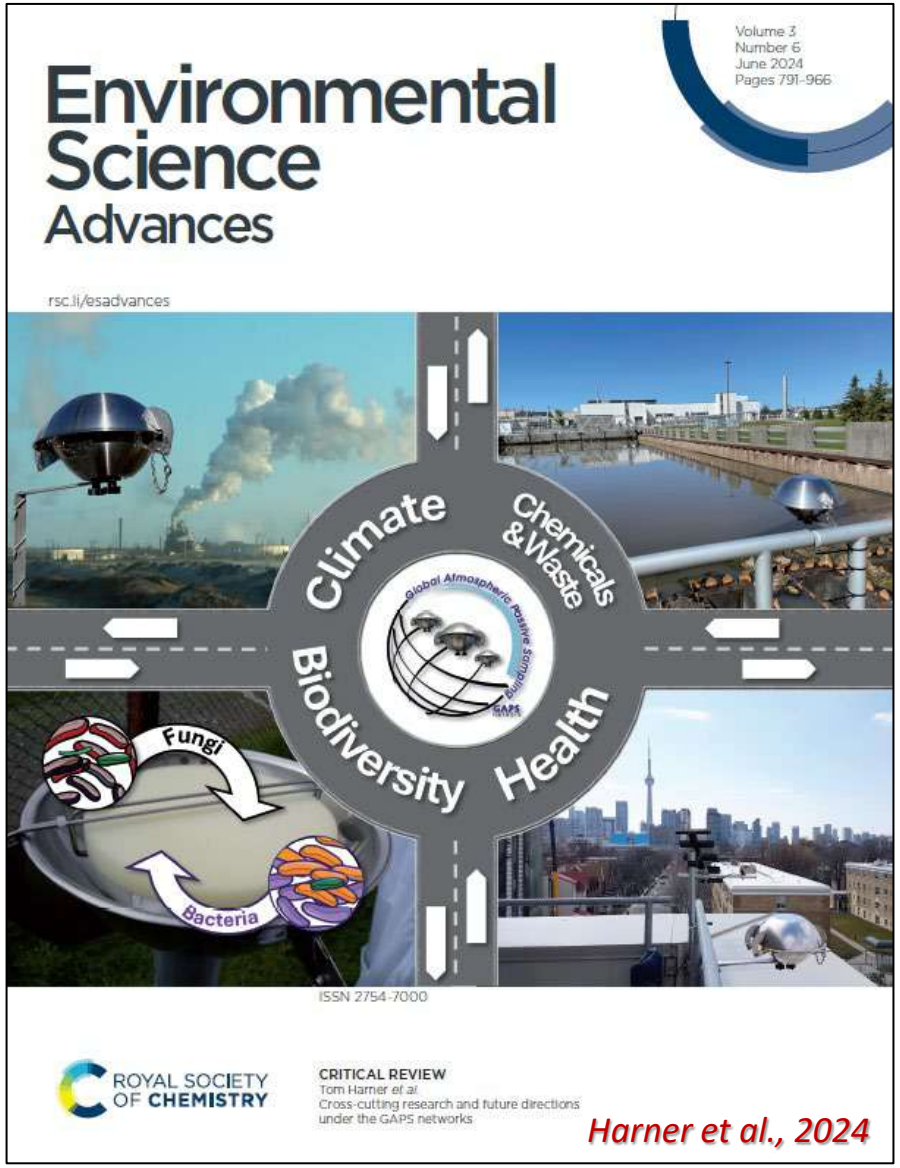
Bridging the science-policy interface to enhance POPs monitoring capacity in air

Bridging the policy-policy interface to enhance cross-cutting objectives and efficiencies

Future Directions – Cross-cutting Issues (policy relevance)

- ✓ Black carbon deposition *(Zhang et al., 2022)*
- ✓ Wildfire emissions of POPs *(Schuster et al., 2019)*

- ✓ Bioaerosols / aerobiome new! *(Kalisa et al., 2024)*
- ✓ Environmental eDNA in air - bacteria, fungi etc.

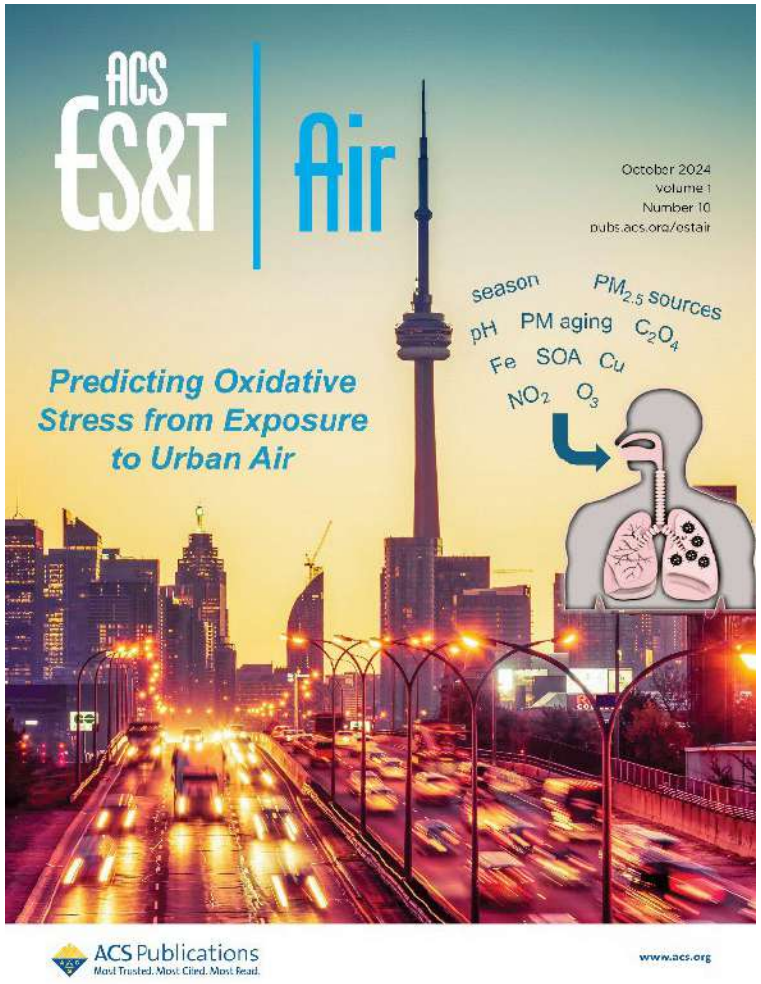


Harner et al., 2024

- ✓ Wastewater treatment plants / landfills *(Cheng et al., 2011; Shoeib et al., 2016)*
- ✓ Electronics Recycling
- ✓ Industrial/urban point sources *(Harner et al., 2023 – PCDD/F)*
- ✓ Chemical mixtures / non-target analysis *(e.g., Liu et al., 2021) – new ICMP pilot studies*

- ✓ NAMs (new approach methodologies)
- ✓ Toxicogenomics *(several papers)*
- ✓ Transformation products / mixtures *(Liu et al., 2021)*
- ✓ Oxidative potential *(Shahpoury et al.)*
- ✓ Vulnerable populations *(ATOUSA study with HC)*
- ✓ Indoor / urban / occupational exposure

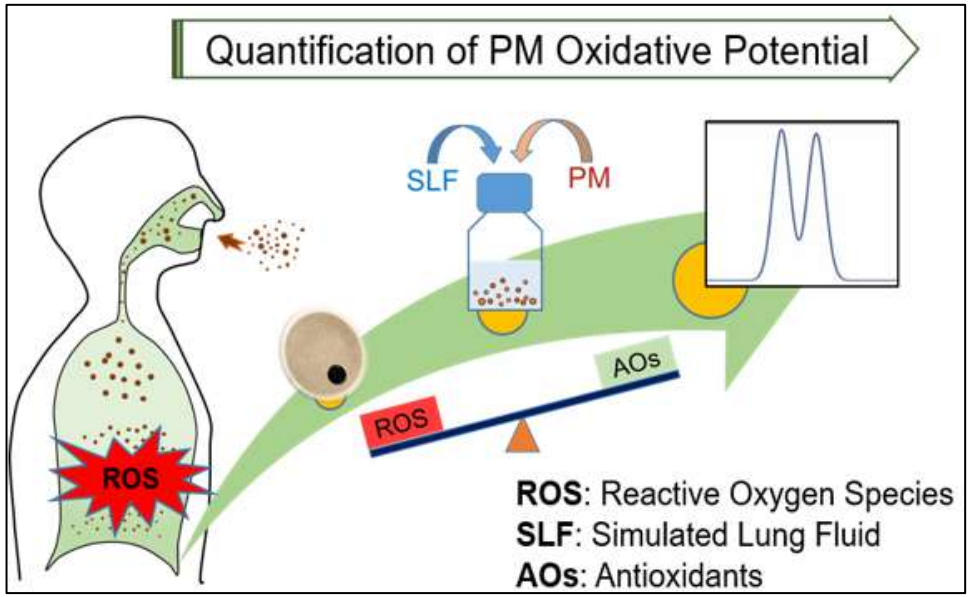
Future Directions: Tracking Air Quality - Oxidative Potential



Shahpoury et al., 2024

OP

- ✓ New approach methodologies (NAMs) to assess biological effects
- ✓ Passive or active air samples
- ✓ Chemicals mixture approach
- ✓ Includes transformation products and unknowns
- ✓ Predictive models linking chemical pollution and health

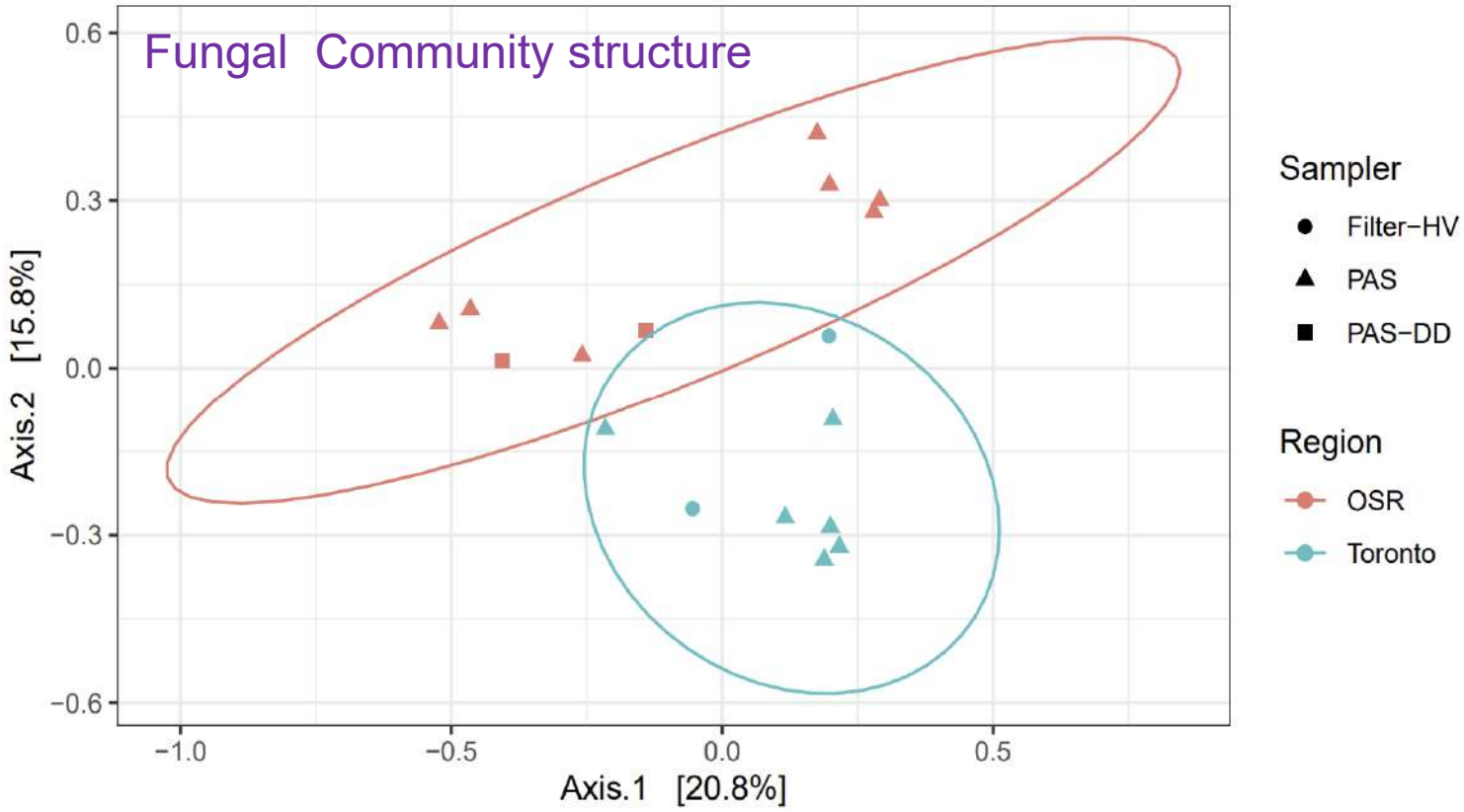


Future Directions: Biodiversity – Tracking the Aerobiome

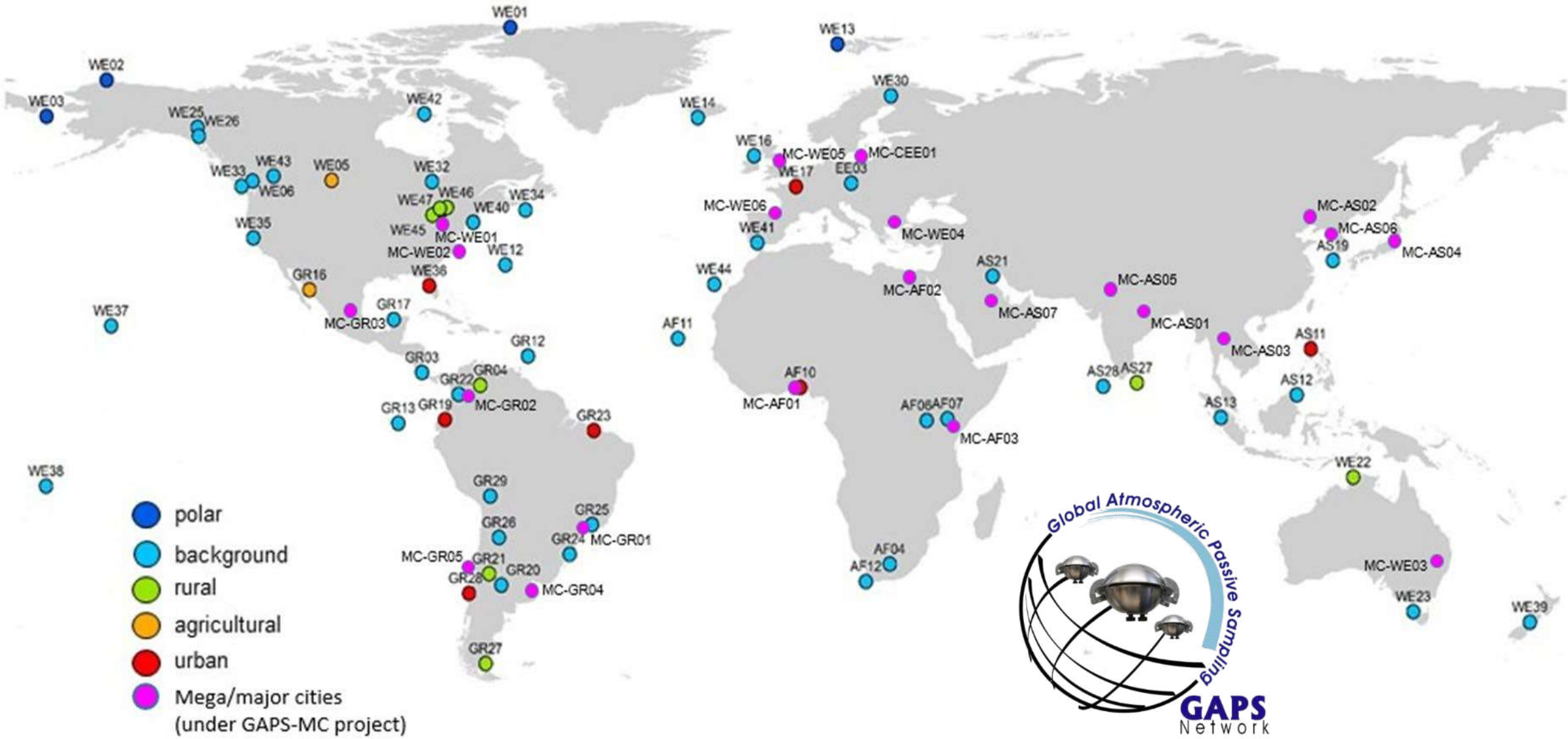


Kalisa et al., 2024

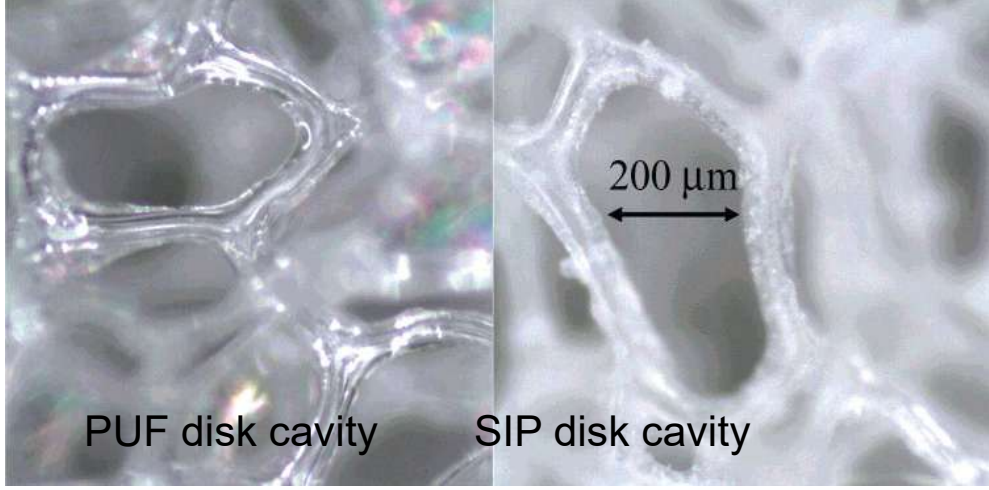
- ✓ Proof of concept using PUF-PAS (*Kalisa et al., 2024*) under OSM
- ✓ Linking air pollution to biodiversity!



Linkages to GAPS Network…



Volatile POPs under GAPS



- Sorbent Impregnated PUF (SIP) disks

  Shoeib et al., 2008, Analytical Chemistry, 80, 675-82

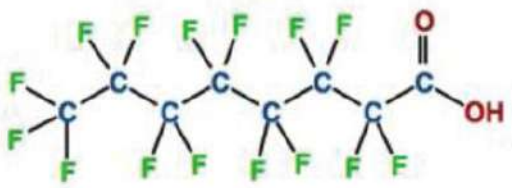
- Deployment every odd year- 2009-2015: 21 sites in WEOG region
  - 2015 GRULAC region special study
  - 2017 onwards: deployment at all GAPS sites

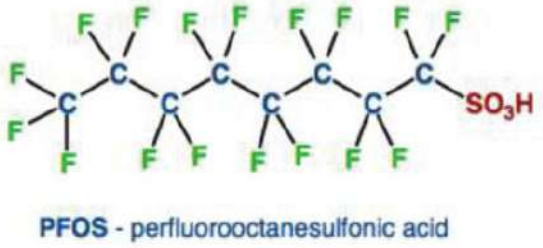


- Analysed for PFAS, volatile methyl siloxanes (VMS) and volatile organochlorine compounds (*volatile POPs*) – for GMP4 reporting!

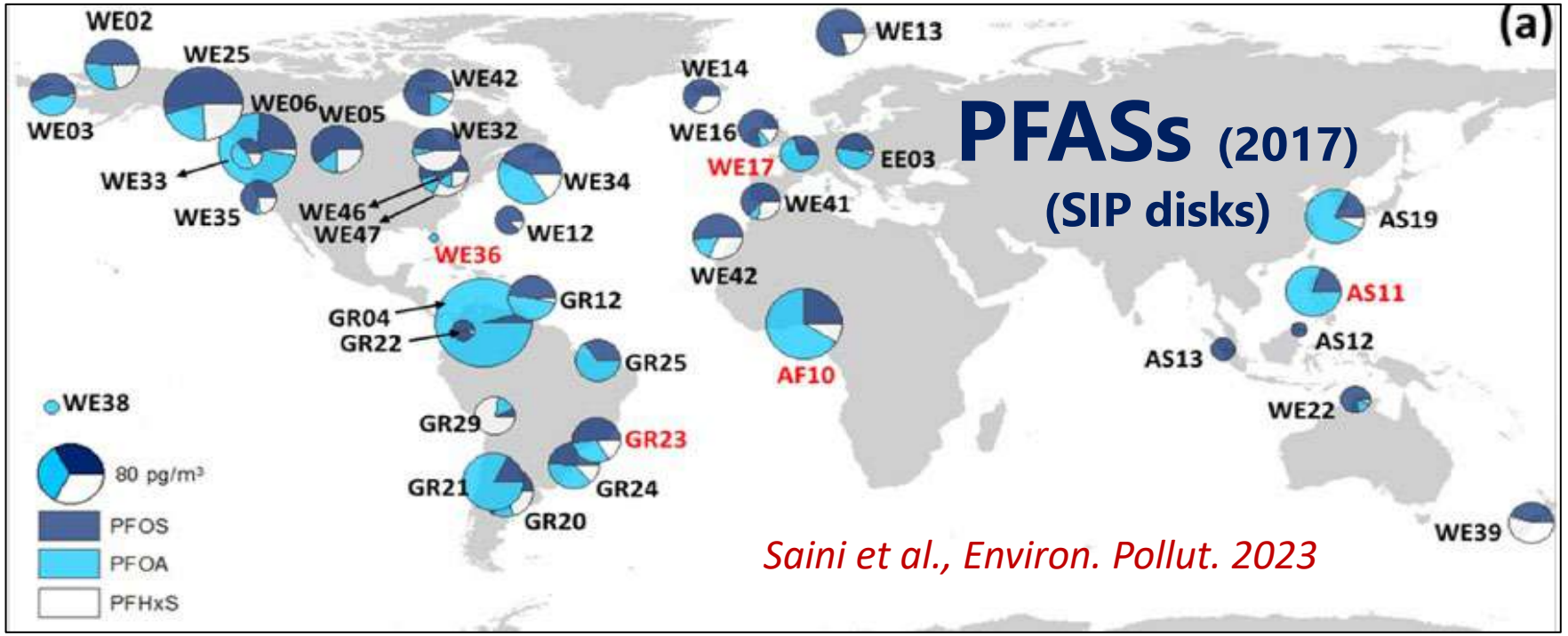


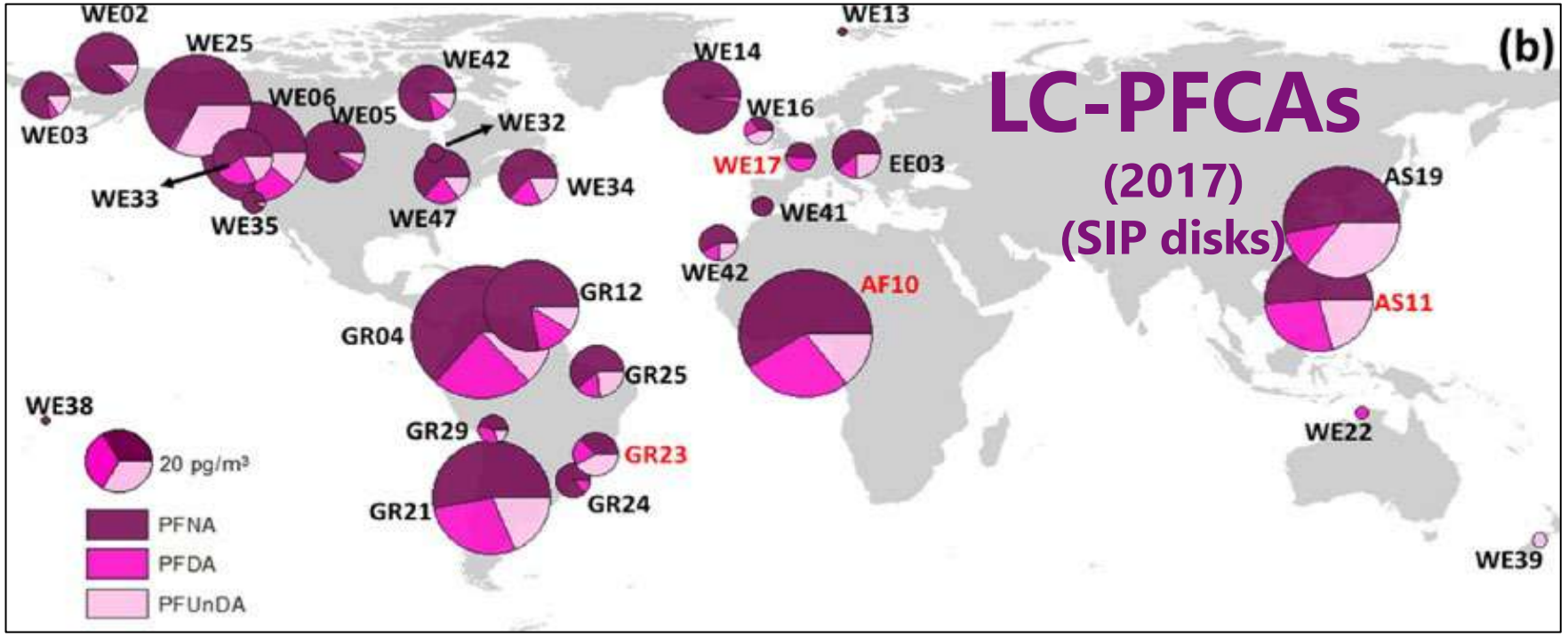
PFAS-containing products





https://cleanwater.org/2024/05/07/new-england-residents-are-saying-something-needs-be-done-about-pfas











