

Nuclear Science and Technology

Environmental Radioactivity

in the

European Community

2015-2020

DG ENER: Nuclear Energy, Safety and ITER

DG JRC: Nuclear Safety and Security



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PREFACE

Under the terms of Article 36 of the Euratom Treaty, European Union Member States shall periodically communicate to the Commission information on environmental radioactivity levels on their national territory. Since the early 1960s, the Commission has compiled and published this information as a series of reports. The current report, covering the years 2015 to 2020, is the 36th in the series.

This report endeavours to improve the clarity of information on levels of radioactivity in the European environment by making use of standardised reporting levels. These reporting levels are supported by more detailed radioactivity levels from a limited number of stations that provide high sensitivity measurements.

As part of its DG Energy support programme, the Directorate for Nuclear Safety and Security of the EC Joint Research Centre (JRC) has introduced all environmental radioactivity results received from the Member States into the Radioactivity Environmental Monitoring (REM) database. The JRC collated, checked and loaded the data, prepared the tabulations and figures as appropriate and provided the draft of the report. I would like to express my gratitude for the JRC's assistance and for the co-operation provided by the national authorities who supplied the original data.

This report is addressed to all who are concerned with radioactivity in the European environment.

M. Garribba
Deputy Director-General
Responsible for the coordination
of Euratom policies and Energy
Union financing instruments
Directorate-General Energy

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I INTRODUCTION

A. General

This report presents a summary of the available data on levels of radioactivity in some environmental media in the European Union (EU) Member States for the years 2015 - 2020. These data are obtained from official reports published by the responsible authorities and from data transmitted directly to the Commission by the national authorities and from individual laboratories. Member States provide environmental radioactivity data to the EU to comply with Articles 35 and 36 of the Euratom Treaty (see Appendix A). Continuous or semi-continuous monitoring of air and water is undertaken in Member States. Monitoring of food products, such as milk or mixed diet is considered an acceptable surrogate for the Article 35 requirement to monitor soil¹.

Individual monitoring laboratories tend to retain measurement techniques that have proven reliable over the years and are of sufficient sensitivity for radiological protection purposes. Measurement techniques, and thus measurement sensitivities, may, therefore, vary between laboratories and countries. This can make the interpretation and comparison of data across Europe difficult.

In order to facilitate the presentation of the results, it has been agreed² to use uniform reporting levels (see Appendix B) as a benchmark. If the results for a certain sample type - radionuclide combination are above their corresponding reporting level (RL), then the measured values are stated in this report. Otherwise they are reported as “< RL”. Measured values are submitted either as a specific number or as known to be less than a certain value. When only known to be less than a certain value, the measured value is referred to as a constraint (<) value. Constraint (<) values above the corresponding reporting level are not considered in the calculations for this report. If the results for a certain sample type - radionuclide combination consist only of constraint (<) values above the reporting level, this is indicated with the Δ symbol in data tables. The reporting levels used in this report were derived such that they would indicate a resultant effective dose value of 1/1000th of a mSv (0.001 mSv).

It must be emphasised that the reporting levels are only meant to be a tool for presenting data and should not be confused with maximum permitted levels of radioactive contamination.

Radiation in the environment comes from space, from the earth, from air, from water, food and other natural

sources. It also comes from radioactive waste, consumer products, atmospheric nuclear weapons testing and other artificial sources. Ionising radiation from natural and artificial sources do not differ in kind or effect on humans. The world average effective dose from all sources of radiation is 3.0 millisievert (mSv) per year (2.4 mSv for natural sources and 0.6 mSv for artificial)³ [2]. Across the Member States of the European Community the annual effective dose for members of the public from natural sources ranges from about 1.5 mSv to just above 6 mSv, with a population-weighted average annual effective dose of 3.2 mSv⁴ [2].

In normal circumstances, variations in time and space for the data from the many sampling locations which are distributed all over the Member States' territories (referred to as the "**dense network**"⁵ [1]) are gradual. For this reason daily, weekly or even monthly variations per sample location are not of radiological significance. The data are therefore presented as regional averages (Table 1) except for surface water where on single sample locations is reported.

Although most values are below reporting levels, it is valuable to present the actual concentrations for a small number of locations. This allows any trends in radionuclide concentrations to be monitored over time. To achieve this, a number of representative locations were selected, this is referred to as the "**sparse network**"⁶ [1]. High sensitivity measurements are performed at these locations and the individual results are presented graphically.

As in the previous report [3], the following combinations of sample and radionuclide categories are reported, as per the Commission Recommendations to Article 36 of the Euratom Treaty (2000/473/Euratom) [1] also mentioned in Appendix A:

Sampling media	Radionuclide categories	
	Dense network	Sparse network
airborne particulates	gross β ¹³⁷ Cs	⁷ Be ¹³⁷ Cs
surface water	residual β ¹³⁷ Cs	¹³⁷ Cs
drinking water	³ H ⁹⁰ Sr ¹³⁷ Cs	³ H ⁹⁰ Sr ¹³⁷ Cs
milk	⁹⁰ Sr ¹³⁷ Cs	⁹⁰ Sr ¹³⁷ Cs
mixed diet	⁹⁰ Sr ¹³⁷ Cs	⁹⁰ Sr ¹³⁷ Cs

¹ According to [1], “The monitoring of levels of radioactivity in soil does not allow a direct assessment of the exposure of the population. The exposure related to soil contamination is more directly assessed on the basis of ambient dose rate and foodstuff contamination. Experience has shown that the incorporation of soil data in the monitoring serves little useful purpose”.

² Official Journal of the European Communities L 191, 27.07.2000, p. 9 (Annex III).

³ European Atlas of Natural Radiation, Publication Office of the European Union, Luxembourg, 2019, p. 32.

⁴ European Atlas of Natural Radiation, Publication Office of the European Union, Luxembourg, 2019, p. 173.

⁵ Official Journal of the European Communities L 191, 27.07.2000, p. 2.

⁶ Official Journal of the European Communities L 191, 27.07.2000, p. 2.

However, not all of the above combinations of sample and nuclide type are routinely monitored by each Member State.

Every effort has been made to collect all the available data, thus, most of the blank entries correspond to the absence of measurements. In some cases, the available results may have not been received.

All the radionuclides sampled, except strontium-90 (⁹⁰Sr) and caesium-137 (¹³⁷Cs), can be of either natural or artificial origin. The two exceptions are of artificial origin, mainly from past atmospheric weapons testing and from radioactive routine or accidental discharges from nuclear facilities.

The sampling locations incorporated in this report are intended to be as representative as possible of regional or national situations. However, while measurements local to and possibly influenced by nuclear installations have been discounted wherever practical, in certain cases national data are strongly dependent on such monitoring programmes.

B. Structure of the report

This report is composed of three main parts:

The **text part** consists of a general introduction followed by one chapter for each medium; this includes general information on the sample type, the occurrence of natural radionuclides therein, a description of sample preparation and analysis and a short discussion of the results.

The **results** are presented by sample and nuclide type, sample types are identified with appropriate symbols. All data from the dense network is presented, followed by that from the sparse network.

- The dense network results are presented graphically (with the exception of surface water as this sample type does not allow for geographical presentation) and in tabular form. The graphical representation illustrates the annual average radioactivity concentrations for each geographical region (see Section C). Four shades are used to indicate the concentrations on a scale ranging from less than the reporting level to ten times the reporting level. In addition, each sampling location is indicated. Next to the graphical representation the results are presented in tabular form. These results are averaged over geographical regions and over a particular time period (quarter, semester or whole year, depending on the availability of data). The total number of sampling locations and the number of measurements used to calculate the annual averages are given for each geographical region. In addition, the monthly maximum and the month in which this occurred are given for those values above the appropriate reporting level.
- The results for the sparse network are preceded by a map illustrating the sampling locations. The data are presented as time versus activity concentration graphs from 1984 onwards (where the data is available). Between one and three nearby locations are illustrated on each graph. Full lines represent actual sampling periods whereas dotted lines link measurement results

over unsampled time periods. The appropriate reporting level is indicated by a horizontal line. The choice of 1984 as a start date enables the pulse of radioactivity which entered the environment of the EU from the 1986 Chernobyl accident in the Ukraine to be seen clearly.

The **appendices** to this report provide additional information on the Euratom Treaty, the calculation of reporting levels, the averaging procedures used, the data sources, the bibliography and information about the REM data bank. The addresses of the national authorities and laboratories that contributed to this report are given in Appendix D, while the national reports of environmental monitoring data are given in Appendix E. All data presented in this report are also stored in the REM data bank, at the JRC-Ispra, Italy (see Appendix F), and can be accessed with the REMdb online query described in the "Related Information" section at the end of this introduction.

Finally, and with the aim of enlarging the readership of this report, a glossary provides background information on frequently used terms in radiation protection.

C. Geographical divisions

For the larger Member States the data is divided according to geographical divisions. The partitioning of Croatia, Germany, Finland, France, Italy, Poland, Romania, Spain, Sweden and the United Kingdom has been based on administrative regions (Table 1) and results in a total of 47 geographical divisions of the EU (Figure 1).

II. AIRBORNE PARTICULATES

Airborne radioactive materials may occur in either gaseous or particulate form. In general, the latter is of greater potential radiological significance because it may be deposited and hence remain in the local environment. Consequently, most national routine monitoring networks measure only the particulate component. Atmospheric radioactivity is dominated by the naturally occurring, short-lived particulate decay products of gaseous radon ($Rn = 1$ to 20 Bq m^{-3} in outdoor air) [2]. Measurements of "total beta" radioactivity in airborne particulates must allow for this naturally occurring radioactivity. Other naturally occurring radionuclides measured in airborne particulates include beryllium-7 (⁷Be) and potassium-40 (⁴⁰K).

Airborne particulate **sampling** is carried out by pumping air through filters at a flow rate of several hundred cubic meters per day. In most countries filters are changed daily and analysed for total beta activity following the decay of radon decay products. Individual radionuclide analyses are performed weekly, monthly or quarterly. Man-made alpha-emitting aerosols are rarely measured by routine monitoring networks as they are usually undetectable, even close to the nuclear installations where they are produced. Therefore, these measurements are not presented in this report. The sampling locations in the EU for gross beta and ¹³⁷Cs, considered in this report, are

illustrated on the maps in figs. A1 – A6 and A7 – A12, respectively.

Minimal treatment of the air filters is required, on the whole, they are measured directly or they may be ashed or compressed to improve the counting geometry and hence counting efficiency.

Results: Most Member States have provided **gross beta (gross-B)** data (Tables A1 – A6) and ^{137}Cs data (Tables A7 – A12) for the dense network. For the sparse network those stations were selected that provide a good coverage of the European territory and for which measurable concentrations were reported. The results for the naturally occurring ^7Be and artificial radionuclide ^{137}Cs are given in Figures A14 to A28 and Figures A29 to A43, respectively. The ^{137}Cs activity concentration trends clearly show the 'Chernobyl peak' (26 April - 10 May 1986), followed by a return to pre-Chernobyl concentration values. The Chernobyl-peak values may differ by several orders of magnitude at different locations, due to differences in the airborne activity and also differences in the sampling time used (ranging from hours to weeks).

III. SURFACE WATER

Surface water is one of the compartments into which authorised discharges of radioactive effluents from nuclear installations are made. Radionuclides in surface waters can be found in the water phase or associated with suspended particles and can eventually become incorporated into sediments and living species. Natural radionuclides in river water include ^3H at levels of 0.02 - 0.1 Bq l⁻¹, ^{40}K (0.04 - 2 Bq l⁻¹), radium, radon and their short-lived decay products (< 0.4 - 2 Bq l⁻¹). The main fraction of tritium (^3H) in surface water however is due to man's activities.

Samples are either taken continuously and bulked for monthly or quarterly analysis, or alternatively, spot samples are taken periodically several times a year and analysed individually. Some laboratories remove suspended material from the water sample for separate analysis.

Treatment of the water may consist of filtration or evaporation (for direct measurement of the residue), ion-exchange and subsequent washing of the ion exchange column. More elaborate chemical separation techniques are used to determine radionuclides such as strontium-90 (^{90}Sr). To determine ^3H concentrations, generally the water is multiple distilled.

Results: Most of the sampling locations considered (Fig. S1 to S10) lie on rivers into which authorised discharges of radioactive effluents are made. Surface water samples may, therefore, contain detectable radioactive contaminants traceable to installations at appreciable distances upstream from the sampling locations and this appears to be reflected in some cases in the results obtained. Furthermore, this has the effect of clouding the usual distinction made between sampling carried out for the purposes of general environmental monitoring and that for the surveillance of nuclear power plants. Nevertheless, since the rivers in question are all water courses of major

significance, the results have been considered to be nationally representative.

The results on beta activity given here (Tables S1 – S36) refer to **residual-B** (total beta less natural ^{40}K activity). For France, the national reports indicate total beta for the water phase and for suspended matter, and the potassium content separately; the residual beta activity was calculated using a conversion factor of 27.6 Bq g⁻¹ potassium. Also ^{137}Cs is reported (Tables S37 – S72).

For the sparse network those stations were selected for which measurable concentrations of ^{137}Cs were reported and which provided a good coverage of the European territory on major rivers and in the sea (Fig. S11). The results are presented in Figs. S12 to S27.

It should be noted that while some above average values appear to be associated with discharges from nuclear installations the results are still well below levels which might be considered of any significance in terms of health.

IV. DRINKING WATER

Drinking water is monitored because of its vital importance for man, even though a severe radioactive contamination of this medium is rather improbable. The most important natural radionuclides in drinking water are ^3H (0.02 - 0.4 Bq l⁻¹), ^{40}K (typically 0.2 Bq l⁻¹ but varies greatly), radium, radon and their short-lived decay products (0.4 - 4.0 Bq l⁻¹). Occasionally, the presence of ^3H and radium may also be due to man's activities.

Samples may be taken from ground or surface water supplies, from water distribution networks, mineral waters etc. Spot samples are taken a few times a year and analysed individually or samples are taken daily and bulked for monthly or quarterly analysis.

Sample **treatment** usually consists of sample evaporation for direct measurement of the concentrate or separation on ion-exchange columns. More elaborate chemical separations are required for ^{90}Sr determination, whereas ^3H is generally measured following multiple distillation of the sample.

Results: ^3H values are presented in Tables W1 – W6. For the sparse network, thirty stations reported measured concentrations (Figs. W20 to W34). For ^{90}Sr the levels are shown in Tables W7 – W12 and, for the sparse network, in Figs. W35 to W44. For ^{137}Cs the results are presented in Tables W13 – W18 and, for the sparse network, in Figs. W45 to W57.

V. MILK

Consumption of milk and dairy products has been shown to be one of the most important pathways for uptake of radionuclides from environment to man.

Samples are mostly taken at dairies covering large geographical areas in order to obtain representative samples. They are generally taken on a monthly basis; but

sometimes only during the pasture season. The samples may be analysed separately or bulked for regional or national average evaluations.

Treatment usually consists of drying the sample for gamma spectroscopic analysis and chemical separation for ^{90}Sr .

Results: Generally the concentrations of the stable elements calcium (Ca) and potassium (K) are determined because of the similarity of their metabolic behaviour with strontium (Sr) and caesium (Cs) respectively. Typical values in milk are 1 to 2 g l⁻¹ for calcium and potassium. The average radioactive concentrations reported in the tables were mainly calculated from data which were themselves averages in time (daily, weekly or monthly) and space. For ^{90}Sr quarterly averages are shown in Tables M1 – M6. ^{137}Cs quarterly averages are presented in Tables M7 – M12.

VI. MIXED DIET

The aim of measuring radioactivity in mixed diet is to get "integral" information on the uptake of radionuclides by man via the food chain. Rather than expressing the radioactivity content of foodstuffs per unit weight, it is more appropriate to estimate the activity consumed per day per person (Bq d⁻¹ p⁻¹). An important natural radionuclide is ^{40}K (typically 100 Bq d⁻¹ p⁻¹).

Foodstuffs can be measured as separate ingredients. However, due to differences in the composition of national diets, the trend is to sample complete meals to give a representative figure for the contamination of mixed diet. Nevertheless knowledge of the contamination of the individual ingredients together with the composition of the national diet can also lead to a representative figure.

Samples are taken as ingredients or as complete meals, mostly at places where many meals are consumed (i.e. factory restaurants, schools).

Treatment usually consists of mixing the sample prior to gamma spectroscopic measurement of ^{137}Cs and chemical separation to determine the ^{90}Sr activity.

Results: Generally the concentrations of the stable isotopes of calcium and potassium are determined because of the similarity of their metabolic behaviour with strontium and caesium, respectively. Typical values in mixed diet are 0.7 to 1.5 g d⁻¹ person⁻¹ for calcium and 3 to 4 g d⁻¹ person⁻¹ for potassium. For ^{90}Sr the quarterly averages are shown in Tables D1 – D6. The sparse network results are presented in Figs. D14 – D25. ^{137}Cs quarterly averages are given in Tables D7 – D12. The measurements reported by the sparse network stations shown in the report clearly show a decreasing trend of caesium contamination in mixed diet after the Chernobyl accident (Figs. D26 to D39).

RELATED INFORMATION

Monitoring Reports available in electronic format

The list of all the published (and downloadable) Monitoring Reports is available here:

<https://remon.jrc.ec.europa.eu/About/Environmental-Monitoring/Monitoring-Reports-Download>

REMdb online query

Although the Monitoring Reports describe the collected information as complete as possible, this communication medium does not allow to show the amount of data in all its details. A new interface, called REMdb Query, provides an interactive access to the collected and verified environmental monitoring data in the European Union.

The new interface can be accessed from the "Maps" section, Routine Monitoring icon of web site <https://remon.jrc.ec.europa.eu/> or directly from:

<https://remap.jrc.ec.europa.eu/Routine.aspx>

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3. M. De Cort, T. Tollesen, M. Marin Ferrer, J. C. De La Rosa Blul, S. Vanzo, M. A. Hernandez Ceballos, G. Cinelli, E. Nweke, B. Rood, L. De Felice, S. Martino, P. V. Tognoli and V. Tanner, "Environmental Radioactivity in the European Community 2012-2014", EUR 31338, 2023

Fig . 1

Definition of the geographical regions used in the data tables and figures



Table 1
Definition of country partitions. Country codes according to ISO 3166/4217

Country	Short description	Detailed description
AT	Austria	
BE	Belgium	
BG	Bulgaria	
CY	Cyprus	
CZ	Czech Republic	
DE-N	Germany - North	Bremen, Hamburg, Mecklenburg-Vorpommern, Niedersachsen and Schleswig-Holstein
DE-C	Germany - Central	Hessen, Nordrhein-Westfalen, Rheinland-Pfalz and Saarland
DE-S	Germany - South	Baden-Württemberg and Bayern
DE-E	Germany - East	Berlin, Brandenburg, Sachsen, Sachsen-Anhalt and Thüringen
DK	Denmark	
EE	Estonia	
ES-N	Spain - North	Aragon, Asturias, Cantabria, Galicia, Navarra, Pais Vasco and Rioja
ES-C	Spain - Central	Castilla - La Mancha, Castilla - Leon, Extremadura and Madrid
ES-S	Spain - South	Andalucia, Canarias, Ceuta y Melilla and Murcia
ES-E	Spain - East	Baleares, Cataluña and C. Valenciana
FI-N	Finland - North	Lapland and Oulu
FI-S	Finland - South	Western Finland, Eastern Finland, Southern Finland
FR-NW	France - Northwest	Bretagne, Centre, Ile de France, Nord-Pas-de-Calais, Haute Normandie, Basse Normandie, Pays de la Loire and Picardie
FR-NE	France - Northeast	Alsace, Bourgogne, Champagne-Ardennes, Franche-Comté and Lorraine
FR-SW	France - Southwest	Aquitaine, Languedoc-Roussillon, Limousin, Midi-Pyrénées and Poitou-Charentes
FR-SE	France - Southeast	Auvergne, Corse, Provence-Alpes-Côte-d'Azur and Rhône-Alpes
GB-EN	United Kingdom - England	
GB-WL	United Kingdom - Wales	
GB-SC	United Kingdom - Scotland	
GB-NI	United Kingdom - Northern Ireland	
GR	Greece	
HR-A	Croatia - Adriatic	Primorsko-goranska, Licko-senjska, Zadarska, Šibensko-kninska, Splitsko-dalmatinska, Istarska, Dubrovacko-neretvanska
HR-C	Croatia - Continental	Grad Zagreb, Zagrebacka, Krapinsko-zagorska, Varaždinska, Koprivnicko-krizevacka, Medimurska, Bjelovarsko-bilogorska, Viroviticko-podravska, Požeško-slavonska, Brodsko-posavska, Osjecko-baranjska, Vukovarsko-srijemska, Karlovacka, Sisacko-moslavacka
HU	Hungary	
IE	Ireland	
IT-N	Italy - North	Emilia-Romagna, Friuli-Venezia-Giulia, Liguria, Lombardia, Piemonte, Trentino Alto Adige, Val d'Aosta and Veneto
IT-C	Italy - Central	Abruzzo, Lazio, Marche, Molise, Toscana and Umbria
IT-S	Italy - South	Basilicata, Calabria, Campania, Puglia, Sardegna and Sicilia
LT	Lithuania	
LU	Luxembourg	
LV	Latvia	
MT	Malta	
NL	The Netherlands	
PL-N	Poland - North	Kujawsko-Pomorskie, Lubuskie, Mazowieckie, Podlaskie, Pomorskie, Warmińsko-Mazurskie, Wielkopolskie, Zachodniopomorskie
PL-S	Poland - South	Dolnoslaskie, Lubelskie, Lodzkie, Malopolskie, Opolskie, Podkarpackie, Śląskie, Świętokrzyskie
PT	Portugal	
RO-N	Romania - North	Alba, Arad, Bacau, Bihor, Bistrita-Nasaud, Botosani, Brasov, Caras-Severin, Cluj, Covasna, Harghita, Hunedoara, Iasi, Maramures, Mures, Neamt, Salaj, Satu-Mare, Sibiu, Suceava, Timis and Vaslui
RO-S	Romania - South	Arges, Braila, Bucuresti-Ilovo, Buzau, Calarasi, Constanta, Dambovita, Dolj, Galati, Giurgiu, Gorj, Ilalomita, Mehedinți, Olt, Prahova, Teleorman, Tulcea, Valcea and Vrancea
SE-N	Sweden - North	Övre Norrland and Mellersta Norrland
SE-S	Sweden - South	Stockholm, Östra Mellansverige, Sydsverige, Norra Mellansverige, Småland med öarna and Västsverige
SI	Slovenia	
SK	Slovakia	

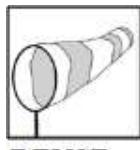
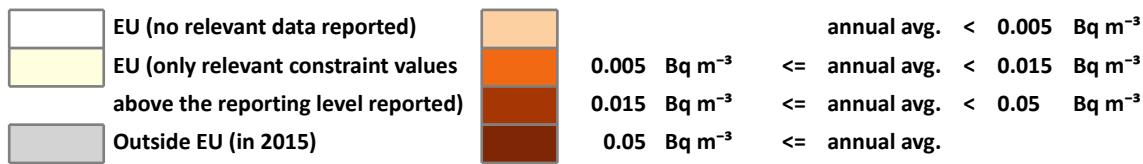


Fig. A1: Geographical and time averages

DENSE

YEAR : 2015
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β



- sample location (Coordinate Accuracy = Precise or Not Specified)
- + regional average (Coordinate Accuracy = Reference Point of Region)

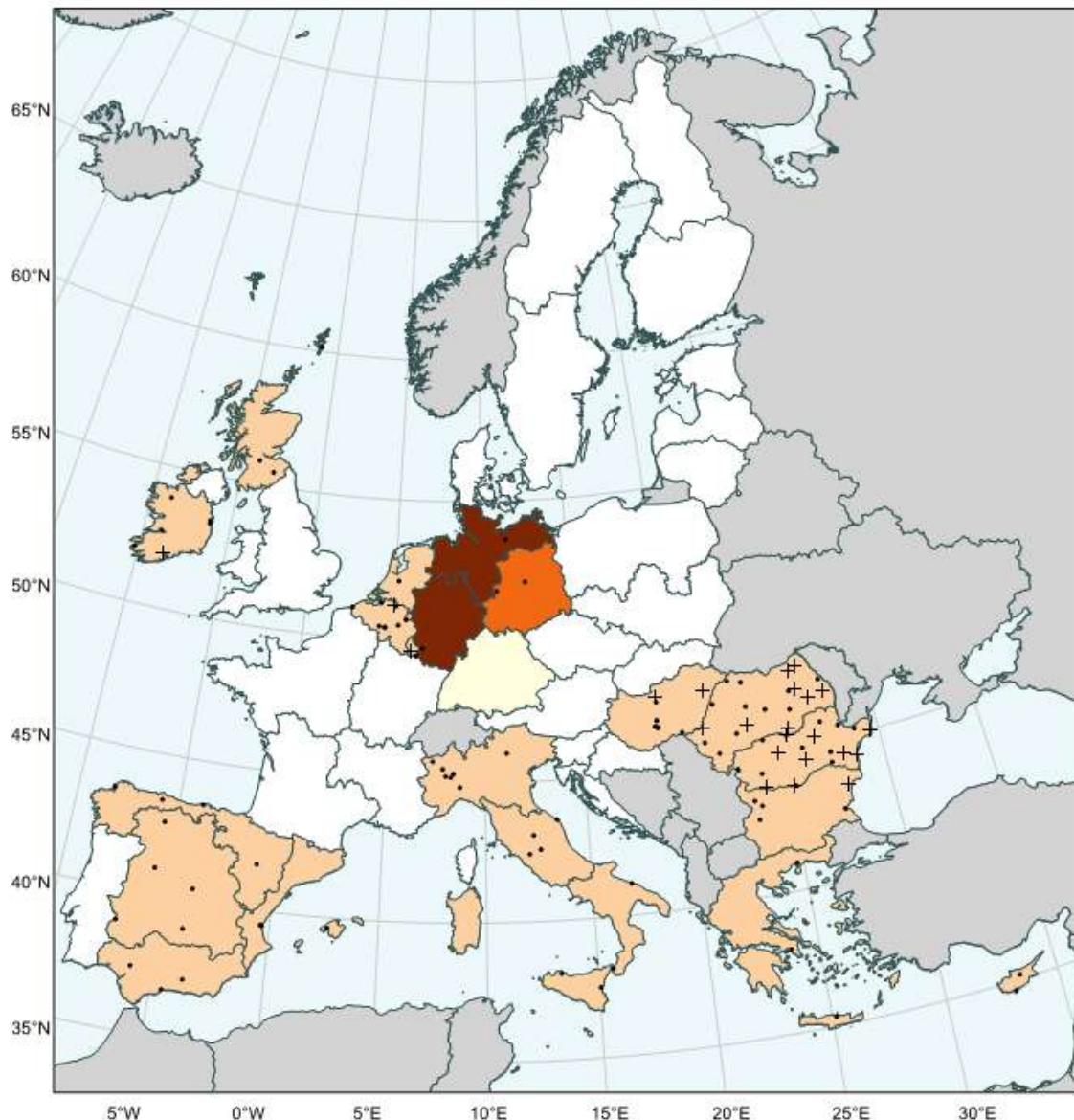
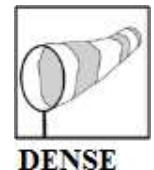


Table A1: Geographical and time averages


YEAR : 2015
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT									
BE	2491	8	< RL	< RL	12				
BG	12	6	< RL	< RL	9				
CY	193	2	< RL	< RL	12				
CZ									
DE-N	2	1			2.0E-01		2.0E-01	2.0E-01	7
DE-C	4	1				1.3E-01	1.3E-01	1.3E-01	12
DE-S							Δ		
DE-E	8	2	< RL	2.3E-02			1.4E-02	2.3E-02	4
DE	14	4	< RL	2.3E-02	2.0E-01	1.3E-01	8.9E-02	2.0E-01	7
DK									
EE									
ES-N	211	4	< RL	< RL	12				
ES-C	261	5	< RL	< RL	12				
ES-S	158	3	< RL	< RL	12				
ES-E	158	3	< RL	< RL	12				
ES	788	15	< RL	< RL	12				
FI-N									
FI-S									
FI									
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	33	3	< RL	< RL	1				
GB-NI									
GB	33	3	< RL	< RL	1				
GR	343	3	< RL	< RL	8				
HR-A									
HR-C									
HR									
HU	496	10	< RL	< RL	3				
IE	72	6	< RL	< RL	11				
IT-N	1219	7	< RL	< RL	12				
IT-C	729	4	< RL	< RL	12				
IT-S	554	4	< RL	< RL	8				
IT	2502	15	< RL	< RL	12				
LT									
LU	77	2	< RL	< RL	12				
LV									
MT									
NL	53	1	< RL	< RL	10				
PL-N									
PL-S									
PL									
PT									
RO-N	12896	19	< RL	< RL	1				
RO-S	14076	18	< RL	< RL	1				
RO	26972	37	< RL	< RL	1				
SE-N									
SE-S									
SE									
SI									
SK									

RL: reporting level for gross- β In air, i.e. 5.0 E-03 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

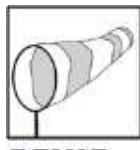
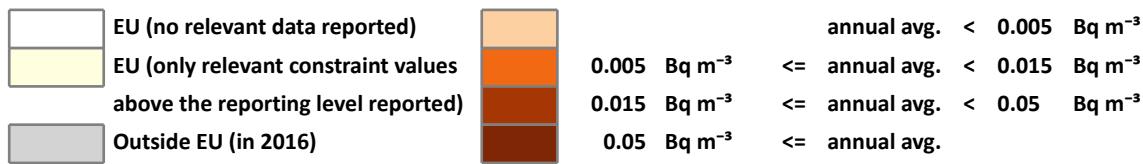


Fig. A2: Geographical and time averages

DENSE

YEAR : 2016
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β



- sample location (Coordinate Accuracy = Precise or Not Specified)
- + regional average (Coordinate Accuracy = Reference Point of Region)

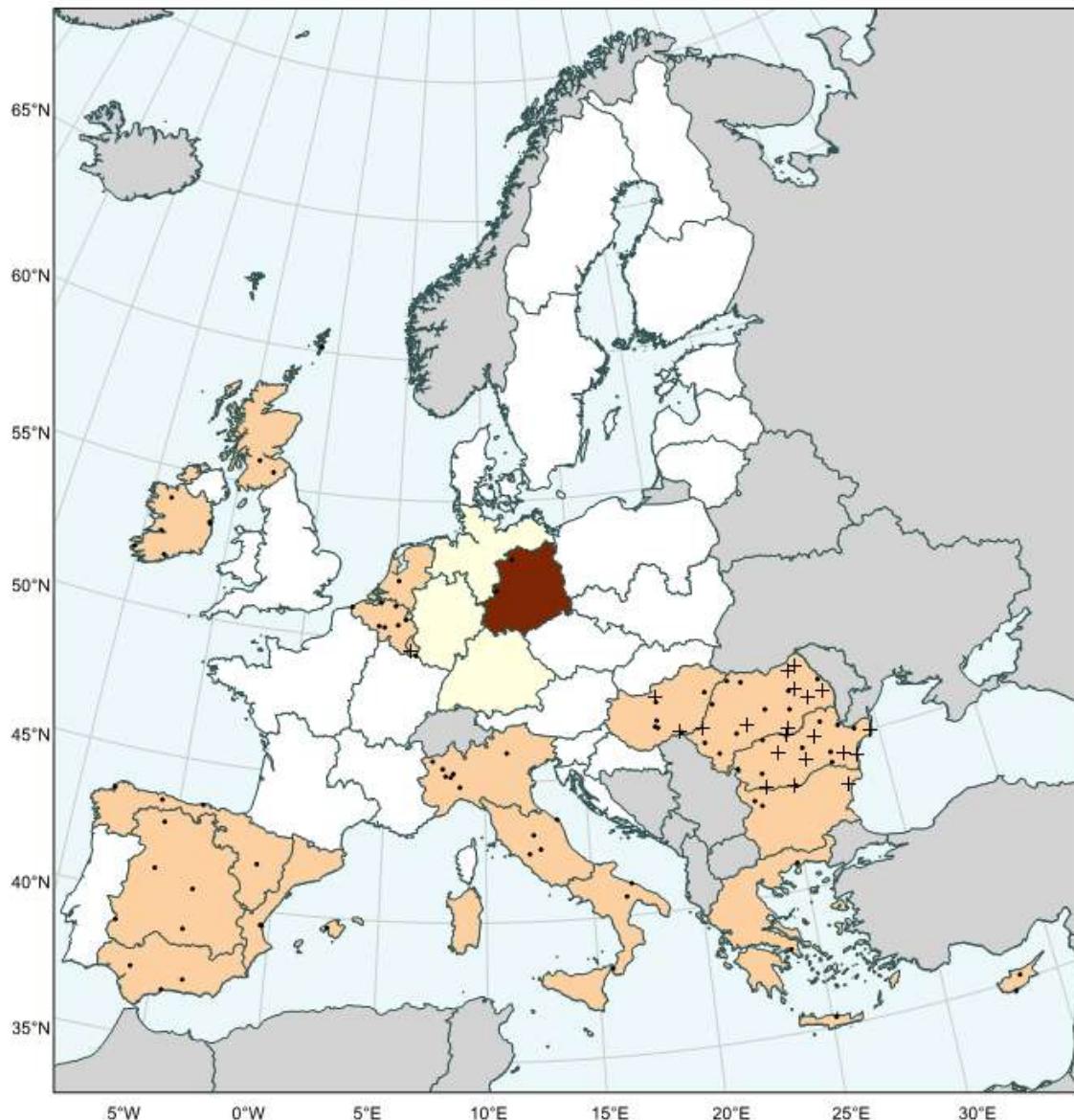
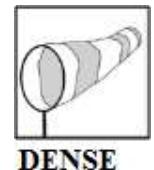


Table A2: Geographical and time averages


YEAR : 2016
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT									
BE	2556	8	< RL	< RL	9				
BG	7	4	< RL	< RL	7				
CY	218	2	< RL	< RL	8				
CZ									
DE-N							Δ		
DE-C							Δ		
DE-S							Δ		
DE-E	2	2		1.2E-01		< RL	6.0E-02	1.2E-01	4
DE	2	2		1.2E-01		< RL	6.0E-02	1.2E-01	4
DK									
EE									
ES-N	211	4	< RL	< RL	10				
ES-C	260	5	< RL	< RL	10				
ES-S	159	3	< RL	< RL	9				
ES-E	156	3	< RL	< RL	10				
ES	786	15	< RL	< RL	10				
FI-N									
FI-S									
FI									
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	36	3	< RL	< RL	10				
GB-NI									
GB	36	3	< RL	< RL	10				
GR	201	3	< RL	< RL	< RL		< RL	< RL	8
HR-A									
HR-C									
HR									
HU	443	8	< RL	< RL	8				
IE	70	6	< RL	< RL	6				
IT-N	1566	7	< RL	< RL	1				
IT-C	606	4	< RL	< RL	12				
IT-S	570	3	< RL	< RL	10				
IT	2742	14	< RL	< RL	12				
LT									
LU	78	2	< RL	< RL	9				
LV									
MT									
NL	53	1	< RL	< RL	9				
PL-N									
PL-S									
PL									
PT									
RO-N	14413	18	< RL	< RL	7				
RO-S	17183	18	< RL	< RL	3				
RO	31596	36	< RL	< RL	2				
SE-N									
SE-S									
SE									
SI									
SK									

RL: reporting level for gross- β in air, i.e. 5.0 E-03 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

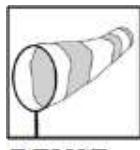
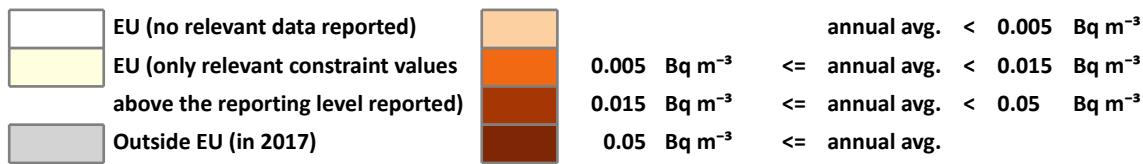


Fig. A3: Geographical and time averages

DENSE

YEAR : 2017
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β



- sample location (Coordinate Accuracy = Precise or Not Specified)
- + regional average (Coordinate Accuracy = Reference Point of Region)

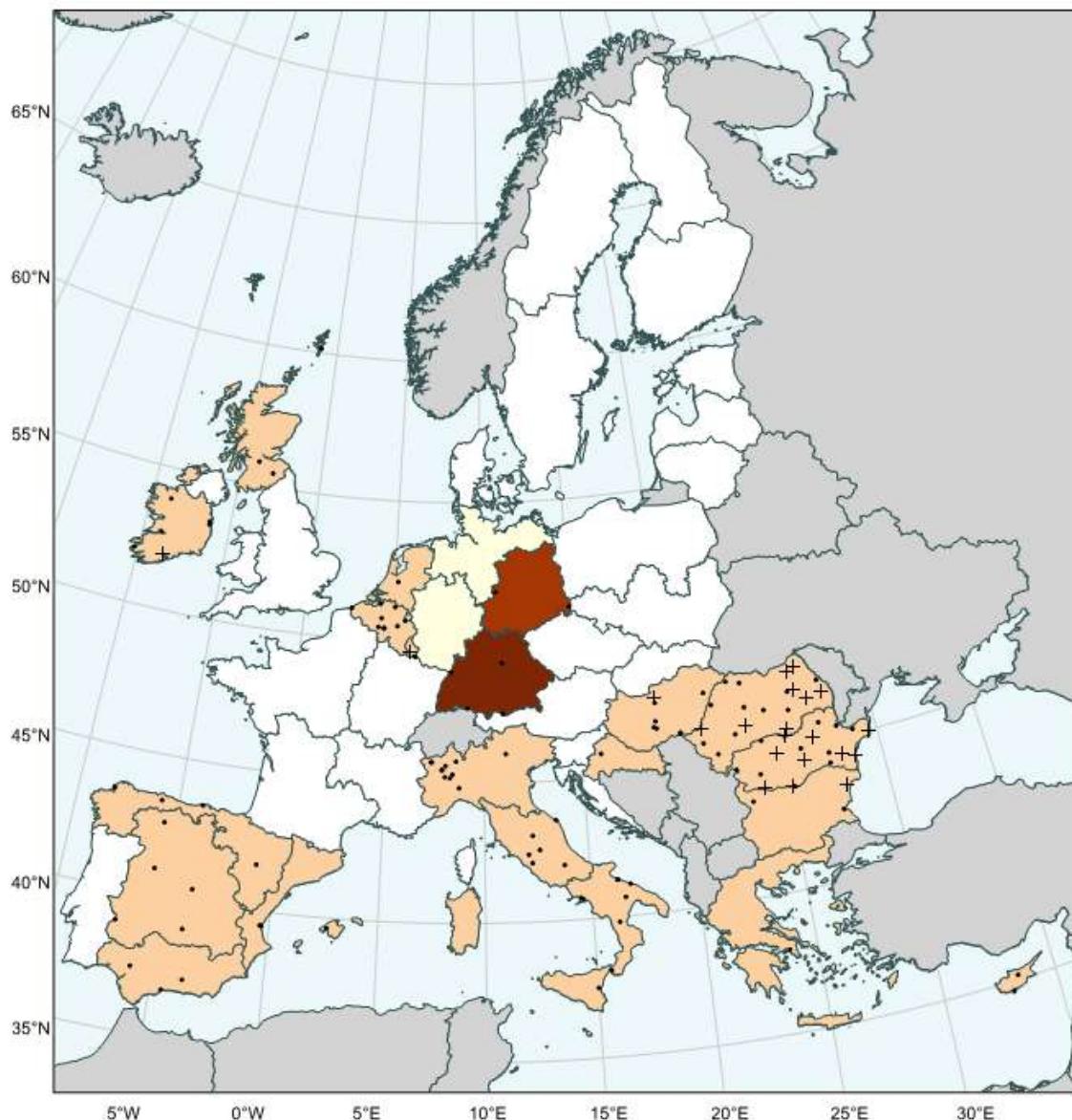
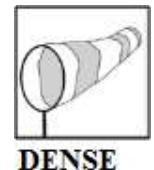


Table A3: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **gross-β**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT									
BE	2159	10	< RL	< RL	10				
BG	5	4	< RL	< RL	< RL		< RL	< RL	6
CY	128	2	< RL	< RL	< RL	1.3E-02	< RL	2.9E-02	12
CZ									
DE-N							Δ		
DE-C							Δ		
DE-S	5	4	1.6E-01		5.0E-01	< RL	2.2E-01	5.0E-01	8
DE-E	4	2				3.7E-02	3.7E-02	3.7E-02	10
DE	9	6	1.6E-01		5.0E-01	1.2E-02	2.2E-01	5.0E-01	8
DK									
EE									
ES-N	210	4	< RL	< RL	10				
ES-C	259	5	< RL	< RL	10				
ES-S	159	3	< RL	< RL	10				
ES-E	158	3	< RL	< RL	6				
ES	786	15	< RL	< RL	10				
FI-N									
FI-S									
FI									
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	36	3	< RL	< RL	1				
GB-NI									
GB	36	3	< RL	< RL	1				
GR	102	1	< RL	< RL	7				
HR-A									
HR-C	1	1				< RL	< RL	< RL	12
HR	1	1				< RL	< RL	< RL	12
HU	675	8	< RL	< RL	10				
IE	71	6	< RL	< RL	5				
IT-N	1608	11	< RL	< RL	10				
IT-C	630	6	< RL	< RL	10				
IT-S	716	9	< RL	< RL	8				
IT	2954	26	< RL	< RL	10				
LT									
LU	79	2	< RL	< RL	1				
LV									
MT									
NL	53	1	< RL	< RL	10				
PL-N									
PL-S									
PL									
PT									
RO-N	14787	19	< RL	< RL	9				
RO-S	17303	18	< RL	< RL	9				
RO	32090	37	< RL	< RL	9				
SE-N									
SE-S									
SE									
SI									
SK									

RL: reporting level for gross-β In air, i.e. 5.0 E-03 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

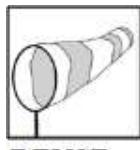
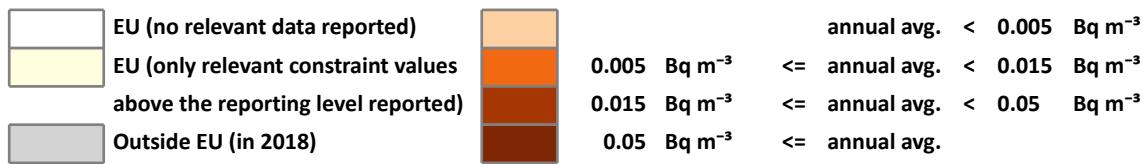


Fig. A4: Geographical and time averages

DENSE

YEAR : 2018
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β



- sample location (Coordinate Accuracy = Precise or Not Specified)
- + regional average (Coordinate Accuracy = Reference Point of Region)

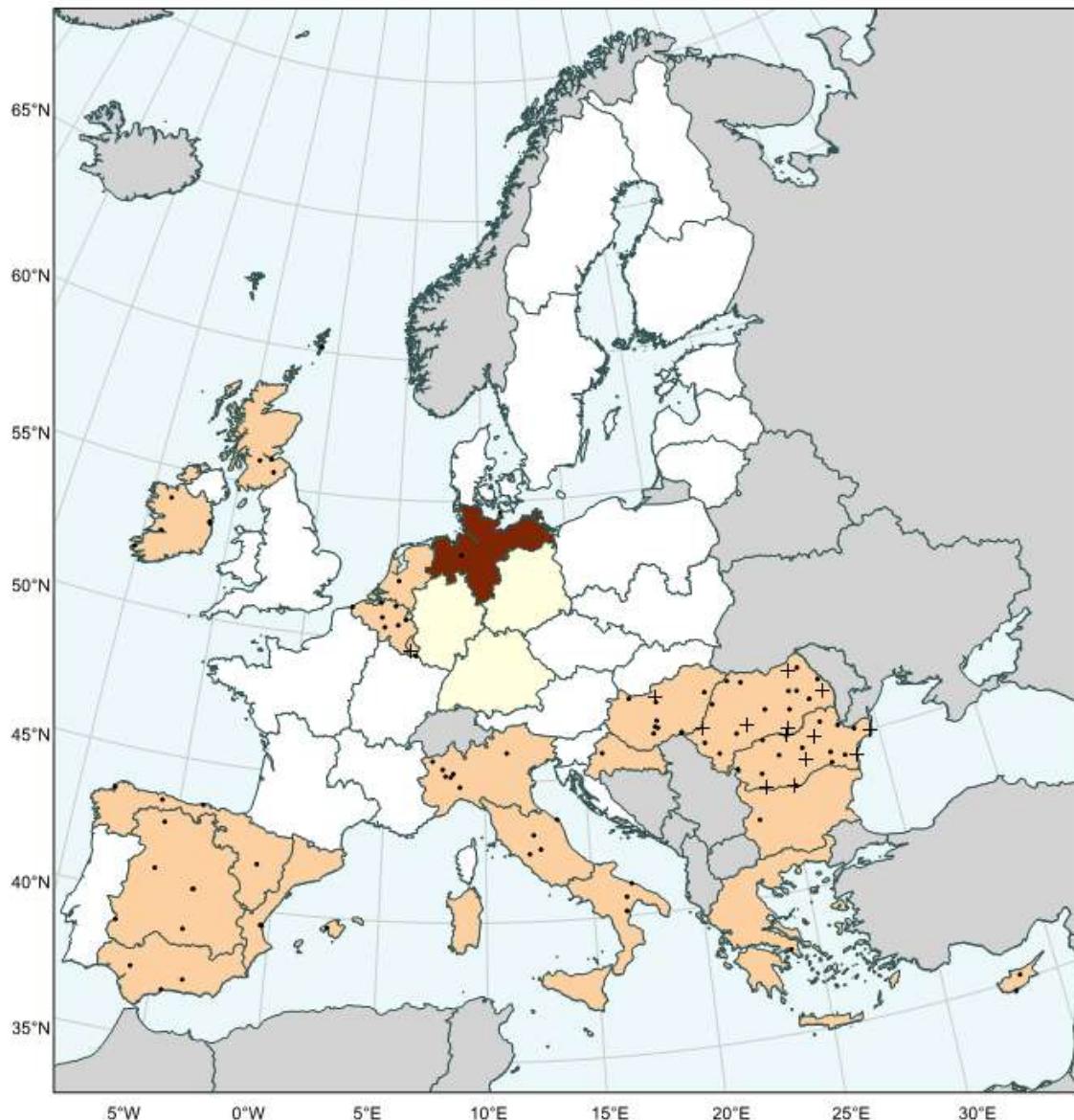
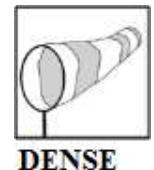


Table A4: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **gross-β**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT									
BE	2137	7	< RL	< RL	11				
BG	3	2	< RL	< RL	11				
CY	328	2	< RL	< RL	8				
CZ									
DE-N	2	2	2.9E-02			2.9E-01	1.6E-01	2.9E-01	12
DE-C							Δ		
DE-S							Δ		
DE-E							Δ		
DE	2	2	2.9E-02			2.9E-01	1.6E-01	2.9E-01	12
DK									
EE									
ES-N	208	4	< RL	< RL	10				
ES-C	259	6	< RL	< RL	9				
ES-S	158	3	< RL	< RL	8				
ES-E	158	3	< RL	< RL	9				
ES	783	16	< RL	< RL	9				
FI-N									
FI-S									
FI									
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	45	4	< RL	< RL	11				
GB-NI									
GB	45	4	< RL	< RL	11				
GR	2	1	< RL				< RL	< RL	1
HR-A									
HR-C	12	1	< RL	8.4E-03	10				
HR	12	1	< RL	8.4E-03	10				
HU	562	10	< RL	< RL	8				
IE	72	5	< RL	< RL	6				
IT-N	1325	7	< RL	< RL	12				
IT-C	444	4	< RL	< RL	8				
IT-S	571	3	< RL	< RL	8				
IT	2340	14	< RL	< RL	8				
LT									
LU	78	2	< RL	< RL	5				
LV									
MT									
NL	52	1	< RL	< RL	11				
PL-N									
PL-S									
PL									
PT									
RO-N	3175	18	< RL	< RL	2				
RO-S	6627	18	< RL	< RL	6				
RO	9802	36	< RL	< RL	11				
SE-N									
SE-S									
SE									
SI									
SK									

RL: reporting level for gross-β In air, i.e. 5.0 E-03 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

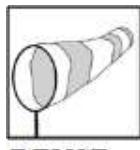
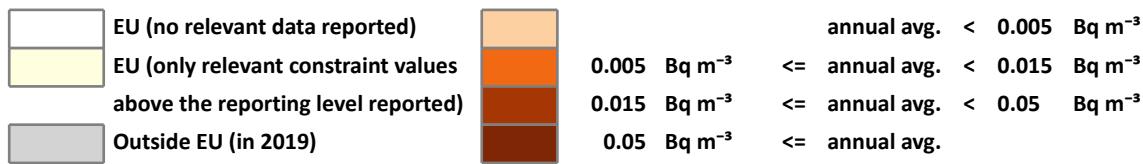


Fig. A5: Geographical and time averages

DENSE

YEAR : 2019
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β



- sample location (Coordinate Accuracy = Precise or Not Specified)
- + regional average (Coordinate Accuracy = Reference Point of Region)

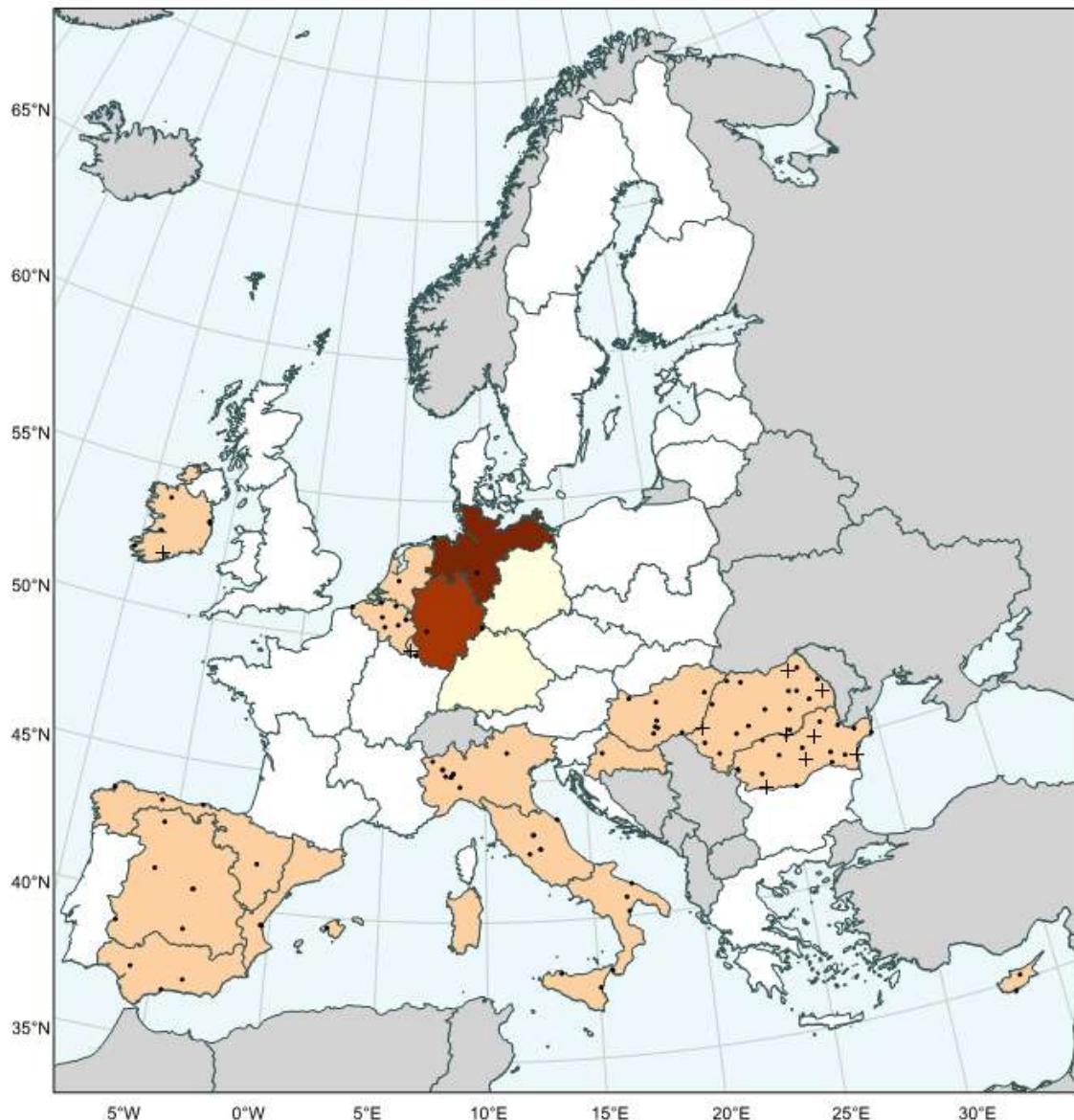
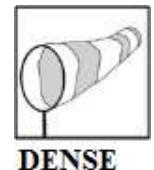


Table A5: Geographical and time averages


YEAR : 2019
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT									
BE	2136	7	< RL	< RL	4				
BG									
CY	211	2	< RL	< RL	11				
CZ									
DE-N	2	2				1.5E-01	1.5E-01	3.0E-01	12
DE-C	4	2				4.2E-02	4.2E-02	4.2E-02	12
DE-S							Δ		
DE-E							Δ		
DE	6	4				6.7E-02	6.7E-02	1.3E-01	12
DK									
EE									
ES-N	215	4	< RL	< RL	9				
ES-C	255	6	< RL	< RL	7				
ES-S	155	3	< RL	< RL	9				
ES-E	159	3	< RL	< RL	7				
ES	784	16	< RL	< RL	7				
FI-N									
FI-S									
FI									
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC									
GB-NI									
GB									
GR									
HR-A									
HR-C	12	1	< RL	< RL	8				
HR	12	1	< RL	< RL	8				
HU	669	8	< RL	< RL	10				
IE	68	6	< RL	< RL	1				
IT-N	2008	10	< RL	< RL	8				
IT-C	508	6	< RL	< RL	6				
IT-S	781	6	< RL	< RL	8				
IT	3297	22	< RL	< RL	8				
LT									
LU	76	2	< RL	< RL	8				
LV									
MT									
NL	53	1	< RL	< RL	2				
PL-N									
PL-S									
PL									
PT									
RO-N	14542	18	< RL	< RL	11				
RO-S	17251	18	< RL	< RL	5				
RO	31793	36	< RL	< RL	5				
SE-N									
SE-S									
SE									
SI									
SK									

