RESEARCH CENTRE
FOR TOXIC COMPOUNDS
IN THE ENVIRONMENT (RECETOX)

Global Assessment of Laboratories Analyzing Mercury - First Round Preliminary Results

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- LATU
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- Participating Laboratories

Outline and Objective

I. Background

II. Timeline

III. Preliminary results

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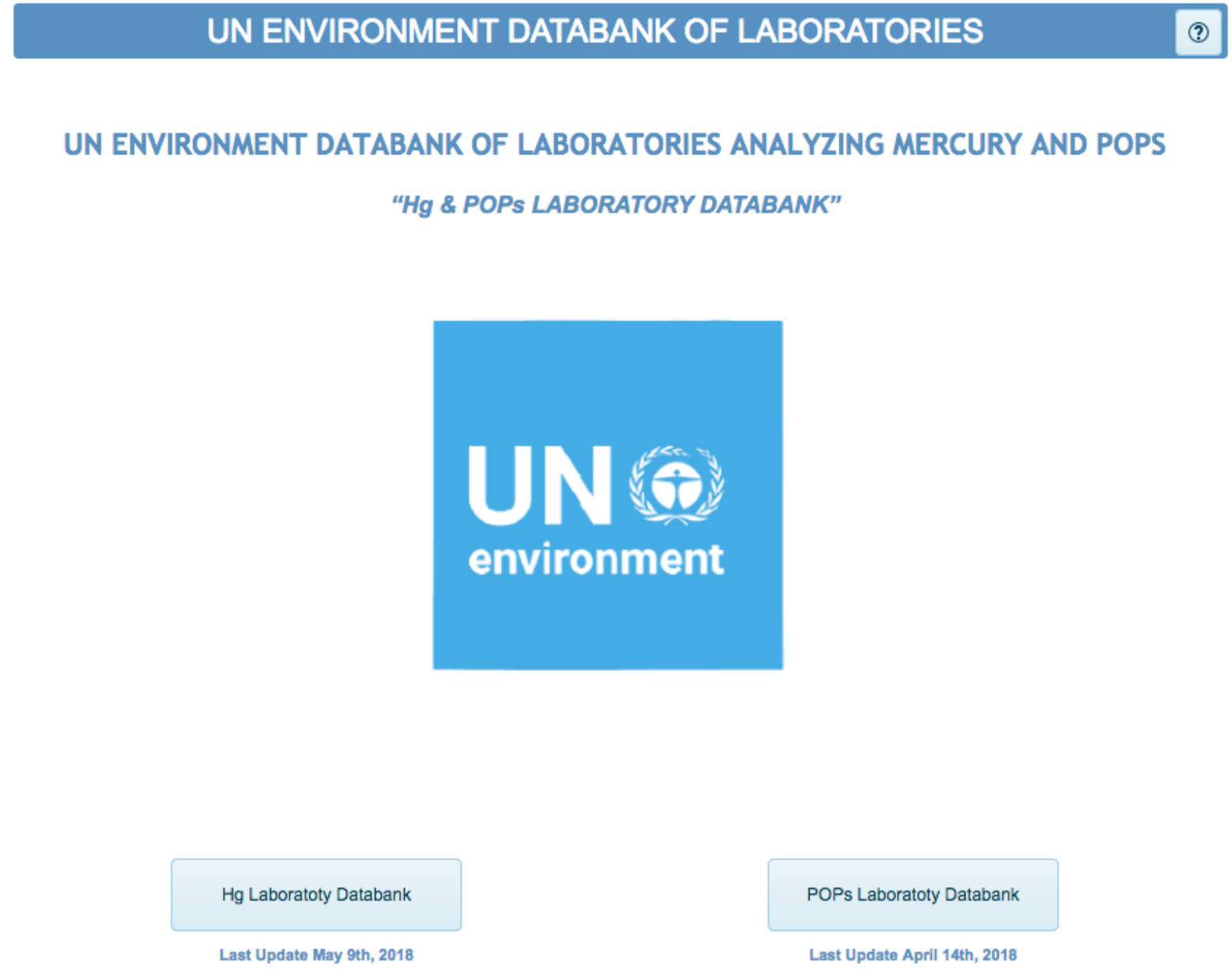
OBJECTIVE - Hg Assessment

provide state of the art information regarding the worldwide capacity of laboratories to analyze mercury

and would assess the effectiveness of Quality Assurance/Quality Control (QA/QC) practices in place…

Mercury Laboratories in the World (2016)