Siloxanes (2017)

(SIP disks)

WE01 WE02 WE25 WE03 WE06 WE42 WE05 WE09 WE33 WE34 WE35 WE32 WE46 WE47 WE36 WE37 WE38 WE13 WE14 WE16 WE17 EE03 WE41 WE42 AF10 GR04 GR12 GR22 GR25 GR29 GR23 GR21 GR24 GR20 AS19 AS11 AS12 AS13 WE22 WE39

150 ng/m³

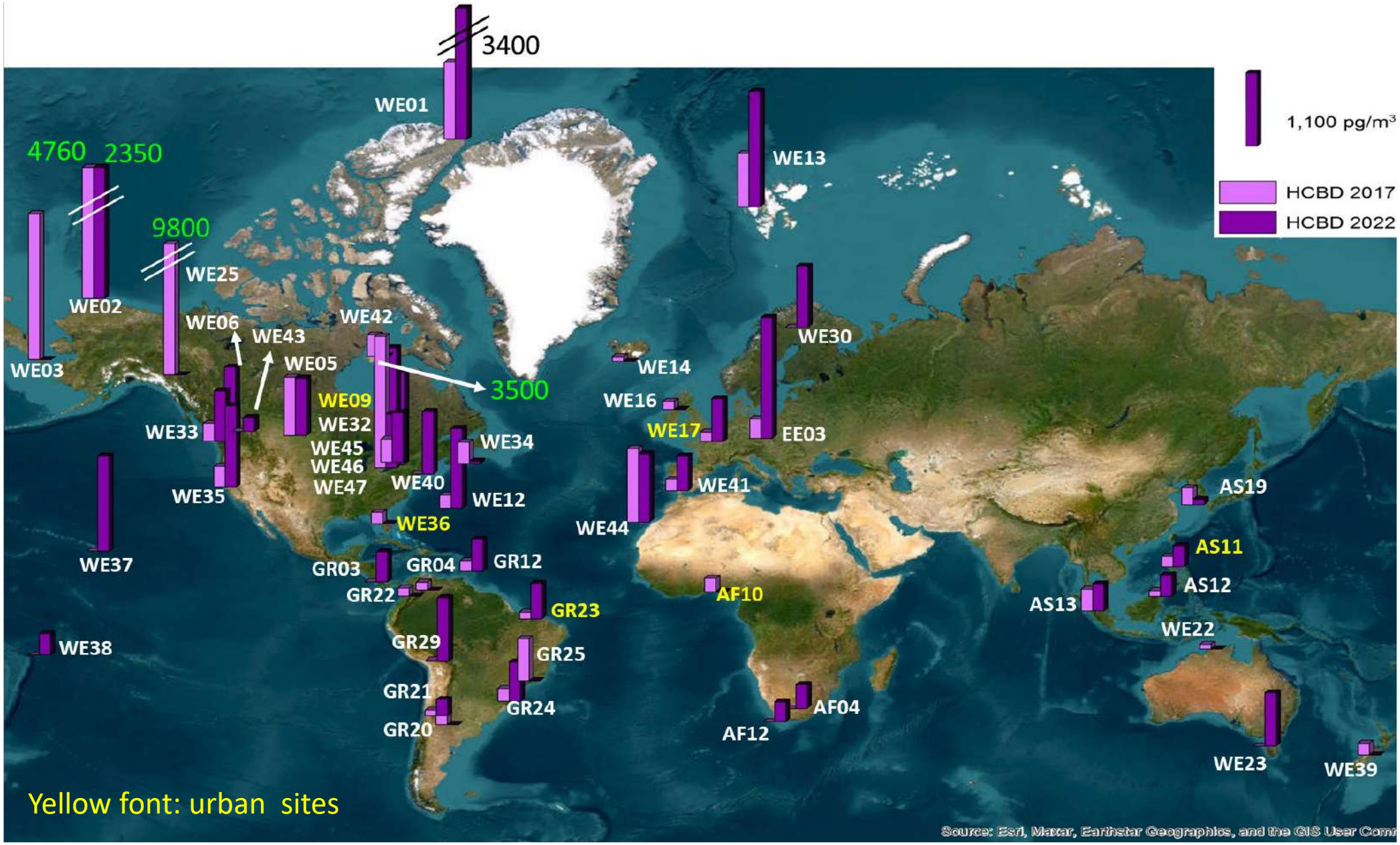
D3
D4
D5
D6

Cyclic VMS

D4 D5 D6

Saini et al. Environmental Pollution (2023)

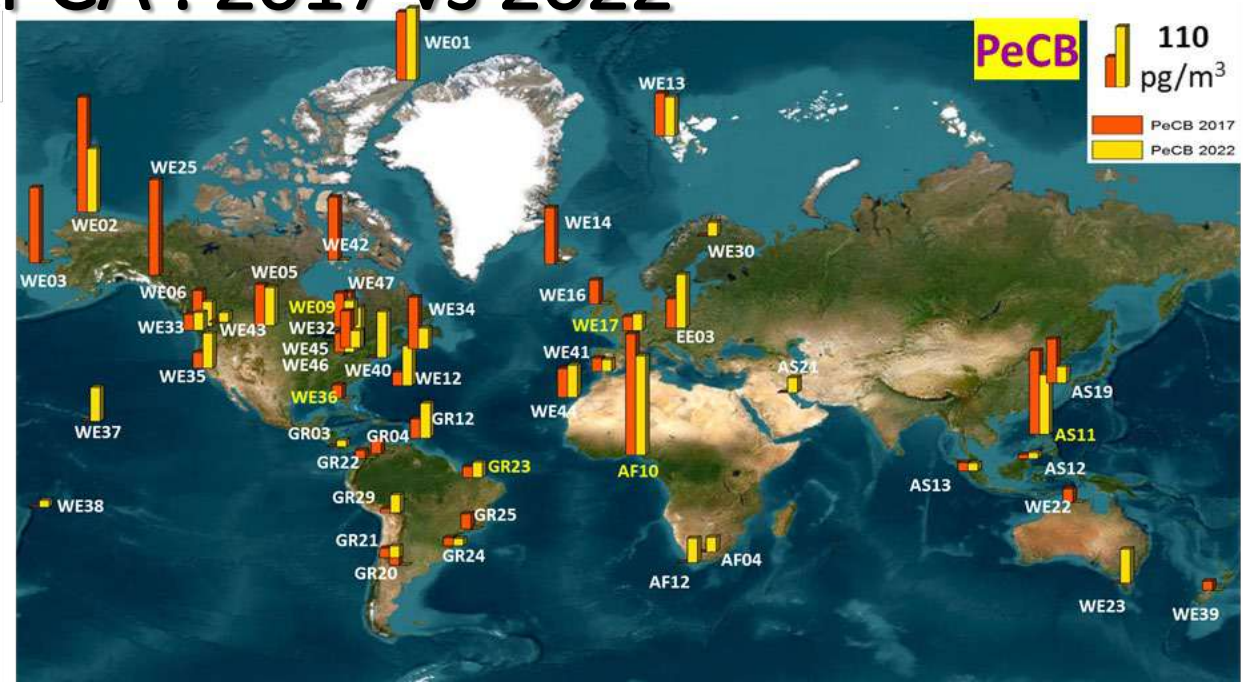
HCBD in global air: 2017 vs 2022



Site ID	Location	Country
AF04	De Aar	South Africa
AF10	Yaba, Lagos	Nigeria
AF12	Cape Point	South Africa
AS11	Manila	Philippines
AS12	Danum Valley	Malaysia
AS13	Bukit Kototabang	Indonesia
AS19	Jeju Island	Korea
AS21	Abdaly	Kuwait
EE03	Košetice	Czech Republic
GR03	Tapanti National Park	Costa Rica
GR04	Arauca	Colombia
GR12	Ragged Point, St. Philip	Barbados
GR13	Santa Cruz Island	Ecuador
GR16	Sonora	Mexico
GR17	Celestún	Mexico
GR20	PA Observatory	Argentina
GR21	Mendoza	Argentina
GR22	Manizales	Colombia
GR23	São Luis do Maranha	Brazil
GR24	São Jose dos Ausentes	Brazil
GR25	Itatiaia	Brazil
GR26	Salta	Argentina
GR27	Rio Gallegos	Argentina
GR28	Concepción	Chile
GR29	Chacaltaya	Bolivia
WE01	Alert	Canada
WE02	Utqiagvik (Barrow), Alaska	USA
WE03	St. Lawrence Island, Alaska	USA
WE05	Bratt's Lake, SK	Canada
WE06	Whistler	Canada
WE09	Downsview	Canada
WE12	Tudor Hill	Bermuda
WE13	Ny-Ålesund	Norway
WE14	Stórhöfði	Iceland
WE16	Malin Head	Ireland
WE17	Paris	France
WE22	Darwin	Australia
WE23	Cape Grim	Australia
WE25	Little Fox Lake, Yukon	Canada
WE30	Pallas	Finland
WE32	Fraserdale	Canada
WE33	Ucluelet	Canada
WE34	Sable Island, NS	Canada
WE35	Point Reyes	USA
WE36	Sydney	USA
WE37	MLO, Hilo, HI	USA
WE38	Tula, Samoa	USA
WE39	Temple Basin	New Zealand
WE40	Groton, CT	USA
WE41	Donana, NP	Spain
WE42	Coral Harbour, NU	Canada
WE43	Mount Revelstoke, BC	Canada
WE44	Izana	Spain
WE45	Longwoods	Canada
WE46	Warsaw Caves	Canada
WE47	Egbert / CARE Station	Canada

Spatial trends: HCB, PeCB & PCA : 2017 vs 2022

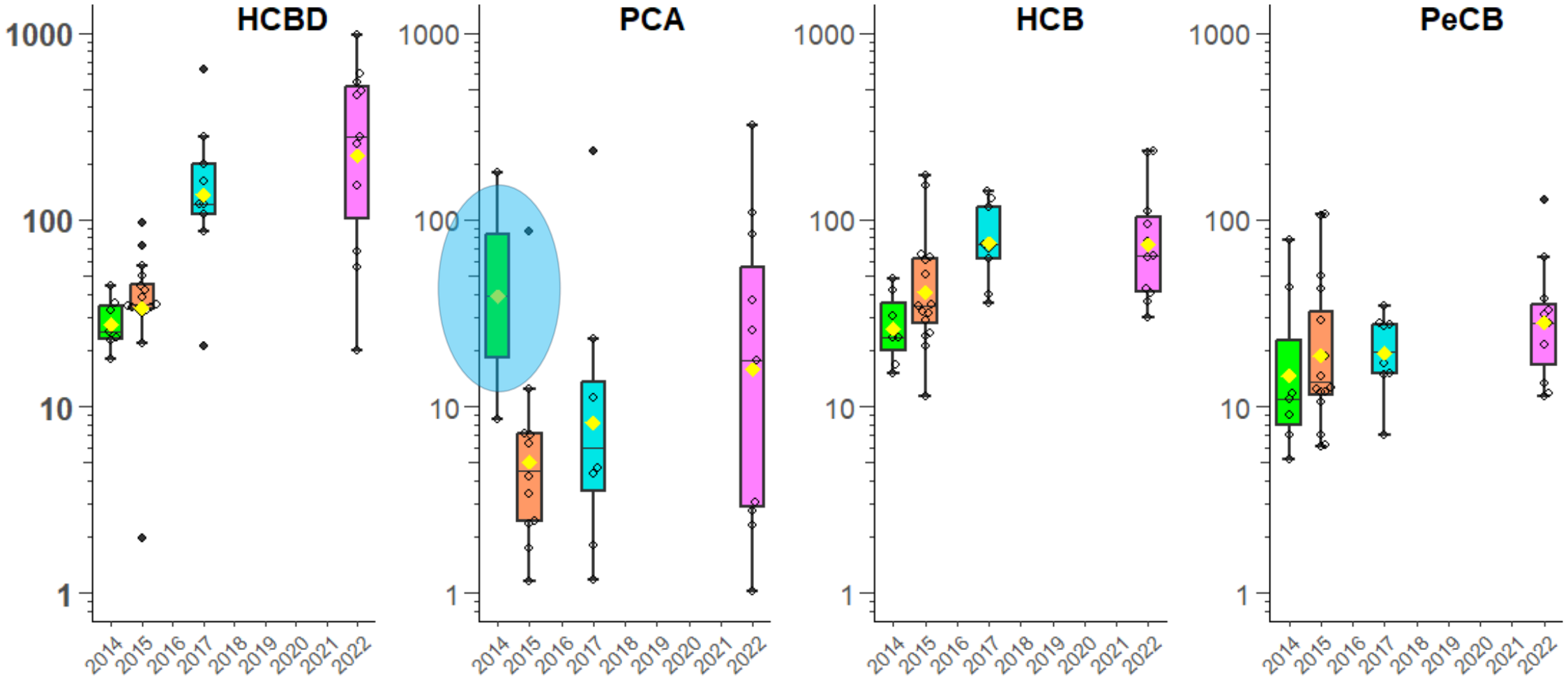






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WE47	Egbert / CARE Station	Canada

Volatile POPs in GRULAC Region – **temporal trends**



* 2014, 2015 data from Rauert et al., Air monitoring of new and legacy POPs in the Group of Latin America and Caribbean (GRULAC) region. 2018 https://doi.org/10.1016/j.envpol.2018.09.048

BRS COPs
BASEL | ROTTERDAM | STOCKHOLM
CONVENTIONS

Make Visible the INVISIBLE
Sound management of chemicals and wastes

through the GMP:

- **Partnerships** within and among regions and between monitoring programmes
- **Expertise** – tapping into diverse sources of expertise and data sources
- **Advancements** in analytical methods and tools
- **Beyond single POPs** – chemical mixtures and transformation products
- **Bridges** to other policy and science drivers





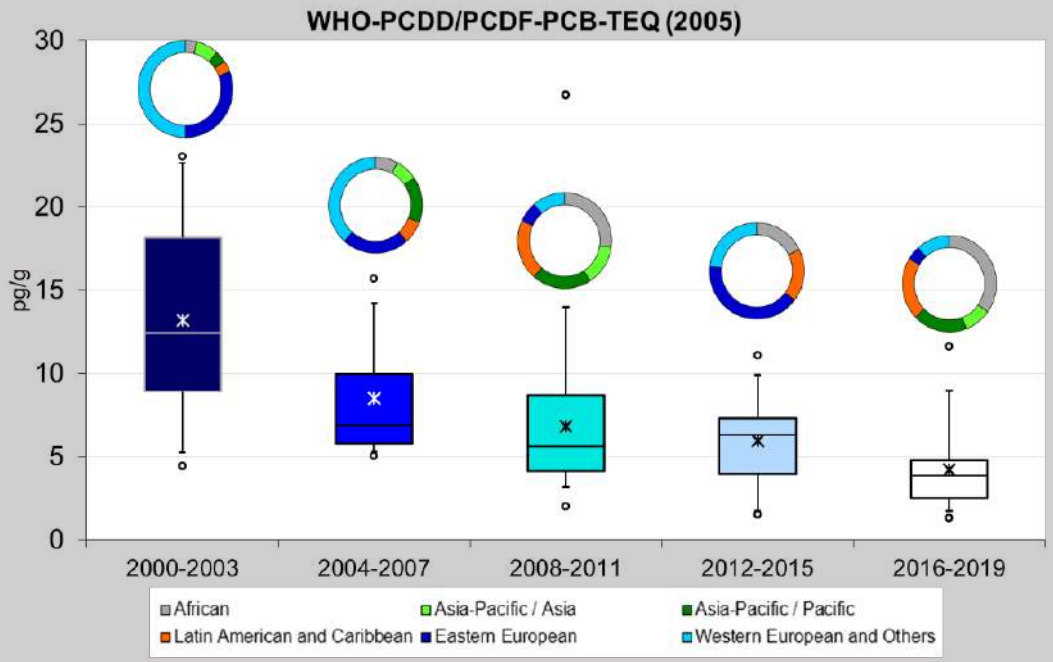


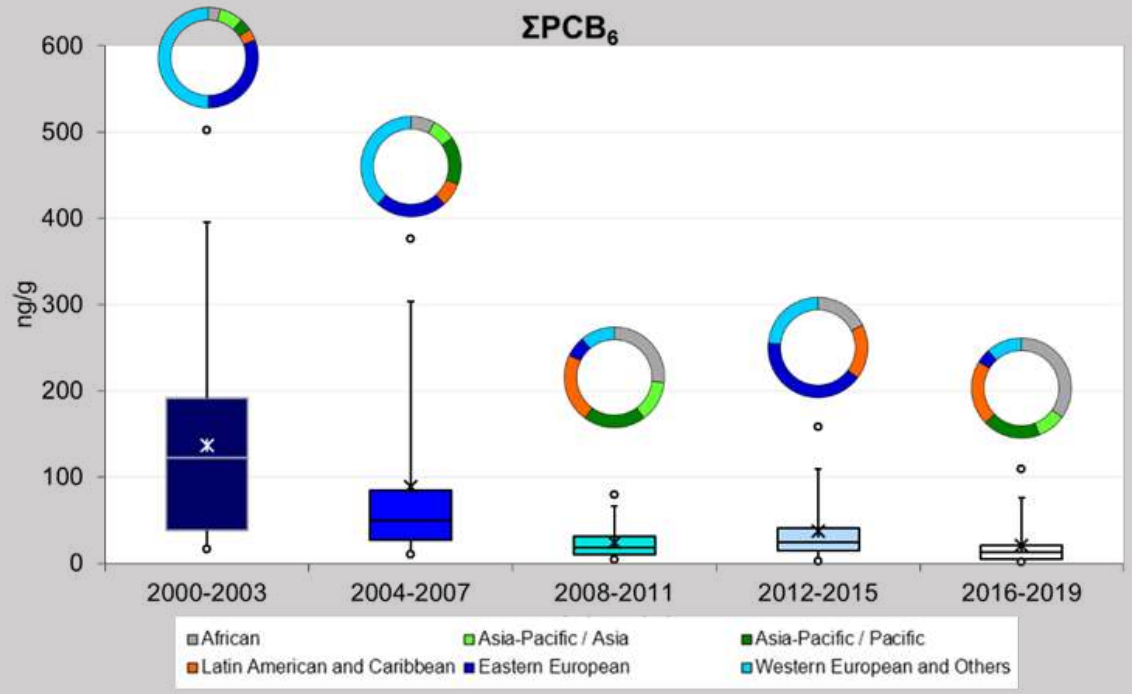


Extra Slides

Human Tissues

- UNEP/WHO Human Milk Survey continues to reveal temporal trends of legacy POPs.
- Need participation from more countries and to include new POPs in target list.
- Role for human sample archive

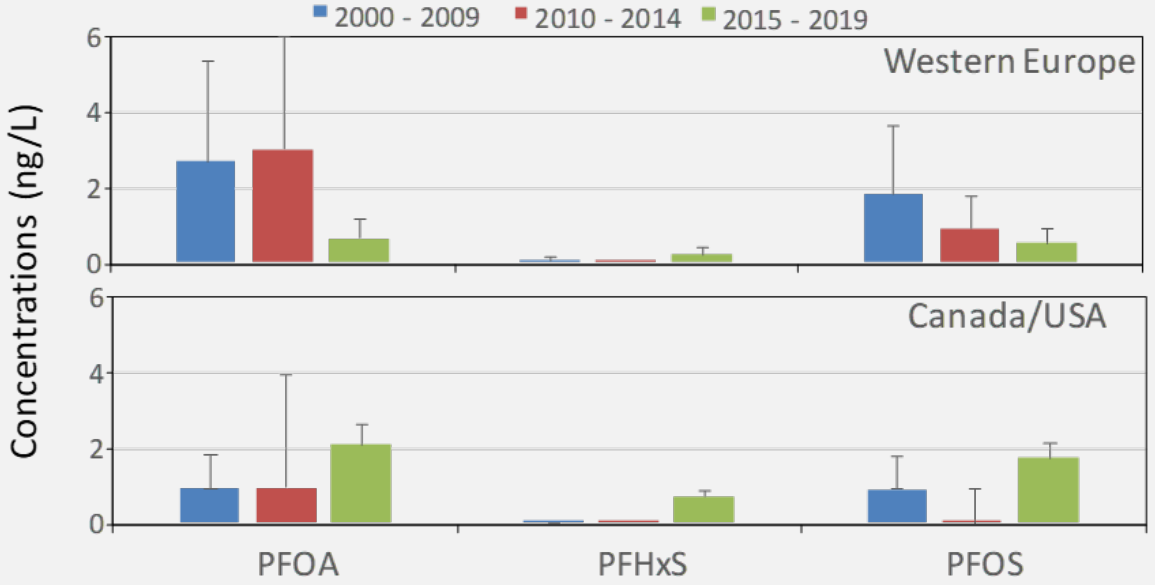




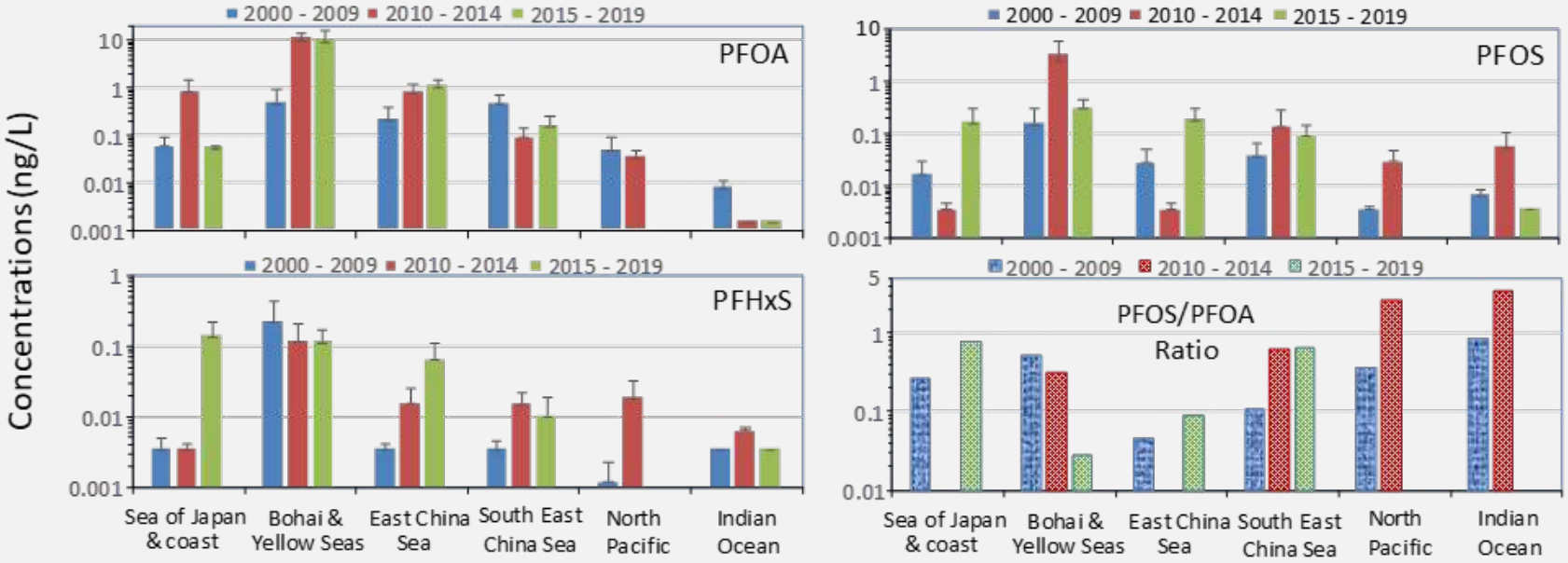
WATER

- Support for UNEP/GEF water study design, central lab
- River data is promising for trends assessment
- Need to improve detection limits especially for ocean data

Rivers/Lakes



Coastal Seas and Ocean



LRT/Modelling (Air)

- Variety of modelling tools exist to assess and provide context for POP trends
- Importance of “integrated” or “top-down” assessments
- Chemical management affects POPs levels more than climate does
- Need for data on partitioning, degradation rates and emissions

