



Comprehensive Atmospheric Monitoring Programme

Deposition of air pollutants around the North Sea and the North-East Atlantic in 2009



OSPAR Convention

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention") was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Union and Spain.

Convention OSPAR

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par l'Union européenne et l'Espagne.

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Executive summary

This report presents the results of monitoring undertaken by OSPAR Contracting Parties for the Comprehensive Atmospheric Monitoring Programme (CAMP) during 2009. Under the CAMP, OSPAR Contracting Parties are committed to monitoring, on a mandatory basis, the concentrations of a range of metals, organic compounds and nutrients in precipitation and air, and their depositions. The CAMP also encourages OSPAR Contracting Parties to monitor, on a voluntary basis, additional compounds (such as certain persistent organic pollutants). The report gives detailed information on observed atmospheric inputs of selected contaminants to the OSPAR maritime area and its regions during 2009.

There were few changes in the CAMP reporting for 2009. Several of the stations do not strictly meet the requirements of the CAMP Principles (e.g. distance from the coast). Region II, the North Sea, remains the most intensely observed sub-region. Sub-regional coasts that are most underrepresented are the Irish Sea (Region III), the Bay of Biscay (Region IV), and the far north-east (Region I).

The trend towards more complete and more timely reporting remains positive, however, certain elements regularly go unreported. The programme for observation of airborne concentrations of pollutants is least observed, and for the programme for pollutants in precipitation, lindane and mercury receive least attention. Lack of reporting stations hinders interpretation of monitored data especially for lindane and mercury. Monitoring results show high concentrations of mercury in Nordic counties and underline the importance of monitoring in Region I. Data on PCBs is also very limited which limits interpretation.

Récapitulatif

Ce rapport présente les résultats de la surveillance continue mise en œuvre par les parties contractantes à OSPAR dans le cadre du Programme exhaustif de surveillance continue de l'atmosphère (CAMP) en 2009. Aux termes du programme CAMP, les parties contractantes à OSPAR s'engagent à mettre en œuvre une surveillance continue obligatoire des concentrations d'un ensemble de métaux, de composés organiques et de nutriments dans les précipitations et dans l'atmosphère, ainsi que de leurs dépôts. Le programme CAMP encourage aussi les parties contractantes à OSPAR à pratiquer une surveillance continue, sur la base du volontariat, de composés supplémentaires (tels que certains polluants organiques persistants). Le rapport présente des informations détaillées sur les apports atmosphériques observés de certains contaminants dans la zone maritime OSPAR et dans ses régions en 2009.

On a observé peu de changements de la notification dans le cadre du Programme CAMP pour 2009. Plusieurs stations ne satisfont pas rigoureusement aux conditions énoncées dans les Principes CAMP (par exemple la distance à partir du littoral). La Région II, c'est-à-dire la mer du Nord, reste la sous-région la plus intensément observée. Les littoraux sous-régionaux les plus sous-représentés sont la mer d'Irlande (Région III), la Baie de Biscay (Région IV) et l'extrême nord-est (Région I).

La tendance vers une notification plus complète, réalisée dans de meilleurs délais, reste positive, malgré cela certains éléments sont régulièrement omis par la notification. Le programme d'observation des concentrations atmosphériques de polluants est celui qui est le moins observé, et en ce qui concerne le programme d'observation des polluants dans les précipitations, on fait le moins attention au lindane et au mercure. Le manque de stations disponibles pour la notification entrave l'interprétation des données de surveillance, surtout pour le lindane et le mercure. Les résultats de la surveillance indiquent des concentrations élevées de mercure dans les pays nordiques et soulignent l'importance de la surveillance dans la Région I. Les données sur les polychlorobiphényles sont également très limitées, ce qui restreint leur interprétation.

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1. Introduction

This report collates and describes the observations from coastal monitoring stations across the OSPAR region (see Figure 1.1) under the Comprehensive Atmospheric Monitoring Programme (CAMP), this forming one element within the wider Joint Assessment and Monitoring Programme of OSPAR. The CAMP aims to assess, as accurately as appropriate, the atmospheric input of the selected contaminants to the maritime area and regions thereof (Figure 1.1) on an annual basis through monitoring the concentrations of selected contaminants in precipitation and air, and determining their deposition. The monitoring regime employed is set out in the CAMP Principles (OSPAR reference number: 2001-7), describing the relevant substances, sampling approach, locations and frequency, and assessment methodologies. The approach used in this report moves **towards an indicator based assessment**, using a colour code scale indicating the relative magnitudes of pollutant deposition.



Figure 1.1: OSPAR maritime area and Regions. Region I: Arctic Waters, II: Greater North Sea, III: Celtic Seas, IV: Bay of Biscay/Iberian Coast, V: Wider Atlantic

The components of interest to the CAMP are divided into two groups, for measurement on a mandatory basis and for measurement on a voluntary basis. These are listed in Table 1.1.

Table 1.1: Components to be measured under the CAMP

	Mandatory	Voluntary
Precipitation	As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, γ -HCH, NH_4^+ , NO_3^-	PCB 28,52,101,118,138,153,180 PAHs: Phenanthrene, anthracene, flouranthene, pyrene, benzo(a)anthracene, chrysene, benzo(a)pyrene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene
Airborne	NO_2 , HNO_3 , NH_3 , NH_4^{+a} , NO_3^{-a}	As, Cd, Cr, Cu, Pb, Hg, Ni, Zn, γ -HCH, PCB 28,52,101,118,138,153,180, PAHs: Phenanthrene, anthracene, flouranthene, pyrene, benzo(a)anthracene, chrysene, benzo(a)pyrene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene, NO

^{a)} total ammonium ($\text{NH}_3 + \text{NH}_4^+$) and total nitrate ($\text{HNO}_3 + \text{NO}_3^-$) is an alternative

The CAMP Principles call for each Contracting Party bordering the OSPAR maritime area (excluding the EU) to operate at least one monitoring station on the coast and/or offshore as part of the CAMP. Where Parties border more than one region (see Figure 1.1) at least one station should be operating in each. The stations should be so-called “background stations”, i.e. not directly influenced by local emission sources. The stations should be located not more than 10 km from the coastline.

The data assembled by monitoring stations are reported by Contracting Parties to the Norwegian Institute for Air Research (NILU) on a yearly basis, using a reporting format and according to the time schedule set out in the CAMP Principles. Based on the data received, NILU prepares a CAMP data report on an annual basis for OSPAR.

The present CAMP data report “*Pollutant depositions in the OSPAR region of the North-East Atlantic in 2009*” gives in Chapter 2 an overview of reported data and the implementation of the CAMP Principles in 2009. The overview includes the geographical coverage, the coverage by each Contracting Party of contaminants subject to mandatory and voluntary monitoring, the timeliness of data submission, and the reporting of additional components. In Chapter 3, the 2009 observed annual depositions of components subject to mandatory monitoring are mapped. A relative colour scale is also used as a step towards an indicator based assessment. Chapter 4 provides overviews of temporal patterns in the observations in recent years and introduces the use of a colour scale for temporal trends. Chapter 5 summarises the main points on the reported CAMP data for 2009 and includes suggestions for improving the CAMP programme. The data submitted by Contracting Parties as monthly values are appended to this report (see Annex).

2. The OSPAR CAMP Monitoring Programme in 2009

2.1 Geographical coverage

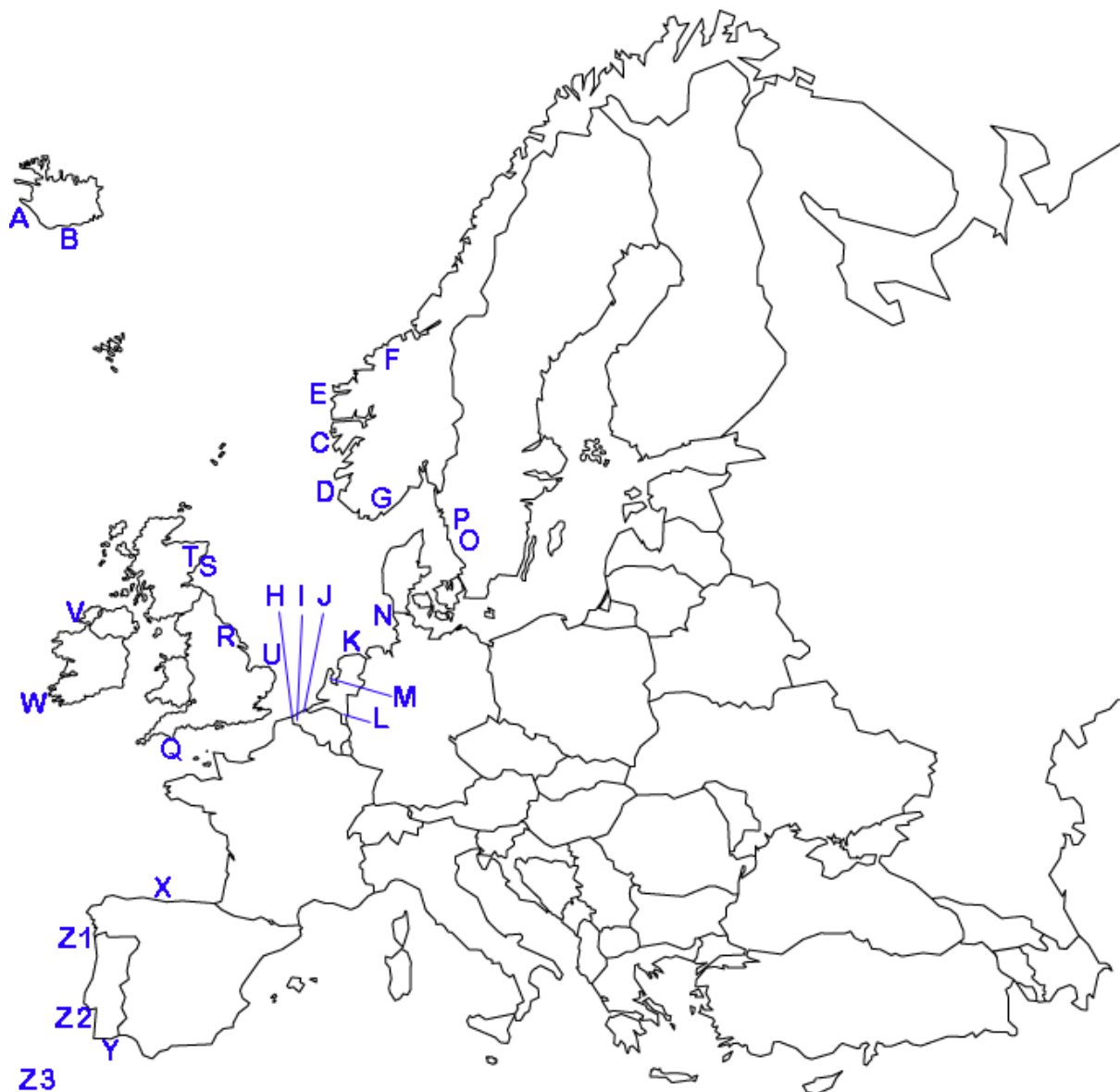


Figure 2.1: Monitoring sites reporting to OSPAR in 2009

Letters are substituted for the Station numbers for clarity and shown in Table 2.1

The reporting network during 2009 changed slightly, and there were some changes in which components were observed at each station. Despite the mandatory label applied to the first column of components in Table 1.1, not all stations reported data for all components, as commented in section 2.2.

Table 2.1: details of the locations of monitoring stations

Country	Station number	Station name	OSPAR Region	Lat.	L°ng.	Ele v. (m)	Distance to sea (km)	Letter on map Fig 2.1
Iceland	IS0090R	Irafoss	I	64°08' N	21°54' W	52	1	A
	IS0091R	Storhofdi	I	63°24' N	20°17' W	118	0.5	B
Norway	NO0554R	Haukeland	I	60°49' N	5°35' E	190		C
	NO0572R	Vikedal	I	59°32'12N	5°58'19 E	60		D
	NO0655R	Nausta	I	61°34'38N	5°53'53 E	230		E
	NO0039R	Kårvatn	I	62°47' N	8°53' E	210	70	F
	NO0001R	Birkenes	II	58°23' N	8°15' E	190	20	G
Belgium	BE0014R	Koksijde	II	51°7' N	2°30' E	7	1.5	H
	BE0011R	Moerkerke	II	51°1' N	2°35' E	0		I
	BE0013R	Houtem	II	51°15' N	3°21' E	10		J
Netherlands	NL0009R	Kollumerwaard	II	53°20' N	6°17' E	1	7.5	K
	NL0010R	Vredepeel	II	51°32'28N	5°51'13 E	28		L
	NL0091R	De Zilk	II	52°18' N	4°31' E	4	2.5	M
Germany	DE0001R	Westerland	II	54°56' N	8°19' E	12	0.09	N
Denmark								
Sweden	SE0014R	Råö	II	57°24' N	11°55' E	10	0.1	O
	SE0097R	Gårdsjön	II	58°03' N	12°01' E	113	12	P
United Kingdom	GB0013R	Yarner Wood	II	50°36' N	3°43' W	119	16.9	Q
	GB0014R	High Muffles	II	54°20' N	0°48' W	267	20.8	R
	GB0054R	Glen Saugh	II	56°54'26N	2°33'33 W	85		S
	GB0091R	Banchory	II	57°05' N	2°32' W	120	23.6	T
	GB0017R	Heigham Holmes	II	52°43' N	1°37' E	0	4.4	U
	GB0006R	Lough Navar	III	54°26' N	7°54' W	130	18.8	V
Ireland	IE0001R	Valentia Island	III	51°56' N	10°15' W	9	0	W
France								
Spain	ES0008R	Niembro	IV	43°26'N	4°51' W	115	~0.5	X
Portugal	PT0002R	Faro	IV	37° 1 '0N	7°58 ' 0 W	8		Y
	PT0003R	Viana do Castelo	IV	41°42' N	8°48' W	16	4	Z1
	PT0004R	Monte Velho	IV	38°05' N	8°48' W	43	1.5	Z2
	PT0010R	Angra do Heroismo	V	38°40' N	27°13' W	74	1	Z3

2.2 Completion of the observation programmes

The Comprehensive Atmospheric Monitoring Programme (CAMP) provides ground truth data on atmospheric pollution of OSPAR waters in a coordinated manner. Ten Parties participated in the 2009 programme, see Table 2.2. France and Denmark had not reported the mandatory data by the end of 2010 and the data are therefore not included in this report. Data from Portugal was not complete by the end of 2010 and so only part of the data from Portugal is included. Some countries also delivered data for many additional components that are not listed by CAMP. Implementation of the mandatory programme for airborne pollutants is varied. The least reported mandatory contaminants in precipitation are mercury and lindane, two important pollutants.

Table 2.2: Mandatory monitoring of contaminants

2.2 (a) In precipitation, 2009

✓ indicates some observations

	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	γ -HCH	NH ₄	NO ₃
Belgium	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Denmark	Observations were received too late to include in this report										
France											
Germany	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Iceland	✓	✓	✓	✓	✓		✓	✓		✓	✓
Ireland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Norway	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sweden	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
United Kingdom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

2.2 (b) Dry, in aerosol and in air, 2009

	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	γ -HCH	NO _x	NH ₃ NH ₄ ⁺
Belgium	✓	✓	✓	✓	✓		✓	✓		✓	
Denmark	Observations were received too late to include in this report										
France											
Germany	✓	✓		✓	✓		✓	✓	✓	✓	
Iceland	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Ireland											
Netherlands										✓	✓
Norway									✓	✓	✓
Portugal											
Spain	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Sweden						✓				✓	✓
United Kingdom	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓

From the combined numbers of Contracting Parties and of pollutants, the percentage data delivery for the mandatory contaminant monitoring can be determined, based on the assumption that full completion of the programme would be represented by delivery of 12 monthly averages which pass quality control criteria for each of the listed components. The mandatory programme for components in precipitation, for example, contains 11 substances and that for airborne concentrations contains at least 3 substances, so that 14 x 12 month averages successfully meeting quality control criteria would be needed to achieve 100% delivery. Reported values which are insufficient to calculate monthly averages are not taken into account. Fulfilment of the CAMP 2009 mandatory programme is shown in Figure 2.2.

Figure 2.2: Completion of the Mandatory Programmes 2009 (100% = 12 months x 14 values)

	<50%	50-80%	80-100%
Belgium			
Denmark	Data were delivered too late to include in the report		
France			
Portugal		Some data were delivered too late to include in the report	
Germany			
Iceland			
Ireland			
Netherlands			
Norway			
Spain			
Sweden			
United Kingdom			

2.3 Timeliness of reporting

Initially, reporting of observation data for 2009 was somewhat delayed, the process beginning with a delayed data request by NILU. There were further delays before the issuing of Quality Control data checks by NILU, and thus the process has been running late. The data check round has been slower, although for many Contracting Parties this is usually dictated by external factors.

Table 2.3: Timetable for data reporting according to the CAMP Principles. There were departures from this timetable both in the timeliness of the reporting and the data processing

30 th June	Call for metadata and data issued from NILU (regarding new data and metadata), with instructions and reference to supporting software (e.g. where to find tools on the NILU website).
30 th September	Participants submit data and metadata via email or on diskette, in specified formats.
31 st October	NILU returns data and metadata via email or on diskette in the form of a 'validation report' to data originators for verification and signing off by the data originators within two weeks of reception.

2.4 Reporting of additional components

Parties report a wider range of components than is covered by CAMP. All the components reported by Contracting Parties during 2009 are listed in the Annexes. These cover the mandatory components, the voluntary components, and additional components.

The main body of this report is a description of observations of the mandatory components alone. These are shown as maps and on a relative colour bar scale using the same colours as the maps. Excluded are only the major ions which are reported solely to provide the potential for quality control, and compounds which are a part of other international programmes, but which may be expected to lie outside the core interest of OSPAR, e.g. sulphates, ozone, PM measurements.

Values such as -9999.999 and some integers are flags that denote various problems in the data, such as no data, no precipitation data or detection limit problems.

3. Observed pollutant depositions at monitoring stations in 2009

This section describes relative air pollutant status at coastal stations around the North-East Atlantic in 2009. The annual average concentrations of contaminants subject to mandatory monitoring are listed and mapped. Metal concentrations and depositions in precipitation are presented in Figures 3.2-3.8. Data for mercury is shown in Figure 3.9, and lindane in Figure 3.10. Nitrogen concentrations and depositions in precipitation are mapped in Figures 3.11 and 3.12. In all figures, Portuguese data from the Azores is located below the relative colour scale. Colour coding in pink on the maps means no data. Table 3.1 gives an overview of the colour coding used in section 3 and 4 of this report.

Table 3.1: Overview of relative scale and colour coding used in maps and tables in sections 3 and 4

As µg/m ²	Cd µg/m ²	Cr µg/m ²	Cu µg/m ²	Pb µg/m ²	Hg µg/m ²	Ni µg/m ²	Zn µg/m ²	γ-HCH ng/m ²	NH ₄ , NO ₃ mg N/m ²
> 500	> 50	> 500	> 2500	> 1250	> 10000	> 650	> 10000	> 2500	> 500
400-500	40-50	400-500	2000-2500	1000-1250		500-650	7500-10000	1000-2500	400-500
300-400	30-40	300-400	1500-2000	750-1250	7500-10000	350-500	5000-7500	250-1000	300-400
200-300	20-30	200-300	1000-1500	500-750	5000-7500	250-350	2500-5000	100-250	200-300
100-200	10-20	100-200	500-1000	250-500	2500-5000	100-250	1250-2500	25-100	100-200
< 100	< 10	< 100	< 500	< 250	< 2500	< 100	< 1250	< 25	< 100
No data	No data	No data	No data	No data	No data	No data	No data	No data	No data

It is important to note that different precipitation amounts are used for the calculation of the different components. These are: major ions; POPs; mercury; and other metals. The different precipitation amounts correspond to the different instruments used for the different components.

3.1 Overview of coastal deposition of metals

Table 3.2 uses a colour code, which is the same as on the maps for the individual pollutants below (see Table 3.1 for scales and colour coding), to indicate the relative deposition of the metals at each station. It allows a rapid comparison of the sites based on the observations of metals. It also allows us to compare the metals and visualize which still have relatively high depositions. The colour code indicates the relative scale deposition on a low (blue) to high (red), similar but without the same interpretation as in the Water Framework Directive. So red does not indicate poor status, rather a relatively high deposition of the component. Pink indicates no data.

2009		As $\mu\text{g}/\text{m}^2$	Cd $\mu\text{g}/\text{m}^2$	Cr $\mu\text{g}/\text{m}^2$	Cu $\mu\text{g}/\text{m}^2$	Pb $\mu\text{g}/\text{m}^2$	Ni $\mu\text{g}/\text{m}^2$	Zn $\mu\text{g}/\text{m}^2$	Hg ng/m^2
Belgium	BE0014R								
Germany	DE0001R								
Spain	ES0008R								
U.K.	GB0006R								
	GB0013R								
	GB0017R								
Ireland	IE0001R								
Iceland	IS0090R								
	IS0091R								
Netherlands	NL0009R								
	NL0091R								
Norway	NO0001R								
	NO0039R								
Portugal	PT0002R								
	PT0003R								
	PT0010R								
Sweden	SE0097R								
	SE0014R								

Table 3.2: Relative annual depositions of metals in precipitation 2009

Table 3.2 shows that relative deposition of metals is low at Station PT0002R but relatively high at Station IE0001R. It also shows that deposition of Arsenic (As) is generally low.

Of the mandatory substances, the metals excluding mercury have been reported by most Contracting Parties. The depositions of these components in precipitation around the coasts of the OSPAR area can be summarised in terms of their highest and lowest values. In Figure 3.1 this has been done using a radial graph. In this example, the mean deposition value has been calculated for each metal. This has then been plotted on a radial graph, where low values are close to the centre and shown as blue, whereas very high values are shown as off target and red. The colour codes are the same as those used in the maps (see Table 3.1 for relative scales and colour coding). In the example, arsenic deposition is generally low, whereas copper, zinc and mercury are generally high. Of course, this may be due to one or two very high values. These radial diagrams may be useful for OSPAR and could be broken down into the different OSPAR regions.

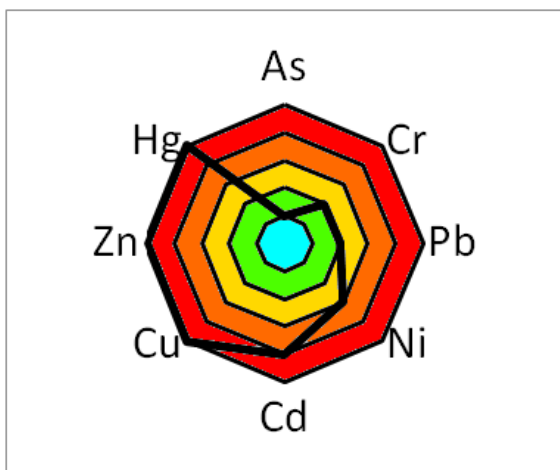


Figure 3.1: Mean of quantities of metals deposited in 2009 in precipitation. The colour codes are the same as those used in the maps. Arsenic (As) is close to the target indicating generally low deposition of this metal, whereas deposition of Mercury (Hg), Zinc (Zn) and Copper (Cu) is still high. For relative scale and colour coding see Table 3.1.

3.1.1 Metals (except mercury)

There is no evidence of any regional differences in metal deposition from the 2009 data set. This may be due to significant data gaps. There are some surprisingly high ranges in observations with some very high values. This has been also noted in previous years. An intercalibration exercise may be useful in interpreting some of the differences.

