

Data structure – Water

The aim of this document is to provide a short and clear description of parameters (data items) that are to be reported in the data collection forms of the Global Monitoring Plan (GMP) data collection campaigns 2013–2014. The data itself should be reported by means of MS Excel sheets as suggested in the document UNEP/POPS/COP.6/INF/31, chapter 2.3, p. 22. Aggregated data can also be reported via on-line forms available in the GMP data warehouse (GMP DWH).

Structure of the database and associated code lists are based on following documents, recommendations and expert opinions as adopted by the Stockholm Convention COP6 in 2013:

- Guidance on the Global Monitoring Plan for Persistent Organic Pollutants UNEP/POPS/COP.6/INF/31 (version January 2013)
- Conclusions of the Meeting of the Global Coordination Group and Regional Organization Groups for the Global Monitoring Plan for POPs, held in Geneva, 10–12 October 2012
- Conclusions of the Meeting of the expert group on data handling under the global monitoring plan for persistent organic pollutants, held in Brno, Czech Republic, 13-15 June 2012

The individual reported data component is inserted as:

- free text or number (e.g. Site name, Monitoring programme, Value)
- a defined item selected from a particular code list (e.g., Country, Chemical – group, Sampling). All code lists (i.e., allowed values for individual parameters) are enclosed in this document, either in a particular section (e.g., Region, Method) or listed separately in the annexes below (Country, Chemical – group, Parameter) for your reference.
- multiple selection from a particular code list, i.e., more than one option can be selected (Discharges)

Site

- **Site ID (number)**
Description: Identification code of the site generated by the GMP DWH system in the format GMP-XX-XXXXX
- **Site name (text)***
Description: Name of the site. Note: When providing data from a site that was reported previously, the name used this time must be identical to that already contained in the GMP DWH. The recommended format: “name of the water body – name of the sampling site”, i.e. “Elbe – Decin” or “Donau – Bratislava”
- **Surface water type (code list)***
Description: Specification of water body which was sampled
 - Fresh water – lake
 - Fresh water – reservoir
 - Fresh water – river
 - Fresh water – channel
 - Marine water – coastal
 - Marine water – open ocean
 - Transitional

- **Point coordinates***
allowed for “Type of spatial data” = “Point”
 - **Longitude (number)**
Description: Longitude of the site in decimal format (XX,XXXXXE or XX,XXXXXW)
 - **Latitude (number)**
Description: Latitude of the site in decimal format (XX,XXXXXN or XX,XXXXXS)
- **Region (code list)***
Description: list of UN regional groups
 - Asia and Pacific
 - Africa
 - CEEC
 - GRULAC
 - WEOG
- **Country (code list)***
Description: Country, in which the site is located.
not allowed for “Surface water type” = “Marine water – open ocean”
 - code list – see “Country” code list
- **Ocean or sea (code list)***
allowed for “Surface water type” = “Marine water – open ocean” or “Marine water – coastal” or “Transitional”
Description: Ocean or sea, in which the site is located.
 - code list – see “Ocean or sea” code list
- **Site type (code list)***
Description: Character of the site with respect to the population density (for rivers and channels state the highest density along the whole stream)
allowed for “Surface water type” = “Fresh water – lake” or “Fresh water – reservoir” or “Fresh water – river” or “Fresh water – channel”
 - Urban
 - Rural
 - Remote
 - High altitude
 - Polar
- **Discharges (code list, multiple selection)***
Description: Character of the site with respect to potential sources of POPs
allowed for “Surface water type” = “Fresh water – lake” or “Fresh water – reservoir” or “Fresh water – river” or “Fresh water – channel”
 - Municipal
 - Industrial
 - Agricultural
 - None