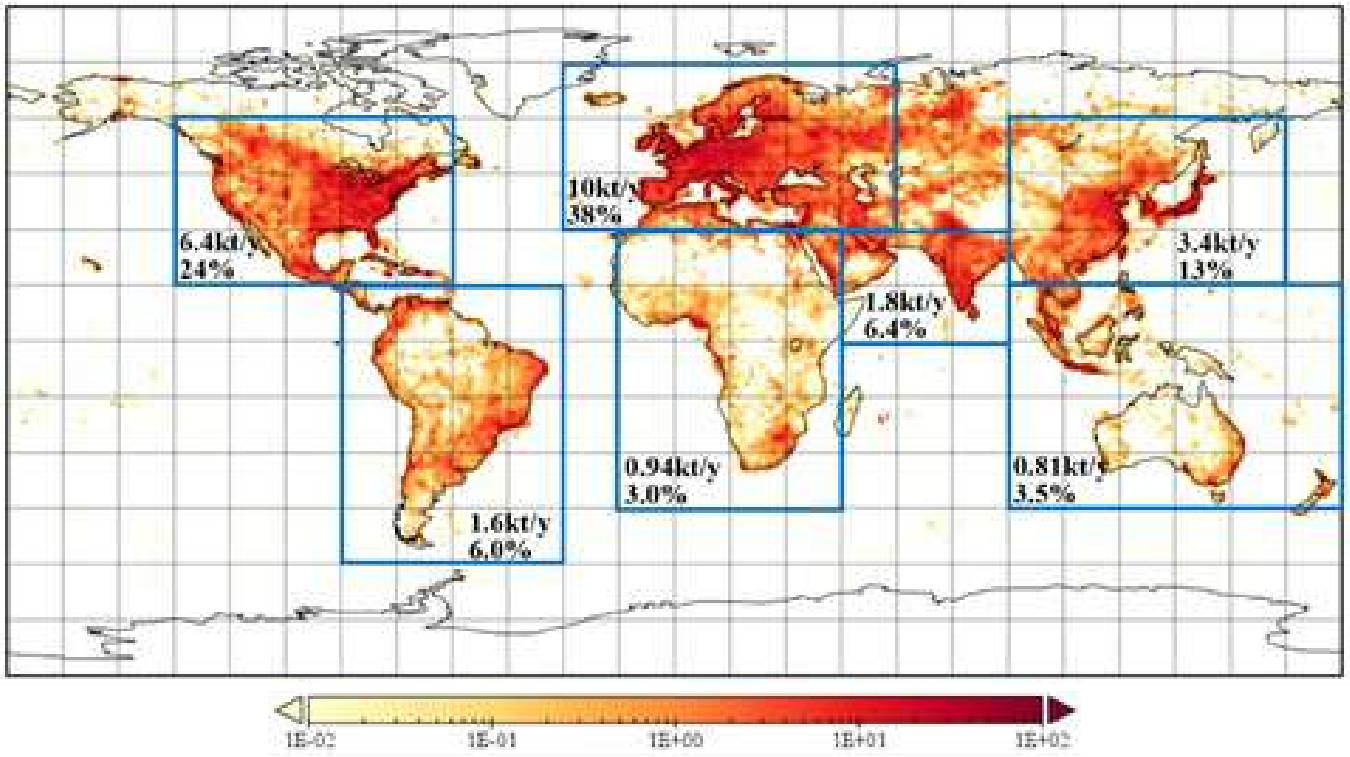
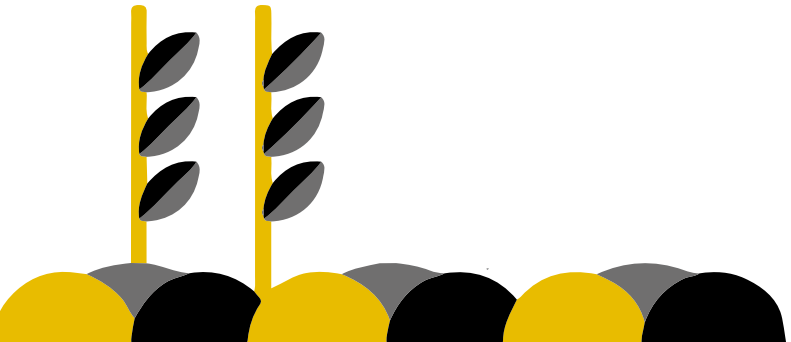


Figure 5.3g. *Global gridded inventory of TCPP emissions to air inferred from the integrated ‘top-down’ modelling approach described in Li et al. (in press)*

Reporting data to the EEG by the Open-ended Scientific Group

Sandy Steffen, Co-chair OESG
Environment and Climate Change Canada



UN environment programme

MINAMATA CONVENTION ON MERCURY

OESG CONTRIBUTION TO Effectiveness Evaluation Group (EEG)

Scientific Report goals

Policy Questions for the Effectiveness Evaluation (MC/COP.3/14)

- Have the changes from the convention resulted in changes in levels of mercury in the environment?

Lessons Available to be Learned for Future Effectiveness Evaluations

- Where are the gaps in our knowledge or capabilities that are barriers to answering the policy questions above?
- What actions could be taken to address these gaps or barriers?

OESG data analysis questions

1. Current Levels

- What are the current levels of Hg emissions and releases and levels of observed Hg in all media?

2. Temporal Trends

- How have levels of Hg emissions and releases change over time?

3. Spatial Patterns

- How do change over space?

4. Source or Process Attribution

- What is the contribution of recent anthropogenic emissions and releases to current Hg levels observed in all media?

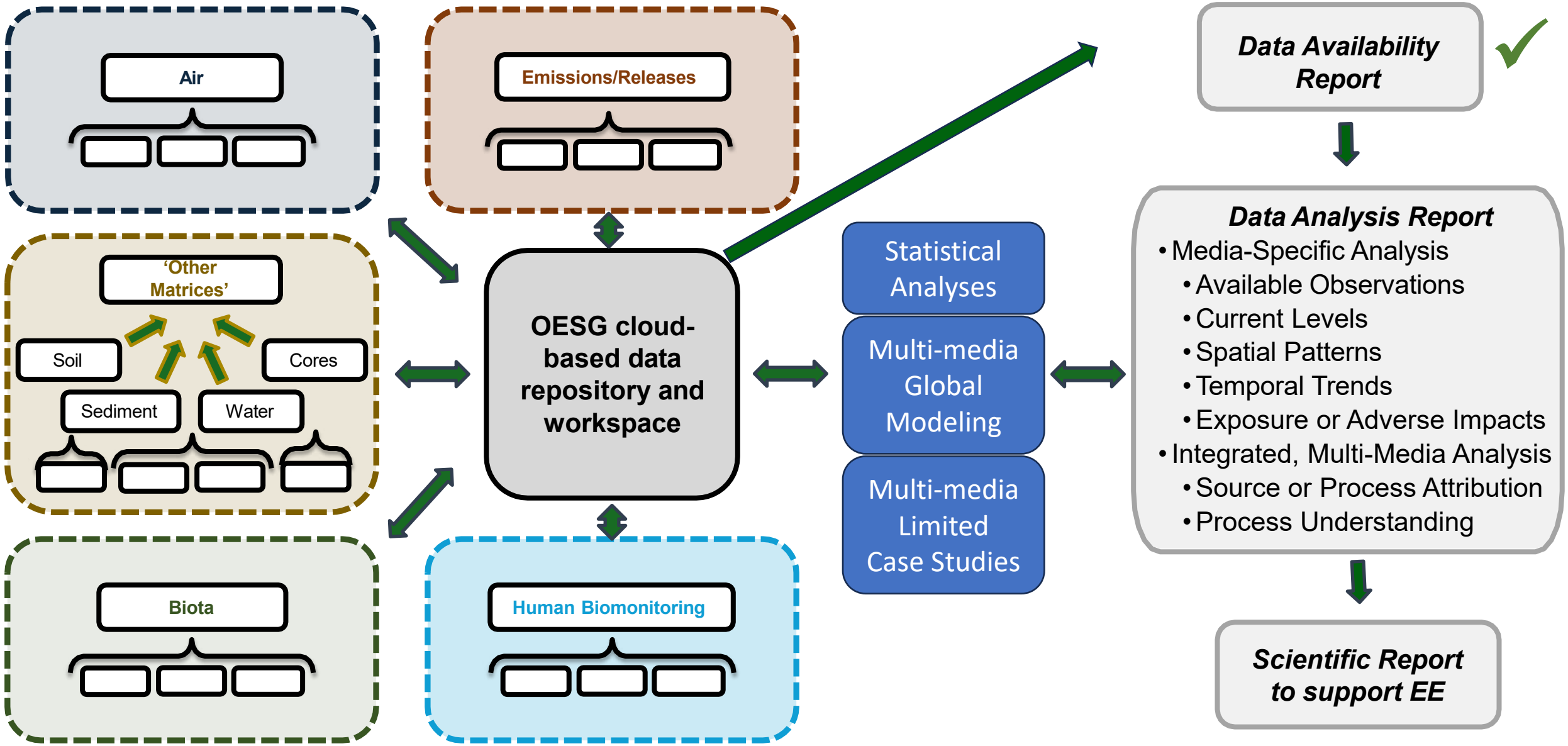
5. Exposure and Adverse Impacts

- How do current levels of Hg observed in all media compare to levels in established guidelines?

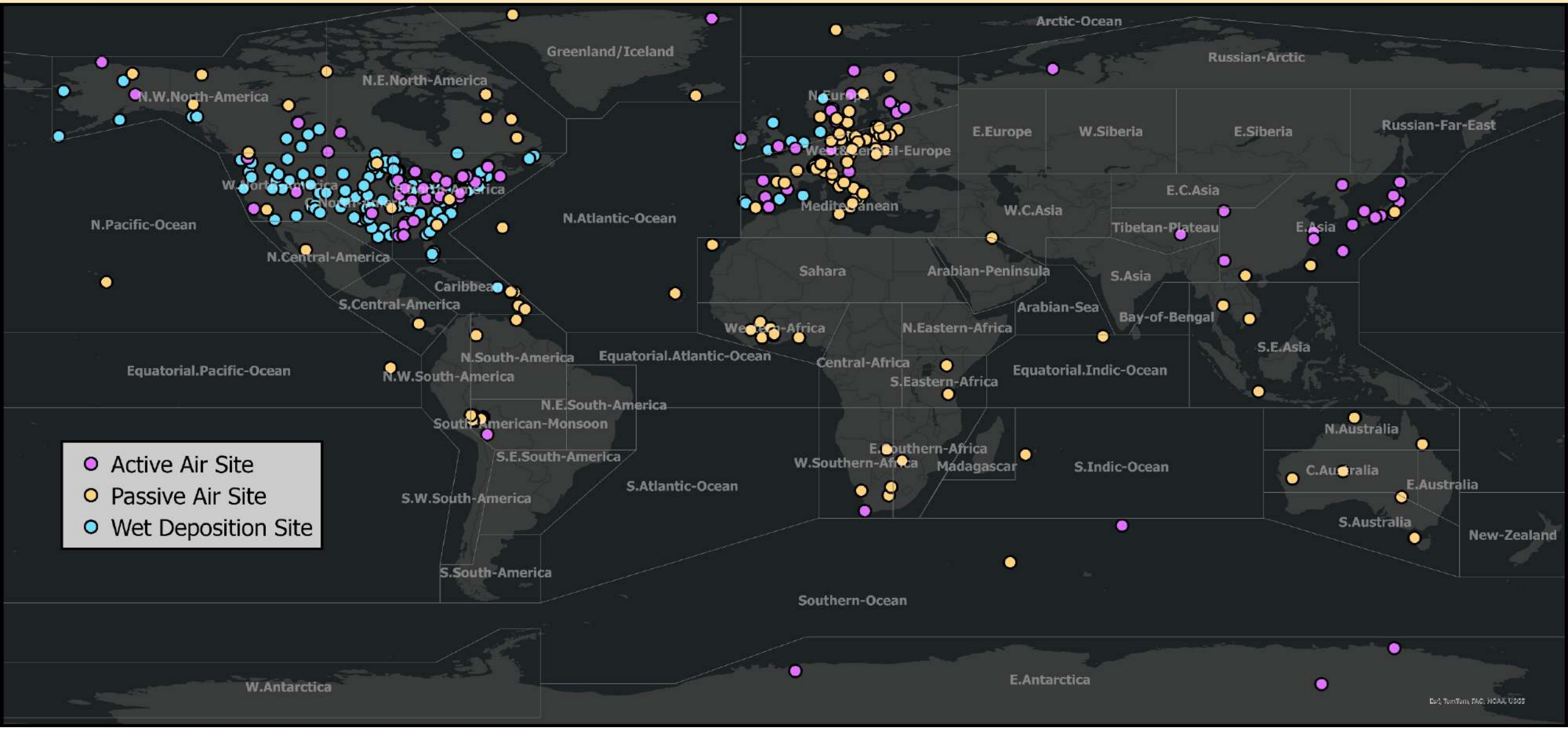
6. Process Understanding

- How consistent is the current information with estimates

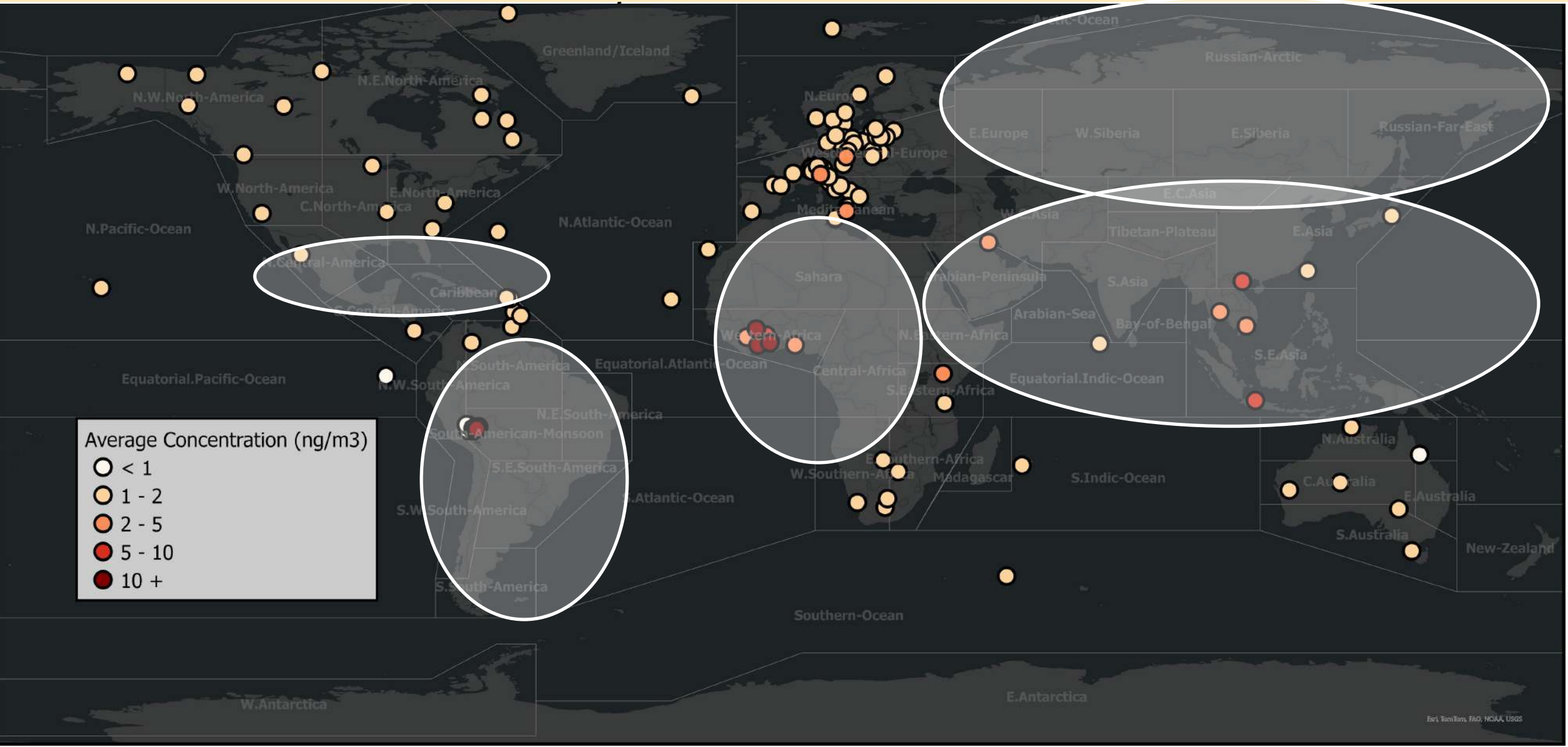
Data collection and analysis process



Air


Active Air Site
Passive Air Site
Wet Deposition Site
Arctic-Ocean
Russian-Arctic
Greenland/Iceland
N.E.North-America
N.W.North-America
N.Europe
E.Europe
W.Siberia
E.Siberia
Russian-Far-East
E.C.Asia
W.C.Asia
Tibetan-Plateau
E.Asia
N.Atlantic-Ocean
N.Pacific-Ocean
N.Central-America
Caribbean
S.Central-America
Sahara
Arabian-Peninsula
S.Asia
Arabian-Sea
Bay-of-Bengal
S.E.Asia
N.Eastern-Africa
Central-Africa
S.Eastern-Africa
Equatorial.Atlantic-Ocean
Equatorial.Pacific-Ocean
Equatorial.Indic-Ocean
N.South-America
N.W.South-America
N.E.South-America
South-American-Monsoon
S.E.South-America
S.W.South-America
S.Atlantic-Ocean
E.Southern-Africa
W.Southern-Africa
Madagascar
S.Indic-Ocean
N.Australia
C.Australia
E.Australia
S.Australia
New-Zealand
S.South-America
Southern-Ocean
W.Antarctica
E.Antarctica

Canadas Global Passive Air Pilot Project

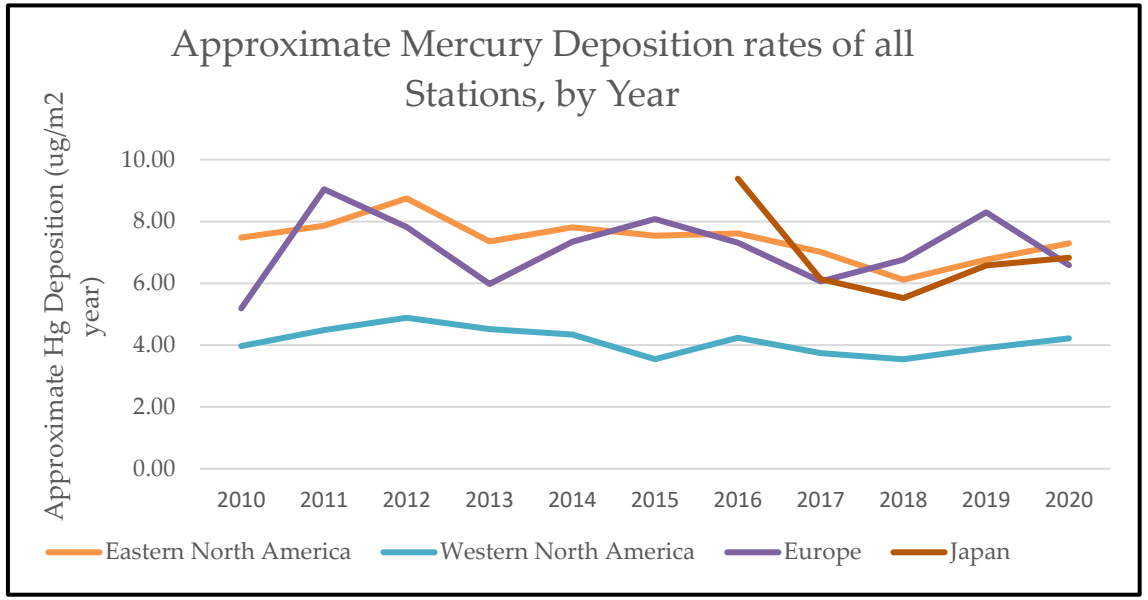


A global approach with comparable data - preliminary

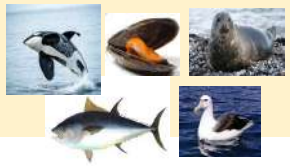




First time a global analysis of Hg in air has been done!



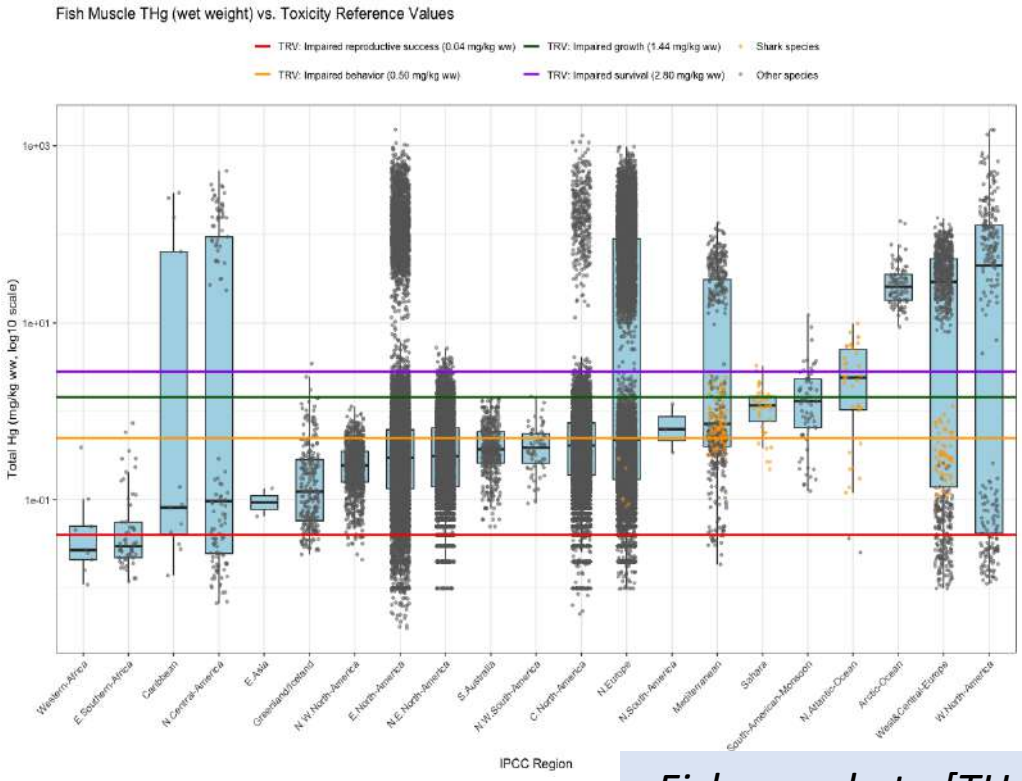
Biota



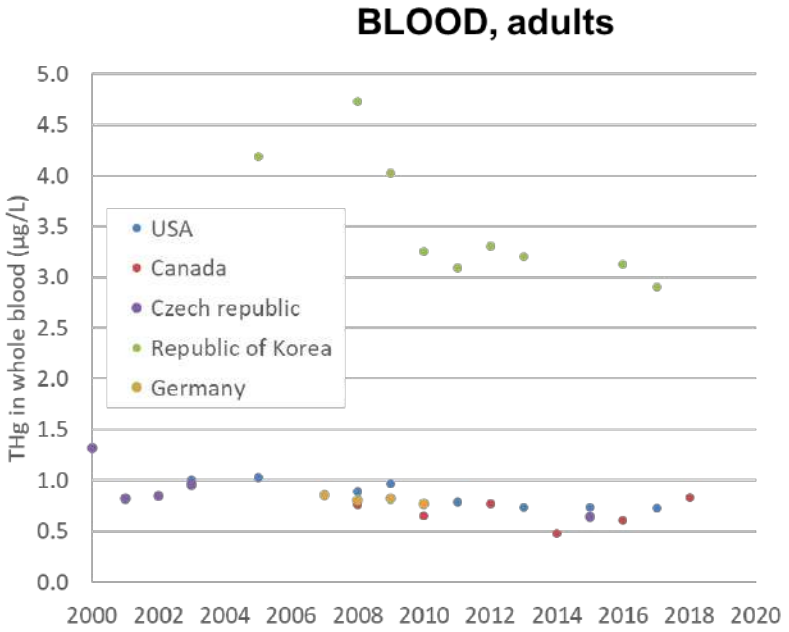
Human Biomonitoring

Mercury levels **observed** vs established national and international **benchmark levels**

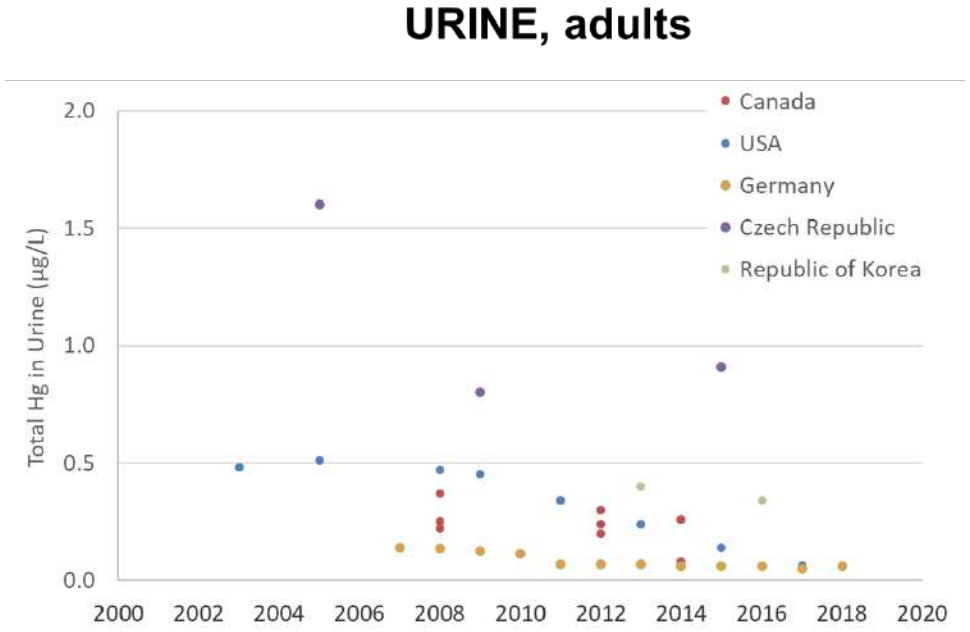
Species at highest risk of mercury toxicity (marine mammals, certain fish and bird species)



