WORLD MAP -
MONITORING
OVERVIEW

AVAILABLE DATA -
PARAMETERS

AVAILABLE DATA -
YEARS

REPORTED
VALUES

REGIONAL
BACKGROUNDS

Stockholm Convention
on persistent organic
pollutants (POPs)

GMP1 on-line data visualization
User manual

Hůlek R., Jarkovský J., Borůvková J., Kalina J., Gregor J., Šebková K., Schwarz D., Klánová J., Dušek L.
Global Monitoring Plan of the Stockholm Convention on persistent organic pollutants: visualization and on-line analysis of data from the first monitoring report (2008) [online]. Masaryk University, 2013.
Available from: http://www.pops-gmp.org/visualization.

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Introduction

- Web site http://www.pops-gmp.org/visualization presents POPs data from environmental monitoring programmes as provided to GMP regional reports. Data are sorted by matrices, time, and compounds of interest.

- Five analytical outcomes are available:
    - World map – monitoring overview;
    - Available data – parameters;
    - Available data – years;
    - Reported values;
    - A case study showing the data validation process for POPs atmospheric concentrations from GMP1 reports and analysis of variability and regional backgrounds for twelve parameters.

Stockholm Convention on persistent organic pollutants (POPs)

WORLD MAP – MONITORING OVERVIEW

An interactive map displaying monitoring activities in the individual years.

» **Open the visualisation**

AVAILABLE DATA – PARAMETERS

Regional availability of monitoring data on compounds of interest in key matrices.

» **Open the visualisation**

AVAILABLE DATA – YEARS

Regional availability of monitoring data in selected time periods.

» **Open the visualisation**

REPORTED VALUES

Reported concentrations in the key matrices. For air, only the concentration values reported from the background (urban, suburban, rural, remote, mountain and polar) sites were included.

» **Open the visualisation**

REGIONAL BACKGROUNDS

Statistical evaluation of reported background atmospheric concentrations.

» **Open the visualisation**

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WORLD MAP – MONITORING OVERVIEW

Matrix: Air

Use this dropdown list to switch among matrices
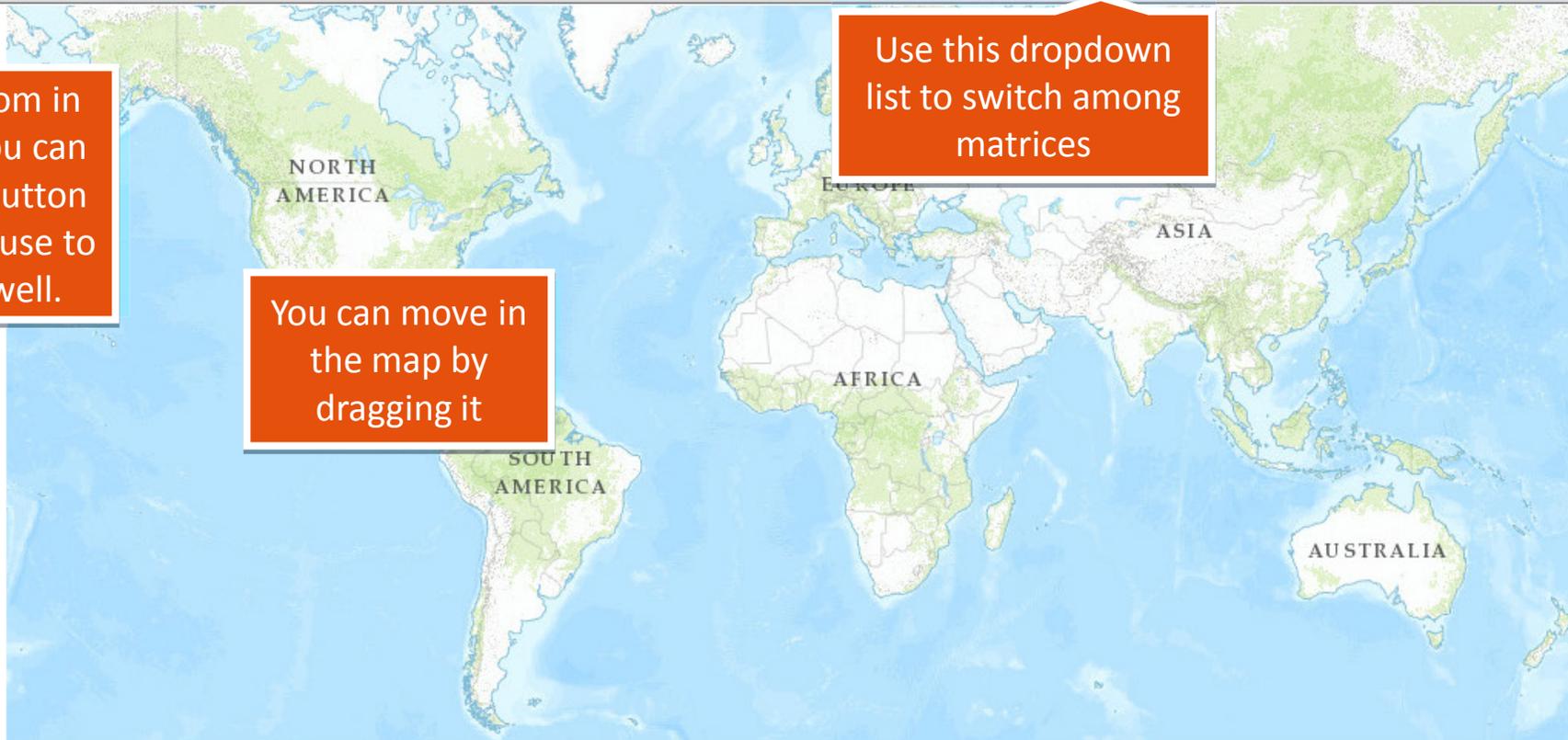
Drag to zoom in and out. You can use scroll button on your mouse to zoom as well.