Sampling attributes

- **Year (number)***
Description: Year in the format YYYY

- **Start of sampling (number)***
Description: Date in the format DD.MM.YYYY
- **End of sampling (number)***
Description: Date in the format DD.MM.YYYY
- **Sampling frequency (code list)***
Description: Periodicity of sampling within one year
 - 1 week
 - 2 weeks
 - 3 weeks
 - 4 weeks
 - 1 month
 - 2 months
 - 3 months
 - 4 months
 - 6 months
 - 12 months
- **Largest gap (number)***
Largest gap between end and start of individual samples within aggregated year (months)
- **Type of sampling (code list)***
Description: Type of water sampling
 - Active
 - Passive
- **Depth – minimum (non-negative real number)***
Description: Number; Depth in which the sample was collected (m).
- **Depth – maximum (non-negative real number)***
Description: Number; Depth in which the sample was collected (m).
- **Temperature***
Description: Temperature of collected water (°C).
 - **Value (mean) (non-negative real number)***
Description: Number; Mean of aggregated values
 - **Minimum (non-negative real number)***
Description: Number; Minimum value in this aggregation
 - **Maximum (non-negative real number)***
Description: Number; Maximum value in this aggregation
- **Salinity***
Description: Salinity of collected water (‰).
 - **Value (mean) (non-negative real number)***
Description: Number; Mean of aggregated values
 - **Minimum (non-negative real number)***
Description: Number; Minimum value in this aggregation
 - **Maximum (non-negative real number)***
Description: Number; Maximum value in this aggregation
- **Monitoring programme/network/cruise (text)**
Description: Name of the monitoring programme, network or cruise that provided this data record

Measurement

- **Chemical – group (code list)***
Description: Persistent organic pollutants (POPs) included in Annexes of the Stockholm Convention as defined in the document UNEP/POPS/COP.6/INF/31, chapter 2.1, p. 16. Please note that indicator and coplanar PCBs are separated.
 - code list – see “Chemical – group” code list
- **Parameter (code list)***
Description: Parent POPs, isomers and transformation products of POPs listed in the Stockholm Convention, and summations defined in the document UNEP/POPS/COP.6/INF/31, chapter 2.2, p. 19–21. The parameters are directly linked with units. Please note that each parameter should be reported in pg or fg (for dioxins and furans) per litre.
 - code list – see “Parameter” code list
- **Method (code list)***
Description: Analytical method used for determination of the concentration
 - GC-ECD
 - GC-ECNI-MS
 - GC-HRMS
 - GC-MS
 - HPLC
 - HPLC-MS-MS
- **LOQ (non-negative real number)***
Description: Number representing Limit of quantification value
- **No. of values (positive integer)***
Description: Number representing amount of values aggregated
- **No. under LoQ (non-negative integer)***
Description: Number representing amount of values in this aggregation that were smaller than the LoQ value
- **Value (mean) (non-negative real number)***
Description: Number; Mean of aggregated values
- **Value (median) (non-negative real number)***
Description: Number; Median of aggregated values
- **Minimum (non-negative real number)***
Description: Number; Minimum value in this aggregation
- **Maximum (non-negative real number)***
Description: Number; Maximum value in this aggregation
- **5th percentile (non-negative real number)**
Description: Number; Value on the 5% position of the aggregated data set (sorted from the lowest to highest concentration)
- **95th percentile (non-negative real number)**
Description: Number; Value on the 95% position of the aggregated data set (sorted from the lowest to highest concentration)
- **SD (non-negative real number)***
Description: Number; Standard deviation of aggregated values
- **Laboratory (text)**
Description: Name of the laboratory performing analysis of this data record