Africa	13	8
Asia	33	12
CEE	42	12
GRULAC	68	15
WEOG	54	15
	210	**62**



http://informea.pops.int/HgPOPsLabs/index.html

Mercury Laboratories in the World from Databank

Africa	13	8	Kenya (3), Mauritius (3), Senegal (2)…
Asia	33	12	India (7), Syria (6), Vietnam (5)…
CEE	42	12	Slovakia (17), Lithuania (5), Romania (3)…
GRULAC	68	15	Brazil (10), Colombia (15), Ecuador (12), Uruguay (7), Mexico (6) Argentina (5), Peru (5)…
WEOG	54	15	Belgium (16), Finland (5), Spain (5), UK (5), Norway (4), USA (4)…
	210	**62**	

http://informea.pops.int/HgPOPsLabs/index.html

Criteria for selection of laboratories for invitation

- ✓ Laboratory from the UN Environment databank.
- ✓ Laboratory indicated “Yes” in the databank questionnaire item on participation in the intercalibration assessment
- ✓ Laboratory has QC/QA systems in place and accreditations (international and/or national)
- ✓ UN Region, laboratories from developing countries and countries with economies in transition

If more than laboratory in one country then these criteria were considered:

- ✓ Capability to analyses different matrices
- ✓ Laboratory X is a public laboratory.

Timeline of the first Global Assessment of Laboratories Analyzing Mercury

Key dates PLAN

- Invitation sent **14 July 2018**
- Registration is open until **10 August 2018**
- Confirmation of participation and verification of shipment address is required before **16 August 2018**
- Distribution of samples will be done from **10-31 August 2018**
- Results of the analyses from participating laboratories are expected from **15 to 30 of September 2018**

Preliminary Results

Timeline of the first Global Assessment of Laboratories Analyzing Mercury

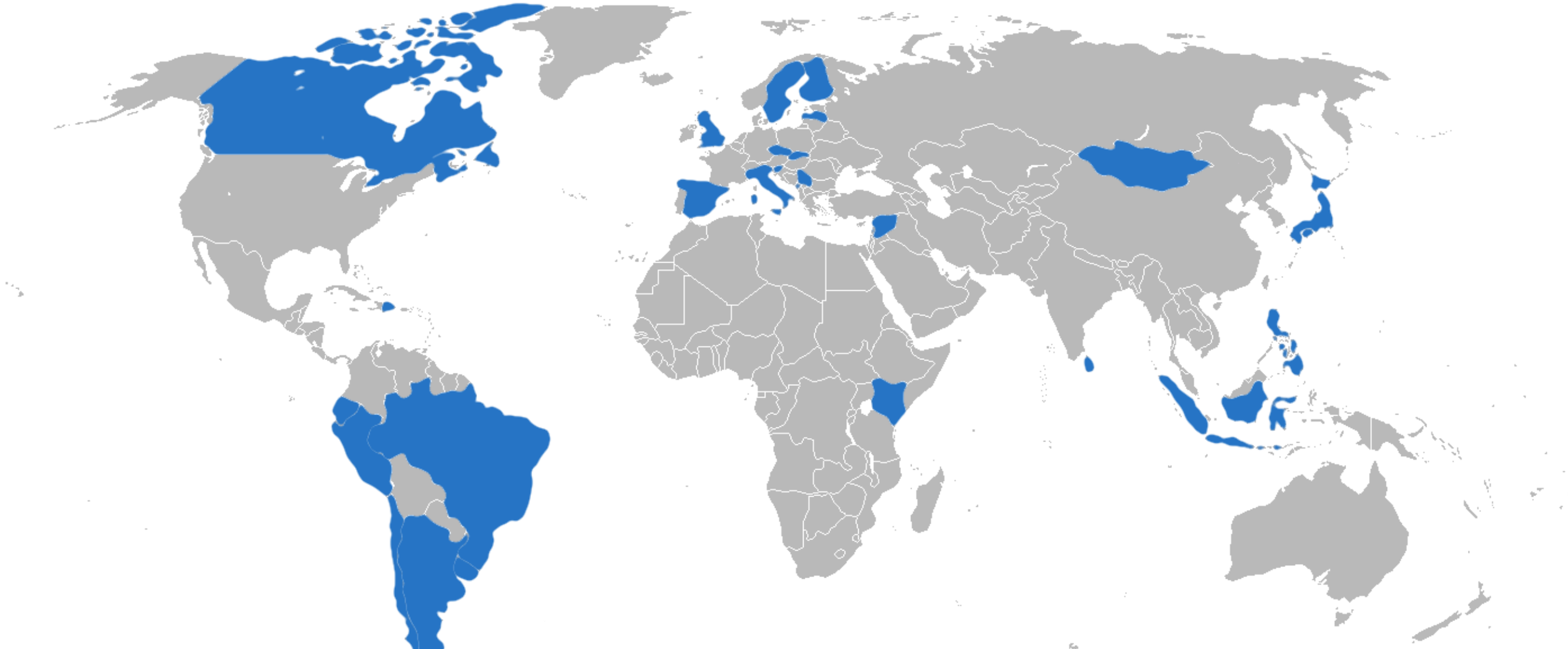
Key dates REALITY

- Invitation sent 14 July, + 20 July, reminder 30 July and 14 August 2018
- Registration deadline extended **until end of August 2018**
- Confirmation of participation and verification of shipment address
- **16 August 2018 - 21 September 2018**
- Distribution of samples from **20 August** and the last attempts **20 October 2018**
- Results received… from 15 September 2018 final deadline for results extended to **21 October 2018 but** last results received 8 November 2018 (not yet included in results)