You can move in the map by dragging it

NORTH AMERICA

EUROPE

ASIA

AFRICA

SOUTH AMERICA

AUSTRALIA

10000 km

5000 mi

Current YEAR: 2009

Time slider mode: Single time point

Basemap: Topo

Use these buttons to move, play or pause slideshow in the selected time scale

Use this dropdown menu to select time interval, in which the data are displayed

Select the type of map to be displayed

AVAILABLE DATA – PARAMETERS

Matrix: **Air**

Sampling method: all sampling methods

UN region: all UN regions

Compound: all compounds

Year (2001): « 1960 — 2010 »

Use dropdown lists to select from available values to filter the output. Filters marked with the grey cross can be deactivated

List of parameters

Parameters: PCBs, Aldrin, PCDDs/Fs TEQ, trans-Chlordane, PCB 209, cis-Chlordane (=, Indicator 7 PCBs, p,p-DDT, Dieldrin, PCB 167, Chlordane, Endrin, Gamma-HCH, PCB 123, PCB 156, cis-Nonachlor, Endosulfan II (b, PCB 157, PCDDs/Fs I-TEQ, HCB, PCB 169, Heptachlor, Endosulfan SO4, Alpha-HCH, PCB 180, PCB 114, Sum of 6 PCB, PCB 189, PCB 206, Oxychlordane, Chlordane + Nonachlor, total dioxins TEQ, PCDDs (7), PCB 153, trans-Nonachlor, PCB 99, Heptachlorepoxide, PCB 183, PCB 187, PCB 70, Sum 10 PCBs, PCB 194, PCB 101, p,p-DDD, o,p-DDT, o,p-DDD, PCB 28, PCB 49, 5 DDTs, DDT group, PCB 74, PCB 44, PeCB, o,p-DDE, PCB 126, trans-Chlordane + cis-Nonachlor, di-PCB TEQ, PCB 170, di-PCB I-TEQ, p,p-DDTs, p,p-DDE, PCDDs/Fs (17), PCDFs (1D), PCB 138, Beta-HCH, PCB 105, Mirex, PCB 52, Endosulfan I (alpha), PCB 118

List of countries: Canada, Czech Republic, Finland, Great Lakes, Hong Kong SAR, Iceland, Japan, Norway, Russian Federation, Southern Cone subregion, Spain, Sweden, United Kingdom, USA

Country: Czech Republic
Parameter: beta-HCH
Year: 2001

N: 1

Hover the mouse cursor over a cell to get additional information about the aggregated value. Click on the cell to show corresponding values.