“Country” Code List

| | | |
|---------------------------------------|--|------------------------------|
| Afghanistan | Israel | South Africa |
| Albania | Italy | South Sudan |
| Algeria | Ivory Coast | Spain |
| Andorra | Jamaica | Sri Lanka |
| Angola | Japan | Sudan |
| Antarctica | Jordan | Suriname |
| Antigua and Barbuda | Kazakhstan | Swaziland |
| Argentina | Kenya | Sweden |
| Armenia | Kiribati | Switzerland |
| Australia | Korea, Democratic People’s Republic of | Syria |
| Austria | Korea, Republic of | Tajikistan |
| Azerbaijan | Kosovo | Tanzania, United Republic of |
| Bahamas | Kuwait | Thailand |
| Bahrain | Kyrgyzstan | Timor-Leste |
| Bangladesh | Laos | Togo |
| Barbados | Latvia | Tonga |
| Belarus | Lebanon | Trinidad and Tobago |
| Belgium | Lesotho | Tunisia |
| Belize | Liberia | Turkey |
| Benin | Libya | Turkmenistan |
| Bhutan | Liechtenstein | Tuvalu |
| Bolivia | Lithuania | Uganda |
| Bosnia and Herzegovina | Luxembourg | Ukraine |
| Botswana | Madagascar | United Arab Emirates |
| Brazil | Malawi | United Kingdom |
| Brunei | Malaysia | United States |
| Bulgaria | Maldives | Uruguay |
| Burkina Faso | Mali | Uzbekistan |
| Burundi | Malta | Vanuatu |
| Cambodia | Marshall Islands | Vatican City |
| Cameroon | Mauritania | Venezuela |
| Canada | Mauritius | Viet-Nam |
| Cape Verde | Mexico | Yemen |
| Central African Republic | Micronesia, Federated States of | Zambia |
| Chad | Moldova, Republic of | Zimbabwe |
| Chile | Monaco | |
| China, Peoples Republic of | Mongolia | |
| Colombia | Montenegro | |
| Comoros | Morocco | |
| Congo | Mozambique | |
| Congo, Democratic Republic of | Myanmar | |
| Cook Islands | Namibia | |
| Costa Rica | Nauru | |
| Croatia | Nepal | |
| Cuba | Netherlands | |
| Cyprus | New Zealand | |
| Czech Republic | Nicaragua | |
| Denmark | Niger | |
| Djibouti | Nigeria | |
| Dominica | Niue | |
| Dominican Republic | Norway | |
| Ecuador | Oman | |
| Egypt | Pakistan | |
| El Salvador | Palau | |
| Equatorial Guinea | Palestine | |
| Eritrea | Panama | |
| Estonia | Papua New Guinea | |
| Ethiopia | Paraguay | |
| Fiji | Peru | |
| Finland | Philippines | |
| Former Yugoslav Republic of Macedonia | Poland | |
| France | Portugal | |
| Gabon | Qatar | |
| Gambia | Romania | |
| Georgia | Russian Federation | |
| Germany | Rwanda | |
| Ghana | Saint Kitts and Nevis | |
| Greece | Saint Lucia | |
| Grenada | Saint Vincent and the Grenadines | |
| Guatemala | Samoa | |
| Guinea | San Marino | |
| Guinea-Bissau | Sao Tome and Principe | |
| Guyana | Saudi Arabia | |
| Haiti | Senegal | |
| Honduras | Serbia | |
| Hungary | Seychelles | |
| Iceland | Sierra Leone | |
| India | Singapore | |
| Indonesia | Slovakia | |
| Iran, Islamic Republic of | Slovenia | |
| Iraq | Solomon Islands | |
| Ireland | Somalia | |