RL: reporting level for gross- β In air, i.e. 5.0 E-03 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

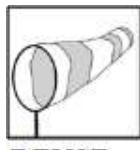


Fig. A6: Geographical and time averages

DENSE

YEAR : 2020
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : gross- β

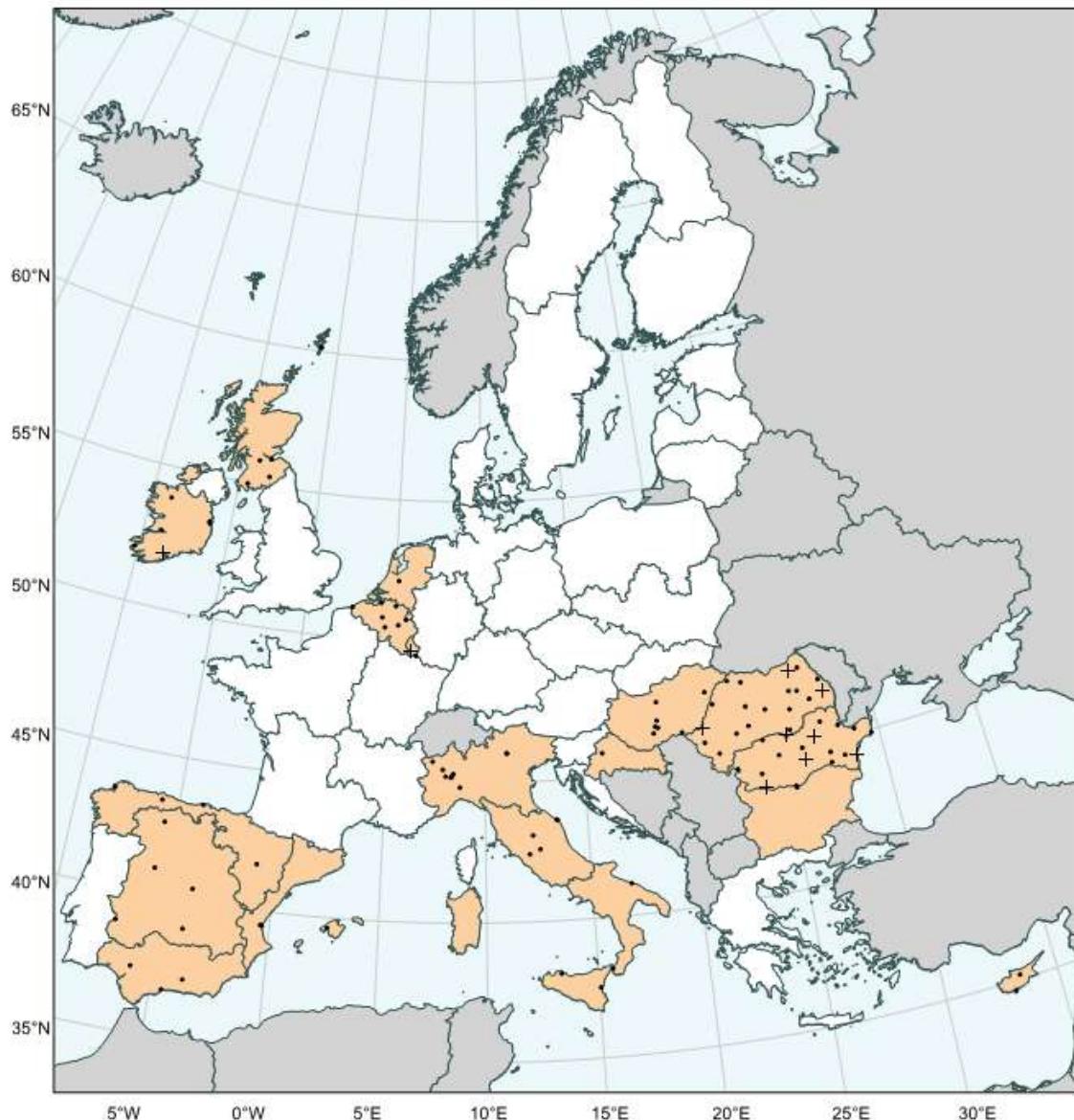
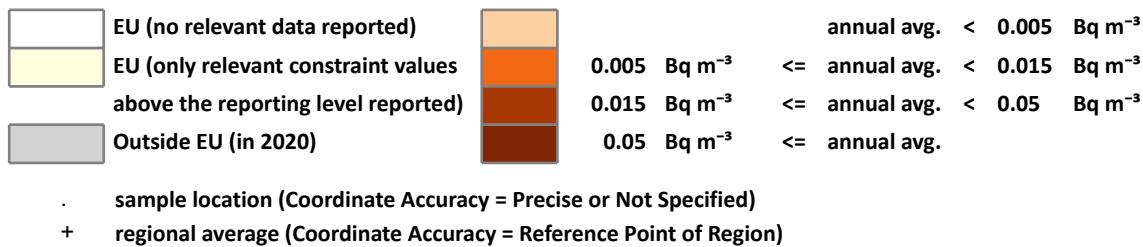
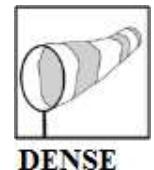


Table A6: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **gross-β**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT									
BE	4152	7	< RL	7.0E-03	6				
BG	2	1	< RL	< RL		< RL	< RL	< RL	11
CY	303	2	< RL	< RL	9				
CZ									
DE-N									
DE-C									
DE-S									
DE-E									
DE									
DK									
EE									
ES-N	205	4	< RL	< RL	9				
ES-C	249	5	< RL	< RL	9				
ES-S	137	3	< RL	< RL	9				
ES-E	160	3	< RL	< RL	7				
ES	751	15	< RL	< RL	9				
FI-N									
FI-S									
FI									
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	43	5	< RL	< RL	4				
GB-NI									
GB	43	5	< RL	< RL	4				
GR									
HR-A									
HR-C	12	1	< RL	< RL	11				
HR	12	1	< RL	< RL	11				
HU	567	7	< RL	< RL	9				
IE	69	6	< RL	< RL	4				
IT-N	1924	8	< RL	< RL	11				
IT-C	509	5	< RL	< RL	8				
IT-S	660	4	< RL	< RL	8				
IT	3093	17	< RL	< RL	11				
LT									
LU	77	2	< RL	< RL	9				
LV									
MT									
NL	53	1	< RL	< RL	11				
PL-N									
PL-S									
PL									
PT									
RO-N	16011	19	< RL	< RL	9				
RO-S	17208	18	< RL	< RL	8				
RO	33219	37	< RL	< RL	8				
SE-N									
SE-S									
SE									
SI									
SK									

RL: reporting level for gross-β in air, i.e. 5.0 E-03 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

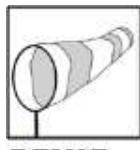
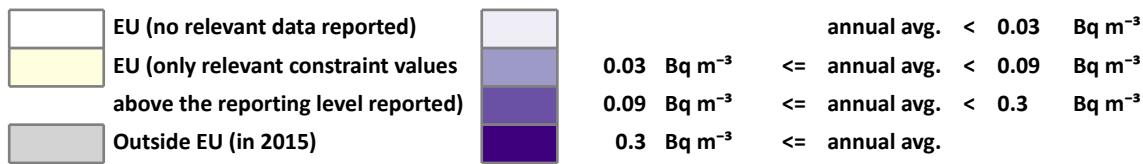


Fig. A7: Geographical and time averages

DENSE

YEAR : 2015
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



- sample location (Coordinate Accuracy = Precise or Not Specified)
- + regional average (Coordinate Accuracy = Reference Point of Region)

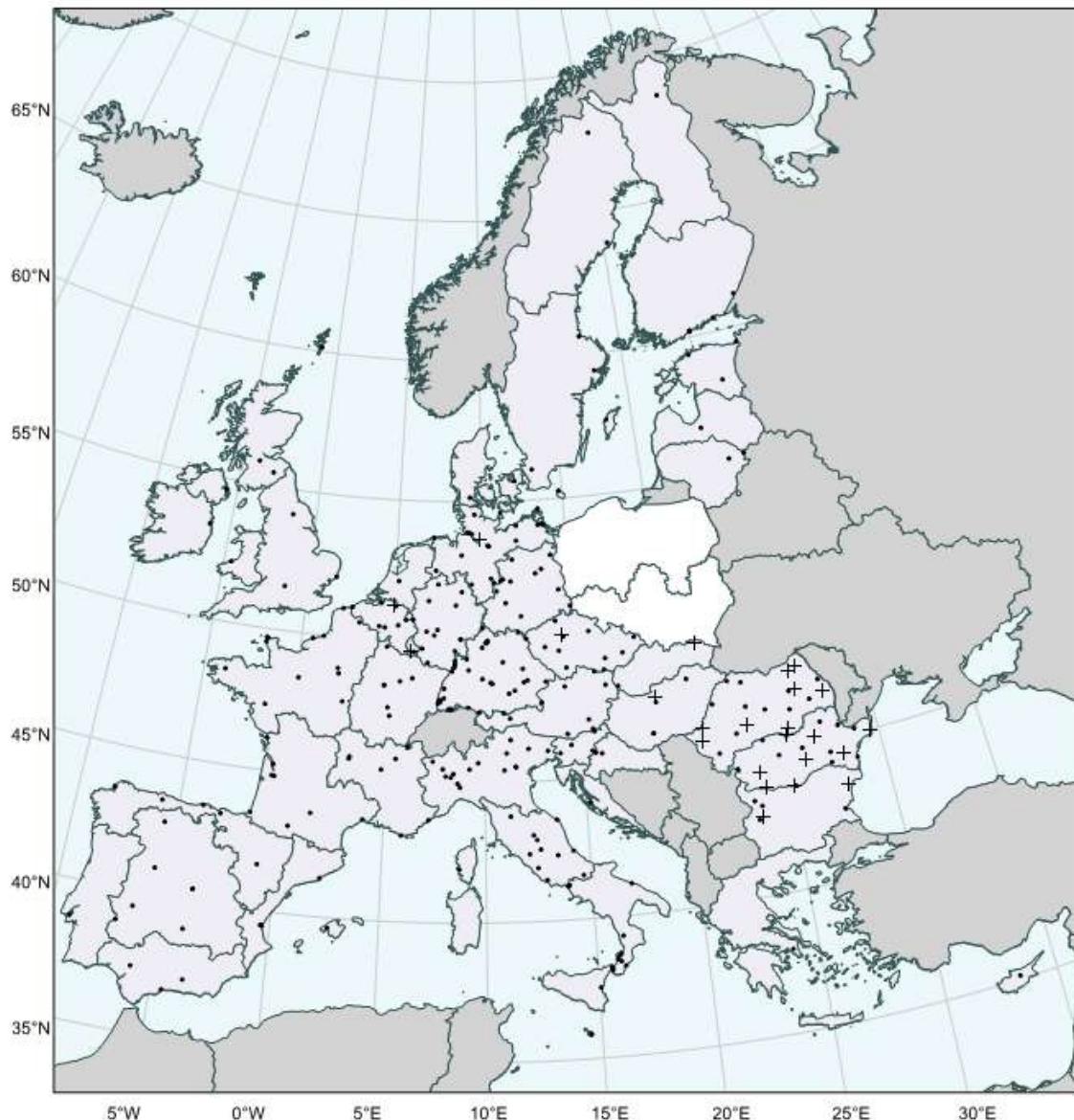
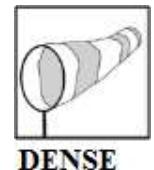


Table A7: Geographical and time averages


YEAR : 2015
SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	568	10	< RL	< RL	12				
BE	82	7	< RL	< RL	5				
BG	147	8	< RL	< RL	1				
CY	30	1	< RL	< RL	9				
CZ	533	11	< RL	< RL	10				
DE-N	3964	22	< RL	< RL	10				
DE-C	3873	15	< RL	< RL	12				
DE-S	4553	33	< RL	< RL	12				
DE-E	3293	11	< RL	< RL	8				
DE	15683	81	< RL	< RL	12				
DK	74	3	< RL	< RL	10				
EE	154	3	< RL	< RL	1				
ES-N	106	5	< RL	< RL	8				
ES-C	174	7	< RL	< RL	1				
ES-S	132	4	< RL	< RL	2				
ES-E	92	4	< RL	< RL	3				
ES	504	20	< RL	< RL	8				
FI-N	28	1		< RL	< RL	< RL	< RL	< RL	9
FI-S	408	4	< RL	< RL	10				
FI	436	5	< RL	< RL	10				
FR-NW	694	13	< RL	< RL	5				
FR-NE	278	7	< RL	< RL	3				
FR-SW	364	9	< RL	< RL	11				
FR-SE	407	8	< RL	< RL	11				
FR	1743	37	< RL	< RL	3				
GB-EN	15	3	< RL	< RL	2				
GB-WL	5	1	< RL	< RL	8				
GB-SC	33	3	< RL	< RL	1				
GB-NI	5	1	< RL	< RL	2				
GB	58	8	< RL	< RL	2				
GR	18	1		< RL		< RL	< RL	< RL	6
HR-A	4	1	< RL	< RL	11				
HR-C	15	1	< RL	< RL	5				
HR	19	2	< RL	< RL	5				
HU	167	5	< RL	< RL	1				
IE	11	1	< RL	< RL	4				
IT-N	955	16	< RL	< RL	12				
IT-C	1014	11	< RL	< RL	1				
IT-S	208	13	< RL	< RL	6				
IT	2177	40	< RL	< RL	7				
LT	24	2	< RL	< RL	8				
LU	104	2	< RL	< RL	2				
LV	5	1	< RL	< RL	6				
MT	28	2	< RL	< RL	11				
NL	53	1	< RL	< RL	10				
PL-N									
PL-S									
PL									
PT	50	1	< RL	< RL	3				
RO-N	228	19	< RL	< RL	7				
RO-S	214	18	< RL	< RL	10				
RO	442	37	< RL	< RL	8				
SE-N	106	2	< RL	< RL	6				
SE-S	212	4	< RL	< RL	10				
SE	318	6	< RL	< RL	6				
SI	63	5	< RL	< RL	12				
SK	19	2	< RL	< RL	8				

RL: reporting level for ^{137}Cs in air, i.e. 3.0 E-02 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

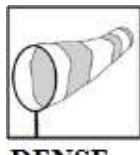
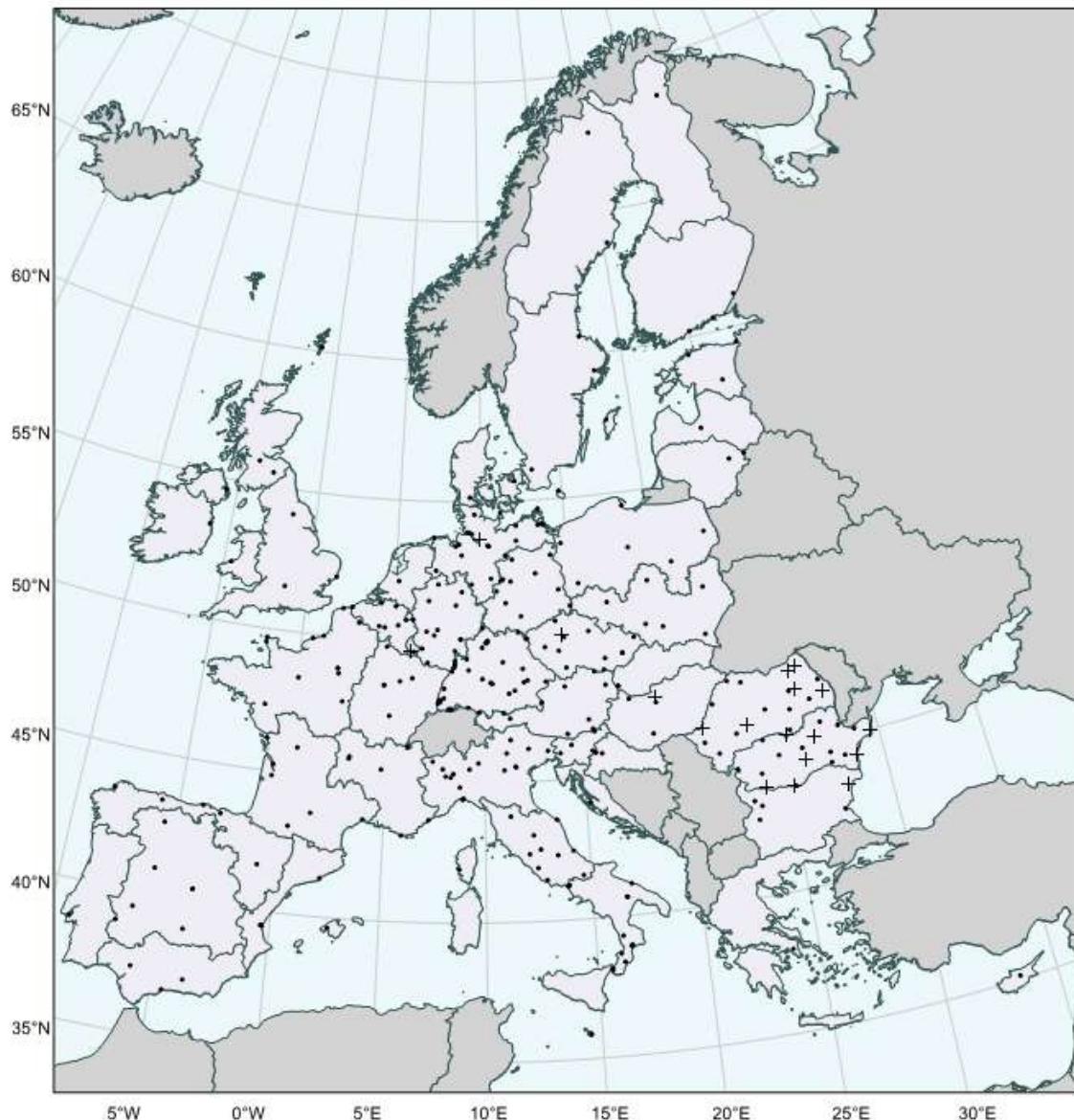
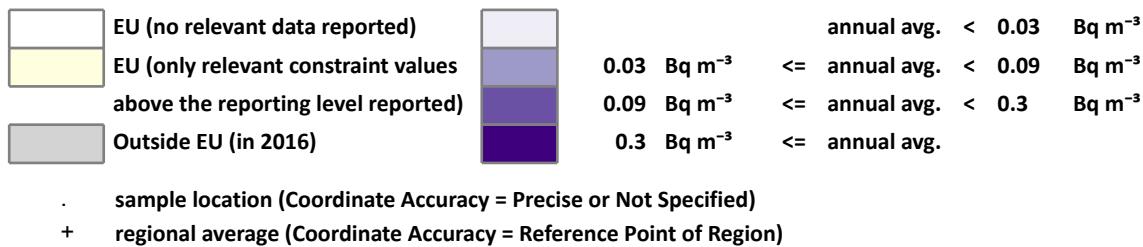


Fig. A8: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2016
airborne particulates (Bq m^{-3})
caesium-137 (^{137}Cs)



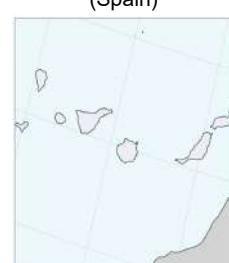
Azores (Portugal)



Madeira (Portugal)

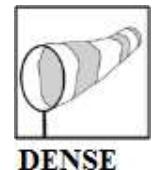


Canary Islands (Spain)



Malta



Table A8: Geographical and time averages


YEAR : **2016**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	579	10	< RL	< RL	12				
BE	93	7	< RL	< RL	3				
BG	125	6	< RL	< RL	12				
CY	12	1	< RL	< RL	10				
CZ	504	13	< RL	< RL	1				
DE-N	4117	24	< RL	< RL	12				
DE-C	3923	15	< RL	< RL	4				
DE-S	4803	33	< RL	< RL	12				
DE-E	3381	10	< RL	< RL	4				
DE	16224	82	< RL	< RL	12				
DK	75	3	< RL	< RL	12				
EE	154	3	< RL	< RL	5				
ES-N	83	5	< RL	< RL	8				
ES-C	171	7	< RL	< RL	1				
ES-S	131	4	< RL	< RL	3				
ES-E	92	4	< RL	< RL	2				
ES	477	20	< RL	< RL	2				
FI-N	54	1	< RL	< RL	1				
FI-S	206	3	< RL	< RL	3				
FI	260	4	< RL	< RL	3				
FR-NW	613	13	< RL	< RL	1				
FR-NE	261	6	< RL	< RL	8				
FR-SW	250	8	< RL	< RL	1				
FR-SE	323	8	< RL	< RL	8				
FR	1447	35	< RL	< RL	1				
GB-EN	3	3	< RL				< RL	< RL	1
GB-WL	1	1	< RL				< RL	< RL	1
GB-SC	36	3	< RL	< RL	1				
GB-NI	1	1	< RL				< RL	< RL	1
GB	41	8	< RL	< RL	2				
GR	43	1	< RL	< RL	4				
HR-A	6	1	< RL	< RL	11				
HR-C	15	1	< RL	< RL	1				
HR	21	2	< RL	< RL	12				
HU	191	4	< RL	< RL	3				
IE	13	1	< RL	< RL	3				
IT-N	954	18	< RL	< RL	3				
IT-C	860	10	< RL	< RL	2				
IT-S	259	12	< RL	< RL	10				
IT	2073	40	< RL	< RL	2				
LT	23	2	< RL	< RL	11				
LU	100	2	< RL	< RL	9				
LV	3	1	< RL				< RL	< RL	12
MT	24	2	< RL	< RL	11				
NL	53	1	< RL	< RL	5				
PL-N	6	6					< RL	< RL	12
PL-S	6	6					< RL	< RL	12
PL	12	12					< RL	< RL	12
PT	50	1	< RL	< RL	6				
RO-N	216	18	< RL	< RL	7				
RO-S	212	18	< RL	< RL	6				
RO	428	36	< RL	< RL	6				
SE-N	106	2	< RL	< RL	6				
SE-S	212	4	< RL	< RL	5				
SE	318	6	< RL	< RL	6				
SI	62	5	< RL	< RL	12				
SK	13	2	< RL	< RL	11				

RL: reporting level for ¹³⁷Cs in air, i.e. 3.0 E-02 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

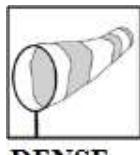


Fig. A9: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2017
airborne particulates (Bq m^{-3})
caesium-137 (^{137}Cs)

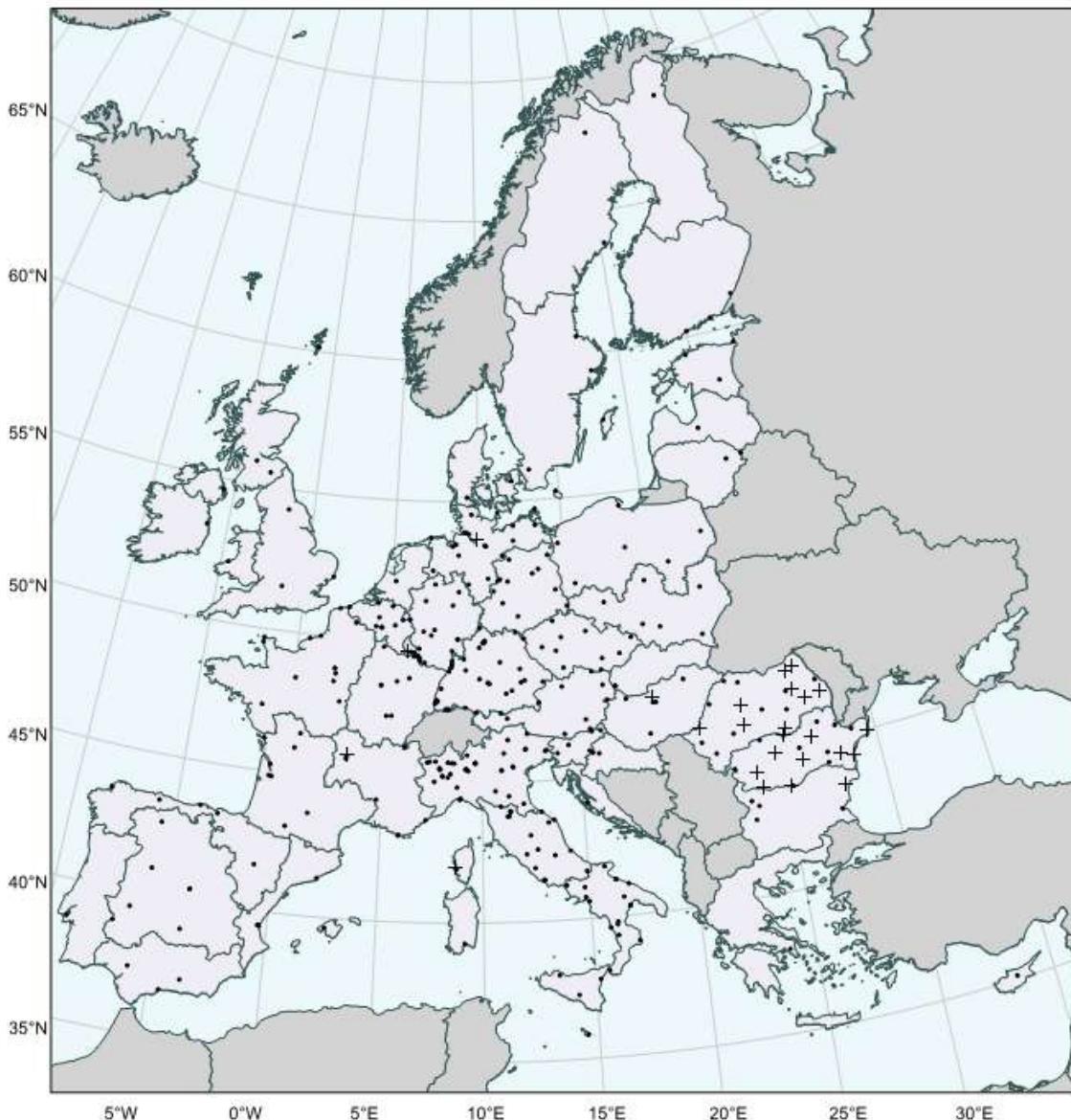
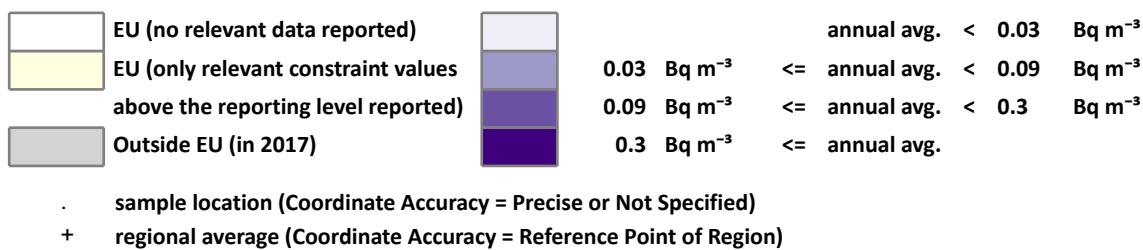
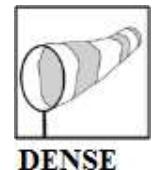


Table A9: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	590	10	< RL	< RL	10				
BE	106	10	< RL	< RL	12				
BG	126	6	< RL	< RL	8				
CY	18	1	< RL	< RL	9				
CZ	549	10	< RL	< RL	2				
DE-N	3879	21	< RL	< RL	9				
DE-C	3784	21	< RL	< RL	9				
DE-S	4595	32	< RL	< RL	3				
DE-E	3199	11	< RL	< RL	3				
DE	15457	85	< RL	< RL	9				
DK	77	3	< RL	< RL	1				
EE	154	3	< RL	< RL	6				
ES-N	104	5	< RL	< RL	12				
ES-C	170	7	< RL	< RL	2				
ES-S	130	4	< RL	< RL	11				
ES-E	91	4	< RL	< RL	9				
ES	495	20	< RL	< RL	9				
FI-N	52	1	< RL	< RL	7				
FI-S	152	3	< RL	< RL	6				
FI	204	4	< RL	< RL	6				
FR-NW	601	14	< RL	< RL	4				
FR-NE	257	7	< RL	< RL	12				
FR-SW	262	10	< RL	< RL	2				
FR-SE	288	11	< RL	< RL	2				
FR	1408	42	< RL	< RL	2				
GB-EN	12	3	< RL	< RL	8				
GB-WL	4	1	< RL	< RL	1				
GB-SC	36	3	< RL	< RL	1				
GB-NI	4	1	< RL	< RL	11				
GB	56	8	< RL	< RL	8				
GR	41	1	< RL	< RL	8				
HR-A	4	1	< RL	< RL	11				
HR-C	18	1	< RL	< RL	10				
HR	22	2	< RL	< RL	10				
HU	165	7	< RL	< RL	10				
IE	59	1	< RL	< RL	1				
IT-N	1120	40	< RL	< RL	10				
IT-C	903	18	< RL	< RL	3				
IT-S	90	22	< RL	< RL	10				
IT	2113	80	< RL	< RL	10				
LT	24	2	< RL	< RL	2				
LU	96	2	< RL	< RL	2				
LV	12	1	< RL	< RL	3				
MT	60	1	< RL	< RL	1				
NL	53	1	< RL	< RL	2				
PL-N	12	6	< RL	< RL	12				
PL-S	12	6	< RL	< RL	1				
PL	24	12	< RL	< RL	12				
PT	50	1	< RL	< RL	10				
RO-N	220	19	< RL	< RL	9				
RO-S	216	18	< RL	< RL	11				
RO	436	37	< RL	< RL	9				
SE-N	105	2	< RL	< RL	9				
SE-S	211	4	< RL	< RL	6				
SE	316	6	< RL	< RL	9				
SI	70	6	< RL	< RL	12				
SK	25	2	< RL	< RL	2				

RL: reporting level for ¹³⁷Cs in air, i.e. 3.0 E-02 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

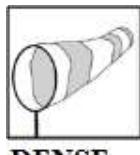


Fig. A10: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2018
airborne particulates (Bq m^{-3})
caesium-137 (^{137}Cs)

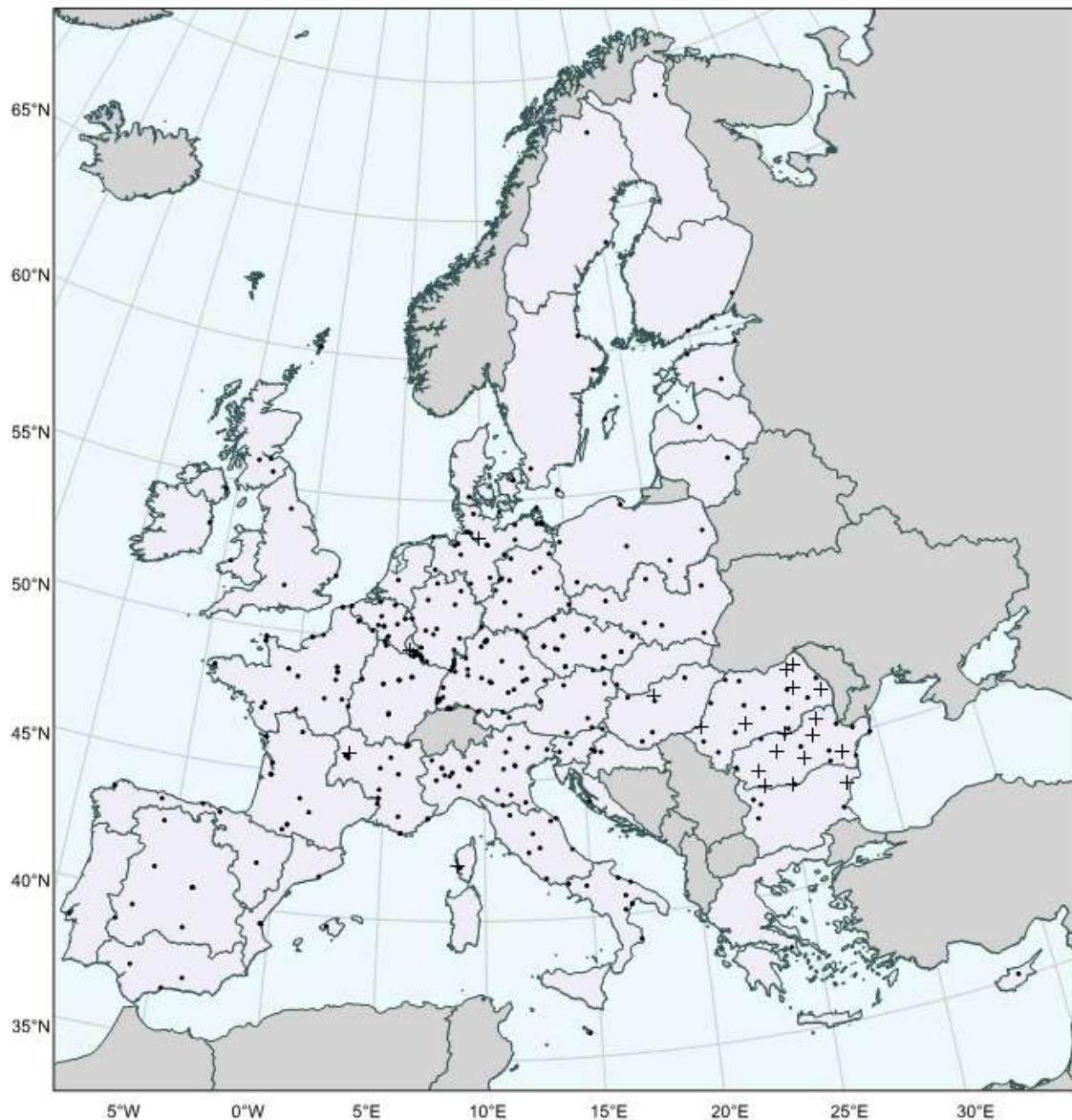
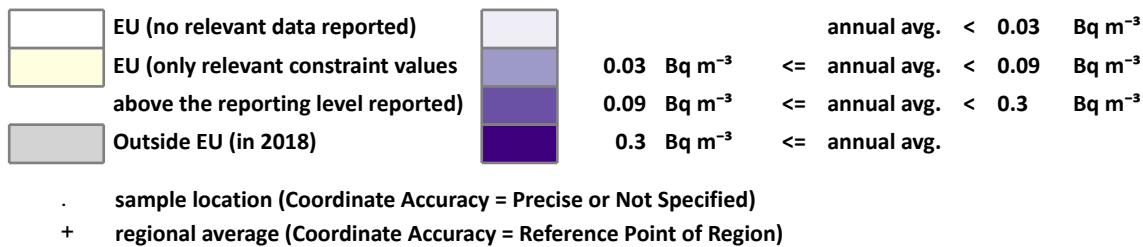
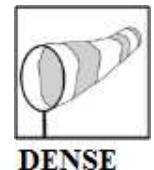


Table A10: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	579	10	< RL	< RL	12				
BE	100	10	< RL	< RL	8				
BG	143	6	< RL	< RL	11				
CY	39	1	< RL	< RL	8				
CZ	540	20	< RL	< RL	4				
DE-N	3916	25	< RL	< RL	11				
DE-C	3804	20	< RL	< RL	9				
DE-S	4685	35	< RL	< RL	5				
DE-E	3105	11	< RL	< RL	11				
DE	15510	91	< RL	< RL	8				
DK	71	4	< RL	< RL	3				
EE	154	3	< RL	< RL	12				
ES-N	97	5	< RL	< RL	12				
ES-C	170	9	< RL	< RL	3				
ES-S	134	4	< RL	< RL	5				
ES-E	91	4	< RL	< RL	2				
ES	492	22	< RL	< RL	5				
FI-N	53	1	< RL	< RL	1				
FI-S	149	4	< RL	< RL	5				
FI	202	5	< RL	< RL	5				
FR-NW	448	25	< RL	< RL	12				
FR-NE	273	16	< RL	< RL	12				
FR-SW	218	12	< RL	< RL	10				
FR-SE	334	21	< RL	< RL	12				
FR	1273	74	< RL	< RL	12				
GB-EN	15	3	< RL	< RL	5				
GB-WL	5	1	< RL	< RL	8				
GB-SC	45	4	< RL	< RL	1				
GB-NI	5	1	< RL	< RL	1				
GB	70	9	< RL	< RL	5				
GR	30	1	< RL	< RL	5				
HR-A	4	1	< RL	< RL	1				
HR-C	14	1	< RL	< RL	2				
HR	18	2	< RL	< RL	2				
HU	273	6	< RL	< RL	12				
IE	49	1	< RL	< RL	7				
IT-N	1034	23	< RL	< RL	5				
IT-C	535	8	< RL	< RL	8				
IT-S	63	9	< RL	< RL	5				
IT	1632	40	< RL	< RL	1				
LT	11	1	< RL	< RL	10				
LU	106	2	< RL	< RL	11				
LV	12	1	< RL	< RL	1				
MT	35	1	< RL	< RL	10				
NL	52	1	< RL	< RL	3				
PL-N	6	6	< RL	< RL	1				
PL-S	6	6	< RL	< RL	1				
PL	12	12	< RL	< RL	1				
PT	51	1	< RL	< RL	9				
RO-N	228	19	< RL	< RL	2				
RO-S	216	18	< RL	< RL	6				
RO	444	37	< RL	< RL	7				
SE-N	108	2	< RL	< RL	5				
SE-S	214	4	< RL	< RL	5				
SE	322	6	< RL	< RL	5				
SI	57	5	< RL	< RL	5				
SK	26	1	< RL	< RL	2				

RL: reporting level for ¹³⁷Cs in air, i.e. 3.0 E-02 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

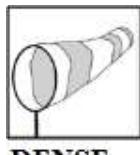
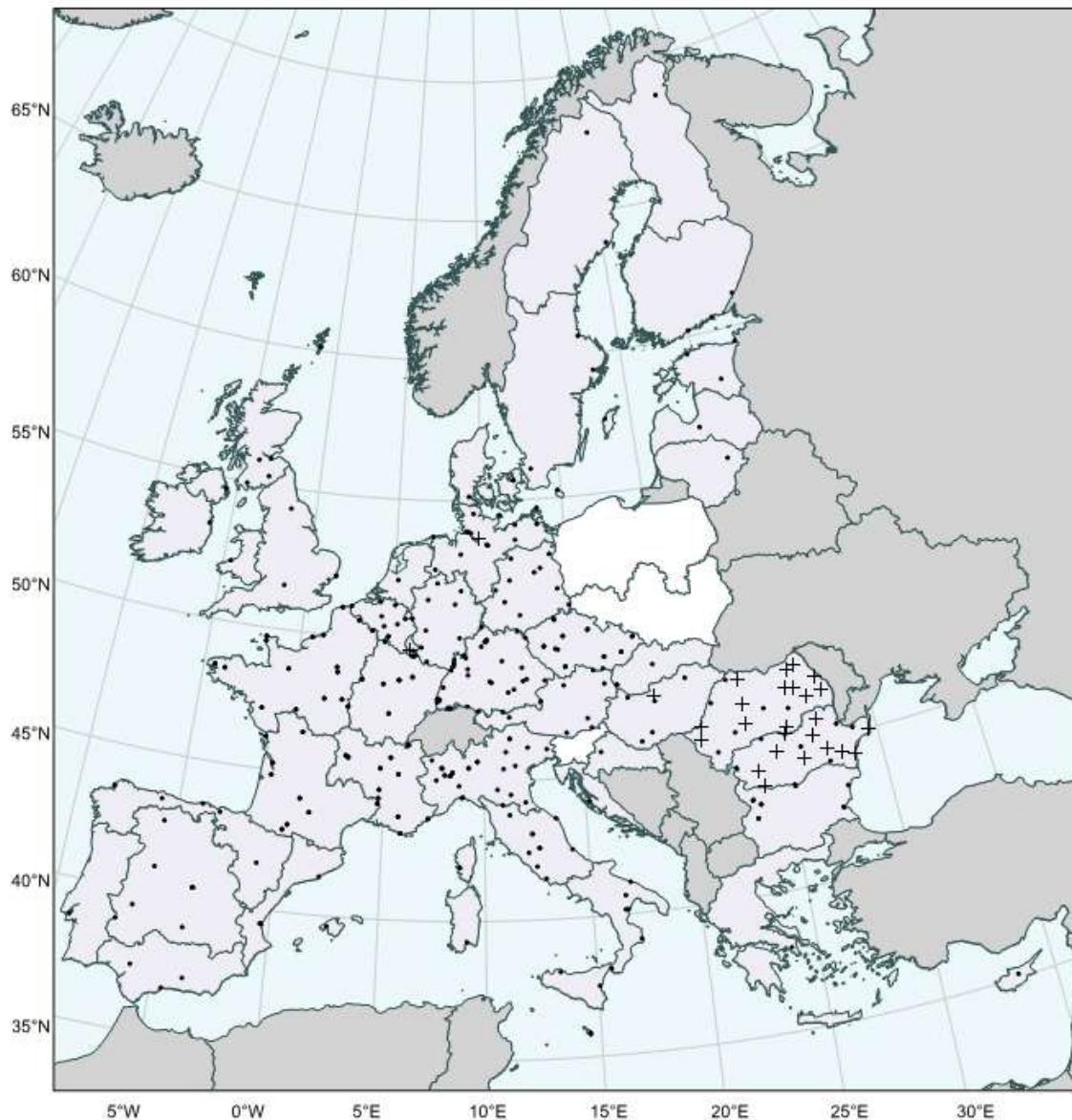
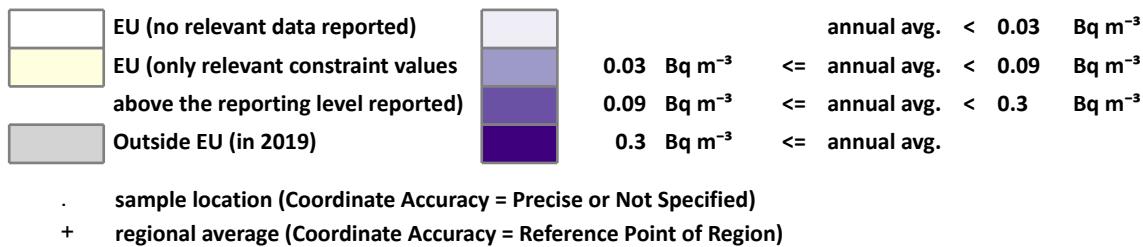


Fig. A11: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2019
airborne particulates (Bq m^{-3})
caesium-137 (^{137}Cs)



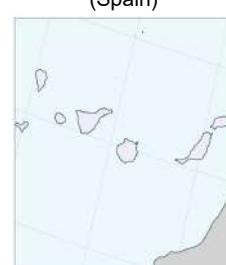
Azores (Portugal)



Madeira (Portugal)

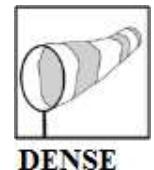


Canary Islands (Spain)



Malta



Table A11: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	573	10	< RL	< RL	12				
BE	100	7	< RL	< RL	5				
BG	122	10	< RL	< RL	4				
CY	40	1	< RL	< RL	2				
CZ	525	19	< RL	< RL	4				
DE-N	3616	15	< RL	< RL	11				
DE-C	3487	12	< RL	< RL	11				
DE-S	4562	33	< RL	< RL	7				
DE-E	3143	10	< RL	< RL	11				
DE	14808	70	< RL	< RL	7				
DK	67	4	< RL	< RL	4				
EE	157	3	< RL	< RL	4				
ES-N	106	5	< RL	< RL	2				
ES-C	170	9	< RL	< RL	2				
ES-S	129	4	< RL	< RL	11				
ES-E	81	4	< RL	< RL	9				
ES	486	22	< RL	< RL	11				
FI-N	59	1	< RL	< RL	4				
FI-S	331	3	< RL	< RL	8				
FI	390	4	< RL	< RL	8				
FR-NW	780	32	< RL	< RL	4				
FR-NE	501	21	< RL	< RL	11				
FR-SW	447	18	< RL	< RL	9				
FR-SE	541	25	< RL	< RL	11				
FR	2269	96	< RL	< RL	11				
GB-EN	4	4	< RL			< RL	< RL	< RL	12
GB-WL	1	1	< RL				< RL	< RL	1
GB-SC	54	5	< RL	< RL	1				
GB-NI	1	1	< RL				< RL	< RL	1
GB	60	11	< RL	< RL	2				
GR	17	1	< RL	< RL	3				
HR-A	4	1	< RL	< RL	11				
HR-C	12	1	< RL	< RL	1				
HR	16	2	< RL	< RL	11				
HU	266	6	< RL	< RL	1				
IE	50	1	< RL	< RL	2				
IT-N	1126	29	< RL	< RL	7				
IT-C	606	10	< RL	< RL	9				
IT-S	382	9	< RL	< RL	4				
IT	2114	48	< RL	< RL	7				
LT	11	1	< RL	< RL	4				
LU	105	2	< RL	< RL	11				
LV	24	1	< RL	< RL	1				
MT	43	2	< RL	< RL	7				
NL	53	1	< RL	< RL	4				
PL-N									
PL-S									
PL									
PT	47	1	< RL	< RL	6				
RO-N	228	19	< RL	< RL	2				
RO-S	216	18	< RL	< RL	2				
RO	444	37	< RL	< RL	2				
SE-N	106	2	< RL	< RL	6				
SE-S	222	4	< RL	< RL	4				
SE	328	6	< RL	< RL	4				
SI									
SK	65	3	< RL	< RL	5				

RL: reporting level for ¹³⁷Cs in air, i.e. 3.0 E-02 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

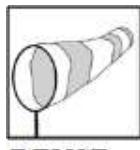
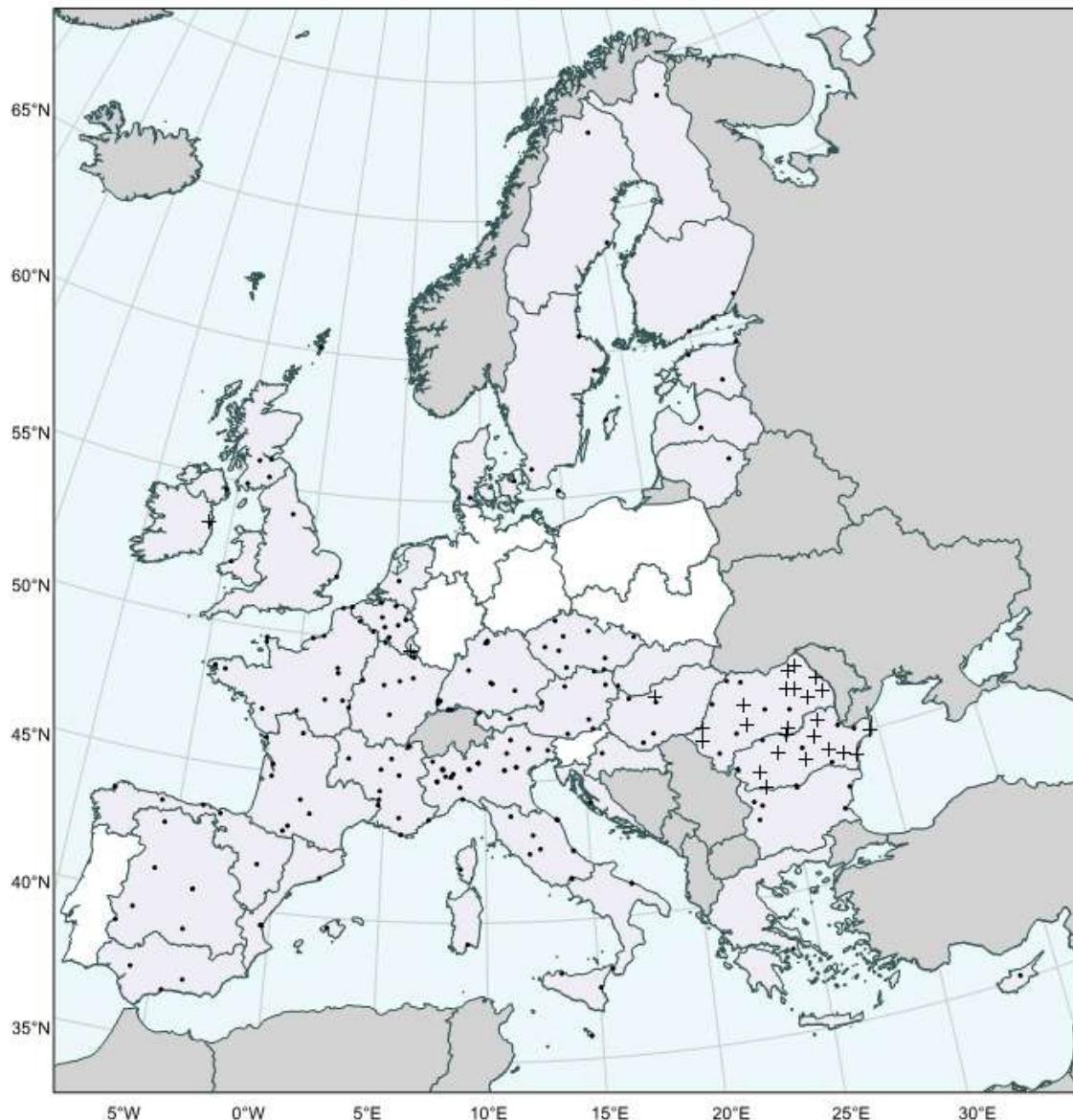
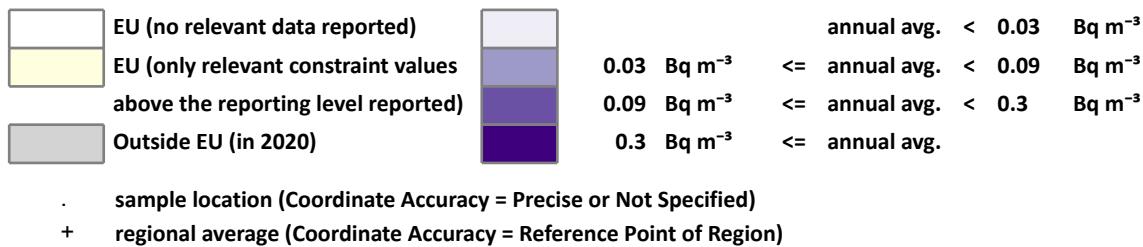


Fig. A12: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2020
airborne particulates (Bq m^{-3})
caesium-137 (^{137}Cs)



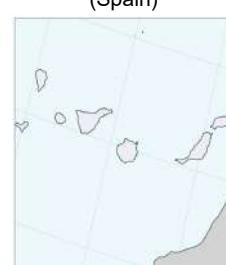
Azores (Portugal)



Madeira (Portugal)

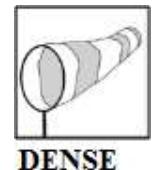


Canary Islands
(Spain)



Malta



Table A12: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **airborne particulates (Bq m⁻³)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	576	10	< RL	< RL	1				
BE	185	7	< RL	< RL	12				
BG	120	6	< RL	< RL	4				
CY	41	1	< RL	< RL	4				
CZ	424	8	< RL	< RL	4				
DE-N									
DE-C									
DE-S	20	13	< RL				< RL	< RL	1
DE-E									
DE	20	13	< RL				< RL	< RL	1
DK	76	3	< RL	< RL	12				
EE	155	3	< RL	< RL	6				
ES-N	95	5	< RL	< RL	11				
ES-C	165	7	< RL	< RL	2				
ES-S	127	4	< RL	< RL	5				
ES-E	83	4	< RL	< RL	5				
ES	470	20	< RL	< RL	5				
FI-N	26	1	< RL	< RL			< RL	< RL	1
FI-S	452	4	< RL	< RL	6				
FI	478	5	< RL	< RL	9				
FR-NW	654	15	< RL	< RL	9				
FR-NE	410	10	< RL	< RL	9				
FR-SW	379	9	< RL	< RL	11				
FR-SE	436	11	< RL	< RL	9				
FR	1879	45	< RL	< RL	9				
GB-EN	8	2	< RL	< RL	10				
GB-WL	4	1	< RL	< RL	7				
GB-SC	43	5	< RL	< RL	1				
GB-NI	4	1	< RL	< RL	11				
GB	59	9	< RL	< RL	12				
GR	32	1	< RL	< RL	9				
HR-A	5	1	< RL	< RL	2				
HR-C	14	1	< RL	< RL	4				
HR	19	2	< RL	< RL	1				
HU	240	5	< RL	< RL	12				
IE	51	2	< RL	< RL	12				
IT-N	1335	26	< RL	< RL	5				
IT-C	665	11	< RL	< RL	9				
IT-S	380	6	< RL	< RL	10				
IT	2380	43	< RL	< RL	5				
LT	12	1	< RL	< RL	10				
LU	106	2	< RL	< RL	3				
LV	12	1	< RL	< RL	10				
MT	25	1	< RL	< RL	4				
NL	53	1	< RL	< RL	4				
PL-N									
PL-S									
PL									
PT									
RO-N	231	19	< RL	< RL	11				
RO-S	222	18	< RL	< RL	7				
RO	453	37	< RL	< RL	7				
SE-N	106	2	< RL	< RL	6				
SE-S	221	4	< RL	< RL	6				
SE	327	6	< RL	< RL	6				
SI									
SK	22	1	< RL	< RL	6				

RL: reporting level for ¹³⁷Cs in air, i.e. 3.0 E-02 BQ/M3 (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

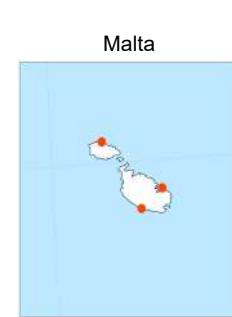
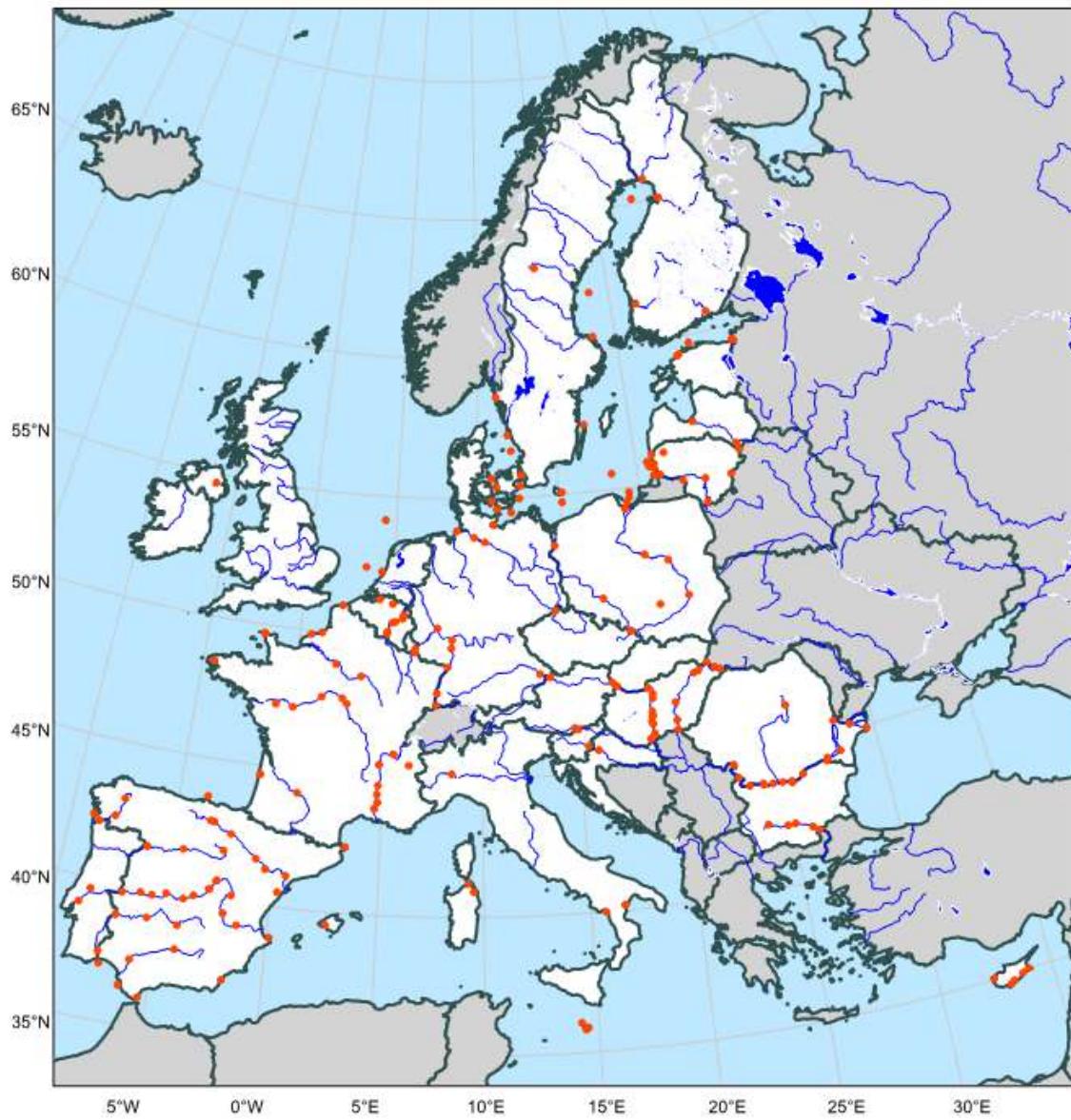
M: Month during which the maximum occurred.