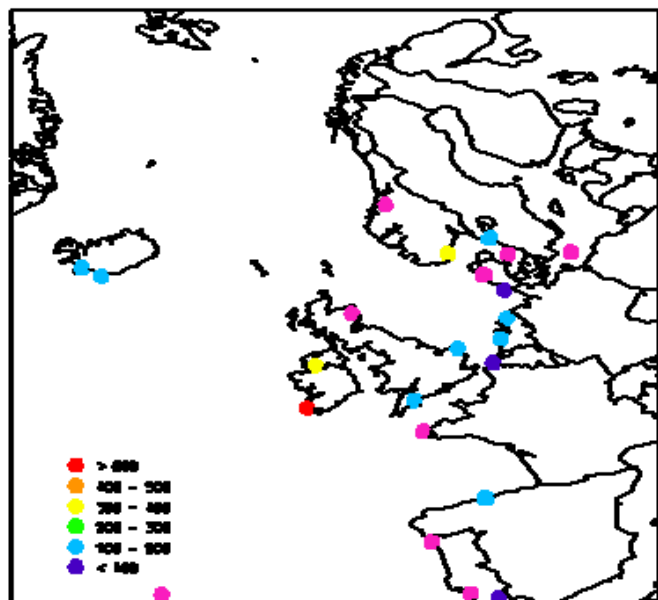


Figure 3.2: As depositions 2009 $\mu\text{g}/\text{m}^2$ p.a.

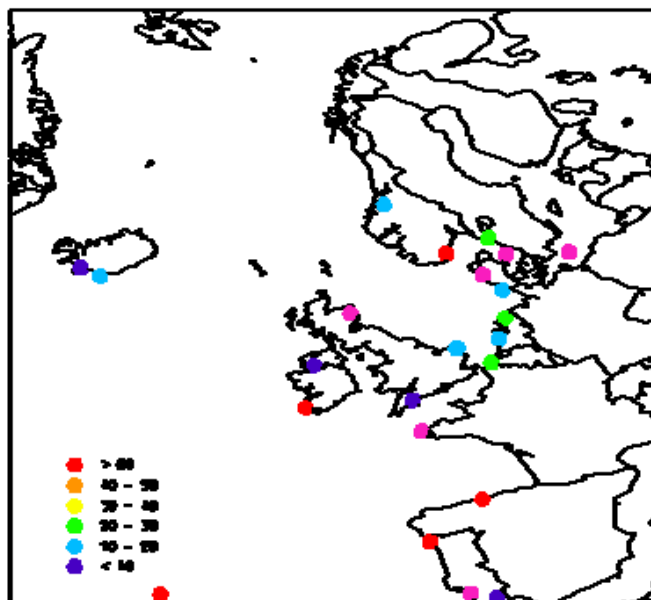


Figure 3.3: Cd depositions 2009, $\mu\text{g}/\text{m}^2$ p.a.

Pink colour means no data reported for the station

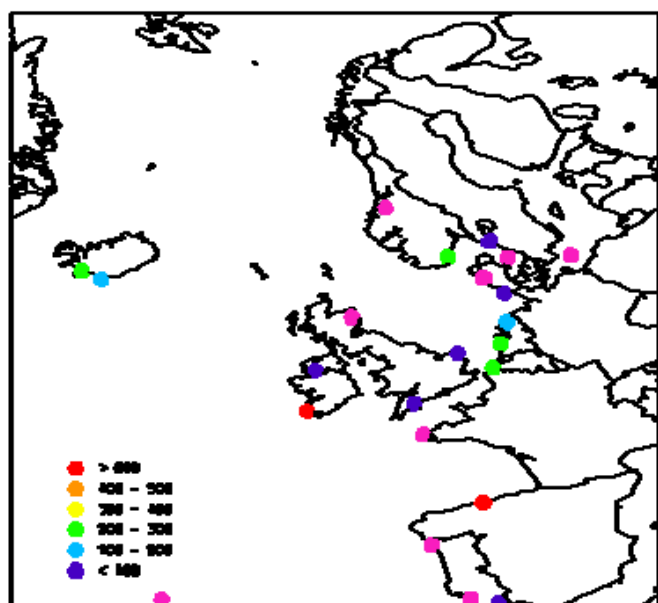


Figure 3.4: Cr depositions 2009, $\mu\text{g}/\text{m}^2$ p.a.

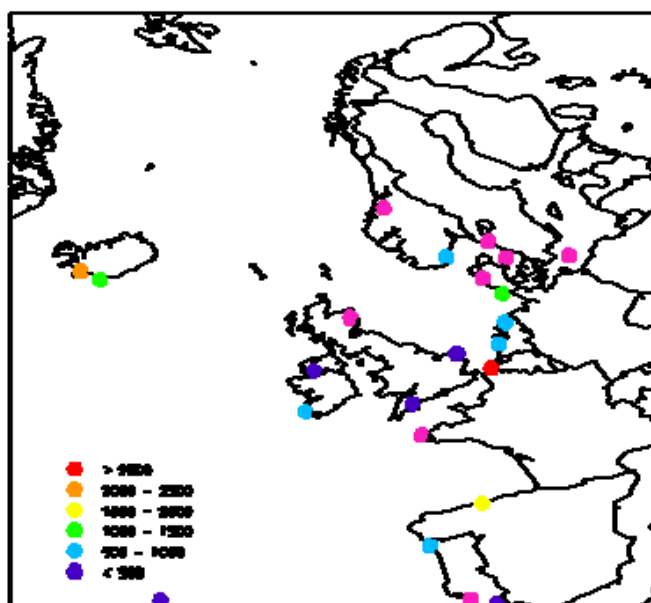


Figure 3.5 Cu depositions 2009, $\mu\text{g}/\text{m}^2$ p.a.

Pink colour means no data reported for the station

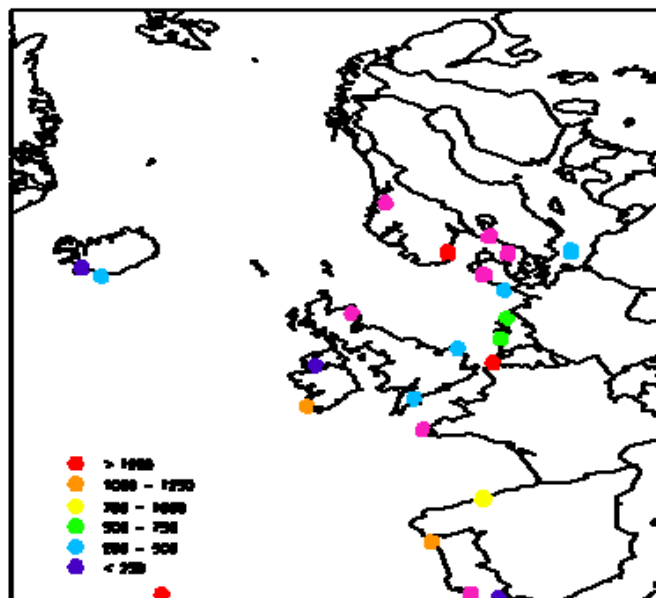


Figure 3.6: Pb depositions 2009, $\mu\text{g}/\text{m}^2$ p.a.

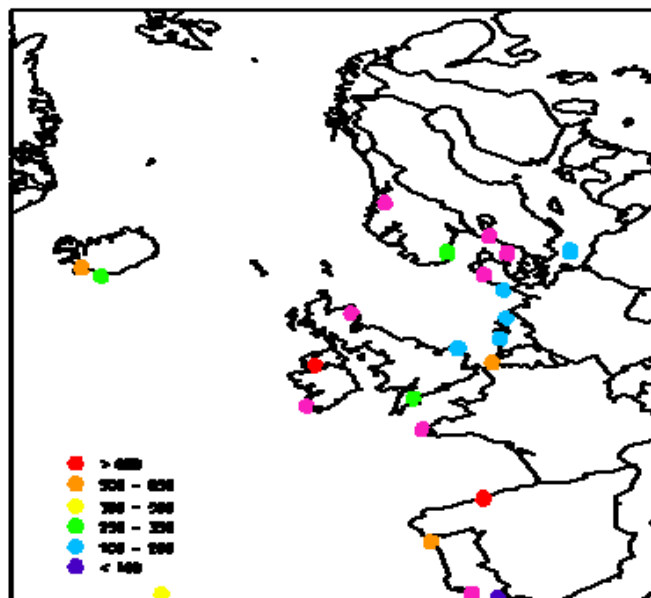


Figure 3.7: Ni depositions 2009, $\mu\text{g}/\text{m}^2$ p.a.

Pink colour means no data reported for the station

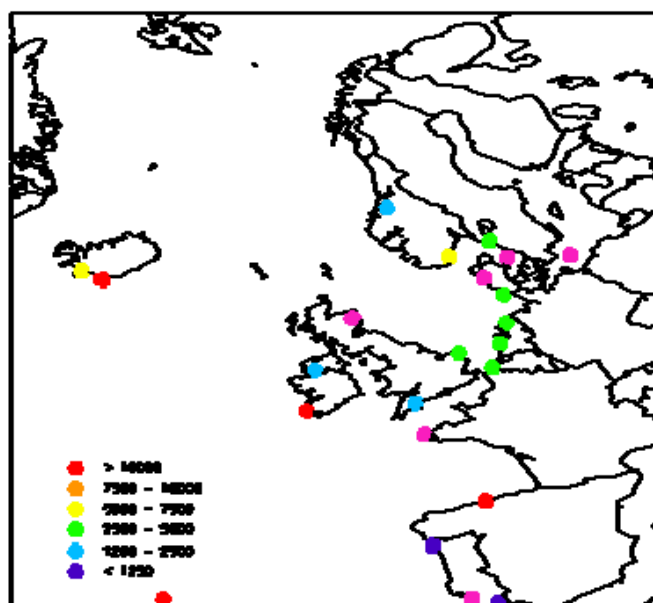


Figure 3.8: Zn depositions 2009, $\mu\text{g}/\text{m}^2$ p.a.

Pink colour means no data reported for the station

3.1.2 Mercury

The good comparison in observed concentrations and depositions around the southern North Sea, from Norway around the coast to the United Kingdom, is repeated again in 2009, providing reassurance as to the quality of these measurements. Variations in total depositions may be caused by variations in rainfall amounts.

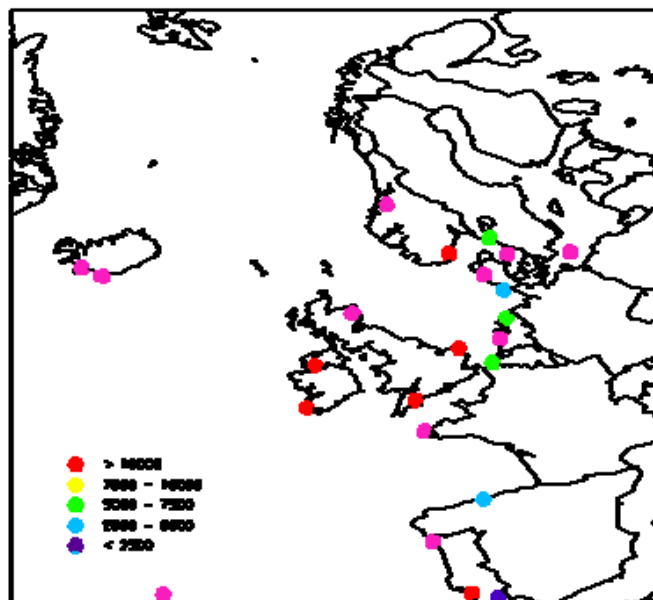


Figure 3.9: Mercury depositions 2009, ng/m² p.a.

Pink colour means no data reported for station

In addition to reporting the annual depositions, the monthly data can be presented. Future reports will also include a table of monthly means.

There are still some inconsistencies in the calculations, which could be partly eliminated by harmonizing the methodologies for EMEP and CAMP. An example is given below in Table 3.3 for Belgium.

Table 3.3: Monthly mean deposition of Mercury (ng/L) calculated for Belgium stations during 2009

	J	F	M	A	M	J	J	A	S	O	N	D
Values calculated by Belgium	2.782	4.349	6.769	10.61	13.84	14.27	16.92	21.33	6.883	5.362	4.840	4.261
Values calculated by EMEP	2.965	4.349	6.769	10.612	13.838	14.268	16.633	22.797	6.883	5.362	4.840	4.261
Values calculated by CAMP	3.101	4.308	6.769	10.612	13.832	14.276	16.468	25.888	6.928	5.392	4.832	4.454

3.2 Lindane

Lindane reporting is too low to make firm conclusions. Nevertheless, deposition continues to be relatively high around the North Sea and close to the Netherlands. This pollutant was used as a pesticide, especially in agriculture and in animal rearing. The temporal decrease of lindane deposition should follow its total banning in 2009, although this may take a number of years as it is a Persistent Organic Pollutant (POP). Future reports will also include a table of monthly means.

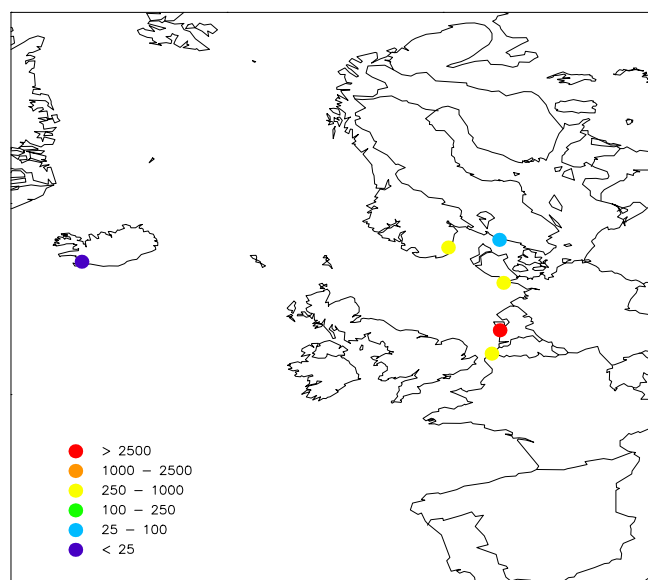


Figure 3.10: Lindane depositions 2009 ng/m²

3.3 Nitrogen depositions in 2009

Nitrogen deposition in 2009 appears to be high around the North Sea. However, important regional data gaps limit the interpretation of the data. In view of the implementation of the Nitrate Directive, the Water Framework Directive and the Marine Strategy Framework Directive, the relative importance of atmospheric deposition with respect to runoff and riverine inputs should be monitored closely.

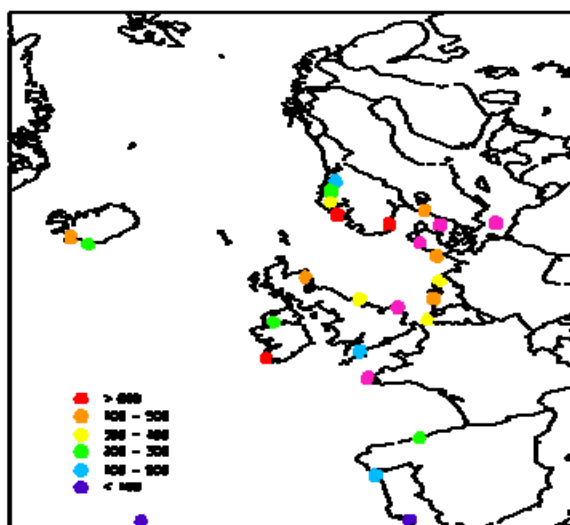


Figure 3.11: NH₄ depositions, mg N/m² p.a.

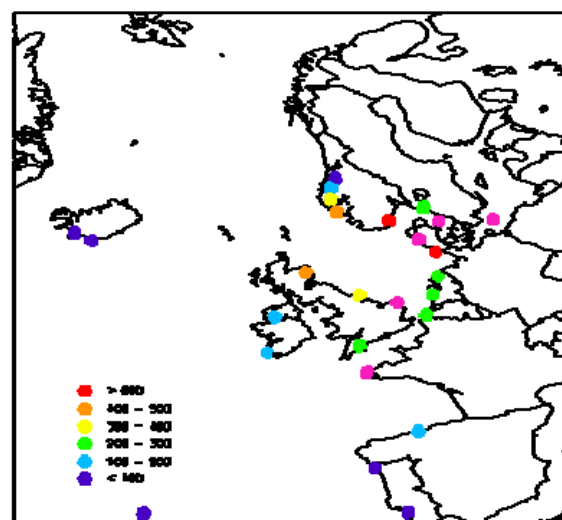


Figure 3.12: NO₃ depositions, mg N/m² p.a.

Pink colour means no data reported for the station

4. Temporal Patterns and Trends

This section explores ways to present temporal patterns in the OSPAR CAMP data. It is proposed that periodic assessment reports are prepared to provide a comprehensive assessment of temporal trends, using statistical tools. Annual CAMP data reports could complement such regular assessments with simplified overviews of progression of atmospheric deposition for selected components of the CAMP Programme.

4.1 Temporal patterns in the OSPAR CAMP data for Norway

In the first example, the most complete national data set was used as an example to show whether there is any improvement in the monitored data with time, possibly as a response to more stringent environmental policies and criteria. If the situation improves as a result of environmental policies and practices, there should be a gradual change in colour from the red end of the scale towards the blue end of the scale. This is shown in Figure 4.1 for Norway.

Norway	2003	2004	2005	2006	2007	2008	2009
As	826	212	359	354	133	288	326
Cd	47	39	29	33	23	26	42
Cr	305	188	421	273	NA	214	211
Cu	1391	595	1074	931	499	702	818
Pb	1534	1232	920	904	531	777	887
Hg	8916	14103	11001	14858	9074	12612	17051
Ni	526	358	656	355	304	239	343
Zn	4923	4631	4507	4222	2738	3395	4431
γ -HCH	993	1234	833	849	565	707	58316
NH_4^+	478	424	519	439	444	413	395
NO_3^-	456	393	463	476	338	405	382

Figure 4.1: The mean for the deposition of each mandatory component has been calculated for each year from 2003-9 and colour coded. For the relative scales and colour coding see Table 3.1

There is no notable change in Cadmium (Cd), Zinc (Zn), Ammonium (NH_4^+) or Nitrate (NO_3^-) deposition over the 7 year period. However, Copper (Cu), Chrome (Cr) and Lead (Pb) deposition appear to have decreased over the 7 years, whereas Mercury (Hg) remains relatively high throughout this period. The deposition of Lindane appears to be very high in 2009 relative to the previous 6 years.

4.2 Temporal patterns in the OSPAR CAMP data for Lead, Cadmium, Mercury and Lindane

Figure 4.2a presents the calculated annual mean of deposition of lead, cadmium, mercury and lindane aggregated from reported CAMP stations for the OSPAR area. The presentation uses colour flags based on the relative scale and colour coding shown in the previous sections and repeated in Figure 4.2b for easy reference.

	2003	2004	2005	2006	2007	2008	2009
Pb ($\mu\text{g}/\text{m}^2$)							
Cd ($\mu\text{g}/\text{m}^2$)							
Hg (ng/m^2)							
Lindane (ng/m^2)							

Figure 4.2 a: The mean for the deposition of lead has been calculated for each year from 2003-9

Cd $\mu\text{g}/\text{m}^2$	Pb $\mu\text{g}/\text{m}^2$	Hg $\mu\text{g}/\text{m}^2$	γ -HCH ng/m^2
> 50	> 1250	> 10000	> 2500
40-50	1000-1250		1000-2500
30-40	750-1250	7500-10000	250-1000
20-30	500-750	5000-7500	100-250
10-20	250-500	2500-5000	25-100
< 10	< 250	< 2500	< 25

Figure 4.2 b: Relative scale and colour coding for Figure 4.2 a

The mean Lead deposition has been calculated for the various years. The importance of atmospheric transport of metals, including lead, gave rise in 1979 to the Convention on Long-range Transboundary Air Pollution and the 1998 Aarhus Protocol on Heavy Metals. The temporal trend (Fig 4.2a) indicates that the policy implementation has been effective in reducing atmospheric deposition of lead.

A comparison of the temporal pattern for Lead, Cadmium and Mercury shows that environmental policy has resulted in the decreased deposition of Lead in the OSPAR region during the last 7 years. However, this is not the case for Mercury and Cadmium. The deposition of these two Heavy Metals continues to be high.

The temporal trend for Lindane shows that environmental policy has not resulted in the decreased deposition of Lindane in the OSPAR region during the last 7 years. The deposition of Lindane continues to be high.

4.3 Temporal patterns with deposition values for Mercury

In the third example, the mean mercury deposition in precipitation has been calculated for the various years at Station NO0001R, the most complete data set.

The data set is shown below in table 4.1 and a bar chart with a (2 year moving average) trendline of the data in Figure 4.3.

NO0001R mercury	precip	2004	9.848
NO0001R mercury	precip	2005	8.854
NO0001R mercury	precip	2006	8.080
NO0001R mercury	precip	2007	6.297
NO0001R mercury	precip	2008	6.400
NO0001R mercury	precip	2009	9.436

Table 4.1: The mean annual deposition of mercury at station NO 001R has been calculated for each year from 2003-9. No colour coding is used in this example

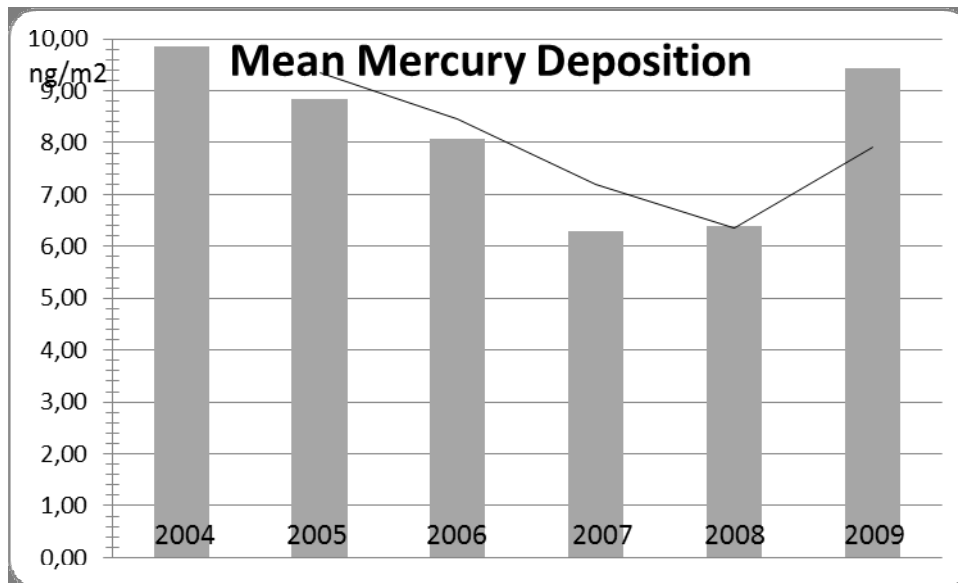


Figure 4.3: The mean annual deposition of mercury at station NO001R has been calculated for each year from 2004-9

For such charts to be useful, a long period (more than decadal) and a very complete data set are necessary. Although the trend seems to be decreasing from 2004, the mean for 2009 is high.