AVAILABLE DATA – PARAMETERS

Matrix: **Air**

Sampling method: all sampling methods

UN region: all UN regions

Compound: all compounds

Year (2001): « 1960 — 2010 »

Detail for: Czech Republic / Beta-HCH / 2001 ✕

UN region	Country	Site	Matrix	Samplin...	Compou...	Paramet...	Min	Max	Mean	Median	SD
CEEC	Czech Repub	Kosetice_REC	Air	active	Beta-HCH	Beta-HCH	0.5	9	2.427	2	

List of values available for a particular cell

Canada
Czech Republic
Finland
Great Lakes
Hong Kong SAR
Iceland
Japan
Norway
Russian Federation
Southern Cone subregion
Spain
Sweden
United Kingdom
USA
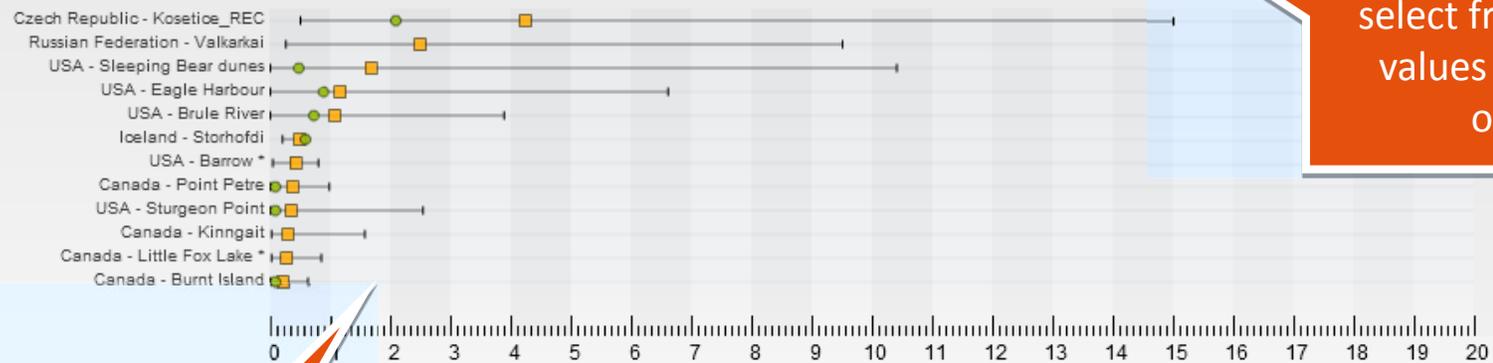
PCBs
Aldrin
PCDDs/Fs TEQ
trans-Chlordane (= gamma)

PCB 170
di-PCB I-TEQ
p,p-DDTs
p,p-DDE
PCDDs/Fs (17)
PCDFs (1D)
PCB 138
Beta-HCH
PCB 105
Mirex
PCB 52
Endosulfan I (alpha)
PCB 118

Czech Republic beta-HCH

AVAILABLE DATA – YEARS

Matrix: Air

Sampling method: active

UN region: WEOG

Parameter: Beta-HCH

Year: 1960 — 2010

Use dropdown lists to select from available values to filter the output.

List of years

List of countries

Country: USA
Year: 2002

N: 1

Hover the mouse cursor over a cell to get additional information about the aggregated value. Click on the cell to show corresponding values.