DENSE

Fig. S1

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72)



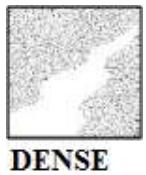
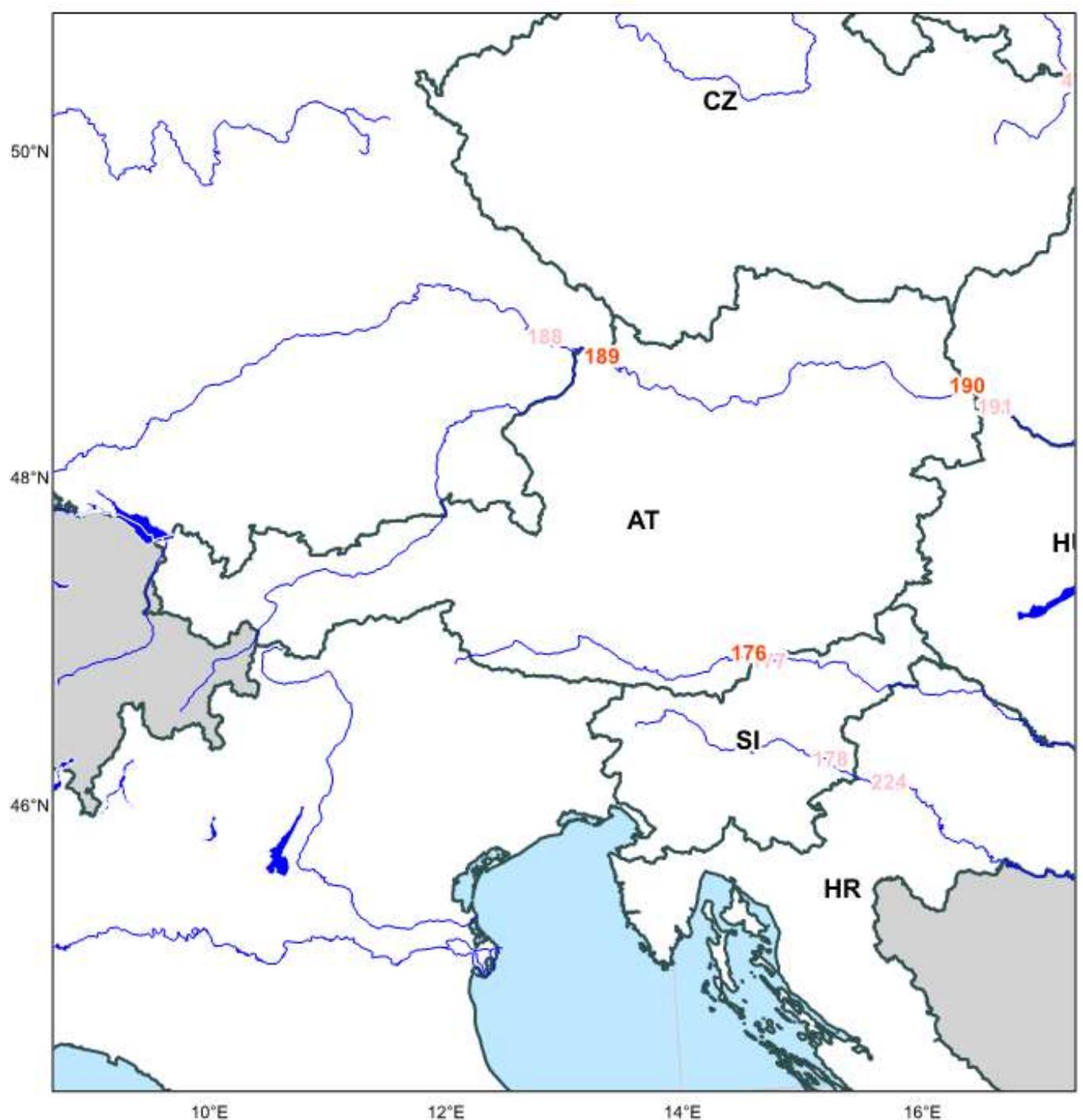


Fig. S2

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Austria



176 Schwabegg

189 Jochenstein

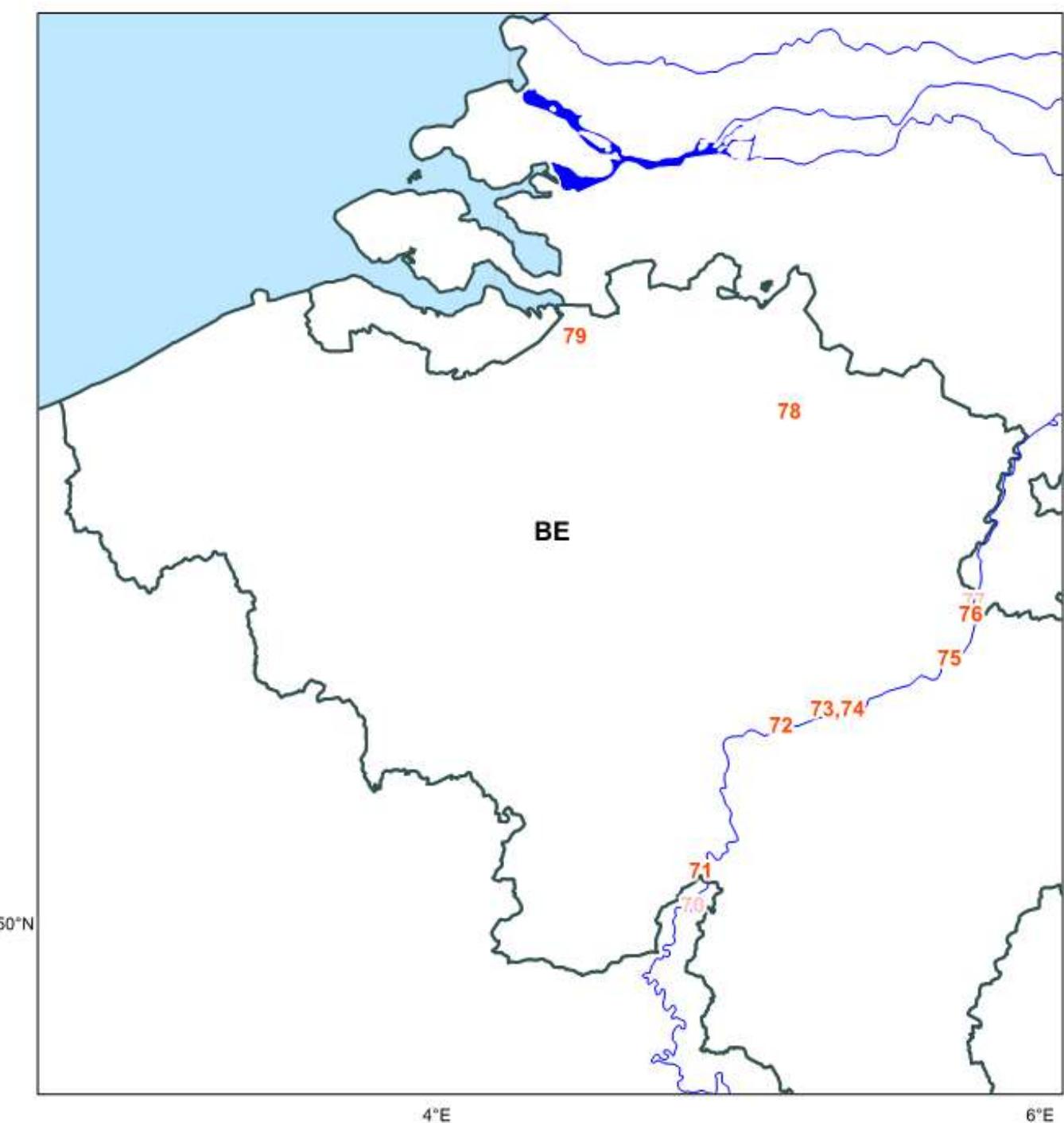
190 Wolfsthal



DENSE

Fig. S3

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Belgium



71 Heer-Agimont

72 Andenne

73 Huy

74 Ampsin

75 Monsin

76 Lixhe

78 Geel

79 Doe

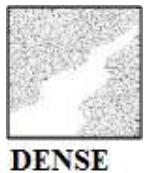
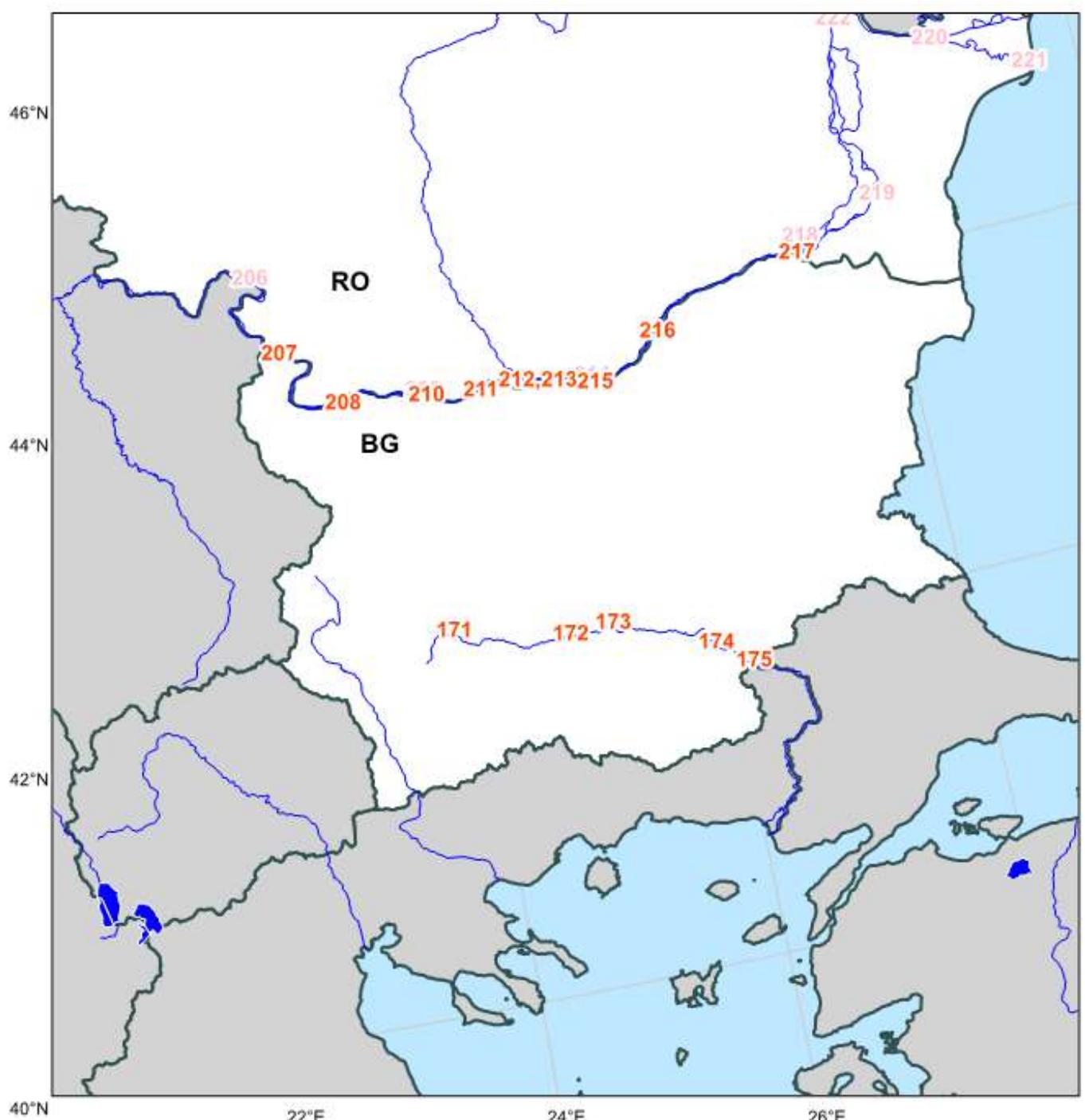


Fig. S4

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Bulgaria



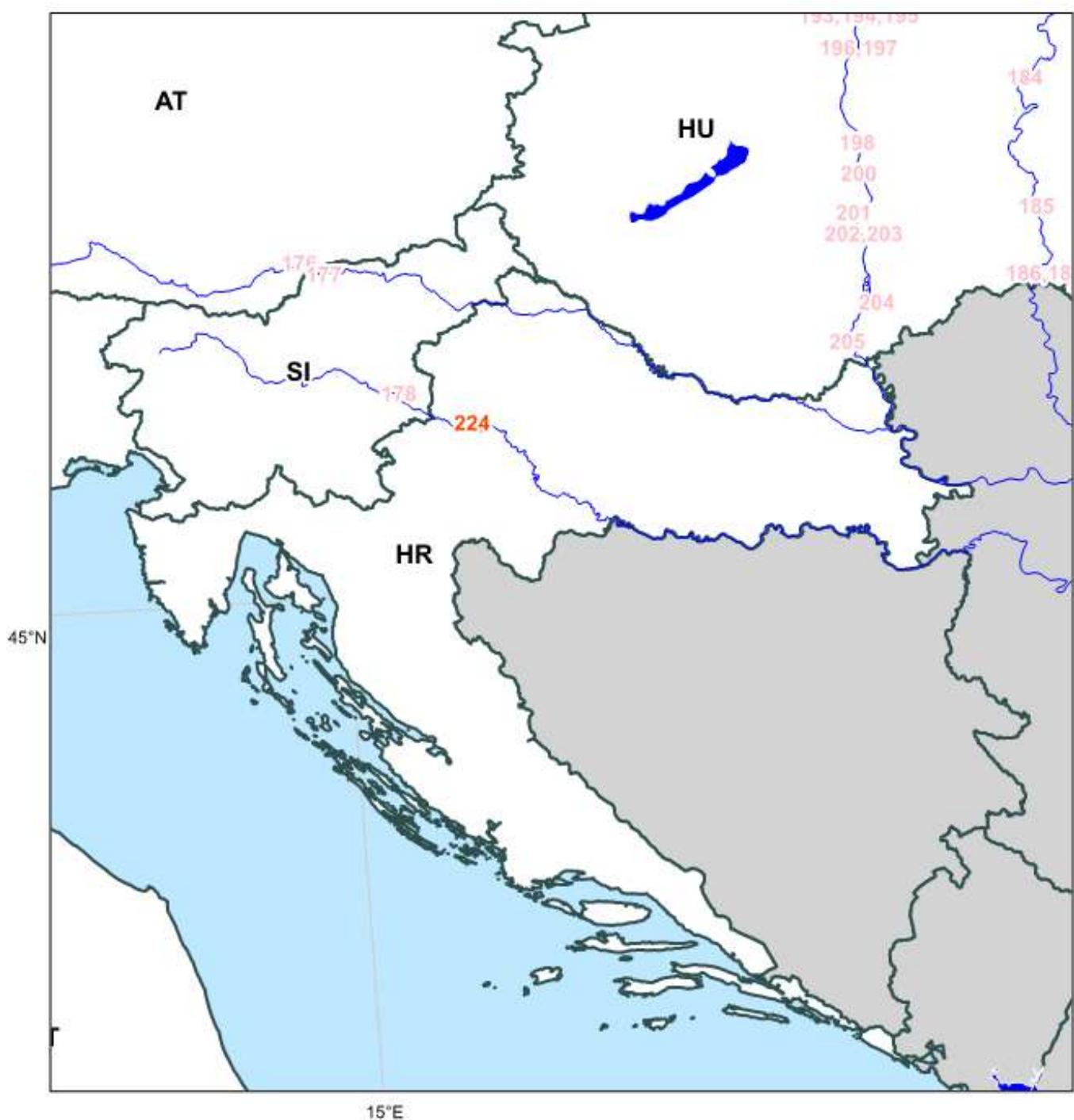
- | | |
|----------------|--------------|
| 171 Kostenec | 212 Nikopol |
| 172 Plovdiv | 213 Belene |
| 173 Mirovo | 215 Svishtov |
| 174 Harmanli | 216 Ruse |
| 175 Svilengrad | 217 Silistra |
| 207 Novo Selo | |
| 208 Ruse | |
| 210 Oriahovo | |
| 211 Baykal | |



Fig. S5

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Croatia

DENSE



224 Zagreb

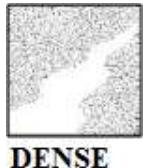
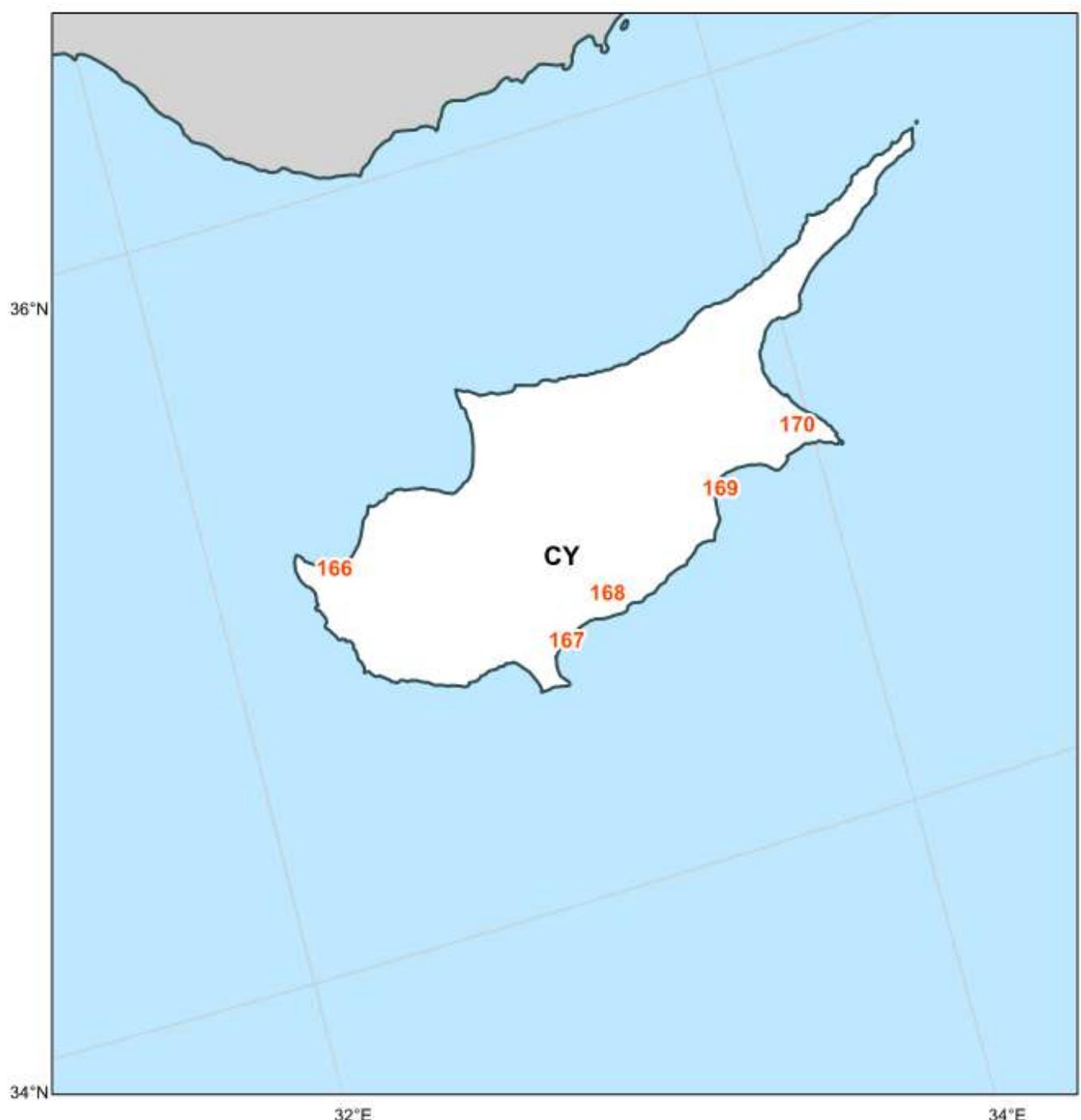


Fig. S6

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Cyprus



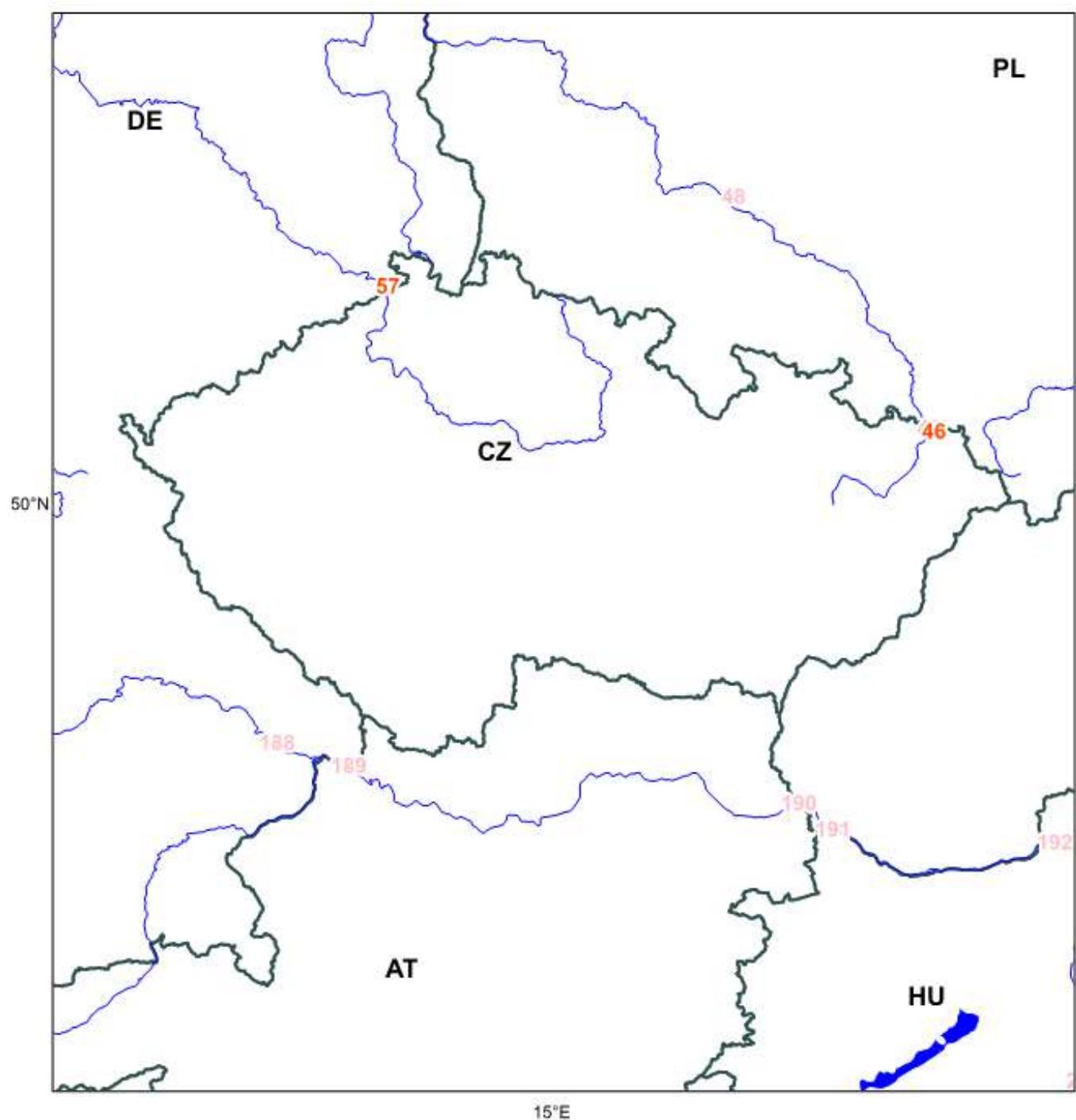
- 166 Polis
- 167 Limassol
- 168 Vasilikos
- 169 Larnaca
- 170 Paralimni



DENSE

Fig. S7

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Czech Republic



46 Bohumin

57 Hrensko

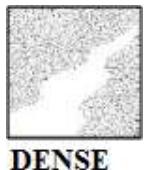
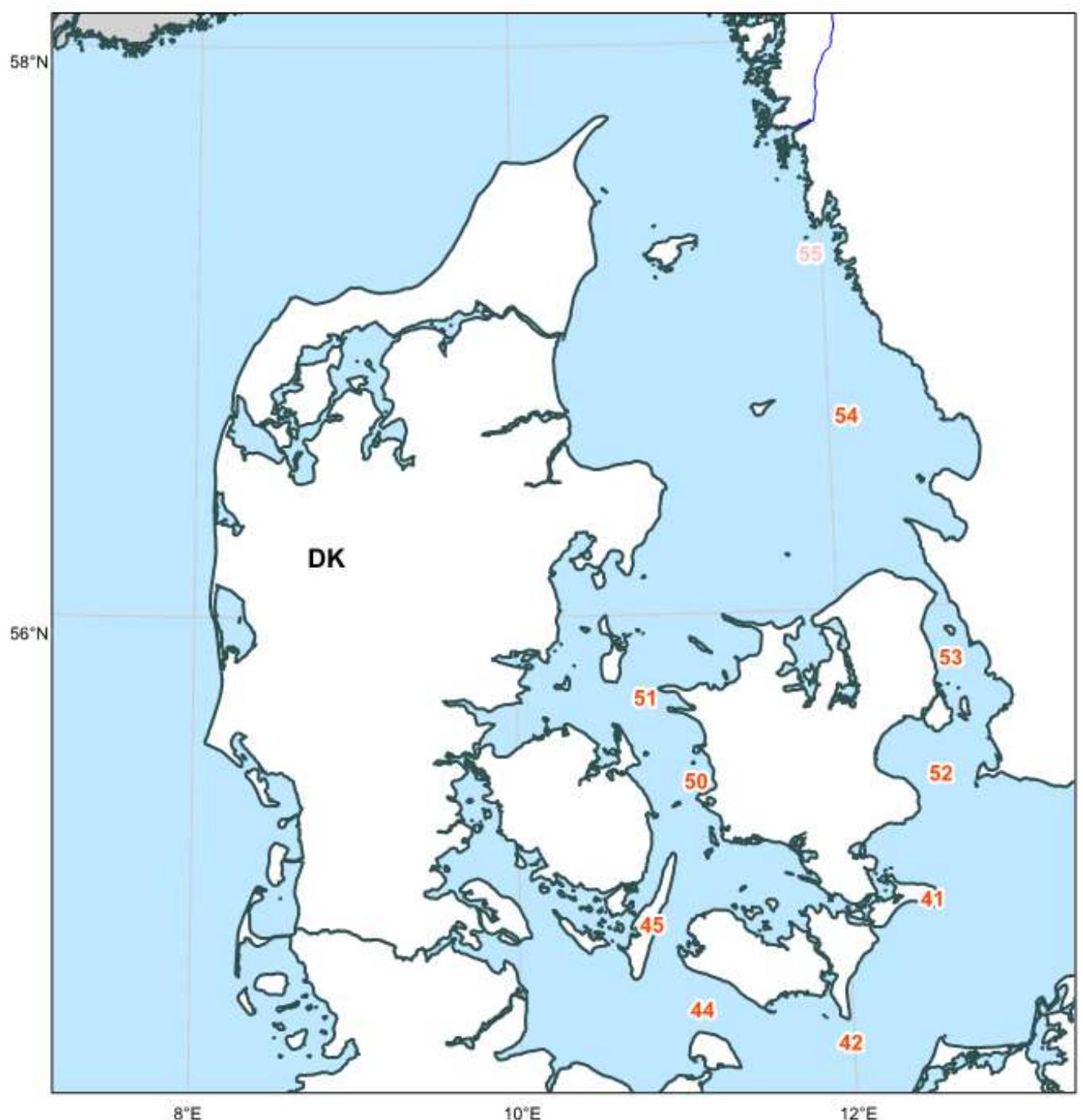


Fig. S8

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Denmark



40 Svenskehavn

41 Moen

42 Gedser Odde

44 Femern Baelt

45 Langeland Baelt

50 Halskov Rev

51 Asnaes Rev

52 The Sound S

53 The Sound N(A)

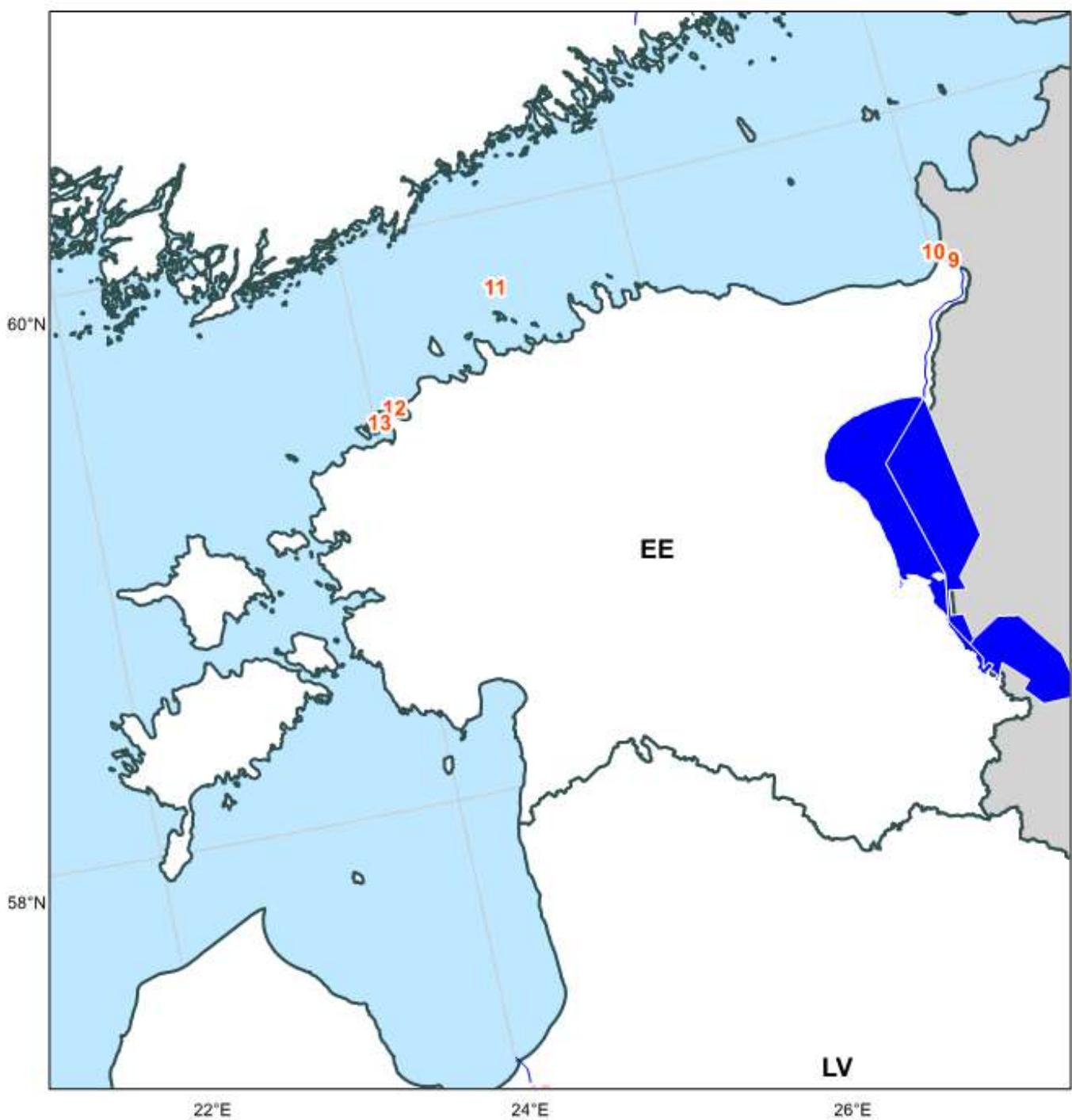
54 Kattegat-413



DENSE

Fig. S9

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Estonia



9 Narva

10 Gulf Of Finland, N8

11 Gulf Of Finland, EE17

12 Gulf Of Finland, PE

13 Gulf Of Finland, PW

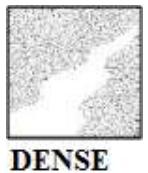
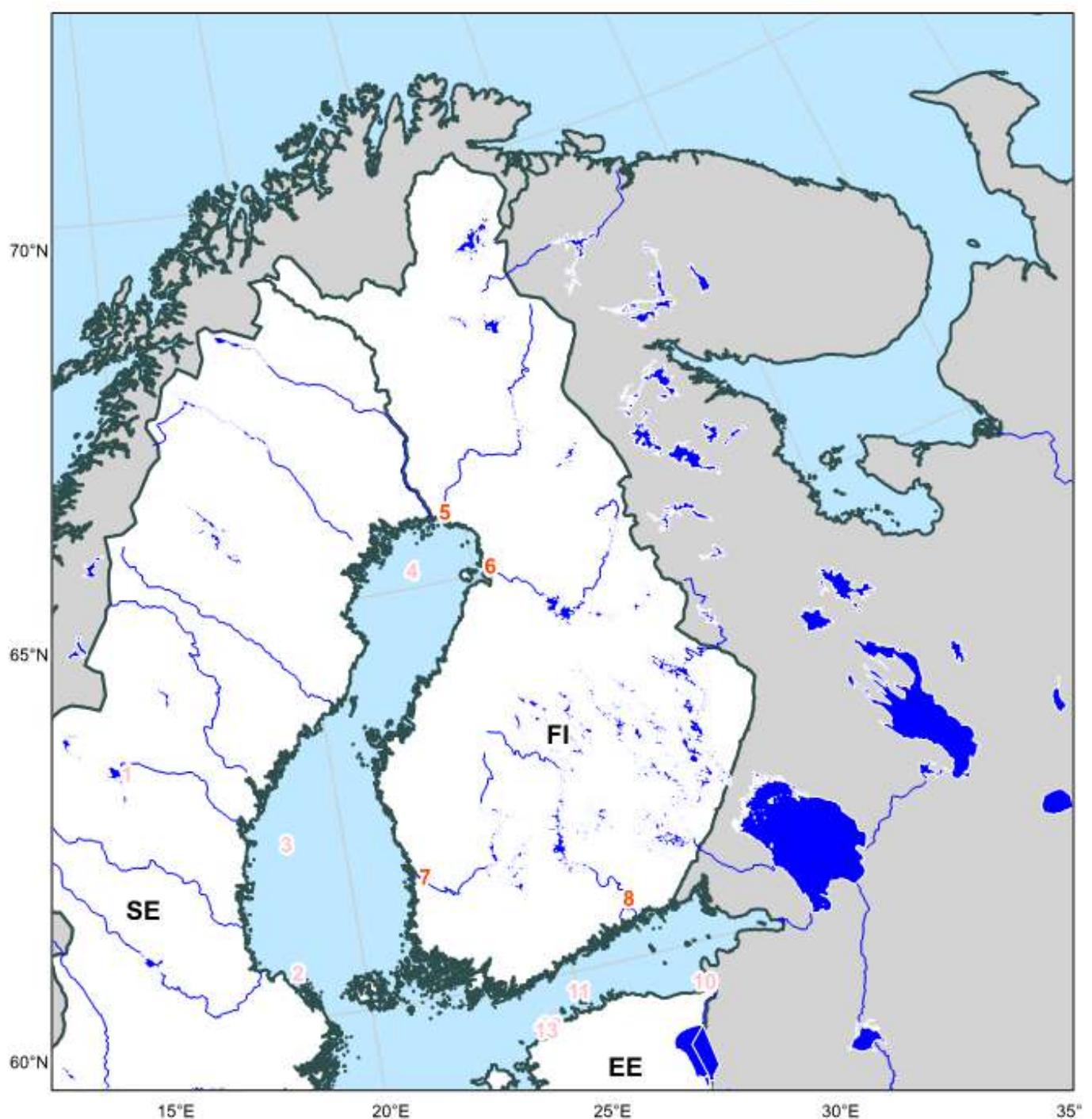


Fig. S10

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Finland



5 Kemi

6 Oulu

7 Pori

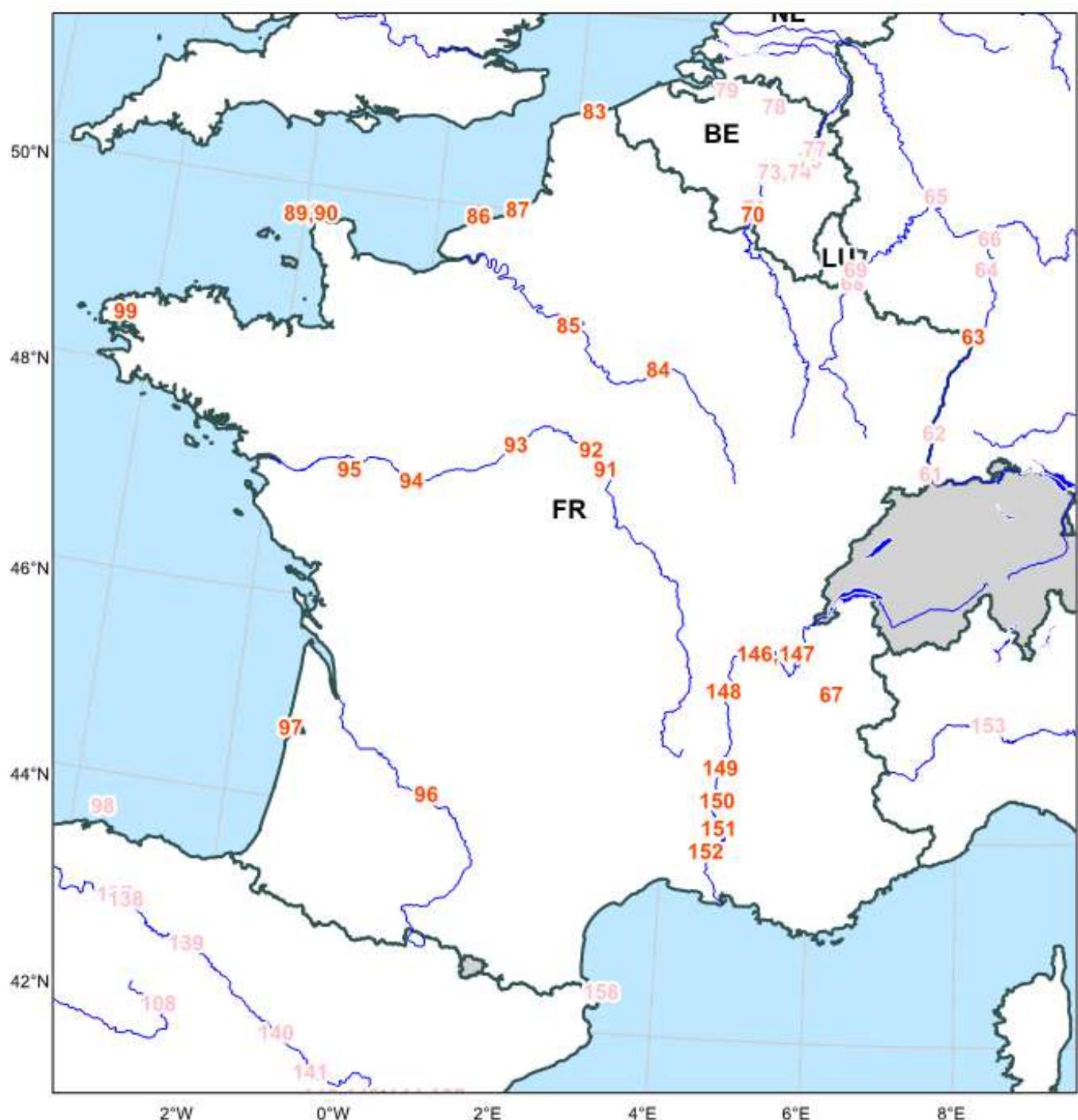
8 Kotka



DENSE

Fig. S11

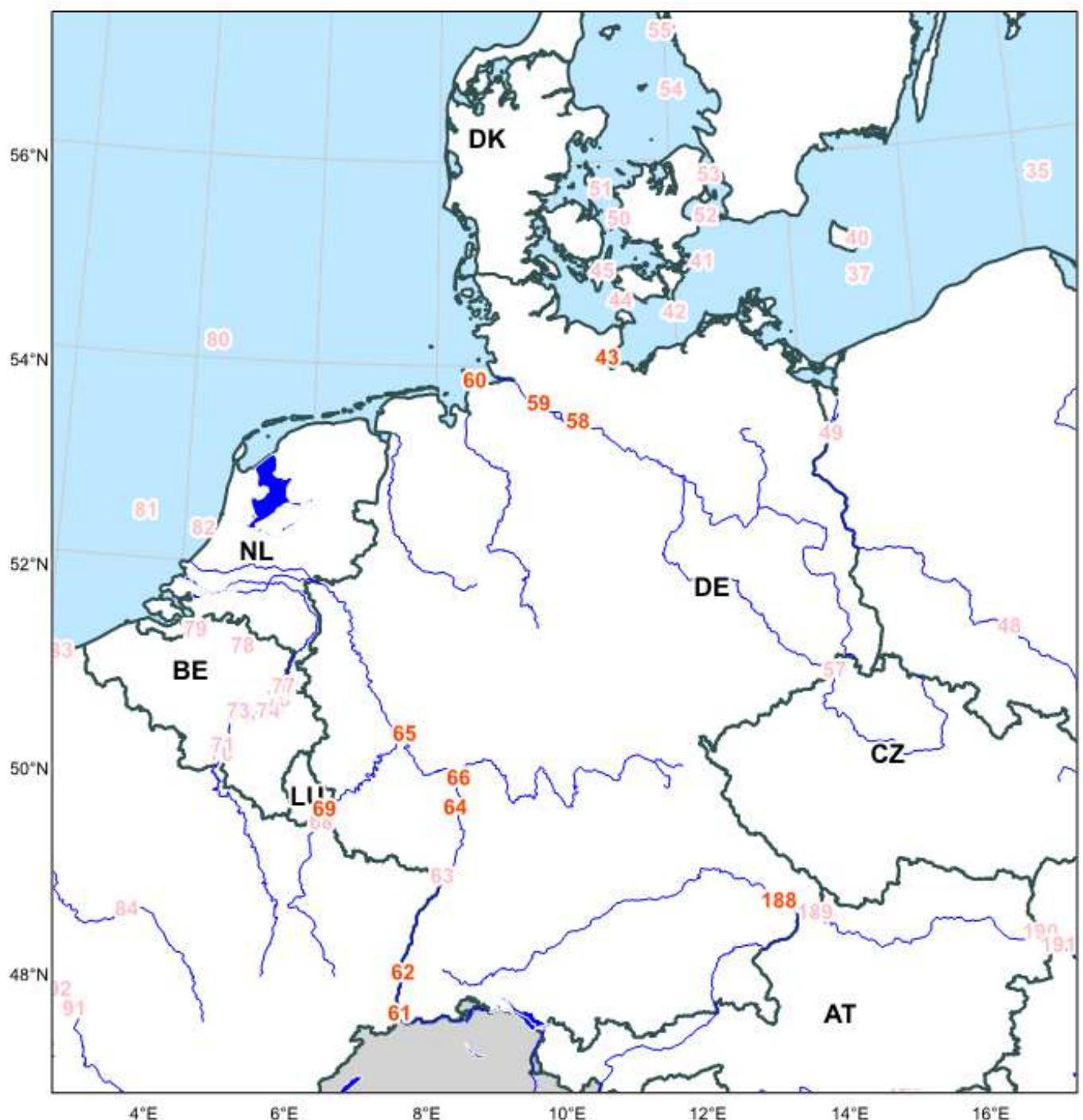
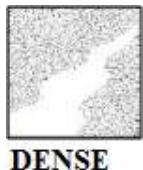
Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): France



63 Lauterbourg	89 La Hague-Jardeheu	99 Brest
67 Cattenom (Aval)	90 Flamanville	146 Creys-Malville (EDF)
70 Chooz (Givet)	91 Belleville sur Loire	147 Le Bugey (Loyettes)
83 Gravelines (EDF)	92 Dampierre en Burly	148 Saint Alban
84 Nogent sur Seine	93 Saint Laurent des Eaux	149 Cruas (Aval)
85 Le Vesinet	94 Chinon (Candes-Aval)	150 Tricastin
86 Paluel	95 Angers (EDF)	151 Roquemaure (Marcoule)
87 Penly	96 Golfech - St. Romain le Noble	152 Vallabregues
88 Jobourg	97 Arcachon	

Fig. S12

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Germany



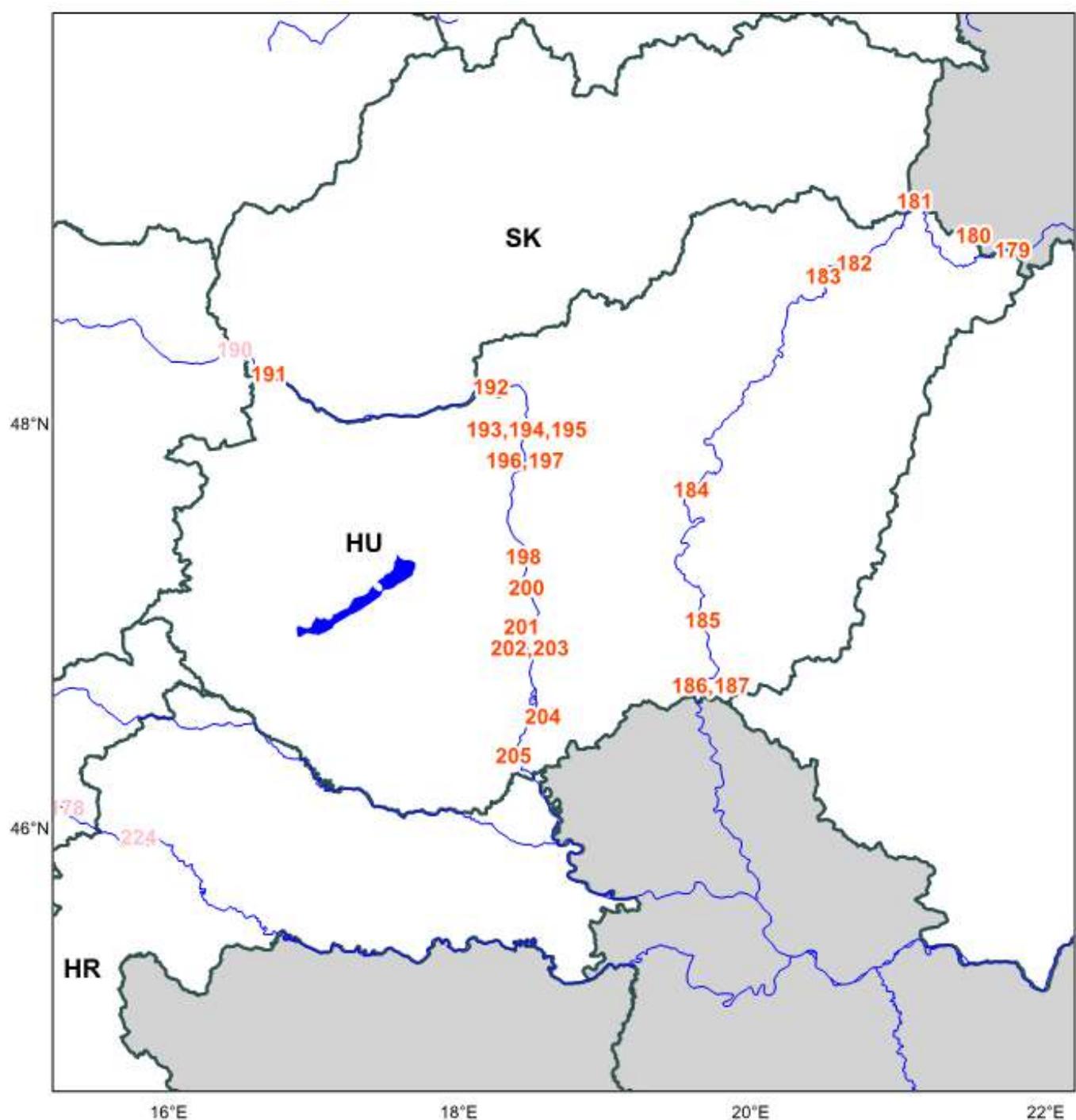
- | | | | |
|----|-------------------|-----|--------------|
| 43 | Luebeck Bay | 69 | Wincheringen |
| 58 | Geesthacht | 188 | Vilshofen |
| 59 | Wedel | | |
| 60 | Cuxhaven | | |
| 61 | Weil am Rhein | | |
| 62 | Breisach am Rhein | | |
| 64 | Worms | | |
| 65 | Koblenz | | |
| 66 | Trebur | | |