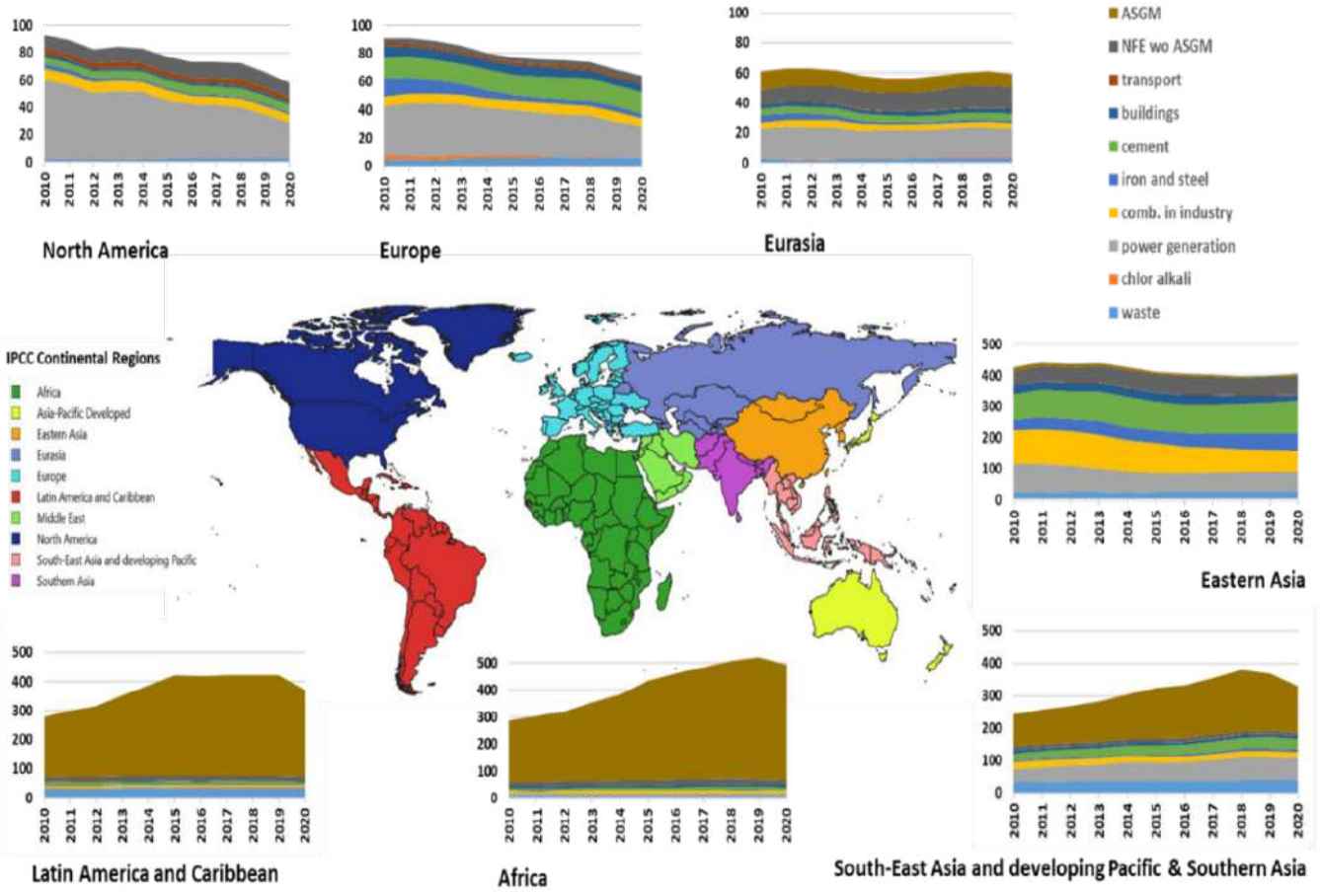
Fish muscle to [THg] (ww) vs. TRV



Updated figures from Basu et al., 2018



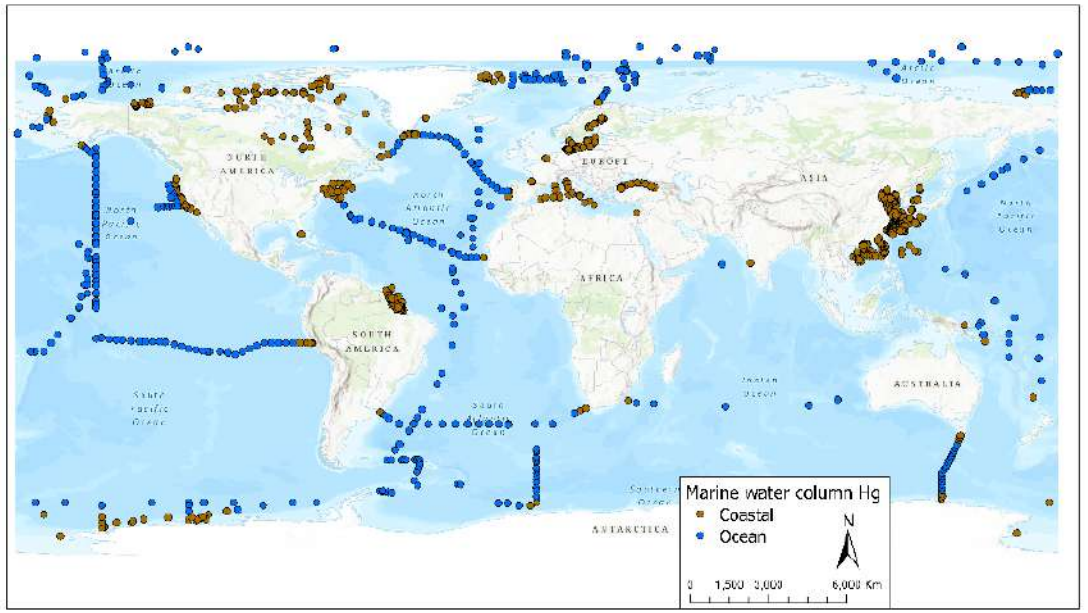
Emissions and releases



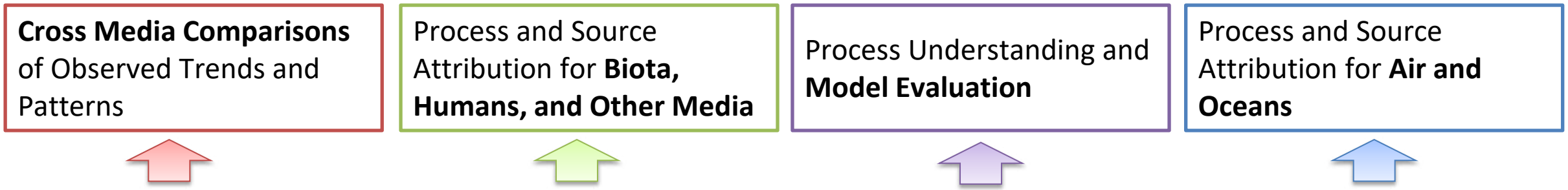
EDGAR emission estimates

Other matrices

- Ocean Water
- Fresh Water
- Lake Sediment
- Soil



Integrated Analysis : Key questions and information



Comprehensive “Integrated Analysis” not yet achieved

- Lack of comprehensive data
- Scientific methodologies currently available

✓ Local to regional scientific case studies to imply potential integrated analysis in future

The Multi-Compartment Mercury Modelling and Analysis Project (MCHgMAP) combines atmospheric, ocean, terrestrial, and multi-media mass balance models.

Next Steps

- Update COP on progress of the OESG
- Submit the preliminary analysis report to Parties for input
- Revise preliminary analysis report

Thank you!



GLOBAL CHEMICALS MONITORING PROGRAMME

STAKEHOLDER CONSULTATION

PUBLIC PARTICIPATION



PRESENTED BY THE BCRC-CARIBBEAN

31 OCTOBER 2025

BCRC
CARIBBEAN
Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean

About the BCRC-Caribbean

BCRC-Caribbean - Framework Agreement

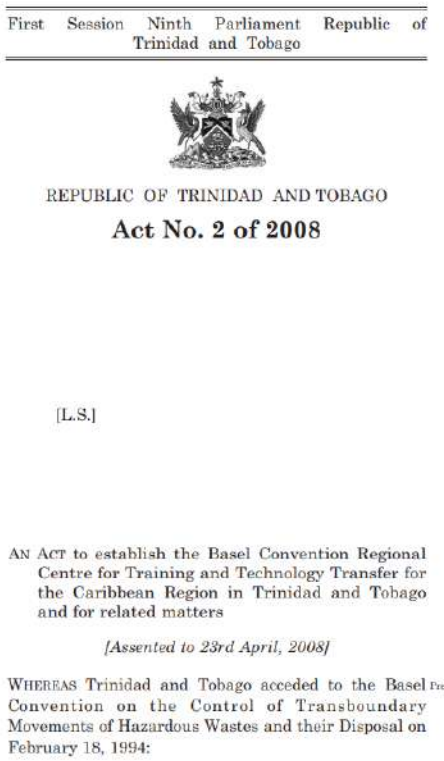
❖**Trinidad and Tobago** was formally selected as the site for the establishment of a Sub-regional Centre for training and technology transfer for the Caribbean following the third Conference of Parties (COP) to the Basel Convention in 1995.

❖The Sub-regional Centre then began its operations in **1998** at The Caribbean Industrial Research Institute (CARIRI).

❖Developed between the Secretariat of the Basel Convention, now the joint Secretariat for the Basel, Rotterdam and Stockholm Conventions (SBRSC), and the Government of the Republic of Trinidad and Tobago (GoRTT) on the establishment of the Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean Region (BCRC-Caribbean) after the COP in 2002.

❖Framework Agreement – independent regional status hosted by the GoRTT (Act #2 of 2008).

BCRC/SCRC Caribbean



First Session Ninth Parliament Republic of Trinidad and Tobago

REPUBLIC OF TRINIDAD AND TOBAGO

Act No. 2 of 2008

[L.S.]

AN ACT to establish the Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean Region in Trinidad and Tobago and for related matters

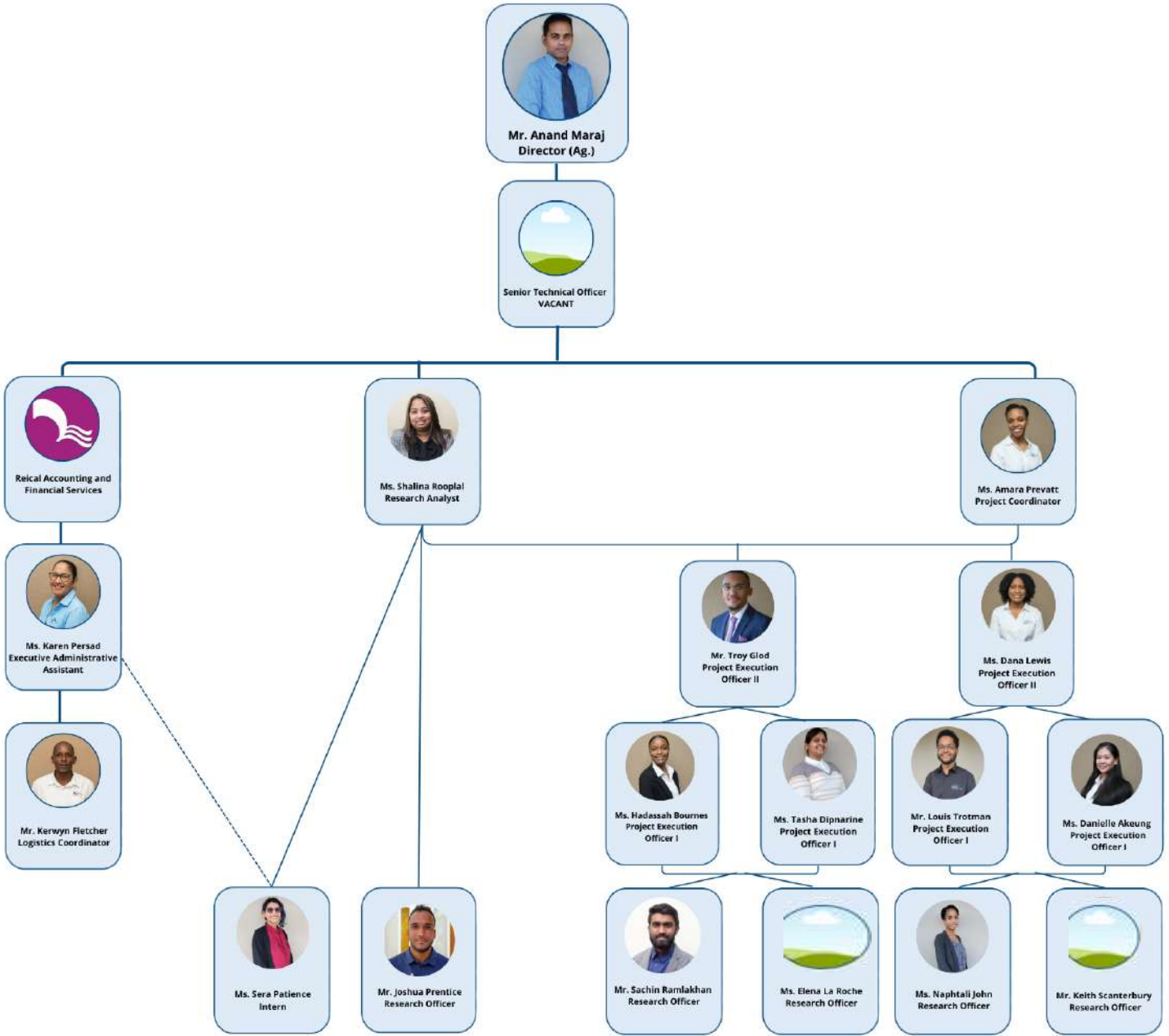
[Assented to 23rd April, 2008]

WHEREAS Trinidad and Tobago acceded to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal on February 18, 1994: Preamble

❖**At the Meetings of the Conferences of the Parties (COPs) to the BRS Conventions in May 2023, the COPs adopted the decision to endorse the BCRC-Caribbean as a joint BCRC/SCRC for the Caribbean Region**.

❖We will continue to serve the Caribbean countries that are Party to the Stockholm Convention (i.e., all fifteen countries currently served). In essence, our functions will not change as we have been doing the work of an SCRC.

Organizational Structure - 2025



About the BCRC-Caribbean



We assist 15 member states regionally with the implementation of their international obligations to the Basel, Rotterdam, Stockholm and Minamata Conventions as well as other multilateral environmental agreements.

Role of BCRC-Caribbean

- Provision of appropriate and **critical training**;
- Identification and assessment of **environmentally sound mechanisms** for waste management and ensure the transfer of such technology to member countries as required;
- **Dissemination** of pertinent information to the Parties;
- Provision of **technical support** and expertise to member countries in the form of consultancy services; and
- Development and provision of **awareness-raising activities** of such information and associated issues.







Activities to Address General Needs

Awareness raising on the provisions and technical guidance under the Conventions



- Webinars
- Training Programemes
- Projects to demonstrate technical guidance

Implementation of legislation to enforce the provisions of the Conventions



- Fund consultancies to advance model ICM Act nationally
- Liaising with UNEP and BRS Secretariat (e.g., ICC under Basel Convention)
- Projects to assess legislation

National Reporting (Basel, Stockholm, and Minamata Conventions)



- Refresher webinars
- Training Programemes
- Videos and guidance tools

Support to access the Financial Mechanisms under the Stockholm and Minamata Conventions



- Support from BCRC/SCRC to develop proposals
- Training on proposal development

Project Portfolio

Overview of Projects:

(i) Implementing Sustainable Low and Non-Chemical Development in Small Island Developing States (ISLANDS)

(ii) Global National Implementation Plan (NIPs) Update Project (GEF 10785)

(iii) Review and Update of the National Implementation Plan under the Stockholm Convention for Guyana

(iv) Global Review and Update of National Implementation Plans under the Stockholm Convention
(v) CARICOM ACP MEAs

(vi) Development and Implementation of a Sustainable Management Mechanism for POPs in the Caribbean

(vii) GEF 11176- Elimination of Hazardous Chemicals from Supply Chains Integrated Programme in Trinidad and Tobago

(viii) Revision of the National Action Plan on Mercury in Guyana

(ix) Minamata Initial Assessments 10 countries

(x) Integrated Collaborative Approach to Sustainable Tourism (iCOAST)

Global Chemicals Monitoring Programme

Donor

Implementing Agency

Objective: The objective of the GCMP is to create an enabling environment for global monitoring of chemicals to support national informed decision making and the implementation of Stockholm and Minamata conventions.

Implementation Phase

Budget – US $3,379,000 Timeline: 5 years

Components:

1. Capacity building
2. Analysis of samples and development of reports
3. Knowledge management
4. Monitoring and evaluation

Overview of Programme

The Global Chemicals Monitoring Programme (GCMP) Goal: To generate robust chemical monitoring POPs and Mercury data to inform compliance with the Stockholm and Minamata Conventions.

Component 1	• Securing technical, political, and financial conditions for sustainable global monitoring of chemicals listed under the Stockholm and Minamata conventions.
Component 2	• Generating high quality and comparable data to support informed national decision making and effectiveness evaluation of the Stockholm and Minamata conventions.
Component 3	• Knowledge management and information dissemination to strengthen stakeholder engagement.

Component 3

Objective: To capture, share, and utilize the chemical monitoring data generated by the GCMP.

Key Outputs:

- **Knowledge Management:** Establishing platforms/mechanisms to house and share POPs and Mercury monitoring data, reports, and lessons learned.
- **Stakeholder Engagement:** Targeted outreach to ensure data informs decision-making and raises awareness, including the development of a Stakeholder Engagement Plan and a Gender Action Plan.
- **Outreach & Dissemination:** Translating complex scientific data into accessible formats for various audiences, from policymakers to communities, ensuring data-driven compliance and policy change.

Stakeholder Group Relevance to Chemical Safety & GCMP

Gender: Gender roles create differential exposure and vulnerability to hazards. Therefore these risks need to be addressed while also enhancing equal participation and leadership in decision making roles (Mandatory Gender Analysis/Action Plan)

Indigenous Groups & Vulnerable Populations: Includes coastal, poverty-stricken, or specific occupational groups (e.g., informal recyclers, artisanal gold miners). High reliance on local ecosystems for food/livelihood, increasing exposure risk.

Youth: Future consumers, innovators, and policy drivers. Critical for two-way dissemination (data to community/feedback to project) via digital platforms.

Regional Lessons Learned for Public Participation

1

Build Trust: Initial engagement must focus on building trust through community leaders and relevant CSOs, not solely on scientific details.

2

Translate Technical Concepts to Actions: Scientific data must be translated into clear, actionable health and behavioral recommendations.

3

Use Local Lenses: Use local language, and cultural examples to explain complex concepts. A region-wide approach requires country-level customization.

Regional Lessons Learned for Public Participation







Regional Lessons Learned for Public Participation







Managing Mercury in The Bahamas - Mr. Jones, Jamaal and Candice at School

BCRC Caribbean
105 subscribers
2
Share
Download
Save

Stakeholder Expectations on Monitoring



Localized Results

Not just "regional averages," but clear data about their specific water source, fishing ground, or local market.



Direct Health Linkage

Data tied to immediate health concerns



Citizen Science Input

Desire to actively participate in identifying *what* is sampled (culturally important food/water sources) and *where*



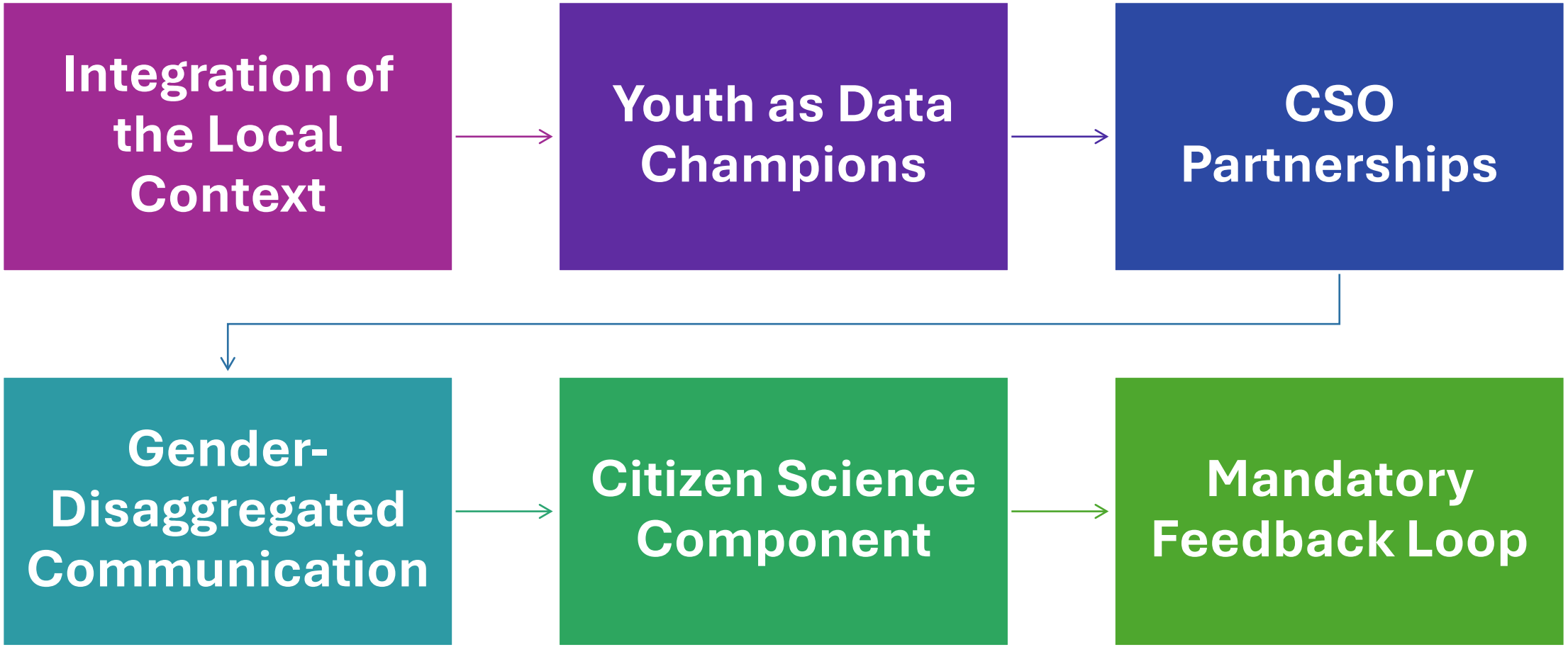
Visibility and Awareness

Data transformed into highly visual, shareable formats (infographics, short videos) that are easy to use for local awareness campaigns.

Challenges & Opportunities

Area	Challenges	Opportunities
Resources	Limited national human resources and budget for sustained, deep community outreach across small, often remote island communities.	Establish communication strategies that meet the current needs of the countries while factoring sustainable mechanisms to support implementation beyond project lifespan
Geographical Fragmentation	Reaching remote, small communities, including those with Indigenous populations, is a logistical and cost barrier.	Individualizing strategies to accommodate for fragmentation with an integration of traditional and social media to allow for scalable, rapid outreach and information sharing.
Data Literacy & Translation	Ensuring policymakers and the public can effectively use the monitoring data.	Invest time and resources in simplification and translation of complex data.