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Austria - Sonnblick																																									■	■	■			
Canada - Alert																														■						■										
Canada - Burnt Island																												■	■	■	■	■	■	■	■	■	■	■	■	■						
Canada - Egbert																																		■	■	■	■		■							
Canada - Kinngait																													■		■															
Canada - Little Fox Lake																																				■										
Canada - Point Petre																												■	■	■	■	■	■	■	■	■	■	■								
Canada - Tagish																													■	■																
Germany - Zugspitze																																					■	■	■							
Iceland - Storhofdi																														■	■	■	■	■	■	■	■	■	■	■	■					
Norway - Zeppelin																																	■		■	■	■	■	■						
Switzerland - Weissfluhjoch																																			■		■	■								
USA - Barrow																																		■		■										
USA - Brule River																													■	■	■	■	■	■	■										
USA - Eagle Harbour																													■	■	■	■	■	■											
USA - Sleeping Bear dunes																													■	■	■	■	■	■											
USA - Sturgeon Point																													■	■	■	■	■	■											

AVAILABLE DATA – YEARS

Matrix: Air
Sampling method: active
UN region: WEOG
Parameter: Beta-HCH
Year: 1960 — 2010

Detail for: USA / 2002

UN region	Country	Site	Matrix	Samplin...	Compou...	Paramet...	Min	Max	Mean	Median	SD
WEOG	USA	Barrow	Air	active	Beta-HCH	Beta-HCH	0.04	0.8	0.33		

List of values available for a particular cell

Austria - Sonnblick
Canada - Alert
Canada - Burnt Island
Canada - Egbert
Canada - Kinngait
Canada - Little Fox Lake
Canada - Point Petre
Canada - Tagish
Germany - Zugspitze
Iceland - Storhofdi
Norway - Zeppelin
Switzerland - Weissfluhjoch
USA - Barrow
USA - Brule River
USA - Eagle Harbour
USA - Sleeping Bear dunes
USA - Sturgeon Point

1965 1966 1967

2002 2003 2004 2005 2006 2007 2008 2009 2010

Country: USA
Year: 2002

N: 1

REPORTED VALUES - background sites only

Matrix: Air

Sampling method: active

Compound: Beta-HCH

Parameter: Beta-HCH

Unit: pg/m3

Year: 2002

Use dropdown lists to select from available values to filter the output.

Czech Republic - Kosetice_REC
Russian Federation - Valkarkai
USA - Sleeping Bear dunes
USA - Eagle Harbour
USA - Brule River
Iceland - Storhofdi
USA - Barrow *
Canada - Point Petre
USA - Sturgeon Point
Canada - Kinngait
Canada - Little Fox Lake *
Canada - Burnt Island

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Legend

Min   Mean Median   Max

* - Records marked with the asterix are taken from multiple-year aggregation.

(LoQ/N) - Values in paranthesis indicate proportion of records under limit of quantification (LoQ) and total number (N) of records.
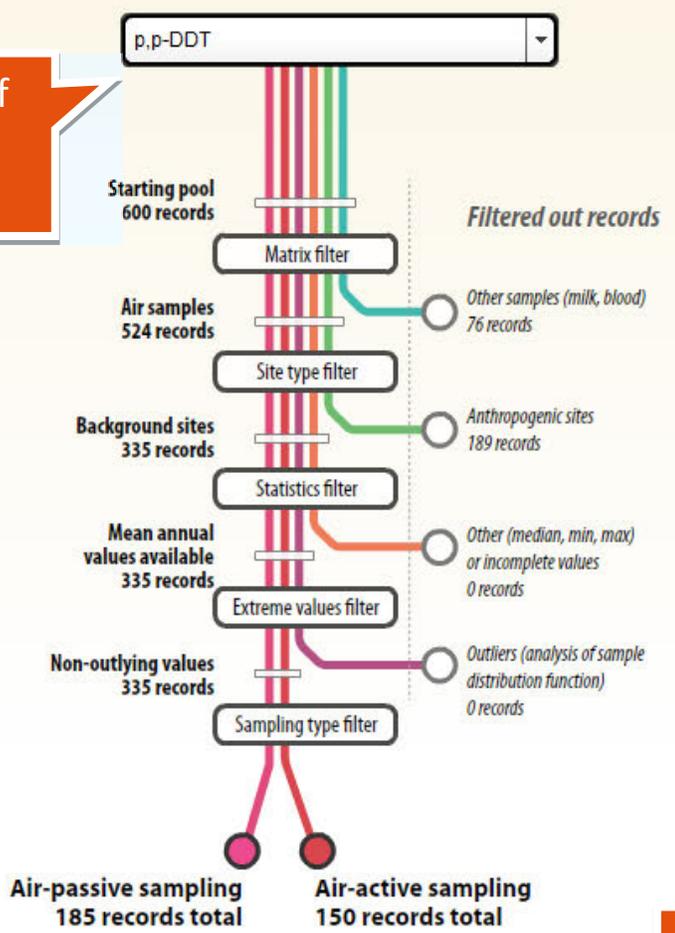
Reported values are shown as a box-and-whisker plot. A plot consist of minimum, maximum, mean and median. If a value is unavailable, appropriate symbol is not displayed.