DENSE

Fig. S13

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Hungary

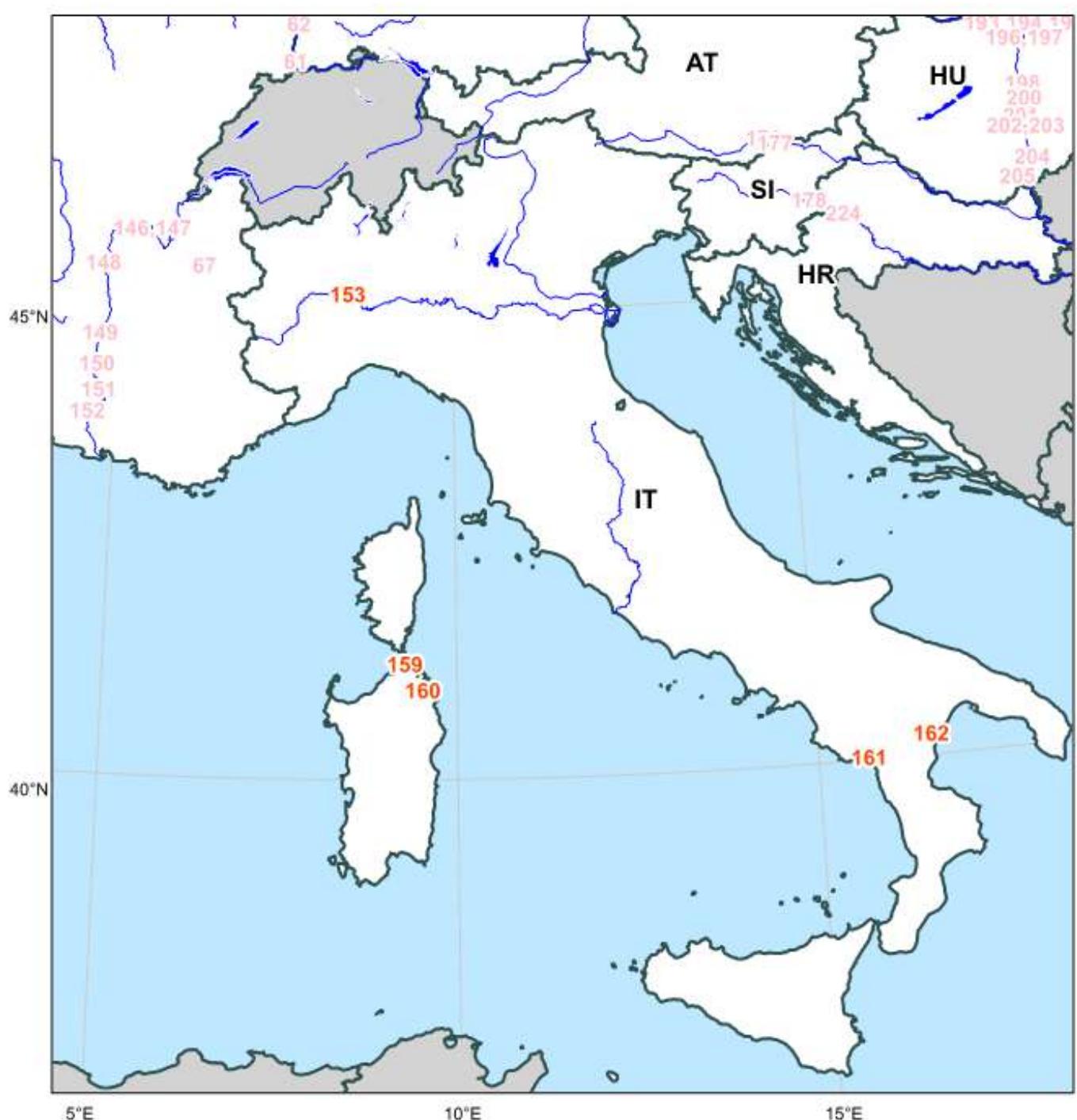


179	Tiszabecs	191	Rajka	200	Dunafoldvar I
180	Gergelyiugornya	192	Szob	201	Paks
181	Zahony	193	Budapest - North I	202	Kalocsa
182	Tiszabercel	194	Budapest - North II	203	Gerjen
183	Rakamaz	195	Budapest - Danube	204	Baja
184	Szolnok	196	Budapest - Budafok	205	Mohacs
185	Mindszent	197	Nagyteteny		
186	Tiszasziget I	198	Dunaujvaros		
187	Tiszasziget II	199	Dunafoldvar II		



Fig. S14

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Italy



153 Casale Monferrato

159 Santa Teresa Gallura

160 Olbia

161 Maratea

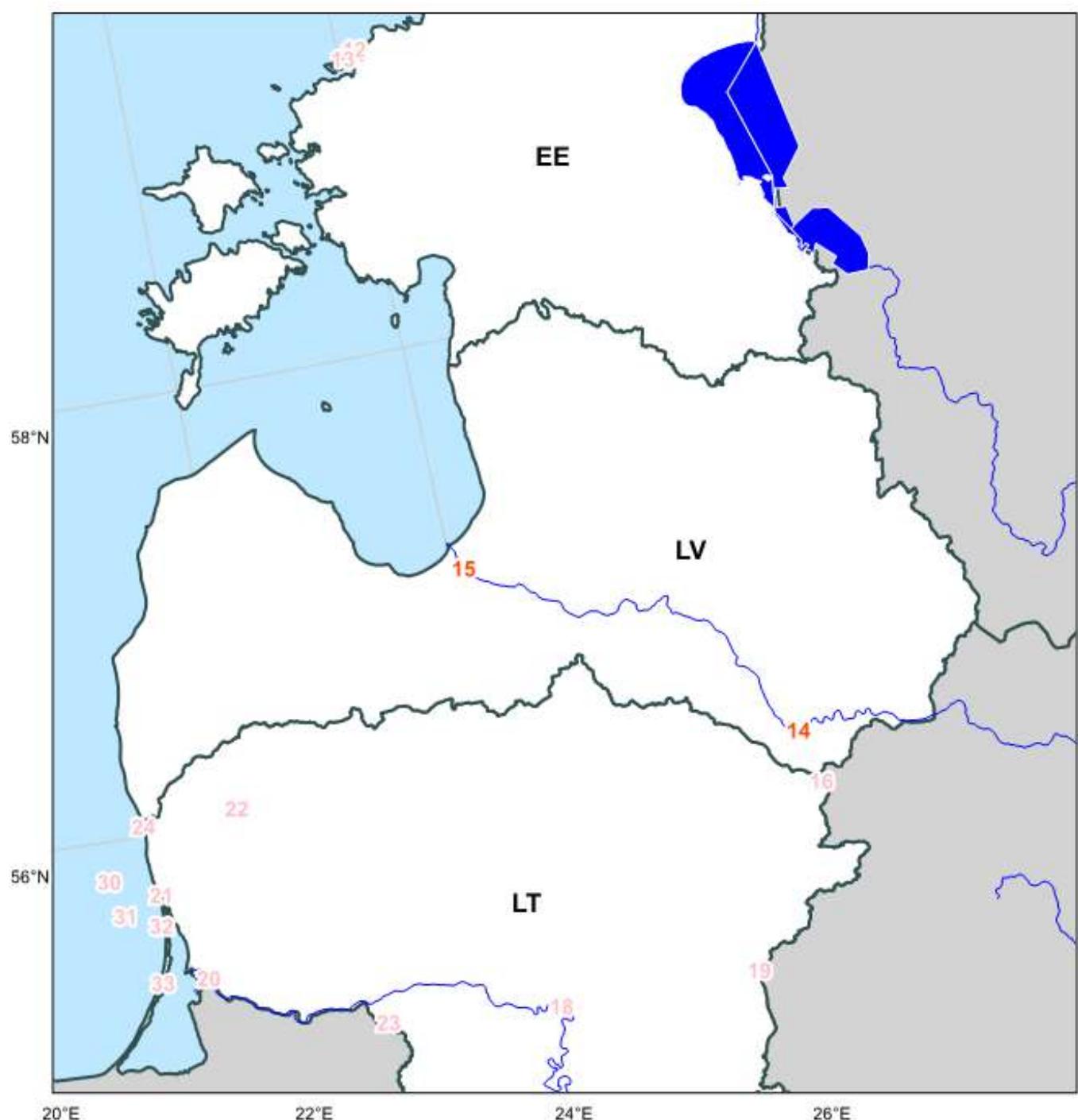
162 Rotondella



DENSE

Fig. S15

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Latvia



14 Daugavpils

15 Riga

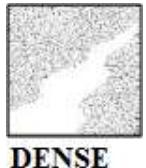
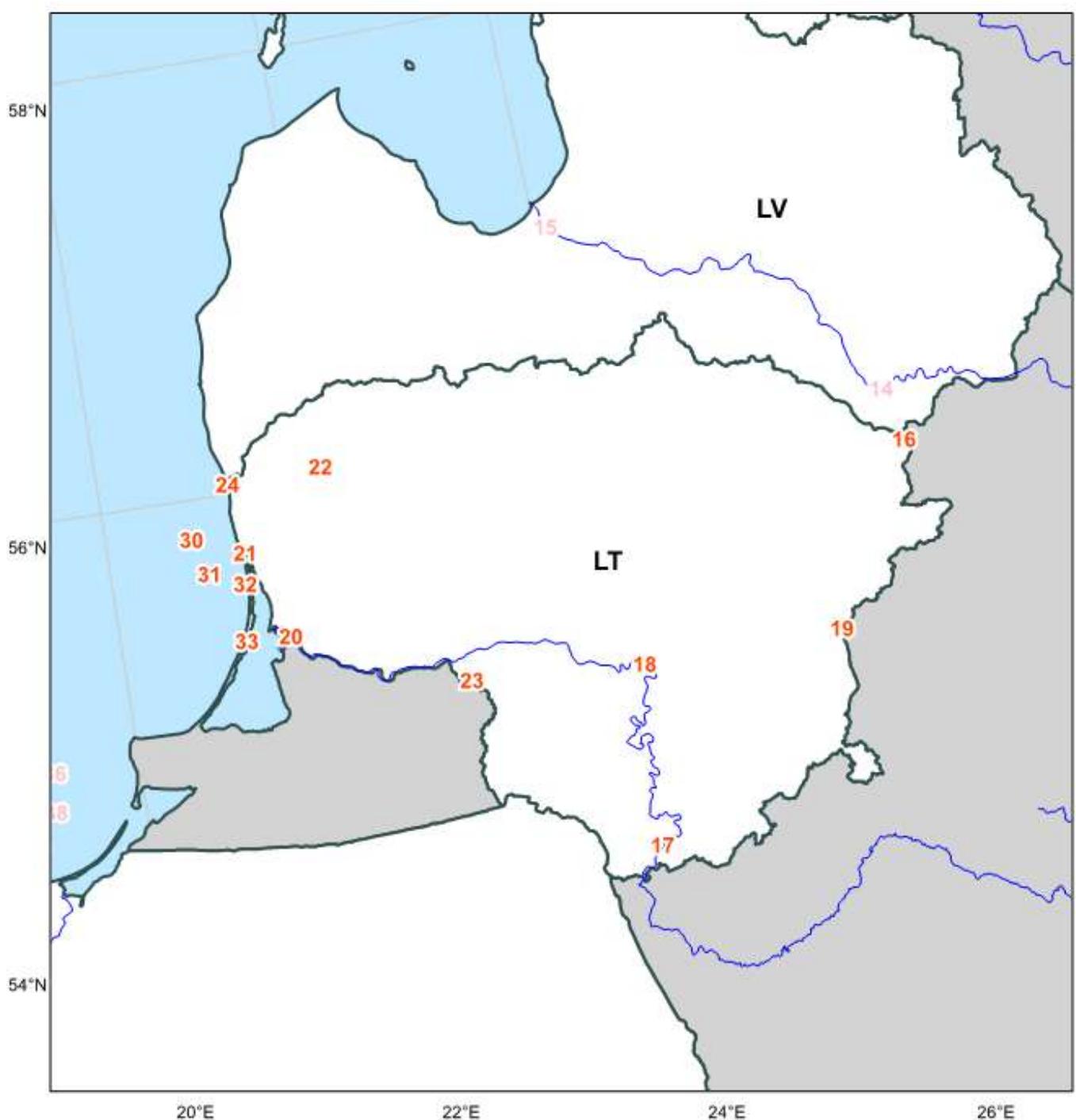


Fig. S16

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Lithuania



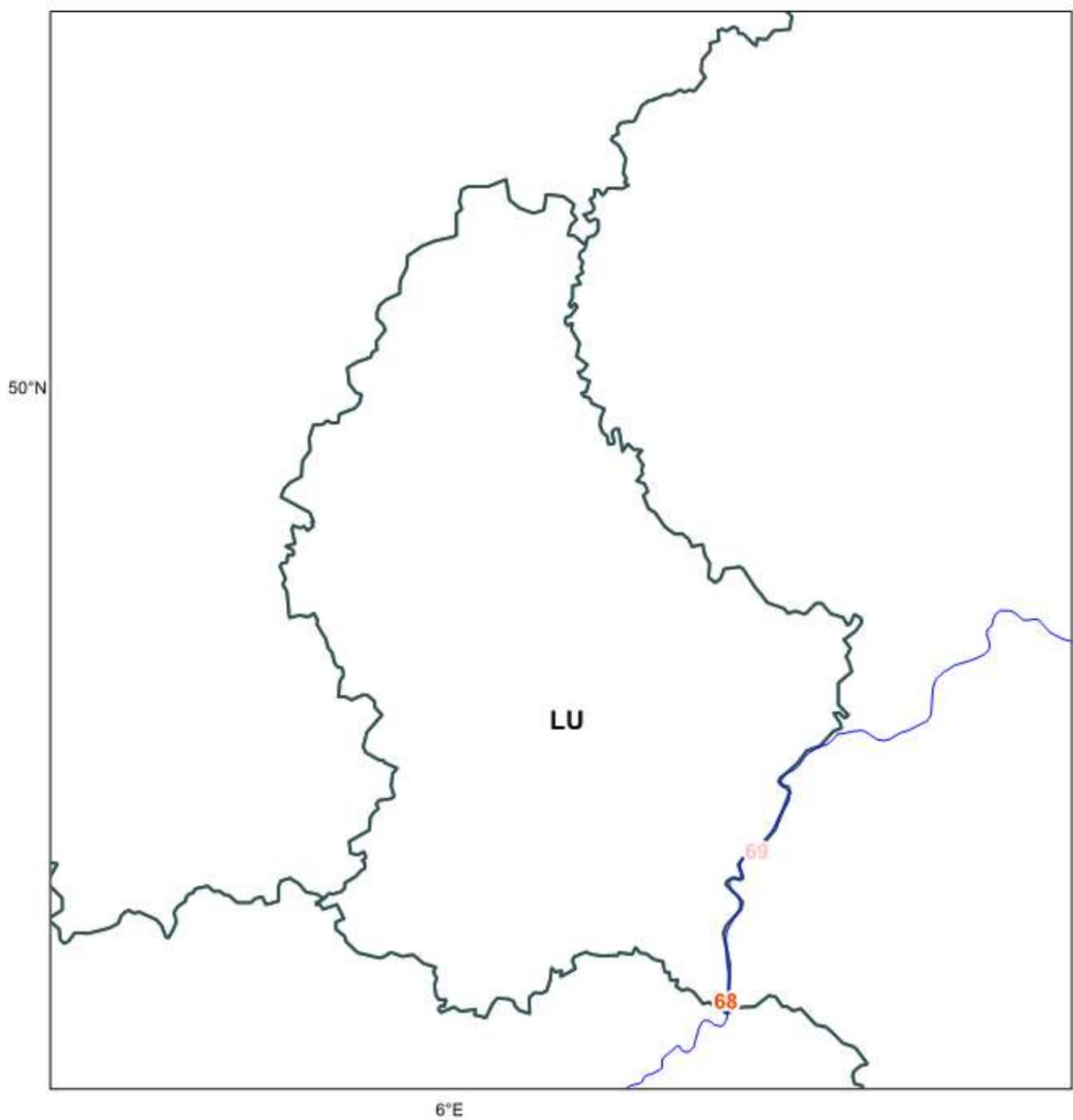
- | | |
|---------------------------------|-------------------------|
| 16 Drūkšiai Lake | 30 Baltic Sea LT64 |
| 17 Neman above Druskininkai | 31 Baltic Sea LT 20 |
| 18 Kauno Marios | 32 Baltic Sea LT6 |
| 19 Neris River Near Buivydžiai | 33 Curonian Lagoon LT10 |
| 20 Skirvytė River | |
| 21 Akmena-Danė River | |
| 22 Plateliai Lake | |
| 23 Šešupė River Transb (Russia) | |
| 24 Šventoji River Mouth | |



DENSE

Fig. S17

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Luxembourg



68 Schengen

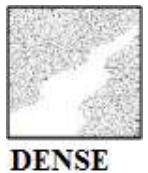
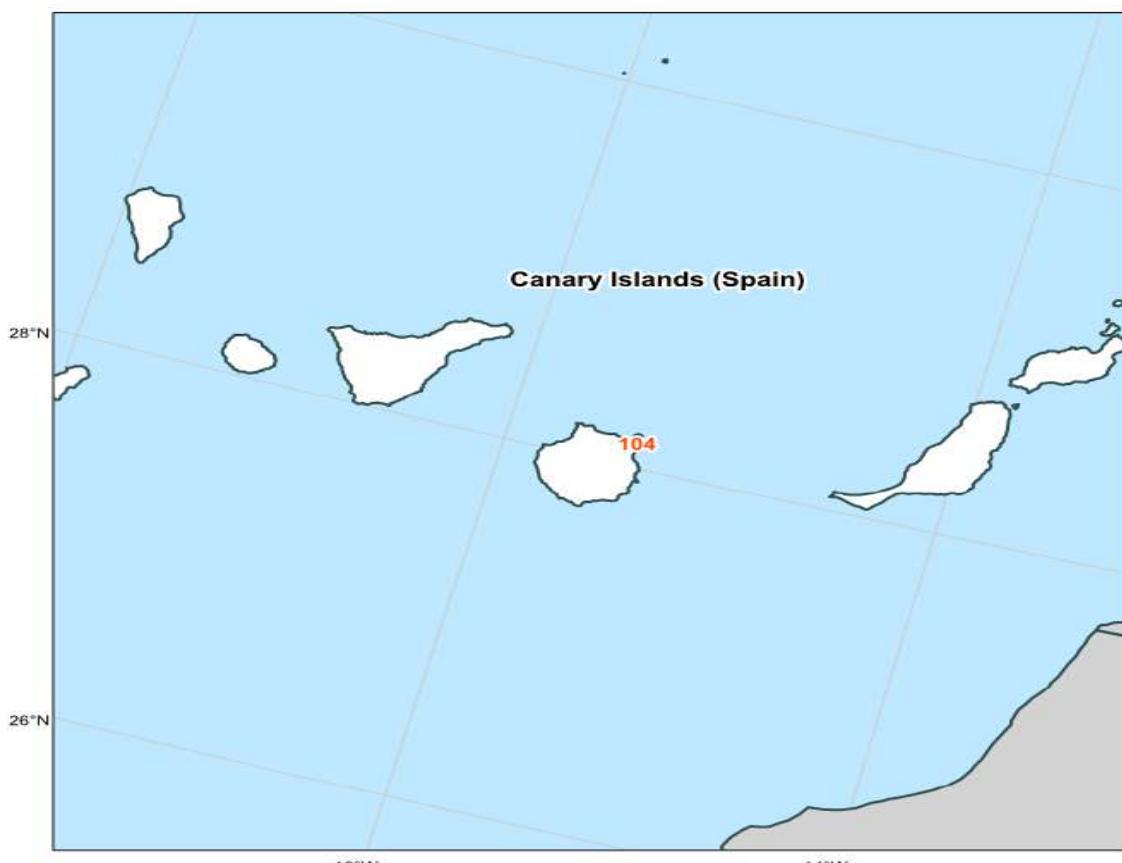


Fig. S18

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Malta, Canary Is.

DENSE



163: Xwejni

164: Lapsi

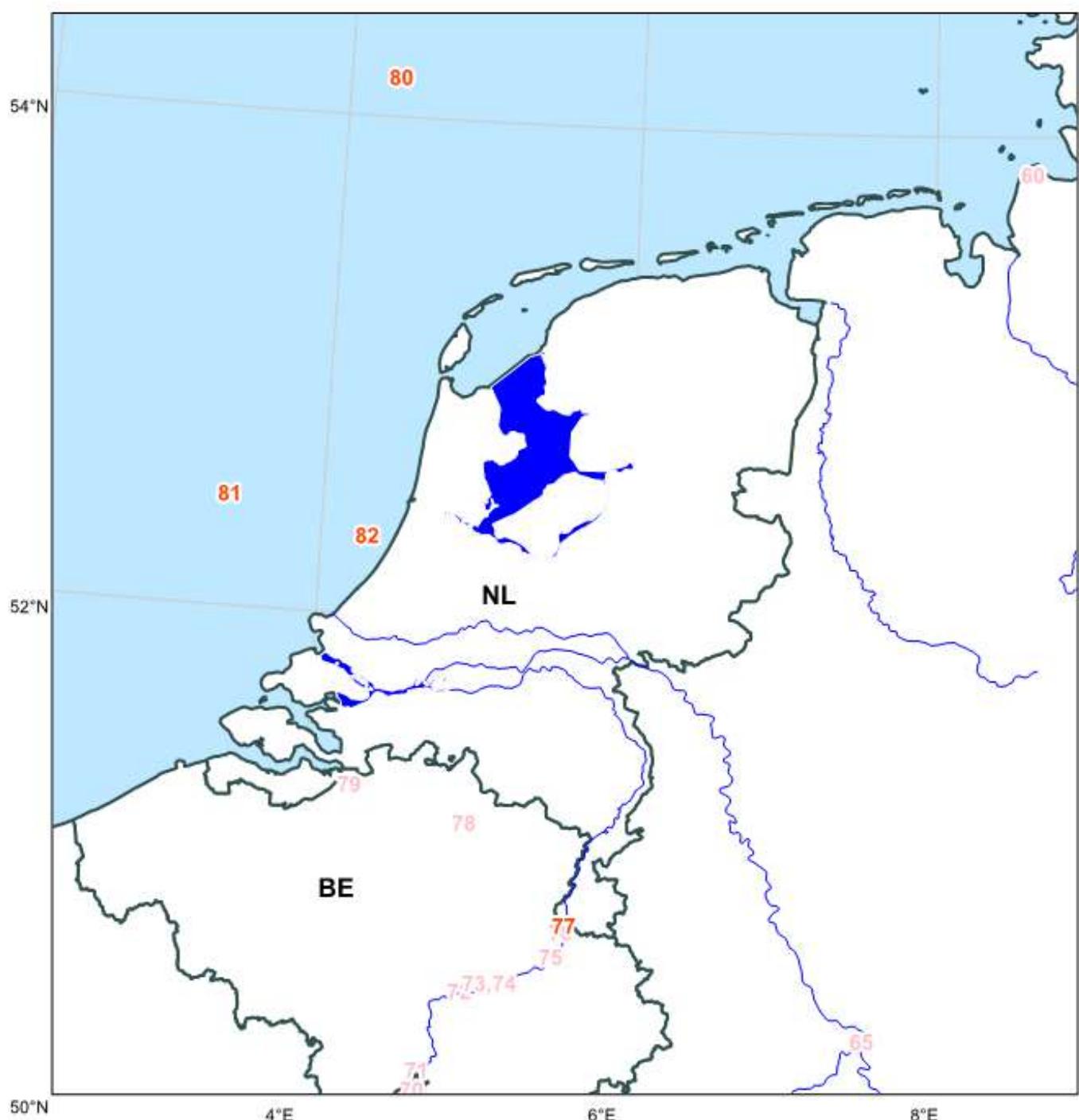
165: Wied Ghammieg



DENSE

Fig. S19

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): the Netherlands



- 77 Eijsden
- 80 Terschelling, 100 km from coast
- 81 Noordwijk, 70 km from coast
- 82 Noordwijk, 10 km from coast

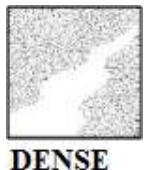
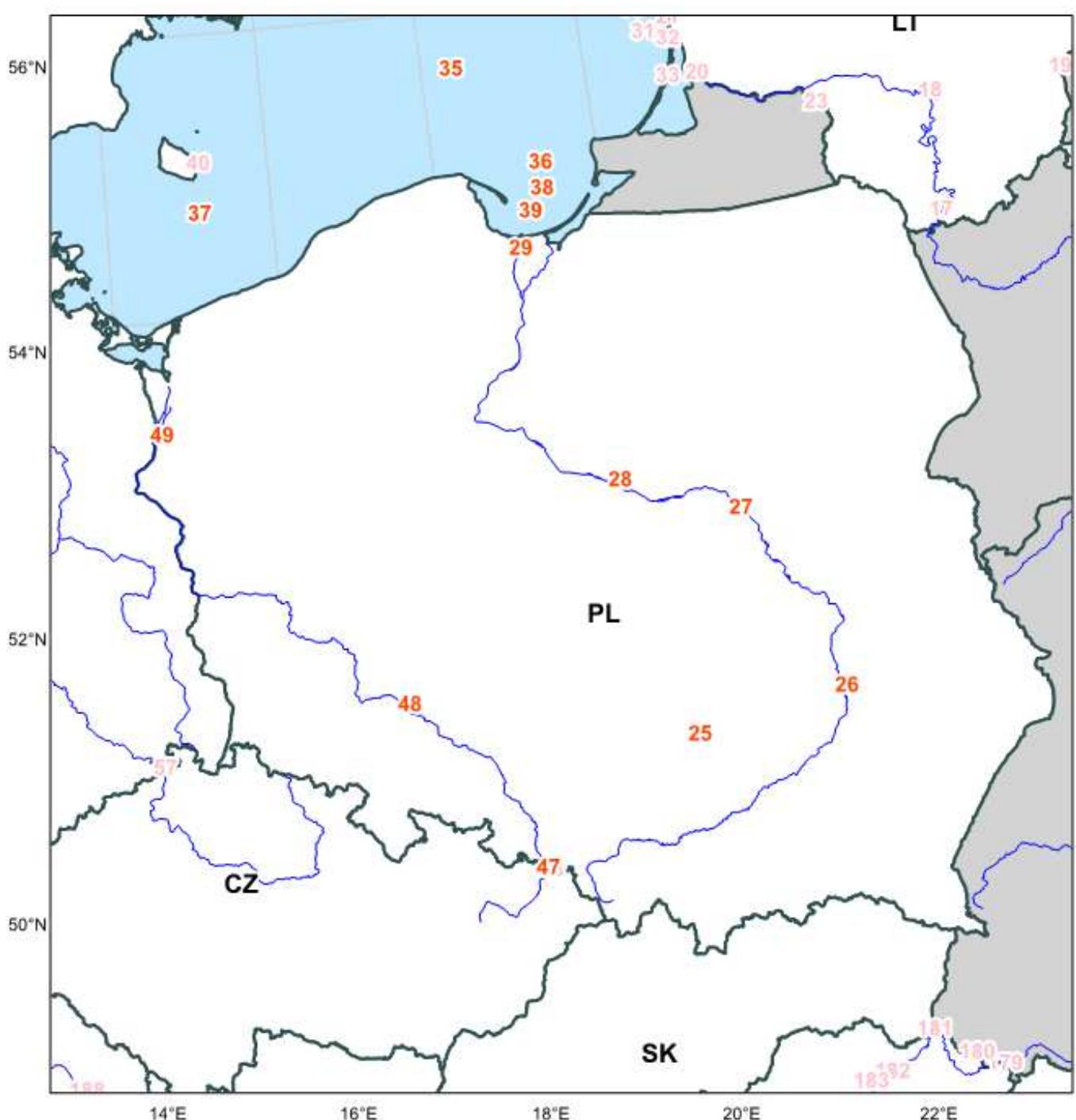


Fig. S20

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Poland

DENSE



- | | |
|---------------------|---------------------|
| 25 Krakow Tyniec | 39 Baltic Sea P-110 |
| 26 Annopol | 47 Chalupki |
| 27 Warsaw | 48 Wroclaw |
| 28 Plock | 49 Krajnik |
| 29 Kiezmark | |
| 35 Baltic Sea P-140 | |
| 36 Baltic Sea P-1 | |
| 37 Baltic Sea P-39 | |
| 38 Baltic Sea P-116 | |



DENSE

Fig. S21

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Portugal



121 Vila Velha de Rodao

122 Valada Do Ribatejo

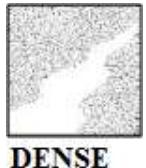
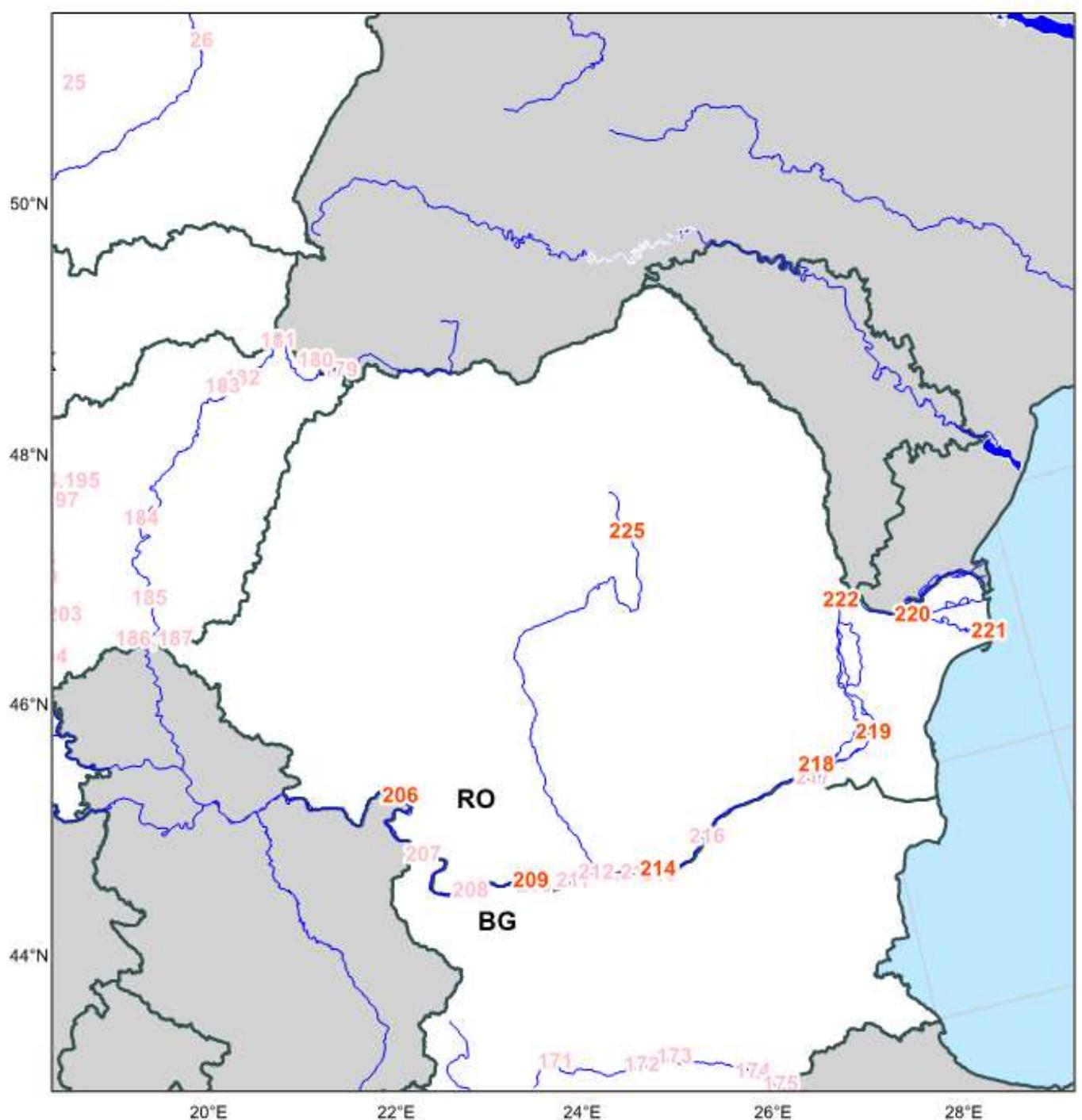


Fig. S22

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Romania



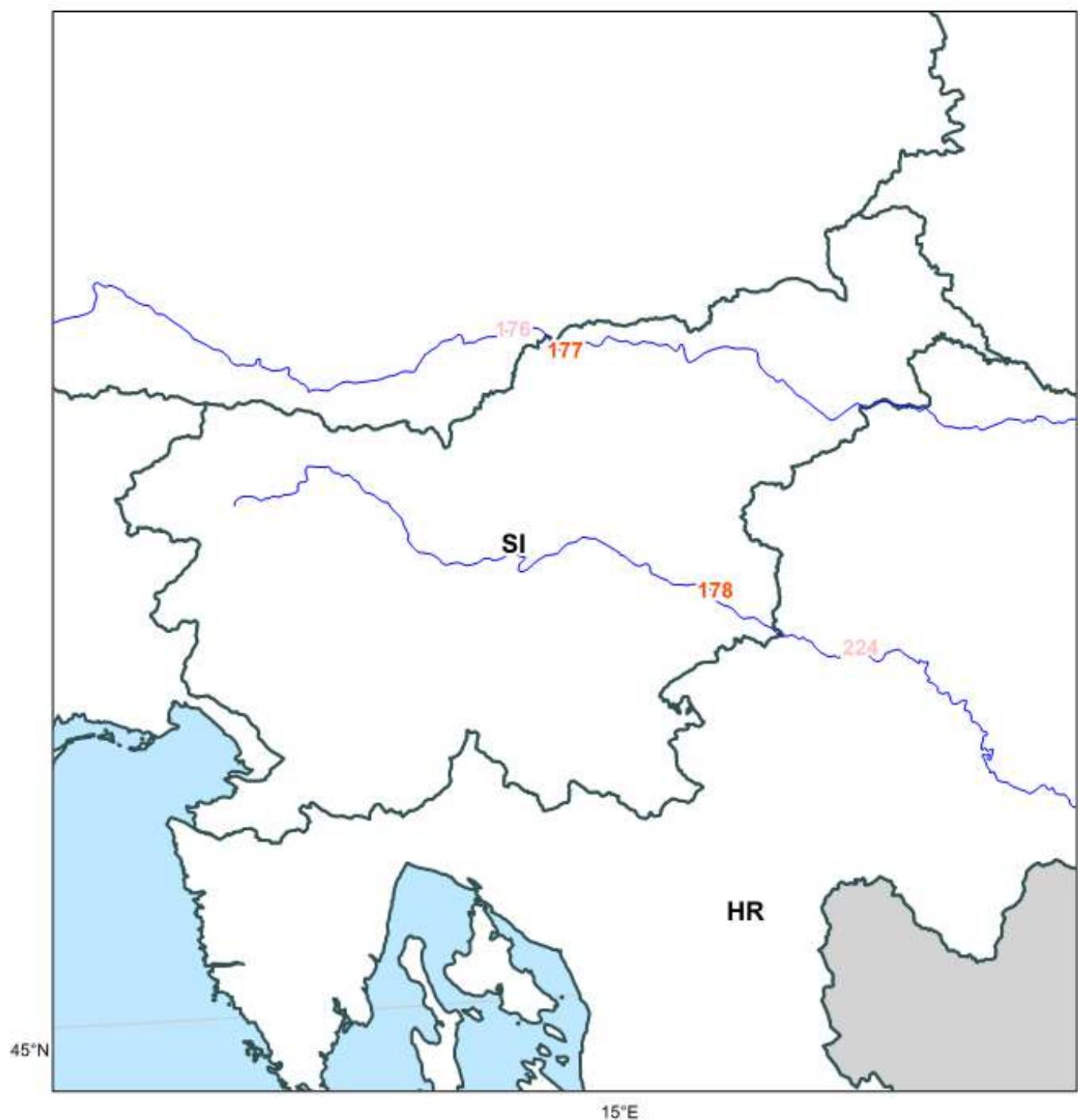
- 206 Drobeta Turnu Severin
 - 209 Bechet
 - 214 Zimnicea
 - 218 Calarasi
 - 219 Cernavoda
 - 220 Tulcea
 - 221 Sfantu Gheorghe Tulcea
 - 222 Galati
 - 225 Miercurea Ciuc



DENSE

Fig. S23

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Slovenia



177 Dravograd

178 Krsko

Fig. S24

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Spain

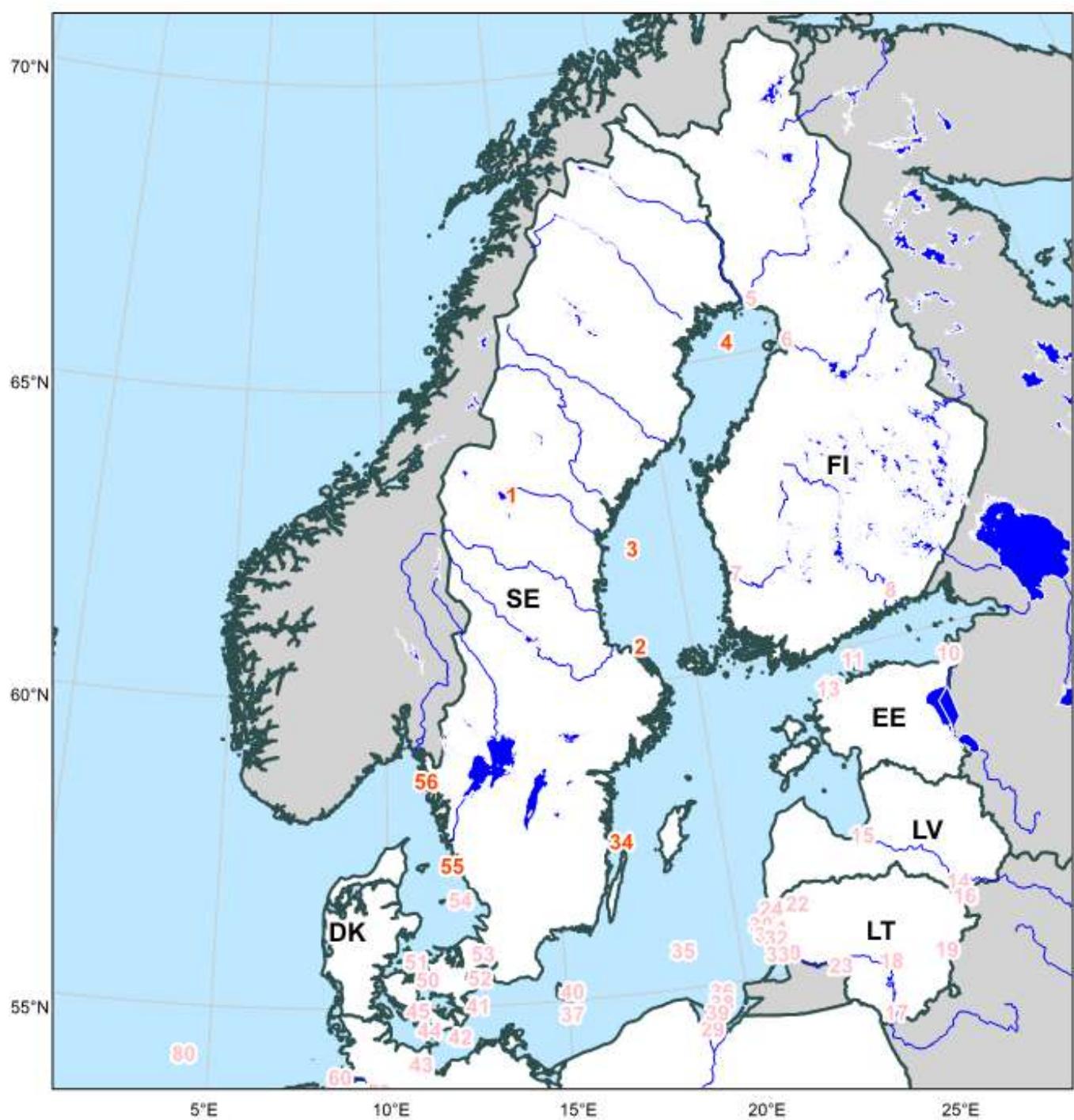

98	Cabo Ajo	113	Zorita Arriba	128	Andujar Arriba	141	Sastago
100	Cabo Silleiro	114	Zorita Abajo	129	Andujar Abajo	142	Ribarroja
101	Isla Cristina	115	Aranjuez	130	El Carpio	143	Asco Abajo
102	Puerto de Cadiz	116	Toledo	131	Posadas	144	Garcia
103	Estrecho de Gibraltar	117	Talavera	132	Sevilla Rio	145	Cherta
105	Lugo	118	Valdecanas	133	Venta De Juan Romero	154	Garrucha
106	Orense	119	Embalse de Torrejon	134	Embalse De Alarcon	155	Cabo de San Antonio
107	Caldelas De Tuy	120	Embalse de Alcantara	135	Alcala Del Jucar	156	Puerto de Palma
108	Garray	123	Balbuena	136	Cofrentes Abajo	157	Puerto de Tarragona
109	Quintanilla	124	Orellana	137	Garona Arriba	158	Cabo de Creus
110	Villalcampo	125	Puente Palmas	138	Garona Abajo		
111	Trillo Arriba	126	San Lucar	139	Mendavia		
112	Trillo Abajo	127	Mengibar	140	Zaragoza-Rio		



DENSE

Fig. S25

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): Sweden



- 1 Oestersund-Storsjoen
- 2 Forsmark (F135)
- 3 Bottenviken (A5)
- 4 Bottenhavet (C14)
- 34 Oskarshamn (S36)
- 55 Ringhals (35)
- 56 Fjaellbacka

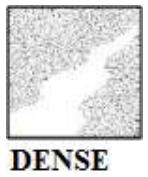


Fig. S26

Sampling locations for residual- β and ^{137}Cs in surface water (Tables S1 – S72): United Kingdom



223 Lough Neagh

**Table S1:** Time averages

DENSE

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE								
Gulf Of Bothnia	2 Forsmark (F135)	SE								
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE								
Kemijoki	5 Kemi	FI								
Oulujoki	6 Oulu	FI								
Kokemaenjoki	7 Pori	FI								
Kymijoki	8 Kotka	FI								
Narva	9 Narva	EE								
Gulf Of Finland	10 Gulf Of Finland, N8	EE								
	11 Gulf Of Finland, EE17	EE								
	12 Gulf Of Finland, PE	EE								
	13 Gulf Of Finland, PW	EE								
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT								
Neman	17 Neman above Druskininkai	LT								
	18 Kauno Marios	LT								
	19 Neris River Near Buvydyžiai	LT								
	20 Skirvytė River	LT								
	21 Akmena-Danė River	LT								
	22 Plateliai Lake	LT								
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT								
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT								
	32 Baltic Sea LT6	LT								
	33 Curonian Lagoon LT10	LT								
	34 Oskarshamn (S36)	SE								
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S2: Time averages

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK	4	< RL	3					
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ	4	< RL	3					
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE								
Skagerrak	56 Fjaellbacka	SE								
Elbe	57 Hrensko	CZ	4	< RL	2					
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU								
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE								
	72 Andenne	BE								
	73 Huy	BE								
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE								
	77 Eijsden	NL		13	< RL	3				
Molse Nete	78 Geel	BE								
Scheldt	79 Doel	BE	17	< RL	7.8E-01	2				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S3:** Time averages

DENSE

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80	Terschelling, 100 km from coast	NL	4	< RL	5				
	81	Noordwijk, 70 km from coast	NL							
	82	Noordwijk, 10 km from coast	NL							
	83	Gravelines (EDF)	FR							
Seine	84	Nogent sur Seine	FR							
	85	Le Vesinet	FR							
Channel	86	Paluel	FR							
	87	Penly	FR							
	88	Jobourg	FR							
	89	La Hague-Jardeheu	FR							
	90	Flamanville	FR							
Loire	91	Belleville sur Loire	FR							
	92	Dampierre en Burly	FR							
	93	Saint Laurent des Eaux	FR							
	94	Chinon (Candes-Aval)	FR							
	95	Angers (EDF)	FR							
Garonne	96	Golfech - St. Romain le Noble	FR							
Atlantic Ocean	97	Arcachon	FR						Δ	
	98	Cabo Ajo	ES							
	99	Brest	FR							
	100	Cabo Silleiro	ES							
	101	Isla Cristina	ES							
	102	Puerto de Cadiz	ES							
	103	Estrecho de Gibraltar	ES							
	104	Puerto De Las Palmas	ES							
Mino	105	Lugo	ES	4	< RL	1				
	106	Orense	ES	4	< RL	4				
	107	Caldelas De Tuy	ES	4	< RL	7				
Duero	108	Garray	ES	4	< RL	7				
	109	Quintanilla	ES	4	< RL	4				
	110	Villalcampo	ES	4	< RL	7				
Tagus	111	Trillo Arriba	ES	4	< RL	3				
	112	Trillo Abajo	ES	13	< RL	10				
	113	Zorita Arriba	ES	11	< RL	4				
	114	Zorita Abajo	ES	3		< RL	< RL	< RL	< RL	12
	115	Aranjuez	ES	4	< RL	3				
	116	Toledo	ES	4	< RL	6				
	117	Talavera	ES	4	< RL	9				

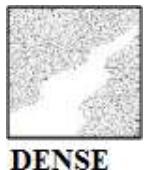
RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S4: Time averages


YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	10				
	119	Embalse de Torrejon	ES	16	< RL	9				
	120	Embalse de Alcantara	ES	12	< RL	9				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	4	< RL	9				
	124	Orellana	ES	4	< RL	6				
	125	Puente Palmas	ES	4	< RL	11				
	126	San Lucar	ES	4	< RL	9				
Guadalquivir	127	Mengibar	ES	4	< RL	10				
	128	Andujar Arriba	ES	4	< RL	7				
	129	Andujar Abajo	ES	12	< RL	11				
	130	El Carpio	ES	4	< RL	4				
	131	Posadas	ES	4	< RL	10				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	8				
	134	Embalse De Alarcon	ES	4	< RL	8				
	135	Alcala Del Jucar	ES	4	< RL	11				
	136	Cofrentes Abajo	ES	12	< RL	1				
Ebro	137	Garona Arriba	ES	12	< RL	2				
	138	Garona Abajo	ES	24	< RL	1				
	139	Mendavia	ES	4	< RL	10				
	140	Zaragoza-Rio	ES	4	< RL	7				
	141	Sastago	ES	4	< RL	7				
	142	Ribarroja	ES	12	< RL	12				
	143	Asco Abajo	ES	27	< RL	11				
	144	Garcia	ES							
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S5:** Time averages

DENSE

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154 Garrucha	ES						Δ		
	155 Cabo de San Antonio	ES						Δ		
	156 Puerto de Palma	ES						Δ		
	157 Puerto de Tarragona	ES						Δ		
	158 Cabo de Creus	ES						Δ		
	159 Santa Teresa Gallura	IT								
	160 Olbia	IT								
	161 Maratea	IT								
	162 Rotondella	IT								
	163 Xwejni	MT								
	164 Lapsi	MT								
	165 Wied Għammieq	MT								
	166 Polis	CY								
	167 Limassol	CY								
	168 Vasilikos	CY								
	169 Larnaca	CY								
	170 Paralimni	CY								
Maritsa	171 Kostenec	BG								
	172 Plovdiv	BG								
	173 Mirovo	BG								
	174 Harmanli	BG								
	175 Svilengrad	BG								
Drau	176 Schwabegg	AT	26	< RL	3					
	177 Dravograd	SI								
Sava	178 Krsko	SI								
Tisza	179 Tiszabecs	HU								
	180 Gergelyiugornya	HU								
	181 Zahony	HU								
	182 Tiszabercel	HU								
	183 Rakamaz	HU								
	184 Szolnok	HU								
	185 Mindszent	HU								
	186 Tiszasziget I	HU								
	187 Tiszasziget II	HU								

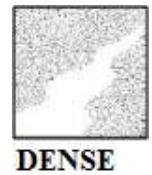
RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S6: Time averages

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	17	< RL	5				
	190	Wolfsthal	AT	12	< RL	8				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	360	< RL	2				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	360	< RL	11				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	359	< RL	11				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	360	< RL	1				
	219	Cernavoda*	RO	355	< RL	2				
	220	Tulcea	RO	360	< RL	1				
	221	Sfantu Gheorge Tulcea	RO	360	< RL	2				
	222	Galati	RO	360	< RL	1				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR							
Olt	225	Miercurea Ciuc	RO	351	< RL	10				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S7:** Time averages

DENSE

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

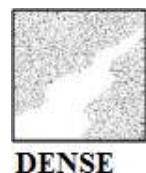
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE								
Gulf Of Bothnia	2 Forsmark (F135)	SE								
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE								
Kemijoki	5 Kemi	FI								
Oulujoki	6 Oulu	FI								
Kokemaenjoki	7 Pori	FI								
Kymijoki	8 Kotka	FI								
Narva	9 Narva	EE								
Gulf Of Finland	10 Gulf Of Finland, N8	EE								
	11 Gulf Of Finland, EE17	EE								
	12 Gulf Of Finland, PE	EE								
	13 Gulf Of Finland, PW	EE								
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT								
Neman	17 Neman above Druskininkai	LT								
	18 Kauno Marios	LT								
	19 Neris River Near Buvydyžiai	LT								
	20 Skirvytė River	LT								
	21 Akmena-Danė River	LT								
	22 Plateliai Lake	LT								
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT								
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT								
	32 Baltic Sea LT6	LT								
	33 Curonian Lagoon LT10	LT								
	34 Oskarshamn (S36)	SE								
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S8: Time averages

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK		< RL	10					
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ	4	< RL	10					
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE								
Skagerrak	56 Fjaellbacka	SE								
Elbe	57 Hrensko	CZ	4	< RL	< RL	< RL		< RL	< RL	4
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU								
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE								
	72 Andenne	BE								
	73 Huy	BE								
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE								
	77 Eijsden	NL		13	< RL	2				
Molse Nete	78 Geel	BE								
Scheldt	79 Doel	BE								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S9:** Time averages

DENSE

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

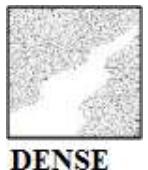
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80	Terschelling, 100 km from coast	NL	4	< RL	5				
	81	Noordwijk, 70 km from coast	NL							
	82	Noordwijk, 10 km from coast	NL							
	83	Gravelines (EDF)	FR							
Seine	84	Nogent sur Seine	FR							
	85	Le Vesinet	FR							
Channel	86	Paluel	FR							
	87	Penly	FR							
	88	Jobourg	FR							
	89	La Hague-Jardeheu	FR							
	90	Flamanville	FR							
Loire	91	Belleville sur Loire	FR							
	92	Dampierre en Burly	FR							
	93	Saint Laurent des Eaux	FR							
	94	Chinon (Candes-Aval)	FR							
	95	Angers (EDF)	FR							
Garonne	96	Golfech - St. Romain le Noble	FR							
Atlantic Ocean	97	Arcachon	FR						Δ	
	98	Cabo Ajo	ES							
	99	Brest	FR							
	100	Cabo Silleiro	ES							
	101	Isla Cristina	ES							
	102	Puerto de Cadiz	ES							
	103	Estrecho de Gibraltar	ES							
	104	Puerto De Las Palmas	ES							
Mino	105	Lugo	ES	4	< RL	4				
	106	Orense	ES	4	< RL	5				
	107	Caldelas De Tuy	ES	4	< RL	7				
Duero	108	Garray	ES	4	< RL	2				
	109	Quintanilla	ES	4	< RL	10				
	110	Villalcampo	ES	4	< RL	2				
Tagus	111	Trillo Arriba	ES	4	< RL	12				
	112	Trillo Abajo	ES	13	< RL	8				
	113	Zorita Arriba	ES	12	< RL	6				
	114	Zorita Abajo	ES	3	< RL	9				
	115	Aranjuez	ES	4	< RL	3				
	116	Toledo	ES	4	< RL	12				
	117	Talavera	ES	4	< RL	6				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B) Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S10: Time averages


YEAR : **2016**
SAMPLE TYPE : **surface water (Bq l^{-1})**
NUCLIDE CATEGORY : **residual- β**

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	1				
	119	Embalse de Torrejon	ES	16	< RL	8				
	120	Embalse de Alcantara	ES	12	< RL	2				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	3	< RL	9				
	124	Orellana	ES	4	< RL	3				
	125	Puente Palmas	ES	4	< RL	12				
	126	San Lucar	ES	4	< RL	3				
Guadalquivir	127	Mengibar	ES	4	< RL	4				
	128	Andujar Arriba	ES	4	< RL	7				
	129	Andujar Abajo	ES	12	< RL	10				
	130	El Carpio	ES	4	< RL	7				
	131	Posadas	ES	4	< RL	1				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	11				
	134	Embalse De Alarcon	ES	4	< RL	8				
	135	Alcala Del Jucar	ES	4	< RL	8				
	136	Cofrentes Abajo	ES	12	< RL	7				
Ebro	137	Garona Arriba	ES	14	< RL	5				
	138	Garona Abajo	ES	27	< RL	12				
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES	4	< RL	1				
	141	Sastago	ES	4	< RL	1				
	142	Ribarroja	ES	12	< RL	12				
	143	Asco Abajo	ES	27	< RL	11				
	144	Garcia	ES							
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S11:** Time averages

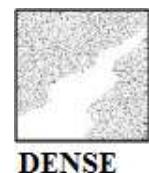
DENSE

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M					
Mediterranean Sea	154	Garrucha	ES	1	8.5E-01			8.5E-01	8.5E-01	5					
	155	Cabo de San Antonio	ES												
	156	Puerto de Palma	ES												
	157	Puerto de Tarragona	ES												
	158	Cabo de Creus	ES		1.0E+00										
	159	Santa Teresa Gallura	IT												
	160	Olbia	IT												
	161	Maratea	IT												
	162	Rotondella	IT												
	163	Xwejni	MT												
	164	Lapsi	MT												
	165	Wied Għammieq	MT												
	166	Polis	CY												
	167	Limassol	CY												
	168	Vasilikos	CY												
	169	Larnaca	CY												
	170	Paralimni	CY												
Maritsa	171	Kostenec	BG												
	172	Plovdiv	BG												
	173	Mirovo	BG												
	174	Harmanli	BG												
	175	Svilengrad	BG												
Drau	176	Schwabegg	AT	16	< RL	2									
	177	Dravograd	SI												
Sava	178	Krsko	SI												
Tisza	179	Tiszabecs	HU												
	180	Gergelyiugornya	HU												
	181	Zahony	HU												
	182	Tiszabercel	HU												
	183	Rakamaz	HU												
	184	Szolnok	HU												
	185	Mindszent	HU												
	186	Tiszasziget I	HU												
	187	Tiszasziget II	HU												

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)
 Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.
 M: Month during which the maximum occurred.