5 Main conclusions

There are several weaknesses in the CAMP monitoring network. These result in **problems of scale** and **geographical coverage**. Although the CAMP programme is now several years old, several of the CAMP stations do not strictly meet the requirements of the CAMP Principles (e.g. distance from coastline) and the North Sea remains the most intensely observed sub-region. Important gaps in the network concern Region III (Irish Sea) and Region IV (Bay of Biscay) and the far north-east. It would also be useful to consider including existing reference stations in Greenland and Faroe Islands and consider cooperation with Russia and their stations on the Kola Peninsula. **Spatial coverage may be too low to subdivide the data set into OSPAR subregions I-V.**

The decreasing trend of lead confirms that policies can result in significant environmental improvement. Lack of reporting hinders such clear statements with respect to mercury and Lindane, because **reporting of mandatory components is patchy**. There are systematic gaps in the reporting of some mandatory pollutants, such as **Lindane and mercury**. Monitoring results show high concentrations of mercury, especially for the Nordic countries, and therefore the importance of continued monitoring in that sub-region. Data on PCBs is also very limited and has been variable.

After 10 years, **a decadal statistical analysis of the database may be useful and timely**. The database could be useful to support the **implementation of the Water Framework Directive for transitional and coastal waters** as well as the **Marine Strategy Framework Directive** as there are many overlaps of the **Priority Substances, Contaminants** and the CAMP pollutants.

The database contains many non-mandatory data. **Access to the online database** could be enabled once the report has been adopted, allowing modellers to access and make use of the data, with appropriate caveats.

Harmonization of the calculations between EMEP and CAMP would also be useful. There may be natural environmental explanations for regional differences in some observations, such as natural biogenic or geothermal emissions, seasonality of rainfall, but monitoring may also contribute to discrepancies. Some are of such magnitude as to shed uncertainty. **Improvements in detection limits**, which in some cases are high, would also improve the quality and usefulness of observations. An **intercalibration exercise** could be implemented to improve the comparability of the data.

Annex:
**Reported monthly observations of mandatory, voluntary,
and additionally reported components**

Reporting overview table

Belgium
Denmark *
France *
Germany
Iceland
Ireland
Netherlands
Norway
Portugal **
Spain
Sweden
United Kingdom
Table of Units

**Not reported by end of 2010*

***Partially reported by end of 2010*

Reporting overview table

Monitoring of contaminants 2009

✓ indicates some observations in precipitation and air

	Voluntary	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	γ -HCH	NH ₄	NO ₃
Belgium	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Denmark	Observations were received too late to include in this report											
France												
Germany	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Iceland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ireland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Norway	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sweden	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
United Kingdom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Future reports will include a detailed overview of the Voluntary components.

An electronic overview of the components, matrix and units reported can be accessed here:
[Table of components and units](#)

Comprehensive Atmospheric Monitoring Programme in 2009

BELGIUM

			J	F	M	A	M	J	J	A	S	O	N	D		
BE0011R	NO2	air	10.050	8.520	6.090	6.700	4.870	3.960	3.040	3.960	4.570	5.780	3.960	7.920		
BE0011R	NO	air	7.000	3.270	1.870	1.400	0.930	0.930	0.470	0.930	0.930	1.870	0.470	2.800		
					J	F	M	A	M	J	J	A	S	O	N	D
BE0013R	NO2	air			8.220	7.000	5.180	6.390	4.260	3.350	2.440	3.040	3.960	4.570	3.350	6.390
BE0013R	NO	air			5.130	1.870	1.400	0.930	0.930	0.470	0.470	0.470	0.930	1.400	0.470	1.870
BE0013R	benz_a_anthracene	air+aerosol			0.687	0.311	0.153	0.144	0.049	0.060	0.026	0.097	0.053	0.115	0.086	0.188
BE0013R	benzo_a_pyrene	air+aerosol			1.045	0.667	0.154	0.054	0.044	0.022	0.017	0.044	0.027	0.183	0.088	0.566
BE0013R	benzo_ghi_perylene	air+aerosol			1.440	0.557	0.335	0.333	0.101	0.134	0.051	0.224	0.127	0.195	0.170	0.448
BE0013R	chrysene_triphenylene	air+aerosol			2.150	1.091	0.482	0.207	0.194	0.075	0.044	0.081	0.013	0.331	0.189	0.882
BE0013R	fluoranthene	air+aerosol			6.760	3.736	3.221	0.227	0.196	0.184	0.057	0.216	0.287	0.209	0.200	0.656
BE0013R	inden_123cd_pyrene	air+aerosol			2.168	1.053	0.267	0.264	0.137	0.119	0.056	0.161	0.127	0.209	0.104	0.476
BE0013R	pyrene	air+aerosol			2.760	0.740	0.232	0.141	0.137	0.088	0.072	0.204	0.167	0.139	0.198	0.616
					J	F	M	A	M	J	J	A	S	O	N	D
BE0014R	arsenic	aerosol			1.439	1.429	1.302	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.240	1.286
BE0014R	cadmium	aerosol			0.331	0.371	0.343	0.319	0.276	0.260	0.275	0.300	0.282	0.308	0.260	0.373
BE0014R	chromium	aerosol			2.683	5.353	3.730	3.205	3.168	4.921	3.721	3.839	3.558	3.248	2.790	3.396
BE0014R	copper	aerosol			6.874	10.017	22.747	12.691	4.378	6.023	7.052	5.155	5.525	6.182	3.179	5.833
BE0014R	lead	aerosol			11.770	11.486	10.245	12.061	6.808	5.774	6.535	6.515	7.349	8.947	4.426	10.831
BE0014R	nickel	aerosol			1.638	7.866	10.003	11.700	7.113	6.590	5.969	6.494	4.511	3.414	1.516	4.081
BE0014R	zinc	aerosol			31.645	33.527	24.772	29.639	17.177	15.749	17.184	19.051	17.202	23.208	12.864	25.822
BE0014R	PCB_101	precip			2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	-9999.990
BE0014R	PCB_118	precip			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	PCB_138	precip			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	PCB_153	precip			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	PCB_180	precip			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	PCB_28	precip			3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	-9999.990
BE0014R	PCB_52	precip			3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	-9999.990
BE0014R	acidity	precip			5.911	4.890	6.228	6.323	6.232	5.421	4.960	5.530	5.910	4.815	4.813	4.490
BE0014R	aldrin	precip			0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	-9999.990
BE0014R	alpha_HCH	precip			0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	-9999.990
BE0014R	ammonium	precip			0.434	0.497	0.625	2.248	1.111	0.855	0.483	1.393	0.839	0.436	0.255	0.527
BE0014R	arsenic	precip			0.150	0.150	0.169	0.240	0.181	0.150	0.130	0.130	0.130	0.134	0.130	0.130
BE0014R	beta_HCH	precip			0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	-9999.990
BE0014R	cadmium	precip			0.035	0.034	0.040	0.054	0.077	0.030	0.067	0.093	0.030	0.032	0.030	0.052
BE0014R	calcium	precip			0.309	0.365	0.550	0.573	0.927	0.454	0.383	1.439	0.731	0.276	0.295	0.162
BE0014R	chloride	precip			6.644	8.729	5.550	0.713	1.801	1.338	2.283	2.256	6.652	3.328	7.013	3.555
BE0014R	chromium	precip			0.711	0.415	0.636	0.757	0.943	0.614	0.600	0.299	0.459	0.377	0.243	0.222
BE0014R	conductivity	precip			31.958	47.134	32.238	30.756	24.917	18.706	19.133	32.682	36.100	18.771	31.365	23.401
BE0014R	copper	precip			15.061	16.007	14.330	19.903	20.235	11.389	10.595	15.965	8.951	9.755	14.077	11.244
BE0014R	dieldrin	precip			0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	0.400	-9999.990
BE0014R	endrin	precip			1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	1.100	-9999.990
BE0014R	gamma_HCH	precip			0.400	0.400	2.790	1.590	1.920	1.280	1.000	0.400	0.400	0.810	0.777	-9999.990
BE0014R	heptachlor	precip			2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	-9999.990
BE0014R	lead	precip			1.322	1.101	1.815	1.415	3.047	3.878	2.480	1.820	2.040	1.933	1.805	0.965
BE0014R	magnesium	precip			0.421	0.602	0.419	0.099	0.169	0.124	0.173	0.203	0.497	0.246	0.476	0.240

			J	F	M	A	M	J	J	A	S	O	N	D
BE0014R	mercury	precip	3.101	4.308	6.769	10.612	13.832	14.276	16.468	25.888	6.928	5.392	4.832	4.454
BE0014R	nickel	precip	0.385	0.363	0.444	6.023	0.737	0.456	0.856	1.004	0.681	0.468	0.403	0.483
BE0014R	nitrate	precip	0.166	0.456	0.247	1.154	0.624	0.530	0.410	1.294	0.369	0.251	0.218	0.502
BE0014R	op_DDD	precip	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	op_DDE	precip	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	-9999.990
BE0014R	op_DDT	precip	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	-9999.990
BE0014R	potassium	precip	0.131	0.185	0.119	0.069	0.078	0.079	0.073	0.148	0.171	0.073	0.153	0.083
BE0014R	pp_DDD	precip	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	pp_DDE	precip	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350	1.350	-9999.990
BE0014R	pp_DDT	precip	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	-9999.990
BE0014R	precipitation_amount	precip	93.920	35.840	39.680	48.960	56.350	82.240	89.760	32.160	14.720	130.880	311.200	0.000
BE0014R	precipitation_amount	precip	43.490	36.150	35.940	32.620	35.160	51.340	65.630	10.770	21.790	111.410	145.520	54.390
BE0014R	precipitation_amount	precip	44.240	34.160	37.980	31.170	35.670	50.200	68.460	11.510	21.390	95.360	120.780	57.160
BE0014R	precipitation_amount	precip	42.620	36.590	39.550	32.760	33.610	58.030	61.320	11.500	21.970	91.120	188.500	46.520
BE0014R	precipitation_amount_off	precip	48.600	40.200	40.500	32.200	33.200	54.400	55.300	10.400	22.600	98.200	188.500	67.200
BE0014R	sodium	precip	3.488	4.956	3.078	0.332	0.920	0.734	1.190	1.322	3.737	1.823	3.817	1.862
BE0014R	sulphate_total	precip	0.493	0.734	0.690	1.100	0.702	0.620	0.587	1.164	0.713	0.354	0.545	0.443
BE0014R	zinc	precip	12.792	5.980	9.368	13.108	11.459	8.358	7.961	16.843	6.045	4.371	4.936	6.580

Comprehensive Atmospheric Monitoring Programme in 2009

GERMANY

			J	F	M	A	M	J	J	A	S	O	N	D
DE0001R	HCB	precip	0.051	0.054	0.078	0.138	0.024	0.044	0.041	0.133	0.031	0.023	0.021	0.040
DE0001R	PCB_101	precip	0.025	0.026	0.025	1.039	0.182	0.329	0.207	0.131	0.218	0.015	0.044	0.026
DE0001R	PCB_118	precip	0.013	0.013	0.013	0.494	0.087	0.156	0.084	0.053	0.089	0.015	0.018	0.011
DE0001R	PCB_138	precip	0.041	0.042	0.040	1.892	0.332	0.599	0.335	0.212	0.353	0.038	0.042	0.021
DE0001R	PCB_153	precip	0.036	0.037	0.036	2.104	0.369	0.666	0.364	0.230	0.383	0.045	0.036	0.020
DE0001R	PCB_180	precip	0.011	0.011	0.061	0.552	0.097	0.175	0.080	0.051	0.085	0.005	0.012	0.019
DE0001R	PCB_28	precip	0.029	0.394	0.029	0.648	0.114	0.205	0.093	0.872	0.098	0.050	0.083	0.013
DE0001R	PCB_52	precip	0.011	0.130	0.024	0.243	0.043	0.077	0.040	0.472	0.042	0.015	0.027	0.009
DE0001R	aldrin	precip	0.011	0.008	0.009	0.020	0.004	0.007	0.004	0.003	0.005	0.005	0.004	0.008
DE0001R	alpha_HCH	precip	0.214	0.187	0.150	0.295	0.091	0.122	0.145	0.163	0.147	0.168	0.191	0.150
DE0001R	ammonium	precip	0.600	0.795	0.751	1.046	1.049	0.478	0.541	0.969	0.112	0.273	0.400	0.442
DE0001R	anthracene	precip	0.500	0.910	0.450	4.280	0.510	5.850	0.160	0.310	0.630	0.600	0.560	1.260
DE0001R	antimony	precip	0.052	0.073	0.077	0.059	0.076	0.038	0.059	0.071	0.031	0.038	0.060	0.058
DE0001R	arsenic	precip	0.070	0.095	0.076	0.063	0.109	0.039	0.050	0.072	0.088	0.073	0.075	0.072
DE0001R	benz_a_anthracene	precip	2.200	4.300	2.400	11.500	2.000	3.500	0.800	0.400	2.700	2.300	2.400	10.300
DE0001R	benzo_a_pyrene	precip	3.300	5.500	3.200	12.500	2.500	1.500	1.100	0.300	2.300	2.300	2.100	6.800
DE0001R	benzo_ghi_perylene	precip	5.760	7.470	4.310	10.800	1.870	0.400	0.960	0.230	2.140	2.980	2.840	15.060
DE0001R	cadmium	precip	0.029	0.023	0.018	0.016	0.020	0.011	0.012	0.014	0.007	0.012	0.017	0.024
DE0001R	calcium	precip	0.231	0.257	0.312	0.206	0.272	0.230	0.352	0.444	0.643	0.305	4.924	0.924
DE0001R	chloride	precip	5.321	2.796	6.164	0.729	3.314	2.421	5.274	4.403	22.226	11.508	12.006	5.932
DE0001R	chromium	precip	0.125	0.148	0.123	0.172	0.177	0.121	0.086	0.095	0.104	0.075	0.089	0.070
DE0001R	cobalt	precip	0.010	0.013	0.019	0.027	0.034	0.018	0.017	0.026	0.012	0.012	0.010	0.010
DE0001R	conductivity	precip	26.565	20.791	28.162	9.597	20.592	14.443	29.326	29.709	92.437	48.493	56.061	42.236
DE0001R	copper	precip	6.463	7.264	1.131	1.093	4.694	1.157	1.007	1.638	0.734	0.681	0.727	0.897
DE0001R	dibenzo_ah_anthracene	precip	0.950	1.230	0.840	2.580	0.400	0.400	0.120	0.040	0.350	0.540	0.550	3.470
DE0001R	dieldrin	precip	0.083	0.058	0.115	0.128	0.055	0.044	0.060	0.076	0.099	0.090	0.106	0.131
DE0001R	endrin	precip	0.027	0.020	0.040	0.052	0.009	0.017	0.025	0.019	0.034	0.011	0.010	0.020
DE0001R	fluoranthene	precip	9.000	16.100	9.600	52.800	7.700	5.200	4.900	4.700	8.500	13.900	14.600	71.700
DE0001R	gamma_HCH	precip	0.776	0.870	0.740	1.731	1.138	0.613	0.992	1.190	0.323	0.544	0.554	0.437
DE0001R	heptachlor	precip	0.012	0.009	0.010	0.023	0.004	0.007	0.007	0.005	0.009	0.005	0.004	0.008
DE0001R	inden_123cd_pyrene	precip	5.680	7.420	4.140	10.570	1.880	1.290	0.990	0.190	2.210	3.000	2.920	17.250
DE0001R	iron	precip	7.355	9.410	10.249	25.067	23.934	11.445	8.305	16.489	6.210	7.986	4.427	3.170
DE0001R	lead	precip	0.494	0.638	0.463	0.400	0.708	0.357	0.388	0.597	0.347	0.313	0.522	0.615
DE0001R	magnesium	precip	0.374	0.185	0.426	0.053	0.215	0.169	0.377	0.326	1.530	0.691	0.804	0.387
DE0001R	manganese	precip	0.476	0.593	1.093	2.848	2.686	1.522	1.474	2.163	1.376	1.294	0.802	0.667
DE0001R	mercury	precip	10.733	13.540	6.359	4.203	8.915	9.557	8.766	10.207	4.375	5.137	2.626	2.755
DE0001R	nickel	precip	0.291	0.223	0.229	0.242	0.424	0.432	0.218	0.241	0.188	0.207	0.162	0.158
DE0001R	nitrate	precip	1.997	2.442	1.849	1.394	2.160	1.484	1.390	2.007	0.937	1.222	1.633	2.479
DE0001R	op_DDD	precip	0.008	0.007	0.040	0.074	0.004	0.007	0.005	0.011	0.005	0.005	0.004	0.008
DE0001R	op_DDE	precip	0.009	0.008	0.031	0.085	0.005	0.006	0.005	0.003	0.006	0.005	0.005	0.009
DE0001R	op_DDT	precip	0.009	0.008	0.046	0.082	0.007	0.011	0.004	0.011	0.004	0.006	0.005	0.010
DE0001R	pH	precip	4.837	4.749	5.162	6.171	5.221	5.209	5.087	4.970	5.261	4.970	4.966	4.953
DE0001R	phenanthrene	precip	13.800	18.200	7.100	62.200	9.800	0.300	6.900	16.400	6.000	16.000	15.100	47.700
DE0001R	potassium	precip	0.122	0.067	0.139	0.045	0.099	0.071	0.153	0.122	0.482	0.207	0.227	0.114
DE0001R	pp_DDD	precip	0.008	0.007	0.063	0.101	0.004	0.007	0.006	0.026	0.016	0.010	0.009	0.007
DE0001R	pp_DDE	precip	0.010	0.010	0.046	0.455	0.030	0.055	0.007	0.027	0.007	0.019	0.038	0.033
DE0001R	pp_DDT	precip	0.046	0.037	0.097	0.343	0.030	0.015	0.015	0.034	0.098	0.030	0.035	0.057
			J	F	M	A	M	J	J	A	S	O	N	D

DE0001R	precipitation_amount	precip	35.100	31.200	33.400	11.600	69.600	38.200	78.900	77.700	60.000	115.900	121.800	67.700
DE0001R	precipitation_amount	precip	39.700	36.600	38.700	12.100	67.800	37.300	82.100	77.100	58.500	111.000	118.400	68.500
DE0001R	precipitation_amount	precip	41.800	36.200	38.900	11.800	65.800	39.600	101.800	77.000 105.00 0	59.426	112.020	121.460	74.780
DE0001R	precipitation_amount	precip	38.000	37.000	38.000	12.700	72.000	40.000	66.000		63.000	116.000	128.000	68.000
DE0001R	pyrene	precip	6.600	12.800	7.600	42.700	7.000	1.200	3.500	3.900	5.600	9.900	8.200	40.500
DE0001R	sodium	precip	3.428	1.723	3.875	0.421	2.021	1.537	3.390	2.883	14.591	5.675	6.694	3.274
DE0001R	thallium	precip	0.003	0.005	0.004	0.002	0.003	0.001	0.002	0.004	0.001	0.002	0.003	0.005
DE0001R	vanadium	precip	0.247	0.310	0.444	0.323	0.417	0.245	0.262	0.442	0.328	0.274	0.313	0.385
DE0001R	zinc	precip	9.845	7.666	3.290	7.880	7.474	3.070	5.044	5.340	3.379	2.686	3.030	4.993
DE0001R	antimony	aerosol	0.473	0.617	0.358	0.594	0.270	0.160	0.278	0.310	0.330	0.436	0.430	0.418
DE0001R	arsenic	aerosol	0.466	0.372	0.315	0.657	0.200	0.170	0.197	0.214	0.275	0.318	0.365	0.449
DE0001R	cadmium	aerosol	0.125	0.084	0.068	0.149	0.047	0.037	0.037	0.037	0.044	0.143	0.251	0.109
DE0001R	cobalt	aerosol	0.058	0.053	0.059	0.118	0.070	0.042	0.062	0.054	0.052	0.034	0.039	0.039
DE0001R	copper	aerosol	2.325	2.480	1.915	3.257	1.566	1.215	1.713	2.142	2.477	2.740	2.038	2.777
DE0001R	iron	aerosol	79.000	61.025	54.375	147.150	65.580	66.225	60.950	71.960	87.200	59.780	59.500	63.730
DE0001R	lead	aerosol	4.532	3.750	2.652	4.540	1.428	1.073	1.637	1.636	1.983	3.086	3.300	3.938
DE0001R	manganese	aerosol	1.957	1.432	1.425	4.345	1.832	2.018	1.890	2.230	2.295	1.542	1.623	1.619
DE0001R	nickel	aerosol	1.210	1.637	1.402	2.167	1.434	0.782	1.577	1.172	0.975	0.710	1.000	0.903
DE0001R	thallium	aerosol	0.026	0.022	0.015	0.023	0.009	0.005	0.008	0.009	0.013	0.017	0.019	0.021
DE0001R	vanadium	aerosol	2.186	2.802	2.632	4.200	2.602	1.410	2.990	1.926	1.690	1.250	1.748	1.525
DE0001R	zinc	aerosol	20.040	11.825	8.875	14.575	14.480	5.750	5.150	6.950	8.375	12.940	12.075	14.137
DE0001R	HCB	air+aerosol	58.900	59.300	62.300	55.900	47.500	38.200	24.300	41.400	42.100	81.800	77.900	81.200
DE0001R	PCB_101	air+aerosol	1.796	1.807	2.211	2.274	2.135	2.741	2.640	5.789	8.805	2.603	2.593	2.641
DE0001R	PCB_118	air+aerosol	0.772	0.777	0.864	0.857	0.980	0.975	1.212	1.219	6.762	1.167	1.162	1.184
DE0001R	PCB_138	air+aerosol	2.950	2.960	3.100	3.080	2.780	2.770	3.440	4.750	6.130	5.180	5.160	5.260
DE0001R	PCB_153	air+aerosol	2.980	3.000	3.000	2.980	2.980	2.970	3.690	5.280	4.990	5.070	5.050	5.150
DE0001R	PCB_180	air+aerosol	0.646	0.651	0.752	0.746	0.613	0.610	0.758	1.250	2.757	1.696	1.690	1.721
DE0001R	PCB_28	air+aerosol	3.320	3.342	5.307	5.268	3.587	3.520	4.374	6.011	6.767	2.950	2.939	2.993
DE0001R	PCB_52	air+aerosol	1.285	1.110	1.949	2.714	2.305	2.970	2.278	4.756	6.422	1.893	2.505	2.345
DE0001R	aldrin	air+aerosol	0.026	0.026	0.025	0.025	0.006	0.008	0.007	0.061	0.035	0.005	0.008	0.009
DE0001R	alpha_HCH	air+aerosol	4.800	3.500	3.300	9.200	7.000	12.500	6.200	11.600	8.000	8.200	7.900	5.900
DE0001R	anthracene	air+aerosol	0.054	0.226	0.049	0.117	0.271	0.056	0.032	0.067	0.066	0.039	0.054	0.101
DE0001R	benzo_a_anthracene	air+aerosol	65.956	270.911	27.507	57.819	69.872	8.849	4.339	4.843	15.155	103.841	108.252	161.189
DE0001R	benzo_a_pyrene	air+aerosol	0.072	0.340	0.021	0.072	0.066	0.008	0.003	0.004	0.010	0.136	0.108	0.194
DE0001R	benzo_ghi_perylene	air+aerosol	0.163	0.403	0.079	0.122	0.115	0.021	0.010	0.009	0.025	0.198	0.181	0.248
DE0001R	dibenzo_ah_anthracene	air+aerosol	0.029	0.061	0.013	0.021	0.020	0.002	0.001	0.001	0.003	0.031	0.029	0.041
DE0001R	dieldrin	air+aerosol	1.257	1.169	2.211	2.348	3.340	2.290	3.867	4.679	2.518	1.848	3.874	1.817
DE0001R	endrin	air+aerosol	0.070	0.048	0.088	0.123	0.085	0.069	0.164	0.400	0.231	0.308	0.124	0.063
DE0001R	fluoranthene	air+aerosol	0.724	1.926	0.593	1.292	0.871	0.512	0.213	0.534	0.423	0.858	0.878	1.209
DE0001R	gamma_HCH	air+aerosol	4.760	3.870	5.900	16.220	11.660	20.970	20.370	26.630	12.310	8.320	8.290	8.440
DE0001R	heptachlor	air+aerosol	0.112	0.093	0.101	0.194	0.071	0.069	0.050	0.114	0.137	0.132	0.209	0.175
DE0001R	inden_123cd_pyrene	air+aerosol	0.167	0.472	0.086	0.137	0.129	0.018	0.010	0.009	0.022	0.164	0.132	0.210
DE0001R	op_DDD	air+aerosol	0.050	0.062	0.082	0.160	0.150	0.118	0.109	0.307	0.468	0.080	0.131	0.074
DE0001R	op_DDE	air+aerosol	0.097	0.133	0.144	0.261	0.119	0.106	0.078	0.266	0.131	0.232	0.260	0.163
DE0001R	op_DDT	air+aerosol	0.214	0.327	0.307	0.937	0.346	0.307	0.242	0.947	1.503	0.540	0.451	0.271
DE0001R	phenanthrene	air+aerosol	2.330	4.610	1.690	5.670	4.160	2.670	1.070	2.860	2.240	3.160	3.110	3.720
DE0001R	pp_DDD	air+aerosol	0.060	0.060	0.086	0.096	0.089	0.091	0.074	0.182	1.015	0.075	0.091	0.053
DE0001R	pp_DDE	air+aerosol	1.410	1.889	2.088	4.021	1.728	1.359	0.982	3.196	2.253	4.881	4.932	2.337
DE0001R	pp_DDT	air+aerosol	0.410	0.453	0.570	1.336	0.744	0.691	0.451	1.452	7.754	0.697	0.577	0.284
DE0001R	pyrene	air+aerosol	0.343	1.262	0.348	0.641	0.592	0.226	0.099	0.180	0.200	0.505	0.495	0.773