REPORTED VALUES - background sites only

Matrix: Air

Sampling method: active

Compound: Beta-HCH

Parameter: Beta-HCH

Unit: pg/m3

Year: 2002

Czech Republic - Kosetice_REC
Russian Federation - Valkarkai
USA - Sleeping Bear dunes
USA - Eagle Harbour
USA - Brule River
Iceland - Storhofdi
USA - Barrow *
Canada - Point Petre
USA - Sturgeon Point
Canada - Kinngait
Canada - Little Fox Lake *
Canada - Burnt Island

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Legend

Min   Mean Median   Max

* - Records marked with the asterix are taken from multiple-year aggregation.
(LoQ/N) - Values in paranthesis indicate proportion of records under limit of quantification (LoQ) and total number (N) of records.

DETAIL OF SELECTED VALUE

Matrix:
Air active

Country:
Czech Republic - Kosetice_REC

Min:
0.5 (5/51)

Max:
15 (5/51)

Mean:
4.15 (5/51)

Median:
2 (5/51)

N:
51

Unit:
pg/m3

Hover the mouse cursor over a box-and-whisker plot to get additional information about the aggregated value.

REGIONAL BACKGROUNDS

Data Validation | Inter-regional Variability

Use these buttons to switch between data validation and inter-regional variability

Process of Data Validation

p,p-DDT

Select one of the 12 parameters.

Starting pool
600 records

Matrix filter

Air samples
524 records

Site type filter

Background sites
335 records

Statistics filter

Mean annual
values available
335 records

Extreme values filter

Non-outlying values
335 records

Sampling type filter

Filtered out records

Other samples (milk, blood)
76 records

Anthropogenic sites
189 records

Other (median, min, max)
or incomplete values
0 records

Outliers (analysis of sample
distribution function)
0 records

Air-passive sampling
185 records total

Air-active sampling
150 records total

Results of Data Validation

Sampling method	Africa	CEEC	GRULAC	WEOG	Asia and P...	TOTAL
● p,p-DDT Air-passive sampling	13 countries 20 sites 23 records 2005 - 2008	19 countries 69 sites 103 records 2003 - 2008	3 countries 6 sites 11 records 2005 - 2006	13 countries 25 sites 37 records 2005 - 2006	3 countries 8 sites 11 records 2006 - 2008	51 countries 128 sites 185 records 2003 - 2008
● p,p-DDT Air-active sampling	0 countries 0 sites 0 records	1 countries 1 sites 11 records 1998 - 2008	1 countries 3 sites 7 records 2002 - 2004	9 countries 16 sites 93 records 1998 - 2008	9 countries 33 sites 39 records 2004 - 2007	20 countries 53 sites 150 records 1998 - 2008