Table S12: Time averages


YEAR : **2016**
SAMPLE TYPE : **surface water (Bq l^{-1})**
NUCLIDE CATEGORY : **residual- β**

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	17	< RL	3				
	190	Wolfsthal	AT	12	< RL	2				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	370	< RL	1				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	370	< RL	3				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	371	< RL	1				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	371	< RL	7				
	219	Cernavoda*	RO	370	< RL	11				
	220	Tulcea	RO	371	< RL	11				
	221	Sfantu Gheorge Tulcea	RO	371	< RL	7				
	222	Galati	RO	371	< RL	11				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR							
Olt	225	Miercurea Ciuc	RO	371	< RL	12				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S13:** Time averages

DENSE

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

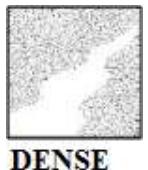
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE								
Gulf Of Bothnia	2 Forsmark (F135)	SE								
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE								
Kemijoki	5 Kemi	FI								
Oulujoki	6 Oulu	FI								
Kokemaenjoki	7 Pori	FI								
Kymijoki	8 Kotka	FI								
Narva	9 Narva	EE								
Gulf Of Finland	10 Gulf Of Finland, N8	EE								
	11 Gulf Of Finland, EE17	EE								
	12 Gulf Of Finland, PE	EE								
	13 Gulf Of Finland, PW	EE								
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT								
Neman	17 Neman above Druskininkai	LT								
	18 Kauno Marios	LT								
	19 Neris River Near Buvydyžiai	LT								
	20 Skirvytė River	LT								
	21 Akmena-Danė River	LT								
	22 Plateliai Lake	LT								
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT								
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT								
	32 Baltic Sea LT6	LT								
	33 Curonian Lagoon LT10	LT								
	34 Oskarshamn (S36)	SE								
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S14: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK		< RL	2					
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ	4	< RL	2					
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE								
Skagerrak	56 Fjaellbacka	SE								
Elbe	57 Hrensko	CZ	4	< RL	10					
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU								
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE								
	72 Andenne	BE								
	73 Huy	BE								
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE								
	77 Eijsden	NL		< RL	12					
Molse Nete	78 Geel	BE								
Scheldt	79 Doel	BE								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S15:** Time averages

DENSE

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

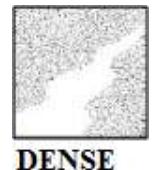
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M			
North Sea	80	Terschelling, 100 km from coast	NL	4	< RL	8							
	81	Noordwijk, 70 km from coast	NL										
	82	Noordwijk, 10 km from coast	NL										
	83	Gravelines (EDF)	FR										
Seine	84	Nogent sur Seine	FR										
	85	Le Vesinet	FR										
Channel	86	Paluel	FR										
	87	Penly	FR										
	88	Jobourg	FR										
	89	La Hague-Jardeheu	FR										
	90	Flamanville	FR										
Loire	91	Belleville sur Loire	FR										
	92	Dampierre en Burly	FR										
	93	Saint Laurent des Eaux	FR										
	94	Chinon (Candes-Aval)	FR										
	95	Angers (EDF)	FR										
Garonne	96	Golfech - St. Romain le Noble	FR										
Atlantic Ocean	97	Arcachon	FR					9.2E-01	9.2E-01	9.2E-01			
	98	Cabo Ajo	ES										
	99	Brest	FR										
	100	Cabo Silleiro	ES										
	101	Isla Cristina	ES										
	102	Puerto de Cadiz	ES	1									
	103	Estrecho de Gibraltar	ES										
	104	Puerto De Las Palmas	ES										
Mino	105	Lugo	ES	4	< RL	10							
	106	Orense	ES	4	< RL	5							
	107	Caldelas De Tuy	ES	4	< RL	4							
Duero	108	Garray	ES	4	< RL	7							
	109	Quintanilla	ES	4	< RL	10							
	110	Villalcampo	ES	4	< RL	2							
Tagus	111	Trillo Arriba	ES	4	< RL	9							
	112	Trillo Abajo	ES	13	< RL	2							
	113	Zorita Arriba	ES	12	< RL	1							
	114	Zorita Abajo	ES	4	< RL	12							
	115	Aranjuez	ES	4	< RL	6							
	116	Toledo	ES	4	< RL	9							
	117	Talavera	ES	4	< RL	9							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B) Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S16: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	10				
	119	Embalse de Torrejon	ES	16	< RL	6				
	120	Embalse de Alcantara	ES	12	< RL	12				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	3	< RL		< RL	< RL	< RL	3
	124	Orellana	ES	4	< RL	12				
	125	Puente Palmas	ES	4	< RL	6				
	126	San Lucar	ES	4	< RL	9				
Guadalquivir	127	Mengibar	ES	4	< RL	7				
	128	Andujar Arriba	ES	4	< RL	7				
	129	Andujar Abajo	ES	12	< RL	2				
	130	El Carpio	ES	4	< RL	10				
	131	Posadas	ES	4	< RL	10				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	5				
	134	Embalse De Alarcon	ES	4	< RL	2				
	135	Alcala Del Jucar	ES	4	< RL	11				
	136	Cofrentes Abajo	ES	12	< RL	12				
Ebro	137	Garona Arriba	ES	14	< RL	2				
	138	Garona Abajo	ES	26	< RL	6				
	139	Mendavia	ES	4	< RL	10				
	140	Zaragoza-Rio	ES	4	< RL	10				
	141	Sastago	ES	4	< RL	7				
	142	Ribarroja	ES	12	< RL	10				
	143	Asco Abajo	ES	27	< RL	11				
	144	Garcia	ES							
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S17:** Time averages

DENSE

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES					Δ		
	155	Cabo de San Antonio	ES					Δ		
	156	Puerto de Palma	ES					Δ		
	157	Puerto de Tarragona	ES					Δ		
	158	Cabo de Creus	ES					Δ		
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT							
	164	Lapsi	MT							
	165	Wied Għammieq	MT							
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG							
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	25	< RL	2				
	177	Dravograd	SI							
Sava	178	Krsko	SI							
Tisza	179	Tiszabecs	HU							
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

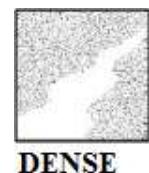
RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S18: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	17	< RL	1				
	190	Wolfsthal	AT	12	< RL	3				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	363	< RL	1				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	345	< RL	12				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	365	< RL	11				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	325	< RL	8				
	219	Cernavoda*	RO	332	< RL	10				
	220	Tulcea	RO	365	< RL	12				
	221	Sfantu Gheorge Tulcea	RO	361	< RL	10				
	222	Galati	RO	345	< RL	12				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR							
Olt	225	Miercurea Ciuc	RO	365	< RL	7				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S19:** Time averages

DENSE

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

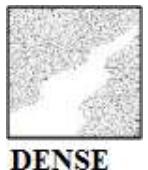
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE								
Gulf Of Bothnia	2 Forsmark (F135)	SE								
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE								
Kemijoki	5 Kemi	FI								
Oulujoki	6 Oulu	FI								
Kokemaenjoki	7 Pori	FI								
Kymijoki	8 Kotka	FI								
Narva	9 Narva	EE								
Gulf Of Finland	10 Gulf Of Finland, N8	EE								
	11 Gulf Of Finland, EE17	EE								
	12 Gulf Of Finland, PE	EE								
	13 Gulf Of Finland, PW	EE								
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT								
Neman	17 Neman above Druskininkai	LT								
	18 Kauno Marios	LT								
	19 Neris River Near Buvydyžiai	LT								
	20 Skirvytė River	LT								
	21 Akmena-Danė River	LT								
	22 Plateliai Lake	LT								
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT								
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT								
	32 Baltic Sea LT6	LT								
	33 Curonian Lagoon LT10	LT								
	34 Oskarshamn (S36)	SE								
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S20: Time averages

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK								
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ								
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE								
Skagerrak	56 Fjaellbacka	SE								
Elbe	57 Hrensko	CZ								
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU								
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE								
	72 Andenne	BE								
	73 Huy	BE								
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE								
	77 Eijsden	NL								
Molse Nete	78 Geel	BE	13	< RL	1					
Scheldt	79 Doel	BE								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S21:** Time averages

DENSE

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

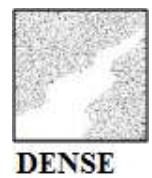
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80	Terschelling, 100 km from coast	NL	4	< RL	5				
	81	Noordwijk, 70 km from coast	NL							
	82	Noordwijk, 10 km from coast	NL							
	83	Gravelines (EDF)	FR							
Seine	84	Nogent sur Seine	FR							
	85	Le Vesinet	FR							
Channel	86	Paluel	FR							
	87	Penly	FR							
	88	Jobourg	FR							
	89	La Hague-Jardeheu	FR							
	90	Flamanville	FR							
Loire	91	Belleville sur Loire	FR							
	92	Dampierre en Burly	FR							
	93	Saint Laurent des Eaux	FR							
	94	Chinon (Candes-Aval)	FR							
	95	Angers (EDF)	FR							
Garonne	96	Golfech - St. Romain le Noble	FR							
Atlantic Ocean	97	Arcachon	FR					Δ		
	98	Cabo Ajo	ES							
	99	Brest	FR							
	100	Cabo Silleiro	ES							
	101	Isla Cristina	ES							
	102	Puerto de Cadiz	ES		1	9.5E-01		9.5E-01	9.5E-01	5
	103	Estrecho de Gibraltar	ES							
	104	Puerto De Las Palmas	ES							
Mino	105	Lugo	ES	4	< RL	10				
	106	Orense	ES		< RL	1				
	107	Caldelas De Tuy	ES		< RL	1				
Duero	108	Garray	ES	4	< RL	4				
	109	Quintanilla	ES		< RL	4				
	110	Villalcampo	ES		< RL	7				
Tagus	111	Trillo Arriba	ES	4	< RL	12				
	112	Trillo Abajo	ES		13	< RL	< RL	< RL	< RL	6
	113	Zorita Arriba	ES		12	< RL	< RL	< RL	< RL	12
	114	Zorita Abajo	ES		4	< RL	< RL	< RL	< RL	6
	115	Aranjuez	ES		4	< RL	< RL	< RL	< RL	3
	116	Toledo	ES		4	< RL	< RL	< RL	< RL	4
	117	Talavera	ES		4	< RL	< RL	< RL	< RL	3

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B) Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S22: Time averages


YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	1				
	119	Embalse de Torrejon	ES	16	< RL	3				
	120	Embalse de Alcantara	ES	11	< RL	1				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	4	< RL	12				
	124	Orellana	ES	2		< RL		< RL	< RL	12
	125	Puente Palmas	ES	4	< RL	12				
	126	San Lucar	ES	4	< RL	12				
Guadalquivir	127	Mengibar	ES	3	< RL	< RL	< RL		< RL	1
	128	Andujar Arriba	ES	4	< RL	1				
	129	Andujar Abajo	ES	10	< RL	8				
	130	El Carpio	ES	4	< RL	7				
	131	Posadas	ES	4	< RL	1				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	8				
	134	Embalse De Alarcon	ES	4	< RL	8				
	135	Alcala Del Jucar	ES	4	< RL	5				
	136	Cofrentes Abajo	ES	11	< RL	12				
Ebro	137	Garona Arriba	ES	9	< RL	< RL	< RL		< RL	6
	138	Garona Abajo	ES	23	< RL	10				
	139	Mendavia	ES	4	< RL	4				
	140	Zaragoza-Rio	ES	4	< RL	1				
	141	Sastago	ES	4	< RL	1				
	142	Ribarroja	ES	12	< RL	11				
	143	Asco Abajo	ES	27	< RL	11				
	144	Garcia	ES							
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S23:** Time averages

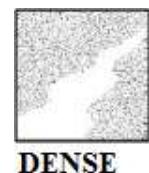
DENSE

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154 Garrucha	ES						Δ		
	155 Cabo de San Antonio	ES						Δ		
	156 Puerto de Palma	ES						Δ		
	157 Puerto de Tarragona	ES						Δ		
	158 Cabo de Creus	ES						Δ		
	159 Santa Teresa Gallura	IT								
	160 Olbia	IT								
	161 Maratea	IT								
	162 Rotondella	IT								
	163 Xwejni	MT								
	164 Lapsi	MT								
	165 Wied Għammieq	MT								
	166 Polis	CY								
	167 Limassol	CY								
	168 Vasilikos	CY								
	169 Larnaca	CY								
	170 Paralimni	CY								
Maritsa	171 Kostenec	BG								
	172 Plovdiv	BG								
	173 Mirovo	BG								
	174 Harmanli	BG								
	175 Svilengrad	BG								
Drau	176 Schwabegg	AT	25	< RL	8					
	177 Dravograd	SI								
Sava	178 Krsko	SI								
Tisza	179 Tiszabecs	HU								
	180 Gergelyiugornya	HU								
	181 Zahony	HU								
	182 Tiszabercel	HU								
	183 Rakamaz	HU								
	184 Szolnok	HU								
	185 Mindszent	HU								
	186 Tiszasziget I	HU								
	187 Tiszasziget II	HU								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)
Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.
Monthly max: Maximum monthly average in the year.
M: Month during which the maximum occurred.

Table S24: Time averages

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	16	< RL	12				
	190	Wolfsthal	AT	12	< RL	8				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	365	< RL	3				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	365	< RL	3				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	363	< RL	7				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	365	< RL	4				
	219	Cernavoda*	RO	359	< RL	3				
	220	Tulcea	RO	365	< RL	3				
	221	Sfantu Gheorge Tulcea	RO	275	< RL	5				
	222	Galati	RO	365	< RL	2				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR							
Olt	225	Miercurea Ciuc	RO	365	< RL	3				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S25:** Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

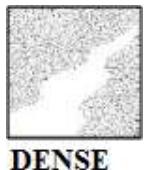
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE								
Gulf Of Bothnia	2 Forsmark (F135)	SE								
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE								
Kemijoki	5 Kemi	FI								
Oulujoki	6 Oulu	FI								
Kokemaenjoki	7 Pori	FI								
Kymijoki	8 Kotka	FI								
Narva	9 Narva	EE								
Gulf Of Finland	10 Gulf Of Finland, N8	EE								
	11 Gulf Of Finland, EE17	EE								
	12 Gulf Of Finland, PE	EE								
	13 Gulf Of Finland, PW	EE								
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT								
Neman	17 Neman above Druskininkai	LT								
	18 Kauno Marios	LT								
	19 Neris River Near Buvydyžiai	LT								
	20 Skirvytė River	LT								
	21 Akmena-Danė River	LT								
	22 Plateliai Lake	LT								
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT								
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT								
	32 Baltic Sea LT6	LT								
	33 Curonian Lagoon LT10	LT								
	34 Oskarshamn (S36)	SE								
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S26: Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK								
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ								
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE								
Skagerrak	56 Fjaellbacka	SE								
Elbe	57 Hrensko	CZ								
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU								
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR						< RL	< RL	< RL 12
	71 Heer-Agimont	BE								
	72 Andenne	BE								
	73 Huy	BE								
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE								
	77 Eijsden	NL								
Molse Nete	78 Geel	BE	2					< RL	< RL	< RL 12
Scheldt	79 Doel	BE	2					< RL	< RL	< RL 12

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S27:** Time averages

DENSE

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

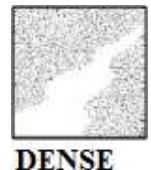
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80	Terschelling, 100 km from coast	NL	4	< RL	2				
	81	Noordwijk, 70 km from coast	NL							
	82	Noordwijk, 10 km from coast	NL							
	83	Gravelines (EDF)	FR							
Seine	84	Nogent sur Seine	FR							
	85	Le Vesinet	FR							
Channel	86	Paluel	FR							
	87	Penly	FR							
	88	Jobourg	FR							
	89	La Hague-Jardeheu	FR							
	90	Flamanville	FR							
Loire	91	Belleville sur Loire	FR							
	92	Dampierre en Burly	FR							
	93	Saint Laurent des Eaux	FR							
	94	Chinon (Candes-Aval)	FR							
	95	Angers (EDF)	FR							
Garonne	96	Golfech - St. Romain le Noble	FR							
Atlantic Ocean	97	Arcachon	FR						Δ	
	98	Cabo Ajo	ES							
	99	Brest	FR							
	100	Cabo Silleiro	ES							
	101	Isla Cristina	ES							
	102	Puerto de Cadiz	ES							
	103	Estrecho de Gibraltar	ES							
	104	Puerto De Las Palmas	ES							
Mino	105	Lugo	ES	4	< RL	7				
	106	Orense	ES	4	< RL	9				
	107	Caldelas De Tuy	ES	4	< RL	10				
Duero	108	Garray	ES	4	< RL	10				
	109	Quintanilla	ES	4	< RL	10				
	110	Villalcampo	ES	4	< RL	7				
Tagus	111	Trillo Arriba	ES	4	< RL	9				
	112	Trillo Abajo	ES	14	< RL	8				
	113	Zorita Arriba	ES	12	< RL	12				
	114	Zorita Abajo	ES	4	< RL	6				
	115	Aranjuez	ES	4	< RL	9				
	116	Toledo	ES	4	< RL	12				
	117	Talavera	ES	4	< RL	3				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B) Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S28: Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	11				
	119	Embalse de Torrejon	ES	12	< RL	7				
	120	Embalse de Alcantara	ES	12	< RL	12				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	3	< RL	< RL	< RL		< RL	6
	124	Orellana	ES	3	< RL	< RL	< RL		< RL	3
	125	Puente Palmas	ES	3	< RL	< RL		< RL	< RL	3
	126	San Lucar	ES	3	< RL	< RL		< RL	< RL	10
Guadalquivir	127	Mengibar	ES							
	128	Andujar Arriba	ES							
	129	Andujar Abajo	ES							
	130	El Carpio	ES							
	131	Posadas	ES							
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	11				
	134	Embalse De Alarcon	ES	4	< RL	8				
	135	Alcala Del Jucar	ES	3	< RL	< RL		< RL	< RL	2
	136	Cofrentes Abajo	ES	12	< RL	11				
Ebro	137	Garona Arriba	ES							
	138	Garona Abajo	ES							
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES							
	141	Sastago	ES	4	< RL	10				
	142	Ribarroja	ES	12	< RL	12				
	143	Asco Abajo	ES	27	< RL	11				
	144	Garcia	ES							
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S29:** Time averages

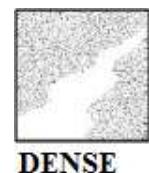
DENSE

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154 Garrucha	ES						Δ		
	155 Cabo de San Antonio	ES						Δ		
	156 Puerto de Palma	ES						Δ		
	157 Puerto de Tarragona	ES						Δ		
	158 Cabo de Creus	ES						Δ		
	159 Santa Teresa Gallura	IT								
	160 Olbia	IT								
	161 Maratea	IT								
	162 Rotondella	IT								
	163 Xwejni	MT								
	164 Lapsi	MT								
	165 Wied Għammieq	MT								
	166 Polis	CY								
	167 Limassol	CY								
	168 Vasilikos	CY								
	169 Larnaca	CY								
	170 Paralimni	CY								
Maritsa	171 Kostenec	BG								
	172 Plovdiv	BG								
	173 Mirovo	BG								
	174 Harmanli	BG								
	175 Svilengrad	BG								
Drau	176 Schwabegg	AT	25	< RL	9					
	177 Dravograd	SI								
Sava	178 Krsko	SI								
Tisza	179 Tiszabecs	HU								
	180 Gergelyiugornya	HU								
	181 Zahony	HU								
	182 Tiszabercel	HU								
	183 Rakamaz	HU								
	184 Szolnok	HU								
	185 Mindszent	HU								
	186 Tiszasziget I	HU								
	187 Tiszasziget II	HU								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)
Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.
Monthly max: Maximum monthly average in the year.
M: Month during which the maximum occurred.

Table S30: Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	15	< RL	6				
	190	Wolfsthal	AT	12	< RL	10				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	365	< RL	3				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	365	< RL	2				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	363	< RL	11				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	365	< RL	11				
	219	Cernavoda*	RO	326	< RL	11				
	220	Tulcea	RO	364	< RL	6				
	221	Sfantu Gheorge Tulcea	RO	361	< RL	9				
	222	Galati	RO	365	< RL	3				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR							
Olt	225	Miercurea Ciuc	RO	365	< RL	6				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S31:** Time averages

DENSE

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

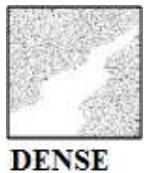
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE								
Gulf Of Bothnia	2 Forsmark (F135)	SE								
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE								
Kemijoki	5 Kemi	FI								
Oulujoki	6 Oulu	FI								
Kokemaenjoki	7 Pori	FI								
Kymijoki	8 Kotka	FI								
Narva	9 Narva	EE								
Gulf Of Finland	10 Gulf Of Finland, N8	EE								
	11 Gulf Of Finland, EE17	EE								
	12 Gulf Of Finland, PE	EE								
	13 Gulf Of Finland, PW	EE								
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT								
Neman	17 Neman above Druskininkai	LT								
	18 Kauno Marios	LT								
	19 Neris River Near Buvydyžiai	LT								
	20 Skirvytė River	LT								
	21 Akmena-Danė River	LT								
	22 Plateliai Lake	LT								
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT								
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT								
	32 Baltic Sea LT6	LT								
	33 Curonian Lagoon LT10	LT								
	34 Oskarshamn (S36)	SE								
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S32: Time averages

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK								
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ								
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE								
Skagerrak	56 Fjaellbacka	SE								
Elbe	57 Hrensko	CZ								
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU								
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE								
	72 Andenne	BE								
	73 Huy	BE								
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE								
	77 Eijsden	NL								
Molse Nete	78 Geel	BE	52	< RL	12					
Scheldt	79 Doel	BE	30	< RL	6					

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S33:** Time averages

DENSE

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

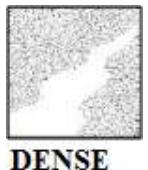
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80	Terschelling, 100 km from coast	NL	4	< RL	11				
	81	Noordwijk, 70 km from coast	NL							
	82	Noordwijk, 10 km from coast	NL							
	83	Gravelines (EDF)	FR							
Seine	84	Nogent sur Seine	FR							
	85	Le Vesinet	FR							
Channel	86	Paluel	FR							
	87	Penly	FR							
	88	Jobourg	FR							
	89	La Hague-Jardeheu	FR							
	90	Flamanville	FR							
Loire	91	Belleville sur Loire	FR							
	92	Dampierre en Burly	FR							
	93	Saint Laurent des Eaux	FR							
	94	Chinon (Candes-Aval)	FR							
	95	Angers (EDF)	FR							
Garonne	96	Golfech - St. Romain le Noble	FR							
Atlantic Ocean	97	Arcachon	FR				1.2E+00	1.2E+00	1.2E+00	8
	98	Cabo Ajo	ES							
	99	Brest	FR							
	100	Cabo Silleiro	ES							
	101	Isla Cristina	ES							
	102	Puerto de Cadiz	ES							
	103	Estrecho de Gibraltar	ES							
	104	Puerto De Las Palmas	ES							
Mino	105	Lugo	ES	4	< RL	4				
	106	Orense	ES	3	< RL	10				
	107	Caldelas De Tuy	ES	3	< RL	10				
Duero	108	Garray	ES	3	< RL	2				
	109	Quintanilla	ES	3	< RL	7				
	110	Villalcampo	ES	3	< RL	2				
Tagus	111	Trillo Arriba	ES	4	< RL	6				
	112	Trillo Abajo	ES	13	< RL	3				
	113	Zorita Arriba	ES	12	< RL	10				
	114	Zorita Abajo	ES	4	< RL	9				
	115	Aranjuez	ES	4	< RL	12				
	116	Toledo	ES	4	< RL	9				
	117	Talavera	ES	4	< RL	9				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B) Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S34: Time averages

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	9	< RL	7				
	119	Embalse de Torrejon	ES	12	< RL	8				
	120	Embalse de Alcantara	ES	12	< RL	12				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	1		< RL		< RL	< RL	6
	124	Orellana	ES	1		< RL		< RL	< RL	6
	125	Puente Palmas	ES	2	< RL			< RL	< RL	1
	126	San Lucar	ES							
Guadalquivir	127	Mengibar	ES	4		< RL	< RL	< RL	< RL	10
	128	Andujar Arriba	ES	2			< RL	< RL	< RL	7
	129	Andujar Abajo	ES	1		< RL			< RL	4
	130	El Carpio	ES	2			< RL	< RL	< RL	7
	131	Posadas	ES	3		< RL	< RL	< RL	< RL	4
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	11				
	134	Embalse De Alarcon	ES	4	< RL	2				
	135	Alcala Del Jucar	ES	4	< RL	5				
	136	Cofrentes Abajo	ES	12	< RL	10				
Ebro	137	Garona Arriba	ES							
	138	Garona Abajo	ES							
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES							
	141	Sastago	ES	3	< RL		< RL	< RL	< RL	10
	142	Ribarroja	ES	10	< RL	12				
	143	Asco Abajo	ES	21	< RL	8				
	144	Garcia	ES							
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S35:** Time averages

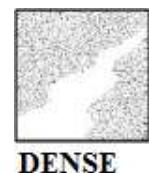
DENSE

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : residual- β

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	1	1.2E+00	1.2E+00	1.2E+00	Δ	1.2E+00	9
	155	Cabo de San Antonio	ES							
	156	Puerto de Palma	ES							
	157	Puerto de Tarragona	ES							
	158	Cabo de Creus	ES							
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT							
	164	Lapsi	MT							
	165	Wied Għammieq	MT							
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG	24	< RL	11				
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	24	< RL	11				
	177	Dravograd	SI							
Sava	178	Krsko	SI							
Tisza	179	Tiszabecs	HU	24	< RL	11				
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)
 Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.
 M: Month during which the maximum occurred.

Table S36: Time averages


YEAR : **2020**
SAMPLE TYPE : **surface water (Bq l^{-1})**
NUCLIDE CATEGORY : **residual- β**

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	15	< RL	9				
	190	Wolfsthal	AT	12	< RL	12				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	366	< RL	7				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	366	< RL	7				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	364	< RL	4				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	351	< RL	8				
	219	Cernavoda*	RO	286	< RL	1				
	220	Tulcea	RO	366	< RL	9				
	221	Sfantu Gheorge Tulcea	RO	265	< RL	1				
	222	Galati	RO	349	< RL	7				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR							
Olt	225	Miercurea Ciuc	RO	366	< RL	6				

RL: reporting level for residual- β in surface water, i.e. 6.0 E-01 BQ/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S37:** Time averages

DENSE

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

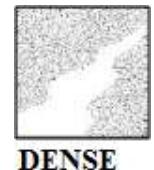
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE	2		< RL	< RL		< RL	< RL	9
Gulf Of Bothnia	2 Forsmark (F135)	SE	1				< RL	< RL	< RL	10
	3 Bottenhavet (C14)	SE	1				< RL	< RL	< RL	10
	4 Bottenviken (A5)	SE	1				< RL	< RL	< RL	10
Kemijoki	5 Kemi	FI	2		< RL		< RL	< RL	< RL	5
Oulujoki	6 Oulu	FI	2		< RL		< RL	< RL	< RL	10
Kokemaenjoki	7 Pori	FI	2		< RL		< RL	< RL	< RL	5
Kymijoki	8 Kotka	FI	2		< RL		< RL	< RL	< RL	5
Narva	9 Narva	EE	4		< RL	4				
Gulf Of Finland	10 Gulf Of Finland, N8	EE	1			< RL		< RL	< RL	8
	11 Gulf Of Finland, EE17	EE	1			< RL		< RL	< RL	8
	12 Gulf Of Finland, PE	EE	1			< RL		< RL	< RL	8
	13 Gulf Of Finland, PW	EE	1			< RL		< RL	< RL	8
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT	4		< RL	5				
Neman	17 Neman above Druskininkai	LT	4	< RL	2					
	18 Kauno Marios	LT	6		< RL	8				
	19 Neris River Near Buivydžiai	LT	4	< RL	10					
	20 Skirvytė River	LT	4	< RL	< RL		< RL	< RL	< RL	5
	21 Akmena-Danė River	LT	4	< RL	7					
	22 Plateliai Lake	LT	2		< RL	< RL		< RL	< RL	4
	23 Šešupė River Transb (Russia)	LT	4	< RL	10					
	24 Šventoji River Mouth	LT	4	< RL	< RL		< RL	< RL	< RL	5
Vistula	25 Krakow Tyniec	PL	2		< RL	< RL		< RL	< RL	8
	26 Annopol	PL	2		< RL	< RL		< RL	< RL	8
	27 Warsaw	PL								
	28 Plock	PL	2		< RL	< RL		< RL	< RL	8
	29 Kiezmark	PL	2		< RL	< RL		< RL	< RL	4
Baltic Sea	30 Baltic Sea LT64	LT								
	31 Baltic Sea LT 20	LT	4	< RL	10					
	32 Baltic Sea LT6	LT	4	< RL	10					
	33 Curonian Lagoon LT10	LT	4	< RL	2					
	34 Oskarshamn (S36)	SE	1			< RL		< RL	< RL	9
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S38: Time averages

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK								
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ	4	< RL	5					
	47 Chalupki	PL	2		< RL	< RL		< RL	< RL	8
	48 Wroclaw	PL								
	49 Krajnik	PL	2		< RL	< RL		< RL	< RL	8
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE	2		< RL	< RL		< RL	< RL	6
Skagerrak	56 Fjaellbacka	SE	2		< RL	< RL		< RL	< RL	9
Elbe	57 Hrensko	CZ	4	< RL	7					
	58 Geesthacht	DE	72	< RL	4					
	59 Wedel	DE	12	< RL	5					
	60 Cuxhaven	DE	12	< RL	10					
Rhine	61 Weil am Rhein	DE	27	< RL	4					
	62 Breisach am Rhein	DE	13	< RL	1					
	63 Lauterbourg	FR								
	64 Worms	DE	13	< RL	3					
	65 Koblenz	DE	26	< RL	3					
	66 Trebur	DE	16	< RL	2					
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU	40	< RL	3					
	69 Wincheringen	DE	13	< RL	2					
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE	26	< RL	10					
	72 Andenne	BE	26	< RL	4					
	73 Huy	BE	25	< RL	4					
	74 Ampsin	BE								
	75 Monsin	BE	26	< RL	12					
	76 Lixhe	BE	26	< RL	2					
	77 Eijsden	NL								
Molse Nete	78 Geel	BE								
Scheldt	79 Doel	BE	27	< RL	5					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S39:** Time averages

DENSE

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

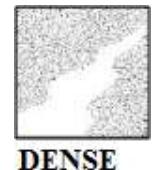
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80 Terschelling, 100 km from coast	NL								
	81 Noordwijk, 70 km from coast	NL								
	82 Noordwijk, 10 km from coast	NL								
	83 Gravelines (EDF)	FR								
Seine	84 Nogent sur Seine	FR								
	85 Le Vesinet	FR								
Channel	86 Paluel	FR								
	87 Penly	FR								
	88 Jobourg	FR								
	89 La Hague-Jardeheu	FR								
	90 Flamanville	FR								
Loire	91 Belleville sur Loire	FR								
	92 Dampierre en Burly	FR								
	93 Saint Laurent des Eaux	FR								
	94 Chinon (Candes-Aval)	FR								
	95 Angers (EDF)	FR								
Garonne	96 Golfech - St. Romain le Noble	FR								
Atlantic Ocean	97 Arcachon	FR								
	98 Cabo Ajo	ES	13	< RL	8					
	99 Brest	FR								
	100 Cabo Silleiro	ES	8	< RL	8					
	101 Isla Cristina	ES	8	< RL	3					
	102 Puerto de Cadiz	ES	8	< RL	8					
	103 Estrecho de Gibraltar	ES	8	< RL	9					
	104 Puerto De Las Palmas	ES	8	< RL	9					
Mino	105 Lugo	ES	4	< RL	7					
	106 Orense	ES	4	< RL	8					
	107 Caldelas De Tuy	ES	4	< RL	4					
Duero	108 Garray	ES	4	< RL	7					
	109 Quintanilla	ES	4	< RL	7					
	110 Villalcampo	ES	4	< RL	4					
Tagus	111 Trillo Arriba	ES	4	< RL	12					
	112 Trillo Abajo	ES	13	< RL	7					
	113 Zorita Arriba	ES	11	< RL	11					
	114 Zorita Abajo	ES	3		< RL	9				
	115 Aranjuez	ES	4	< RL	12					
	116 Toledo	ES	4	< RL	9					
	117 Talavera	ES	4	< RL	9					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S40: Time averages

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	2				
	119	Embalse de Torrejon	ES	16	< RL	2				
	120	Embalse de Alcantara	ES	16	< RL	4				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	4	< RL	6				
	124	Orellana	ES	4	< RL	12				
	125	Puente Palmas	ES	4	< RL	11				
	126	San Lucar	ES	4	< RL	9				
Guadalquivir	127	Mengibar	ES	4	< RL	7				
	128	Andujar Arriba	ES	4	< RL	7				
	129	Andujar Abajo	ES	12	< RL	6				
	130	El Carpio	ES	4	< RL	7				
	131	Posadas	ES	4	< RL	7				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	8				
	134	Embalse De Alarcon	ES	4	< RL	8				
	135	Alcala Del Jucar	ES	4	< RL	8				
	136	Cofrentes Abajo	ES	12	< RL	8				
Ebro	137	Garona Arriba	ES	12	< RL	4				
	138	Garona Abajo	ES	24	< RL	7				
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES	4	< RL	7				
	141	Sastago	ES	4	< RL	7				
	142	Ribarroja	ES	12	< RL	8				
	143	Asco Abajo	ES	27	< RL	7				
	144	Garcia	ES	4	< RL	5				
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT	5	< RL	1				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S41:** Time averages

DENSE

YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

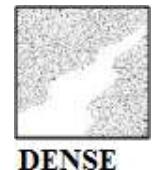
Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	8	< RL	5				
	155	Cabo de San Antonio	ES	8	< RL	3				
	156	Puerto de Palma	ES	8	< RL	9				
	157	Puerto de Tarragona	ES	8	< RL	2				
	158	Cabo de Creus	ES	12	< RL	11				
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT	4	2.5E+00	1.1E+00	< RL	2.3E+00	1.5E+00	2.5E+00
	164	Lapsi	MT	4	1.9E+00	2.7E+00	1.3E+00	1.6E+00	1.9E+00	2.7E+00
	165	Wied Għammieq	MT	4	< RL	< RL	2.2E+00	2.3E+00	1.5E+00	2.3E+00
	166	Polis	CY							
	167	Limassol	CY	1		< RL			< RL	6
	168	Vasilikos	CY	1			< RL		< RL	7
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG	1				< RL	< RL	12
	172	Plovdiv	BG							
	173	Mirovo	BG	1				< RL	< RL	10
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	26	< RL	1				
	177	Dravograd	SI	2	< RL		< RL		< RL	9
Sava	178	Krsko	SI	4	< RL	6				
Tisza	179	Tiszabecs	HU							
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU	3	< RL	1				
	187	Tiszasziget II	HU							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S42: Time averages


YEAR : 2015
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE	12	< RL	1				
	189	Jochenstein	AT	17	< RL	3				
	190	Wolfsthal	AT	12	< RL	9				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU	2	< RL	1				
	199	Dunafoldvar II	HU	4	< RL	1				
	200	Dunafoldvar I	HU	3	< RL	1				
	201	Paks	HU							
	202	Kalocsa	HU	1	< RL				< RL	1
	203	Gerjen	HU	9	< RL	2				
	204	Baja	HU	2	< RL	1				
	205	Mohacs	HU	2	< RL	1				
	206	Drobeta Turnu Severin	RO	12	< RL	12				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	12	< RL	3				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	12	< RL	7				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	12	< RL	5				
	219	Cernavoda*	RO	12	< RL	3				
	220	Tulcea	RO	12	< RL	7				
	221	Sfantu Gheorge Tulcea	RO	12	< RL	2				
	222	Galati	RO	12	< RL	5				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR	4		< RL	< RL	< RL	< RL	4
Olt	225	Miercurea Ciuc	RO	12	< RL	1				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S43:** Time averages

DENSE

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

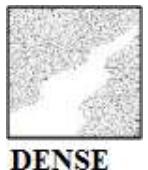
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE	2		< RL	< RL		< RL	< RL	6
Gulf Of Bothnia	2 Forsmark (F135)	SE	1				< RL	< RL	< RL	10
	3 Bottenhavet (C14)	SE	1			< RL		< RL	< RL	9
	4 Bottenviken (A5)	SE	1			< RL		< RL	< RL	9
Kemijoki	5 Kemi	FI	2		< RL		< RL	< RL	< RL	5
Oulujoki	6 Oulu	FI	2		< RL		< RL	< RL	< RL	10
Kokemaenjoki	7 Pori	FI	2		< RL		< RL	< RL	< RL	5
Kymijoki	8 Kotka	FI	2		< RL		< RL	< RL	< RL	10
Narva	9 Narva	EE	4		< RL	8				
Gulf Of Finland	10 Gulf Of Finland, N8	EE	1		< RL			< RL	< RL	6
	11 Gulf Of Finland, EE17	EE	1		< RL			< RL	< RL	6
	12 Gulf Of Finland, PE	EE	1		< RL			< RL	< RL	6
	13 Gulf Of Finland, PW	EE	1		< RL			< RL	< RL	6
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT	4		< RL	8				
Neman	17 Neman above Druskininkai	LT	4	< RL	7					
	18 Kauno Marios	LT	6		< RL	8				
	19 Neris River Near Buivydžiai	LT	5	< RL	5					
	20 Skirvytė River	LT	3	< RL		< RL	< RL	< RL	< RL	10
	21 Akmena-Danė River	LT	4	< RL	8					
	22 Plateliai Lake	LT	2		< RL	4				
	23 Šešupė River Transb (Russia)	LT	4	< RL	10					
	24 Šventoji River Mouth	LT	4	< RL	5					
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezm̄ark	PL								
Baltic Sea	30 Baltic Sea LT64	LT	1			< RL		< RL	< RL	8
	31 Baltic Sea LT 20	LT	4	< RL	3					
	32 Baltic Sea LT6	LT	4	< RL	3					
	33 Curonian Lagoon LT10	LT	4	< RL	11					
	34 Oskarshamn (S36)	SE	1				< RL	< RL	< RL	11
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S44: Time averages

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41	Moen	DK							
	42	Gedser Odde	DK							
	43	Luebeck Bay	DE							
	44	Femern Baelt	DK							
	45	Langeland Baelt	DK							
Oder	46	Bohumin	CZ	4	< RL	2				
	47	Chalupki	PL							
	48	Wroclaw	PL							
	49	Krajnik	PL							
The Great Belt	50	Halskov Rev	DK							
	51	Asnaes Rev	DK							
The Sound	52	The Sound S	DK							
	53	The Sound N(A)	DK							
Kattegat	54	Kattegat-413	DK							
	55	Ringhals (35)	SE	2		< RL	< RL		< RL	5
Skagerrak	56	Fjaellbacka	SE	2		< RL	< RL		< RL	9
Elbe	57	Hrensko	CZ	4	< RL	< RL	< RL		< RL	7
	58	Geesthacht	DE	54	< RL	5				
	59	Wedel	DE	11	< RL	11				
	60	Cuxhaven	DE	11	< RL	7				
Rhine	61	Weil am Rhein	DE	24	< RL	3				
	62	Breisach am Rhein	DE	12	< RL	2				
	63	Lauterbourg	FR							
	64	Worms	DE	12	< RL	6				
	65	Koblenz	DE	25	< RL	2				
	66	Trebur	DE	17	< RL	1				
Moselle	67	Cattenom (Aval)	FR							
	68	Schengen	LU	40	< RL	2				
	69	Wincheringen	DE	13	< RL	6				
Meuse	70	Chooz (Givet)	FR							
	71	Heer-Agimont	BE	24	< RL	6				
	72	Andenne	BE	27	< RL	9				
	73	Huy	BE	27	< RL	9				
	74	Ampsin	BE							
	75	Monsin	BE	27	< RL	10				
	76	Lixhe	BE	27	< RL	7				
	77	Eijsden	NL							
Molse Nete	78	Geel	BE							
Scheldt	79	Doel	BE	26	< RL	5				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S45:** Time averages

DENSE

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

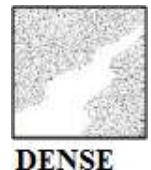
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80 Terschelling, 100 km from coast	NL								
	81 Noordwijk, 70 km from coast	NL								
	82 Noordwijk, 10 km from coast	NL								
	83 Gravelines (EDF)	FR								
Seine	84 Nogent sur Seine	FR								
	85 Le Vesinet	FR								
Channel	86 Paluel	FR								
	87 Penly	FR								
	88 Jobourg	FR								
	89 La Hague-Jardeheu	FR								
	90 Flamanville	FR								
Loire	91 Belleville sur Loire	FR								
	92 Dampierre en Burly	FR								
	93 Saint Laurent des Eaux	FR								
	94 Chinon (Candes-Aval)	FR								
	95 Angers (EDF)	FR								
Garonne	96 Golfech - St. Romain le Noble	FR								
Atlantic Ocean	97 Arcachon	FR								
	98 Cabo Ajo	ES	8	< RL	3					
	99 Brest	FR								
	100 Cabo Silleiro	ES	4	< RL	3					
	101 Isla Cristina	ES	4		< RL	10				
	102 Puerto de Cadiz	ES	4	< RL	10					
	103 Estrecho de Gibraltar	ES	4	< RL	7					
	104 Puerto De Las Palmas	ES	4	< RL	10					
Mino	105 Lugo	ES	4	< RL	1					
	106 Orense	ES	4	< RL	10					
	107 Caldelas De Tuy	ES	4	< RL	10					
Duero	108 Garray	ES	4	< RL	7					
	109 Quintanilla	ES	4	< RL	2					
	110 Villalcampo	ES	4	< RL	10					
Tagus	111 Trillo Arriba	ES	4	< RL	9					
	112 Trillo Abajo	ES	13	< RL	11					
	113 Zorita Arriba	ES	12	< RL	10					
	114 Zorita Abajo	ES	3	< RL	3					
	115 Aranjuez	ES	4	< RL	6					
	116 Toledo	ES	4	< RL	12					
	117 Talavera	ES	4	< RL	9					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S46: Time averages

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	2				
	119	Embalse de Torrejon	ES	16	< RL	3				
	120	Embalse de Alcantara	ES	16	< RL	12				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	3	< RL	9				
	124	Orellana	ES	4	< RL	9				
	125	Puente Palmas	ES	4	< RL	9				
	126	San Lucar	ES	4	< RL	9				
Guadalquivir	127	Mengibar	ES	4	< RL	4				
	128	Andujar Arriba	ES	4	< RL	4				
	129	Andujar Abajo	ES	12	< RL	2				
	130	El Carpio	ES	4	< RL	7				
	131	Posadas	ES	4	< RL	10				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	11				
	134	Embalse De Alarcon	ES	4	< RL	11				
	135	Alcala Del Jucar	ES	4	< RL	2				
	136	Cofrentes Abajo	ES	12	< RL	10				
Ebro	137	Garona Arriba	ES	14	< RL	6				
	138	Garona Abajo	ES	27	< RL	6				
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES	4	< RL	1				
	141	Sastago	ES	4	< RL	7				
	142	Ribarroja	ES	12	< RL	10				
	143	Asco Abajo	ES	27	< RL	8				
	144	Garcia	ES	4	< RL	5				
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT	4	< RL	4				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S47:** Time averages

DENSE

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

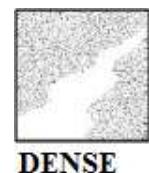
Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	4	< RL	3				
	155	Cabo de San Antonio	ES	4	< RL	10				
	156	Puerto de Palma	ES	4	< RL	3				
	157	Puerto de Tarragona	ES	4	< RL	7				
	158	Cabo de Creus	ES	8	< RL	10				
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT	4	< RL	12				
	164	Lapsi	MT	4	< RL	11				
	165	Wied Għammieq	MT	4	< RL	4				
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG	1		< RL	< RL		< RL	7
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	16	< RL	2				
	177	Dravograd	SI	2	< RL		< RL		< RL	8
Sava	178	Krsko	SI	4	< RL	3				
Tisza	179	Tiszabecs	HU							
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S48: Time averages

YEAR : 2016
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE	11	< RL	6				
	189	Jochenstein	AT	17	< RL	7				
	190	Wolfsthal	AT	12	< RL	7				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	12	< RL	8				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	12	< RL	4				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	12	< RL	3				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	12	< RL	1				
	219	Cernavoda*	RO	12	< RL	3				
	220	Tulcea	RO	12	< RL	3				
	221	Sfantu Gheorge Tulcea	RO	12	< RL	10				
	222	Galati	RO	12	< RL	11				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR	4	< RL	9				
Olt	225	Miercurea Ciuc	RO	12	< RL	7				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S49:** Time averages

DENSE

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

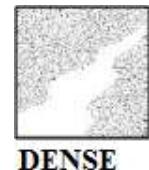
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE	2		< RL		< RL	< RL	< RL	10
Gulf Of Bothnia	2 Forsmark (F135)	SE	1			< RL		< RL	< RL	9
	3 Bottenhavet (C14)	SE	1				< RL	< RL	< RL	10
	4 Bottenviken (A5)	SE	1				< RL	< RL	< RL	10
Kemijoki	5 Kemi	FI	2		< RL		< RL	< RL	< RL	10
Oulujoki	6 Oulu	FI	2		< RL		< RL	< RL	< RL	5
Kokemaenjoki	7 Pori	FI	2		< RL		< RL	< RL	< RL	10
Kymijoki	8 Kotka	FI	2		< RL		< RL	< RL	< RL	5
Narva	9 Narva	EE	4	< RL	3					
Gulf Of Finland	10 Gulf Of Finland, N8	EE	1			< RL		< RL	< RL	8
	11 Gulf Of Finland, EE17	EE	1			< RL		< RL	< RL	8
	12 Gulf Of Finland, PE	EE	1			< RL		< RL	< RL	8
	13 Gulf Of Finland, PW	EE	1			< RL		< RL	< RL	8
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT	4		< RL	< RL		< RL	< RL	8
Neman	17 Neman above Druskininkai	LT	4	< RL	2					
	18 Kauno Marios	LT	6		< RL	9				
	19 Neris River Near Buivydžiai	LT	3	< RL	< RL	< RL		< RL	< RL	8
	20 Skirvytė River	LT	4	< RL	10					
	21 Akmena-Danė River	LT	4	< RL	10					
	22 Plateliai Lake	LT	2		< RL	< RL		< RL	< RL	9
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT	3	< RL	< RL	< RL		< RL	< RL	8
Vistula	25 Krakow Tyniec	PL	2		< RL		< RL	< RL	< RL	6
	26 Annopol	PL	2		< RL		< RL	< RL	< RL	10
	27 Warsaw	PL								
	28 Plock	PL	2		< RL	< RL		< RL	< RL	9
	29 Kiezmark	PL	2		< RL	< RL		< RL	< RL	9
Baltic Sea	30 Baltic Sea LT64	LT	1			< RL		< RL	< RL	8
	31 Baltic Sea LT 20	LT	4	< RL	8					
	32 Baltic Sea LT6	LT	4	< RL	1					
	33 Curonian Lagoon LT10	LT	4	< RL	11					
	34 Oskarshamn (S36)	SE	1				< RL	< RL	< RL	12
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S50: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK								
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK								
Oder	46 Bohumin	CZ	4	< RL	8					
	47 Chalupki	PL	2		< RL		< RL	< RL	< RL	6
	48 Wroclaw	PL								
	49 Krajnik	PL	2		< RL		< RL	< RL	< RL	10
The Great Belt	50 Halskov Rev	DK								
	51 Asnaes Rev	DK								
The Sound	52 The Sound S	DK								
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE	2		< RL	< RL		< RL	< RL	4
Skagerrak	56 Fjaellbacka	SE	2		< RL	< RL		< RL	< RL	9
Elbe	57 Hrensko	CZ	4	< RL	3					
	58 Geesthacht	DE	51	< RL	6					
	59 Wedel	DE	7		< RL	5				
	60 Cuxhaven	DE	6	< RL	6					
Rhine	61 Weil am Rhein	DE	25	< RL	10					
	62 Breisach am Rhein	DE	12	< RL	6					
	63 Lauterbourg	FR								
	64 Worms	DE	13	< RL	3					
	65 Koblenz	DE	20	< RL	12					
	66 Trebur	DE	16	< RL	12					
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU	40	< RL	2					
	69 Wincheringen	DE	11	< RL	12					
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE	27	< RL	10					
	72 Andenne	BE	27	< RL	11					
	73 Huy	BE	26	< RL	9					
	74 Ampsin	BE								
	75 Monsin	BE	1	< RL				< RL	< RL	1
	76 Lixhe	BE	27	< RL	8					
	77 Eijsden	NL								
Molse Nete	78 Geel	BE								
Scheldt	79 Doel	BE	27	< RL	10					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



DENSE

Table S51: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

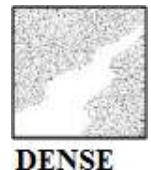
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80 Terschelling, 100 km from coast	NL								
	81 Noordwijk, 70 km from coast	NL								
	82 Noordwijk, 10 km from coast	NL								
	83 Gravelines (EDF)	FR								
Seine	84 Nogent sur Seine	FR	1			< RL	< RL	< RL	< RL	9
	85 Le Vesinet	FR								
Channel	86 Paluel	FR								
	87 Penly	FR								
	88 Jobourg	FR								
	89 La Hague-Jardeheu	FR								
	90 Flamanville	FR								
Loire	91 Belleville sur Loire	FR								
	92 Dampierre en Burly	FR								
	93 Saint Laurent des Eaux	FR								
	94 Chinon (Candes-Aval)	FR								
	95 Angers (EDF)	FR								
Garonne	96 Golfech - St. Romain le Noble	FR								
Atlantic Ocean	97 Arcachon	FR								
	98 Cabo Ajo	ES	8	< RL	4					
	99 Brest	FR								
	100 Cabo Silleiro	ES	4	< RL	1					
	101 Isla Cristina	ES	4	< RL	7					
	102 Puerto de Cadiz	ES	4	< RL	4					
	103 Estrecho de Gibraltar	ES	4	< RL	12					
	104 Puerto De Las Palmas	ES	4	< RL	7					
Mino	105 Lugo	ES	4	< RL	1					
	106 Orense	ES	4	< RL	7					
	107 Caldelas De Tuy	ES	4	< RL	7					
Duero	108 Garray	ES	4	< RL	10					
	109 Quintanilla	ES	4	< RL	10					
	110 Villalcampo	ES	4	< RL	10					
Tagus	111 Trillo Arriba	ES	4	< RL	9					
	112 Trillo Abajo	ES	13	< RL	10					
	113 Zorita Arriba	ES	12	< RL	8					
	114 Zorita Abajo	ES	4	< RL	6					
	115 Aranjuez	ES	4	< RL	3					
	116 Toledo	ES	4	< RL	6					
	117 Talavera	ES	4	< RL	3					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S52: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	5				
	119	Embalse de Torrejon	ES	16	< RL	11				
	120	Embalse de Alcantara	ES	16	< RL	6				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT	12	< RL	5				
Guadiana	123	Balbuena	ES	3	< RL		< RL	< RL	< RL	9
	124	Orellana	ES	4	< RL	9				
	125	Puente Palmas	ES	4	< RL	3				
	126	San Lucar	ES	4	< RL	12				
Guadalquivir	127	Mengibar	ES	4	< RL	10				
	128	Andujar Arriba	ES	4	< RL	1				
	129	Andujar Abajo	ES	12	< RL	2				
	130	El Carpio	ES	4	< RL	1				
	131	Posadas	ES	4	< RL	10				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	11				
	134	Embalse De Alarcon	ES	4	< RL	5				
	135	Alcala Del Jucar	ES	4	< RL	5				
	136	Cofrentes Abajo	ES	12	< RL	5				
Ebro	137	Garona Arriba	ES	14	< RL	6				
	138	Garona Abajo	ES	26	< RL	2				
	139	Mendavia	ES	4	< RL	10				
	140	Zaragoza-Rio	ES	4	< RL	7				
	141	Sastago	ES	4	< RL	1				
	142	Ribarroja	ES	12	< RL	2				
	143	Asco Abajo	ES	27	< RL	12				
	144	Garcia	ES	4	< RL	5				
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S53:** Time averages

DENSE

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

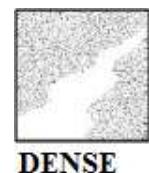
Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	4	< RL	10				
	155	Cabo de San Antonio	ES	4	< RL	1				
	156	Puerto de Palma	ES	4	< RL	1				
	157	Puerto de Tarragona	ES	4	< RL	7				
	158	Cabo de Creus	ES	8	< RL	5				
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT	3	< RL	1				
	164	Lapsi	MT	4	< RL	2				
	165	Wied Għammieq	MT	4	< RL	5				
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG	1		< RL	< RL		< RL	6
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	25	< RL	1				
	177	Dravograd	SI	2	< RL		< RL		< RL	3
Sava	178	Krsko	SI	1		< RL			< RL	5
Tisza	179	Tiszabecs	HU							
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S54: Time averages

YEAR : 2017
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE	11	< RL	12				
	189	Jochenstein	AT	17	< RL	8				
	190	Wolfsthal	AT	12	< RL	3				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	12	< RL	2				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	12	< RL	8				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	12	< RL	6				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	12	< RL	2				
	219	Cernavoda*	RO	12	< RL	1				
	220	Tulcea	RO	12	< RL	4				
	221	Sfantu Gheorge Tulcea	RO	12	< RL	2				
	222	Galati	RO	12	< RL	3				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR	4	< RL	3				
Olt	225	Miercurea Ciuc	RO	12	< RL	9				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S55:** Time averages

DENSE

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

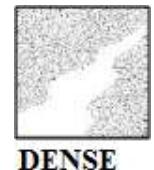
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE	2		< RL	< RL		< RL	< RL	9
Gulf Of Bothnia	2 Forsmark (F135)	SE	1			< RL		< RL	< RL	9
	3 Bottenhavet (C14)	SE	1			< RL		< RL	< RL	9
	4 Bottenviken (A5)	SE	1			< RL		< RL	< RL	9
Kemijoki	5 Kemi	FI	1		< RL			< RL	< RL	5
Oulujoki	6 Oulu	FI	1		< RL			< RL	< RL	5
Kokemaenjoki	7 Pori	FI	1		< RL			< RL	< RL	6
Kymijoki	8 Kotka	FI	1		< RL			< RL	< RL	5
Narva	9 Narva	EE	4	< RL	3					
Gulf Of Finland	10 Gulf Of Finland, N8	EE	1			< RL		< RL	< RL	8
	11 Gulf Of Finland, EE17	EE	1			< RL		< RL	< RL	8
	12 Gulf Of Finland, PE	EE	1			< RL		< RL	< RL	8
	13 Gulf Of Finland, PW	EE	1			< RL		< RL	< RL	8
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT	4		< RL	8				
Neman	17 Neman above Druskininkai	LT	4	< RL	< RL	< RL		< RL	< RL	5
	18 Kauno Marios	LT	6		< RL	4				
	19 Neris River Near Buivydžiai	LT	12	< RL	1					
	20 Skirvytė River	LT	4	< RL	5					
	21 Akmena-Danė River	LT	4	< RL	5					
	22 Plateliai Lake	LT	1			< RL		< RL	< RL	8
	23 Šešupė River Transb (Russia)	LT								
	24 Šventoji River Mouth	LT	4	< RL	5					
Vistula	25 Krakow Tyniec	PL	2		< RL		< RL	< RL	< RL	5
	26 Annopol	PL	2		< RL		< RL	< RL	< RL	10
	27 Warsaw	PL								
	28 Plock	PL	2		< RL	< RL		< RL	< RL	4
	29 Kiezmark	PL	2		< RL	< RL		< RL	< RL	9
Baltic Sea	30 Baltic Sea LT64	LT	1			< RL		< RL	< RL	9
	31 Baltic Sea LT 20	LT	4	< RL	8					
	32 Baltic Sea LT6	LT	4	< RL	5					
	33 Curonian Lagoon LT10	LT	4	< RL	2					
	34 Oskarshamn (S36)	SE	1			< RL		< RL	< RL	9
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S56: Time averages