Comprehensive Atmospheric Monitoring Programme in 2009

ICELAND

Precip Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
IS0090R	ammonium	precip	0.278	2.179	0.751	0.379	0.125	0.159	3.641	0.155	0.148	0.151	0.127	0.113
IS0091R	ammonium	precip	0.568	0.014	0.265	0.186	0.04	0.176	0.233	0.023	0.123	0.005	0.005	0.006
IS0090R	arsenic	precip	0.122	0.228	0.571	0.096	0.287	0.119	0.156	0.05	0.052	0.037	0.082	0.025
IS0091R	arsenic	precip	0.045	0.054	0.128	0.036	0.036	0.04	0.064	0.041	0.023	0.026	0.014	-9999
IS0090R	cadmium	precip	0.007	0.007	0.012	0.015	0.014	0.005	0.056	0.005	0.008	0.005	0.005	0.014
IS0091R	cadmium	precip	0.005	0.003	0.025	0.006	0.006	0.006	0.011	0.012	0.013	0.009	0.004	-9999
IS0090R	chromium	precip	0.157	0.488	1.1	0.229	0.519	0.468	1.236	0.468	0.364	0.088	0.081	1.077
IS0091R	chromium	precip	0.067	0.067	0.126	0.066	0.033	0.03	0.394	0.219	0.06	0.067	0.241	-9999
IS0090R	copper	precip	2.744	4.68	4.192	2.045	2.642	1.832	9.679	2.254	2.265	1.864	3.18	8.399
IS0091R	copper	precip	0.443	0.802	1.27	0.41	0.416	0.359	1.033	1.158	0.981	0.805	1.523	-9999
IS0091R	gamma_HCH	precip	0.013	0.007	0.024	0.021	0.022	0.058	0.089	0.018	0.012	0.013	0.036	0.031
IS0090R	lead	precip	0.452	0.232	0.286	0.31	0.321	0.126	0.732	0.229	0.116	0.111	0.179	0.406
IS0091R	lead	precip	0.273	0.124	0.359	0.237	0.001	0.02	0.293	0.172	0.076	0.147	0.097	-9999
IS0090R	nickel	precip	0.654	0.904	1.493	0.439	0.795	0.697	11.149	0.65	0.644	0.441	0.715	3.417
IS0091R	nickel	precip	0.183	0.146	0.394	0.105	0.114	0.177	0.226	0.143	0.092	0.173	0.389	-9999
IS0090R	nitrate	precip	0.056	0.061	0.082	0.211	0.037	0.109	0.216	0.063	0.035	0.126	0.04	0.041
IS0091R	nitrate	precip	0.039	0.055	0.333	0.096	0.005	0.145	0.185	0.09	0.052	0.018	0.005	0.005
IS0090R	zinc	precip	17.861	8.445	9.785	5.481	6.903	6.392	22.981	5.673	4.41	8.499	8.975	24.55
IS0091R	zinc	precip	6.99	4.774	8.464	3.605	5.149	4.272	5.618	7.677	3.782	5.044	13.901	-9999

Precip other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
IS0091R	alpha_HCH	precip	0.025	0.042	0.077	0.031	0.06	0.058	0.076	0.052	0.036	0.023	0.084	0.063
IS0090R	aluminium	precip	58.898	470.14	416.16	140.49	191.93	133.08	930.93	289.39	60.65	311.69	222.56	738.9
IS0091R	aluminium	precip	21.73	27.574	86.77	40.69	1.716	3.441	302.7	125.05	31.31	52.998	279.35	-9999
IS0091R	BDE_100	precip	0.002	0.004	0.01	0.002	0.005	0.006	0.011	0.003	0.001	0.004	0.006	0.006
IS0091R	BDE_47	precip	0.007	0.014	0.049	0.01	0.028	0.006	0.021	0.008	0.005	0.004	0.019	0.035
IS0091R	BDE_99	precip	0.009	0.014	0.041	0.007	0.025	0.006	0.032	0.008	0.005	0.006	0.041	0.035
IS0091R	beta_HCH	precip	0.005	0.005	0.004	0.002	0.005	0.01	0.011	0.003	0.001	0.001	0.006	0.006
IS0090R	calcium	precip	0.195	0.522	0.556	0.184	0.394	0.211	0.538	0.283	0.415	0.262	0.191	0.167
IS0091R	calcium	precip	1.478	3.66	1.536	4.183	2.327	0.432	0.478	2.854	0.386	4.056	1.52	6.189
IS0090R	chloride	precip	11.563	21.757	17.281	6.071	28.878	4.998	3.854	1.527	20.82	10.028	3.71	9.593
IS0091R	chloride	precip	102.94	164.36	61.31	345.45	191.81	28.75	21.948	282.41	25.87	263.03	117.99	570.84
IS0091R	cis_CD	precip	0.002	0.004	0.004	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0090R	conductivity	precip	77.045	86.766	87.18	28.435	80.012	28.3	15.55	10.37	75.01	48.605	18.388	31.944
IS0091R	conductivity	precip	318.17	558.17	221.49	744.89	454.33	96.744	75.514	483.91	116.1	810.49	299.74	1038.61
IS0091R	dieldrin	precip	0.021	0.014	0.029	0.018	0.017	0.006	0.036	0.015	0.012	0.011	0.025	0.023
IS0091R	HCB	precip	0.009	0.017	0.017	0.008	0.008	0.006	0.021	0.007	0.005	0.005	0.017	0.018
IS0090R	iron	precip	51.59	382.45	376.43	182.68	165.75	153.16	740.44	299.73	38.12	376.46	223.76	864.4
IS0091R	iron	precip	24.049	23.569	66.391	58.183	0.821	0.621	444.82	169.95	40.99	68.648	349.61	-9999
IS0090R	magnesium	precip	0.431	1.337	1.343	0.34	1.113	0.3	0.308	0.118	1.186	0.633	0.219	0.371
IS0091R	magnesium	precip	4.777	11.395	4.216	12.766	7.137	1.412	1.142	8.361	1.839	10.631	4.984	19.445
IS0090R	manganese	precip	0.919	5.896	6.121	3.417	3.291	3.266	14.411	5.168	1.087	8.479	4.573	17.02
IS0091R	manganese	precip	0.465	0.499	2.354	1.238	0.946	0.462	8.65	3.609	0.954	1.554	7.54	-9999
IS0091R	op_DDT	precip	0.002	0.004	0.004	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_101	precip	0.009	0.004	0.014	0.002	0.017	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_105	precip	0.002	0.004	0.008	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_118	precip	0.004	0.004	0.007	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_138	precip	0.025	0.026	0.034	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_153	precip	0.029	0.023	0.03	0.002	0.009	0.017	0.011	0.01	0.002	0.001	0.006	0.006
IS0091R	PCB_156	precip	0.003	0.004	0.006	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_180	precip	0.006	0.009	0.009	0.002	0.01	0.015	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	PCB_28	precip	0.005	0.011	0.011	0.005	0.085	0.056	0.032	0.01	0.004	0.004	0.019	0.021
IS0091R	PCB_31	precip	0.003	0.007	0.007	0.004	0.059	0.034	0.021	0.007	0.003	0.003	0.013	0.015
IS0091R	PCB_52	precip	0.002	0.004	0.004	0.002	0.032	0.006	0.011	0.003	0.001	0.001	0.006	0.008
IS0090R	pH	precip	5.701	5.99	5.952	5.489	5.552	4.834	5.598	5.638	5.63	5.662	6.064	6.115
IS0091R	pH	precip	5.638	5.604	6.236	5.786	5.779	5.043	4.924	5.486	5.637	6.053	5.844	6.271
IS0090R	potassium	precip	0.169	0.49	0.42	0.101	0.366	0.144	1.115	0.06	0.386	0.217	0.089	0.144
IS0091R	potassium	precip	1.488	3.5	1.227	4.154	2.204	0.393	0.364	2.812	0.601	4.34	1.327	6.03
IS0091R	pp_DDD	precip	0.002	0.004	0.004	0.002	0.005	0.006	0.011	0.003	0.001	0.002	0.006	0.006
IS0091R	pp_DDE	precip	0.002	0.004	0.004	0.002	0.005	0.006	0.017	0.003	0.001	0.001	0.006	0.006
IS0091R	pp_DDT	precip	0.002	0.004	0.005	0.003	0.005	0.006	0.021	0.007	0.003	0.005	0.013	0.012
IS0090R	precip_amount	precip	105	90.729	60.071	123.3	86.7	33.7	10	52.6	94.3	99.043	39.929	85.929
IS0090R	precip_amount	precip	87.514	58.616	67.8	97	55.7	19.6	9.3	56.4	89.32	125.79	55.056	9.086
IS0091R	precip_amount	precip	115.5	64.914	61.586	332.5	67.6	49.9	27.3	94.9	204.4	210.7	77.9	33.6
IS0091R	precip_amount	precip	239.6	189.57	173.52	219.4	56.3	46	25	111.9	206.5	270.64	123.04	0
IS0091R	precip_amount	precip	126.43	56.938	55.746	108.75	37.349	33.092	18.95	57.407	152	147.01	31	33

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IS0090R	precip_amount_off	precip	96.586	59.243	57.271	99.8	65.7	28.9	11.5	56.3	78.4	77.443	36.286	41.971
IS0091R	precip_amount_off	precip	241.2	163.05 7	145.44 3	215.6	83.8	57.7	34.1	126.6	220.6	293.41 4	91.586	122.5
IS0091R	precip_amount_off	precip	222.81 8	164.76 7	152.36	218.96 2	66.353	57.158	33.91	100.52 3	221	295.99 8	88	121
IS0090R	sodium	precip	4.706	11.871	12.58	2.988	10.831	2.528	1.975	0.844	10.40 2	5.612	2.015	4.368
IS0091R	sodium	precip	40.28	95.788	35.801	94.775	62.104	12.793	9.637	61.522	17.33	119.76 2	43.316	150.168
IS0090R	sulphate_total	precip	0.693	1.084	0.986	0.544	1.343	0.71	0.989	0.22	0.893	0.744	0.267	0.428
IS0091R	sulphate_total	precip	2.98	9.203	3.493	10.037	4.742	0.89	1.393	9.098	1.158	8.084	3.444	17.836
IS0091R	trans_CD	precip	0.002	0.004	0.004	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	trans_NO	precip	0.002	0.004	0.006	0.002	0.005	0.006	0.011	0.003	0.001	0.001	0.006	0.006
IS0091R	txph-26	precip	0.001	0.002	0.004	0.001	0.003	0.003	0.005	0.002	0.001	0.002	0.003	0.003
IS0091R	txph-50	precip	0.006	0.01	0.013	0.008	0.013	0.01	0.011	0.006	0.005	0.003	0.006	0.009
IS0091R	txph-62	precip	0.003	0.007	0.007	0.004	0.011	0.012	0.021	0.007	0.003	0.003	0.013	0.012
IS0090R	vanadium	precip	0.772	2.038	5.322	0.872	2.006	1.006	2.345	1.061	0.322	1.338	0.817	2.403
IS0091R	vanadium	precip	0.268	0.243	0.977	0.332	0.028	0.053	2.027	0.804	0.194	0.385	1.388	-9999

Air Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
IS0091R	arsenic	aero	0.039	0.03	0.105	0.055	0.098	0.05	0.07	0.045	0.035	0.035	0.1	0.081
IS0091R	cadmium	aero	0.008	0.005	0.084	0.051	0.015	0.023	0.018	0.004	0.002	0.069	0.011	0.104
IS0091R	chromium	aero	8.27	5.882	2.913	10.665	9.471	6.095	0.97	5.445	8.795	15.273	6.845	6.217
IS0091R	copper	aero	0.476	0.401	1.29	0.69	1.232	0.48	0.923	0.525	0.385	0.849	2.395	2.537
IS0091R	gamma_HCH	air+aero	1.634	1.425	1.561	2.096	2.101	2.211	2.069	1.966	1.857	1.819	1.674	1.318
IS0091R	lead	aero	0.718	0.536	1.835	1.495	0.499	0.52	0.264	0.174	0.2	2.32	0.27	4.373
IS0091R	mercury	aero	3.02	2.407	4.196	2.435	2.445	2.54	1.998	2.009	1.365	1.314	1.65	2.07
IS0091R	nickel	aero	4.64	3.771	3.114	5.48	4.934	3.365	0.831	2.955	4.92	8.145	3.86	3.907
IS0091R	nitrate	aero	0.054	0.015	0.046	0.05	0.075	0.105	0.054	0.03	0.03	0.056	0.045	0.074
IS0091R	zinc	aero	3.044	4.075	42.468	12.125	5.094	2.365	2.415	1.644	1.345	18.618	3.385	19.432

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Air Other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
IS0091R	alpha_HCH	air+aero	3.012	3.229	3.258	2.267	1.996	1.658	1.08	1.145	2.535	2.011	2.11	2.12
IS0091R	aluminium	aero	71.63	56.195	400.671	211.04	518.701	67.32	455.747	176.614	44.335	219.437	1141.01	522.504
IS0091R	BDE_100	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	BDE_47	air+aero	0.505	0.44	0.466	0.655	0.947	1.437	2.261	1.75	0.992	0.506	0.63	0.563
IS0091R	BDE_99	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	beta_HCH	air+aero	0.254	0.328	0.352	0.496	0.623	0.835	0.468	0.477	0.452	0.181	0.054	0.052
IS0091R	chloride	aero	11.885	10.64	20.908	8.53	11.098	3.09	4.746	6.764	9.455	9.681	9.53	12.472
IS0091R	cis_CD	air+aero	0.484	0.511	0.488	0.595	0.509	0.486	0.516	0.514	0.391	0.428	0.377	0.25
IS0091R	dieldrin	air+aero	0.61	0.659	0.57	0.921	1.149	0.636	0.963	0.697	0.573	0.706	0.641	0.63
IS0091R	HCB	air+aero	5.707	5.577	6.227	3.918	3.236	2.763	2.064	1.914	3.853	3.962	5.265	12.894
IS0091R	iron	aero	110.811	114.267	691.594	1476.26	880.449	133.645	696.171	304.212	125.175	408.321	1666.515	848.088
IS0091R	manganese	aero	1.636	1.571	9.98	5.61	12.543	1.865	10.358	4.289	1.74	5.919	24.6	12.325
IS0091R	op_DDT	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	PCB_101	air+aero	1.005	0.984	0.988	1.487	1.981	2.929	4.107	3.449	2.133	1.517	1.351	1.115
IS0091R	PCB_105	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	PCB_118	air+aero	0.051	0.057	0.053	0.146	0.218	0.348	0.505	0.579	0.347	0.165	0.258	0.167
IS0091R	PCB_138	air+aero	0.051	0.057	0.053	0.095	0.054	0.055	0.303	0.155	0.055	0.052	0.054	0.052
IS0091R	PCB_153	air+aero	0.051	0.057	0.159	0.095	0.207	0.348	0.601	0.486	0.204	0.139	0.054	0.13
IS0091R	PCB_156	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	PCB_180	air+aero	0.051	0.057	0.053	0.095	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	PCB_28	air+aero	1.984	2.162	2.61	2.595	2.954	3.924	4.293	3.744	2.871	2.192	1.76	1.48
IS0091R	PCB_31	air+aero	1.323	1.423	1.905	1.594	1.348	2.155	2.133	1.8	1.422	1.154	1.007	0.797
IS0091R	PCB_52	air+aero	2.089	1.939	2.047	2.642	3.372	4.587	6.788	6.003	4.106	3.267	2.675	2.131
IS0091R	pp_DDD	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	pp_DDE	air+aero	0.145	0.057	0.053	0.143	0.052	0.055	0.137	0.055	0.147	0.166	0.275	0.132
IS0091R	pp_DDT	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	sulphate_tal	aero	0.668	0.57	0.992	0.43	0.644	0.465	0.439	0.357	0.48	0.535	0.475	0.614
IS0091R	trans_CD	air+aero	0.3	0.329	0.272	0.271	0.269	0.243	0.053	0.054	0.055	0.273	0.135	0.156
IS0091R	trans_NO	air+aero	0.413	0.448	0.412	0.481	0.451	0.414	0.298	0.335	0.242	0.308	0.291	0.198
IS0091R	txph_26	air+aero	0.112	0.105	0.08	0.165	0.172	0.205	0.128	0.124	0.028	0.066	0.027	0.026
IS0091R	txph_50	air+aero	0.051	0.057	0.053	0.055	0.054	0.055	0.053	0.054	0.055	0.052	0.054	0.052
IS0091R	txph_62	air+aero	0.076	0.085	0.08	0.083	0.081	0.083	0.08	0.081	0.083	0.078	0.081	0.078
IS0091R	vanadium	aero	0.99	0.998	4.873	2.08	4.449	1.095	4.594	1.653	0.485	1.874	9.92	4.695

IRELAND

Precip Mandatory

Station	Component	Air / Pre	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
IE0001R	ammonium	precip	0.11	1.66	0.566	1.445	1.11	7.56	0.35	0.046	0.067	0.09	0.07	0.529
IE0001R	arsenic	precip	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
IE0001R	cadmium	precip	0.05	0.05	0.05	0.296	0.064	0.05	0.05	0.05	0.05	0.05	0.05	0.05
IE0001R	chromium	precip	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
IE0001R	copper	precip	0.5	7	6.023	9.937	1.026	0.984	2.974	7.851	1.646	1	1	1
IE0001R	lead	precip	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
IE0001R	mercury	precip	50	50	391.83	55.544	50	50	50	50	50	50	50	50
IE0001R	nickel	precip	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
IE0001R	nitrate	precip	0.05	0.11	0.061	0.119	0.035	0.272	0.053	0.04	0.076	0.129	0.042	0.096
IE0001R	zinc	precip	19	15	11.093	23.794	5.106	34.946	19.225	28.703	12.66	24.815	28.913	27.125

Precip other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
IE0001R	aluminium	precip	25	25	25	25	25	25	25	25	25	25	25	25
IE0001R	manganese	precip	0.5	0.5	1.965	1.016	0.528	0.984	3.96	4.97	0.915	0.993	1	0.531
IE0001R	precip_amount	precip	291	53.103	81.251	166.978	102.441	97.959	247.138	273.29	95.839	227.516	345.817	186.828
IE0001R	vanadium	precip	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Comprehensive Atmospheric Monitoring Programme in 2009

NETHERLANDS

Precip Mandatory

Station	Component	Air / Pre	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
NL0009R	ammonium	precip	0.528	0.695	0.997	1.41	1.16	0.565	0.523	1.155	0.32	0.335	0.419	0.368
NL0091R	ammonium	precip	0.32	0.506	0.737	1.02	0.81	0.75	0.457	0.601	0.493	0.345	0.289	0.235
NL0009R	arsenic	precip	0.086	0.075	0.081	0.158	0.229	0.083	0.085	0.169	0.18	0.131	0.139	0.076
NL0091R	arsenic	precip	0.09	0.078	0.128	0.225	0.117	0.178	0.075	0.1	0.112	0.075	0.075	0.075
NL0009R	cadmium	precip	0.021	0.022	0.043	0.022	0.017	0.017	0.023	0.038	0.042	0.017	0.054	0.023
NL0091R	cadmium	precip	0.017	0.018	0.036	0.095	0.019	0.017	0.017	0.021	0.023	0.017	0.021	0.018
NL0009R	chromium	precip	0.26	0.26	0.26	0.26	0.26	0.26	0.307	0.421	1.151	0.26	0.435	0.26
NL0091R	chromium	precip	0.26	0.26	0.272	0.405	0.26	0.26	0.284	0.345	0.26	0.26	0.26	0.26
NL0009R	copper	precip	0.527	0.615	0.713	1.74	1.903	0.366	0.596	1.288	1.284	0.667	0.824	0.707
NL0091R	copper	precip	0.828	0.715	1.323	2.83	0.981	1.035	0.643	0.99	0.717	0.538	2.487	0.981
NL0091R	gamma_HCH	precip	2	2	2.865	4.551	5.768	3	2	2	1.393	1.664	2	2
NL0009R	lead	precip	0.273	0.245	0.613	0.317	0.807	0.408	0.346	1.476	4.019	0.443	0.609	0.587
NL0091R	lead	precip	0.741	0.804	1.009	1.825	0.979	0.866	0.469	0.659	0.692	0.429	0.674	0.53
NL0091R	mercury	precip	6.598	7.091	8.154	21.71	13.364	10.622	12.604	15.909	6.045	8.92	6.06	4.458
NL0009R	nickel	precip	0.205	0.205	0.225	0.26	0.205	0.205	0.205	0.301	0.891	0.205	0.375	0.206
NL0091R	nickel	precip	0.205	0.215	0.231	0.385	0.205	0.205	0.392	0.249	0.213	0.205	0.245	0.205
NL0009R	nitrate	precip	0.334	0.443	0.538	0.53	0.456	0.348	0.323	0.55	0.144	0.22	0.255	0.35
NL0091R	nitrate	precip	0.25	0.521	0.486	0.64	0.437	0.53	0.338	0.502	0.295	0.254	0.24	0.267
NL0009R	zinc	precip	2.852	2.738	5.74	2.855	5.905	2.618	2.211	7.187	10.823	2.842	11.012	3.826
NL0091R	zinc	precip	4.548	2.479	5.495	15.373	3.697	4.165	3	3.898	3.889	3.107	4.281	3.299