Air-active sampling

93
7
11
39

Air-passive sampling

103
23
11
37
11

Grand total

114
18
23
50
130

■ Africa ■ CEEC ■ GRULAC ■ WEOG ■ Asia and Pacific

Contribution of individual regions to the total number of [records ▼]
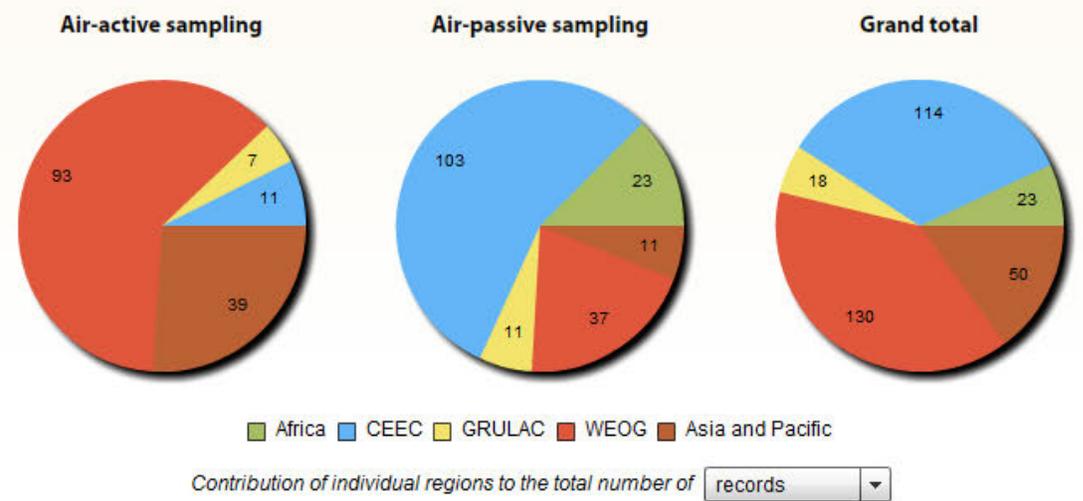
Use this dropdown list to compare regions according to number of records, sites and countries.

REGIONAL BACKGROUNDS

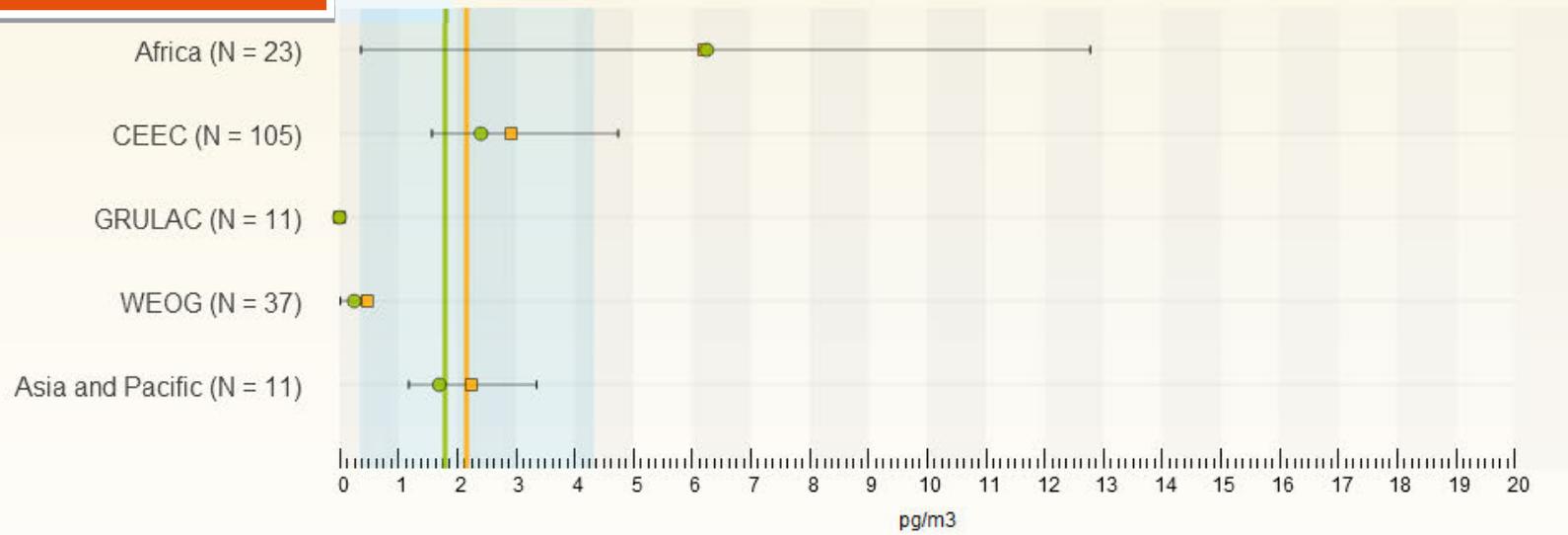Data Validation | Inter-regional Variability

Parameter: p,p-DDT   Sampling method: passive

Africa (N = 23)

CEEC (N = 105)