Participation

Laboratories in the UN Environment databank	210	62
Laboratories invited	82	50
Laboratories registered	42	30
Laboratories receiving samples	39	28
Laboratories delivering results	38	28

Participation



	Number of laboratories	Number of countries
Africa	1	1
Asia	7	7
CEE	6	6
GRULAC	15	8
WEOG	9	7

Matrices and methods

	laboratories	results :-)
Standard	34	79 %
Hair	28	85 %
Fish	32	84 %

Methods Overview

CV-AAS Cold Vapor Atomic Absorption Spectrometry

CV-AFS Cold Vapor Atomic Fluorescence Spectrometry

ICP-MS Inductively Coupled Plasma Mass Spectrometry

TD-AAS Thermal Desorption Atomic Absorption Spectrometry

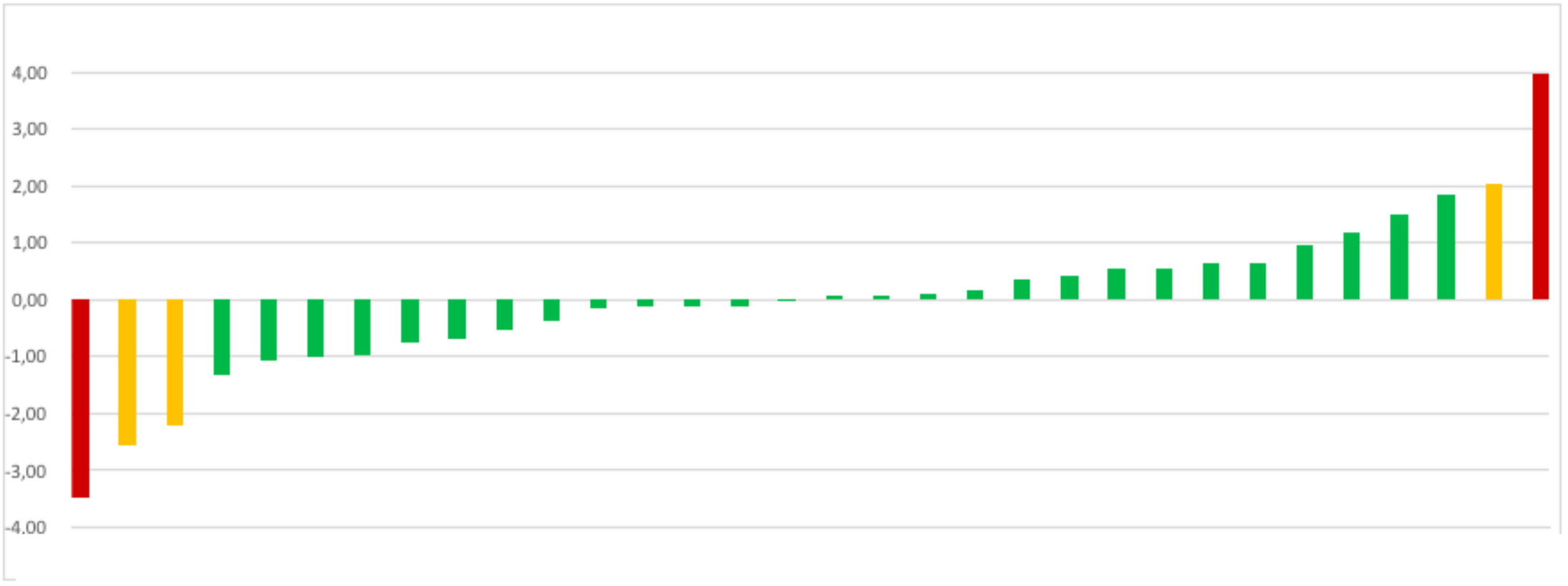
TD-GA-AAS Thermal Desorption Atomic Absorption Spectrometry with Gold Amalgamation

XFR X-Ray Fluorescence

Preliminary results - standard

Preliminary results - hair

Preliminary results - fish



Preliminary Conclusions

42 laboratories from 30 countries registered for the assessment

38 laboratories from 28 countries delivered results in the assessment

invitations, commitment, external factors - customs

three matrices were analyzed - standard, fish, hair

68% of laboratories registered for all three matrices

40% of all laboratories delivered excellent results and

37% of laboratories from developed world (WEOG + CEE)

Thank you for your kind attention