“Ocean or sea” Code List

| | | |
|----------------------|-----------------------------|---------------------|
| Atlantic ocean | Flores Sea | Savu Sea |
| Arctic ocean | Great Australian Bight | Scotia Sea |
| Indian ocean | Greenland Sea | Sea of Åland |
| Pacific ocean | Gulf of Aden | Sea of Azov |
| Southern ocean | Gulf of Alaska | Sea of Chiloé |
| Adriatic Sea | Gulf of Bothnia | Sea of Crete |
| Aegean Sea | Gulf of California / Sea of | Sea of Japan |
| Alboran Sea | Cortéz | Sea of Okhotsk |
| Amundsen Gulf | Gulf of Carpentaria | Sea of Sardinia |
| Amundsen Sea | Gulf of Finland | Sea of Sicily |
| Andaman Sea | Gulf of Guinea | Sea of the Hebrides |
| Arabian Sea | Gulf of Maine | Seto Inland Sea |
| Arafura Sea | Gulf of Mexico | Sibuyan Sea |
| Aral Sea | Gulf of Oman | Solomon Sea |
| Archipelago Sea | Gulf of Riga | Somov Sea |
| Argentine Sea | Gulf of Sidra | South China Sea |
| Baffin Bay | Gulf of St. Lawrence | Spencer Gulf |
| Balearic Sea | Gulf of Thailand | Sulu Sea |
| Baltic Sea | Gulf of Venezuela | Tasman Sea |
| Banda Sea | Gulf St Vincent | Thracian Sea |
| Barents Sea | Halmahera Sea | Timor Sea |
| Bass Strait | Hudson Bay | Tyrrhenian Sea |
| Bay of Bengal | Ionian Sea | Visayan Sea |
| Bay of Biscay | Irish Sea | Wadden Sea |
| Bay of Campeche | James Bay | Wandel Sea |
| Bay of Fundy | Java Sea | Weddell Sea |
| Beaufort Sea | Kara Sea | White Sea |
| Bellingshausen Sea | Kara Strait | Yellow Sea |
| Bering Sea | King Haakon VII Sea | |
| Bismarck Sea | Koro Sea | |
| Black Sea | Labrador Sea | |
| Bohai Sea | Laccadive Sea | |
| Bohol / Mindanao Sea | Laptev Sea | |
| Bothnian Sea | Lazarev Sea | |
| Camotes Sea | Levantine Sea | |
| Caribbean Sea | Libyan Sea | |
| Caspian Sea | Ligurian Sea | |
| Catalan Sea | Lincoln Sea | |
| Celebes Sea | Mar de Grau | |
| Celtic Sea | Marmara Sea | |
| Central Baltic Sea | Mawson Sea | |
| Ceram Sea | Mediterranean Sea | |
| Chesapeake Bay | Mirtoon Sea | |
| Chilean Sea | Molucca Sea | |
| Chukchi Sea | Mozambique Channel | |
| Cilician Sea | North Sea | |
| Cooperation Sea | Norwegian Sea | |
| Coral Sea | Oresund Strait | |
| Cosmonauts Sea | Pechora Sea | |
| Davis Sea | Persian Gulf | |
| Davis Strait | Philippine Sea | |
| Dead Sea | Prince Gustav Adolf Sea | |
| Denmark Strait | Red Sea | |
| Drake Passage | Riiser-Larsen Sea | |
| D'Urville Sea | Ross Sea | |
| East China Sea | Salish Sea | |
| East Siberian Sea | Salton Sea | |
| English Channel | Sargasso Sea | |

“Chemical – group” Code List

Aldrin
Chlordane
Dichlorodiphenyltrichloroethane (DDT)
Dieldrin
Endrin
Hexachlorobenzene (HCB)
Heptachlor
Mirex
Polychlorinated biphenyls (PCB) – indicator
Polychlorinated biphenyls (dl-PCB) – coplanar
Polychlorinated dibenzodioxins (PCDD)
Polychlorinated dibenzofurans (PCDF)
Polychlorinated dibenzodioxins/dibenzofurans (PCDD/F)
Toxaphene
Chlordecone
Alpha-hexachlorocyclohexane (α -HCH)
Beta-hexachlorocyclohexane (β -HCH)
Gamma-hexachlorocyclohexane (γ -HCH)
Hexabromobiphenyl (HBB)
Pentachlorobenzene (PeCBz)
Polybromodiphenyl ethers (PBDE)
Perfluorooctane sulfonic acid (PFOS)
Endosulfan
Hexabromocyclododecane (HBCD)