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK	1		< RL			< RL	< RL	5
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK	1		< RL			< RL	< RL	5
Oder	46 Bohumin	CZ								
	47 Chalupki	PL	2		< RL			< RL	< RL	10
	48 Wroclaw	PL								
	49 Krajnik	PL	2		< RL			< RL	< RL	5
The Great Belt	50 Halskov Rev	DK	2		< RL			< RL	< RL	5
	51 Asnaes Rev	DK	1		< RL			< RL	< RL	5
The Sound	52 The Sound S	DK	1		< RL			< RL	< RL	5
	53 The Sound N(A)	DK	1		< RL			< RL	< RL	5
Kattegat	54 Kattegat-413	DK	1		< RL			< RL	< RL	5
	55 Ringhals (35)	SE	2		< RL			< RL	< RL	5
Skagerrak	56 Fjaellbacka	SE	2		< RL	< RL		< RL	< RL	4
Elbe	57 Hrensko	CZ								
	58 Geesthacht	DE	56	< RL	9					
	59 Wedel	DE	12	< RL	4					
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE	26	< RL	6					
	62 Breisach am Rhein	DE	12	< RL	2					
	63 Lauterbourg	FR								
	64 Worms	DE	12	< RL	6					
	65 Koblenz	DE	24	< RL	1					
	66 Trebur	DE	14	< RL	5					
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU	43	< RL	12					
	69 Wincheringen	DE	12	< RL	1					
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE	28	< RL	9					
	72 Andenne	BE	28	< RL	4					
	73 Huy	BE	28	< RL	10					
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE	27	< RL	4					
	77 Eijsden	NL								
Molse Nete	78 Geel	BE	27	< RL	1					
Scheldt	79 Doel	BE	28	< RL	12					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S57:** Time averages

DENSE

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

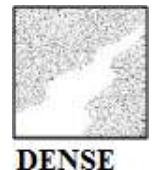
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80 Terschelling, 100 km from coast	NL								
	81 Noordwijk, 70 km from coast	NL								
	82 Noordwijk, 10 km from coast	NL								
	83 Gravelines (EDF)	FR								
Seine	84 Nogent sur Seine	FR								
	85 Le Vesinet	FR								
Channel	86 Paluel	FR								
	87 Penly	FR								
	88 Jobourg	FR								
	89 La Hague-Jardeheu	FR								
	90 Flamanville	FR								
Loire	91 Belleville sur Loire	FR								
	92 Dampierre en Burly	FR								
	93 Saint Laurent des Eaux	FR								
	94 Chinon (Candes-Aval)	FR								
	95 Angers (EDF)	FR								
Garonne	96 Golfech - St. Romain le Noble	FR	1	< RL	< RL			< RL	< RL	3
Atlantic Ocean	97 Arcachon	FR								
	98 Cabo Ajo	ES	8	< RL	3					
	99 Brest	FR								
	100 Cabo Silleiro	ES	4	< RL	8					
	101 Isla Cristina	ES	4	< RL	5					
	102 Puerto de Cadiz	ES	4	< RL	1					
	103 Estrecho de Gibraltar	ES	3	< RL	< RL	< RL		< RL	< RL	7
	104 Puerto De Las Palmas	ES	4	< RL	3					
Mino	105 Lugo	ES	4	< RL	4					
	106 Orense	ES	4	< RL	5					
	107 Caldelas De Tuy	ES	4	< RL	9					
Duero	108 Garray	ES	4	< RL	4					
	109 Quintanilla	ES	4	< RL	10					
	110 Villalcampo	ES	4	< RL	7					
Tagus	111 Trillo Arriba	ES	4	< RL	12					
	112 Trillo Abajo	ES	13	< RL	6					
	113 Zorita Arriba	ES	12	< RL	8					
	114 Zorita Abajo	ES	4	< RL	12					
	115 Aranjuez	ES	4	< RL	9					
	116 Toledo	ES	4		< RL	4				
	117 Talavera	ES	4	< RL	9					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S58: Time averages

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	5				
	119	Embalse de Torrejon	ES	16	< RL	12				
	120	Embalse de Alcantara	ES	15	< RL	10				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	4	< RL	6				
	124	Orellana	ES	2		< RL		< RL	< RL	12
	125	Puente Palmas	ES	4	< RL	12				
	126	San Lucar	ES	4	< RL	12				
Guadalquivir	127	Mengibar	ES	3	< RL	< RL	< RL		< RL	1
	128	Andujar Arriba	ES	4	< RL	4				
	129	Andujar Abajo	ES	10	< RL	2				
	130	El Carpio	ES	4	< RL	1				
	131	Posadas	ES	4	< RL	7				
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	2				
	134	Embalse De Alarcon	ES	4	< RL	5				
	135	Alcala Del Jucar	ES	4	< RL	8				
	136	Cofrentes Abajo	ES	11	< RL	9				
Ebro	137	Garona Arriba	ES	9	< RL	< RL	< RL		< RL	8
	138	Garona Abajo	ES	23	< RL	9				
	139	Mendavia	ES	4	< RL	10				
	140	Zaragoza-Rio	ES	4	< RL	10				
	141	Sastago	ES	4	< RL	4				
	142	Ribarroja	ES	12	< RL	1				
	143	Asco Abajo	ES	27	< RL	5				
	144	Garcia	ES	4	< RL	11				
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR	1	< RL	< RL			< RL	3
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S59:** Time averages

DENSE

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

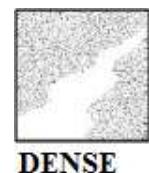
Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	4	< RL	1				
	155	Cabo de San Antonio	ES	4	< RL	7				
	156	Puerto de Palma	ES	4	< RL	7				
	157	Puerto de Tarragona	ES	4	< RL	5				
	158	Cabo de Creus	ES	8	< RL	1				
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT	5	< RL	1				
	164	Lapsi	MT	4	< RL	4				
	165	Wied Għammieq	MT	3		< RL	< RL	< RL	< RL	11
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG	1			< RL		< RL	7
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	25	< RL	10				
	177	Dravograd	SI	2	< RL		< RL	< RL	< RL	2
Sava	178	Krsko	SI	4	< RL	9				
Tisza	179	Tiszabecs	HU							
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S60: Time averages

YEAR : 2018
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE	11	< RL	1				
	189	Jochenstein	AT	16	< RL	11				
	190	Wolfsthal	AT	12	< RL	1				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	12	< RL	11				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	12	< RL	10				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	12	< RL	3				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	12	< RL	12				
	219	Cernavoda*	RO	12	< RL	1				
	220	Tulcea	RO	12	< RL	7				
	221	Sfantu Gheorge Tulcea	RO	12	< RL	7				
	222	Galati	RO	12	< RL	2				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR	4	< RL	8				
Olt	225	Miercurea Ciuc	RO	12	< RL	6				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S61:** Time averages

DENSE

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

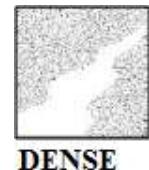
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE	2		< RL	< RL		< RL	< RL	9
Gulf Of Bothnia	2 Forsmark (F135)	SE	1			< RL		< RL	< RL	9
	3 Bottenhavet (C14)	SE	1			< RL		< RL	< RL	9
	4 Bottenviken (A5)	SE	1			< RL		< RL	< RL	9
Kemijoki	5 Kemi	FI	1				< RL	< RL	< RL	10
Oulujoki	6 Oulu	FI	1				< RL	< RL	< RL	10
Kokemaenjoki	7 Pori	FI	1				< RL	< RL	< RL	10
Kymijoki	8 Kotka	FI	1				< RL	< RL	< RL	10
Narva	9 Narva	EE	4	< RL	3					
Gulf Of Finland	10 Gulf Of Finland, N8	EE	1		< RL			< RL	< RL	5
	11 Gulf Of Finland, EE17	EE	1		< RL			< RL	< RL	6
	12 Gulf Of Finland, PE	EE	1		< RL			< RL	< RL	5
	13 Gulf Of Finland, PW	EE	1		< RL			< RL	< RL	5
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT	4		< RL	< RL		< RL	< RL	5
Neman	17 Neman above Druskininkai	LT	4	< RL	2					
	18 Kauno Marios	LT	6		< RL	8				
	19 Neris River Near Buivydžiai	LT	12	< RL	7					
	20 Skirvytė River	LT	4	< RL	7					
	21 Akmena-Danė River	LT	4	< RL	7					
	22 Plateliai Lake	LT	2		< RL	< RL		< RL	< RL	7
	23 Šešupė River Transb (Russia)	LT	4	< RL	7					
	24 Šventoji River Mouth	LT	4	< RL	5					
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezmark	PL								
Baltic Sea	30 Baltic Sea LT64	LT	1			< RL		< RL	< RL	8
	31 Baltic Sea LT 20	LT	3		< RL	< RL		< RL	< RL	5
	32 Baltic Sea LT6	LT	3		< RL	< RL		< RL	< RL	8
	33 Curonian Lagoon LT10	LT	4	< RL	8					
	34 Oskarshamn (S36)	SE	1			< RL		< RL	< RL	9
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S62: Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41	Moen	DK	1	< RL			< RL	< RL	6
	42	Gedser Odde	DK							
	43	Luebeck Bay	DE							
	44	Femern Baelt	DK	1	< RL			< RL	< RL	6
	45	Langeland Baelt	DK	1	< RL			< RL	< RL	6
Oder	46	Bohumin	CZ							
	47	Chalupki	PL							
	48	Wroclaw	PL							
	49	Krajnik	PL							
The Great Belt	50	Halskov Rev	DK	1	< RL			< RL	< RL	6
	51	Asnaes Rev	DK	1	< RL			< RL	< RL	6
The Sound	52	The Sound S	DK	1	< RL			< RL	< RL	6
	53	The Sound N(A)	DK	1	< RL			< RL	< RL	6
Kattegat	54	Kattegat-413	DK	1	< RL			< RL	< RL	6
	55	Ringhals (35)	SE	2	< RL		< RL	< RL	< RL	4
Skagerrak	56	Fjaellbacka	SE	2	< RL	< RL		< RL	< RL	4
Elbe	57	Hrensko	CZ							
	58	Geesthacht	DE							
	59	Wedel	DE							
	60	Cuxhaven	DE							
Rhine	61	Weil am Rhein	DE	1	< RL			< RL	< RL	1
	62	Breisach am Rhein	DE							
	63	Lauterbourg	FR							
	64	Worms	DE							
	65	Koblenz	DE							
	66	Trebur	DE							
Moselle	67	Cattenom (Aval)	FR							
	68	Schengen	LU							
	69	Wincheringen	DE							
Meuse	70	Chooz (Givet)	FR							
	71	Heer-Agimont	BE	28	< RL	10				
	72	Andenne	BE	28	< RL	10				
	73	Huy	BE	28	< RL	10				
	74	Ampsin	BE							
	75	Monsin	BE							
	76	Lixhe	BE	2				< RL	< RL	12
	77	Eijsden	NL							
Molse Nete	78	Geel	BE	28	< RL	4				
Scheldt	79	Doel	BE	28	< RL	1				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S63:** Time averages

DENSE

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

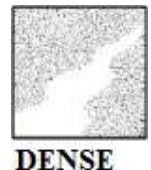
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80 Terschelling, 100 km from coast	NL								
	81 Noordwijk, 70 km from coast	NL								
	82 Noordwijk, 10 km from coast	NL								
	83 Gravelines (EDF)	FR								
Seine	84 Nogent sur Seine	FR								
	85 Le Vesinet	FR								
Channel	86 Paluel	FR								
	87 Penly	FR								
	88 Jobourg	FR								
	89 La Hague-Jardeheu	FR								
	90 Flamanville	FR								
Loire	91 Belleville sur Loire	FR								
	92 Dampierre en Burly	FR								
	93 Saint Laurent des Eaux	FR								
	94 Chinon (Candes-Aval)	FR								
	95 Angers (EDF)	FR								
Garonne	96 Golfech - St. Romain le Noble	FR								
Atlantic Ocean	97 Arcachon	FR								
	98 Cabo Ajo	ES	9	< RL	< RL		< RL	< RL	< RL	5
	99 Brest	FR								
	100 Cabo Silleiro	ES	4	< RL	2					
	101 Isla Cristina	ES	4	< RL	3					
	102 Puerto de Cadiz	ES	4	< RL	6					
	103 Estrecho de Gibraltar	ES	4	< RL	2					
	104 Puerto De Las Palmas	ES								
Mino	105 Lugo	ES	4	< RL	1					
	106 Orense	ES	4	< RL	2					
	107 Caldelas De Tuy	ES	4	< RL	4					
Duero	108 Garray	ES	4	< RL	4					
	109 Quintanilla	ES	4	< RL	7					
	110 Villalcampo	ES	4	< RL	10					
Tagus	111 Trillo Arriba	ES	4	< RL	3					
	112 Trillo Abajo	ES	14	< RL	9					
	113 Zorita Arriba	ES	12	< RL	2					
	114 Zorita Abajo	ES	4	< RL	12					
	115 Aranjuez	ES	4	< RL	9					
	116 Toledo	ES	4	< RL	9					
	117 Talavera	ES	4	< RL	3					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S64: Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	12	< RL	8				
	119	Embalse de Torrejon	ES	12	< RL	3				
	120	Embalse de Alcantara	ES	16	< RL	1				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	3	< RL	< RL	< RL		< RL	3
	124	Orellana	ES	3	< RL	< RL	< RL		< RL	3
	125	Puente Palmas	ES	3	< RL	< RL		< RL	< RL	10
	126	San Lucar	ES	3	< RL	< RL		< RL	< RL	3
Guadalquivir	127	Mengibar	ES							
	128	Andujar Arriba	ES							
	129	Andujar Abajo	ES							
	130	El Carpio	ES							
	131	Posadas	ES							
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	11				
	134	Embalse De Alarcon	ES	4	< RL	5				
	135	Alcala Del Jucar	ES	3	< RL	< RL		< RL	< RL	11
	136	Cofrentes Abajo	ES	12	< RL	1				
Ebro	137	Garona Arriba	ES							
	138	Garona Abajo	ES							
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES							
	141	Sastago	ES	4	< RL	7				
	142	Ribarroja	ES	12	< RL	1				
	143	Asco Abajo	ES	27	< RL	1				
	144	Garcia	ES	4	< RL	3				
	145	Cherta	ES							
Rhone	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 BQ/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S65:** Time averages

DENSE

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

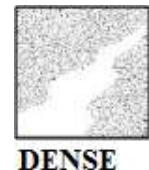
Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	4	< RL	7				
	155	Cabo de San Antonio	ES	4	< RL	2				
	156	Puerto de Palma	ES	4	< RL		< RL	< RL	< RL	8
	157	Puerto de Tarragona	ES	3	< RL	< RL	< RL		< RL	2
	158	Cabo de Creus	ES	8	< RL	8				
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT	8	< RL	2				
	164	Lapsi	MT	8	< RL	9				
	165	Wied Għammieq	MT	8	< RL	6				
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG							
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	25	< RL	4				
	177	Dravograd	SI							
Sava	178	Krsko	SI							
Tisza	179	Tiszabecs	HU							
	180	Gergelyugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S66: Time averages

YEAR : 2019
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE							
	189	Jochenstein	AT	16	< RL	6				
	190	Wolfsthal	AT	12	< RL	6				
	191	Rajka	HU							
	192	Szob	HU							
	193	Budapest - North I	HU							
	194	Budapest - North II	HU							
	195	Budapest - Danube	HU							
	196	Budapest - Budafok	HU							
	197	Nagyteteny	HU							
	198	Dunaujvaros	HU							
	199	Dunafoldvar II	HU							
	200	Dunafoldvar I	HU							
	201	Paks	HU							
	202	Kalocsa	HU							
	203	Gerjen	HU							
	204	Baja	HU							
	205	Mohacs	HU							
	206	Drobeta Turnu Severin	RO	12	< RL	5				
	207	Novo Selo	BG							
	208	Ruse	BG							
	209	Bechet	RO	12	< RL	7				
	210	Oriahovo	BG							
	211	Baykal	BG							
	212	Nikopol	BG							
	213	Belene	BG							
	214	Zimnicea	RO	12	< RL	12				
	215	Svishtov	BG							
	216	Ruse	BG							
	217	Silistra	BG							
	218	Calarasi	RO	12	< RL	12				
	219	Cernavoda*	RO	12	< RL	6				
	220	Tulcea	RO	12	< RL	12				
	221	Sfantu Gheorge Tulcea	RO	12	< RL	11				
	222	Galati	RO	12	< RL	5				
Lough Neagh	223	Lough Neagh	UK							
Sava	224	Zagreb	HR	4	< RL	< RL		< RL	< RL	12
Olt	225	Miercurea Ciuc	RO	12	< RL	12				

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S67:** Time averages

DENSE

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

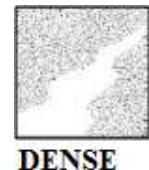
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Indalsaelven	1 Oestersund-Storsjoen	SE	2		< RL	< RL		< RL	< RL	5
Gulf Of Bothnia	2 Forsmark (F135)	SE	1				< RL	< RL	< RL	10
	3 Bottenhavet (C14)	SE								
	4 Bottenviken (A5)	SE	1			< RL		< RL	< RL	9
Kemijoki	5 Kemi	FI	1		< RL			< RL	< RL	5
Oulujoki	6 Oulu	FI	1		< RL			< RL	< RL	5
Kokemaenjoki	7 Pori	FI	1		< RL			< RL	< RL	5
Kymijoki	8 Kotka	FI	1		< RL			< RL	< RL	4
Narva	9 Narva	EE	4	< RL	3					
Gulf Of Finland	10 Gulf Of Finland, N8	EE	1		< RL			< RL	< RL	6
	11 Gulf Of Finland, EE17	EE	1		< RL			< RL	< RL	6
	12 Gulf Of Finland, PE	EE	1		< RL			< RL	< RL	6
	13 Gulf Of Finland, PW	EE	1		< RL			< RL	< RL	6
Daugava	14 Daugavpils	LV								
	15 Riga	LV								
	16 Drūkšiai Lake	LT	4		< RL	5				
Neman	17 Neman above Druskininkai	LT	4	< RL	5					
	18 Kauno Marios	LT	6		< RL	4				
	19 Neris River Near Buivydžiai	LT	12	< RL	2					
	20 Skirvytė River	LT	4	< RL	5					
	21 Akmena-Danė River	LT	4	< RL	7					
	22 Plateliai Lake	LT	2		< RL	4				
	23 Šešupė River Transb (Russia)	LT	4	< RL	2					
	24 Šventoji River Mouth	LT	4	< RL	7					
Vistula	25 Krakow Tyniec	PL								
	26 Annopol	PL								
	27 Warsaw	PL								
	28 Plock	PL								
	29 Kiezmard	PL								
Baltic Sea	30 Baltic Sea LT64	LT	1			< RL		< RL	< RL	8
	31 Baltic Sea LT 20	LT	3		< RL	8				
	32 Baltic Sea LT6	LT	3		< RL	5				
	33 Curonian Lagoon LT10	LT	3	< RL	< RL	< RL		< RL	< RL	2
	34 Oskarshamn (S36)	SE	1				< RL	< RL	< RL	9
	35 Baltic Sea P-140	PL								
	36 Baltic Sea P-1	PL								
	37 Baltic Sea P-39	PL								
	38 Baltic Sea P-116	PL								
	39 Baltic Sea P-110	PL								
	40 Svenskehavn	DK								

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S68: Time averages

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Baltic Sea	41 Moen	DK	1			< RL		< RL	< RL	9
	42 Gedser Odde	DK								
	43 Luebeck Bay	DE								
	44 Femern Baelt	DK								
	45 Langeland Baelt	DK	1			< RL		< RL	< RL	9
Oder	46 Bohumin	CZ	4	< RL	5					
	47 Chalupki	PL								
	48 Wroclaw	PL								
	49 Krajnik	PL								
The Great Belt	50 Halskov Rev	DK	2			< RL		< RL	< RL	9
	51 Asnaes Rev	DK	1			< RL		< RL	< RL	9
The Sound	52 The Sound S	DK	1			< RL		< RL	< RL	9
	53 The Sound N(A)	DK								
Kattegat	54 Kattegat-413	DK								
	55 Ringhals (35)	SE	2		< RL	< RL		< RL	< RL	6
Skagerrak	56 Fjaellbacka	SE	2		< RL	< RL		< RL	< RL	4
Elbe	57 Hrensko	CZ								
	58 Geesthacht	DE								
	59 Wedel	DE								
	60 Cuxhaven	DE								
Rhine	61 Weil am Rhein	DE								
	62 Breisach am Rhein	DE								
	63 Lauterbourg	FR								
	64 Worms	DE								
	65 Koblenz	DE								
	66 Trebur	DE								
Moselle	67 Cattenom (Aval)	FR								
	68 Schengen	LU	42	< RL	9					
	69 Wincheringen	DE								
Meuse	70 Chooz (Givet)	FR								
	71 Heer-Agimont	BE	52	< RL	7					
	72 Andenne	BE	52	< RL	9					
	73 Huy	BE	52	< RL	9					
	74 Ampsin	BE								
	75 Monsin	BE								
	76 Lixhe	BE	52	< RL	6					
	77 Eijsden	NL								
Molse Nete	78 Geel	BE	52	< RL	2					
Scheldt	79 Doel	BE	52	< RL	5					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.
 Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S69:** Time averages

DENSE

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

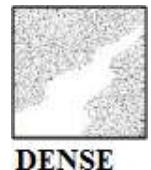
Catchment	Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
North Sea	80 Terschelling, 100 km from coast	NL								
	81 Noordwijk, 70 km from coast	NL								
	82 Noordwijk, 10 km from coast	NL								
	83 Gravelines (EDF)	FR								
Seine	84 Nogent sur Seine	FR								
	85 Le Vesinet	FR								
Channel	86 Paluel	FR								
	87 Penly	FR								
	88 Jobourg	FR								
	89 La Hague-Jardeheu	FR								
	90 Flamanville	FR								
Loire	91 Belleville sur Loire	FR								
	92 Dampierre en Burly	FR								
	93 Saint Laurent des Eaux	FR								
	94 Chinon (Candes-Aval)	FR								
	95 Angers (EDF)	FR								
Garonne	96 Golfech - St. Romain le Noble	FR								
Atlantic Ocean	97 Arcachon	FR								
	98 Cabo Ajo	ES	6	< RL		< RL	< RL	< RL	< RL	8
	99 Brest	FR								
	100 Cabo Silleiro	ES	4	< RL	6					
	101 Isla Cristina	ES	1	< RL				< RL	< RL	1
	102 Puerto de Cadiz	ES	4	< RL	12					
	103 Estrecho de Gibraltar	ES	4	< RL	6					
	104 Puerto De Las Palmas	ES	2	< RL		< RL		< RL	< RL	1
Mino	105 Lugo	ES	4	< RL	4					
	106 Orense	ES	3	< RL		< RL	< RL	< RL	< RL	1
	107 Caldelas De Tuy	ES	3	< RL		< RL	< RL	< RL	< RL	1
Duero	108 Garray	ES	3	< RL		< RL	< RL	< RL	< RL	2
	109 Quintanilla	ES	3	< RL		< RL	< RL	< RL	< RL	2
	110 Villalcampo	ES	3	< RL		< RL	< RL	< RL	< RL	7
Tagus	111 Trillo Arriba	ES	4	< RL	6					
	112 Trillo Abajo	ES	13	< RL	8					
	113 Zorita Arriba	ES	12	< RL	2					
	114 Zorita Abajo	ES	4	< RL	6					
	115 Aranjuez	ES	4	< RL	3					
	116 Toledo	ES	4	< RL	9					
	117 Talavera	ES	4	< RL	3					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S70: Time averages

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Tagus	118	Valdecanas	ES	9	< RL	2				
	119	Embalse de Torrejon	ES	12	< RL	6				
	120	Embalse de Alcantara	ES	12	< RL	11				
	121	Vila Velha de Rodao	PT							
	122	Valada Do Ribatejo	PT							
Guadiana	123	Balbuena	ES	1		< RL		< RL	< RL	6
	124	Orellana	ES	1		< RL		< RL	< RL	6
	125	Puente Palmas	ES	2	< RL			< RL	< RL	3
	126	San Lucar	ES							
Guadalquivir	127	Mengibar	ES	4		< RL	< RL	< RL	< RL	4
	128	Andujar Arriba	ES	2			< RL	< RL	< RL	10
	129	Andujar Abajo	ES	1		< RL			< RL	4
	130	El Carpio	ES	2			< RL	< RL	< RL	10
	131	Posadas	ES	3		< RL	< RL	< RL	< RL	4
	132	Sevilla Rio	ES							
Jucar	133	Venta De Juan Romero	ES	4	< RL	8				
	134	Embalse De Alarcon	ES	4	< RL	5				
	135	Alcala Del Jucar	ES	4	< RL	11				
	136	Cofrentes Abajo	ES	12	< RL	9				
Ebro	137	Garona Arriba	ES							
	138	Garona Abajo	ES							
	139	Mendavia	ES	4	< RL	1				
	140	Zaragoza-Rio	ES							
	141	Sastago	ES	3	< RL		< RL	< RL	< RL	7
	142	Ribarroja	ES	10	< RL	8				
	143	Asco Abajo	ES	21	< RL	2				
	144	Garcia	ES	4	< RL	9				
	145	Cherta	ES							
Rhône	146	Creys-Malville (EDF)	FR							
	147	Le Bugey (Loyettes)	FR							
	148	Saint Alban	FR							
	149	Cruas (Aval)	FR							
	150	Tricastin	FR							
	151	Roquemaure (Marcoule)	FR							
	152	Vallabregues	FR							
Po	153	Casale Monferrato	IT							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

**Table S71:** Time averages

DENSE

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

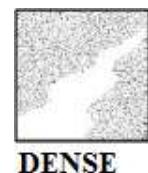
Catchment		Locality	N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Mediterranean Sea	154	Garrucha	ES	4	< RL	12				
	155	Cabo de San Antonio	ES	3	< RL	6				
	156	Puerto de Palma	ES	3	< RL		< RL	< RL	< RL	10
	157	Puerto de Tarragona	ES	4	< RL	9				
	158	Cabo de Creus	ES	8	< RL	9				
	159	Santa Teresa Gallura	IT							
	160	Olbia	IT							
	161	Maratea	IT							
	162	Rotondella	IT							
	163	Xwejni	MT	4	< RL	6				
	164	Lapsi	MT	4	< RL	9				
	165	Wied Ghammieg	MT	4	< RL	10				
	166	Polis	CY							
	167	Limassol	CY							
	168	Vasilikos	CY							
	169	Larnaca	CY							
	170	Paralimni	CY							
Maritsa	171	Kostenec	BG							
	172	Plovdiv	BG							
	173	Mirovo	BG							
	174	Harmanli	BG							
	175	Svilengrad	BG							
Drau	176	Schwabegg	AT	25	< RL	8				
	177	Dravograd	SI							
Sava	178	Krsko	SI							
Tisza	179	Tiszabecs	HU							
	180	Gergelyiugornya	HU							
	181	Zahony	HU							
	182	Tiszabercel	HU							
	183	Rakamaz	HU							
	184	Szolnok	HU							
	185	Mindszent	HU							
	186	Tiszasziget I	HU							
	187	Tiszasziget II	HU							

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Table S72: Time averages

YEAR : 2020
SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Catchment		Locality		N	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual avg.	Monthly max	M
Danube	188	Vilshofen	DE								
	189	Jochenstein	AT	15	< RL	8					
	190	Wolfsthal	AT	12	< RL	8					
	191	Rajka	HU								
	192	Szob	HU								
	193	Budapest - North I	HU								
	194	Budapest - North II	HU								
	195	Budapest - Danube	HU								
	196	Budapest - Budafok	HU								
	197	Nagyteteny	HU								
	198	Dunaujvaros	HU								
	199	Dunafoldvar II	HU								
	200	Dunafoldvar I	HU								
	201	Paks	HU								
	202	Kalocsa	HU								
	203	Gerjen	HU								
	204	Baja	HU								
	205	Mohacs	HU								
	206	Drobeta Turnu Severin	RO	12	< RL	1					
	207	Novo Selo	BG								
	208	Ruse	BG								
	209	Bechet	RO	12	< RL	8					
	210	Oriahovo	BG								
	211	Baykal	BG								
	212	Nikopol	BG								
	213	Belene	BG								
	214	Zimnicea	RO	12	< RL	4					
	215	Svishtov	BG								
	216	Ruse	BG								
	217	Silistra	BG								
	218	Calarasi	RO	12	< RL	11					
	219	Cernavoda*	RO	10	< RL	3					
	220	Tulcea	RO	12	< RL	7					
	221	Sfantu Gheorge Tulcea	RO	12	< RL	2					
	222	Galati	RO	12	< RL	5					
Lough Neagh	223	Lough Neagh	UK								
Sava	224	Zagreb	HR	4	< RL	3					
Olt	225	Miercurea Ciuc	RO	12	< RL	5					

RL: reporting level for ^{137}Cs in surface water, i.e. 1.0 Bq/L (see Appendix B)

*: sampling location downstream of a nuclear power plant

N: Number of measurements considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

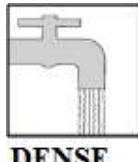


Fig. W1: Geographical and time averages

DENSE

YEAR : 2015
SAMPLE TYPE : drinking water (Bq l^{-1})
NUCLIDE CATEGORY : tritium (${}^3\text{H}$)

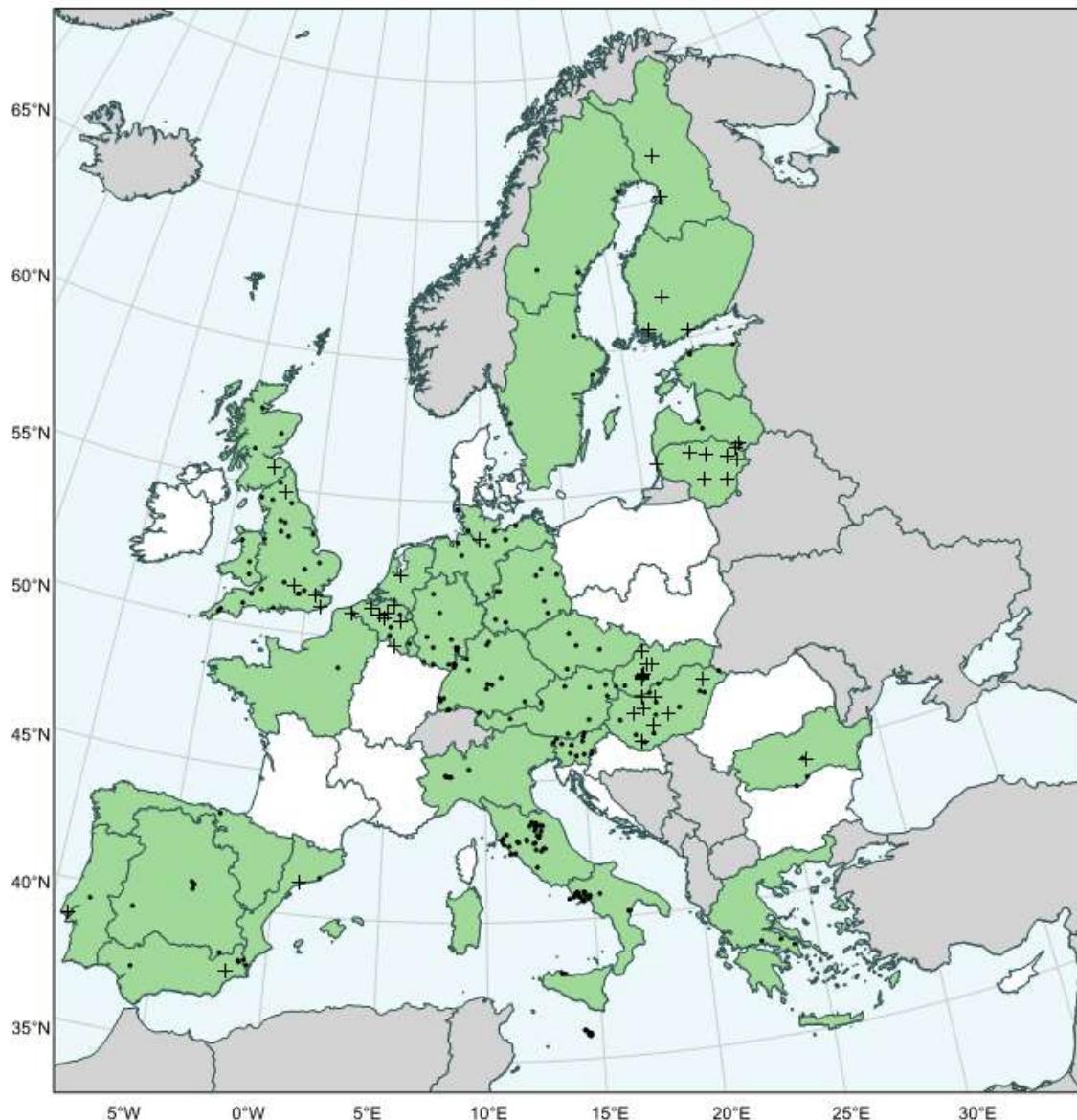
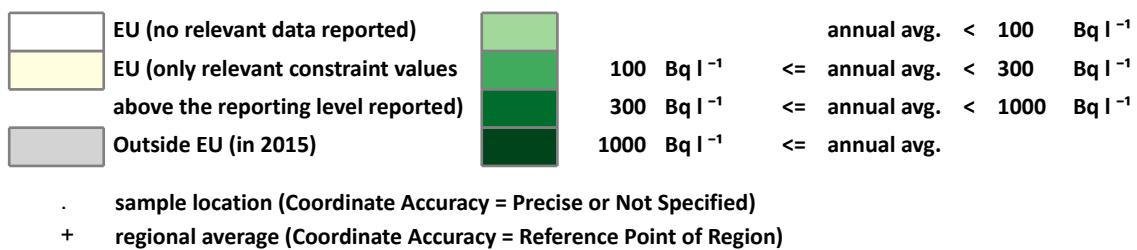
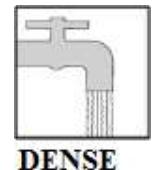


Table W1: Geographical and time averages


YEAR : **2015**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **tritium (${}^3\text{H}$)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	117	9	< RL	< RL	12				
BE	48	12	< RL	< RL	11				
BG									
CY									
CZ	22	4	< RL	< RL	1				
DE-N	38	10	< RL	< RL	1				
DE-C	25	12	< RL	< RL	8				
DE-S	77	18	< RL	< RL	6				
DE-E	24	9	< RL	< RL	3				
DE	164	49	< RL	< RL	6				
DK									
EE	6	3	< RL	< RL		< RL	< RL	< RL	3
ES-N	12	1	< RL	< RL	8				
ES-C	37	6	< RL	< RL	10				
ES-S	40	6	< RL	< RL	3				
ES-E	45	3	< RL	< RL	9				
ES	134	16	< RL	< RL	9				
FI-N	4	2		< RL		< RL	< RL	< RL	10
FI-S	6	3		< RL		< RL	< RL	< RL	4
FI	10	5		< RL		< RL	< RL	< RL	4
FR-NW	5	1	< RL	< RL			< RL	< RL	2
FR-NE									
FR-SW									
FR-SE									
FR	5	1	< RL	< RL			< RL	< RL	2
GB-EN	110	25	< RL	< RL	9				
GB-WL	15	4	< RL	< RL	9				
GB-SC	23	4	< RL	< RL	1				
GB-NI									
GB	148	33	< RL	< RL	9				
GR	3	3		< RL	< RL		< RL	< RL	6
HR-A									
HR-C									
HR									
HU	65	20	< RL	< RL	5				
IE									
IT-N	30	6	< RL	< RL	2				
IT-C	36	34	< RL	< RL	11				
IT-S	120	40	< RL	< RL	6				
IT	186	80	< RL	< RL	2				
LT	80	8	< RL	< RL	4				
LU	6	1	< RL	< RL	3				
LV	16	4	< RL	< RL	3				
MT	14	13	< RL	< RL	11				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	24	2	< RL	< RL	11				
RO-N									
RO-S	72	4		< RL		< RL	< RL	< RL	6
RO	72	4		< RL		< RL	< RL	< RL	6
SE-N	6	3	< RL	< RL	< RL		< RL	< RL	3
SE-S	6	3	< RL		< RL	< RL	< RL	< RL	9
SE	12	6	< RL	< RL	3				
SI	15	12	< RL	< RL	10				
SK	81	9	< RL	< RL	6				

RL: reporting level for ${}^3\text{H}$ in drinking water, i.e. $1.0 \times 10^{-2} \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

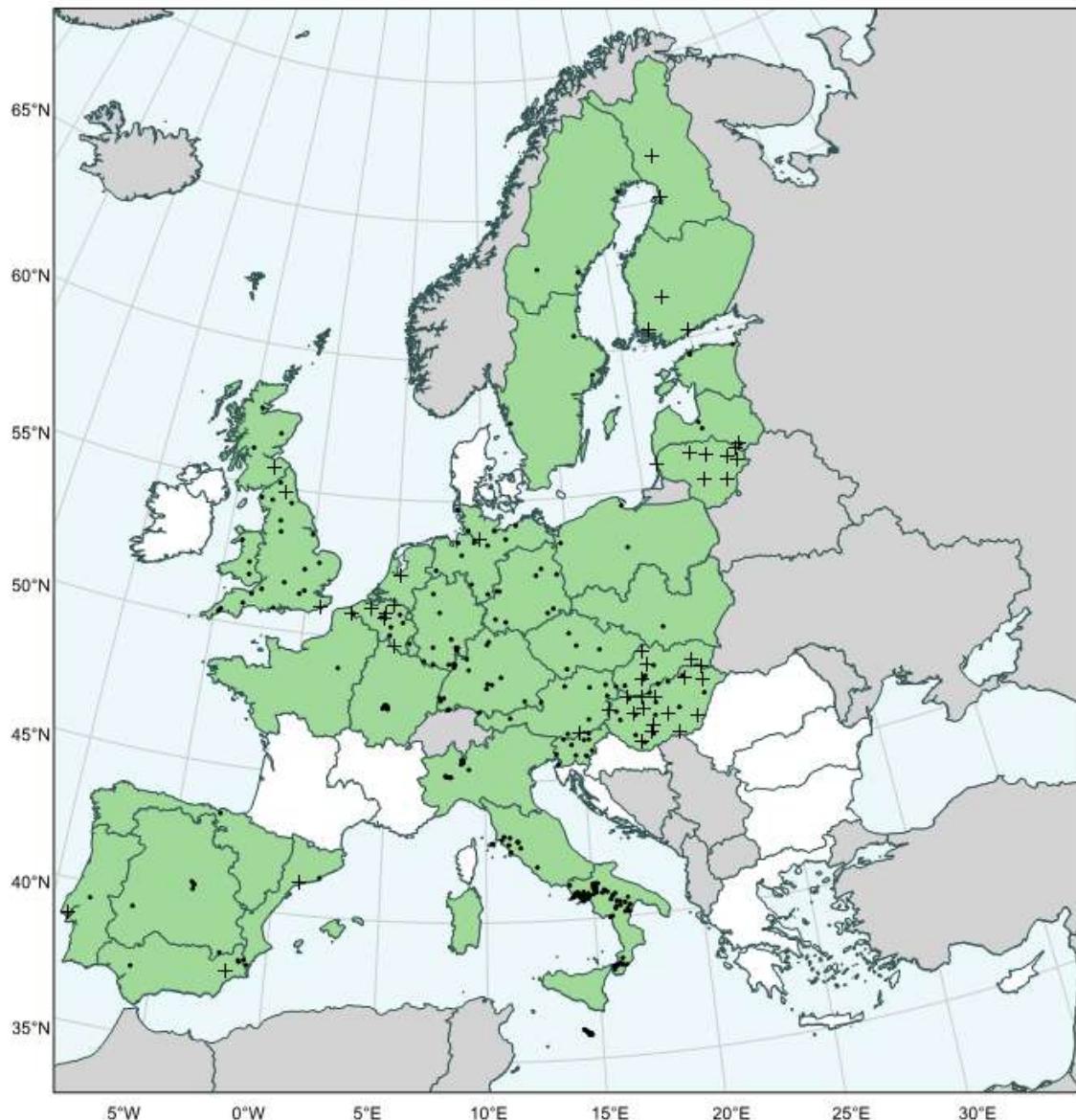
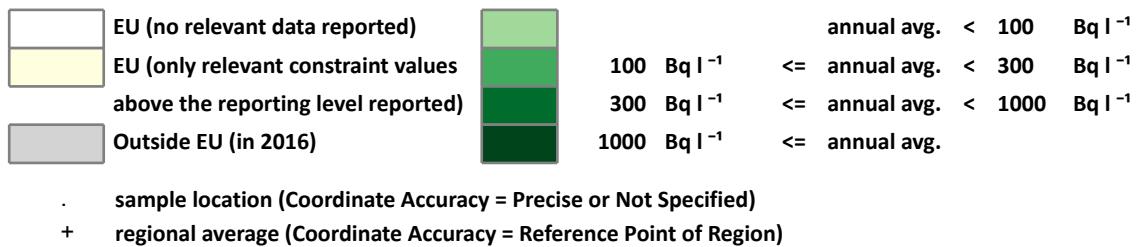


Fig. W2: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2016
drinking water (Bq l^{-1})
tritium (${}^3\text{H}$)



Azores (Portugal)



Madeira (Portugal)

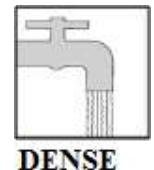


Canary Islands (Spain)



Malta



Table W2: Geographical and time averages


YEAR : **2016**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **tritium (${}^3\text{H}$)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	114	9	< RL	< RL	11				
BE	49	12	< RL	< RL	12				
BG									
CY									
CZ	17	4	< RL	< RL	1				
DE-N	39	13	< RL	< RL	7				
DE-C	24	11	< RL	< RL	2				
DE-S	86	18	< RL	< RL	4				
DE-E	21	9	< RL	< RL	3				
DE	170	51	< RL	< RL	2				
DK									
EE	6	3	< RL	< RL		< RL	< RL	< RL	2
ES-N	12	1	< RL	< RL	3				
ES-C	39	6	< RL	< RL	1				
ES-S	39	6	< RL	< RL	9				
ES-E	40	3	< RL	< RL	2				
ES	130	16	< RL	< RL	2				
FI-N	4	2		< RL		< RL	< RL	< RL	10
FI-S	6	3		< RL		< RL	< RL	< RL	4
FI	10	5		< RL		< RL	< RL	< RL	10
FR-NW	11	1	< RL	< RL	7				
FR-NE	8	8			< RL		< RL	< RL	9
FR-SW									
FR-SE									
FR	19	9	< RL	< RL	9				
GB-EN	75	20	< RL	< RL	10				
GB-WL	12	3	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	11				
GB-NI									
GB	111	27	< RL	< RL	10				
GR									
HR-A									
HR-C									
HR									
HU	88	29	< RL	< RL	5				
IE									
IT-N	38	11	< RL	< RL	10				
IT-C	11	10	< RL	< RL	11				
IT-S	148	90	< RL	< RL	12				
IT	197	111	< RL	< RL	10				
LT	80	8	< RL	< RL	2				
LU	5	1	< RL	< RL	11				
LV	16	4	< RL	< RL	10				
MT	12	12	< RL	< RL	11				
NL	12	1	< RL	< RL	1				
PL-N	3	3				< RL	< RL	< RL	12
PL-S	1	1				< RL	< RL	< RL	12
PL	4	4				< RL	< RL	< RL	12
PT	24	2	< RL	< RL	4				
RO-N									
RO-S									
RO									
SE-N	6	3		< RL	< RL		< RL	< RL	4
SE-S	6	3		< RL	< RL		< RL	< RL	4
SE	12	6		< RL	< RL		< RL	< RL	4
SI	12	11	< RL	< RL		< RL	< RL	< RL	3
SK	63	11	< RL	< RL	9				

RL: reporting level for ${}^3\text{H}$ in drinking water, i.e. $1.0 \times 10^{-2} \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. W3: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2017
drinking water (Bq l^{-1})
tritium (${}^3\text{H}$)

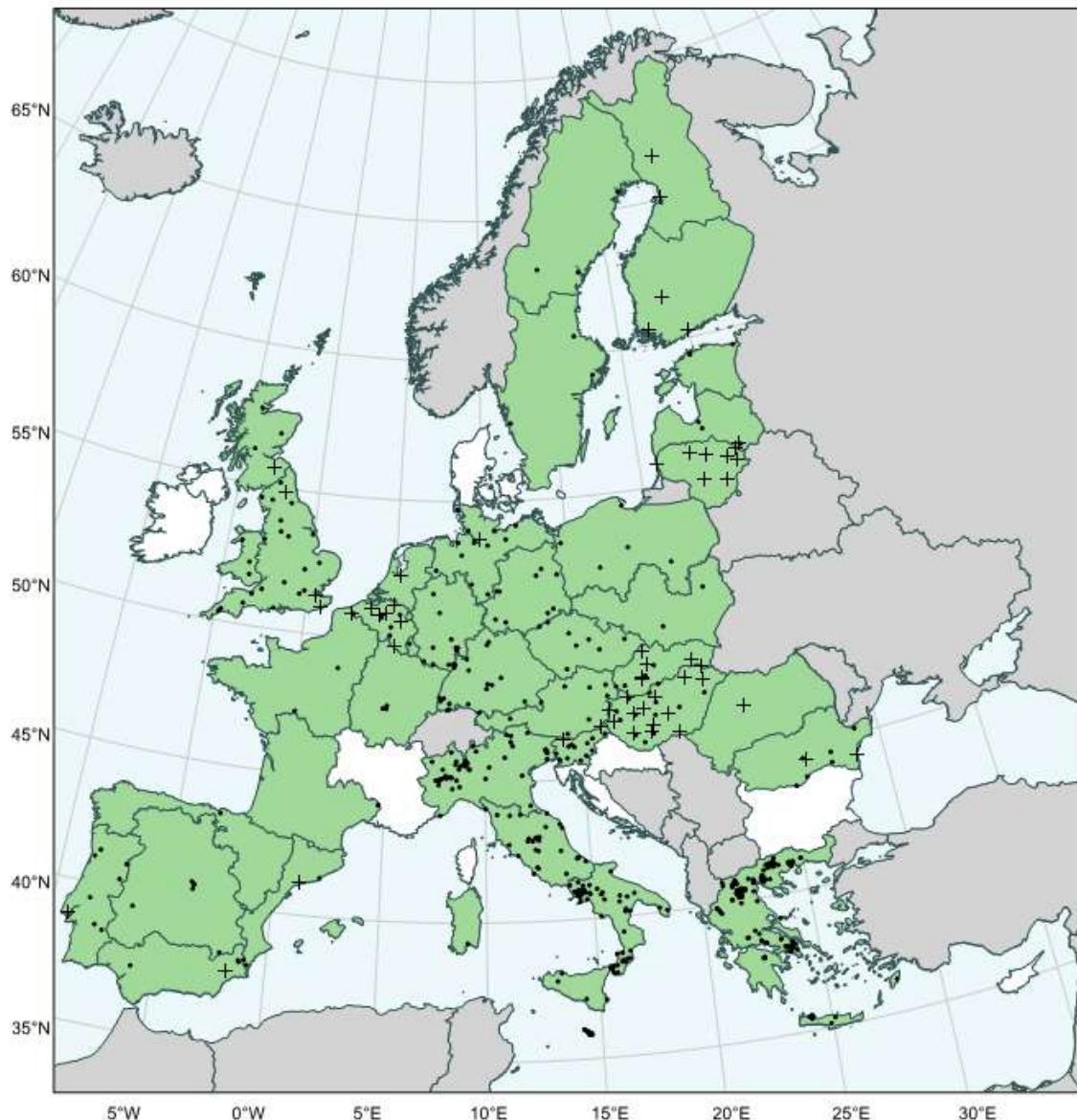
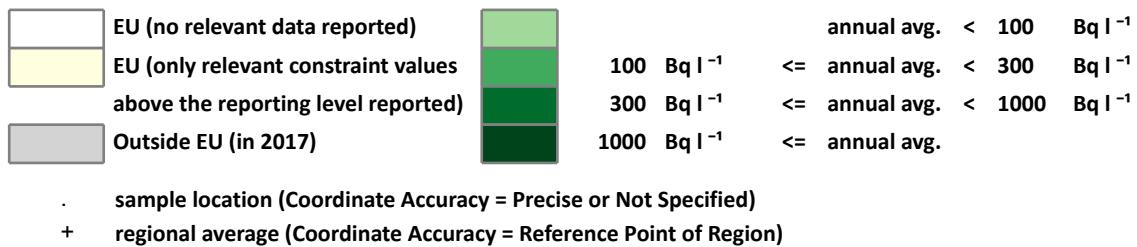
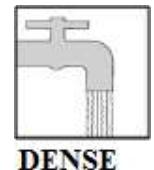


Table W3: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **tritium (${}^3\text{H}$)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	116	9	< RL	< RL	2				
BE	48	12	< RL	< RL	6				
BG									
CY									
CZ	62	8	< RL	< RL	4				
DE-N	35	13	< RL	< RL	1				
DE-C	24	11	< RL	< RL	2				
DE-S	89	20	< RL	< RL	9				
DE-E	24	9	< RL	< RL	1				
DE	172	53	< RL	< RL	2				
DK									
EE	6	3	< RL			< RL	< RL	< RL	2
ES-N	12	1	< RL	< RL	6				
ES-C	39	6	< RL	< RL	10				
ES-S	39	6	< RL	< RL	3				
ES-E	40	3	< RL	< RL	8				
ES	130	16	< RL	< RL	3				
FI-N	4	2		< RL		< RL	< RL	< RL	10
FI-S	6	3		< RL		< RL	< RL	< RL	10
FI	10	5		< RL		< RL	< RL	< RL	10
FR-NW	12	3	< RL	< RL	10				
FR-NE	5	3		< RL		< RL	< RL	< RL	10
FR-SW	5	2	< RL	< RL	10				
FR-SE									
FR	22	8	< RL	< RL	11				
GB-EN	82	22	< RL	< RL	1				
GB-WL	13	4	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	1				
GB-NI									
GB	119	30	< RL	< RL	3				
GR	204	189	< RL	< RL	1				
HR-A									
HR-C									
HR									
HU	83	26	< RL	< RL	7				
IE									
IT-N	84	54	< RL	< RL	4				
IT-C	31	27	< RL	< RL	12				
IT-S	144	60	< RL	< RL	12				
IT	259	141	< RL	< RL	12				
LT	80	8	< RL	< RL	6				
LU	11	1	< RL	< RL	11				
LV	16	4	< RL	< RL	4				
MT	15	14	< RL	< RL	8				
NL	12	1	< RL	< RL	1				
PL-N	5	5	< RL	< RL	1				
PL-S	2	2	< RL	< RL	1				
PL	7	7	< RL	< RL	1				
PT	30	8	< RL	< RL	12				
RO-N	1	1				< RL	< RL	< RL	12
RO-S	260	8	< RL	< RL	6				
RO	261	9	< RL	< RL	6				
SE-N	6	3		< RL		< RL	< RL	< RL	10
SE-S	6	3		< RL		< RL	< RL	< RL	5
SE	12	6		< RL		< RL	< RL	< RL	5
SI	18	13	< RL	< RL	12				
SK	83	11	< RL	< RL	8				

RL: reporting level for ${}^3\text{H}$ in drinking water, i.e. $1.0 \times 10^{-2} \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

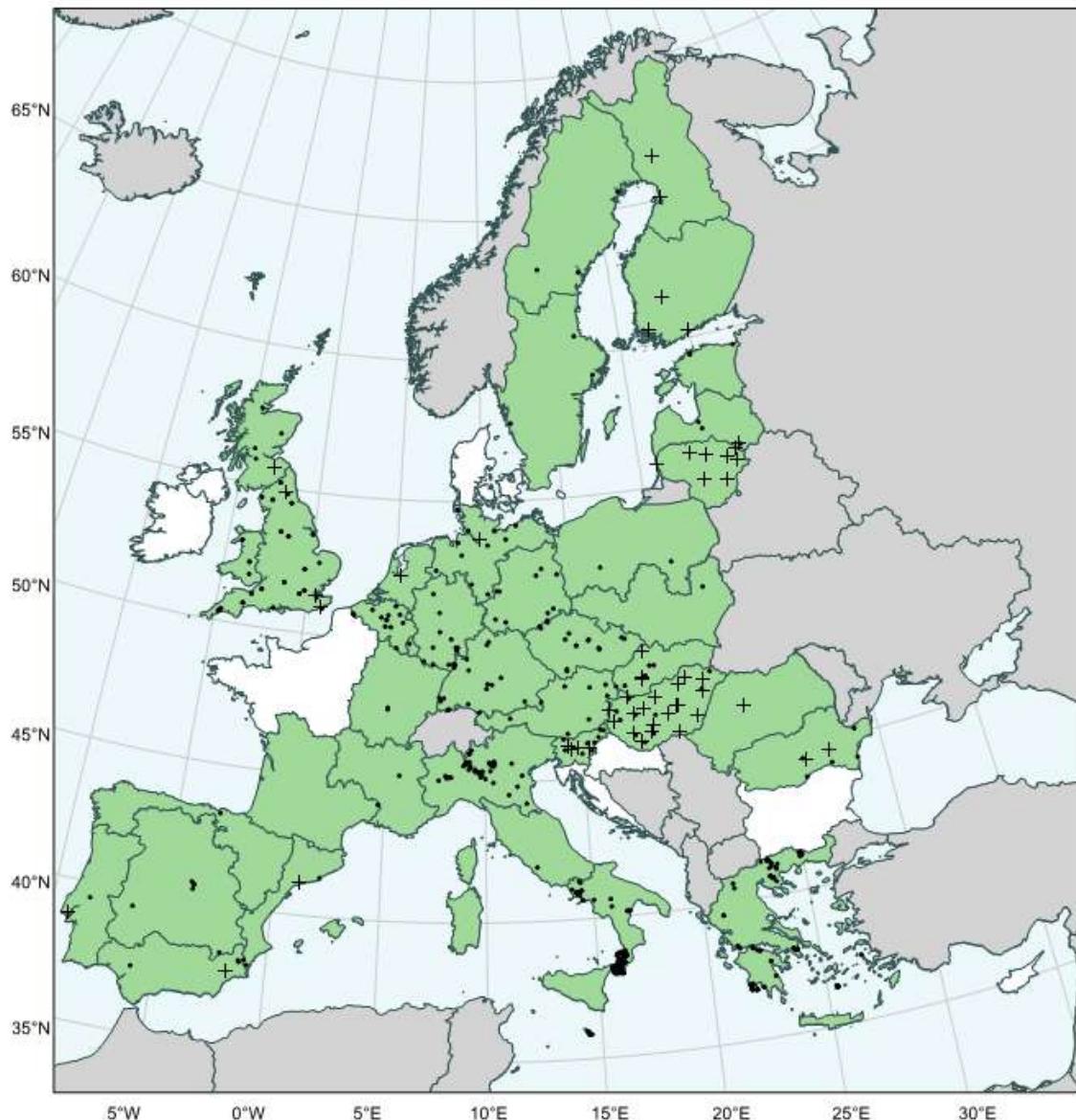
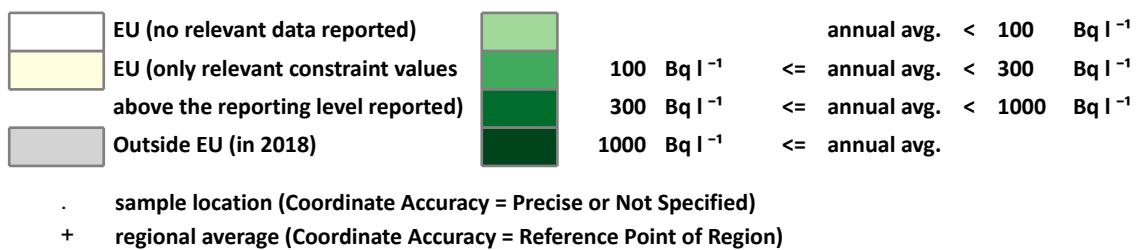