Precip Other

Station	Component	Air / Pre	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
NL0009R	precip_amount	precip	27.7	47.4	57.867	15.633	69.367	65.333	122.45	53.817	60.633	66.1	84.578	57.522
NL0009R	precip_amount	precip	28.8	46.7	60.238	11.923	71.485	73.423	118.608	51.685	64.823	65.069	92.246	54.954
NL0091R	precip_amount	precip	51.643	45.471	30.271	13.586	92.086	39.229	85.343	16.157	30.743	71.214	121.414	91.657
NL0091R	precip_amount	precip	49.7	49.4	31.911	11.011	88.822	51.356	91.65	17.261	32.056	74.067	127.478	94.389
NL0091R	precip_amount	precip	49.3	49.5	31.662	10.9	82.677	55.8	91.415	16.338	35.762	82.092	119.185	83.162
NL0091R	precip_amount	precip	52.589	60.15	47.861	24.15	93.682	33.268	12.25	40.714	54.75	85.743	135	81.921
NL0009R	precip_amount_off	precip	1440	2332	3014.92	596.15	3572.23	3668.46	5931.15	2585.07	3240.96	3256.69	4609.61	2746.23
NL0091R	precip_amount_off	precip	2463	2477	1584.92	544.84	4132.69	2789.76	4574.30	1788.23	4105.92	5959.07	5	1
					3	6	2	9	8	818.154	1	3	7	4158

Air Mandatory

Station	Component	Air / Pre	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
NL0007R	ammonia	air	8.537	7.014	9.488	13.772	8.792	7.017	7.801	10.114	7.724	5.707	5.887	5.477
NL0007R	ammonia	air	8.246	6.987	9.504	13.599	8.843	7.011	7.805	10.091	7.722	5.696	5.914	5.452
NL0010R	ammonia	air	13.266	10.365	14.352	22.243	15.458	15.788	15.927	20.193	18.182	13.361	7.256	11.162
NL0010R	ammonia	air	13.087	10.358	14.082	22.155	15.168	15.699	15.823	20.215	17.954	13.264	7.278	11.152
NL0091R	ammonia	air	1.247	1.125	1.076	3.507	1.799	1.432	1.753	5.862	1.502	1.123	0.942	0.737
NL0091R	ammonia	air	1.248	1.125	1.078	3.496	1.817	1.417	1.745	5.856	1.514	1.095	0.919	0.741
NL0009R	ammonium	aero	2.297	1.484	1.497	2.775	0.94	0.591	0.49	0.618	0.69	1.22	0.706	1.478
NL0010R	ammonium	aero	3.036	2.44	1.845	3.793	1.195	1.305	0.703	1.15	1.375	1.024	0.662	1.522
NL0091R	ammonium	aero	2.314	1.462	1.246	3.668	0.723	0.742	0.301	0.388	0.411	0.846	0.514	1.378
NL0009R	nitrate	aero	1.705	1.193	1.438	2.431	0.974	0.44	0.522	0.654	0.773	0.931	0.725	1.258
NL0010R	nitrate	aero	1.944	1.708	1.682	3.072	1.202	1.049	0.617	0.963	1.231	0.952	0.718	1.242

NL0091R	nitrate	aero	1.778	1.223	1.31	2.613	0.945	0.595	0.505	0.516	0.681	0.838	0.565	1.191
NL0007R	nitrogen_dioxide	air	12.163	8.43	5.919	5.696	4.431	3.218	3.361	4.188	4.741	5.583	5.754	7.647
NL0007R	nitrogen_dioxide	air	12.17	8.44	5.919	5.678	4.431	3.216	3.357	4.142	4.795	5.576	5.764	7.647
NL0009R	nitrogen_dioxide	air	6.053	3.861	2.871	3.666	2.701	1.14	1.393	2.085	2.051	3.467	4.19	5.825
NL0009R	nitrogen_dioxide	air	6.053	3.864	2.876	3.663	2.701	1.145	1.39	2.085	2.026	3.454	4.182	5.828
NL0010R	nitrogen_dioxide	air	14.505	9.688	7.522	8.182	6.475	5.56	4.713	5.299	5.753	6.983	5.427	8.635
NL0010R	nitrogen_dioxide	air	14.505	9.63	7.519	8.183	6.473	5.548	4.714	5.273	5.805	7.155	5.413	8.636
NL0011R	nitrogen_dioxide	air	11.029	8.615	6.649	6.419	4.032	3.268	4.342	5.716	6.3	8.081	6.893	10.087
NL0011R	nitrogen_dioxide	air	10.996	8.614	6.649	6.423	4.032	3.297	4.318	5.708	6.288	8.106	6.893	10.089
NL0091R	nitrogen_dioxide	air	10.92	7.633	6.205	6.446	3.651	2.573	2.981	3.654	3.701	5.94	5.513	8.248
NL0091R	nitrogen_dioxide	air	10.92	7.653	6.205	6.452	3.658	2.569	2.991	3.65	3.695	5.911	5.567	8.126
Air Other														
Station	Component	Air / Pre	Jan 257.51	Feb 240.10	Mar	April 253.77	May	June	July	Aug	Sept	Oct	Nov	Dec
NL0009R	carbon_monoxide	air	9	4	239.045	2	224.686	169.035	143.965	191.587	148.766	185.097	189.837	251.712
NL0007R	nitrogen_monoxide	air	7.444	2.989	0.592	0.468	0.172	-0.014	0.419	0.594	1.168	2.135	0.625	1.322
NL0007R	nitrogen_monoxide	air	7.474	2.997	0.592	0.466	0.171	-0.009	0.418	0.584	1.151	2.132	0.628	1.322
NL0009R	nitrogen_monoxide	air	2.013	0.821	0.275	0.624	0.588	0.147	0.206	0.221	0.217	1.106	0.474	1.629
NL0009R	nitrogen_monoxide	air	2.013	0.822	0.277	0.623	0.588	0.142	0.206	0.221	0.22	1.118	0.469	1.619
NL0010R	nitrogen_monoxide	air	10.978	3.649	1.648	1.43	0.892	0.592	0.734	0.748	2.014	3.352	0.499	2.859
NL0010R	nitrogen_monoxide	air	10.978	3.622	1.653	1.431	0.894	0.586	0.735	0.743	2.066	3.459	0.501	2.857
NL0011R	nitrogen_monoxide	air	9.668	4.699	2.123	1.542	0.626	0.47	0.746	1.187	1.992	5.533	1.316	5.037
NL0011R	nitrogen_monoxide	air	9.581	4.698	2.123	1.543	0.626	0.475	0.712	1.183	1.977	5.586	1.316	5.054
NL0091R	nitrogen_monoxide	air	8.285	3.794	1.17	1.156	0.463	0.196	0.49	0.468	0.673	2.628	0.897	3.429
NL0091R	nitrogen_monoxide	air	8.285	3.812	1.17	1.158	0.466	0.195	0.483	0.469	0.67	2.606	0.889	3.462
NL0008R	sulphate_total	aero	1.529	1.134	0.819	1.354	0.691	0.798	0.697	0.834	0.65	0.646	0.541	0.753
NL0009R	sulphate_total	aero	1.138	0.833	0.779	1.092	0.633	0.644	0.628	0.69	0.537	0.668	0.475	0.704
NL0010R	sulphate_total	aero	1.693	1.189	0.851	1.575	0.794	0.859	0.722	0.979	0.794	0.644	0.503	0.79
NL0091R	sulphate_total	aero	1.651	0.927	0.831	1.444	0.732	0.866	0.732	0.803	0.661	0.691	0.584	0.773
NL0007R	sulphur_dioxide	air	1.101	0.622	0.324	0.712	0.484	0.249	0.14	0.3	0.402	0.488	0.57	0.696
NL0007R	sulphur_dioxide	air	1.102	0.618	0.324	0.713	0.484	0.249	0.137	0.3	0.402	0.489	0.573	0.696
NL0008R	sulphur_dioxide	air	1.375	0.954	0.656	0.836	0.631	0.376	0.816	0.693	0.595	0.435	0.464	0.725
NL0008R	sulphur_dioxide	air	0.689	0.478	0.33	0.419	0.316	0.19	0.409	0.348	0.296	0.218	0.232	0.366
NL0009R	sulphur_dioxide	air	0.73	0.449	0.352	0.432	0.562	0.432	0.23	0.249	0.307	0.197	0.102	0.259
NL0009R	sulphur_dioxide	air	0.73	0.449	0.356	0.432	0.562	0.431	0.203	0.249	0.3	0.196	0.102	0.26
NL0010R	sulphur_dioxide	air	1.048	0.87	0.505	0.833	0.756	0.19	0.375	0.303	0.405	0.462	0.332	0.685
NL0010R	sulphur_dioxide	air	1.03	0.85	0.505	0.834	0.756	0.19	0.374	0.302	0.406	0.491	0.331	0.685
NL0011R	sulphur_dioxide	air	0.837	0.339	0.387	0.527	0.569	0.362	0.15	0.433	0.271	0.194	0.36	0.388
NL0011R	sulphur_dioxide	air	0.84	0.339	0.387	0.527	0.569	0.362	0.15	0.433	0.272	0.204	0.355	0.388
NL0091R	sulphur_dioxide	air	1.843	1.15	1.374	1.301	1.145	0.743	0.99	1.344	1.228	0.976	1.432	2.019
NL0091R	sulphur_dioxide	air	1.841	1.15	1.374	1.302	1.148	0.744	0.989	1.344	1.228	0.977	1.427	2.029

Comprehensive Atmospheric Monitoring Programme in 2009

NORWAY

Precip Mandatory														
Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
NO0001R	ammonium	precip	0.391	0.179	0.668	2.274	0.398	0.203	0.258	0.456	0.31	0.093	0.404	0.227
NO0039R	ammonium	precip	0.125	0.099	0.122	1.101	0.103	0.071	0.229	0.099	0.023	0.033	0.06	0.044
NO0554R	ammonium	precip	0.091	0.162	0.117	0.811	0.162	0.075	0.131	0.061	0.016	0.026	0.016	0.038
NO0572R	ammonium	precip	0.306	0.253	0.223	2.061	0.385	0.184	0.254	0.312	0.145	0.081	0.099	0.151
NO0655R	ammonium	precip	0.046	0.16	0.13	0.499	0.18	0.57	0.102	0.071	0.016	0.079	0.028	0.289
NO0001R	arsenic	pm10	0.241	0.087	0.128	0.525	0.205	0.153	0.192	0.216	0.163	0.215	0.172	0.15
NO0001R	arsenic	precip	0.325	0.158	0.242	0.289	0.118	0.05	0.131	0.17	0.057	0.05	0.249	0.167
NO0001R	cadmium	pm10	0.054	0.026	0.031	0.094	0.021	0.02	0.025	0.025	0.018	0.038	0.043	0.044
NO0001R	cadmium	precip	0.044	0.021	0.079	0.086	0.029	0.007	0.015	0.018	0.008	0.021	0.07	0.033
NO0039R	cadmium	precip	0.006	0.003	0.005	0.016	0.004	0.004	0.007	0.027	0.007	0.02	0.004	0.004
NO0001R	chromium	pm10	6.415	4.987	4.58	3.126	0.235	0.299	0.523	0.303	0.236	0.236	0.375	0.502
NO0001R	chromium	precip	0.12	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.109	0.1	0.139	0.1
NO0001R	copper	pm10	0.944	0.631	0.341	2.039	0.61	0.35	0.568	0.314	0.284	0.295	1.27	0.601
NO0001R	copper	precip	0.487	0.407	0.831	1.524	0.705	0.25	0.295	0.712	0.448	0.187	0.421	0.325
NO0001R	gamma_HCH	precip	258.226	389.461	195.274	764.33	424.987	534.502	363.82	432.25	316.235	250.068	314.887	211.314
NO0001R	lead	pm10	1.775	0.653	0.91	2.193	0.702	0.542	0.734	0.899	0.402	0.9	1.128	1.835
NO0001R	lead	precip	1.253	0.749	1.609	1.919	0.673	0.351	0.351	0.722	0.331	0.338	1.411	0.897
NO0039R	lead	precip	0.101	0.053	0.158	0.4	0.142	0.116	0.097	0.07	0.04	0.106	0.057	0.14
NO0001R	mercury	precip	6.861	9.4	13.654	27.6	17	11.2	10.247	10	4.5	6.403	10.87	4.846
NO0001R	nickel	pm10	0.904	0.408	0.365	1.401	0.653	0.376	0.663	1.096	0.321	0.246	0.671	0.55
NO0001R	nickel	precip	0.228	0.193	0.405	0.303	0.393	0.1	0.111	0.275	0.141	0.11	0.158	0.159
NO0001R	nitrate	precip	0.592	0.461	0.674	1.2	0.413	0.282	0.332	0.467	0.329	0.21	0.439	0.452
NO0039R	nitrate	precip	0.016	0.047	0.069	0.85	0.089	0.065	0.203	0.064	0.009	0.029	0.056	0.062
NO0554R	nitrate	precip	0.177	0.136	0.116	0.508	0.158	0.105	0.177	0.063	0.043	0.032	0.063	0.14
NO0572R	nitrate	precip	0.25	0.192	0.114	1.094	0.21	0.134	0.249	0.268	0.14	0.13	0.073	0.103
NO0655R	nitrate	precip	0.074	0.045	0.14	0.312	0.133	0.65	0.104	0.087	0.034	0.05	0.048	0.145
NO0001R	zinc	pm10	5.97	3.123	3.19	10.292	4.038	4.594	4.786	4.685	3.267	4.874	5.528	7.909
NO0001R	zinc	precip	4.91	3.883	7.821	15.386	4.546	1.83	1.144	5.114	2.12	1.883	4.408	3.013
NO0039R	zinc	precip	2.757	1.444	3.612	9.4	1.883	0.784	1.562	1.82	0.348	0.543	0.772	0.319
Precip other			Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Station	Component													
NO0001R	alpha_HCH	precip	101.928	58.723	107.442	206.032	166.541	180.088	135.178	152.953	169.249	204.673	163.634	110.947
NO0001R	calcium	precip	0.069	0.045	0.082	0.184	0.13	0.035	0.06	0.269	0.085	0.057	0.13	0.07
NO0039R	calcium	precip	0.049	0.051	0.094	0.22	0.06	0.072	0.139	0.044	0.049	0.048	0.04	0.033
NO0554R	calcium	precip	0.121	0.041	0.104	0.131	0.121	0.064	0.056	0.042	0.058	0.104	0.048	0.048
NO0572R	calcium	precip	0.141	0.051	0.088	0.228	0.177	0.107	0.052	0.078	0.109	0.117	0.083	0.042
NO0655R	calcium	precip	0.079	0.028	0.056	0.093	0.08	0.14	0.033	0.047	0.048	0.101	0.029	0.028
NO0001R	chloride	precip	2.361	0.454	1.131	0.672	1.136	0.619	0.894	1.729	0.95	0.926	3.974	2.248
NO0039R	chloride	precip	2.051	1.148	2.933	3.033	0.74	1.53	0.588	0.439	1.633	1.523	0.561	0.81
NO0554R	chloride	precip	5.268	1.498	2.711	1.937	2.952	0.511	0.515	0.792	2.082	4.016	1.343	1.474
NO0572R	chloride	precip	6.095	1.793	3.517	1.169	4.401	1.063	0.859	0.512	2.771	5.239	3.904	1.194
NO0655R	chloride	precip	3.018	1.069	1.911	2.232	3.444	1.49	0.257	0.533	2.12	1.767	1.057	0.64
NO0001R	cobalt	pm10	0.033	0.014	0.02	0.073	0.037	0.029	0.033	0.02	0.018	0.019	0.018	0.019

NO0001R	cobalt	precip	0.015	0.013	0.024	0.054	0.034	0.016	0.008	0.034	0.008	0.006	0.014	0.005
NO0001R	conductivity	precip	27.828	18.544	23.918	27.34	15.181	10.155	13.428	19.397	13.528	13.251	32.791	28.049
NO0039R	conductivity	precip	10.174	7.02	15.357	16.185	7.7	10.213	8.194	5.28	9.492	8.087	4.976	6.312
NO0554R	conductivity	precip	22.506	11.305	16.905	19.324	18.23	9.127	10.756	7.7	12.51	18.163	10.36	11.4
NO0572R	conductivity	precip	30.463	12.433	19.27	27.476	21.891	10.582	11.184	12.187	17.593	23.704	20.675	10.062
NO0655R	conductivity	precip	17.772	7.013	12.951	16.431	18.918	23.7	7.594	6.772	12.38	9.949	8.058	7.785
NO0001R	HCB	precip	118.85	56.482	97.824	203.092	42.789	92.736	44.712	88.233	21.587	22.99	37.074	70.401
NO0001R	magnesium	precip	0.164	0.028	0.073	0.044	0.091	0.041	0.066	0.124	0.079	0.08	0.294	0.175
NO0039R	magnesium	precip	0.133	0.069	0.21	0.223	0.054	0.094	0.043	0.024	0.109	0.099	0.043	0.054
NO0554R	magnesium	precip	0.32	0.086	0.193	0.141	0.194	0.054	0.049	0.041	0.155	0.264	0.111	0.094
NO0572R	magnesium	precip	0.361	0.112	0.239	0.081	0.269	0.078	0.063	0.063	0.197	0.291	0.326	0.088
NO0655R	magnesium	precip	0.228	0.07	0.132	0.155	0.222	0.145	0.03	0.038	0.154	0.131	0.09	0.052
NO0001R	PCB_101	precip	10.303	12.026	12.845	14.031	5.969	4.617	4.624	8.081	6.161	3.801	6.271	7.908
NO0001R	PCB_118	precip	6.859	8.469	8.927	8.333	5.849	3.572	3.514	5.684	4.709	3.295	7.228	5.98
NO0001R	PCB_138	precip	14.281	11.029	26.048	10.378	5.17	3.775	3.608	5.143	5.096	3.824	9.935	10.33
NO0001R	PCB_153	precip	16.102	14.57	28.867	13.036	12.537	4.922	4.937	4.855	7.738	4.845	9.356	11.324
NO0001R	PCB_180	precip	16.471	11.559	42.049	9.418	11.543	2.249	1.898	1.071	2.959	2.409	10.463	10.621
NO0001R	PCB_28	precip	9.533	13.881	11.679	23.659	9.167	12.851	7.944	27.688	16.97	14.107	9.042	9.639
NO0001R	PCB_52	precip	9.89	12.088	10.814	18.094	6.774	8.468	5.975	14.024	10.775	8.811	7.917	9.428
NO0001R	PCB_99	precip	2.802	7.968	3.624	4.947	2.495	2.259	1.202	1.825	2.119	1.234	2.353	2.302
NO0001R	pH	precip	4.582	4.503	4.576	6.118	5.081	4.957	4.838	4.974	5.087	4.828	4.682	4.562
NO0039R	pH	precip	5.632	5.755	5.614	6.029	5.475	5.197	5.611	5.48	5.441	5.388	5.671	5.582
NO0554R	pH	precip	5.233	5.232	5.13	5.519	5.241	5.044	4.849	5.141	5.235	5.239	5.415	5.172
NO0572R	pH	precip	5.231	5.315	5.352	6.468	5.695	5.222	5.014	5.464	5.205	5.218	5.731	5.311
NO0655R	pH	precip	5.305	5.486	5.159	5.698	5.254	4.71	5.015	5.063	5.289	5.615	5.683	5.535
NO0001R	potassium	precip	0.076	0.031	0.059	0.035	0.096	0.034	0.043	0.082	0.071	0.036	0.12	0.076
NO0039R	potassium	precip	0.082	0.113	0.117	0.135	0.079	0.065	0.182	0.098	0.066	0.035	0.037	0.025
NO0554R	potassium	precip	0.123	0.072	0.072	0.074	0.1	0.065	0.051	0.106	0.058	0.124	0.047	0.042
NO0572R	potassium	precip	0.137	0.039	0.083	0.202	0.129	0.059	0.049	0.065	0.064	0.16	0.107	0.043
NO0655R	potassium	precip	0.07	0.03	0.049	0.05	0.082	0.3	0.052	0.043	0.037	0.042	0.033	0.015
NO0001R	precip_amount	precip	201.1	56.8	119.8	36.9	61.8	51.6	241.8	111.5	83.5	220.9	408.5	212.8
NO0001R	precip_amount	precip	201.1	56.8	119.8	36.9	61.8	51.6	241.8	111.5	83.5	220.9	408.5	212.8
NO0039R	precip_amount	precip	83.1	125	89.1	5.9	106	128.7	52.8 178.35 7	124.7	331.2	182.3	37.8	43.7
NO0554R	precip_amount	precip	336.614	213.1	214.486	148.671	265.243	72.429	371.1	595.414	193.614	442.714	83.2	
NO0572R	precip_amount	precip	275	171.614	214.286	63.7	180.6	103.3	250.8	323.9	343.271	131.229	410.9	77.3
NO0655R	precip_amount	precip	299	155.4	113.6	84.4	229.6	6.4	189.1	252.2	392.7	96.8	223.1	31.2
NO0001R	sodium	precip	1.543	0.241	0.638	0.365	0.693	0.302	0.549	1.024	0.682	0.662	2.449	1.355
NO0039R	sodium	precip	1.148	0.685	1.757	1.94	0.45	0.771	0.332	0.235	0.968	0.758	0.317	0.415
NO0554R	sodium	precip	2.694	0.885	1.657	1.234	1.641	0.393	0.356	0.275	1.266	1.951	0.789	0.884
NO0572R	sodium	precip	3.463	0.968	2.07	0.645	2.445	0.665	0.496	0.529	1.668	2.639	2.545	0.684
NO0655R	sodium	precip	1.967	0.531	1.148	1.336	1.781	1.01	0.189	0.258	1.267	1.04	0.728	0.38
NO0001R	sulphate_corrected	precip	0.33	0.268	0.588	0.767	0.322	0.184	0.285	0.322	0.174	0.234	0.393	0.236
NO0039R	sulphate_corrected	precip	-0.005	0.023	0.053	0.584	0.073	0.115	0.144	0.104	0.017	0.039	0.025	0.041
NO0554R	sulphate_corrected	precip	0.246	0.101	0.086	0.288	0.162	0.102	0.26	0.12	0.01	0.034	0.023	0.083
NO0572R	sulphate_corrected	precip	0.203	0.115	0.063	0.624	0.219	0.179	0.251	0.266	0.123	0.16	0.062	0.064
NO0655R	sulphate_corrected	precip	0.049	0.043	0.07	0.242	0.192	0.375	0.185	0.131	0.014	0.039	0.03	0.081
NO0001R	sulphate_total	precip	0.452	0.286	0.64	0.798	0.379	0.209	0.33	0.403	0.23	0.289	0.595	0.351