Recommendations



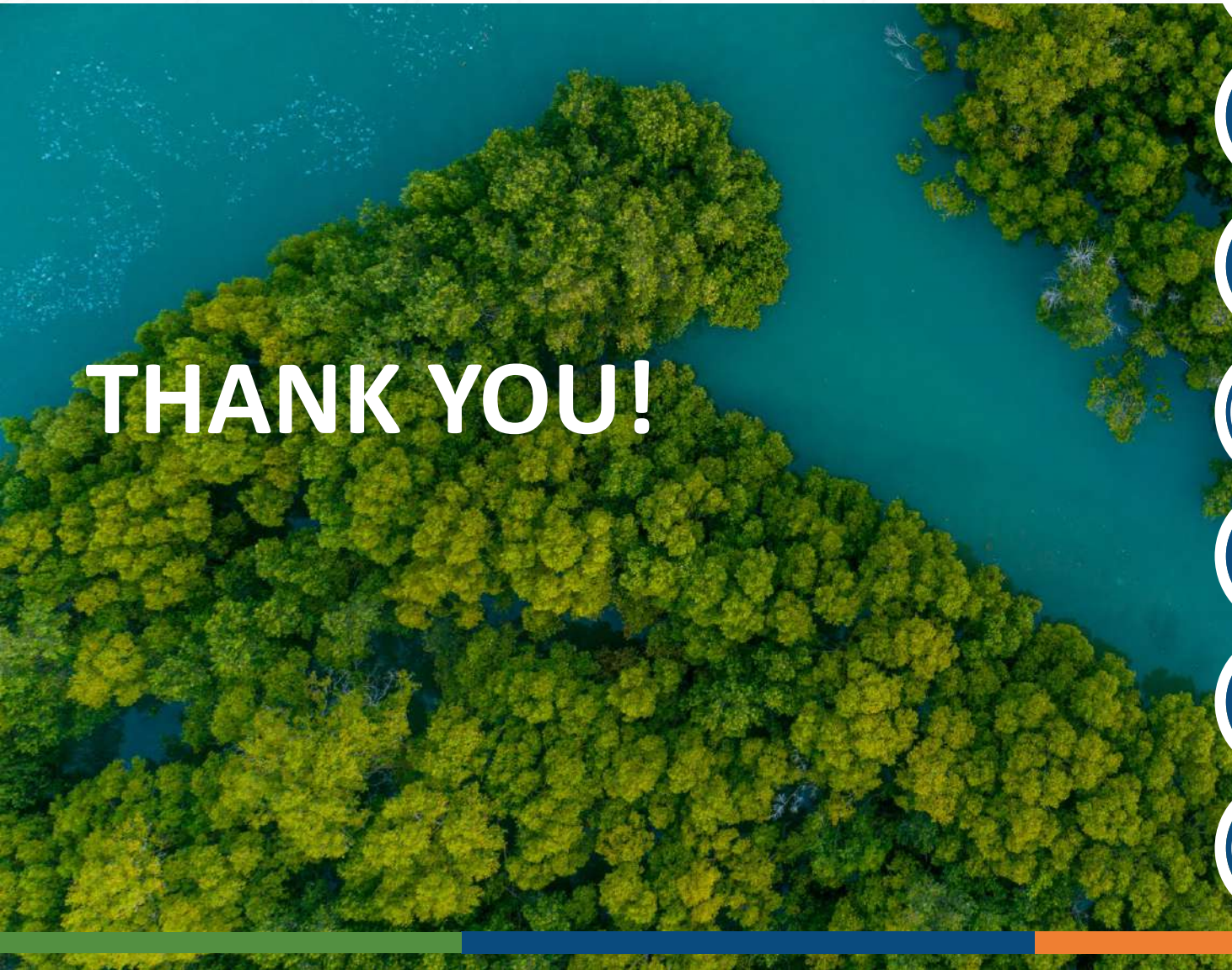
Conclusion



Inclusive public participation is the bridge between the technical output of the GCMP and sustainable, regional and national implementation.



The true measure of success is how effectively that data is used to **reduce chemical risk**, **protect the most vulnerable populations**, and **drive compliance** with global conventions.



THANK YOU!

www.bcrc-caribbean.org

1 (868) 628-8369

info@bcrc-caribbean.org

@ Basel Convention Regional Centre - Caribbean

@bcrc.caribbean

@bcrccaribbean

@ Basel Convention Regional Centre for Training and Technology Transfer for the Caribbean

@ BCRC Caribbean

Introduction to

International Centre of Insect Physiology and Ecology and Stockholm Convention Regional Centre - Kenya

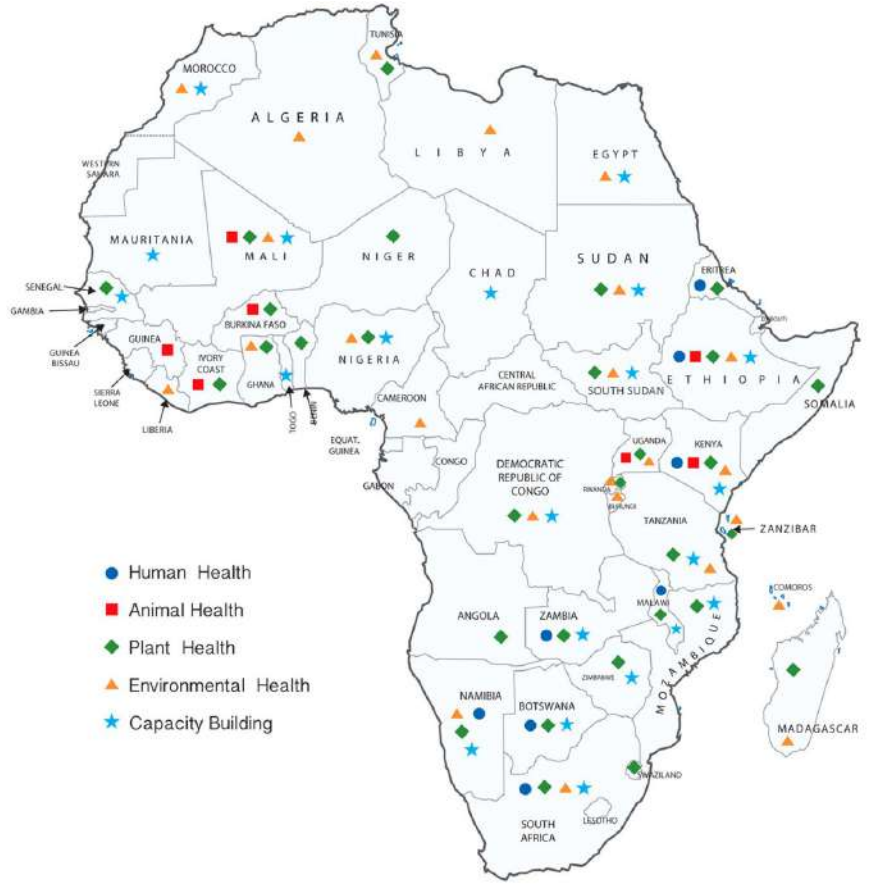
Towards contribution to GCMP

Subramanian Sevgan
ssubramania@icipe.org



General facts - *icipe*

- A *Center of Excellence* in Africa - for research & capacity building in insect science & its application
- An *intergovernmental organization*- charter signed by 13 countries worldwide, >50 years old
- 571 staff (>30 nationalities) including several contracted workers
- 150-180 graduate students annually
- Collaborate with >300 partners worldwide



World Organisation for Animal Health
Founded as OIE

Collaborating Centre for Bee Health in Africa

WHO-AFRO Partner for Vector Management

STOCKHOLM CONVENTION

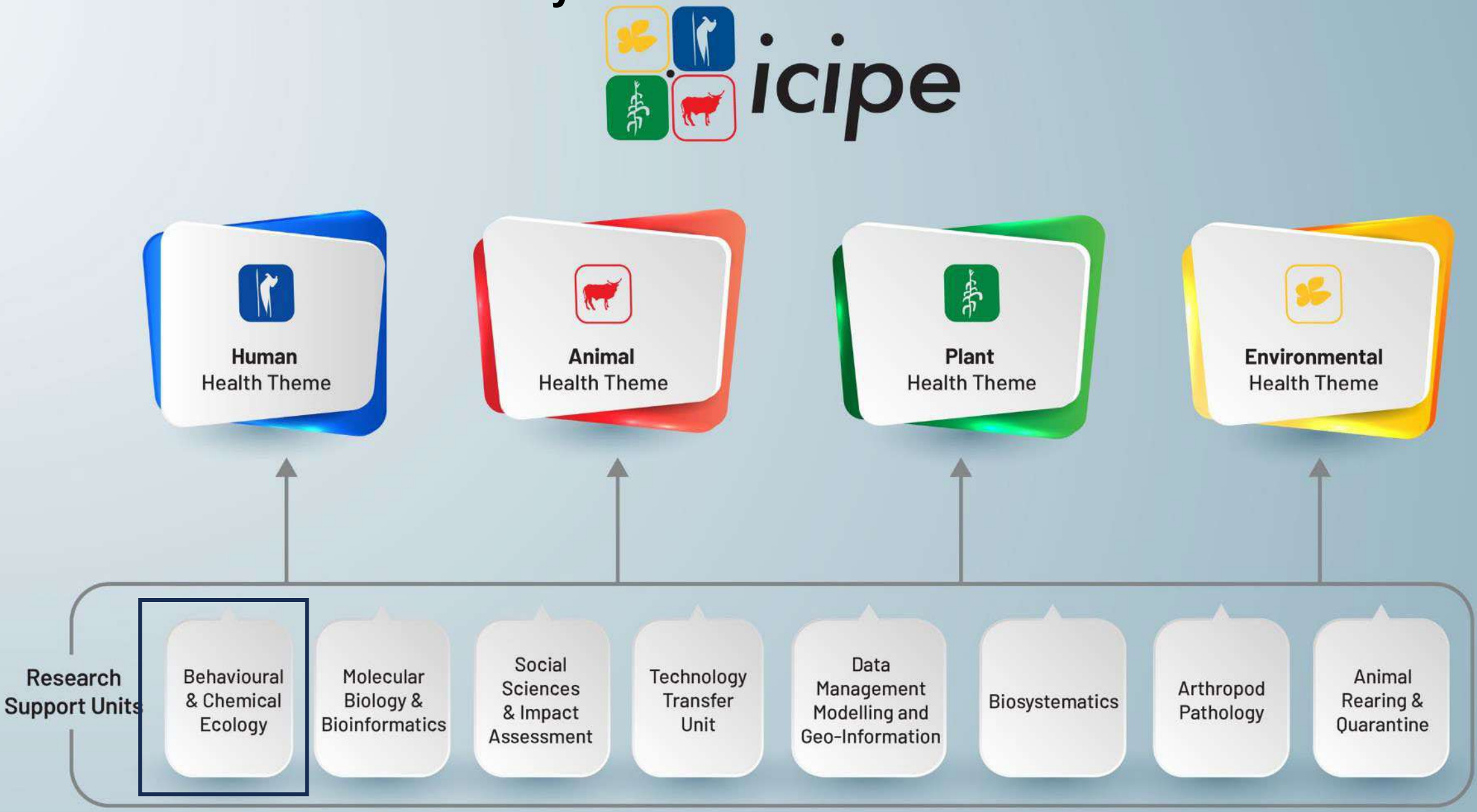
A Stockholm Convention Regional Centre

FAO Reference Centre for Vectors and Vector-borne Animal Diseases

www.icipe.org

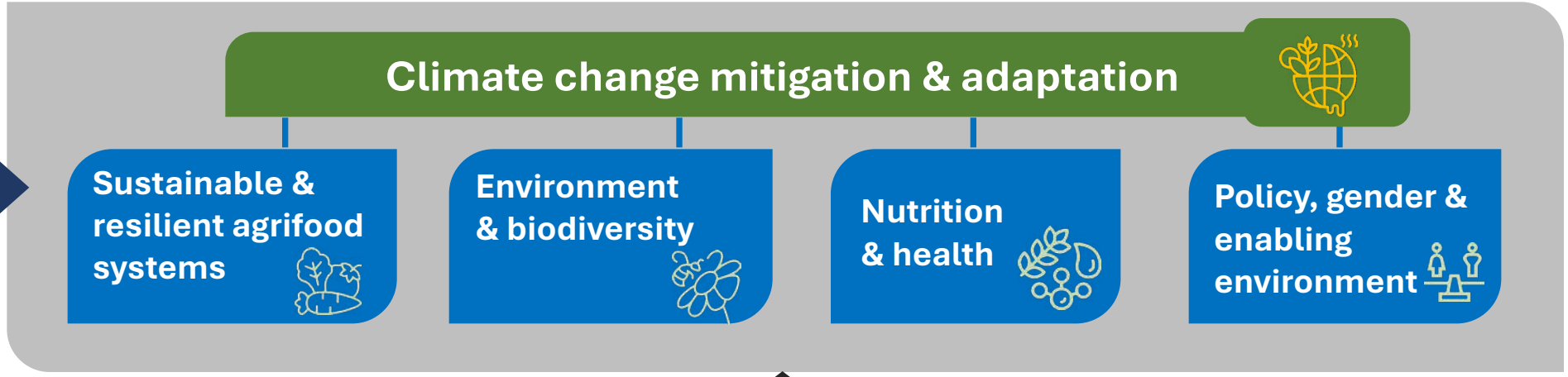
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How we are structured-currently

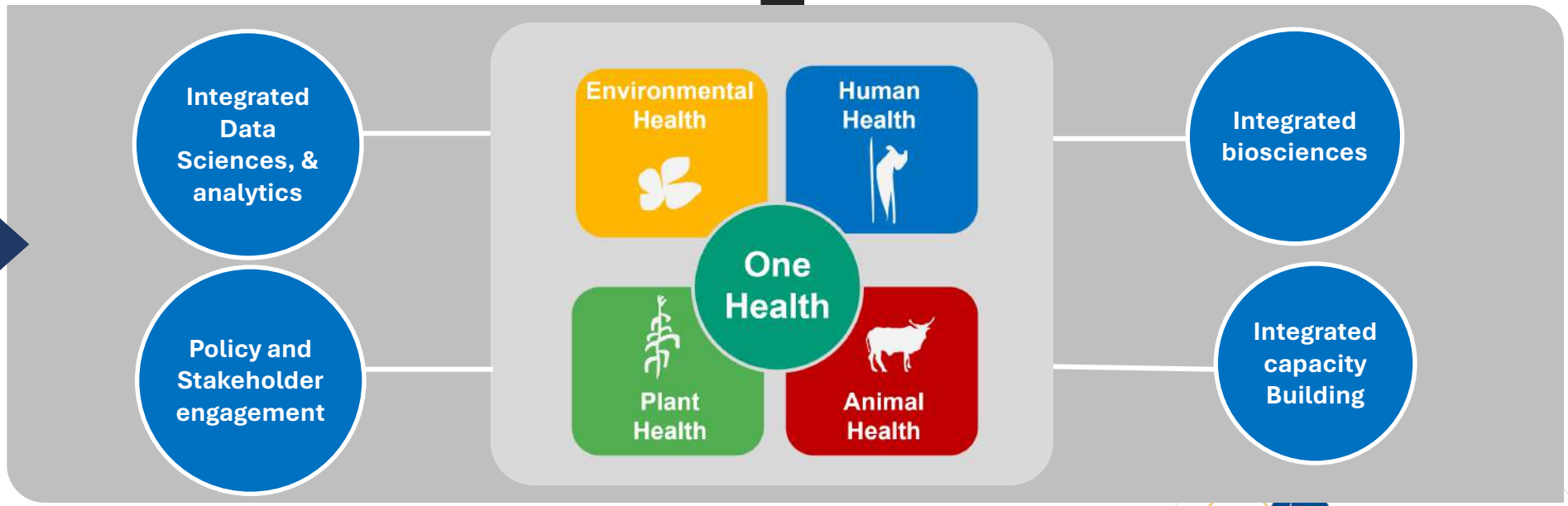


Themes & platforms contribute to 5 impact domains

icipe Impact Domains



Themes & Integrated Platforms



1,959 peer-reviewed articles (2013-2024)

40,112 citations

arsenal of products and innovations





icipe

Stockholm Convention Regional Centre - Kenya



- Current focus on **development and scaling of innovations** that can minimize use of synthetic pesticides for pest management
- Supporting BRS secretariat for **building capacity of national partners** (e.g. Workshop to support inventory development and priority setting in developing and updating National Implementation Plans (NIPs) under the Stockholm Convention.
- **Support National governments to monitor and mitigate** POPs (e.g. Pilot Project on establishment of PCB inventories in Uganda).
- **At research level we also engage in monitoring pesticide contamination in different matrices** (e.g. crop produce, honey, water and others)

Behaviour and Chemical Ecology laboratory

Focus

- ❑ Understand chemical interactions between pests, crops and their environment
- ❑ Identification, formulation and evaluation of pheromones, kairomones, allomones and hormones mediating insect/arthropod behaviour.
- ❑ Development of environmentally-sound methods to reduce or suppress target pest populations and increase beneficial insects
- ❑ Analyse and characterise insect-based products (honey, nutritional profiling of edible insects and their products)
- ❑ Testing of chemical residues in the environment (e.g. Analysis of Pesticide residues and other contaminants)



Human Resource



Dr Merid Getahun Negash
-Senior Scientist, Behaviour and Chemical Ecology Unit

-**livestock-pathogens-vectors interaction at the interface of chemistry, neurobiology, behavior.**



Dr Xavier Cheseto
-Research Scientist

-**focus on Chemical Ecology, Organic chemistry and synthesis, food chemistry (esp. Edible Insect products**



Dr Cynthia Mudalungu
-Post doctoral Fellow

-**focus on extraction and** characterisation of new bioactive compounds



Dr David Tchouassi
-Senior Scientist

- Chemical ecology of malaria and arboviral disease vectors and disease transmission



Dr Amanuel Tamiru
-Senior Scientist

-**focus on plant signaling and insect-plant interactions, Chemical ecology of cropping systems**



Dr John Bwire
-Post doctoral Consultant

-**Natural Product Chemistry, Bioprospecting and product development**



Prof Baldwyn Torto
Former Head, Behaviour and Chemical Ecology Unit and currently Emeritus Scientist

-**Organic Chemistry**
-Chemical Ecology of disease vectors and crop pests

Instrumentation



❖ **Volatile Entrainment Unit**

Dynamic ambient air sample collection

Portable Volatile collection equipment

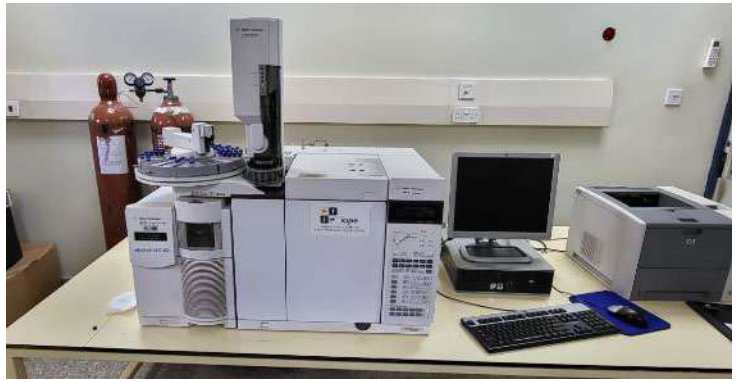




❖ **Gas chromatography (GC-FID and GC-ECD with thermal desorption)**

Screening for matrix interferences before GC-MS analysis

Instrumentation



Gas chromatography-mass spectrometry (GC-MS)

Target analysis:

GC-amenable

a) pesticides e.g., Organochlorines DDT, chlordane, mirex, toxaphene etc
b) Industrial Chemicals e.g., PCBs, HBB, PeCB, PBDEs, SCCPs etc
c) By-products e.g., Dioxins, furans, screening only
d) Others: Dicofol, PCNs, HCBD

Note: *great for ppm and ppb levels*



LC-Qtof-MS



LC-Orbitrap-MS

Liquid Chromatography – Mass spectrometry

-Industrial Chemicals : PBDEs, HBCD, PFAS group, PFOS, PFOA PCP etc.
-LC- amenable untargeted

Instrumentation



Liquid chromatography-tandem mass spectrometry (LC-MS/MS)

Target analysis:
Quantification of LC-amenable pesticides



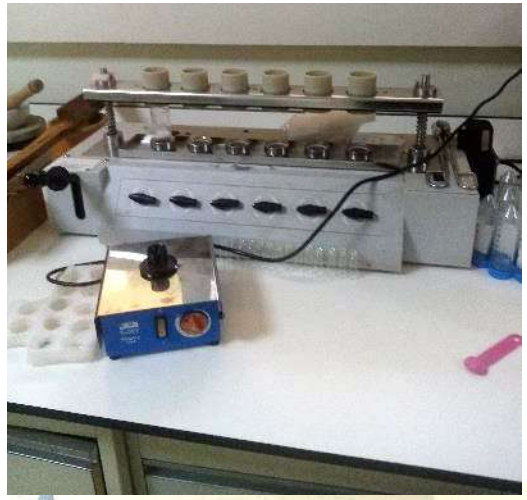
Inductively coupled plasma mass spectrometry (ICP-MS)

ICP-MS for heavy metals and other elemental analysis

Instrumentation

Nutritional analysis













GC-EAD and GC-SSR

- Can reveal biological effects of POP exposure at the sensory level in insects, offering valuable data for:

- Ecological risk assessments
- Sublethal exposure studies
- Sensory toxicology
- Environmental monitoring beyond chemical quantification

Some other recent high-impact publications and discoveries



PNAS INAUGURAL ARTICLE | ECOLOGY OPEN ACCESS

Nanosilica supplementation in tomato increases oviposition on stems and caterpillar mortality in the tomato pinworm

Kokou R. Fiaboe, Fathiya M. Khamis, Xavier Cheseto, Abdullahi A. Yusuf, and Baldwyn Torto

Affiliations are included on p. 9.

This contribution is part of the special series of Inaugural Articles by members of the National Academy of Sciences elected in 2023.
Contributed by Baldwyn Torto; received December 31, 2024; accepted February 25, 2025; reviewed by Lynn M. Riddiford and Bruce E. Tabashnik

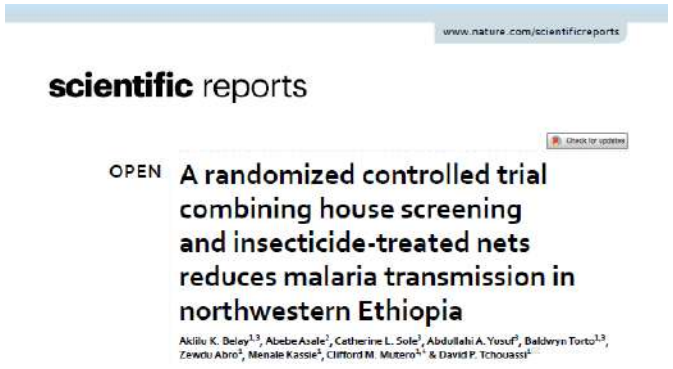


nature sustainability ARTICLES https://doi.org/10.1038/s41893-022-00852-5

OPEN

Wrap-and-plant technology to manage sustainably potato cyst nematodes in East Africa

Juliet Ochola, Laura Cortada, Onesmus Mwaura, Meklit Tariku, Shawn A. Christensen, Margaret Ng'ang'a, Ahmed Hassanali, Tahira Pirzada, Saad Khan, Lokendra Pal, Reny Mathew, Dick Guenther, Eric Davis, Tim Sit, Danny Coyne, Charles Opperman and Baldwyn Torto

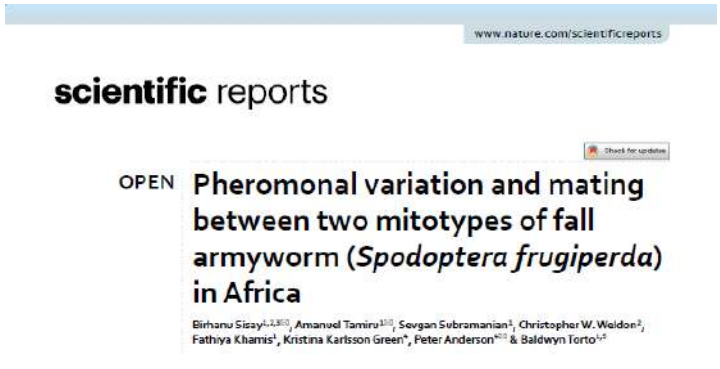


www.nature.com/scientificreports

scientific reports

OPEN **A randomized controlled trial combining house screening and insecticide-treated nets reduces malaria transmission in northwestern Ethiopia**

Aklilu K. Beley, Abebe Asale, Catherine L. Sole, Abdullahi A. Yusuf, Baldwyn Torto, Zewdu Abro, Menale Kassie, Clifford M. Mutero & David P. Tchouassi

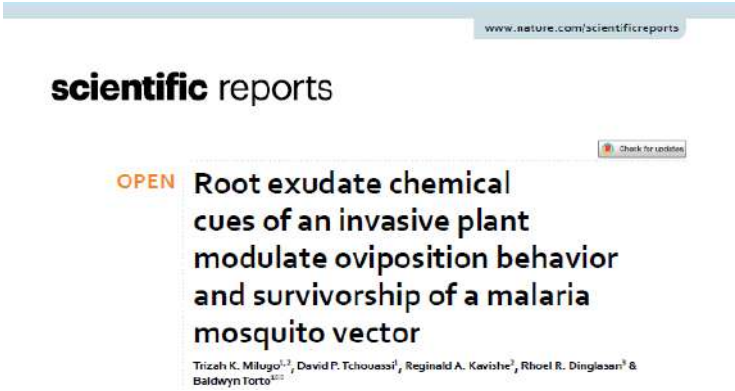


www.nature.com/scientificreports

scientific reports

OPEN **Pheromonal variation and mating between two mitotypes of fall armyworm (*Spodoptera frugiperda*) in Africa**

Birhanu Sisay, Amanuel Tamiru, Sevgan Subramanian, Christopher W. Weldon, Fathiya Khamis, Kristina Karlsson Green, Peter Anderson & Baldwyn Torto



www.nature.com/scientificreports

scientific reports

OPEN **Root exudate chemical cues of an invasive plant modulate oviposition behavior and survivorship of a malaria mosquito vector**

Trizah K. Milugo, David P. Tchouassi, Reginald A. Kavishe, Rhoel R. Dinglasan & Baldwyn Torto