Fig. W4: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2018
drinking water (Bq l^{-1})
tritium (${}^3\text{H}$)



Azores (Portugal)



Madeira (Portugal)

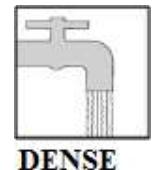


Canary Islands (Spain)



Malta



Table W4: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **tritium (${}^3\text{H}$)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	105	9	< RL	< RL	10				
BE	47	13	< RL	< RL	3				
BG									
CY									
CZ	65	17	< RL	< RL	1				
DE-N	35	12	< RL	< RL	7				
DE-C	26	12	< RL	< RL	2				
DE-S	89	19	< RL	< RL	8				
DE-E	25	9	< RL	< RL	6				
DE	175	52	< RL	< RL	2				
DK									
EE	6	3	< RL			< RL	< RL	< RL	2
ES-N	12	1	< RL	< RL	1				
ES-C	40	6	< RL	< RL	5				
ES-S	40	6	< RL	< RL	6				
ES-E	48	3	< RL	< RL	8				
ES	140	16	< RL	< RL	8				
FI-N	2	2				< RL	< RL	< RL	10
FI-S	3	3				< RL	< RL	< RL	10
FI	5	5				< RL	< RL	< RL	10
FR-NW									
FR-NE	4	2		< RL			< RL	< RL	4
FR-SW	2	2				< RL	< RL	< RL	10
FR-SE	1	1	< RL				< RL	< RL	3
FR	7	5	< RL	< RL		< RL	< RL	< RL	4
GB-EN	82	40	< RL	< RL	1				
GB-WL	10	5	< RL	< RL	1				
GB-SC	26	5	< RL	< RL	1				
GB-NI									
GB	118	50	< RL	< RL	4				
GR	80	77	< RL	< RL	2				
HR-A									
HR-C									
HR									
HU	96	29	< RL	< RL	3				
IE									
IT-N	81	47	< RL	< RL	4				
IT-C	2	1			< RL	< RL	< RL	< RL	8
IT-S	224	102	< RL	< RL	1				
IT	307	150	< RL	< RL	9				
LT	80	8	< RL	< RL	7				
LU	13	1	< RL	< RL	5				
LV	16	4	< RL	< RL	3				
MT	5	5	< RL	< RL			< RL	< RL	5
NL	12	1	< RL	< RL	1				
PL-N	2	2	< RL	< RL	1				
PL-S	1	1	< RL	< RL	12				
PL	3	3	< RL	< RL	1				
PT	24	2	< RL	< RL	9				
RO-N	1	1		< RL			< RL	< RL	4
RO-S	150	7	< RL	< RL	11				
RO	151	8	< RL	< RL	11				
SE-N	6	3		< RL	< RL	< RL	< RL	< RL	9
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	10
SE	12	6		< RL	< RL	< RL	< RL	< RL	10
SI	16	13	< RL	< RL	1				
SK	82	9	< RL	< RL	12				

RL: reporting level for ${}^3\text{H}$ in drinking water, i.e. $1.0 \times 10^{-2} \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

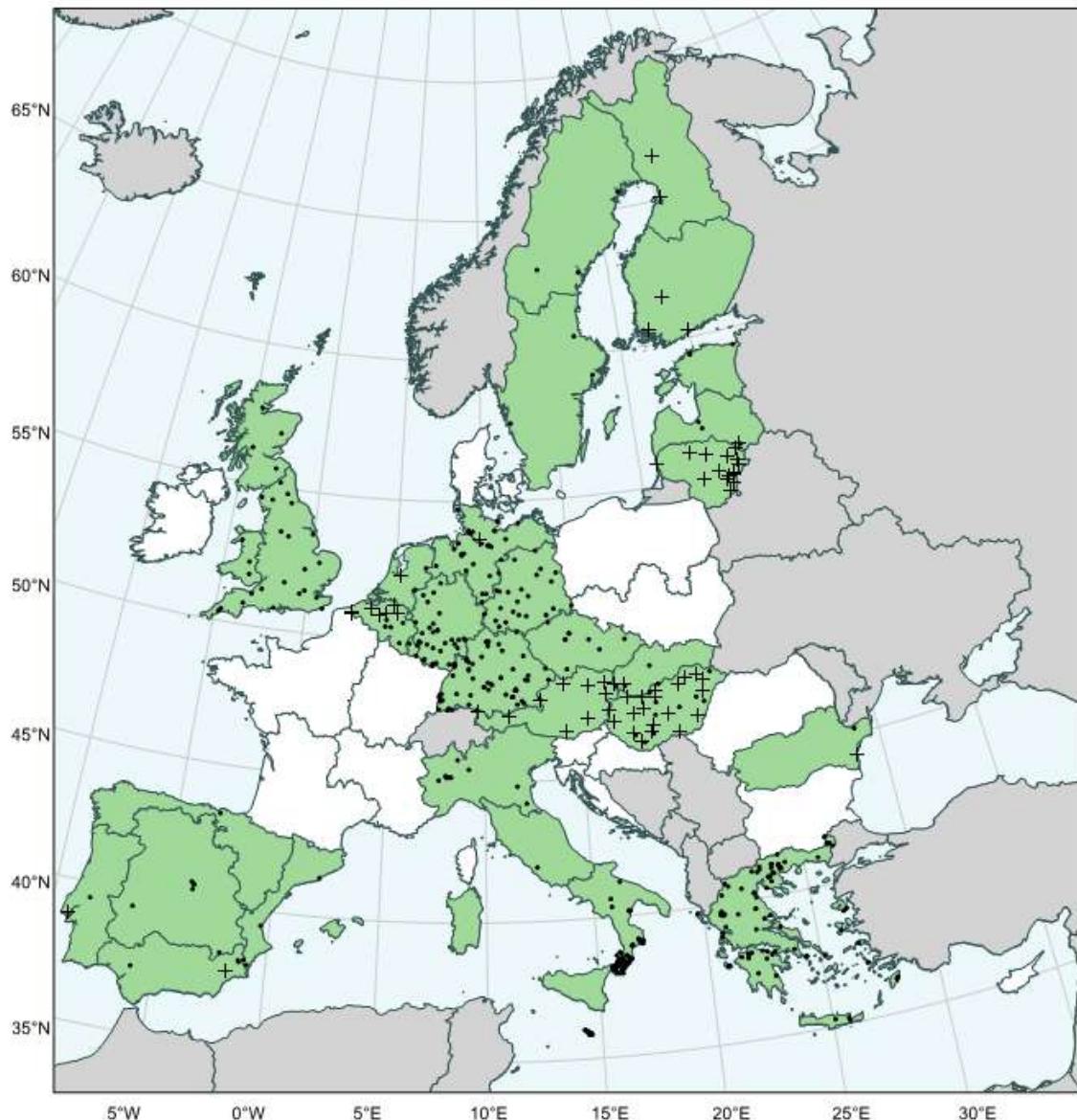
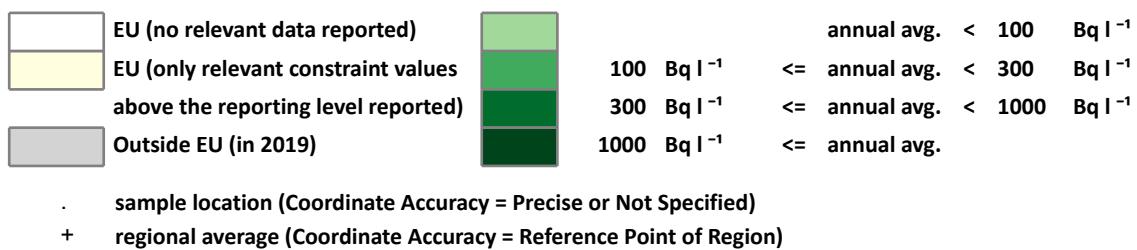


Fig. W5: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2019
drinking water (Bq l^{-1})
tritium (${}^3\text{H}$)



Azores (Portugal)



Madeira (Portugal)

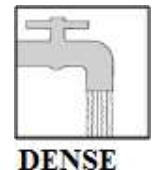


Canary Islands (Spain)



Malta



Table W5: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **tritium (${}^3\text{H}$)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	108	9	< RL	< RL	3				
BE	49	12	< RL	< RL	9				
BG									
CY									
CZ	30	9	< RL	< RL	1				
DE-N	134	29	< RL	< RL	1				
DE-C	100	32	< RL	< RL	8				
DE-S	427	62	< RL	< RL	12				
DE-E	75	24	< RL	< RL	6				
DE	736	147	< RL	< RL	10				
DK									
EE	6	3	< RL			< RL	< RL	< RL	2
ES-N	12	1	< RL	< RL	1				
ES-C	38	6	< RL	< RL	10				
ES-S	40	6	< RL	< RL	3				
ES-E	41	3	< RL	< RL	11				
ES	131	16	< RL	< RL	3				
FI-N	2	2		< RL			< RL	< RL	4
FI-S	3	3		< RL			< RL	< RL	5
FI	5	5		< RL			< RL	< RL	5
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	84	21	< RL	< RL	1				
GB-WL	12	3	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	1				
GB-NI									
GB	120	28	< RL	< RL	10				
GR	90	89	< RL	< RL	1				
HR-A									
HR-C									
HR									
HU	88	31	< RL	< RL	9				
IE									
IT-N	43	11	< RL	< RL	9				
IT-C	2	1		< RL		< RL	< RL	< RL	11
IT-S	210	79	< RL	< RL	5				
IT	255	91	< RL	< RL	10				
LT	136	15	< RL	< RL	3				
LU	22	2	< RL	< RL	1				
LV	16	4	< RL	< RL	12				
MT	14	14	< RL	< RL	5				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	24	2	< RL	< RL	1				
RO-N									
RO-S	80	2	< RL	< RL	9				
RO	80	2	< RL	< RL	9				
SE-N	6	3		< RL	< RL		< RL	< RL	9
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	9
SE	12	6		< RL	< RL	< RL	< RL	< RL	9
SI									
SK	11	5	< RL	< RL	< RL		< RL	< RL	7

RL: reporting level for ${}^3\text{H}$ in drinking water, i.e. $1.0 \times 10^2 \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

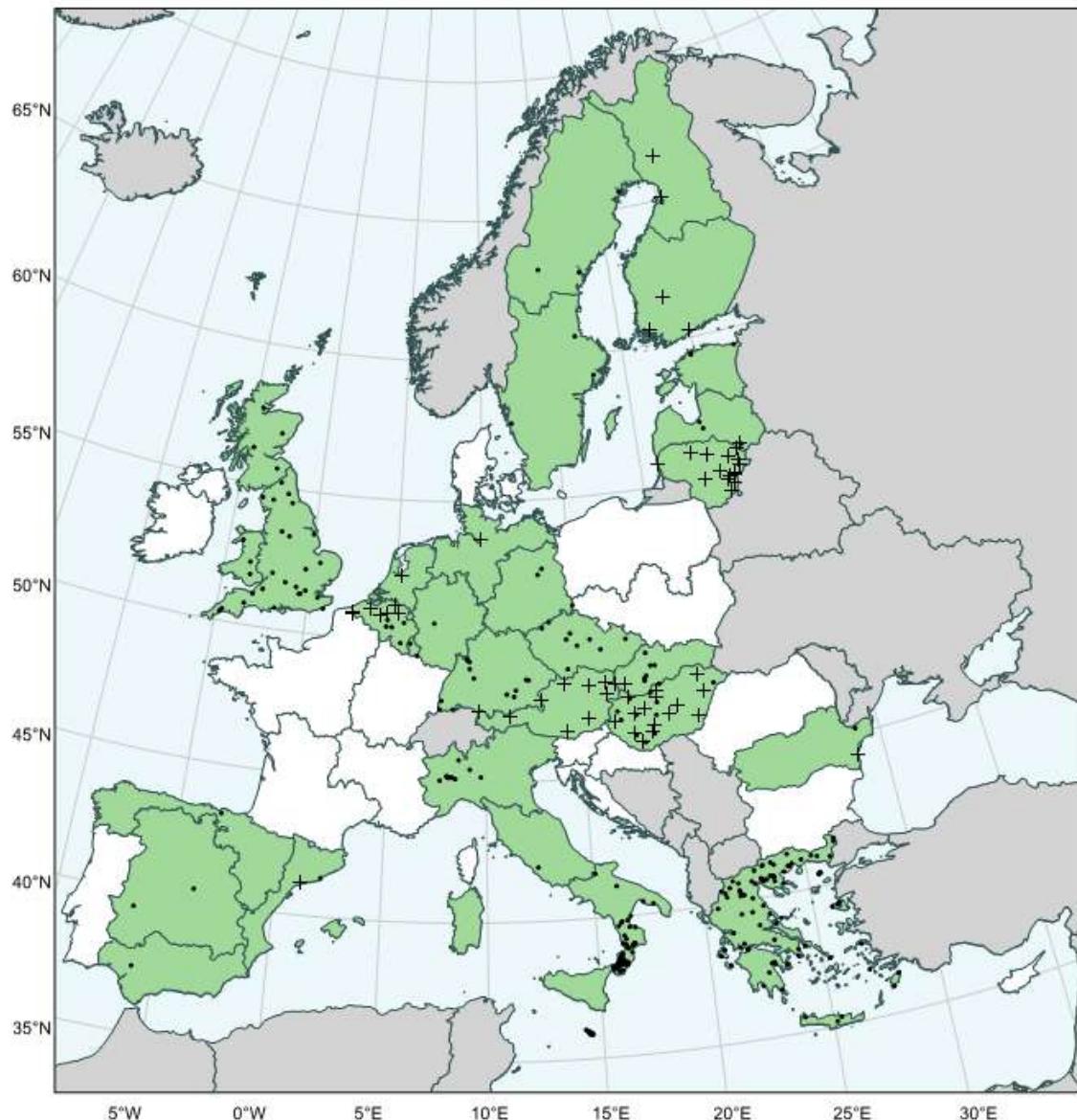
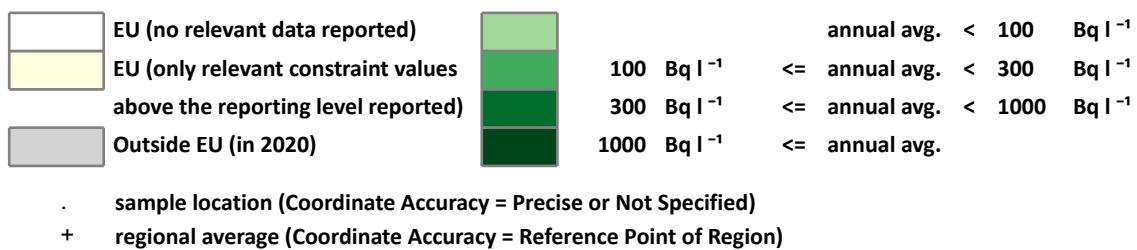


Fig. W6: Geographical and time averages

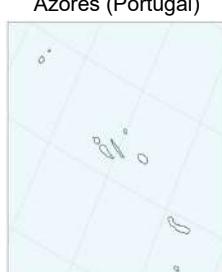
DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2020
drinking water (Bq l^{-1})
tritium (${}^3\text{H}$)



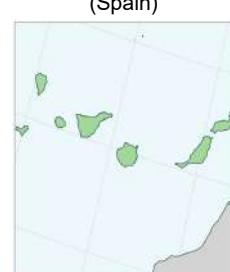
Azores (Portugal)



Madeira (Portugal)

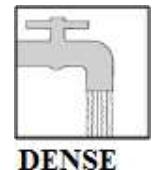


Canary Islands (Spain)



Malta



Table W6: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **tritium (${}^3\text{H}$)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	106	9	< RL	< RL	1				
BE	96	12	< RL	< RL	6				
BG									
CY									
CZ	35	9	< RL	< RL	1				
DE-N	1	1	< RL				< RL	< RL	1
DE-C	1	1	< RL				< RL	< RL	1
DE-S	16	13	< RL				< RL	< RL	1
DE-E	3	3	< RL				< RL	< RL	1
DE	21	18	< RL				< RL	< RL	1
DK									
EE	6	3	< RL			< RL	< RL	< RL	3
ES-N	10	1	< RL	< RL	6				
ES-C	23	2	< RL	< RL	4				
ES-S	24	2	< RL	< RL	1				
ES-E	36	2	< RL	< RL	7				
ES	93	7	< RL	< RL	7				
FI-N	2	2				< RL	< RL	< RL	11
FI-S	3	3				< RL	< RL	< RL	10
FI	5	5				< RL	< RL	< RL	11
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	41	24	< RL	< RL		< RL	< RL	< RL	11
GB-WL	5	3	< RL			< RL	< RL	< RL	12
GB-SC	24	4	< RL		< RL	< RL	< RL	< RL	8
GB-NI									
GB	70	31	< RL	< RL	4				
GR	82	82	< RL	< RL	1				
HR-A									
HR-C									
HR									
HU	71	27	< RL	< RL	9				
IE									
IT-N	34	11	< RL	< RL	3				
IT-C	2	1		< RL		< RL	< RL	< RL	6
IT-S	163	63	< RL	< RL	1				
IT	199	75	< RL	< RL	9				
LT	126	15	< RL	< RL	8				
LU	25	2	< RL	< RL	2				
LV	16	4	< RL	< RL	3				
MT	10	10	< RL	< RL	6				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT									
RO-N									
RO-S	59	2	< RL	< RL	10				
RO	59	2	< RL	< RL	10				
SE-N	6	3		< RL	< RL	< RL	< RL	< RL	5
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	9
SE	12	6		< RL	< RL	< RL	< RL	< RL	9
SI									
SK	62	9	< RL	< RL	12				

RL: reporting level for ${}^3\text{H}$ in drinking water, i.e. $1.0 \times 10^{-2} \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. W7: Geographical and time averages

DENSE

YEAR : 2015
SAMPLE TYPE : drinking water (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

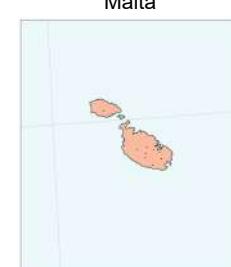
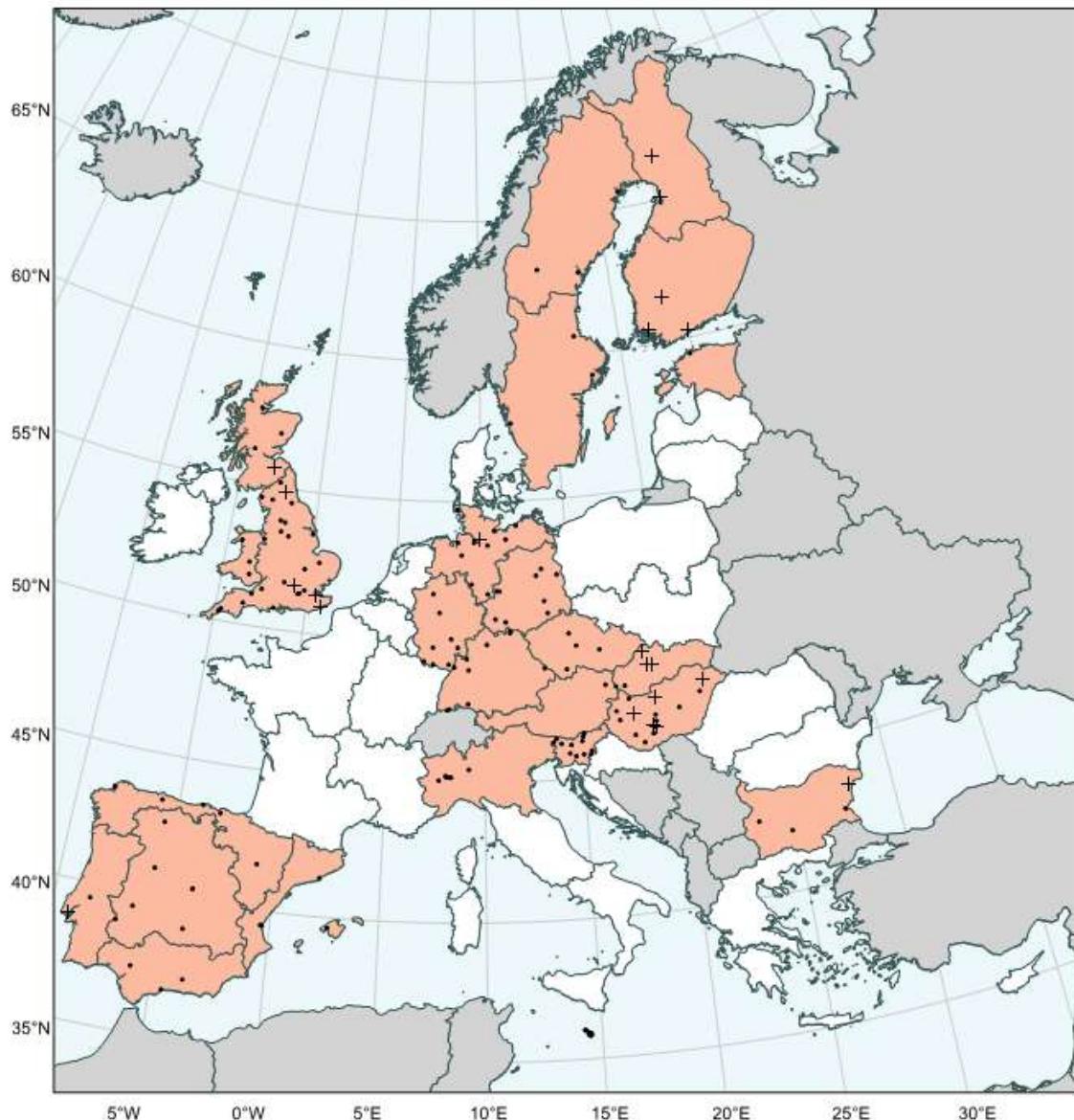
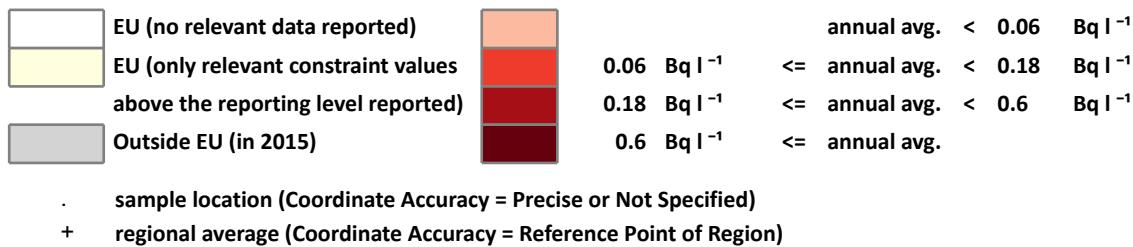
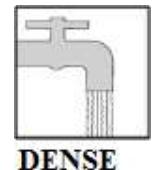


Table W7: Geographical and time averages


YEAR : **2015**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	5	1	< RL	< RL	4				
BE									
BG	17	4	< RL	< RL	3				
CY									
CZ	13	4	< RL	< RL	10				
DE-N	31	11	< RL	< RL	7				
DE-C	17	8	< RL	< RL	11				
DE-S	20	10	< RL	< RL	2				
DE-E	22	9	< RL	< RL	3				
DE	90	38	< RL	< RL	2				
DK									
EE	2	1	< RL			< RL	< RL	< RL	3
ES-N	29	5	< RL	< RL	12				
ES-C	44	7	< RL	< RL	4				
ES-S	31	4	< RL	< RL	6				
ES-E	24	4	< RL	< RL	3				
ES	128	20	< RL	< RL	6				
FI-N	4	2		< RL		< RL	< RL	< RL	4
FI-S	6	3		< RL		< RL	< RL	< RL	10
FI	10	5		< RL		< RL	< RL	< RL	4
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	109	25	< RL	< RL	10				
GB-WL	15	4	< RL	< RL	7				
GB-SC	23	4	< RL	< RL	3				
GB-NI									
GB	147	33	< RL	< RL	3				
GR									
HR-A									
HR-C									
HR									
HU	48	16	< RL	< RL	2				
IE									
IT-N	21	7	< RL	< RL	1				
IT-C									
IT-S									
IT	21	7	< RL	< RL	1				
LT									
LU									
LV									
MT	14	13	< RL	< RL	8				
NL									
PL-N									
PL-S									
PL									
PT	24	2	< RL	< RL	8				
RO-N									
RO-S									
RO									
SE-N	6	3	< RL	< RL	< RL		< RL	< RL	3
SE-S	6	3	< RL		< RL	< RL	< RL	< RL	9
SE	12	6	< RL	< RL	3				
SI	15	12	< RL	< RL	5				
SK	32	5	< RL	< RL	5				

RL: reporting level for ^{90}Sr in drinking water, i.e. 6.0 E-02 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. W8: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2016
drinking water (Bq l^{-1})
strontium-90 (^{90}Sr)

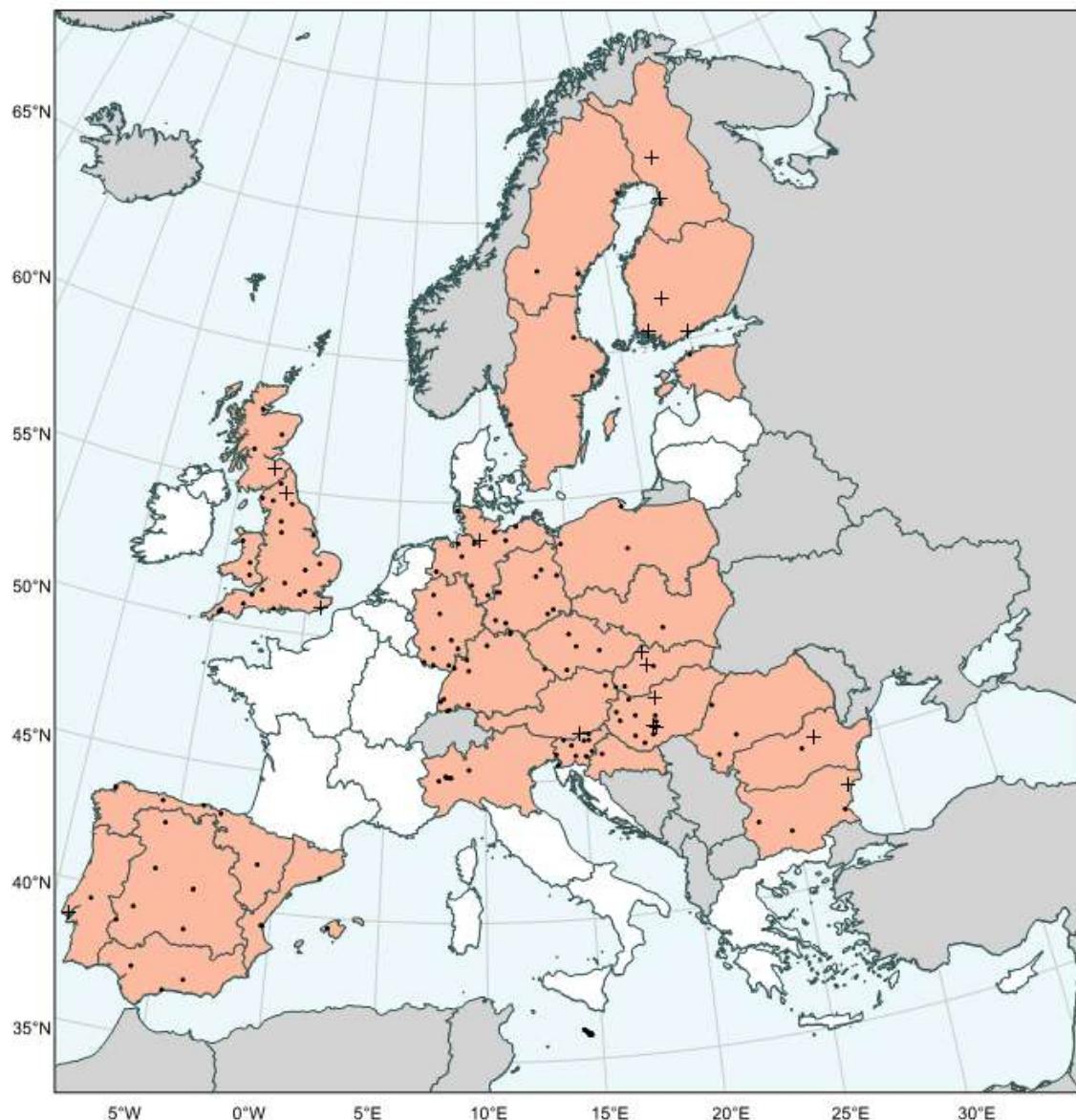
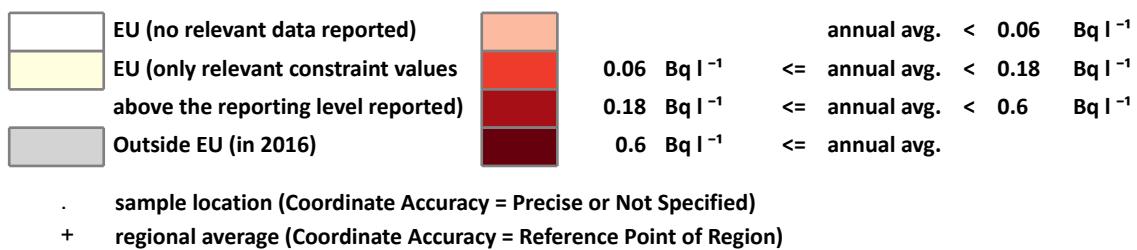
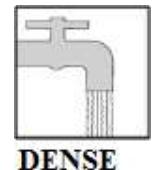


Table W8: Geographical and time averages


YEAR : **2016**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	5	1	< RL	< RL	1				
BE									
BG	18	4	< RL	< RL	8				
CY									
CZ	13	4	< RL	< RL	9				
DE-N	28	11	< RL	< RL	1				
DE-C	18	8	< RL	< RL	5				
DE-S	24	12	< RL	< RL	4				
DE-E	21	9	< RL	< RL	9				
DE	91	40	< RL	< RL	5				
DK									
EE	2	1	< RL			< RL	< RL	< RL	3
ES-N	29	5	< RL	< RL	5				
ES-C	44	7	< RL	< RL	11				
ES-S	32	4	< RL	< RL	12				
ES-E	24	4	< RL	< RL	2				
ES	129	20	< RL	< RL	11				
FI-N	4	2		< RL		< RL	< RL	< RL	4
FI-S	6	3		< RL		< RL	< RL	< RL	4
FI	10	5		< RL		< RL	< RL	< RL	4
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	75	20	< RL	< RL	1				
GB-WL	12	3	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	12				
GB-NI									
GB	111	27	< RL	< RL	3				
GR									
HR-A									
HR-C	1	1				< RL	< RL	< RL	12
HR	1	1				< RL	< RL	< RL	12
HU	48	13	< RL	< RL	9				
IE									
IT-N	21	7	< RL	< RL	10				
IT-C									
IT-S									
IT	21	7	< RL	< RL	10				
LT									
LU									
LV									
MT	12	12	< RL	< RL	4				
NL									
PL-N	3	3				< RL	< RL	< RL	12
PL-S	1	1				< RL	< RL	< RL	12
PL	4	4				< RL	< RL	< RL	12
PT	22	2	< RL	< RL	11				
RO-N	21	3		< RL	< RL	< RL	< RL	< RL	5
RO-S	73	2		< RL	< RL	< RL	< RL	< RL	5
RO	94	5		< RL	< RL	< RL	< RL	< RL	5
SE-N	6	3		< RL	< RL		< RL	< RL	4
SE-S	6	3		< RL	< RL		< RL	< RL	4
SE	12	6		< RL	< RL		< RL	< RL	4
SI	12	11	< RL	< RL		< RL	< RL	< RL	4
SK	36	5	< RL	< RL	3				

RL: reporting level for ^{90}Sr in drinking water, i.e. 6.0 E-02 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

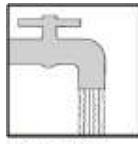


Fig. W9: Geographical and time averages

DENSE

YEAR

2017

SAMPLE TYPE

drinking water (Bq l^{-1})

NUCLIDE CATEGORY

strontium-90 (^{90}Sr)

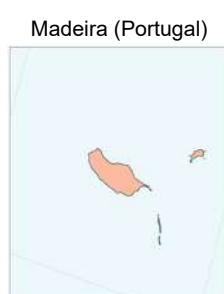
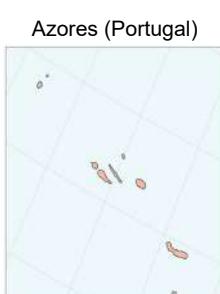
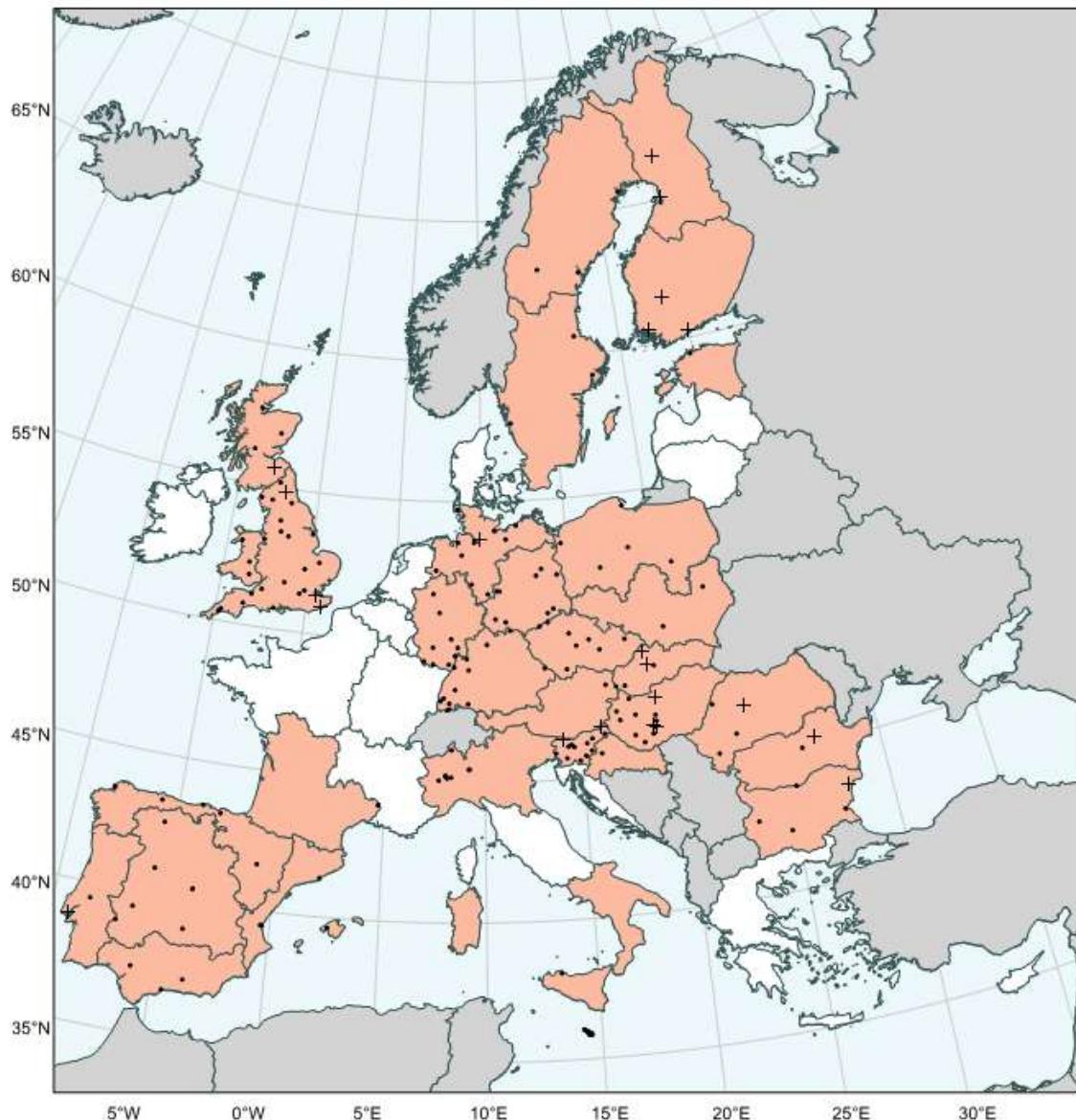
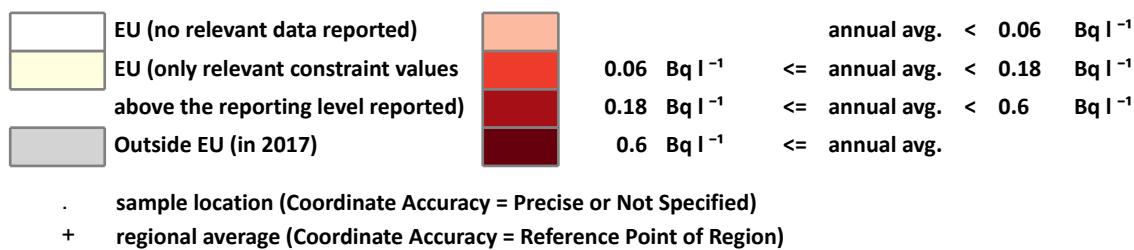
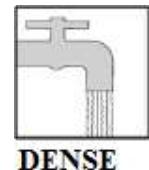


Table W9: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	5	1	< RL	< RL	1				
BE									
BG	18	4	< RL	< RL	1				
CY									
CZ	31	8	< RL	< RL	1				
DE-N	29	11	< RL	< RL	1				
DE-C	16	8	< RL	< RL	3				
DE-S	29	14	< RL	< RL	9				
DE-E	22	9	< RL	< RL	1				
DE	96	42	< RL	< RL	4				
DK									
EE	2	1	< RL			< RL	< RL	< RL	2
ES-N	28	5	< RL	< RL	4				
ES-C	44	7	< RL	< RL	3				
ES-S	32	4	< RL	< RL	11				
ES-E	24	4	< RL	< RL	12				
ES	128	20	< RL	< RL	3				
FI-N	4	2		< RL		< RL	< RL	< RL	10
FI-S	6	3		< RL		< RL	< RL	< RL	10
FI	10	5		< RL		< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR	5	2	< RL	< RL	10				
GB-EN	82	22	< RL	< RL	1				
GB-WL	13	4	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	7				
GB-NI									
GB	119	30	< RL	< RL	2				
GR									
HR-A									
HR-C	4	1	< RL	< RL	7				
HR	4	1	< RL	< RL	7				
HU	48	13	< RL	< RL	9				
IE									
IT-N	22	9	< RL	< RL	4				
IT-C									
IT-S	1	1				< RL	< RL	< RL	11
IT	23	10	< RL	< RL	4				
LT									
LU									
LV									
MT	15	14	< RL	< RL	7				
NL									
PL-N	5	5	< RL	< RL	12				
PL-S	2	2	< RL	< RL	1				
PL	7	7	< RL	< RL	12				
PT	24	2	< RL	< RL	5				
RO-N	17	4	< RL	< RL	< RL		< RL	< RL	6
RO-S	63	3	< RL	< RL	2				
RO	80	7	< RL	< RL	2				
SE-N	6	3		< RL		< RL	< RL	< RL	10
SE-S	6	3		< RL		< RL	< RL	< RL	4
SE	12	6		< RL		< RL	< RL	< RL	10
SI	18	13	< RL	< RL	2				
SK	36	5	< RL	< RL	10				

RL: reporting level for ^{90}Sr in drinking water, i.e. 6.0 E-02 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

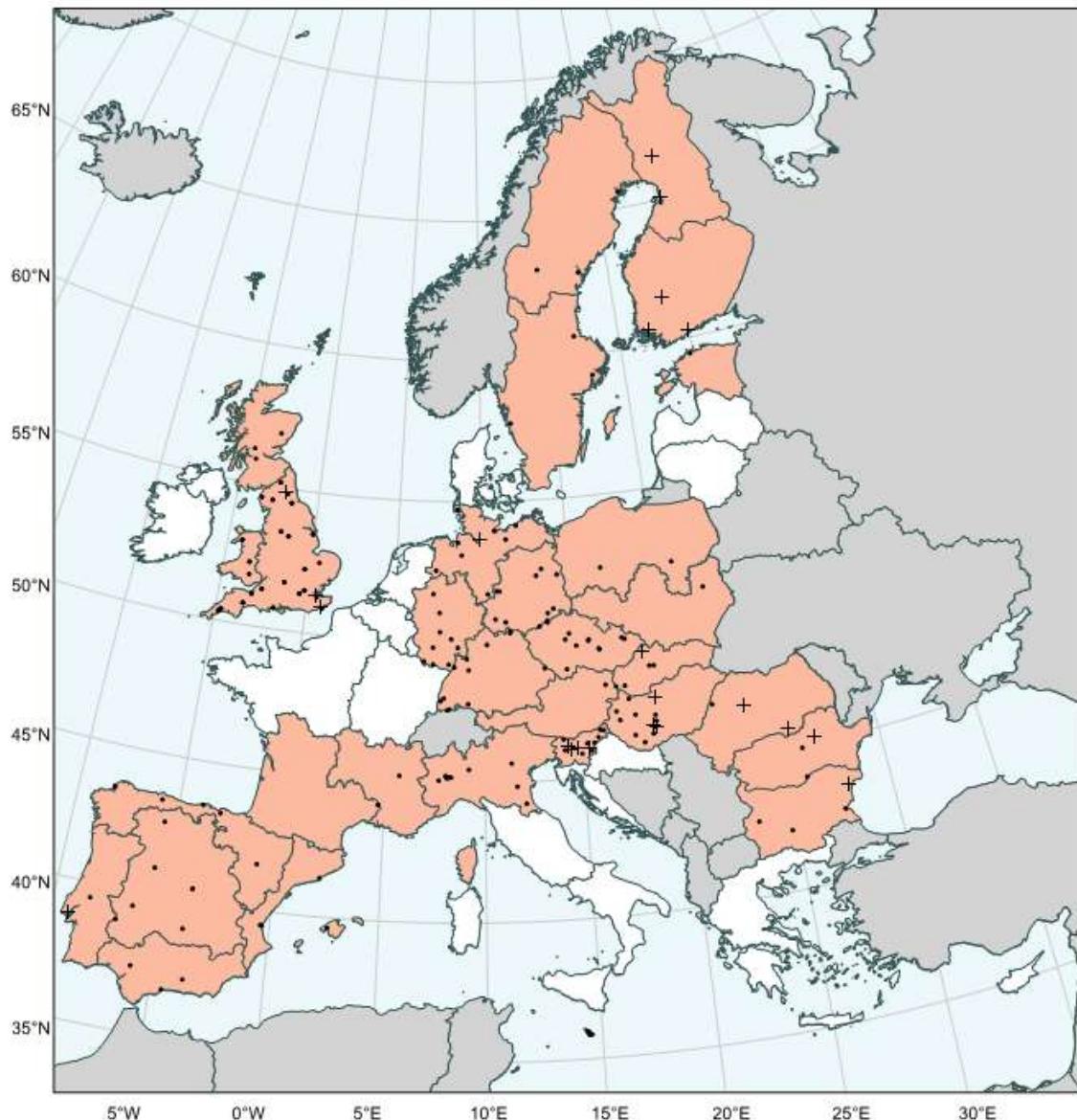
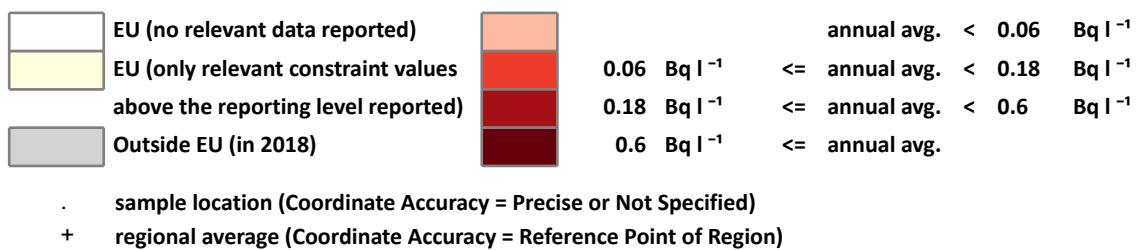


Fig. W10: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2018
drinking water (Bq l^{-1})
strontium-90 (^{90}Sr)



Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta

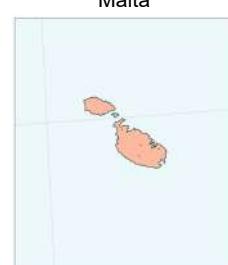
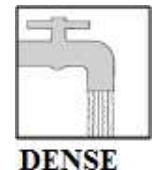


Table W10: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	4	1	< RL	< RL	7				
BE									
BG	18	4	< RL	< RL	8				
CY									
CZ	34	13	< RL	< RL	1				
DE-N	26	9	< RL	< RL	7				
DE-C	19	9	< RL	< RL	11				
DE-S	20	12	< RL	< RL	9				
DE-E	22	9	< RL	< RL	2				
DE	87	39	< RL	< RL	10				
DK									
EE	2	1	< RL			< RL	< RL	< RL	2
ES-N	30	5	< RL	< RL	9				
ES-C	44	7	< RL	< RL	3				
ES-S	32	4	< RL	< RL	7				
ES-E	23	4	< RL	< RL	10				
ES	129	20	< RL	< RL	4				
FI-N	2	2				< RL	< RL	< RL	10
FI-S	3	3				< RL	< RL	< RL	10
FI	5	5				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW	2	2				< RL	< RL	< RL	10
FR-SE	1	1	< RL				< RL	< RL	3
FR	3	3	< RL			< RL	< RL	< RL	10
GB-EN	82	40	< RL	< RL	1				
GB-WL	10	5	< RL	< RL	1				
GB-SC	18	3	< RL	< RL	8				
GB-NI									
GB	110	48	< RL	< RL	2				
GR									
HR-A									
HR-C									
HR									
HU	48	13	< RL	< RL	5				
IE									
IT-N	29	11	< RL	< RL	7				
IT-C									
IT-S									
IT	29	11	< RL	< RL	7				
LT									
LU									
LV									
MT	5	5	< RL	< RL			< RL	< RL	1
NL									
PL-N	2	2	< RL	< RL	12				
PL-S	1	1	< RL	< RL	1				
PL	3	3	< RL	< RL	1				
PT	24	2	< RL	< RL	8				
RO-N	40	3	< RL	< RL	1				
RO-S	70	3	< RL	< RL	9				
RO	110	6	< RL	< RL	9				
SE-N	5	3		< RL		< RL	< RL	< RL	10
SE-S	5	3		< RL		< RL	< RL	< RL	9
SE	10	6		< RL		< RL	< RL	< RL	10
SI	16	13	< RL	< RL	5				
SK	36	5	< RL	< RL	9				

RL: reporting level for ^{90}Sr in drinking water, i.e. 6.0 E-02 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

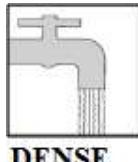
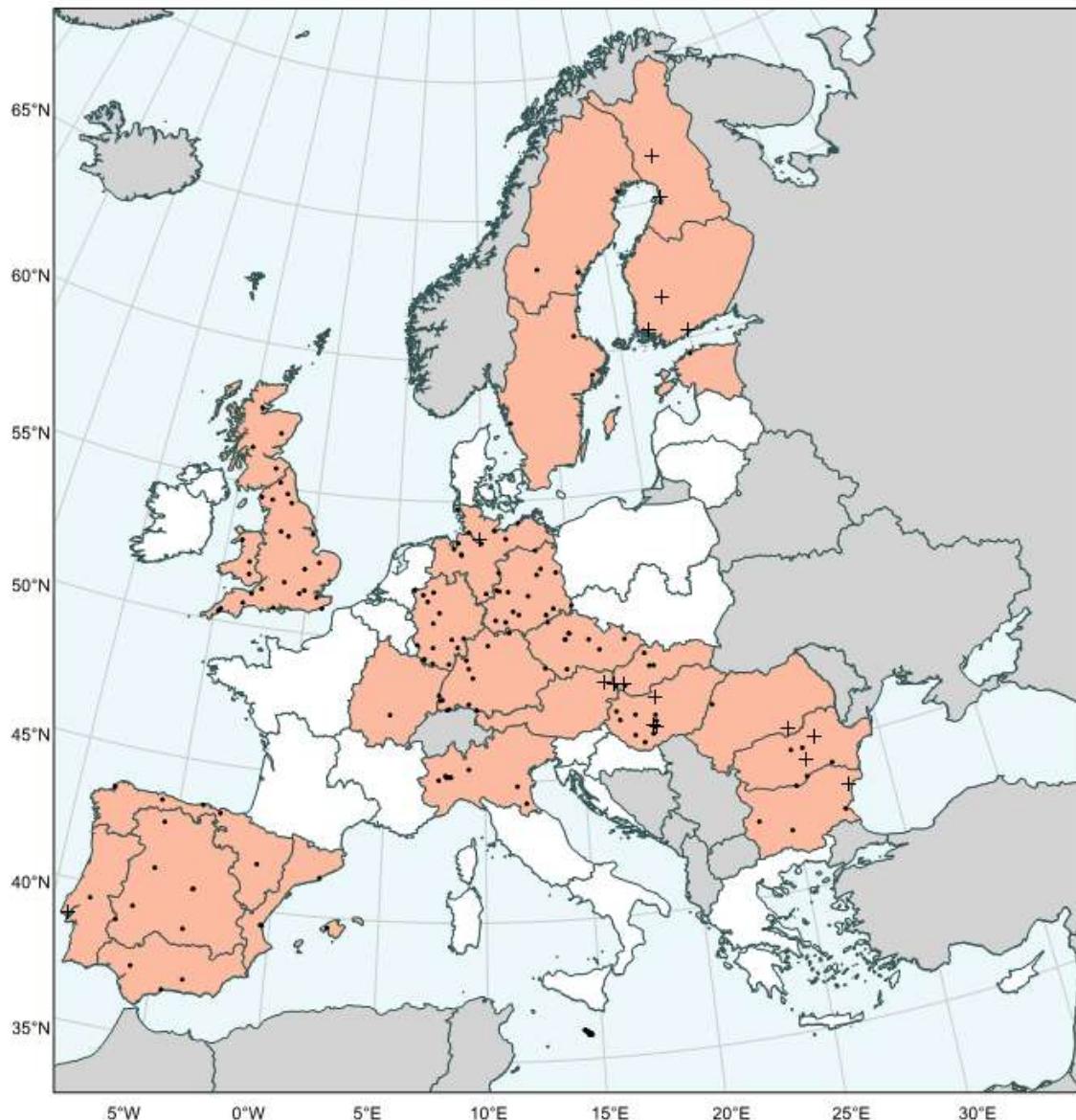
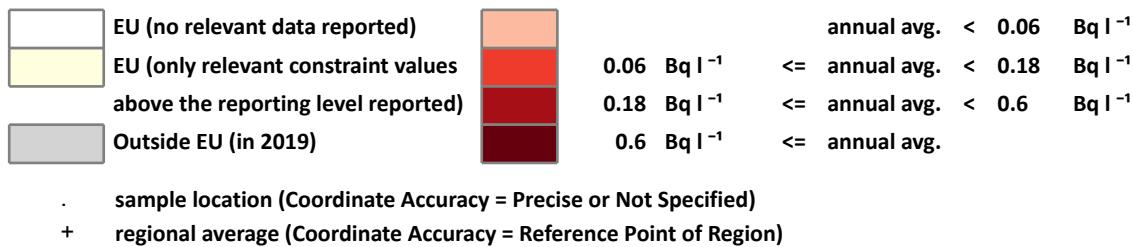


Fig. W11: Geographical and time averages

DENSE

YEAR : 2019
SAMPLE TYPE : drinking water (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)



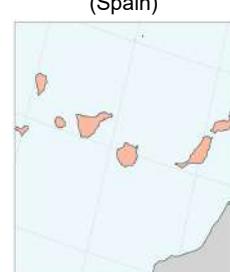
Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta