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NO0039R	sulphate_total	precip	0.087	0.08	0.199	0.735	0.11	0.179	0.17	0.12	0.094	0.103	0.052	0.076
NO0554R	sulphate_total	precip	0.47	0.172	0.22	0.383	0.296	0.135	0.289	0.144	0.115	0.214	0.09	0.151
NO0572R	sulphate_total	precip	0.491	0.194	0.231	0.676	0.407	0.233	0.292	0.31	0.258	0.365	0.275	0.118
NO0655R	sulphate_total	precip	0.206	0.088	0.162	0.349	0.342	0.46	0.201	0.152	0.119	0.126	0.091	0.112
NO0001R	sum_PCB	precip	83.439	83.623	141.229	96.948	57.009	40.454	32.499	66.547	54.409	41.091	60.211	65.229
NO0001R	vanadium	pm10	0.962	0.516	0.582	2.297	0.942	0.504	1.066	1.048	0.423	0.311	0.437	0.517
NO0001R	vanadium	precip	0.954	0.761	1.045	0.719	0.778	0.393	0.486	0.845	0.371	0.4	0.936	0.843
Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
NO0001R	a_HBCD	air+aero	0.597	0.255	0.48	0.368	0.38	0.276	0.138	0.53	0.13	-9999	-9999	-9999
NO0002R	a_HBCD	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.242	0.223	0.336	0.327	0.073	0.927
NO0001R	ammonia	air	0.322	0.137	0.373	0.895	0.816	0.434	0.754	0.594	0.394	0.197	0.254	0.368
NO0039R	ammonia	air	0.463	0.58	0.559	0.873	0.94	0.849	0.875	0.987	0.758	0.495	0.479	0.469
NO0001R	ammonia_and_amm onium	air+aero	0.581	0.273	0.546	1.287	1.241	0.535	0.946	0.776	0.473	0.268	0.488	0.55
NO0039R	ammonia_and_amm onium	air+aero	0.471	0.616	0.619	1.021	1.013	0.889	0.948	1.045	0.786	0.515	0.547	0.548
NO0039R	ammonium	aero	0.01	0.034	0.059	0.149	0.073	0.041	0.073	0.057	0.028	0.019	0.069	0.078
NO0001R	gamma_HCH	air+aero	2.454	2.141	2.781	4.767	4.05	4.607	7.096	6.16	9.394	-9999	-9999	-9999
NO0002R	gamma_HCH	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	5.414	5.288	4.153	1.53	3.507	1.547
NO0001R	nitrate	aero	0.18	0.046	0.147	0.304	0.513	0.055	0.222	0.172	0.129	0.061	0.206	0.117
NO0039R	nitrate	aero	0.039	0.017	0.02	0.048	0.031	0.022	0.017	0.03	0.042	0.018	0.044	0.024
NO0001R	nitric_acid	air	0.098	0.06	0.048	0.143	0.143	0.052	0.105	0.098	0.058	0.018	0.049	0.068
NO0039R	nitric_acid	air	0.02	0.014	0.028	0.049	0.037	0.016	0.022	0.025	0.053	0.019	0.023	0.013
NO0001R	nitrogen_dioxide	air	0.895	0.519	0.488	0.362	0.305	0.291	0.311	0.369	0.406	0.271	0.484	0.598
NO0039R	nitrogen_dioxide	air	0.275	0.314	0.257	0.119	0.164	0.032	0.039	0.164	0.139	0.12	0.129	0.348

Air Other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
NO0001R	acenaphthene	air+aero	0.337	0.193	0.212	0.165	0.244	0.196	0.214	0.141	0.259	-9999	-9999	-9999
NO0002R	acenaphthene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.097	0.037	0.028	0.042	0.134	0.103
NO0001R	acenaphthylene	air+aero	0.06	0.031	0.042	0.029	0.013	0.013	0.013	0.014	0.011	-9999	-9999	-9999
NO0002R	acenaphthylene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.024	0.01	0.01	0.017	0.036	0.039
NO0001R	alpha_HCH	air+aero	4.154	3.595	4.669	5.644	6.561	8.296	12.764	9.419	9.867	-9999	-9999	-9999
NO0002R	alpha_HCH	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	7.51	8.333	9.828	6.829	5.795	3.876
NO0001R	anthanthrene	air+aero	0.02	0.021	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-9999	-9999	-9999
NO0002R	anthanthrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.02	0.02	0.02	0.02	0.061	0.039
NO0001R	anthracene	air+aero	0.016	0.017	0.015	0.283	0.011	0.013	0.019	0.011	0.01	-9999	-9999	-9999
NO0002R	anthracene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.012	0.01	0.01	0.01	0.025	0.021
NO0001R	b_HBCD	air+aero	0.484	0.467	0.407	0.412	0.41	0.224	0.218	1.064	0.081	-9999	-9999	-9999
NO0002R	b_HBCD	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.13	0.219	0.174	0.186	0.069	0.249
NO0001R	BDE_100	air+aero	0.058	0.027	0.024	0.024	0.02	0.031	0.034	0.02	0.017	-9999	-9999	-9999
NO0002R	BDE_100	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.042	0.02	0.019	0.01	0.013	0.018
NO0001R	BDE_119	air+aero	0.021	0.01	0.01	0.01	0.016	0.01	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	BDE_119	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.012	0.011	0.01
NO0001R	BDE_138	air+aero	0.019	0.024	0.026	0.013	0.01	0.021	0.024	0.012	0.016	-9999	-9999	-9999
NO0002R	BDE_138	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.015	0.01	0.011	0.02	0.035	0.027
NO0001R	BDE_153	air+aero	0.036	0.023	0.027	0.018	0.012	0.016	0.016	0.011	0.014	-9999	-9999	-9999
NO0002R	BDE_153	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.014	0.011	0.01	0.019	0.022	0.024
NO0001R	BDE_154	air+aero	0.022	0.012	0.017	0.014	0.01	0.015	0.016	0.01	0.011	-9999	-9999	-9999
NO0002R	BDE_154	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.01	0.011	0.012
NO0001R	BDE_183	air+aero	0.036	0.024	0.04	0.02	0.01	0.015	0.014	0.013	0.025	-9999	-9999	-9999
NO0002R	BDE_183	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.011	0.013	0.011	0.022	0.025	0.041
NO0001R	BDE_196	air+aero	0.065	0.116	0.086	0.017	0.017	0.056	0.105	0.206	0.059	-9999	-9999	-9999
NO0002R	BDE_196	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.051	0.031	0.109	0.12	0.109	0.086
NO0001R	BDE_206	air+aero	0.078	0.099	0.092	0.044	0.025	0.066	0.093	0.164	0.059	-9999	-9999	-9999
NO0002R	BDE_206	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.045	0.024	0.076	0.099	0.137	0.104
NO0001R	BDE_209	air+aero	0.474	0.461	0.596	0.483	0.332	0.372	0.266	0.415	0.393	-9999	-9999	-9999
NO0002R	BDE_209	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.269	0.2	0.246	0.343	0.44	0.648
NO0001R	BDE_28	air+aero	0.099	0.034	0.027	0.029	0.022	0.099	0.031	0.031	0.026	-9999	-9999	-9999
NO0002R	BDE_28	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.017	0.017	0.011	0.01	0.017	0.013
NO0001R	BDE_47	air+aero	0.57	0.24	0.179	0.194	0.14	0.326	0.204	0.143	0.121	-9999	-9999	-9999
NO0002R	BDE_47	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.412	0.129	0.105	0.072	0.094	0.11
NO0001R	BDE_49+71	air+aero	0.111	0.03	0.023	0.025	0.019	0.026	0.022	0.019	0.018	-9999	-9999	-9999
NO0002R	BDE_49+71	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.027	0.013	0.01	0.01	0.012	0.016
NO0001R	BDE_66	air+aero	0.024	0.016	0.014	0.016	0.073	0.016	0.015	0.01	0.011	-9999	-9999	-9999
NO0002R	BDE_66	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.019	0.011	0.01	0.01	0.011	0.018
NO0001R	BDE_77	air+aero	0.01	0.01	0.01	0.01	0.01	0.011	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	BDE_77	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.01	0.01	0.01
NO0001R	BDE_85	air+aero	0.016	0.01	0.011	0.01	0.01	0.01	0.011	0.01	0.01	-9999	-9999	-9999
NO0002R	BDE_85	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.014	0.014	0.011
NO0001R	BDE_99	air+aero	0.295	0.111	0.111	0.096	0.088	0.088	0.179	0.107	0.078	-9999	-9999	-9999
NO0002R	BDE_99	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.169	0.082	0.084	0.042	0.06	0.115
NO0001R	benz_a_anthracene	air+aero	0.032	0.032	0.022	0.012	0.012	0.011	0.012	0.011	0.01	-9999	-9999	-9999

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NO0002R	benz_a_anthracene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.012	0.011	0.01	0.012	0.091	0.08
NO0001R	benzo_a_fluoranthene	air+aero	0.014	0.017	0.012	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	benzo_a_fluoranthene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.011	0.042	0.022
NO0001R	benzo_a_fluorene	air+aero	0.023	0.019	0.018	0.01	0.011	0.01	0.01	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	benzo_a_fluorene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.011	0.06	0.052
NO0001R	benzo_a_pyrene	air+aero	0.033	0.045	0.028	0.013	0.012	0.01	0.01	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	benzo_a_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.015	0.113	0.091
NO0001R	benzo_b_fluorene	air+aero	0.017	0.012	0.012	0.012	0.01	0.01	0.008	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	benzo_b_fluorene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.008	0.01	0.01	0.012	0.037	0.027
NO0001R	benzo_bjk_fluoranthene s	air+aero	0.131	0.135	0.085	0.052	0.047	0.018	0.034	0.018	0.016	-9999	-9999	-9999	-9999
NO0002R	benzo_bjk_fluoranthene s	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.037	0.02	0.021	0.044	0.327	0.311
NO0001R	benzo_e_pyrene	air+aero	0.058	0.059	0.058	0.022	0.03	0.012	0.013	0.012	0.019	-9999	-9999	-9999	-9999
NO0002R	benzo_e_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.017	0.012	0.017	0.021	0.126	0.111
NO0001R	benzo_ghi_fluoranthene	air+aero	0.029	0.034	0.018	0.016	0.01	0.01	0.01	0.01	0.01	-9999	-9999	-9999	-9999
NO0002R	benzo_ghi_fluoranthene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.014	0.054	0.061
NO0001R	benzo_ghi_ptylene	air+aero	0.05	0.055	0.047	0.026	0.024	0.022	0.024	0.021	0.02	-9999	-9999	-9999	-9999
NO0002R	benzo_ghi_ptylene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.024	0.021	0.02	0.03	0.107	0.112
NO0001R	biphenyl	air+aero	1.086	1.892	1.151	0.535	0.188	0.179	0.089	0.092	0.105	-9999	-9999	-9999	-9999
NO0002R	biphenyl	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.046	0.028	0.029	0.176	1.287	0.927
NO0001R	calcium	aero	0.031	0.022	0.032	0.06	0.057	0.057	0.045	0.049	0.034	0.017	0.036	0.008	0.008
NO0039R	calcium	aero	0.008	0.018	0.019	0.044	0.05	0.029	0.042	0.021	0.021	0.019	0.018	0.007	0.007
NO0001R	chloride	aero	0.545	0.059	0.554	0.119	0.619	0.143	0.285	0.406	0.542	0.26	0.715	0.038	0.038
NO0039R	chloride	aero	0.144	0.14	0.267	0.111	0.167	0.188	0.272	0.074	0.251	0.062	0.021	0.054	0.054
NO0001R	chrysene_triptylene	air+aero	0.091	0.093	0.082	0.037	0.046	0.014	0.024	0.017	0.052	-9999	-9999	-9999	-9999
NO0002R	chrysene_triptylene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.023	0.014	0.022	0.029	0.183	0.162
NO0001R	coronene	air+aero	0.023	0.031	0.024	0.024	0.02	0.02	0.02	0.02	0.02	-9999	-9999	-9999	-9999
NO0002R	coronene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.02	0.02	0.02	0.023	0.077	0.053
NO0001R	cyclopenta_cd_pyrene	air+aero	0.013	0.018	0.01	0.01	0.01	0.01	0.033	0.01	0.01	-9999	-9999	-9999	-9999
NO0002R	cyclopenta_cd_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.01	0.01	0.01	0.01	0.045	0.028
NO0001R	dibenzo_ac_ah_anthracene s	air+aero	0.02	0.02	0.02	0.02	0.02	0.02	0.019	0.019	0.02	-9999	-9999	-9999	-9999
NO0002R	dibenzo_ac_ah_anthracene s	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.019	0.018	0.019	0.019	0.026	0.026
NO0001R	dibenzo_ae_pyrene	air+aero	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-9999	-9999	-9999	-9999
NO0002R	dibenzo_ae_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.02	0.02	0.02	0.02	0.035	0.022
NO0001R	dibenzo_ah_pyrene	air+aero	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-9999	-9999	-9999	-9999
NO0002R	dibenzo_ah_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.02	0.02	0.02	0.02	0.02	0.02
NO0001R	dibenzo_ai_pyrene	air+aero	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-9999	-9999	-9999	-9999
NO0002R	dibenzo_ai_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.02	0.02	0.02	0.02	0.02	0.024
NO0001R	dibenzofuran	air+aero	2.407	2.521	1.611	1.611	0.671	0.606	0.48	0.393	0.571	-9999	-9999	-9999	-9999
NO0002R	dibenzofuran	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.266	0.139	0.162	0.623	2.758	2.148
NO0001R	dibenzothiophene	air+aero	0.063	0.045	0.076	0.044	0.054	0.048	0.051	0.033	0.064	-9999	-9999	-9999	-9999
NO0002R	dibenzothiophene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.032	0.023	0.034	0.028	0.097	0.045
NO0001R	fluoranthene	air+aero	0.34	0.3	0.195	0.157	0.092	0.089	0.133	0.053	0.098	-9999	-9999	-9999	-9999
NO0002R	fluoranthene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.059	0.043	0.061	0.11	0.565	0.465
NO0001R	fluorene	air+aero	1.505	1.243	1.131	0.7	0.454	0.493	0.446	0.312	0.435	-9999	-9999	-9999	-9999
NO0002R	fluorene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.239	0.131	0.136	0.422	1.88	1.297
NO0001R	FTS_6-2	air+aero	0.54	0.46	0.372	1.011	0.728	0.572	0.645	0.768	1.073	1.306	2.123	2.418	2.418
NO0002R	FTS_6-2	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.878	0.99	0.975	-9999	-9999	-9999

NO0001R	g_HBCD	air+aero	0.478	0.347	0.339	0.328	0.378	0.332	0.183	1.959	0.175	-9999	-9999	-9999
NO0002R	g_HBCD	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.204	1.034	0.513	0.842	0.05	0.246
NO0001R	HCB	air+aero	68.832	55.77	69.971	67.301	67.438	64.245	62.849	52.345	69.272	-9999	-9999	-9999
NO0002R	HCB	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	29.879	37.119	30.607	45.311	47.798	52.216
NO0001R	inden_123cd_pyrene	air+aero	0.045	0.062	0.035	0.024	0.02	0.02	0.02	0.019	0.02	-9999	-9999	-9999
NO0002R	inden_123cd_pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.02	0.02	0.02	0.027	0.135	0.13
NO0001R	magnesium	aero	0.067	0.013	0.048	0.027	0.077	0.022	0.037	0.056	0.055	0.021	0.069	0.014
NO0039R	magnesium	aero	0.011	0.014	0.023	0.015	0.02	0.02	0.05	0.013	0.024	0.007	0.005	0.009
NO0001R	N1methylnaphtalene	air+aero	0.376	0.448	0.345	0.175	0.109	0.104	0.061	0.075	0.074	-9999	-9999	-9999
NO0002R	N1methylnaphtalene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.043	0.028	0.016	0.064	0.371	0.338
NO0001R	N1methylphenanthrene	air+aero	0.073	0.069	0.053	0.04	0.03	0.019	0.027	0.017	0.025	-9999	-9999	-9999
NO0002R	N1methylphenanthrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.018	0.015	0.02	0.027	0.098	0.099
NO0001R	N2methylantracene	air+aero	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-9999	-9999	-9999
NO0002R	N2methylantracene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.015	0.013	0.01	0.01	0.017	0.015
NO0001R	N2methylnaphtalene	air+aero	0.541	0.617	0.56	0.28	0.198	0.186	0.1	0.125	0.122	-9999	-9999	-9999
NO0002R	N2methylnaphtalene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.083	0.053	0.028	0.103	0.54	0.464
NO0001R	N2methylphenanthrene	air+aero	0.109	0.088	0.097	0.053	0.062	0.037	0.047	0.026	0.05	-9999	-9999	-9999
NO0002R	N2methylphenanthrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.028	0.023	0.031	0.032	0.165	0.125
NO0001R	N3methylphenanthrene	air+aero	0.081	0.06	0.073	0.043	0.05	0.031	0.04	0.022	0.043	-9999	-9999	-9999
NO0002R	N3methylphenanthrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.026	0.023	0.026	0.026	0.125	0.091
NO0001R	N9methylphenanthrene	air+aero	0.051	0.037	0.038	0.031	0.029	0.023	0.027	0.022	0.028	-9999	-9999	-9999
NO0002R	N9methylphenanthrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.017	0.057	0.016	0.018	0.069	0.058
NO0001R	naphthalene	air+aero	1.068	1.483	0.728	0.418	0.191	0.23	0.158	0.148	0.177	-9999	-9999	-9999
NO0002R	naphthalene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.075	0.053	0.041	0.139	0.9	0.992
NO0001R	PCB_101	air+aero	0.6	0.484	0.875	0.71	0.498	0.715	0.804	0.853	1.113	-9999	-9999	-9999
NO0002R	PCB_101	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.482	0.594	0.557	0.31	0.604	0.373
NO0001R	PCB_118	air+aero	0.17	0.136	0.229	0.187	0.135	0.194	0.22	0.217	0.256	-9999	-9999	-9999
NO0002R	PCB_118	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.138	0.157	0.143	0.089	0.187	0.093
NO0001R	PCB_138	air+aero	0.217	0.163	0.474	0.275	0.175	0.288	0.317	0.348	0.378	-9999	-9999	-9999
NO0002R	PCB_138	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.272	0.217	0.214	0.101	0.207	0.112
NO0001R	PCB_153	air+aero	0.357	0.272	0.732	0.438	0.283	0.458	0.501	0.557	0.633	-9999	-9999	-9999
NO0002R	PCB_153	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.381	0.351	0.342	0.162	0.342	0.194
NO0001R	PCB_180	air+aero	0.108	0.08	0.302	0.129	0.072	0.116	0.125	0.138	0.118	-9999	-9999	-9999
NO0002R	PCB_180	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.21	0.092	0.077	0.037	0.075	0.044
NO0001R	PCB_28	air+aero	1.366	1.265	1.784	1.434	1.049	1.182	1.373	1.162	1.559	-9999	-9999	-9999
NO0002R	PCB_28	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.565	0.865	0.65	0.639	1.187	0.786
NO0001R	PCB_52	air+aero	1.179	0.99	1.368	1.284	0.937	1.096	1.272	1.23	1.754	-9999	-9999	-9999
NO0002R	PCB_52	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.655	0.977	0.805	0.628	1.132	0.768
NO0001R	PCB_99	air+aero	0.199	0.153	0.227	0.205	0.154	0.208	0.251	0.244	0.357	-9999	-9999	-9999
NO0002R	PCB_99	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.147	0.188	0.179	0.12	0.235	0.136
NO0001R	perylene	air+aero	0.011	0.012	0.011	0.01	0.005	0.007	0.006	0.009	0.01	-9999	-9999	-9999
NO0002R	perylene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.005	0.008	0.01	0.009	0.024	0.018
NO0001R	PFBA	air+aero	0.287	0.27	0.341	0.233	0.167	0.15	0.175	0.138	0.214	0.745	0.841	0.659
NO0002R	PFBA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.105	0.221	0.444	-9999	-9999	-9999
NO0001R	PFBS	air+aero	0.039	0.028	0.031	0.065	0.102	0.077	0.062	0.052	0.06	0.083	0.116	0.14
NO0002R	PFBS	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	0.07	0.061	0.074	-9999	-9999	-9999
NO0001R	PFDcA	air+aero	1.688	1.587	1.672	1.616	3.019	2.821	2.798	2.656	3.006	1.767	3.296	2.92

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NO0002R	PFDcA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	2.038	2.85	3.269	-9999	-9999	-9999
NO0001R	PFDcS	air+aero	0.028	0.025	0.111	0.053	0.043	0.043	0.041	0.045	0.038	0.05	0.057	0.066	
NO0002R	PFDcS	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.038	0.04	0.049	-9999	-9999	-9999
NO0001R	PFHpA	air+aero	0.704	0.85	0.931	1.404	1.617	1.512	1.912	1.926	1.775	2.632	3.936	4.098	
NO0002R	PFHpA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	1.218	2.01	3.398	-9999	-9999	-9999
NO0001R	PFHxA	air+aero	0.684	0.621	0.745	1.457	1.818	0.77	0.72	0.636	0.9	1.639	2.376	2.771	
NO0002R	PFHxA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.492	0.771	1.165	-9999	-9999	-9999
NO0001R	PFHxS	air+aero	0.078	0.023	0.056	0.054	0.039	0.053	0.044	0.051	0.048	0.075	0.095	0.098	
NO0002R	PFHxS	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.052	0.051	0.097	-9999	-9999	-9999
NO0001R	PFNA	air+aero	1.177	0.835	1.001	3.246	2.297	2.892	2.541	2.373	2.639	1.996	3.303	3.902	
NO0002R	PFNA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	1.82	3.724	3.572	-9999	-9999	-9999
NO0001R	PFOA	air+aero	1.005	0.99	0.988	2.127	1.378	1.081	1.227	1.476	1.405	1.952	3.719	3.773	
NO0002R	PFOA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	1.608	2.029	2.851	-9999	-9999	-9999
NO0001R	PFOS	air+aero	0.427	0.12	0.354	0.167	0.107	0.07	0.093	0.307	0.304	0.292	0.408	0.177	
NO0002R	PFOS	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.177	0.338	0.387	-9999	-9999	-9999
NO0001R	PFOSA	air+aero	0.063	0.064	0.05	0.066	0.058	0.059	0.145	0.163	0.111	0.14	0.139	0.193	
NO0002R	PFOSA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.17	0.072	0.084	-9999	-9999	-9999
NO0001R	PFUnA	air+aero	0.769	0.622	0.81	1.726	1.145	1.48	1.609	1.347	1.505	1.265	2.249	2.811	
NO0002R	PFUnA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.983	2.019	1.755	-9999	-9999	-9999
NO0001R	phenanthrene	air+aero	1.269	1.023	0.892	0.737	0.571	0.539	0.715	0.377	0.537	-9999	-9999	-9999	
NO0002R	phenanthrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.39	0.272	0.348	0.479	1.615	1.368
NO0001R	potassium	aero	0.043	0.021	0.028	0.036	0.068	0.041	0.047	0.051	0.035	0.025	0.037	0.027	
NO0039R	potassium	aero	0.007	0.046	0.015	0.015	0.034	0.03	0.08	0.022	0.028	0.017	0.015	0.028	
NO0001R	pyrene	air+aero	0.184	0.172	0.123	0.089	0.066	0.047	0.07	0.027	0.072	-9999	-9999	-9999	
NO0002R	pyrene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.032	0.025	0.036	0.066	0.349	0.287
NO0001R	retene	air+aero	0.11	0.179	0.063	0.077	0.035	0.028	0.05	0.022	0.029	-9999	-9999	-9999	
NO0002R	retene	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	0.047	0.018	0.04	0.056	0.108	0.167
NO0001R	sodium	aero	0.638	0.13	0.454	0.257	0.652	0.181	0.346	0.52	0.478	0.197	0.596	0.142	
NO0039R	sodium	aero	0.102	0.144	0.204	0.128	0.177	0.19	0.394	0.095	0.223	0.045	0.027	0.061	
NO0001R	sulphate_corrected	aero	0.389	0.239	0.292	0.473	0.273	0.221	0.424	0.339	0.132	0.102	0.231	0.188	
NO0039R	sulphate_corrected	aero	0.055	0.082	0.152	0.31	0.155	0.176	0.183	0.164	0.039	0.039	0.058	0.085	
NO0001R	sulphate_total	aero	0.435	0.247	0.327	0.491	0.325	0.235	0.45	0.378	0.17	0.117	0.277	0.197	
NO0039R	sulphate_total	aero	0.063	0.092	0.167	0.32	0.168	0.191	0.214	0.171	0.056	0.043	0.06	0.09	
NO0001R	sulphur_dioxide	air	0.053	0.038	0.05	0.125	0.052	0.063	0.04	0.095	0.011	0.022	0.042	0.068	
NO0039R	sulphur_dioxide	air	0.029	0.018	0.018	0.045	0.023	0.017	0.029	0.025	0.018	0.013	0.014	0.054	
NO0001R	sum_nitric_acid_and_nit_rate	air+aero	0.279	0.105	0.195	0.447	0.656	0.109	0.327	0.271	0.189	0.079	0.255	0.173	
NO0039R	sum_nitric_acid_and_nit_rate	air+aero	0.059	0.032	0.049	0.098	0.071	0.04	0.04	0.055	0.096	0.041	0.069	0.039	
NO0001R	sum_PCB	air+aero	3.996	3.389	5.763	4.457	3.149	4.048	4.613	4.504	5.811	-9999	-9999	-9999	
NO0002R	sum_PCB	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	2.701	3.253	2.788	1.966	3.734	2.37
NO0001R	TBA	air+aero	3.314	2.75	3.095	2.337	2.095	2.005	1.829	2.943	4.651	-9999	-9999	-9999	
NO0002R	TBA	air+aero	-9999	-9999	-9999	-9999	-9999	-9999	-9999	1.469	2.725	3.072	4.559	5.352	4.938