GRULAC (N = 11)

WEOG (N = 37)

Asia and Pacific (N = 11)

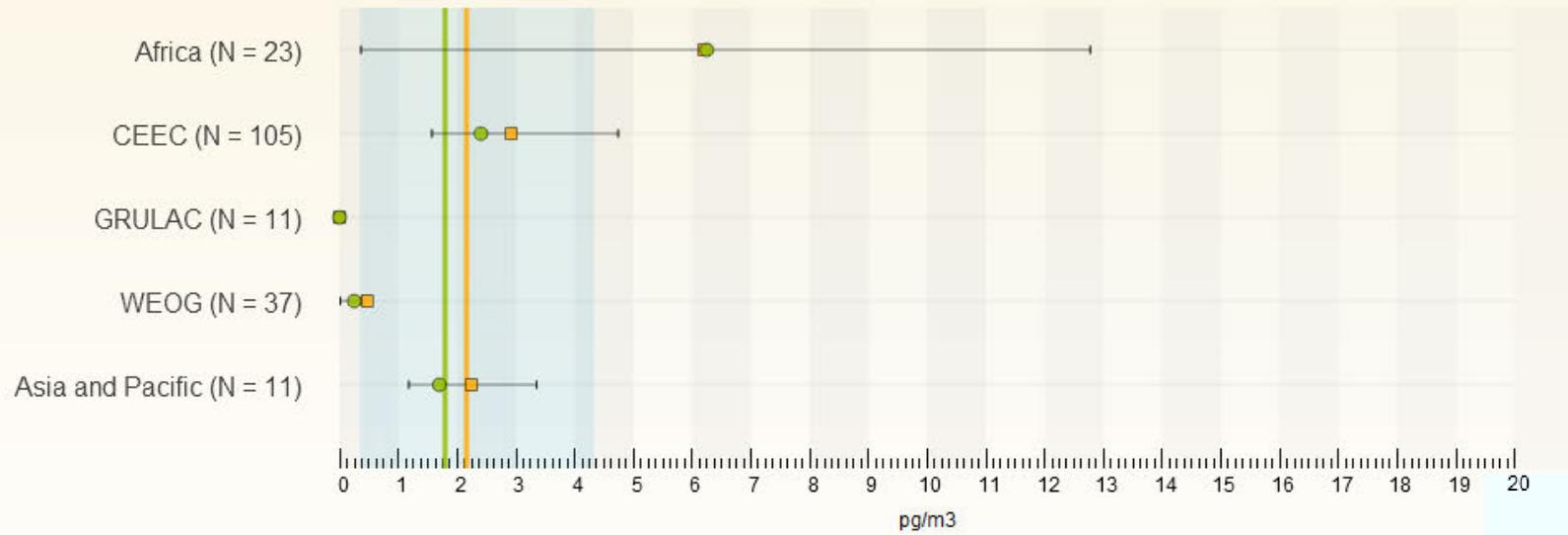0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

pg/m3

Total median: 1.813 pg/m3
Total geometric mean: 2.173 pg/m3
Total 25th percentile: 0.35 pg/m3
Total 75th percentile: 4.33 pg/m3

REGIONAL BACKGROUNDS

Data Validation | Inter-regional Variability

Parameter: p,p-DDT | Sampling method: passive

Africa (N = 23)
CEEC (N = 105)
GRULAC (N = 11)
WEOG (N = 37)
Asia and Pacific (N = 11)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

pg/m3

Total median: 1.813 pg/m3
Total geometric mean: 2.173 pg/m3
Total 25th percentile: 0.35 pg/m3
Total 75th percentile: 4.33 pg/m3

DETAIL OF SELECTED VALUE

Regional group:
CEEC

Geometric mean:
2.92

Median:
2.4

5th percentile:
0.25

25th percentile:
1.56

75th percentile:
4.73

95th percentile:
11.15

N:
105

Hover the mouse cursor over a box-and-whisker plot to get additional information about the aggregated value.

- Previous slides are based on randomly generated data and are provided just for demonstration purposes of the tools available in the on-line visualisation.

- Please use the link
  http://www.pops-gmp.org/visualization
  to access the on-line reporting tool.