Publications on Pesticide residue assessments



Contents lists available at ScienceDirect

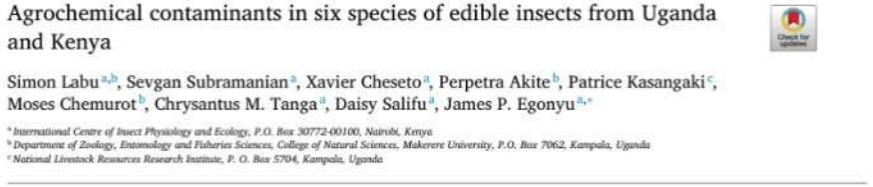
Current Research in Insect Science

journal homepage: www.elsevier.com/locate/cris

Agrochemical contaminants in six species of edible insects from Uganda and Kenya

Simon Labu[a,b], Sevgan Subramanian[a], Xavier Cheseto[a], Perpetra Akite[b], Patrice Kasangaki[c], Moses Chemurot[b], Chrysantus M. Tanga[a], Daisy Salifu[a], James P. Egonyu[a,*]

[a] International Centre of Insect Physiology and Ecology, P.O. Box 30772-00100, Nairobi, Kenya
[b] Department of Zoology, Entomology and Fisheries Sciences, College of Natural Sciences, Makerere University, P.O. Box 7062, Kampala, Uganda
[c] National Livestock Resources Research Institute, P. O. Box 5704, Kampala, Uganda



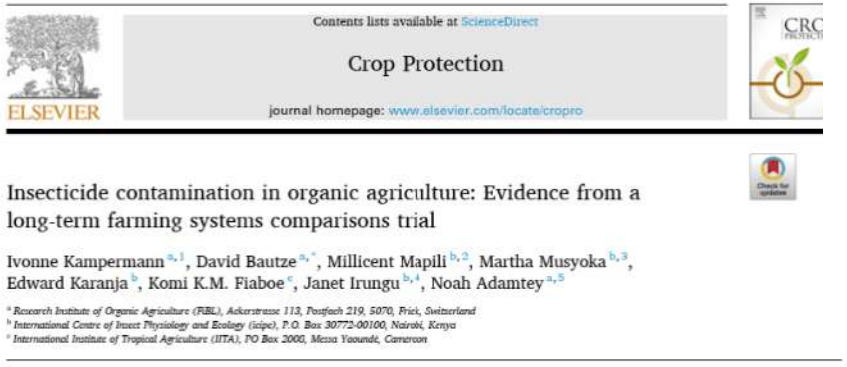
Irungu et al. International Journal of Food Contamination (2016) 3:14
DOI 10.1186/s40550-016-0036-4

International Journal of Food Contamination

DATA ARTICLE Open Access

Determination of pesticide residues in honey: a preliminary study from two of Africa's largest honey producers

Janet Irungu*, Suresh Raina and Baldwyn Torto



Crop Protection 177 (2024) 106529

Contents lists available at ScienceDirect

Crop Protection

journal homepage: www.elsevier.com/locate/cropro

Insecticide contamination in organic agriculture: Evidence from a long-term farming systems comparisons trial

Ivonne Kampermann[a,1], David Bautze[a,*], Millicent Mapili[b,2], Martha Musyoka[b,3], Edward Karanja[b], Komi K.M. Fiaboe[c], Janet Irungu[b,4], Noah Adamtey[a,5]

[a] Research Institute of Organic Agriculture (FiBL), Ackerstrasse 113, Postfach 219, 5070, Frick, Switzerland
[b] International Centre of Insect Physiology and Ecology (icipe), P.O. Box 30772-00100, Nairobi, Kenya
[c] International Institute of Tropical Agriculture (IITA), PO Box 2008, Messa Yaounde, Cameroon

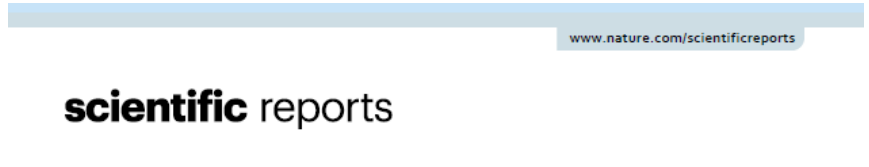


Bulletin of Environmental Contamination and Toxicology
https://doi.org/10.1007/s00128-018-2423-4

Detection of Pesticide Residues in Selected Bee Products of Honeybees (*Apis melllifera* L.) Colonies in a Preliminary Study from Seychelles Archipelago

Elliud Muli[1,2] · Joseph Kilonzo[1] · Norman Dogley[3] · Gerald Monthy[3] · Justus Kurgat[1] · Janet Irungu[1] · Suresh Raina[1]

Received: 3 November 2017 / Accepted: 17 August 2018
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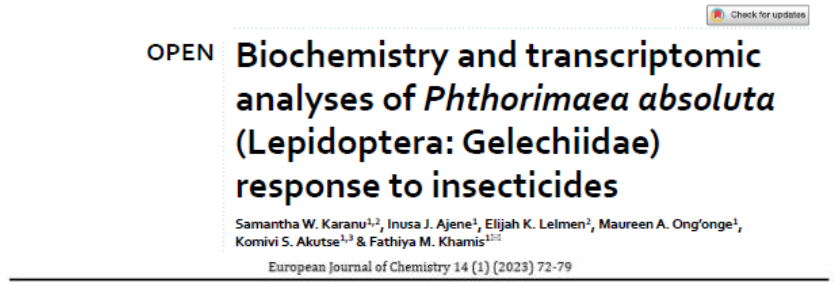


www.nature.com/scientificreports

scientific reports

OPEN Biochemistry and transcriptomic analyses of *Phthorimaea absoluta* (Lepidoptera: Gelechiidae) response to insecticides

Samantha W. Karanu[1,2], Inusa J. Ajene[1], Elijah K. Lelmen[2], Maureen A. Ong'onge[1], Komivi S. Akutse[1,3] & Fathiya M. Khamis[1]



European Journal of Chemistry 14 (1) (2023) 72-79

EurJChem European Journal of Chemistry

Check for updates

View Journal Online
View Article Online

GC/EI-MS and UV-Vis analysis of pesticide residues in cultivated *Catha edulis* Forsk (Khat) from selected farms in Meru County, Kenya

Albert Morang'a Oyugi[1], John Onyango Adongo[1,*], Cynthia Muhavi Mudalungu[2] and Joshua Kiprotich Kibet[1]

[1] Department of Chemistry, Faculty of Science, Egerton University, P.O. Box 536, Nakuru, 20115, Kenya
[2] International Centre of Insect Physiology and Ecology, P.O. Box 30772, Nairobi, 00100, Kenya

* Corresponding author at: Department of Chemistry, Faculty of Science, Egerton University, P.O. Box 536, Nakuru, 20115, Kenya.
e-mail: jadongo@egerton.ac.ke (J.O. Adongo).



Journal of Environmental & Analytical Toxicology

Research Article Open Access

Evaluation of Neonicotinoid Residues in Hive Products from Selected Counties in Kenya

Protus Mulati[1*], Esther Kitur[1], Catherine Taracha[1], Justus Kurgat[2], Suresh Raina[2] and Janet Irungu[2]

[1] Department of Environmental Sciences, Kenyatta University, PO Box 43844, Nairobi, Kenya
[2] International Center of Insect Physiology and Ecology (ICIPE), PO Box 30772, 00100, Nairobi, Kenya



Journal of Environment and Earth Science
ISSN 2224-3216 (Paper) ISSN 2225-0948 (Online)
Vol.6, No.8, 2016

www.iiste.org

Analysis of Honey Bee Hive Products as a Model for Monitoring Pesticide Usage in Agroecosystems

Janet Irungu* Ayuka T. Fombong Justus Kurgat Protus Mulati Juliette Ongus Kiatoko Nkoba Suresh Raina

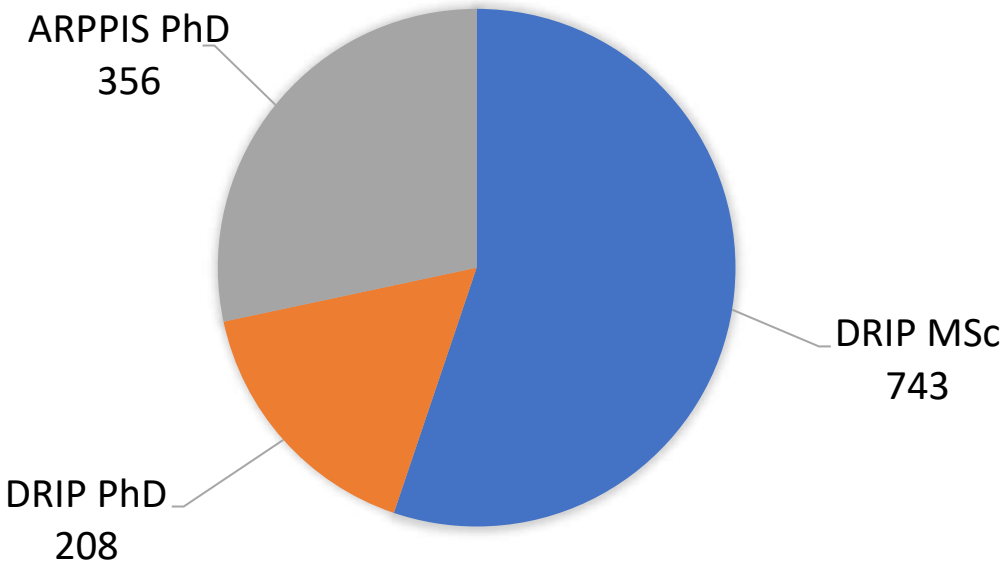
International Centre of Insect Physiology and Ecology (*icipe*), African Reference Laboratory for Bee Health, P.O. Box 30772-00100, Nairobi, Kenya

- ❑ **Our focus has been largely on monitoring for our specific research needs.**
- ❑ **We look forward to extend our collaboration and seek support in optimizing sampling and analysis protocols for GCMP**

icipe

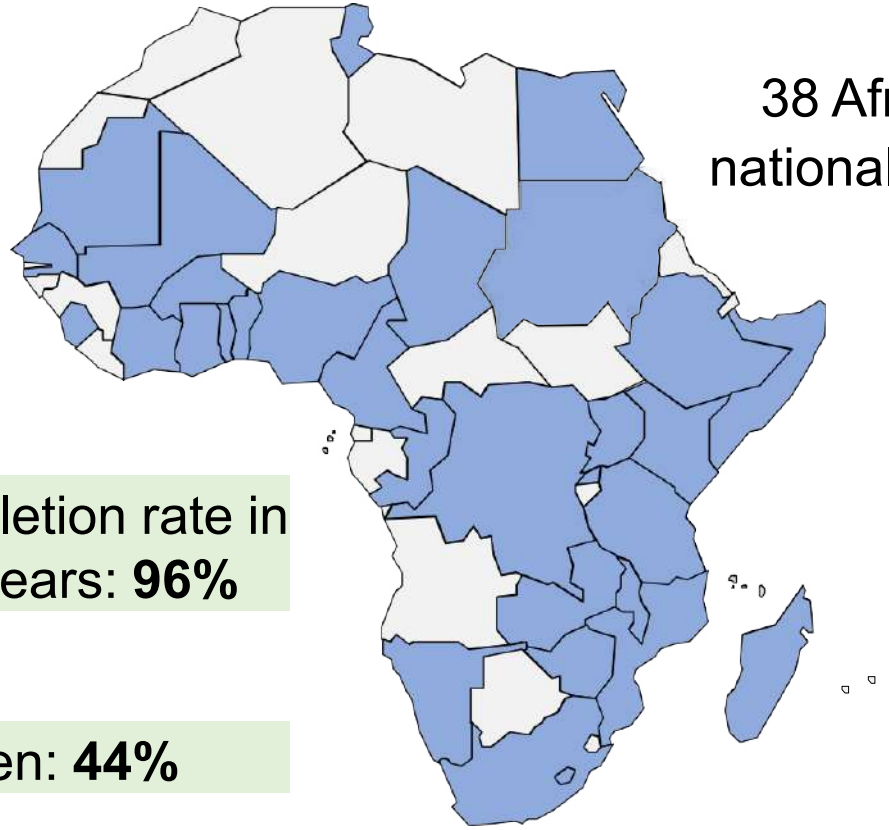
Postgraduate training (1983 - present)

743 MSc and **564 PhD**
postgraduate students trained



1,307

Postgraduates trained

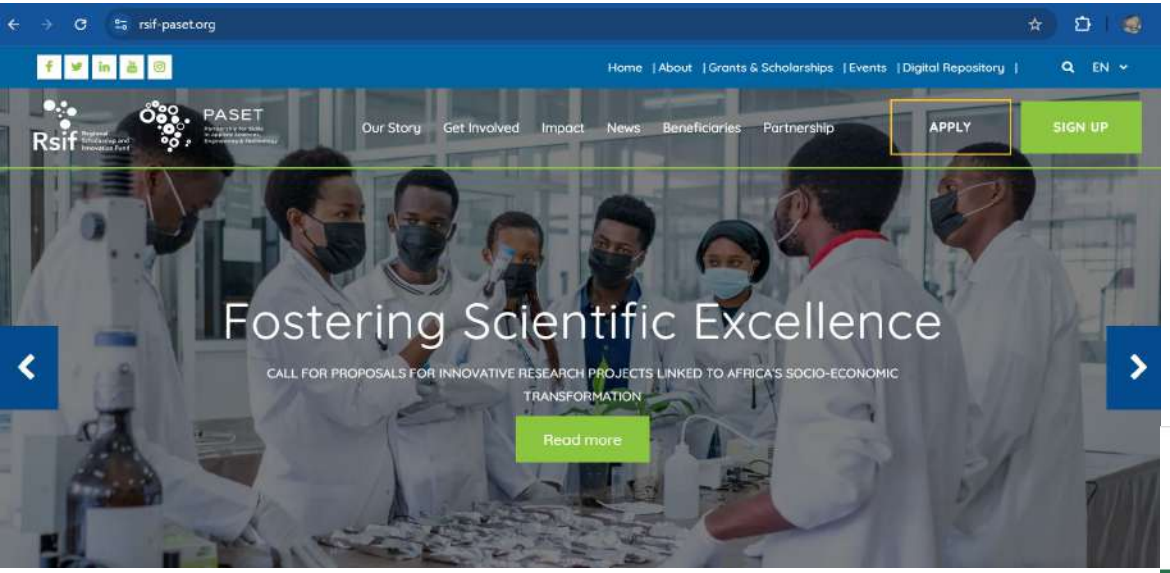


38 African nationalities

PhD completion rate in last 15 years: **96%**

Women: **44%**

Partnership for Skills in Applied Sciences, Engineering and Technology (PASET), an Africa-led, World Bank-affiliated initiative



BioInnovate Africa is a regional science and innovation-driven initiative



Accreditation Status and Conclusion

Complies with Good Laboratory Practice (GLP) guidelines and adheres to EU standards for pesticide quantification

Well positioned to support the GCMP

- ❑ Well-positioned to support implementation of UNEP-GEF Global Chemical Monitoring Program (GCMP), WHO protocols for human biomonitoring, and USEPA/EU standards for the screening and quantification of POPs.
- ❑ Targeted benchmarking and capacity-building will further enhance readiness and compliance

What we are looking forward to

- ❑ Strengthened partnership with the national partners, advanced laboratories, regional centres, UNEP-GEF and BRS secretariat.
- ❑ Partnership with advanced laboratories such as CUVA, Recetox and other for strengthening our capacity in POPs monitoring and with other regional centres for effective contribution to GCMP

Donor Acknowledgement



www.icipe.org

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Thank you



International Centre of Insect Physiology and Ecology

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E-mail: icipe@icipe.org
Website: www.icipe.org

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Introduction of Basel Convention & Stockholm Convention Regional Centre for Asia and the Pacific

Chen Yuan

October 31, 2025

Basel Convention Regional Centre for Asia and the Pacific
Stockholm Convention Regional Centre for Capacity building and Technology Transfer in Asia and Pacific Region

1. Current Status of the BCRC-SCRC China

BCRC



14 Basel Convention Regional and coordination Centres

SCRC



17 Stockholm Convention Regional Centres

More than **28** countries in Asia-Pacific have received services.

- The Basel Convention Regional Centre for Asia and the Pacific, also known as the "BCRC China" is established in 1997, which is one of the 14 Basel Convention Regional and Coordinating Centres worldwide.
- The Stockholm Convention Regional Centre for Capacity-building and the Transfer of Technology in the Asia-Pacific Region, also known as the SCRC China," is one of the 17 Stockholm Convention Regional Centres worldwide.

•Received a perfect score in the assessment of both conventions in all evaluation cycles (<2013-2014>, <2015-2018>, and <2019-2022>). The only regional center in the world that received a perfect score in the assessment for three consecutive times.

1. Current Status of the BCRC-SCRC China

Functions of BCRC Asia-Pacific Region

The core functions：training, technology transfer, information, consulting, and awareness-raising.

The work of the regional centres established under the Basel Convention for the control of transboundary movements of hazardous wastes and their disposal is determined by the meetings of the Conference of the Parties to the Basel Convention.

Functions of the Core Area

Functions of the SCRC

Regional or subregional centres shall **provide capacity building and promote technology transfer to assist developing country Parties and Parties with economies in transition in fulfilling their obligations under the Stockholm Convention.**

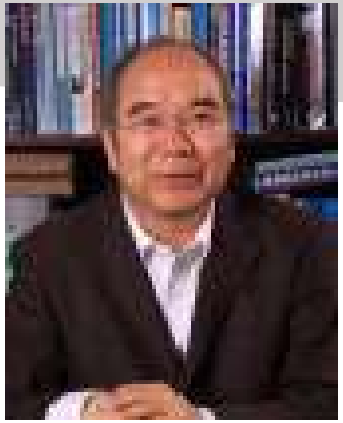
The activities carried out by the centres shall follow the Guidelines on Technical Assistance and Transfer of Environmentally Sound Technologies, which are contained in the annex and appendix to decision SC-1/15 of the Conference of the Parties. Priority should be given to providing technical assistance and transfer of environmentally sound technologies related to the areas listed in paragraph 10 of the Guidelines on Technical Assistance and Transfer of Environmentally Sound Technologies contained in the annex to decision SC-1/15.

1. Current Status of the BCRC-SCRC China

Previous Directors

- **1997-1999** **QIAO Zhiqi** Director General, Pollution Control Department, MEE
- **2000-2002** **LU Xinyuan** Director General, Pollution Control Department, MEE
- **2005-2008** **FAN Yuansheng** Director General, Pollution Control Department, MEE
- **2008-2010** **ZHAI Qing** Director General, Pollution Control Department, MEE
- **2010-2013** **ZHAO Hualin** Director General, Pollution Control Department, MEE
- **2013-2017** **ZHAO Yingmin** Director General , Pollution Control Department, MEE
- **2017-2021** **QIU Qiwen** Director General, Soil Environmental Management Department/ Solid Waste and Chemicals Department, MEE
- **2021-2023** **REN Yong** Director General , Solid Waste and Chemicals Department, MEE

Founder



HAO Jiming

Dean, Academy of Environmental Science and Engineering, Tsinghua University and academician of CAE Member

Current Director



GUO Yijun

From January 2024 to present, Director General, Solid Waste and Chemicals Department, MEE

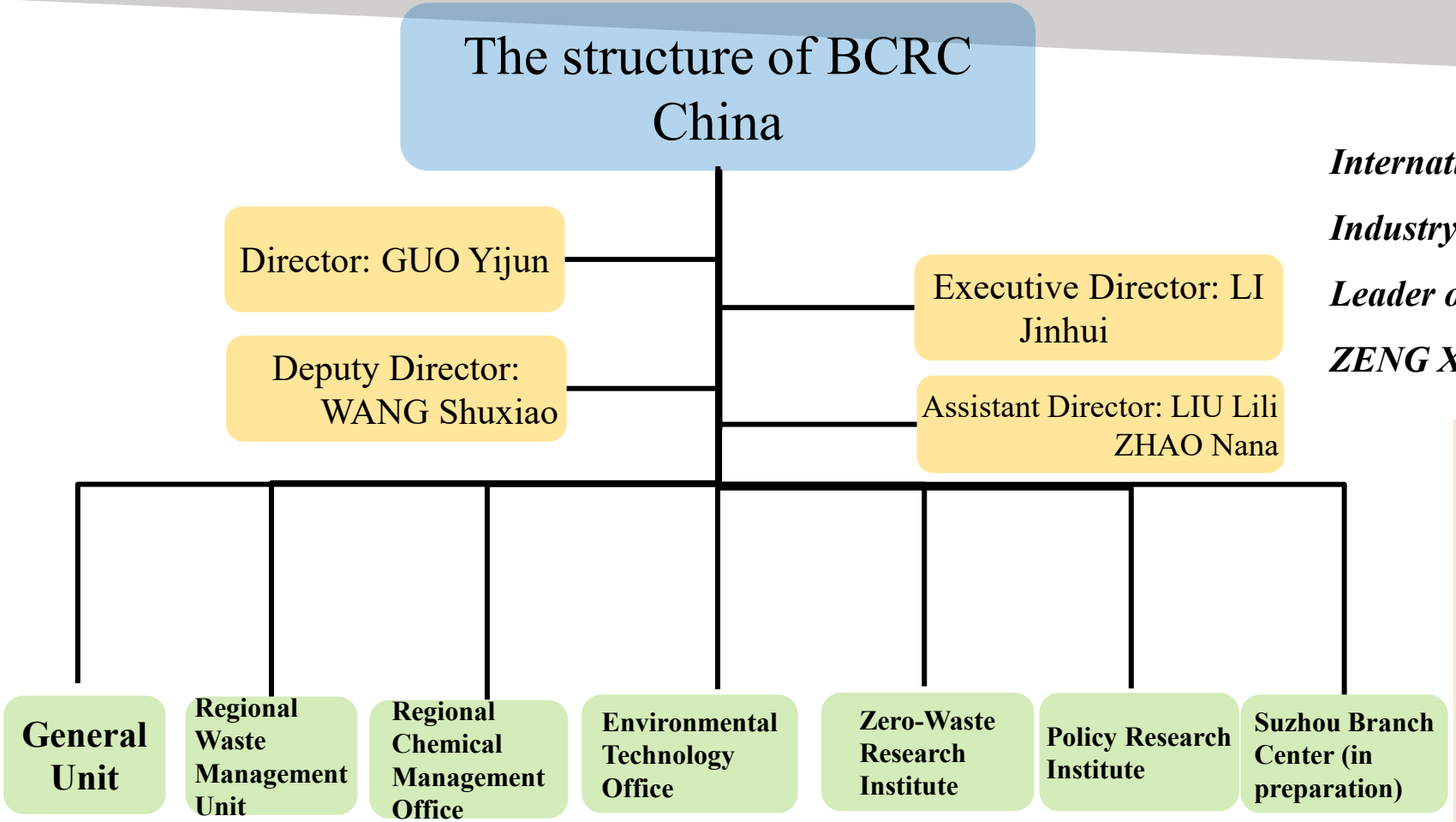
executive director



LI Jinhui

Professor of Tsinghua University

1. Current Status of the BCRC-SCRC China



International consultant： *Craig William Boljkovac*

Industry consultant： *BAI Qingzhong*

Leader of the Circular Economy Team (Preparatory)：

ZENG Xianlai

High level technical team：

HUANG Jun, Professor, Tsinghua University, SCRC Mercury Environmental Management Team：

WANG Shuxiao deputy director BCRC; professor Tsinghua University; chief Scientis of team,; WU Qingru, research associate

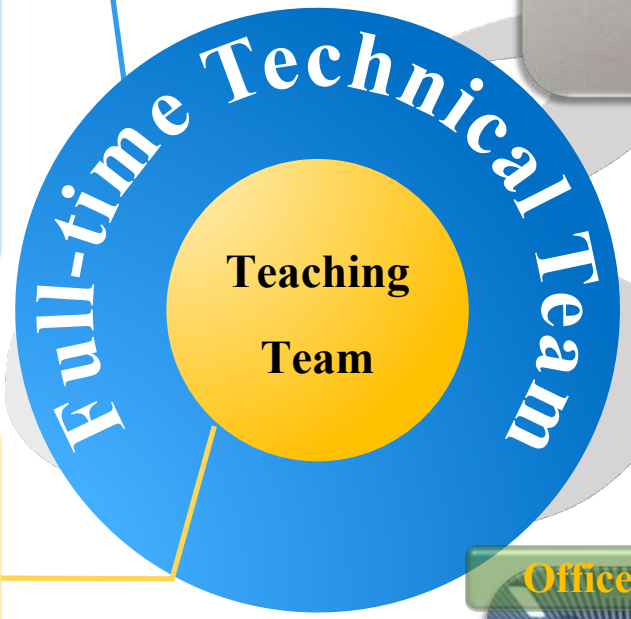
Solid waste management and technical support：

Teachers from Institute of Solid Waste Control and Resource Utilization, Tsinghua University

1. Current Status of the BCRC-SCRC China

50+ full-time with doctoral or master's degrees.

- 2 international and industrial expert advisors.
- 4 members with senior professional titles and 7 with associate senior professional titles.
- The core backbone members have served as the chairperson and experts of the convention working group, advisors to the Chinese government delegation in the convention negotiations, and experts of the National Hazardous Waste Identification Expert Committee, etc.



- We have 1 academician, 3 Changjiang Scholars, 1 Young Changjiang Scholar, 1 Excellent Young and 1 one Young Thousand Talents in the teaching team in Tsinghua Unversity.
- Many of them have been selected as leading talents or outstanding young talents in national environmental protection. They are core advisors or backbone members of national ecological and environmental policies.