“Parameter” Code List

| | |
|---|--------------------------------|
| Aldrin (pg/l) | 1,2,3,4,6,7,8-HpCDF (fg/l) |
| cis-Chlordane (= alpha) (pg/l) | 1,2,3,4,7,8,9-HpCDF (fg/l) |
| trans-Chlordane (= gamma) (pg/l) | 1,2,3,4,7,8-HxCDF (fg/l) |
| Oxychlordane (pg/l) | 1,2,3,6,7,8-HxCDF (fg/l) |
| cis-Nonachlor (pg/l) | 1,2,3,7,8,9-HxCDF (fg/l) |
| trans-Nonachlor (pg/l) | 1,2,3,7,8-PeCDF (fg/l) |
| o,p-DDT (pg/l) | 2,3,4,6,7,8-HxCDF (fg/l) |
| o,p-DDD (pg/l) | 2,3,4,7,8-PeCDF (fg/l) |
| o,p-DDE (pg/l) | 2,3,7,8-TCDF (fg/l) |
| p,p-DDT (pg/l) | OCDF (fg/l) |
| p,p-DDD (pg/l) | Sum 10 PCDFs (fg/l) |
| p,p-DDE (pg/l) | PCDFs WHO1998-TEQ LB (fg/l) |
| Sum 3 p,p-DDTs (pg/l) | PCDFs WHO1998-TEQ UB (fg/l) |
| Sum 6 DDTs (pg/l) | PCDFs WHO2005-TEQ LB (fg/l) |
| Dieldrin (pg/l) | PCDFs WHO2005-TEQ UB (fg/l) |
| Endrin (pg/l) | Sum 17 PCDDs/Fs (fg/l) |
| HCB (pg/l) | PCDDs/Fs WHO1998-TEQ LB (fg/l) |
| Heptachlor (pg/l) | PCDDs/Fs WHO1998-TEQ UB (fg/l) |
| cis-Heptachlorepoxide (= exo, B) (pg/l) | PCDDs/Fs WHO2005-TEQ LB (fg/l) |
| trans-Heptachlorepoxide (= endo, A) (pg/l) | PCDDs/Fs WHO2005-TEQ UB (fg/l) |
| Sum 2 heptachlorepoxides (cis + trans) (pg/l) | Parlar 26 (pg/l) |
| Mirex (pg/l) | Parlar 50 (pg/l) |
| PCB 28 (pg/l) | Parlar 40/41 (pg/l) |
| PCB 52 (pg/l) | Parlar 44 (pg/l) |
| PCB 101 (pg/l) | Parlar 62 (pg/l) |
| PCB 138 (pg/l) | Chlordecone (pg/l) |
| PCB 153 (pg/l) | Alpha-HCH (pg/l) |
| PCB 180 (pg/l) | Beta-HCH (pg/l) |
| Sum 6 PCBs (pg/l) | Gamma-HCH (pg/l) |
| Sum 7 PCBs (pg/l) | PBB 153 (pg/l) |
| PCB 77 (fg/l) | PeCB (pg/l) |
| PCB 81 (fg/l) | BDE 153 (pg/l) |
| PCB 105 (fg/l) | BDE 154 (pg/l) |
| PCB 114 (fg/l) | BDE 175/183 (pg/l) |
| PCB 118 (fg/l) | BDE 17 (pg/l) |
| PCB 123 (fg/l) | BDE 28 (pg/l) |
| PCB 126 (fg/l) | BDE 47 (pg/l) |
| PCB 156 (fg/l) | BDE 99 (pg/l) |
| PCB 157 (fg/l) | BDE 100 (pg/l) |
| PCB 167 (fg/l) | PFOS (pg/l) |
| PCB 169 (fg/l) | PFOSA (pg/l) |
| PCB 189 (fg/l) | NMeFOSA (pg/l) |
| Sum 12 PCBs (fg/l) | NEtFOSA (pg/l) |
| PCBs WHO1998-TEQ LB (fg/l) | NMeFOSE (pg/l) |
| PCBs WHO1998-TEQ UB (fg/l) | NEtFOSE (pg/l) |
| PCBs WHO2005-TEQ LB (fg/l) | Endosulfan I (alpha) (pg/l) |
| PCBs WHO2005-TEQ UB (fg/l) | Endosulfan II (beta) (pg/l) |
| 1,2,3,4,6,7,8-HpCDD (fg/l) | Endosulfan SO4 (pg/l) |
| 1,2,3,4,7,8-HxCDD (fg/l) | Alpha-HBCD (pg/l) |
| 1,2,3,6,7,8-HxCDD (fg/l) | Beta-HBCD (pg/l) |
| 1,2,3,7,8,9-HxCDD (fg/l) | Gamma-HBCD (pg/l) |
| 1,2,3,7,8-PeCDD (fg/l) | |
| 2,3,7,8-TCDD (fg/l) | |
| OCDD (fg/l) | |
| Sum 7 PCDDs (fg/l) | |
| PCDDs WHO1998-TEQ LB (fg/l) | |
| PCDDs WHO1998-TEQ UB (fg/l) | |
| PCDDs WHO2005-TEQ LB (fg/l) | |
| PCDDs WHO2005-TEQ UB (fg/l) | |