PORTUGAL

Precip Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
PT0003R	ammonium	precip	0.115	0.063	0.193	0.456	0.282	0.153	0.338	0.11	-9999	0.099	0.034	0.071
PT0004R	ammonium	precip	0.244	0.025	0.45	0.095	-9999	0.96	-9999	-9999	-9999	0.43	0.317	0.05
PT0010R	ammonium	precip	0.017	0.044	0.026	0.037	0.037	0.063	0.124	0.067	0.073	0.133	0.035	0.03
PT0002R	arsenic	precip	-9999	-9999	-9999	-9999	-9999	-9999	0.55	0.181	0.1	0.1	0.1	0.1
PT0004R	arsenic	precip	0.1	0.1	0.1	0.1	0.1	0.1	-9999	-9999	0.1	0.1	0.1	0.1
PT0002R	cadmium	precip	-9999	-9999	-9999	-9999	-9999	-9999	0.1	0.1	0.1	0.1	0.1	0.1
PT0003R	cadmium	precip	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	-9999	0.469	0.75	0.75
PT0004R	cadmium	precip	0.1	0.1	0.1	0.1	0.1	0.1	-9999	-9999	0.1	0.1	0.1	0.1
PT0004R	cadmium	precip	0.425	0.425	0.425	0.425	-9999	0.425	-9999	-9999	-9999	0.425	0.425	0.693
PT0010R	cadmium	precip	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.425	0.638	0.75
PT0002R	chromium	precip	-9999	-9999	-9999	-9999	-9999	-9999	40	7.798	0.693	0.1	0.1	0.1
PT0004R	chromium	precip	0.1	0.1	0.1	0.239	1.8	1.8	-9999	-9999	0.1	0.524	0.115	0.1
PT0002R	copper	precip	-9999	-9999	-9999	-9999	-9999	-9999	1.4	5.095	5.209	0.85	8.457	0.813
PT0003R	copper	precip	1.96	3.42	0.403	0.364	0.615	0.325	0.667	0.325	-9999	0.552	2.089	2
PT0004R	copper	precip	0.1	0.139	0.673	1.05	0.5	0.5	-9999	-9999	0.5	2.08	1.111	0.5
PT0004R	copper	precip	1.401	0.372	0.325	0.325	-9999	0.325	-9999	-9999	-9999	6.38	0.325	1.707
PT0010R	copper	precip	0.325	1.049	0.325	0.325	0.325	0.325	0.547	0.726	4.039	0.325	1.425	9.095
PT0002R	lead	precip	-9999	-9999	-9999	-9999	-9999	-9999	1.9	1.572	1.392	0.245	0.608	0.171
PT0003R	lead	precip	1.983	0.645	0.952	0.645	0.645	2.356	3.716	0.645	-9999	0.693	1.199	1
PT0004R	lead	precip	0.1	0.1	0.142	0.52	1.2	1.2	-9999	-9999	0.77	0.289	0.317	0.1
PT0004R	lead	precip	0.645	0.645	7.42	0.645	-9999	0.645	-9999	-9999	-9999	0.645	0.645	0.926
PT0010R	lead	precip	0.645	0.645	0.645	0.645	0.645	0.645	9.047	0.645	0.645	0.645	0.878	1
PT0002R	mercury	precip	-9999	-9999	-9999	-9999	-9999	-9999	-9999	30	30	30	30	30
PT0004R	mercury	precip	30	30	30	30	30	30	-9999	-9999	30	30	30	30
PT0002R	nickel	precip	-9999	-9999	-9999	-9999	-9999	-9999	2.6	1.368	0.972	0.1	0.1	0.1
PT0003R	nickel	precip	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	-9999	0.941	2	2
PT0004R	nickel	precip	0.1	0.1	0.1	0.263	2.1	2.1	-9999	-9999	1.8	0.579	0.391	0.1
PT0004R	nickel	precip	1.951	0.775	0.775	0.775	-9999	0.775	-9999	-9999	-9999	0.775	0.885	1.786
PT0010R	nickel	precip	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	0.775	1.579	4.444
PT0003R	nitrate	precip	0.097	0.08	0.134	0.142	0.235	0.086	0.01	0.12	-9999	0.071	0.027	0.073
PT0004R	nitrate	precip	0.131	0.085	0.47	0.149	-9999	0.19	-9999	-9999	-9999	0.21	0.118	0.073
PT0010R	nitrate	precip	0.057	0.027	0.06	0.071	0.01	0.07	0.068	0.026	0.01	0.031	0.01	0.01
PT0002R	zinc	precip	-9999	-9999	-9999	-9999	-9999	-9999	28	14.863	11.245	2.016	7.216	6.165
PT0003R	zinc	precip	1	1	1	1	1	1	1	1	-9999	3.637	12.054	3.484
PT0004R	zinc	precip	5.2	6.318	8.459	5.488	9.2	9.2	-9999	-9999	11	5.54	5.641	1.479
PT0004R	zinc	precip	25.388	3.371	1	1	-9999	1	-9999	-9999	-9999	3	3	5.101
PT0010R	zinc	precip	1	119.209	1	1	1	1	1	1	3	3	3	560.335

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Precip other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
PT0003R	calcium	precip	0.317	0.213	0.407	0.848	0.228	0.2	0.188	0.3	-9999	0.265	0.208	0.182
PT0004R	calcium	precip	0.416	0.305	0.5	0.539	-9999	1	-9999	-9999	-9999	0.8	0.566	0.224
PT0010R	calcium	precip	0.513	0.504	0.502	0.337	0.258	0.129	0.291	0.238	0.21	0.374	0.431	0.3
PT0003R	chloride	precip	7.632	7.506	13.853	4.771	1.999	3.223	0.83	1.3	-9999	4.374	6.833	7.317
PT0004R	chloride	precip	6.482	10.315	4.7	6.89	-9999	4.8	-9999	-9999	-9999	2.7	8.631	6.835
PT0010R	chloride	precip	21.107	12.558	13.595	8.061	6.851	2.365	1.558	2.609	2.152	5.37	13.007	5.664
Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
PT0003R	conductivity	precip	30.647	32.79	60.254	30.513	22.538	24.037	11.064	15	-9999	21.095	28.956	55.327
PT0004R	conductivity	precip	37.673	43.256	27	33.254	-9999	40	-9999	-9999	-9999	23	39.691	28.883
PT0010R	conductivity	precip	92.086	71.508	54.331	33.397	39.323	13.918	11.65	22.239	14.269	34.095	54.756	24.212
PT0003R	magnesium	precip	0.49	0.516	0.91	0.344	0.175	0.292	0.104	0.13	-9999	0.306	0.463	0.436
PT0004R	magnesium	precip	0.514	0.749	0.32	0.511	-9999	0.45	-9999	-9999	-9999	0.28	0.62	0.471
PT0010R	magnesium	precip	1.417	1.124	0.842	0.471	0.56	0.179	0.131	0.183	0.174	0.52	0.942	0.374
PT0003R	manganese	precip	1.075	1.075	2.148	1.957	2.231	1.709	4.535	2.53	-9999	1.607	5.169	5
PT0004R	manganese	precip	1.227	1.075	3.08	2.555	-9999	1.075	-9999	-9999	-9999	1.075	1.075	4.313
PT0010R	manganese	precip	1.075	1.075	1.075	1.075	1.075	1.075	11.775	4.197	1.075	1.075	3.652	5
PT0003R	pH	precip	4.753	5.081	5.219	5.07	4.571	5.055	5.614	5.3	-9999	4.741	4.699	4.695
PT0004R	pH	precip	5.1	5.257	5.4	5.215	-9999	5.9	-9999	-9999	-9999	5.6	4.533	4.509
PT0010R	pH	precip	5.733	5.481	5.578	5.55	5.161	5.516	5.53	5.152	5.231	5.757	5.432	5.559
PT0003R	potassium	precip	0.176	0.142	0.273	0.275	0.146	0.094	0.122	0.08	-9999	0.257	0.263	0.282
PT0004R	potassium	precip	0.241	0.167	0.18	0.2	-9999	0.44	-9999	-9999	-9999	0.31	0.364	0.283
PT0010R	potassium	precip	0.474	0.428	0.262	0.288	0.181	0.103	0.106	0.152	0.149	0.342	0.47	0.296
PT0002R	precip_amount	precip	0	0	0	0	0	0	0.091	0.063	0.835	7.319	9.377	17.167
PT0004R	precip_amount	precip	97.5	52.5	6.886	11.472	9.688	4.375	0	0	0.762	25.7	60.575	146.963
PT0003R	precip_amount_off	precip	241.8	78.2	35.7	85.4	67.8	110.2	73.1	11.5	8.1	231	281.2	365.4
PT0004R	precip_amount_off	precip	143.1	79.5	8.7	50.1	2.6	8.3	0	0	2.2	26	57.4	210.2
PT0010R	precip_amount_off	precip	93.9	146.486	26.8	23.157	43.7	69.043	107.643	24.657	111.443	134.414	118.657	265.686
PT0003R	sodium	precip	4.005	3.976	8.289	2.482	1.317	2.346	0.7	1.26	-9999	2.249	3.62	3.229
PT0004R	sodium	precip	3.642	6.093	2.39	3.877	-9999	3.04	-9999	-9999	-9999	2.05	4.489	3.654
PT0010R	sodium	precip	12.37	9.646	7.144	3.926	4.337	1.729	1.155	1.639	1.562	5.231	7.552	3.164
PT0003R	sulphate_total	precip	0.493	0.45	0.87	0.599	0.459	0.371	0.158	0.31	-9999	0.337	0.355	0.427
PT0004R	sulphate_total	precip	0.532	0.563	0.5	0.595	-9999	0.52	-9999	-9999	-9999	0.22	0.664	0.386
PT0010R	sulphate_total	precip	0.955	0.601	0.758	0.65	0.427	0.191	0.173	0.353	0.155	0.401	0.64	0.196

SPAIN

Precip Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
ES0008R	ammonium	precip	0.26	0.172	0.107	0.15	0.676	0.366	0.296	0.27	0.204	-9999	0.114	0.28
ES0008R	arsenic	precip	0.094	0.109	0.131	0.071	0.153	0.121	0.068	0.075	0.081	0.07	0.077	0.089
ES0008R	arsenic	precip+dry_de	-9999	-9999	-9999	90 0.2	90 0.2	90 0.2	-9999	-9999	-9999	-9999	-9999	-9999
ES0008R	cadmium	precip	0.038	0.113	0.036	0.039	0.157	0.093	0.071	0.031	0.04	0.02	0.048	0.054
ES0008R	cadmium	precip+dry_de	-9999	-9999	-9999	90 0.0	80 0.0	80 0.0	80 9999.9	-9999	-9999	-9999	-9999	-9999
ES0008R	chromium	precip	0.93	0.718	3.096	1.225	1.107	1.916	1.656	0.73	0.896	0.559	0.519	0.592
ES0008R	copper	precip	12.801	16.941	18.01	14.283	45.44	12.717	13.573	8.167	9.175	11.825	21.136	23.225
ES0008R	lead	precip	1.03	1.584	0.876	1.008	1.971	1.279	0.965	0.558	0.24	0.301	0.395	1.145
ES0008R	mercury	precip	4.802	8.89	2.66	3.229	13.692	4.712	5.884	5.809	2.5	9.789	7.768	11.307
ES0008R	mercury	precip+dry_de	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
ES0008R	nickel	precip	0.875	0.515	0.515	0.773	1.424	1.266	1.046	0.898	0.527	0.539	0.515	0.515
ES0008R	nickel	precip+dry_de	-9999	-9999	-9999	90 1.7	30 1.7	30 1.7	30 9999.9	-9999	-9999	-9999	-9999	-9999
ES0008R	nitrate	precip	0.469	0.258	0.207	0.442	0.862	0.727	0.415	0.409	0.338	-9999	0.131	0.493
ES0008R	zinc	precip	24.967	68.097	39.718	53.053	225.284	55.458	48.706	48.889	25.186	12.881	54.719	85.445

Comprehensive Atmospheric Monitoring Programme in 2009

Precip other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
ES0008R	acenaphthene	precip+dry_de	-9999	-9999	-9999	90 5.0	22 5.0	22 5.0	22 - 9999.9	-9999	-9999	-9999	-9999	-9999
ES0008R	acenaphthylene	precip+dry_de	-9999	-9999.9	-9999.9	90 4.2	82 4.2	82 4.2	82 - 9999.9	-9999	-9999	-9999	-9999	-9999
ES0008R	acidity	precip	14.435	6	2.672	10.546	11.984	17.042	12.14	12.242	5.37	-9999	2.238	9.128
ES0008R	anthracene	precip+dry_de	-9999	-9999	-9999	90 0.5	64 0.5	64 0.5	64 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	benzo_a_anthracene	precip+dry_de	-9999	-9999	-9999	90 1.0	65 1.0	65 1.0	65 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	benzo_a_pyrene	precip+dry_de	-9999	-9999	-9999	90 1.8	95 1.8	95 1.8	95 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	benzo_b_fluoranthene	precip+dry_de	-9999	-9999	-9999	90 0.0	18 0.0	18 0.0	18 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	benzo_ghi_perylene	precip+dry_de	-9999	-9999	-9999	90 0.9	63 0.9	63 0.9	63 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	benzo_j_fluoranthene	precip+dry_de	-9999	-9999	-9999	90 3.1	82 3.1	82 3.1	82 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	benzo_k_fluoranthene	precip+dry_de	-9999	-9999	-9999	90 1.5	10 1.5	10 1.5	10 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	calcium	precip	0.441	0.369	0.69	0.454	0.837	1.074	0.687	0.404	0.482	-9999	0.438	0.448
ES0008R	chloride	precip	11.838	7.791	15.769	4.315	9.83	3.837	4.269	3.27	3.431	-9999	11.302	11.14
ES0008R	chrysene	precip+dry_de	-9999	-9999	-9999	90 1.3	19 1.3	19 1.3	19 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	conductivity	precip	124.665	42.832	69.522	31.945	64.163	40.527	32.457	28.644	23.903	-9999	49.147	57.158
ES0008R	dibenzo_ah_anthracene	precip+dry_de	-9999	-9999	-9999	90 1.8	28 1.8	28 1.8	28 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	fluoranthene	precip+dry_de	-9999	-9999	-9999	90 3.0	25 3.0	25 3.0	25 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	fluorene	precip+dry_de	-9999	-9999	-9999	90 2.1	19 2.1	19 2.1	19 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	inden_123cd_pyrene	precip+dry_de	-9999	-9999	-9999	90 2.1	32 2.1	32 2.1	32 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	magnesium	precip	0.887	0.625	0.665	0.351	0.775	0.37	0.252	0.274	0.276	-9999	0.728	0.752
ES0008R	naphthalene	precip+dry_de	-9999	-9999	-9999	90 5.5	83 5.5	83 5.5	83 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	pH	precip	4.841	5.222	5.573	4.977	4.921	4.768	4.916	4.912	5.27	-9999	5.65	5.04
ES0008R	phenanthrene	precip+dry_de	-9999	-9999	-9999	90 4.8	97 4.8	97 4.8	97 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	potassium	precip	0.509	0.238	0.448	0.154	0.31	0.174	0.208	0.145	0.169	-9999	0.298	0.289
ES0008R	precip_amount	precip	84.6	54.6	92.6	59.6	25	24.8	21.6	56.6	29.2	0	55.2	45.2
ES0008R	precip_amount	precip	86.271	81.129	77.129	60.986	35.971	37.1	35.3	59.057	55.643	38.857	112.386	56.557
ES0008R	precip_amount	precip	84.6	54.6	92.6	59.6	25	24.8	21.6	56.6	29.2	0	55.2	45.2
ES0008R	precip_amount	precip	118.89	109.48	107.91	78.001	33.469	43.051	71.669	106.08	73.024	46.689	153.226	86.601
ES0008R	pyrene	precip+dry_de	-9999	-9999	-9999	90 2.6	83 2.6	83 2.6	83 - 9999	-9999	-9999	-9999	-9999	-9999
ES0008R	sodium	precip	7.091	5.233	10.644	3.051	6.24	3.137	2.842	2.601	3.222	-9999	6.931	8.564
ES0008R	sulphate_total	precip	0.897	0.699	0.966	0.617	1.329	1.074	0.775	0.523	0.301	-9999	0.658	0.841

Air Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
ES0008R	ammonia	air	0.264	0.41	0.328	0.521	0.537	0.6	1.099	0.987	0.887	0.879	0.599	0.32
ES0008R	ammonia_and_ammonium	air+aero	0.788	1.717	1.865	1.752	1.56	1.787	1.357	1.827	2.256	1.883	1.021	0.632
ES0008R	arsenic	pm10	0.18	0.193	0.17	0.234	0.151	0.22	0.16	0.138	0.32	0.223	0.113	0.077
ES0008R	cadmium	pm10	0.07	0.12	0.098	0.062	0.045	0.054	0.045	0.165	0.093	0.06	0.023	0.027
ES0008R	chromium	pm10	0.775	0.888	0.775	0.768	0.753	0.718	0.858	0.755	1.798	0.851	0.725	0.849
ES0008R	copper	pm10	59.187	46.17	44.492	43.894	47.053	83.95	185.54	106.392	34.82	35.062	18.07	15.17
ES0008R	lead	pm10	2.843	4.675	4.637	4.792	2.379	4.076	3.633	9.17	6.607	4.412	1.41	5.71
ES0008R	mercury	pm10	-9999	-9999	-9999	0.005	0.003	0.003	-9999	-9999	-9999	-9999	-9999	-9999
ES0008R	nickel	pm10	1.287	1.14	1.097	1.343	2.783	1.676	1.86	1.846	1.78	1.455	1.793	1.643
ES0008R	nitrate	pm10	0.254	0.645	0.87	0.677	0.362	0.27	0.255	0.356	0.436	0.434	0.205	0.286
ES0008R	nitrogen_dioxide	air	1.332	1.895	1.947	1.011	0.969	1.008	0.796	0.992	1.254	1.886	1.073	1.681
ES0008R	zinc	pm10	5.95	16.94	26.233	18.754	9.691	10.178	17.79	17.055	23.7	15.383	5.777	9.488

Comprehensive Atmospheric Monitoring Programme in 2009

Air Other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
ES0008R	acenaphthene	pm10	0.028	0.028	0.028	0.034	0.028	0.028	0.028	0.028	0.028	0.028	0.028	-9999
ES0008R	anthracene	pm10	0.001	0.001	0.001	0.008	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-9999
ES0008R	atmospheric_pressure	met	996.97	999.252	1002.43	999.155	1002.73	1000.282	1002.01	1002.001	1003.262	1000.211	997.873	992.447
ES0008R	benzo_a_anthracene	pm10	0.005	0.005	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	-9999
ES0008R	benzo_a_pyrene	pm10	0.007	0.009	0.012	0.009	0.009	0.007	0.007	0.007	0.007	0.007	0.009	-9999
ES0008R	benzo_b_fluoranthene	pm10	0.005	0.011	0.022	0.012	0.014	0.01	0.005	0.005	0.005	0.005	0.007	-9999
ES0008R	benzo_ghi_perylene	pm10	0.01	0.014	0.019	0.013	0.014	0.01	0.01	0.01	0.01	0.01	0.01	-9999
ES0008R	benzo_j_fluoranthene	pm10	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.005	0.005	0.005	0.005	-9999
ES0008R	benzo_k_fluoranthene	pm10	0.006	0.005	0.006	0.007	0.004	0.004	0.003	0.003	0.003	0.003	0.003	-9999
ES0008R	chrysene	pm10	0.005	0.009	0.012	0.008	0.008	0.006	0.005	0.005	0.005	0.005	0.005	-9999
ES0008R	dibenzo_ah_anthracene	pm10	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	-9999
ES0008R	fluorantene	pm10	0.007	0.01	0.017	0.011	0.011	0.007	0.007	0.007	0.007	0.007	0.008	-9999
ES0008R	fluorene	pm10	0.001	0.002	0.002	0.01	0.001	0.002	0.002	0.001	0.001	0.001	0.001	-9999
ES0008R	inden_123cd_pyrene	pm10	0.013	0.013	0.019	0.013	0.015	0.013	0.013	0.013	0.013	0.013	0.013	-9999
ES0008R	naphthalene	pm10	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	-9999
ES0008R	nitrogen_monoxide	air	0.127	0.213	0.211	0.092	0.151	0.174	0.226	0.187	0.151	0.306	0.167	0.183
ES0008R	NOx	air	1.458	2.107	2.157	1.102	1.121	1.182	1.022	1.179	1.404	2.191	1.239	1.865
ES0008R	ozone	air	61.929	68.934	85.639	90.73	76.918	65.499	58.38	61.425	75.457	57.714	62.752	59.563
ES0008R	phenanthrene	pm10	0.003	0.004	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.004	-9999
ES0008R	pm10_mass	pm10	14.067	17.481	26.29	17.577	18.839	17.607	15.7	15.679	19.931	16.484	16.25	13.04
ES0008R	pm25_mass	pm25	6.3	10.786	14.448	9.95	8.2	10.586	8.552	10	13.593	10.3	8.448	8.32
ES0008R	pyrene	pm10	0.003	0.006	0.01	0.016	0.006	0.005	0.003	0.002	0.002	0.002	0.005	-9999
ES0008R	relative_humidity	met	51.052	49.579	45.32	44.886	65.815	87.767	85.48	88.974	85.564	80.627	75.742	74.992
ES0008R	sulphate_total	pm10	0.555	0.72	0.939	0.882	0.949	1.082	0.837	0.962	1.121	0.684	0.466	0.512
ES0008R	sulphur_dioxide	air	0.736	1.088	1.231	0.55	0.362	0.486	0.479	0.441	0.545	0.563	0.372	0.447
ES0008R	sum_nitric_acid_and_nitrate	air+aero	0.423	0.711	0.999	0.781	0.559	0.506	0.459	0.718	0.851	0.565	0.42	0.443
ES0008R	temperature	met	8.821	7.912	9.31	10.163	12.691	16.016	17.613	18.386	17.24	16.211	13.219	9.466
ES0008R	wind_direction	met	206.949	206.533	204.311	224.833	183.018	190.631	221.639	194.783	201.473	219.08	263.771	233.091
ES0008R	wind_speed	met	5.012	5.157	4.773	4.635	4.034	3.616	3.562	3.223	4.189	4.142	5.858	4.652