Office of the School of Environment in Tsinghua University



Office of Huaye Building





A group photo of full-time employees in Beijing

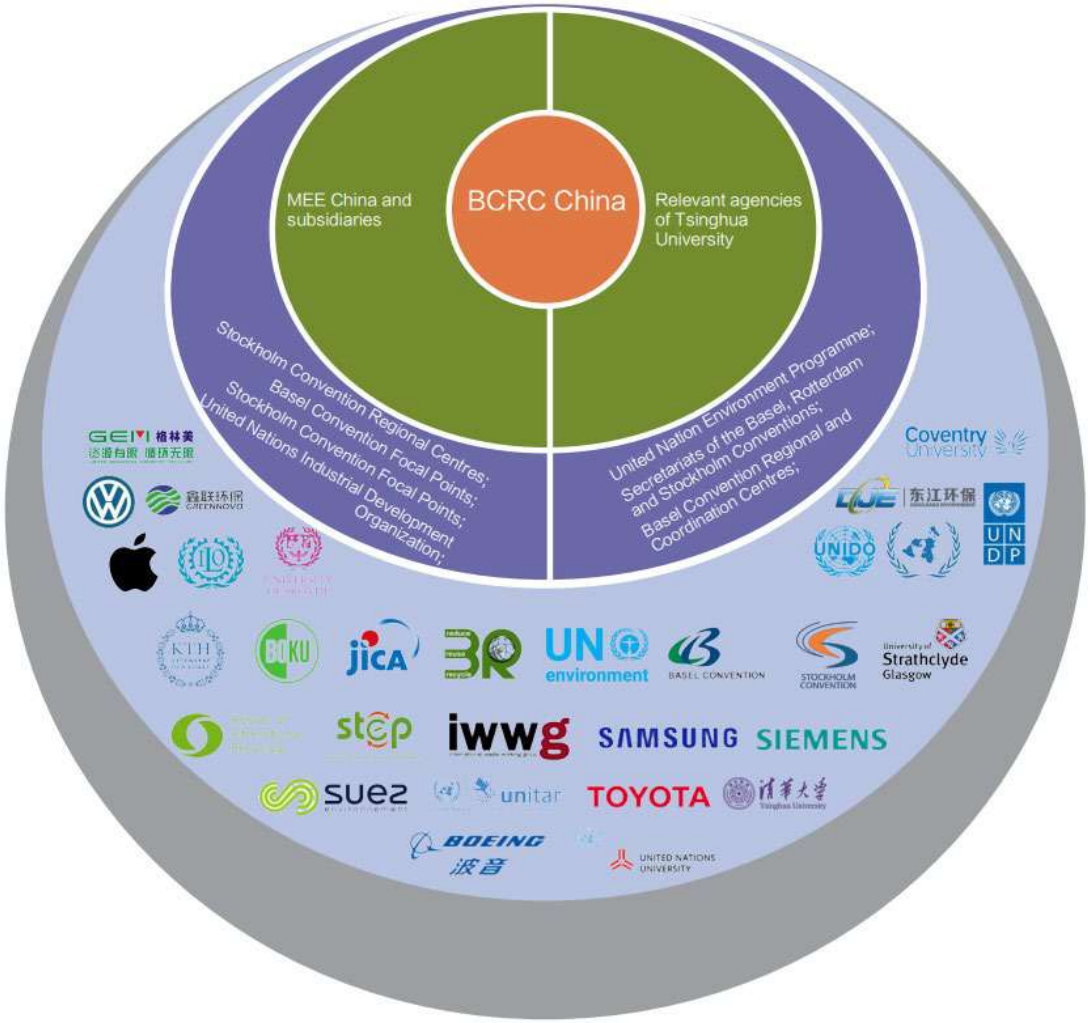
Office of Shuangqing Building



Suzhou Branch Center (in preparation)



2. Main Platforms of the BCRC-SCRC China



International Network of Zero-Waste City

the website of BCRC China

BCRC China's WeChat official account

information dissemination of BCRC China

BCRC China seminar/training

BCRC China think tank

international conference ……..

training platform of BCRC China

2. Main Platforms of the BCRC-SCRC China

International Conference





Since 2005, the International Conference on Waste Management and Technology (ICWMT) initiated by the BCRC China has been successfully held for 20 consecutive sessions and has become one of the most important academic and technical exchange conferences in the international solid waste field.

- **From July 6th to 8th 2025, the 20th International Conference on Waste Management and Technology ("ICWMT 20")** was successfully held in Beijing under the theme **"Accelerating the Development of New Quality Productive Forces in Solid Waste and Promoting the Construction of 'Zero-waste City."** Spanning three days, ICWMT 20 featured a plenary session, an English parallel session, 37 sessions, technical visits and an industry exhibition. Around 1,200 delegates attended in person, while online participants joined from 23 countries including the United States, the United Kingdom and Australia.

International Network of Zero-Waste City





The BCRC China has launched the International Network of zero-waste city, promoting the signing of international declarations to promote the construction of "zero-waste city", promoting the construction of "zero-waste city" in China, and facilitating the exchange of experience in the construction of "zero-waste city" at home and abroad.

- As of September 2024, **the network has received a total of 34 formal written confirmations** from 3 provinces in Uruguay, 3 provinces in Mongolia, 1 province in Cambodia, 10 cities in Sri Lanka, 14 cities in Nepal, 2 cities in Malaysia, and the Basel Convention Regional Centre in Iran.
- From 29 to 31 March, the United Nations Environment Programme (UNEP), BCRC China and the Department of Ecology and Environment of Provincial Government of Zhejiang and Jiangxi jointly organized the "International Day of Zero Waste 2025" thematic event in China. The event, themed **"Innovative Solutions for Achieving Zero Waste in China and Beyond"**, showcased China's progress in sustainable urban development.

2. Main Platforms of the BCRC-SCRC China

Website

- The bilingual website of BCRC China.
- Eight modules based on projects and training



WeChat Official Account

- Number of fans: 4164
- Number of articles: 456, with an average of 5 articles pushed per month







2. Main Platforms of the BCRC-SCRC China

Information dissemination

- Work briefings, dynamic briefings, international newsletters, special issues, and international observations.













"Guidelines for Emergency Management and Disposal of Medical Waste in China."

Seminars/ Trainings

- Nearly 100 meetings and trainings have been organized on Zero-Waste City, Hazardous Waste, E-waste, Regional Transboundary Movement Management and Technology, with over 5,000 participants from over 60 countries, including researchers, government officials, managers, and enterprise technicians.

2. Main Platforms of the BCRC-SCRC China

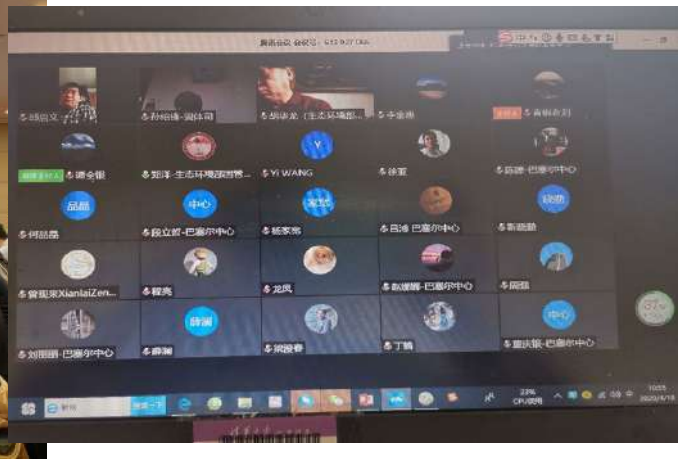
Think tank

The BCRC China has a think tank for chemical and waste environmental management, which provides technical support for the solid waste and chemical management work of the Ministry of Ecology and Environment.**There are currently 1076 experts from local universities, research institutes, enterprises and other think tanks, including 992 domestic experts and 84 foreign experts.**

- BCRC China has organized various high-level conferences and seminars, including the "Online Conference on Modernization of Public Governance Capacity for Hazardous Waste Management and Utilization," the "High-level Seminar on New Pollutant Control," and the "High-level Seminar on Zero-Waste City."







2. Main Platforms of the BCRC-SCRC China

Other platform

- The National Environmental Protection Training base (located at Tsinghua University) offers training on "Hazardous Chemicals and Hazardous Waste Management."
- The BCRC China has been recommended by the Ministry of Ecology and Environment of China as a solid waste identification institution.

** 【Notice on Recommending Solid Waste Attribute Identification Institutions (Huan Tu Rang Han [2017] No. 287)】*

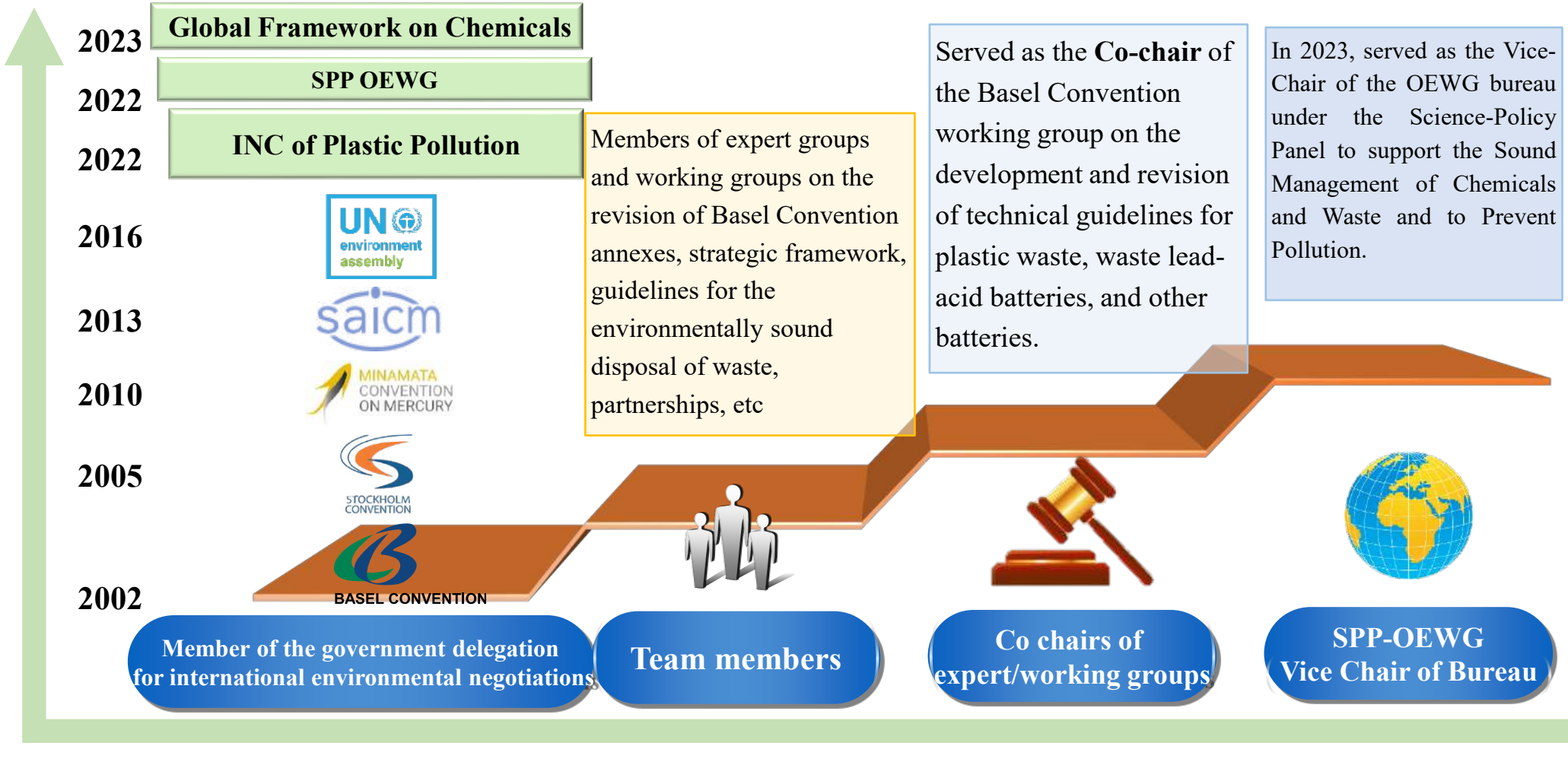


Co-Building Base with company and research institute：

- BCRC Environmental Technology Transfer and Publicity Demonstration Base，Gansu Provincial Institute of Environmental Science Design and Research
- Compliance Base for International Environmental Conventions on Chemicals and Waste，Jiangsu Yancheng Environmental Protection Technopole Management Committee
- Asia Pacific Regional Hazardous Waste Technical Assistance and Transfer Promotion Platform，Beijing Jingcheng Environmental Protection Co., Ltd
- BCRC Guangdong Publicity Demonstration Base，Foshan Shunde Xinhuanbao Resource Utilization Co., Ltd
- BCRC-Xinlian Environmental Protection Technology Demonstration Base，Xinlian Environmental Protection Technology Co., Ltd
- BCRC -Greenway Technology Transfer and Training Base
- BCRC-Ningdong Qingdaohua Technology Transfer and Training Base
- BCRC-Kumho-sunny PCR Plastic High Value Training and Promotion Base

3. Main Work of the BCRC-SCRC China

International environmental negotiations and compliance



3. Main Work of the BCRC-SCRC China

Regional implementation activities

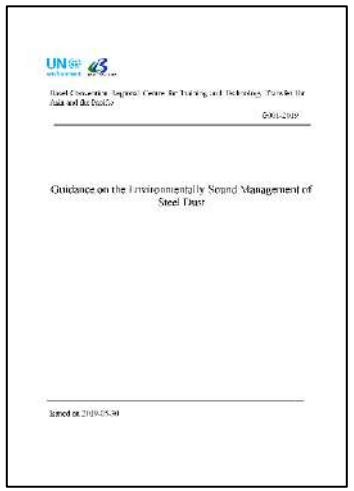
☐ Technical Internship

Conduct a 2-3 month technical internship for officials from regional parties, including from Pakistan, Nepal, Laos, Cambodia, Sri Lanka, DPR Korea and the Basel Convention African Coordination Center

☐ Regional technical guidelines and reports







☐ Regional projects

Research projects commissioned by countries in the Asia-Pacific region have covered a wide range of areas, including National Implementation Plans (NIPs) for the conventions, environmentally sound management of chemicals and waste throughout their life cycle, effectiveness evaluation of dioxin controls, global POPs monitoring capacity, e-waste management, healthcare waste management, and controls on transboundary movements.

☐ Regional workshop and training



promote chemical and waste management under the "the Belt and Road" Initiative framework, in 2018.



International government officials' training program on "the Belt and Road" Initiative, in 2024.

3. Main Work of the BCRC-SCRC China

National technical support

- Prevention and control of plastic pollution
- "Zero-Waste City"
- Electronic waste
- Chemicals and emerging pollutants
- Sustainable Development and Climate Related
- Standards and specifications
- ……



Support the national wide work of constructing "Zero-Waste City" in China, undertaking various tasks such as drafting tens of action plans for provinces and cities, providing guidance and assistance, conducting research on standards, promoting internationally, and developing technical solutions.

Support MEE & Local Govts in Emerging Pollutants Governance Research

- Support Beijing Municipality and Hebei Province in carrying out environmental monitoring and investigation research on new pollutants
- Support Beijing Municipality, Sanya City and other regions in formulating standards and work plans related to new pollutants



中华人民共和国生态环境部

关于《危险废物资源化产物环境风险评价通则（征求意见稿）》等两项标准项目立项意见的复函

全国环保产业标准化技术委员会：

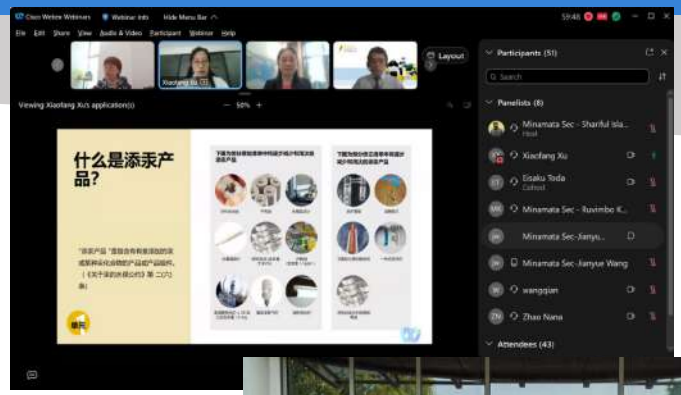
你单位转来《关于征求<危险废物资源化产物环境风险评价通则（征求意见稿）>国家标准项目立项意见的函》和《关于征求<废吸附备水处理剂技术要求（征求意见稿）>国家标准项目立项意见的函》收悉。经研究，我们对两项标准的立项无意见，建议在标准征求意见等重要环节定向征求我部意见。

固体废物与化学品司

2021年6月3日

3. Main Work of the BCRC-SCRC China

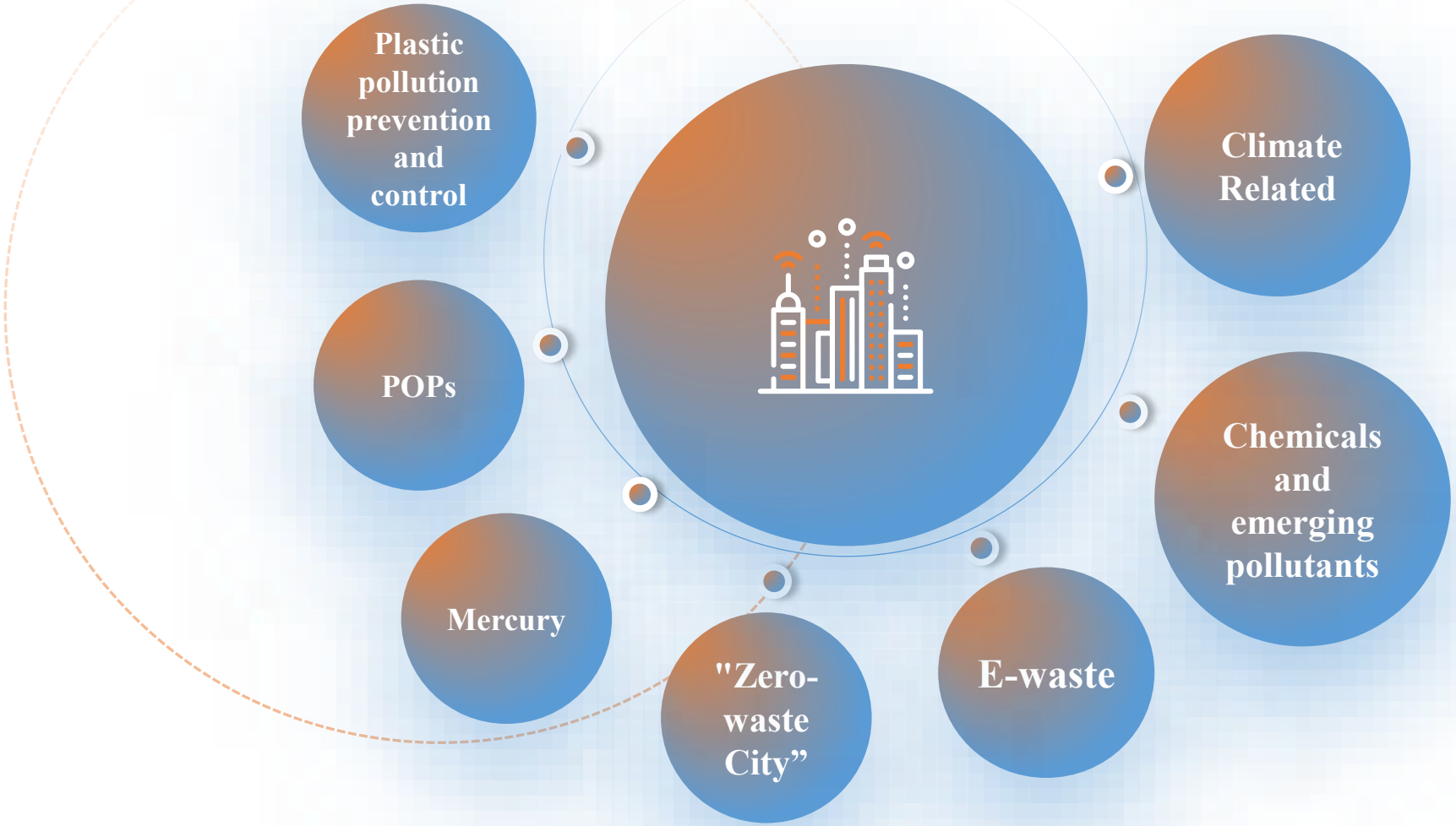
	Project	Sponsor	Contribution
1	Mercury monitoring, emission and release data management	MC/UNEP	Translated training materials on mercury-containing product control and mercury waste management under the Minamata Convention, and organized two related webinars.
2	GEF - China PVC Production Mercury Reduction Demonstration: ESM Support for Calcium Carbide Process Wastes	FECO	Organized training on the Environmentally Sound Management (ESM) of mercury-containing waste for over 150 professionals from the calcium carbide PVC sector and related upstream/downstream industries.
3	China Fluorescent Lamps collection and treatment demonstration project	EU to China and Mongolia	Organized training on the Environmentally Sound Management (ESM) of mercury-containing waste for over 150 professionals from the calcium carbide PVC sector and related upstream/downstream industries.
4	China's Capacity Building Project for the Implementation of the Minamata Convention on Mercury	FECO	Assessed the current status of ESM of mercury-containing waste in Shanxi Province, focusing on technology and process controls for mercury emissions from non-ferrous metal smelting.







3. Main Work of the BCRC-SCRC China



4. Facilities of lab analysis



platform in School of Environment,Tsinghua University





platform owned by BCRC-SCRC China

5. Main Achievements of the BCRC-SCRC China

The Stockholm Convention on Persistent Organic Pollutants (POPs) Network Award for the elimination of polychlorinated biphenyls (PCBs) in 2011



2011

Copper Award for the Strategic Approach to International Chemicals Management (SAICM)

2012



Contribution Award for the 4th Asia-Pacific Regional Meeting of the Strategic Approach to International Chemicals Management (SAICM)



2014

Received a perfect score in the assessment

2015



Letter of thanks from the Secretariats of the three conventions



2019

Received a perfect score again in the assessment



Received a perfect score again in the assessment.The only regional center in the world that received a perfect score in the assessment of both conventions in all evaluation cycles (<2013-2014>, <2015-2018>, and <2019-2022>)

2023

GCMP in Asia-Pacific region

Participating Countries in Asian region and Pacific Region :

- **Asian Region:** Vietnam, Thailand, Sri Lanka, Philippines, Pakistan, Nepal, Mongolia, Lao PDR, Indonesia, Cambodia;
- **Pacific Region:** Vanuatu, Tuvalu, Solomon Islands, Samoa, Palau, Niue, Marshall Islands, Kiribati, Fiji.

BCRC/SCRC-China, as the Executing Agency (EA), will implement, manage, and be responsible for the project and its activities on a day-to-day basis and will maintain frequent contact with the participating countries. It will also be responsible for legal arrangements with participating countries and supporting institutions, technical and scientific backstopping, providing technical support to participating countries and the regional laboratory, and establishing the necessary management and technical teams as required to implement the project.

Thank you !

Basel Convention Regional Centre for Asia and the Pacific
Stockholm Convention Regional Centre for Capacity building and Technology Transfer in Asia and Pacific Region

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Tel: +86 10 62794351； +86 10 62799061
Fax: +86 10 62772048
Website: *http://www.bcrc.cn/*
Email: bccc@tsinghua.edu.cn



WeChat official account



website

GCMP Stakeholder Consultation meeting

31 Octobre 2025
International Environment House, Geneva

BCRC-SCRC Senegal experiences and expertise

crcbs-af

Mr. Ablaye DIAO
Director/Coordinator

Centre Régional des Conventions de Bâle et de Stockholm pour les Pays d'Afrique Francophone – CRCBS-AF
4éme Étage Immeuble Y2, Cité Keur Gorgui Dakar / SENEGAL
Tél. : (221) 33 86468 18/ Fax : (221) 33 8646512 - Site web: http://www.crcbsaf.org

crcbs-af

MISSION

The BCRC-SCRC Senegal role is to assist countries in the Region to meet their obligations under the chemicals related conventions, and particularly the Basel and the Stockholm Conventions.

Our main mission is to support the **assessment of national situations** with regard to the management of chemicals and hazardous waste in order to **promote mechanisms** for **knowledge transfer**, **technology transfer** and **information sharing** for the ESM of hazardous waste and chemicals.



Projects / Activities

GEF/UNEP NIP Update Projects:
Project ID 10785 : 1,852,800$
>Duration : Feb. 2022 - June 2026
Project ID 10925: 918,900 $
>Duration : Aug. 2022 – June2026

Switzerland Financial Support for African Experts
>Amount : 215,000 $
>Duration : Year 2025

GEF ISLANDS Atlantic:
>Budget : US$ 5,131,750
>Duration: Feb.2024 - Dec. 2029

Minamata Convention SIP : Strengthening capacities for Burkina Faso, Senegal & Togo to implement Art.3&4
>Budget : 238,632 $
>Duration: Aug. 2022 – Dec. 2024

Improving information collection and exchange on plastic waste in WAEMU countries and inventory of obsolete pesticides and pesticide-container waste in Benin.
>Budget : 192,800 US$
>Duration: 30 May 2024 – 31 July2025

Pilot project on PCB inventory updating and validation and opportunities for scaling up funding for PCB elimination
>Budget : 79,000 $
>Duration : August 2025 - Nov. 2025

- Development of an innovative approach to plastic waste treatment in Cameroon :
  >Budget : US$ 120,000
  >Duration: July 2024 - December 2025
- Strengthening National Capacities to minimize the generation of plastic wastes, reducing the risk from hazardous constituents and promote their environmental sound management
  >Budget : US$ 97,300
  >Duration: July 2024 - December 2025

Training sessions and workshops

Regional Workshop on Enforcement of the Plastic Waste Amendments under the Basel Convention, and Basel Convention/ World Customs Organization Regional Pre-Operational Workshop of Operation DEMETER X (Under the WAEMU Project Framework)
>Period: 09-11 July 2024
>Location : Dakar

Regional workshop on “PCB environmentally sound management – towards the 2025 and 2028 targets”
>Budget : 74,000 USD
>Period: 11-13 June 2024
>Location : Dakar

Capacity building workshop: Implementation of Biodiversity and Chemicals and Waste Multilateral Environmental Agreements.
>Period: 10-12 Sept. 2024
>Location : Dakar

Webinar on “Mercury Added Products” for Africa French speaking countries
>Date : 12 June 2024
>Location : Online

Webinar on “Mercury waste” for Africa French speaking countries
>Date : October 2024
>Location : Online

crcbs-af

crcbs-af

Project :
Capacity building for the control, management and reduction of plastic waste in accordance with the Basel Convention.

Cabo Verde
& Senegal

>BRS-FFEM funding
>2,000,000 €
>2023-2026

APPROVED

Project :
Monitoring of POPs and mercury under the Stockholm and Minamata Conventions in the Africa Region

>GEF funding
>2026-2030

Project:
NIP Update Project

>GEF Funding
> From 2026

Future prospects

Component 1: Sustainable capacity for global monitoring of chemicals under the Stockholm and Minamata Conventions. Component 1 aims to strengthen the regional capacity to generate data effectively and sustainably to enable proper effectiveness evaluation of both Conventions	
Output 1.1: ***Participating institutions in the region have the necessary technical and administrative processes in place to implement the project***	The planned activities include: 1. Establish legal agreements with regional partners to define roles, responsibilities, and compliance mechanisms for project implementation. 2. Organize the regional inception workshops to validate project budgets and workplans. 3. Set up an inclusive local coordination committee and regional PSC including representatives for the global Scientific Advisory Committee.
Output 1.2: Regional workplan developed and regional partners prepared to conduct POPs and mercury monitoring.	The following activities will be delivered by the regional EAs and the regional partners: 1. Identify sampling sites for abiotic monitoring of POPs and mercury and make them operational. 2. Prepare regional institutes for the POPs human milk survey in line with the globally developed workplan. 3. Participate in trainings on sampling and analysis of POPs and mercury. 4. Adapt global guidance, SOPs, protocols, and necessary tools to regional contexts. 5. Develop and implement a regional coordination plan to facilitate efficient collection, shipment, analysis, and data reporting among project institutions, regional laboratories and researchers, and international stakeholders.
Output 1.3: Regional strategies developed using POPs and mercury monitoring results to support informed decision making.	1. Adapt policy enforcement strategy on chemical monitoring to support using monitoring results for policymaking. 2. Adapt the global data synergy strategy for regions to systematically map and integrate chemical monitoring data into local initiatives.

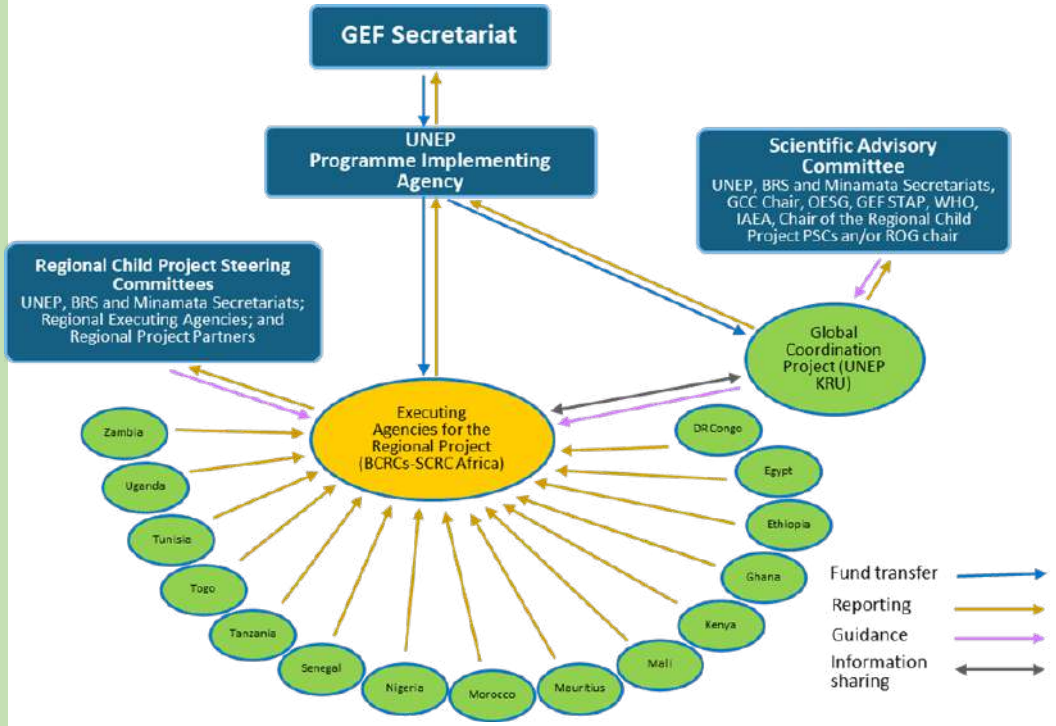
Component 2: Generation of high-quality and globally comparable data. Component 2 is designed to conduct sampling activities and generate high quality globally comparable data, in coordination with the Secretariats of the Stockholm and Minamata Conventions and their subsidiary/technical bodies	
Output 2.1: Laboratories from the region participate in Interlaboratory assessments.	1. Reach regional consensus on the selection of regional reference laboratories for POPs and mercury monitoring, taking into account the interlaboratory assessment results. 2. Assign roles and responsibilities to each regional laboratory to ensure timely generation of high-quality data.
Output 2.2: High quality and globally comparable data reported to the Stockholm and Minamata conventions	1. Conduct POPs monitoring in abiotic core matrices and undertake analyses in the agreed laboratories, ensuring compliance with protocols and efficient sample transport between institutions. 2. Conduct POPs monitoring in biotic core matrices and undertake analyses in the agreed laboratories, ensuring compliance with protocols and efficient sample transport between institutions. 3. Conduct mercury monitoring in air and undertake analyses in the agreed laboratories, ensuring compliance with protocols and efficient sample transport between institutions 4. Conduct POPs monitoring in matrices of interest and undertake analyses in local laboratories with existing capacities following the SC GMP guidelines 5. Identify other regional and local data sources and coordinate data sharing with GCMP 6. Report high-quality data to the SC ROG/GCG and the MC OESG in required format(s) to support the effectiveness evaluation mechanisms of the SC and MC.
Output 2.3: ***Data interpretation carried out and reports prepared to support data use and knowledge sharing***	1. Prepare state-of-the-art reports on the regional status of POPs and mercury in the environment and humans, including an assessment of existing chemical monitoring capacities and gaps. 2. Prepare summary reports with in-depth data interpretation and a sustainability plan at the local level, outlining key conclusions and recommendations. 3. Develop key conclusions, lessons learned, and recommendations to guide future chemical monitoring efforts and enhance regional collaboration.

Component 3: Knowledge management, information dissemination, outreach and strengthen stakeholder engagement. Component 3 is designed to facilitate the dissemination of scientific knowledge by providing a sustained data generation, global access and solid interpretation guidance	
Output 3.1: Promote and expand the use of the platform for the compilation of high-quality scientific data	The major activities of this output include: 1. Organize regional outreach events and tutorial sessions to expand the user network of the data and knowledge platform.
Output 3.2: Enhanced partnership to support information sharing and collaboration	1. Participate in trainings on using chemical monitoring results in different scenarios, such as policy coherence promotion at the local level, alignment with regional environmental governance mechanisms, and implementation of the UNEA resolutions, the Global Framework on Chemicals and the Science-Policy Panel. 2. Implement the public participation plan for gender integration, engagement of vulnerable groups and indigenous peoples and local communities (IPLC) and strengthening social and environmental safeguards in regional contexts. 3. Summarize regional best practices, lessons learned and experiences in public participation for sustainable chemical monitoring, highlighting gender integration and stakeholder engagement
Output 3.3: Communication strategy developed and outreach and awareness raising activities conducted	The following activities are considered to ensure impacts of this output: 1. Implement the global communications plan at regional and local levels to share the GCMP findings and raise awareness on chemical monitoring to protect the health of humans and the environment

Role under GCMP

GCMP Africa Region : focuses on the background monitoring of POPs and mercury, build on experience from African countries under GEF-5 GMP project, and other similar initiatives

- As Regional EAs, BCRC-SCRC Senegal and SCRC Kenya will lead the Africa Regional Child Project Execution;
- Coordinate the generation of comparable and high-quality monitoring data in the region, involving and establishing implementation arrangements with various stakeholders;
- Linkage between the participating institutions and the GCCP;
- …



Governance Structure of the Africa Project

crcbs-af

crcbs-af

Thank You

Basel Convention Coordinating Centre
Stockholm Convention Regional Centre
URUGUAY

Regional implementation of the GCMP

Stakeholder Consultation "GEF-8 "Global Chemicals Monitoring Programme to Support Implementation of Stockholm and Minamata Conventions" (GCMP)

31 October 2025 Geneva, Switzerland (Hybrid)

Alejandra Torre
BCCC-SCRC Co-Director

Ministerio de Ambiente

LATU

PRESENTATION SUMMARY

1. Who are we? What do we do?
2. POPs and Hg expertise
3. Core Responsibilities
4. Capacity Building and Data Generation
5. Knowledge and Communication
6. Conclusion

1. WHO ARE WE? WHAT DO WE DO?

Basel Convention Coordinating Centre (BCCC) for Training and Technology Transfer for Latin America and the Caribbean Region (since 1998) -Stockholm Convention Regional Centre (SCRC) for Latin America and the Caribbean Region (since 2009). The BCCC-SCRC is entitled to enter into agreements through the LATU and has access to its administrative services, which enables the Centre to make any kind of acquisitions and contracts. It also has a special office for managing funds, allowing the required transparency in its management.

- VIDEO

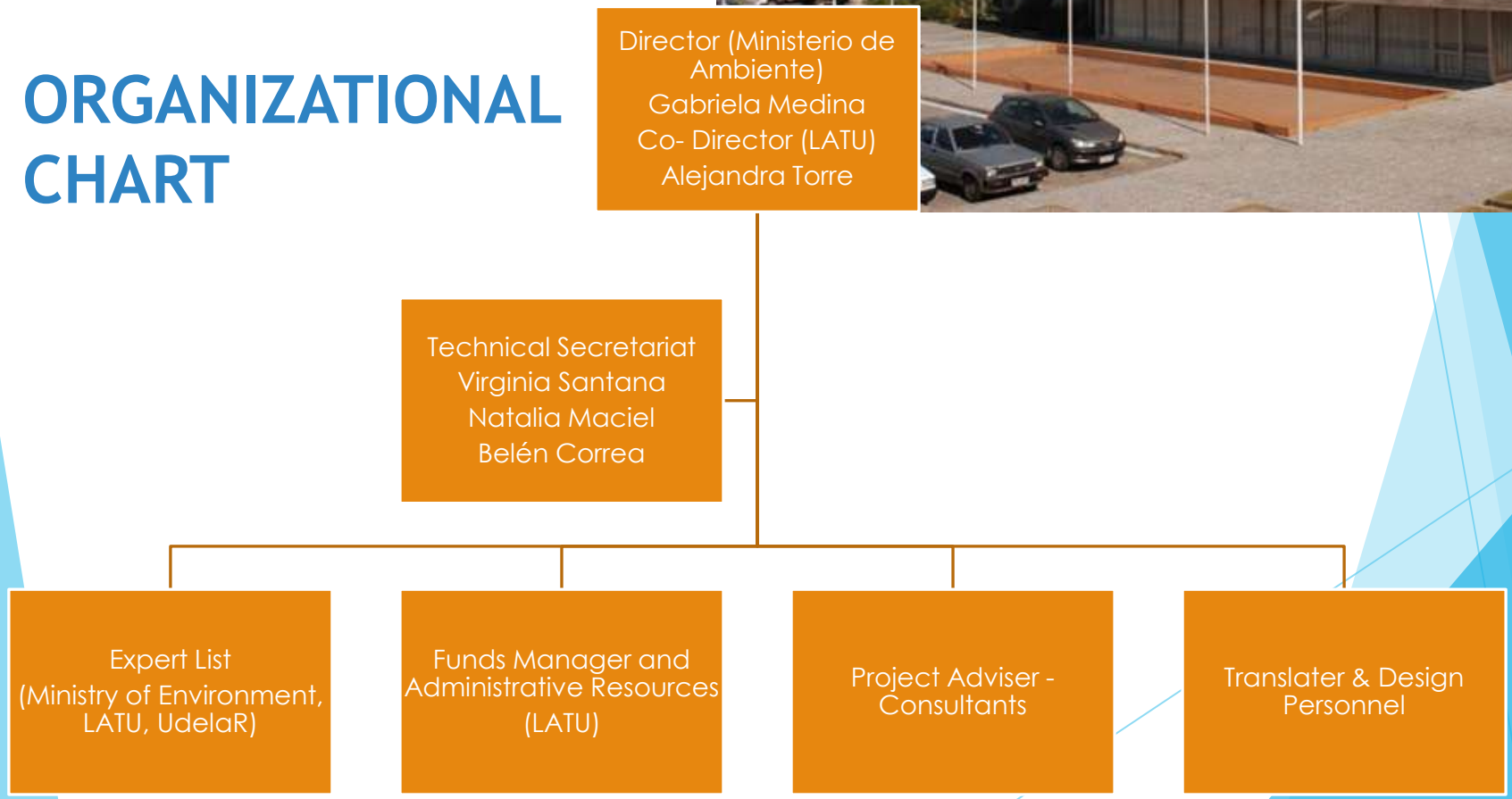
BCCC-SCRC mission and goals:

- Promote information exchange and capacity development.
- Promote capacity building.
- Promotion of the use of the integrated electronic toolbox
- Conduct projects to strengthen regional capacity on sustainable management of POPs, waste another chemicals.
- Development of communication materials and technical reports related to the Chemicals Conventions and UNEA.

The BCCC-SCRC is entitled to enter into agreements through the LATU and has access to its administrative services.



ORGANIZATIONAL CHART



2. POPs EXPERTISE





Regional Workshop for the Evaluation of Existing and Necessary Capacities for the Analysis of POPs

GMP I project

GMP II project

Data Managment

2005 2006 2009 2012 2015 2020 2021 2023

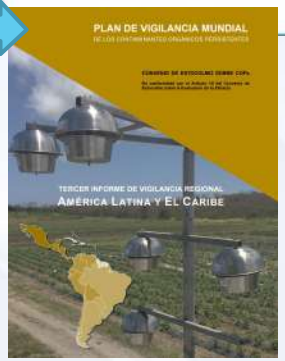
LATU
Pilot laboratory

Member ROG - GCC

Support to the 3th ROG regional report

POPs trainig on plastic









2. Hg EXPERTISE

Minimization and ESM of mercury-containing waste in GRULAC countries.

2009



2010

Ratification and early implementation of the Minamata Convention on Mercury

2014

Development of mercury inventories and management plans in Latin America and the Caribbean (GEF/UNEP project)

2018



Initial Assessment of the Minamata Convention in Latin America and the Caribbean Region (GEF/UNEP project)

2020

2023

Mercury trade

2025

POPs and Mercury free solutions for ESM in Paraguay

2. POPs EXPERTISE – projects





REUNIÓN FINAL PROYECTO UNEP/GEF

"APOYO EN LA IMPLEMENTACIÓN DEL PLAN DE VIGILANCIA MUNDIAL DE CONTAMINANTES ORGÁNICOS PERSISTENTES (COP) EN LOS PAÍSES DE AMÉRICA LATINA Y EL CARIBE" (GMP2 EN GRULAC)

Lugar: Ciudad de México México

Fecha: 8 y 9 de junio 2023

Formato: Presencial y Remoto

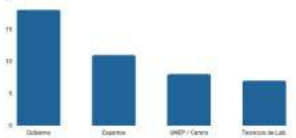
Idiomas: Inglés y Español

El objetivo de la reunión final del proyecto GMP 2 en GRULAC fue reunir a los actores involucrados, mostrar / discutir los resultados obtenidos de cada país participante de la región, las actividades realizadas, las lecciones aprendidas y valorar perspectivas a futuro para que el Plan de Vigilancia de COP sea sostenible a nivel nacional y regional.



44 PARTICIPANTES
21 HOMBRES
23 MUJERES
11 PAISES DENTRO DEL PROYECTO

PARTICIPACIÓN POR SECTOR:



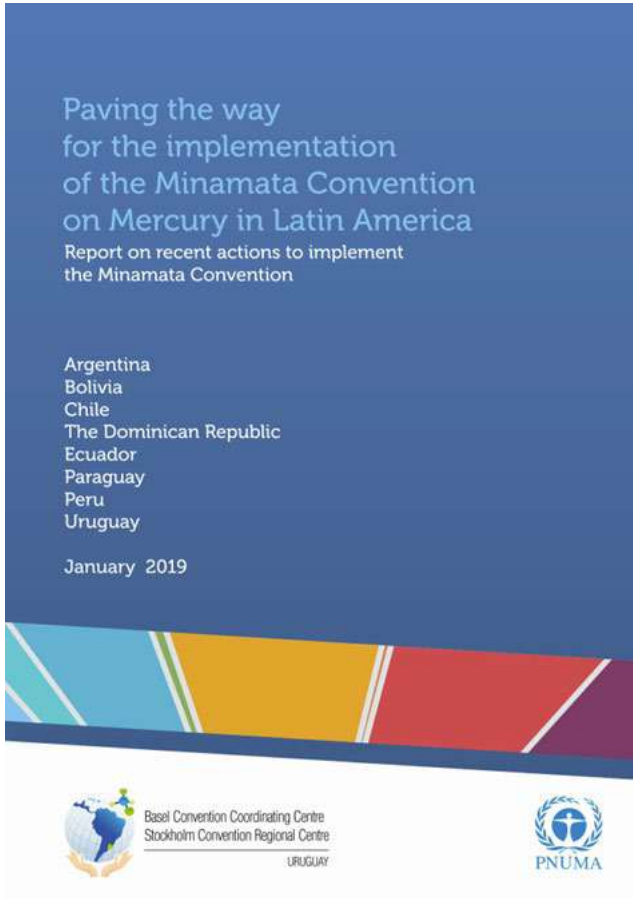
DURANTE LA REUNIÓN SE VISUALIZACIÓN RESULTADOS DEL PROYECTO A NIVEL MUNDIAL (42 PAÍSES)

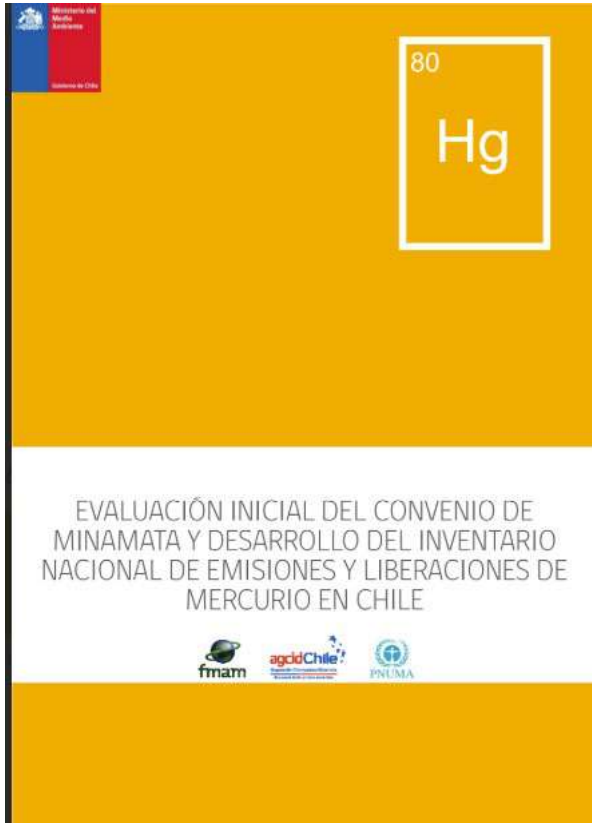






2. Hg EXPERTISE – projects







3. GCMP in Latin America



3. Core Responsibilities GCMP

- Acts as Executing Agency for the Latin American child project.
- Coordinates regional implementation with UNEP guidance.
- Establishes legal agreements with countries and laboratories.
- Organizes inception workshops and develops the regional work plan
- Day-to-day management, coordination, and monitoring of project activities.

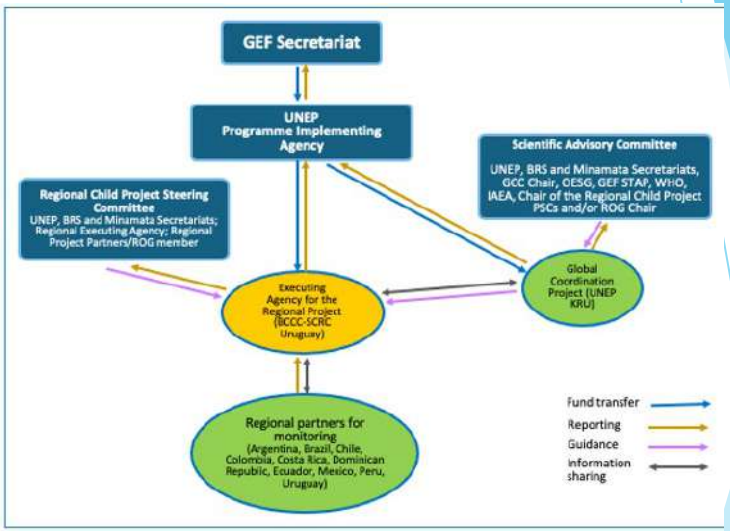
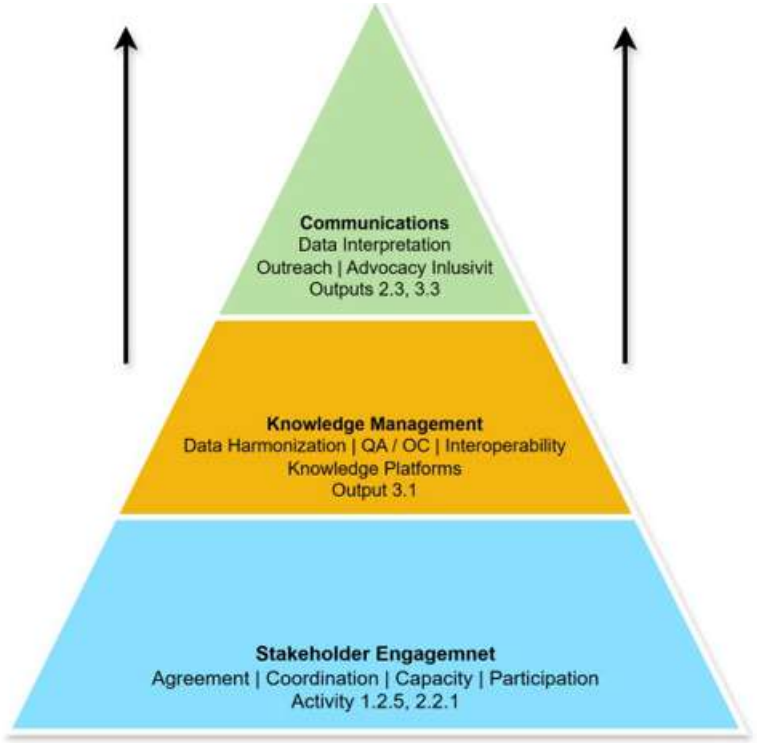


Figure 1. Project's governance framework of LATAM Region

4.Capacity Building and Data Generation

Supporting Countries:

- Coordinating sampling and data generation
- Promotes harmonized sampling protocols and quality control.
- Training and capacity-building activities.
- Strengthens analytical capacity of national laboratories.
- Supports setup of sampling sites and surveys on POPs and mercury.
- Oversees generation of high-quality, comparable data.
- Coordinates participation in interlaboratory assessments



5. Knowledge and Communication

- Serves as the regional knowledge hub.
- Facilitates information exchange between regional and global levels.
- Promotes use of the GCMP knowledge platform.
- Strengthened scientific and institutional cooperation.
- Leads outreach and awareness activities among policymakers and stakeholders.

6.Conclusions

BCCC-SCRC plays a central and enabling role in the GCMP for Latin America:
Ensures coordination, quality data, promotes regional harmonization and data comparability and regional sustainability.

“MONITORING FOR A SAFER ENVIRONMENT AND HEALTH IN LATIN AMERICA”



Thank you, Merci, gracias!!

http://www.ccbasilea-crestocolmo.org.uy

Basel Convention Coordinating Centre
Stockholm Convention Regional Centre
URUGUAY

Ministerio de Ambiente

LATU