SWEDEN
Precip Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
SE0014R	ammonium	precip	0.365	0.605	0.534	4.041	2.531	0.581	0.537	0.698	0.209	0.218	0.315	0.199
SE0097R	arsenic	precip	0.14	0.146	0.17	0.12	0.118	0.106	0.032	0.132	0.14	0.149	0.065	0.19
SE0097R	cadmium	precip	0.07	0.066	0.05	0.08	0.065	0.012	0.04	0.035	0.01	0.02	0.023	0.05
SE0097R	chromium	precip	0.45	0.387	0.11	0.23	0.23	0.223	0.089	0.053	0.07	0.05	0.062	0.16
SE0097R	copper	precip	4.49	3.784	0.7	0.98	0.859	0.434	1.084	1.075	0.14	0.673	1.918	12.2
SE0014R	gamma_HCH	precip+dry_	-9999	90 0.1	50 0.0	58 0.4	11 0.4	80 0.8	33 0.6	95 0.5	06 0.3	87 0.2	70 0.0	18 0.000
SE0097R	lead	precip	1.25	1.272	1.37	0.51	0.462	0.274	0.177	0.422	0.18	0.262	0.459	0.45
SE0014R	mercury	precip	11.4	14.828	16.875	33.83	24.9	22.479	9.8	11.771	7.641	12	8.209	6.4
SE0097R	nickel	precip	0.95	0.829	0.3	0.29	0.265	0.167	0.112	0.188	0.18	0.104	0.143	0.17
SE0014R	nitrate	precip	0.608	0.738	0.565	1.195	0.359	0.243	0.332	0.469	0.24	0.257	0.535	0.449
SE0097R	zinc	precip	13.2	12.007	6.8	8.1	6.763	1.906	5.77	4.202	2.7	6.604	3.233	5.2

Comprehensive Atmospheric Monitoring Programme in 2009

Precip other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
SE0014R	alpha_HCH	precip+dry_	-9999	90 0.0	40 0.0	16 0.0	99 0.1	60 0.2	47 0.1	99 0.1	40 0.1	35 0.1	80 0.0	25 0.000
SE0014R	calcium	precip	0.197	0.259	0.082	0.296	0.34	0.784	0.377	0.437	0.423	0.47	0.26	0.113
SE0014R	chloride	precip	3.233	2.486	1.716	1.243	3.05	2.708	3.166	2.287	8.014	16.783	3.994	1.616
SE0097R	cobalt	precip	0.04	0.04	0.04	0.02	0.018	0.01	0.01	0.018	0.01	0.01	0.011	0.02
SE0014R	conductivity	precip	28.029	24.316	20.895	39.706	42.424	17.325	20.361	20.026	26.998	69.795	26.224	12.963
SE0097R	iron	precip	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-10000	-9999	-9999
SE0014R	magnesium	precip	0.244	0.183	0.124	0.091	0.225	0.227	0.209	0.163	0.524	1.151	0.289	0.118
SE0097R	manganese	precip	0.6	0.563	0.4	4.6	4.015	2.031	6.34	3.485	1.9	17.069	0.506	1.4
SE0014R	PCB_101	precip+dry_	-9999	90 0.1	90 0.1	23 0.1	27 0.1	10 0.1	09 0.1	00 0.0	99 0.0	62 0.0	80 0.0	69 0.030
SE0014R	PCB_118	precip+dry_	-9999	90 0.1	10 0.1	20 0.1	15 0.0	80 0.1	07 0.0	63 0.0	79 0.0	42 0.0	60 0.0	49 0.020
SE0014R	PCB_138	precip+dry_	-9999	90 0.6	20 0.3	03 0.3	17 0.3	00 0.3	33 0.2	50 0.2	95 0.1	57 0.2	20 0.1	60 0.090
SE0014R	PCB_153	precip+dry_	-9999	90 0.5	60 0.2	63 0.2	94 0.3	20 0.3	34 0.2	52 0.2	57 0.1	66 0.2	20 0.1	50 0.080
SE0014R	PCB_180	precip+dry_	-9999	90 0.4	70 0.2	18 0.2	01 0.2	10 0.2	63 0.1	80 0.2	26 0.1	15 0.1	60 0.1	30 0.090
SE0014R	PCB_28	precip+dry_	-9999	90 0.0	05 0.0	05 0.0	05 0.0	05 0.0	05 0.0	05 0.0	05 0.0	05 0.0	05 0.0	05 0.005
SE0014R	PCB_52	precip+dry_	-9999	90 0.3	90 0.3	19 0.5	17 0.3	00 0.4	97 0.3	20 0.3	17 0.2	28 0.2	10 0.1	58 0.050
SE0014R	pH	precip	4.533	4.543	4.725	6.788	6.554	5.753	5.533	5.307	5.347	5.084	4.683	4.677
SE0014R	potassium	precip	0.099	0.107	0.051	0.811	0.942	0.19	0.088	0.057	0.142	0.354	0.127	0.091
SE0014R	precip_amount	precip	29.9	22.1	38	12.9	65.1	61.3	113.3	79.7	46.9	64	99.8	33.1
SE0014R	precip_amount	precip	16.839	13.581	21.181	11.006	40.394	56.647	82.059	81.866	43.8	14.171	55.143	21.257
SE0097R	precip_amount	precip	1.333	20.485	38.251	5.145	52.815	67.358	104.006	77.431	96.176	96.556	133.587	84.857
SE0014R	sulphate_total	precip	0.417	0.493	0.395	1.176	0.841	0.344	0.444	0.469	0.5	0.946	0.408	0.271
SE0097R	vanadium	precip	0.4	0.456	0.7	0.7	0.637	0.395	0.305	0.583	1	0.7	0.689	0.6

Air Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
SE0014R	ammonia_and_ammonium	air+aero	0.709	0.739	0.94	1.801	0.485	0.43	0.785	0.678	0.455	0.373	0.513	0.53
SE0014R	gamma_HCH	air+aero	-9999	2	2.065	3	3	4.133	5.839	5.032	5.6	2	3.867	2
SE0014R	mercury	aero	10.111	8.625	11.062	11.1	9.613	6.312	6.689	8.311	5.756	6.967	9.675	10.356
SE0014R	mercury	air+aero	1.6	1.7	1.587	1.6	1.5	1.4	1.489	1.444	1.4	1.311	1.475	1.578
SE0014R	nitrogen_dioxide	air	1.841	2.196	1.262	1.386	0.969	1.04	0.895	0.921	1.033	1.007	1.479	1.317

Comprehensive Atmospheric Monitoring Programme in 2009

Air Other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
SE0014R	alpha_HCH	air+aero	-9999	3	3	3	3	4	4	3.871	0.5	5	4.933	3
SE0014R	HCB	air+aero	-9999	18	19.355	10.6	8	8	8	8.71	28.4	14	16.167	23
SE0014R	PCB_101	air+aero	-9999	0.71	0.904	1.267	1.7	3.62	3.771	3.077	2.29	1.3	1.66	0.91
SE0014R	PCB_118	air+aero	-9999	0.24	0.312	0.527	0.64	1.413	1.535	1.2	1.13	0.5	0.616	0.34
SE0014R	PCB_138	air+aero	-9999	0.55	0.624	0.932	1.4	3.68	3.239	2.387	1.91	1.1	1.089	0.76
SE0014R	PCB_153	air+aero	-9999	0.61	0.725	1.08	1.6	4.073	3.555	2.784	2.19	1.2	1.375	0.86
SE0014R	PCB_180	air+aero	-9999	0.29	0.294	0.374	0.53	1.48	1.145	0.854	0.639	0.45	0.429	0.37
SE0014R	PCB_28	air+aero	-9999	1	1.303	1.487	1.4	1.72	1.984	1.897	1.75	1.3	2.047	1.3
SE0014R	PCB_52	air+aero	-9999	2.2	3.284	3.453	2.5	4.58	4.155	3.374	2.49	1.5	2.43	1.4
SE0014R	pp_DDD	air+aero	-9999	0.005	0.005	0.014	0.07	0.115	0.05	0.052	0.108	0.005	0.005	0.005
SE0014R	pp_DDE	air+aero	-9999	1.7	2.003	2.08	1.3	1.12	1.594	2.603	2.63	2	5.467	2.4
SE0014R	pp_DDT	air+aero	-9999	0.48	0.415	0.574	0.47	0.429	0.631	0.969	0.087	0.42	0.917	0.48
SE0014R	sulphate_total	aero	0.626	0.615	0.721	0.771	0.522	0.435	0.736	0.55	0.497	0.338	0.535	0.467
SE0014R	sulphur_dioxide	air	0.327	0.268	0.264	0.411	0.308	0.383	0.487	0.388	0.3	0.164	0.281	0.25
SE0014R	sum_nitric_acid_and_nitrate	air+aero	0.64	0.496	0.634	0.945	0.344	0.297	0.504	0.396	0.418	0.264	0.434	0.397
SE0014R	susp_part_matter	aero	2.911	3.196	1.947	1.974	0.625	0.573	0.447	0.502	0.375	0.69	1.194	0.998

UNITED KINGDOM

Precip Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
GB0006R	ammonium	precip	0.147	0.179	0.095	0.293	0.201	0.26	0.084	0.064	0.124	0.129	0.093	0.142
GB0013R	ammonium	precip	0.145	0.362	0.096	0.487	0.13	0.318	0.118	0.214	0.056	0.168	0.099	0.136
GB0014R	ammonium	precip	0.684	0.445	0.704	0.726	0.566	0.553	0.452	0.562	0.44	0.549	0.228	0.182
GB0054R	ammonium	precip	0.493	0.341	0.169	1.905	0.337	0.212	0.153	0.405	0.158	0.372	0.212	0.167
GB0006R	arsenic	precip	0.09	0.186	0.11	0.228	0.23	0.13	0.371	0.234	0.269	0.093	0.112	0.112
GB0013R	arsenic	precip	0.094	0.057	0.045	0.097	0.086	0.087	0.074	0.103	0.037	0.082	0.063	0.064
GB0017R	arsenic	precip	0.136	0.107	0.16	0.35	0.295	0.121	0.087	0.066	0.153	0.179	0.1	0.081
GB0006R	cadmium	precip	0.008	0.004	0.001	0.008	0.012	0.005	0.001	0.001	0.001	0.006	0.001	0.001
GB0013R	cadmium	precip	0.007	0.011	0.001	0.012	0.004	0.013	0.002	0.002	0.001	0.006	0.003	0.004
GB0017R	cadmium	precip	0.028	0.022	0.027	0.069	0.053	0.018	0.016	0.012	0.022	0.024	0.02	0.009
GB0006R	chromium	precip	0.01	0.074	0.012	0.01	0.13	0.01	0.01	0.054	0.01	0.079	0.011	0.01
GB0013R	chromium	precip	0.153	0.026	0.022	0.049	0.103	0.104	0.079	0.062	0.01	0.028	0.08	0.059
GB0017R	chromium	precip	0.116	0.079	0.177	0.419	0.308	0.176	0.107	0.029	0.126	0.162	0.097	0.02
GB0006R	copper	precip	0.092	0.11	0.128	0.146	0.195	0.229	0.199	0.168	0.247	0.165	0.11	0.109
GB0013R	copper	precip	0.258	0.17	0.115	0.506	0.32	0.646	0.225	0.688	0.133	0.249	0.128	0.222
GB0017R	copper	precip	0.668	0.593	1.058	2.697	2.212	0.753	0.908	0.784	1.416	1.204	0.76	0.279
GB0006R	lead	precip	0.17	0.051	0.142	0.187	0.223	0.121	0.139	0.145	0.015	0.208	0.018	0.015
GB0013R	lead	precip	0.258	0.281	0.106	0.353	0.262	0.655	0.126	0.136	0.033	0.258	0.167	0.166
GB0017R	lead	precip	0.785	0.718	1.55	3.657	2.452	1.13	0.839	0.624	1.844	1.358	0.732	0.294
GB0013R	mercury	precip	3.046	3.071	6.139	5.771	2.938	6.268	4.134	3.765	3.299	2.644	1.75	2.7
GB0017R	mercury	precip	3.47	5.364	7.404	13.264	9.608	6.849	4.68	7.439	11.127	3.983	5.151	5.151
GB0091R	mercury	precip	2.695	2.821	4.765	5.864	8.434	8.839	2.617	3.379	3.701	4.376	3.001	-9999
GB0006R	nickel	precip	0.046	0.057	0.031	0.055	0.196	0.059	0.062	0.03	0.037	0.085	0.014	0.013
GB0013R	nickel	precip	0.263	0.15	0.066	0.214	0.232	0.37	0.211	0.291	0.091	0.183	0.18	0.184
GB0017R	nickel	precip	0.295	0.201	0.252	0.524	0.471	0.246	0.191	0.146	0.28	0.312	0.392	0.831
GB0006R	nitrate	precip	0.099	0.115	0.056	0.181	0.186	0.113	0.05	0.037	0.044	0.103	0.048	0.093
GB0013R	nitrate	precip	0.171	0.458	0.078	0.375	0.275	0.339	0.167	0.192	0.081	0.233	0.11	0.163
GB0014R	nitrate	precip	0.57	0.618	0.465	0.533	0.45	0.572	0.414	0.292	0.274	0.474	0.263	0.302
GB0054R	nitrate	precip	0.494	0.439	0.113	1.534	0.33	0.165	0.209	0.205	0.146	0.513	0.28	0.331
GB0006R	zinc	precip	0.25	0.25	0.25	2.725	4.113	1.1	0.258	0.25	0.25	1.236	0.265	0.25
GB0013R	zinc	precip	1.434	0.86	0.327	2.532	1.879	3.357	0.881	1.18	0.25	1.247	0.308	0.636
GB0017R	zinc	precip	5.141	4.074	5.562	14.745	21.094	18.096	4.884	3.757	7.541	6.598	3.942	2.11

Comprehensive Atmospheric Monitoring Programme in 2009

Precip other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
GB0006R	calcium	precip	0.277	0.355	0.575	0.171	0.273	0.363	0.13	0.105	0.174	0.163	0.128	0.25
GB0006R	chloride	precip	8.75	5.474	13.314	1.974	3.157	3.024	1.336	1.203	4.809	4.681	5.13	7.075
GB0006R	conductivity	precip	36.226	24.671	54.001	11.589	16.441	13.187	7.607	7.115	18.842	17.892	17.893	24.119
GB0006R	magnesium	precip	0.541	0.353	0.85	0.121	0.213	0.177	0.073	0.062	0.228	0.218	0.226	0.38
GB0006R	pH	precip	5.443	5.687	5.794	5.503	5.294	5.89	5.151	5.304	5.409	5.395	5.477	5.419
GB0006R	potassium	precip	0.204	0.133	0.362	0.076	0.124	0.091	0.043	0.055	0.184	0.193	0.172	0.206
GB0006R	precip_amount	precip	150.072	53.707	104.843	146.643	142.765	74.156	134.521	64.793	63.057	169.793	283.714	78.824
GB0006R	precip_amount	precip	151.498	77.768	102.622	164.455	198.574	54.982	192.329	212.219	104.273	144.28	306.76	104.485
GB0013R	precip_amount	precip	137.6	69.457	59.123	46.356	64.179	48.186	109.814	34.686	30.886	99.171	288.493	125.436
GB0013R	precip_amount	precip	139.417	96.433	52.666	71.096	58.73	52.679	158.29	66.16	47.787	117.247	289.896	145.256
GB0013R	precip_amount	precip	148.745	100.361	24.594	51.298	47.049	42.805	107.03	73.138	58.02	114.859	92.642	43.18
GB0014R	precip_amount	precip	54.45	29.75	7.587	27.099	47.01	64.505	94.914	70.243	41.95	91.864	148.714	101.186
GB0017R	precip_amount	precip	51.151	40.584	21.536	11.086	18.621	39.205	70.147	55.596	17.853	27.765	69.052	78.381
GB0017R	precip_amount	precip	153.158	31.712	23.739	14.966	22.735	36.044	62.84	28.397	15.692	55.797	4.175	34.795
GB0054R	precip_amount	precip	132.786	44.679	29.579	35.471	107.629	87.117	140.183	81.993	76.554	215.725	234.343	64.321
GB0091R	precip_amount	precip	69.732	43.195	33.232	22.454	57.731	52.014	141.585	54.267	59.529	159.436	99.507	0
GB0006R	sodium	precip	4.962	3.403	7.507	1.148	1.853	1.625	0.747	0.714	3.06	3.098	3.366	4.451
GB0006R	sulphate_total	precip	0.472	0.393	0.705	0.25	0.333	0.293	0.197	0.168	0.304	0.293	0.278	0.422
GB0014R	sulphate_total	precip	0.647	0.684	0.757	0.606	0.534	0.629	0.48	0.504	0.424	0.487	0.31	0.443

Air Mandatory

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
GB0006R	ammonia	air	0.166	0.208	0.326	0.432	0.409	1.003	0.256	0.149	0.256	0.294	0.133	0.237
GB0013R	ammonia	air	0.293	0.304	0.548	0.782	0.507	0.533	0.247	0.254	0.564	0.356	0.138	0.21
GB0014R	ammonia	air	0.271	0.475	0.923	1.626	0.69	0.456	0.471	0.348	-9999	0.073	0.078	0.219
GB0054R	ammonia	air	0.217	0.366	0.367	0.385	0.367	0.096	0.241	0.584	1.188	1.151	0.056	0.077
GB0006R	ammonium	aero	0.284	0.225	0.507	0.454	0.285	0.281	0.126	0.079	0.108	0.143	0.087	0.173
GB0013R	ammonium	aero	1.051	0.781	0.692	1.104	0.317	0.265	0.262	0.169	0.313	0.276	0.115	0.238
GB0014R	ammonium	aero	0.99	0.598	0.82	1.267	0.451	0.338	0.287	0.353	-9999	0.087	0.093	0.258
GB0054R	ammonium	aero	1.396	0.196	0.207	0.542	0.256	0.225	0.211	0.344	0.198	0.194	0.073	0.183
GB0013R	arsenic	pm10	0.548	0.572	0.341	0.412	0.238	0.329	0.126	0.167	0.282	0.483	0.325	0.777
GB0017R	arsenic	pm10	0.775	0.576	0.613	0.504	0.321	0.191	0.284	0.381	0.317	0.625	1.01	0.613
GB0013R	cadmium	pm10	0.074	0.052	0.049	0.058	0.034	0.052	0.007	0.012	0.038	0.052	0.04	0.055
GB0017R	cadmium	pm10	0.12	0.109	0.141	0.135	0.058	0.047	0.055	0.12	0.085	0.124	0.17	0.081
GB0013R	chromium	pm10	3.037	0.896	1.223	0.602	0.732	0.227	1.653	1.453	0.824	1.804	0.122	1.142
GB0017R	chromium	pm10	2.253	0.682	0.326	0.417	0.341	0.581	0.346	1.906	2.366	1.044	0.127	0.861
GB0013R	copper	pm10	1.375	1.103	1.194	1.617	1.133	1.333	0.115	1.171	0.751	1.481	0.25	1.576
GB0017R	copper	pm10	4.484	2.056	2.3	2.264	1.523	0.876	1.621	3.455	1.522	2.61	3.226	1.264
GB0013R	lead	pm10	2.646	2.539	2.226	2.952	1.426	1.881	0.293	0.408	1.843	2.774	2.146	3.298
GB0017R	lead	pm10	8.478	5.699	6.393	5.469	2.954	1.963	2.719	4.054	4.013	6.022	11.171	6.034
GB0013R	mercury	pm10	-9999	0.678	1.523	1.909	1.202	3.318	2.262	1.046	0.914	1.312	0.591	-9999
GB0017R	mercury	pm10	-9999	-9999	-9999	0.24	0.533	0.074	1.341	1.308	0.441	4.131	0.747	0.281
GB0091R	mercury	pm10	0.67	0.441	1.405	1.695	1.403	1.094	0.619	1.179	0.989	1.146	0.145	0.568
GB0013R	nickel	pm10	0.725	0.721	0.734	1.372	1.034	1.242	0.411	1.377	0.439	0.602	1.161	0.302
GB0017R	nickel	pm10	1.815	1.181	1.42	3.745	1.522	2.169	1.526	2.489	0.805	1.354	0.852	0.965
GB0006R	nitrate	aero	0.152	0.12	0.31	0.216	0.153	0.04	0.04	0.066	0.067	0.099	0.045	0.102
GB0013R	nitrate	aero	0.713	0.485	0.356	0.748	0.239	0.151	0.151	0.287	0.288	0.312	0.097	0.2
GB0014R	nitrate	aero	0.574	0.328	0.532	0.778	0.296	0.183	0.183	-9999	-9999	0.055	0.06	0.209
GB0054R	nitrate	aero	0.296	-9999	0.209	0.206	0.12	-9999	0.159	0.159	0.155	0.154	0.116	0.2
GB0006R	nitric_acid	air	0.047	0.037	0.051	0.05	0.066	0.11	0.024	0.028	0.018	0.015	0.017	0.047
GB0013R	nitric_acid	air	0.229	0.164	0.145	0.165	0.145	0.256	0.104	0.037	0.098	0.094	0.029	0.105
GB0014R	nitric_acid	air	0.246	0.205	0.156	0.198	0.128	0.121	0.097	0.082	-9999	0.025	0.028	0.113
GB0054R	nitric_acid	air	0.197	0.072	0.074	0.123	0.113	0.089	0.069	0.181	0.095	0.093	0.041	0.07
GB0013R	zinc	pm10	9.444	2.979	7.231	8.448	4.85	5.64	4.496	4.358	5.194	5.124	3.392	5.152
GB0017R	zinc	pm10	9.837	8.917	9.744	11.289	4.821	5.496	5.089	10.184	5.129	11.766	12.871	9.168

Comprehensive Atmospheric Monitoring Programme in 2009

Air Other

Station	Component	Air / Precip	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
GB0014R	PCB_118	air+aero	-9999	-9999	-9999	0.788	0.788	0.788	9.2	9.2	9.2	0.389	0.389	0.389
GB0014R	PCB_138	air+aero	0.226	0.226	0.226	0.478	0.478	0.478	9.16	9.16	9.16	-9999	-9999	-9999
GB0014R	PCB_180	air+aero	0.063	0.063	0.063	2.08	2.08	2.08	1.513	1.513	1.513	-9999	-9999	-9999
GB0014R	PCB_52	air+aero	-9999	-9999	-9999	8.649	8.649	8.649	31.212	31.212	31.212	0.829	0.829	0.829
GB0006R	sulphate_total	aero	0.321	0.313	0.34	0.648	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999



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ABSTRACT This reports summarises the observations of the deposition of pollutants from the atmosphere to the OSPAR area during 2009. Priority is given to the metals arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc, the organic pollutant lindane, and to oxidised and reduced forms of nitrogen. A number of voluntarily monitored pollutants are also reported by OSPAR countries. As well as providing estimates of deposition observed in 2009, the report summarises the temporal trends in deposition of lead.			
NORWEGIAN TITLE			
KEYWORDS North Sea, marine pollution, metals, nitrogen, OSPAR.			

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**OSPAR's vision is of a clean, healthy and biologically diverse
North-East Atlantic used sustainably**

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