Table W11: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	4	1	< RL	< RL	4				
BE									
BG	18	4	1.1E-01	< RL	< RL	< RL	< RL	2.0E-01	1
CY									
CZ	30	9	< RL	< RL	1				
DE-N	31	12	< RL	< RL	7				
DE-C	32	15	< RL	< RL	10				
DE-S	26	13	< RL	< RL	10				
DE-E	41	16	< RL	1.0E-01	11				
DE	130	56	< RL	< RL	11				
DK									
EE	2	1	< RL			< RL	< RL	< RL	2
ES-N	28	5	< RL	< RL	4				
ES-C	44	7	< RL	< RL	9				
ES-S	32	4	< RL	< RL	6				
ES-E	24	4	< RL	< RL	5				
ES	128	20	< RL	< RL	6				
FI-N	2	2		< RL			< RL	< RL	4
FI-S	3	3		< RL			< RL	< RL	5
FI	5	5		< RL			< RL	< RL	5
FR-NW									
FR-NE	1	1		< RL			< RL	< RL	5
FR-SW									
FR-SE									
FR	1	1		< RL			< RL	< RL	5
GB-EN	84	21	< RL	< RL	1				
GB-WL	12	3	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	2				
GB-NI									
GB	120	28	< RL	< RL	2				
GR									
HR-A									
HR-C									
HR									
HU	44	12	< RL	< RL	3				
IE									
IT-N	28	10	< RL	< RL	1				
IT-C									
IT-S									
IT	28	10	< RL	< RL	1				
LT									
LU									
LV									
MT	14	14	< RL	< RL	11				
NL									
PL-N									
PL-S									
PL									
PT	24	2	< RL	< RL	5				
RO-N	21	2	< RL	< RL	< RL		< RL	< RL	4
RO-S	43	7	< RL	< RL	6				
RO	64	9	< RL	< RL	4				
SE-N	6	3		< RL	< RL		< RL	< RL	9
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	9
SE	12	6		< RL	< RL	< RL	< RL	< RL	9
SI									
SK	31	7	< RL	< RL	10				

RL: reporting level for ^{90}Sr in drinking water, i.e. 6.0 E-02 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

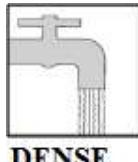
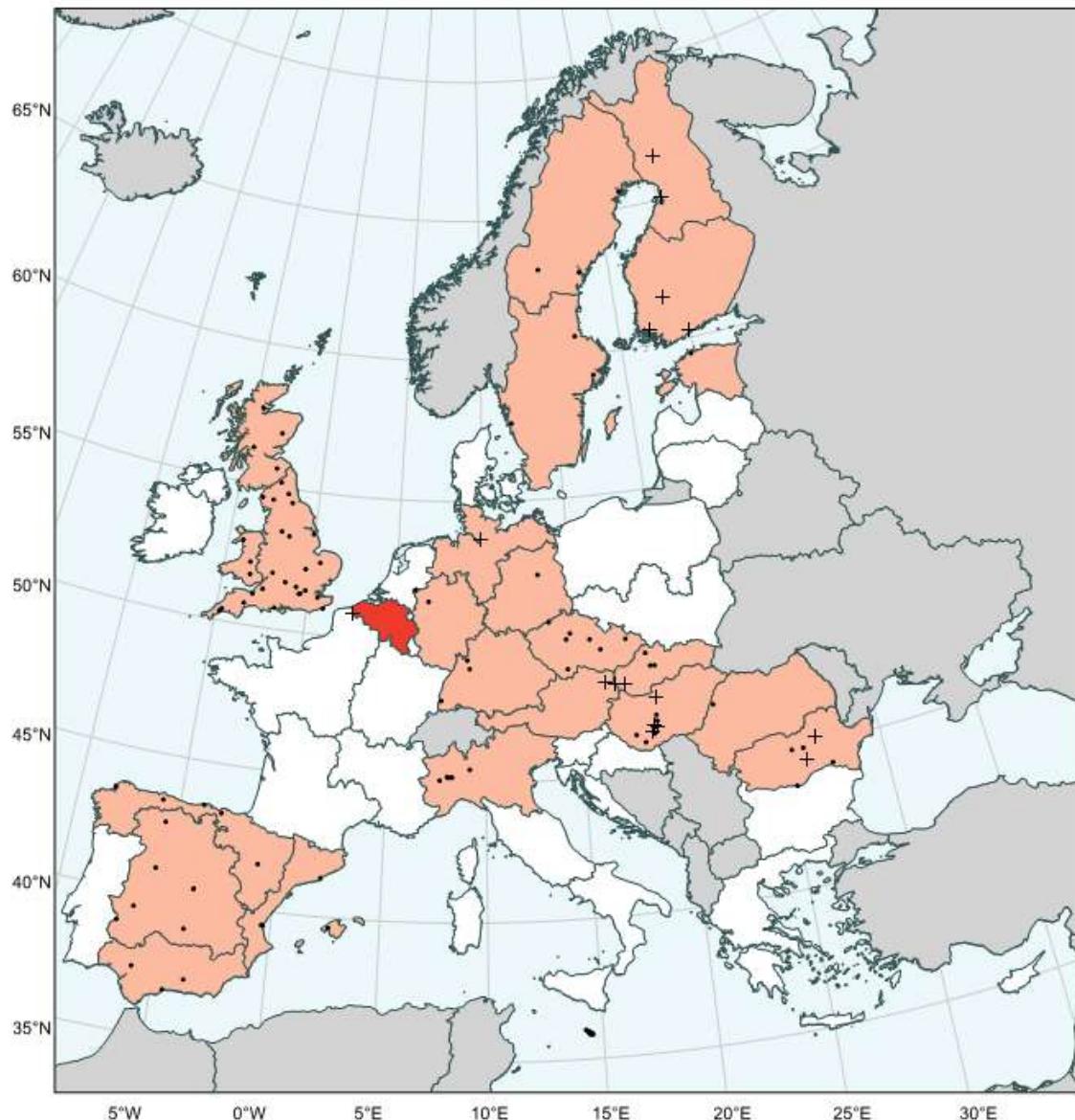
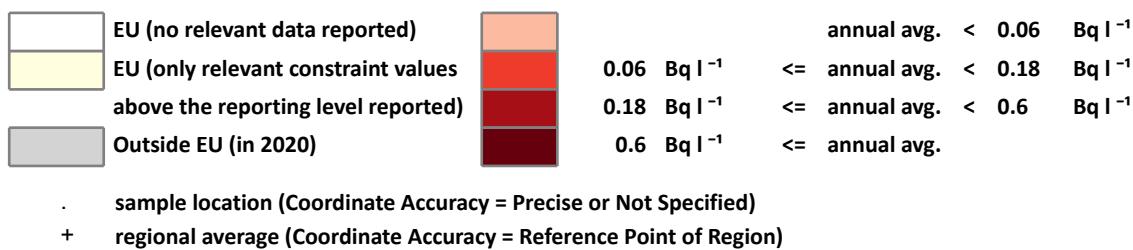


Fig. W12: Geographical and time averages

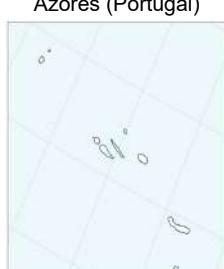
DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2020
drinking water (Bq l^{-1})
strontium-90 (^{90}Sr)



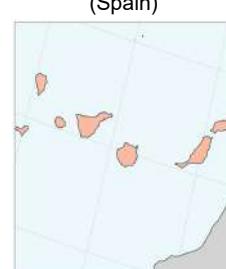
Azores (Portugal)



Madeira (Portugal)

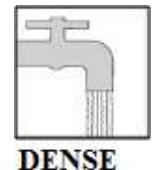


Canary Islands (Spain)



Malta



Table W12: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	4	1	< RL	< RL	1				
BE	2	1		1.2E-01			1.2E-01	1.2E-01	5
BG									
CY									
CZ	27	7	< RL	< RL	1				
DE-N	1	1	< RL				< RL	< RL	1
DE-C	2	2	< RL				< RL	< RL	1
DE-S	3	3	< RL				< RL	< RL	1
DE-E	1	1	< RL				< RL	< RL	1
DE	7	7	< RL				< RL	< RL	1
DK									
EE	2	1	< RL			< RL	< RL	< RL	3
ES-N	26	5	< RL	< RL	8				
ES-C	42	7	< RL	< RL	3				
ES-S	32	4	< RL	< RL	3				
ES-E	24	4	< RL	< RL	9				
ES	124	20	< RL	< RL	8				
FI-N	2	2				< RL	< RL	< RL	11
FI-S	3	3				< RL	< RL	< RL	10
FI	5	5				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	40	24	< RL	< RL		< RL	< RL	< RL	1
GB-WL	5	3	< RL			< RL	< RL	< RL	1
GB-SC	24	4	< RL		< RL	< RL	< RL	< RL	9
GB-NI									
GB	69	31	< RL	< RL	9				
GR									
HR-A									
HR-C									
HR									
HU	36	10	< RL	< RL	6				
IE									
IT-N	20	6	< RL	< RL	3				
IT-C									
IT-S									
IT	20	6	< RL	< RL	3				
LT									
LU									
LV									
MT	9	9	< RL	< RL	2				
NL									
PL-N									
PL-S									
PL									
PT									
RO-N	22	1	< RL	< RL	4				
RO-S	46	6	< RL	< RL	2				
RO	68	7	< RL	< RL	1				
SE-N	6	3		< RL	< RL	< RL	< RL	< RL	5
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	5
SE	12	6		< RL	< RL	< RL	< RL	< RL	5
SI									
SK	22	5	< RL	< RL	3				

RL: reporting level for ^{90}Sr in drinking water, i.e. 6.0 E-02 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

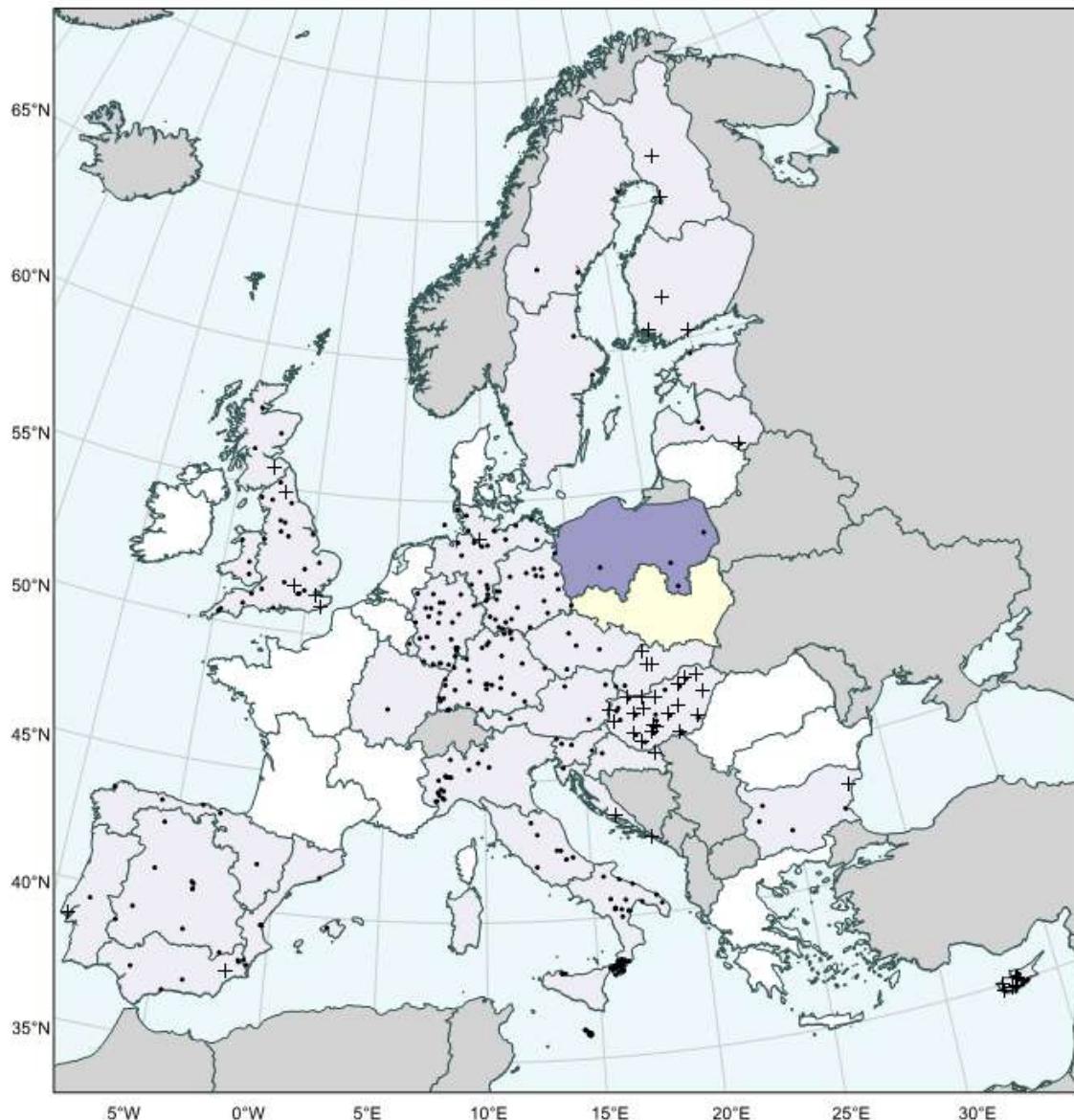
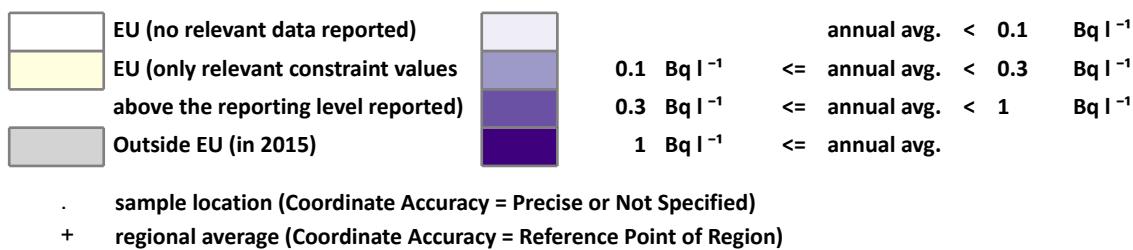


Fig. W13: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2015
drinking water (Bq l^{-1})
caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)

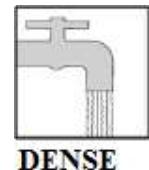


Canary Islands
(Spain)



Malta



Table W13: Geographical and time averages


YEAR : 2015
SAMPLE TYPE : drinking water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	52	4	< RL	< RL	2				
BE									
BG	21	5	< RL	< RL	3				
CY	35	21		< RL		< RL	< RL	< RL	11
CZ	15	4	< RL	< RL	7				
DE-N	69	21	< RL	< RL	6				
DE-C	69	26	< RL	< RL	2				
DE-S	115	34	< RL	< RL	12				
DE-E	87	24	< RL	< RL	5				
DE	340	105	< RL	< RL	2				
DK									
EE	2	1	< RL			< RL	< RL	< RL	3
ES-N	60	5	< RL	< RL	1				
ES-C	82	10	< RL	< RL	10				
ES-S	59	8	< RL	< RL	5				
ES-E	49	5	< RL	< RL	9				
ES	250	28	< RL	< RL	6				
FI-N	4	2		< RL		< RL	< RL	< RL	10
FI-S	6	3		< RL		< RL	< RL	< RL	10
FI	10	5		< RL		< RL	< RL	< RL	10
FR-NW									
FR-NE	1	1		< RL			< RL	< RL	4
FR-SW									
FR-SE									
FR	1	1		< RL			< RL	< RL	4
GB-EN	111	25	< RL	< RL	10				
GB-WL	15	4	< RL	< RL	12				
GB-SC	23	4	< RL	< RL	4				
GB-NI									
GB	149	33	< RL	< RL	10				
GR									
HR-A	3	3		< RL	< RL		< RL	< RL	6
HR-C	6	2	< RL	< RL	9				
HR	9	5	< RL	< RL	6				
HU	120	41	< RL	< RL	10				
IE									
IT-N	71	19	< RL	< RL	5				
IT-C	8	7		< RL		< RL	< RL	< RL	6
IT-S	84	47	< RL	< RL	2				
IT	163	73	< RL	< RL	2				
LT									
LU	26	1	< RL	< RL	4				
LV	16	4	< RL	< RL	9				
MT	14	13	< RL	< RL	2				
NL									
PL-N	6	4	1.5E-01	1.5E-01	1.5E-01	1.4E-01	1.5E-01	1.5E-01	1
PL-S							Δ		
PL	6	4	1.5E-01	1.5E-01	1.5E-01	1.4E-01	1.5E-01	1.5E-01	1
PT	24	2	< RL	< RL	6				
RO-N									
RO-S									
RO									
SE-N	6	3	< RL	< RL	< RL		< RL	< RL	3
SE-S	6	3	< RL		< RL		< RL	< RL	9
SE	12	6	< RL	< RL	3				
SI	5	4		< RL		< RL	< RL	< RL	10
SK	33	5	< RL	< RL	3				

RL: reporting level for ^{137}Cs in drinking water, i.e. 1.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

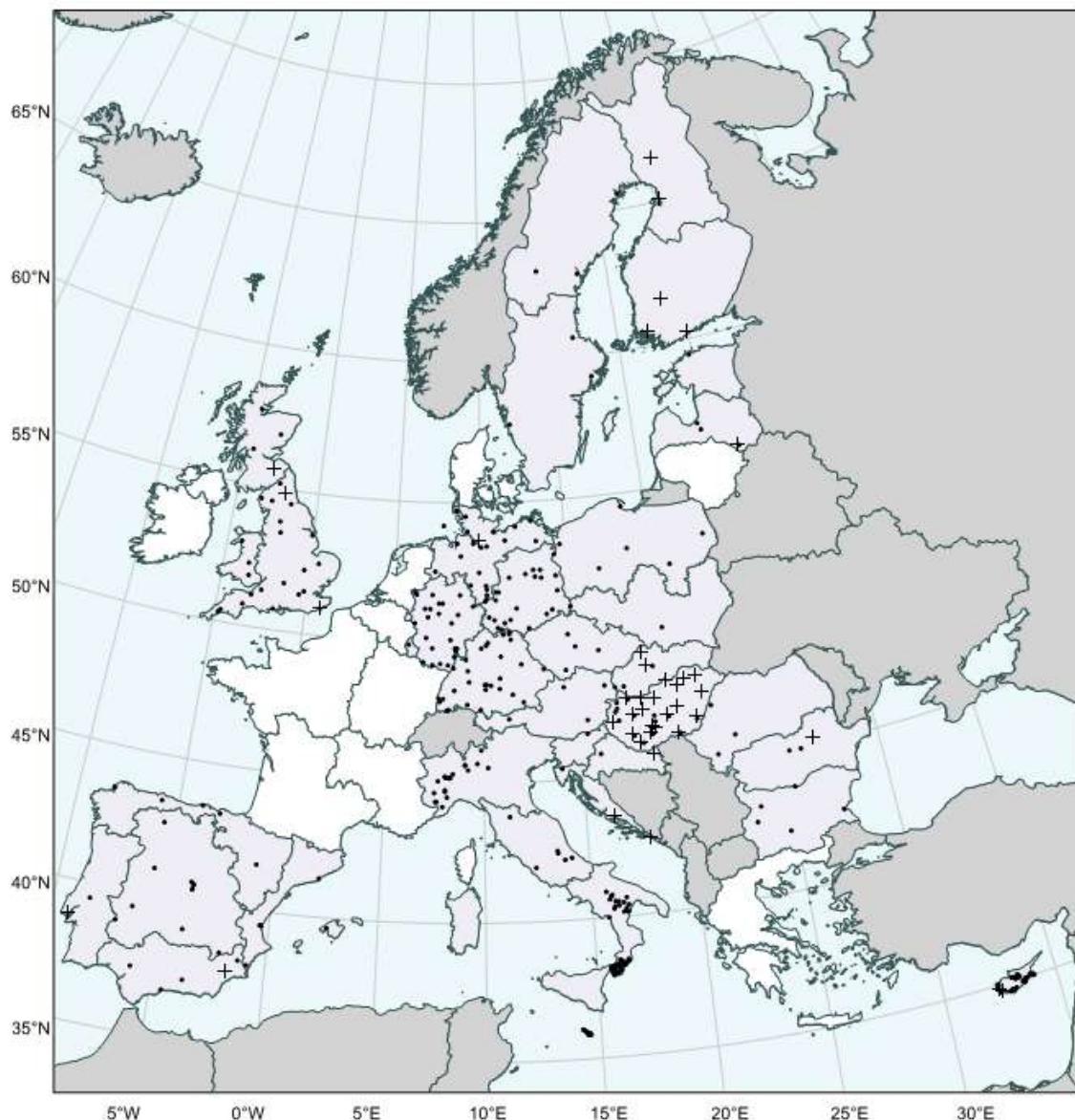
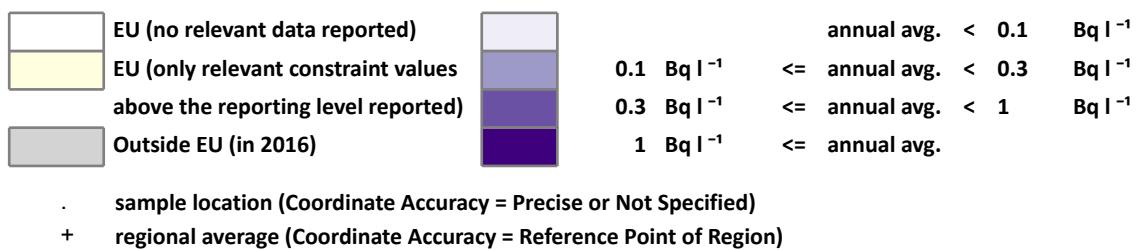


Fig. W14: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2016
drinking water (Bq l^{-1})
caesium-137 (^{137}Cs)



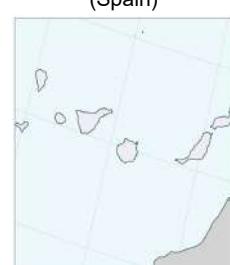
Azores (Portugal)



Madeira (Portugal)

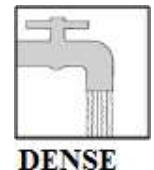


Canary Islands
(Spain)



Malta



Table W14: Geographical and time averages


YEAR : **2016**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **caesium-137 (^{137}Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	52	4	< RL	< RL	1				
BE									
BG	17	4	< RL	< RL	7				
CY	55	44	< RL	< RL	< RL		< RL	< RL	1
CZ	16	4	< RL	< RL	9				
DE-N	69	22	< RL	< RL	5				
DE-C	67	24	< RL	< RL	11				
DE-S	130	32	< RL	< RL	4				
DE-E	85	24	< RL	< RL	1				
DE	351	102	< RL	< RL	4				
DK									
EE	2	1	< RL			< RL	< RL	< RL	3
ES-N	60	5	< RL	< RL	6				
ES-C	94	11	< RL	< RL	4				
ES-S	59	6	< RL	< RL	12				
ES-E	52	5	< RL	< RL	3				
ES	265	27	< RL	< RL	3				
FI-N	4	2		< RL		< RL	< RL	< RL	4
FI-S	6	3		< RL		< RL	< RL	< RL	4
FI	10	5		< RL		< RL	< RL	< RL	4
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	75	20	< RL	< RL	1				
GB-WL	12	3	< RL	< RL	9				
GB-SC	24	4	< RL	< RL	12				
GB-NI									
GB	111	27	< RL	< RL	2				
GR									
HR-A	3	3		< RL			< RL	< RL	6
HR-C	6	2	< RL	< RL	9				
HR	9	5	< RL	< RL	9				
HU	125	36	< RL	< RL	5				
IE									
IT-N	85	21	< RL	< RL	11				
IT-C	7	6				< RL	< RL	< RL	10
IT-S	121	56	< RL	1.0E-01	1				
IT	213	83	< RL	< RL	6				
LT									
LU	4	1		< RL	< RL	< RL	< RL	< RL	11
LV	16	4	< RL	< RL	4				
MT	12	12	< RL	< RL	8				
NL									
PL-N	6	6	< RL	< RL	1				
PL-S	1	1				< RL	< RL	< RL	12
PL	7	7	< RL	< RL	1				
PT	24	2	< RL	< RL	2				
RO-N	11	3		< RL	< RL	< RL	< RL	< RL	4
RO-S	87	4		< RL	< RL	< RL	< RL	< RL	6
RO	98	7		< RL	< RL	< RL	< RL	< RL	4
SE-N	6	3		< RL	< RL		< RL	< RL	4
SE-S	6	3		< RL	< RL		< RL	< RL	4
SE	12	6		< RL	< RL		< RL	< RL	4
SI	1	1		< RL			< RL	< RL	5
SK	30	5	< RL	< RL	6				

RL: reporting level for ^{137}Cs in drinking water, i.e. $1.0 \times 10^{-2} \text{ Bq/L}$ (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. W15: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2017
drinking water (Bq l^{-1})
caesium-137 (^{137}Cs)

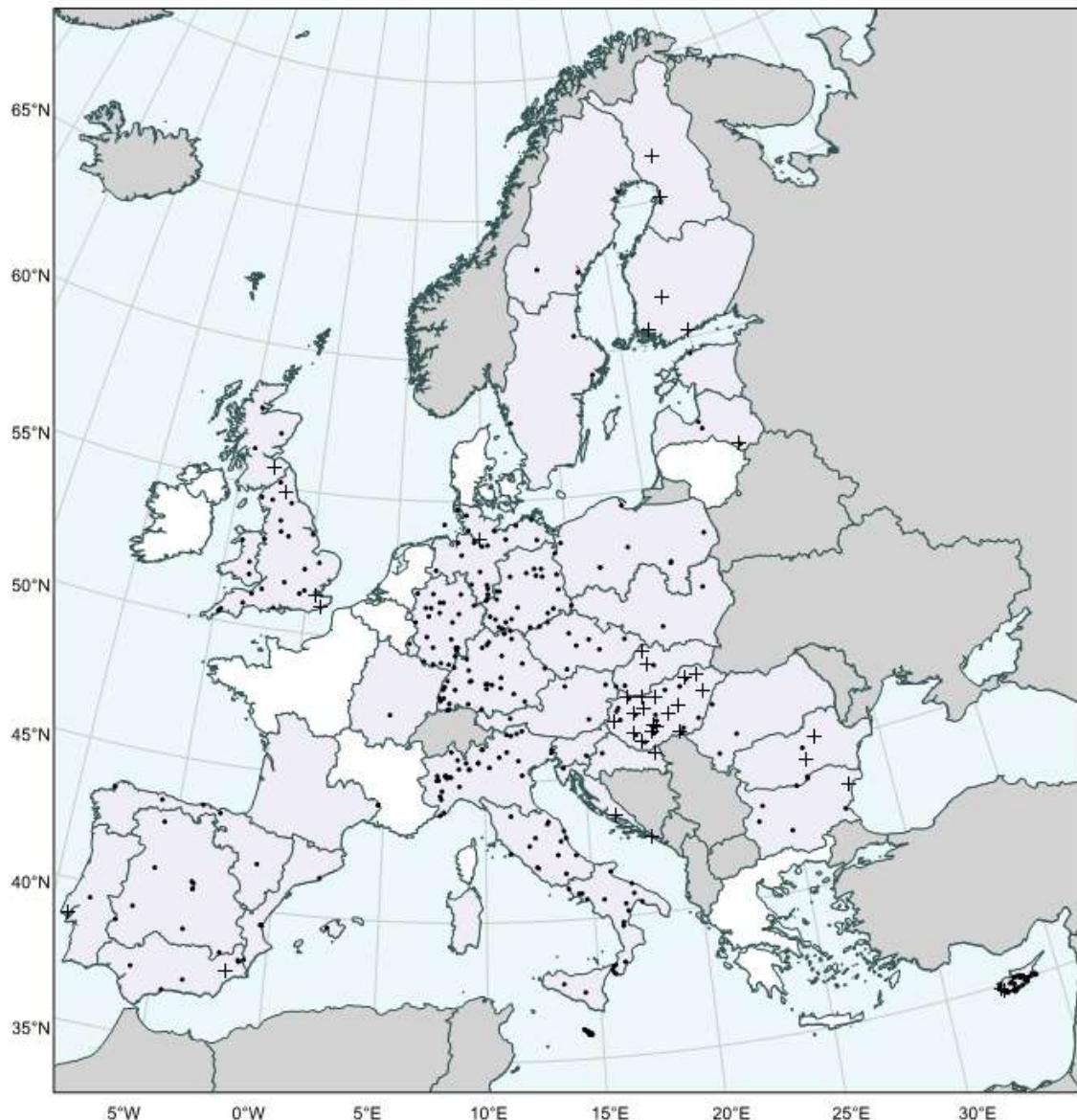
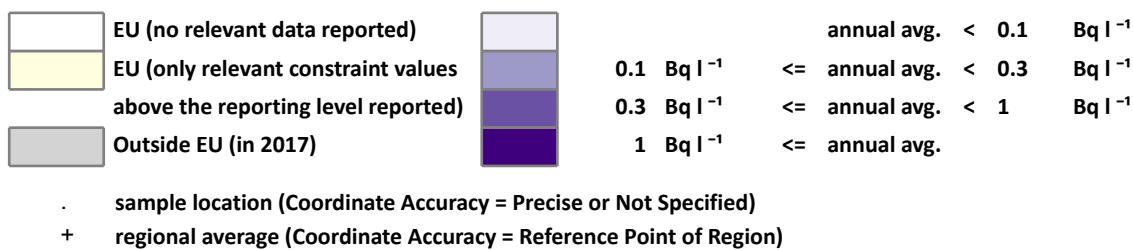
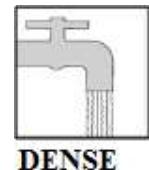


Table W15: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **caesium-137 (^{137}Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	52	4	< RL	< RL	4				
BE									
BG	25	6	< RL	1.2E-01	1				
CY	43	43		< RL	< RL		< RL	< RL	7
CZ	61	8	< RL	< RL	4				
DE-N	67	22	< RL	< RL	2				
DE-C	67	23	< RL	< RL	5				
DE-S	133	36	< RL	< RL	12				
DE-E	90	24	< RL	< RL	8				
DE	357	105	< RL	< RL	8				
DK									
EE	2	1	< RL			< RL	< RL	< RL	2
ES-N	59	5	< RL	< RL	5				
ES-C	87	10	< RL	< RL	9				
ES-S	57	8	< RL	< RL	9				
ES-E	48	4	< RL	< RL	12				
ES	251	27	< RL	< RL	9				
FI-N	4	2		< RL		< RL	< RL	< RL	4
FI-S	6	3		< RL		< RL	< RL	< RL	10
FI	10	5		< RL		< RL	< RL	< RL	10
FR-NW									
FR-NE	1	1		< RL			< RL	< RL	5
FR-SW	6	2	< RL	< RL	4				
FR-SE									
FR	7	3	< RL	< RL	5				
GB-EN	82	22	< RL	< RL	10				
GB-WL	13	4	< RL	< RL	1				
GB-SC	24	4	< RL	< RL	7				
GB-NI									
GB	119	30	< RL	< RL	7				
GR									
HR-A	3	3			< RL		< RL	< RL	9
HR-C	5	2	< RL	< RL	5				
HR	8	5	< RL	< RL	9				
HU	106	35	< RL	< RL	6				
IE									
IT-N	92	38	< RL	< RL	2				
IT-C	25	14	< RL	< RL	1				
IT-S	36	20	< RL	< RL	1				
IT	153	72	< RL	< RL	2				
LT									
LU	11	1	< RL	< RL	10				
LV	16	4	< RL	< RL	9				
MT	15	14	< RL	< RL	1				
NL									
PL-N	8	7	< RL	< RL	1				
PL-S	2	2	< RL	< RL	1				
PL	10	9	< RL	< RL	1				
PT	24	2	< RL	< RL	3				
RO-N	13	3	< RL	< RL	< RL		< RL	< RL	4
RO-S	67	5	< RL	< RL	6				
RO	80	8	< RL	< RL	4				
SE-N	6	3		< RL		< RL	< RL	< RL	10
SE-S	6	3		< RL		< RL	< RL	< RL	5
SE	12	6		< RL		< RL	< RL	< RL	5
SI	1	1	< RL				< RL	< RL	2
SK	35	5	< RL	< RL	3				

RL: reporting level for ^{137}Cs in drinking water, i.e. 1.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

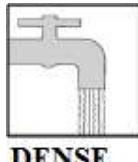
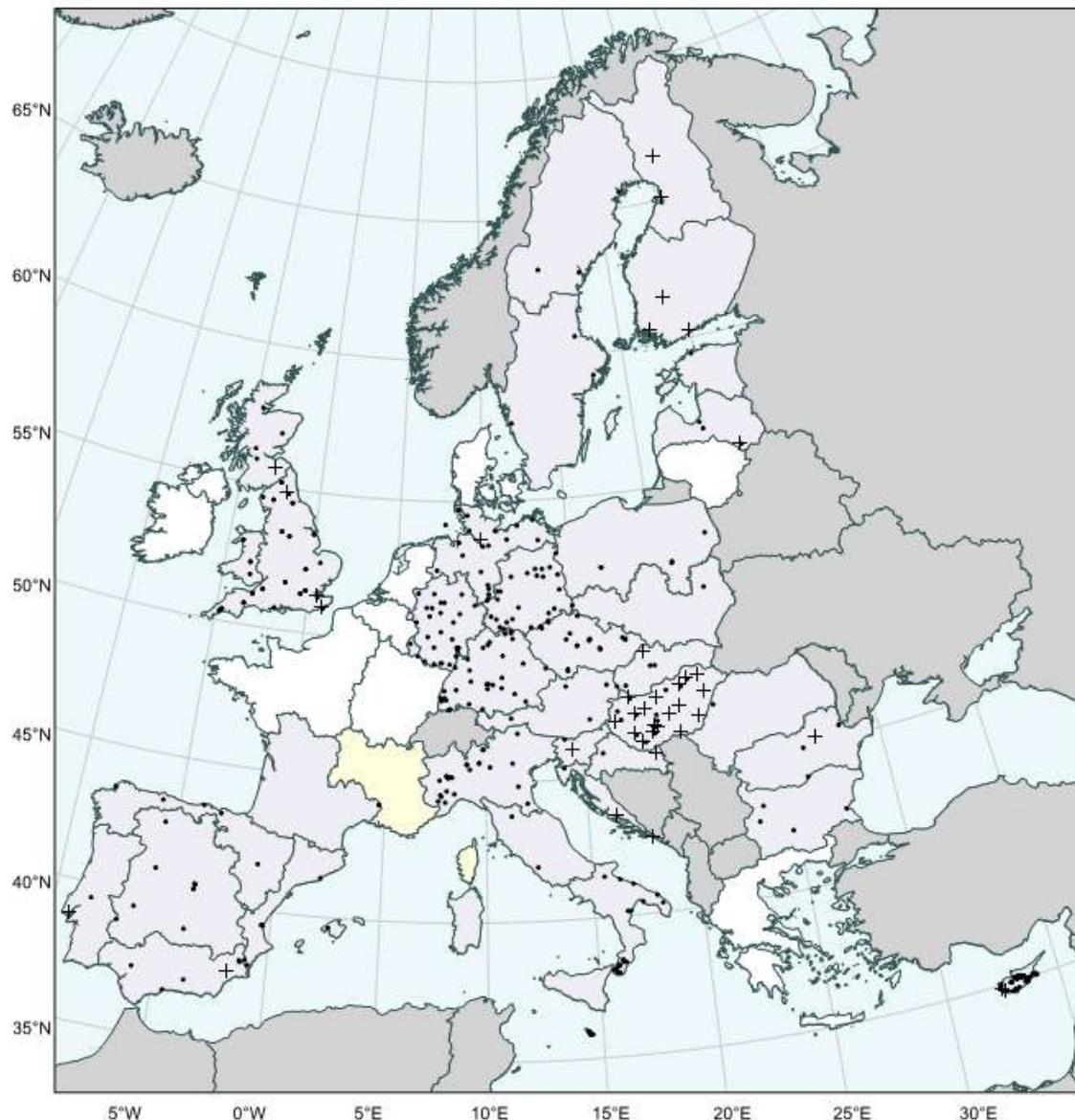
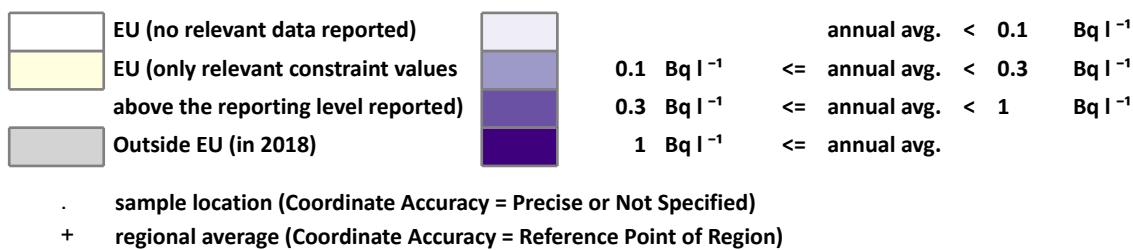


Fig. W16: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2018
drinking water (Bq l^{-1})
caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)

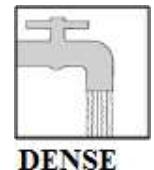


Canary Islands
(Spain)



Malta



Table W16: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **caesium-137 (^{137}Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	48	4	< RL	< RL	5				
BE									
BG	17	4	< RL	< RL	7				
CY	44	42			< RL	< RL	< RL	< RL	12
CZ	67	20	< RL	< RL	2				
DE-N	67	20	< RL	< RL	2				
DE-C	72	26	< RL	< RL	5				
DE-S	122	35	< RL	< RL	8				
DE-E	89	25	< RL	< RL	11				
DE	350	106	< RL	< RL	2				
DK									
EE	2	1	< RL			< RL	< RL	< RL	2
ES-N	61	5	< RL	< RL	6				
ES-C	87	9	< RL	< RL	9				
ES-S	58	8	< RL	< RL	6				
ES-E	49	5	< RL	< RL	12				
ES	255	27	< RL	< RL	9				
FI-N	2	2				< RL	< RL	< RL	10
FI-S	3	3				< RL	< RL	< RL	10
FI	5	5				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW	2	2				< RL	< RL	< RL	10
FR-SE									
FR	2	2				< RL	< RL	< RL	10
GB-EN	82	40	< RL	< RL	10				
GB-WL	10	5	< RL	< RL	7				
GB-SC	26	5	< RL	< RL	8				
GB-NI									
GB	118	50	< RL	< RL	2				
GR									
HR-A	3	3		< RL			< RL	< RL	5
HR-C	5	2	< RL	< RL	9				
HR	8	5	< RL	< RL	6				
HU	129	31	< RL	< RL	4				
IE									
IT-N	90	25	< RL	< RL	6				
IT-C	13	2	< RL	< RL	8				
IT-S	27	18	< RL	< RL	6				
IT	130	45	< RL	< RL	7				
LT									
LU	13	1	< RL	< RL	7				
LV	16	4	< RL	< RL	3				
MT	5	5	< RL	< RL			< RL	< RL	1
NL									
PL-N	5	4	< RL	< RL	1				
PL-S	1	1	< RL	< RL	12				
PL	6	5	< RL	< RL	1				
PT	24	2	< RL	< RL	1				
RO-N	10	1	< RL	< RL	1				
RO-S	79	4	< RL	< RL	10				
RO	89	5	< RL	< RL	10				
SE-N	6	3		< RL	< RL	< RL	< RL	< RL	10
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	9
SE	12	6		< RL	< RL	< RL	< RL	< RL	9
SI	2	2	< RL	< RL			< RL	< RL	3
SK	36	5	< RL	< RL	9				

RL: reporting level for ^{137}Cs in drinking water, i.e. 1.0 E-01 Bq/L (see Appendix B)

Δ : only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. W17: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2019
drinking water (Bq l^{-1})
caesium-137 (^{137}Cs)

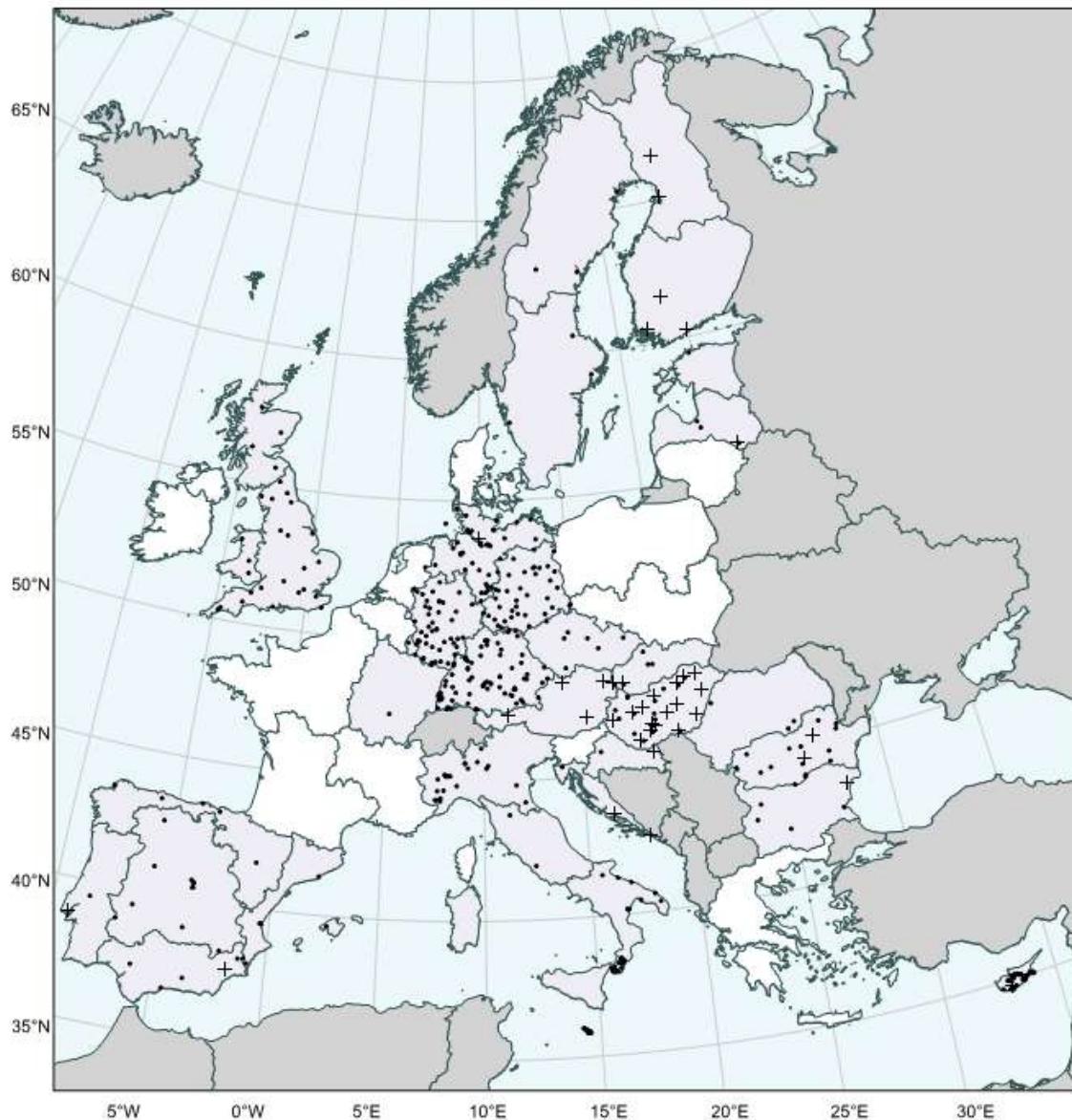
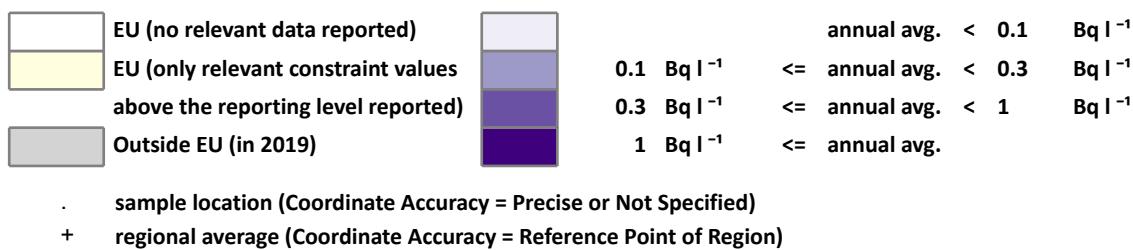
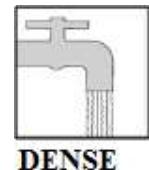


Table W17: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **caesium-137 (^{137}Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	48	4	< RL	< RL	6				
BE									
BG	24	6	< RL	< RL	7				
CY	48	34	< RL		< RL	< RL	< RL	< RL	12
CZ	28	7	< RL	< RL	11				
DE-N	157	39	< RL	< RL	1				
DE-C	134	44	< RL	< RL	10				
DE-S	364	76	< RL	< RL	9				
DE-E	137	39	< RL	< RL	11				
DE	792	198	< RL	< RL	7				
DK									
EE	2	1	< RL			< RL	< RL	< RL	2
ES-N	60	5	< RL	< RL	1				
ES-C	91	11	< RL	< RL	11				
ES-S	56	7	< RL	< RL	12				
ES-E	49	5	< RL	< RL	12				
ES	256	28	< RL	< RL	3				
FI-N	2	2		< RL			< RL	< RL	4
FI-S	3	3		< RL			< RL	< RL	5
FI	5	5		< RL			< RL	< RL	5
FR-NW									
FR-NE	1	1		< RL			< RL	< RL	5
FR-SW									
FR-SE									
FR	1	1		< RL			< RL	< RL	5
GB-EN	84	21	< RL	< RL	1				
GB-WL	12	3	< RL	< RL	10				
GB-SC	24	4	< RL	< RL	11				
GB-NI									
GB	120	28	< RL	< RL	11				
GR									
HR-A	3	3		< RL		< RL	< RL	< RL	4
HR-C	5	2	< RL	< RL	9				
HR	8	5	< RL	< RL	9				
HU	107	32	< RL	< RL	3				
IE									
IT-N	82	24	< RL	< RL	2				
IT-C	10	2	< RL	< RL	11				
IT-S	50	26	< RL	< RL	12				
IT	142	52	< RL	< RL	10				
LT									
LU	22	2	< RL	< RL	12				
LV	16	4	< RL	< RL	3				
MT	14	14	< RL	< RL	1				
NL									
PL-N									
PL-S									
PL									
PT	24	2	< RL	< RL	8				
RO-N	133	3	< RL	< RL	4				
RO-S	77	16	< RL	< RL	8				
RO	210	19	< RL	< RL	4				
SE-N	6	3		< RL	< RL		< RL	< RL	4
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	10
SE	12	6		< RL	< RL	< RL	< RL	< RL	10
SI									
SK	33	7	< RL	< RL	6				

RL: reporting level for ^{137}Cs in drinking water, i.e. 1.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

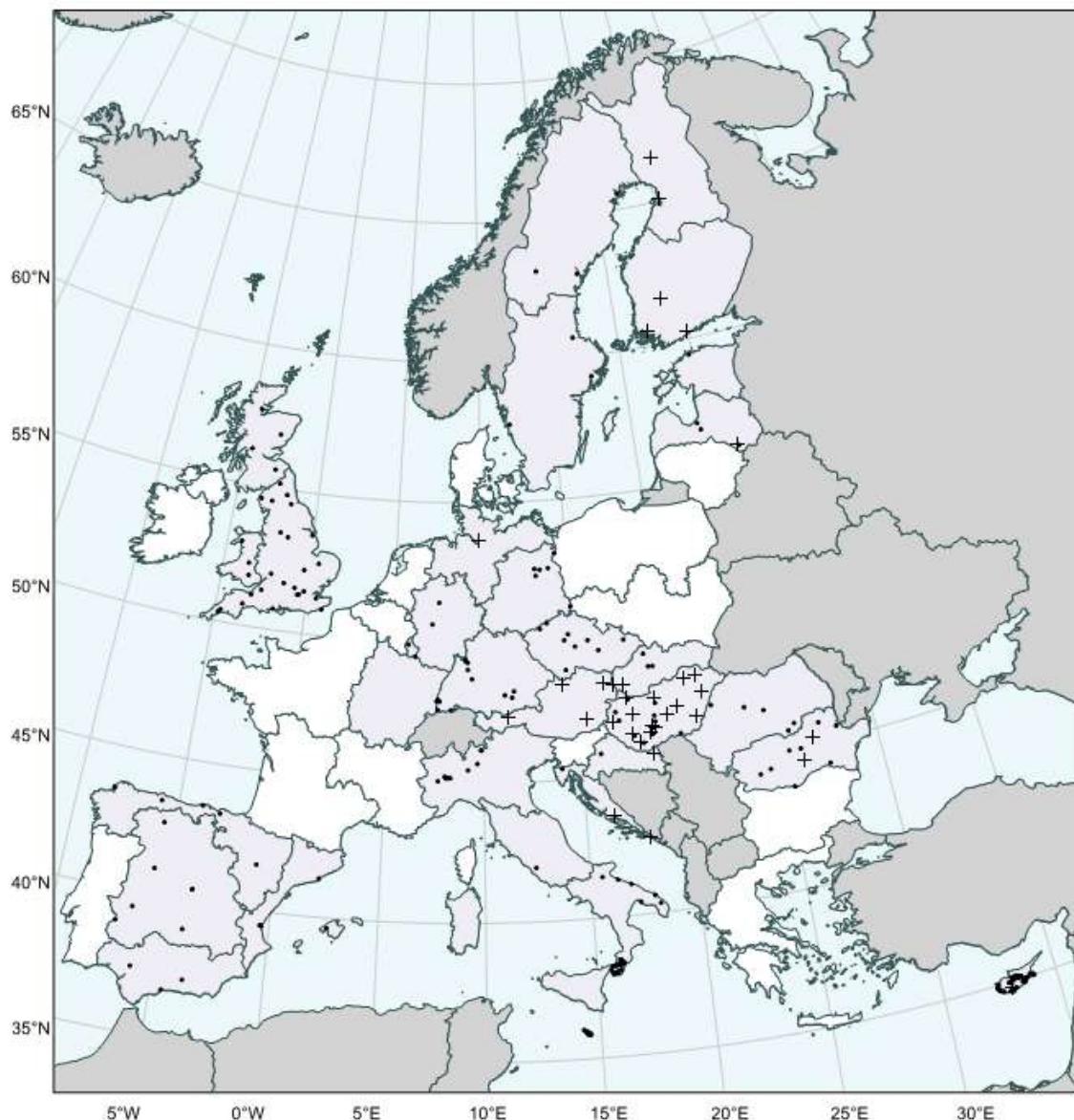
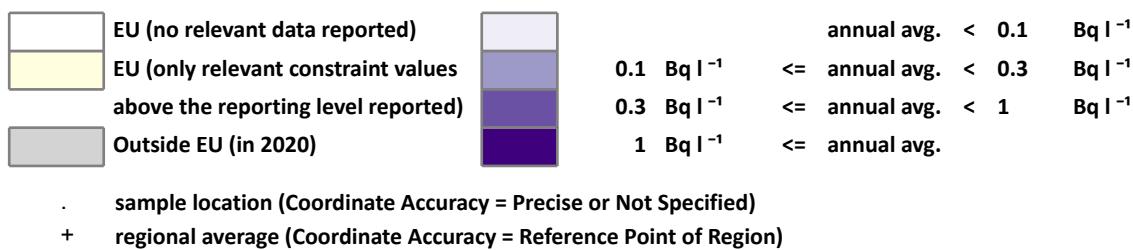


Fig. W18: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2020
drinking water (Bq l^{-1})
caesium-137 (^{137}Cs)



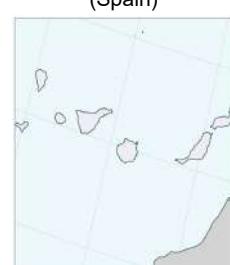
Azores (Portugal)



Madeira (Portugal)

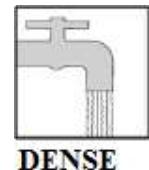


Canary Islands
(Spain)



Malta



Table W18: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **drinking water (Bq l^{-1})**
NUCLIDE CATEGORY : **caesium-137 (^{137}Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	48	4	< RL	< RL	5				
BE									
BG									
CY	55	43	< RL	< RL	1				
CZ	35	9	< RL	< RL	11				
DE-N	1	1	< RL				< RL	< RL	1
DE-C	2	2	< RL				< RL	< RL	1
DE-S	13	11	< RL				< RL	< RL	1
DE-E	6	6	< RL	< RL			< RL	< RL	4
DE	22	20	< RL	< RL			< RL	< RL	4
DK									
EE	2	1	< RL			< RL	< RL	< RL	3
ES-N	58	5	< RL	< RL	3				
ES-C	81	7	< RL	< RL	4				
ES-S	59	4	< RL	< RL	3				
ES-E	48	4	< RL	< RL	11				
ES	246	20	< RL	< RL	2				
FI-N	2	2				< RL	< RL	< RL	11
FI-S	3	3				< RL	< RL	< RL	10
FI	5	5				< RL	< RL	< RL	10
FR-NW									
FR-NE	2	2			< RL		< RL	< RL	7
FR-SW									
FR-SE									
FR	2	2			< RL		< RL	< RL	7
GB-EN	37	24	< RL	< RL		< RL	< RL	< RL	1
GB-WL	5	3	< RL			< RL	< RL	< RL	1
GB-SC	24	4	< RL		< RL	< RL	< RL	< RL	10
GB-NI									
GB	66	31	< RL	< RL	7				
GR									
HR-A	3	3		< RL	< RL		< RL	< RL	9
HR-C	5	2	< RL	< RL	10				
HR	8	5	< RL	< RL	10				
HU	69	26	< RL	< RL	12				
IE									
IT-N	56	11	< RL	< RL	2				
IT-C	2	1		< RL		< RL	< RL	< RL	12
IT-S	43	28	< RL	< RL	9				
IT	101	40	< RL	< RL	7				
LT									
LU	24	2	< RL	< RL	1				
LV	16	4	< RL	< RL	12				
MT	10	10	< RL	< RL	1				
NL									
PL-N									
PL-S									
PL									
PT									
RO-N	70	5	< RL	< RL	5				
RO-S	63	10	< RL	< RL	8				
RO	133	15	< RL	< RL	8				
SE-N	6	3		< RL	< RL	< RL	< RL	< RL	9
SE-S	6	3		< RL	< RL	< RL	< RL	< RL	5
SE	12	6		< RL	< RL	< RL	< RL	< RL	9
SI									
SK	22	5	< RL	< RL	10				

RL: reporting level for ^{137}Cs in drinking water, i.e. 1.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

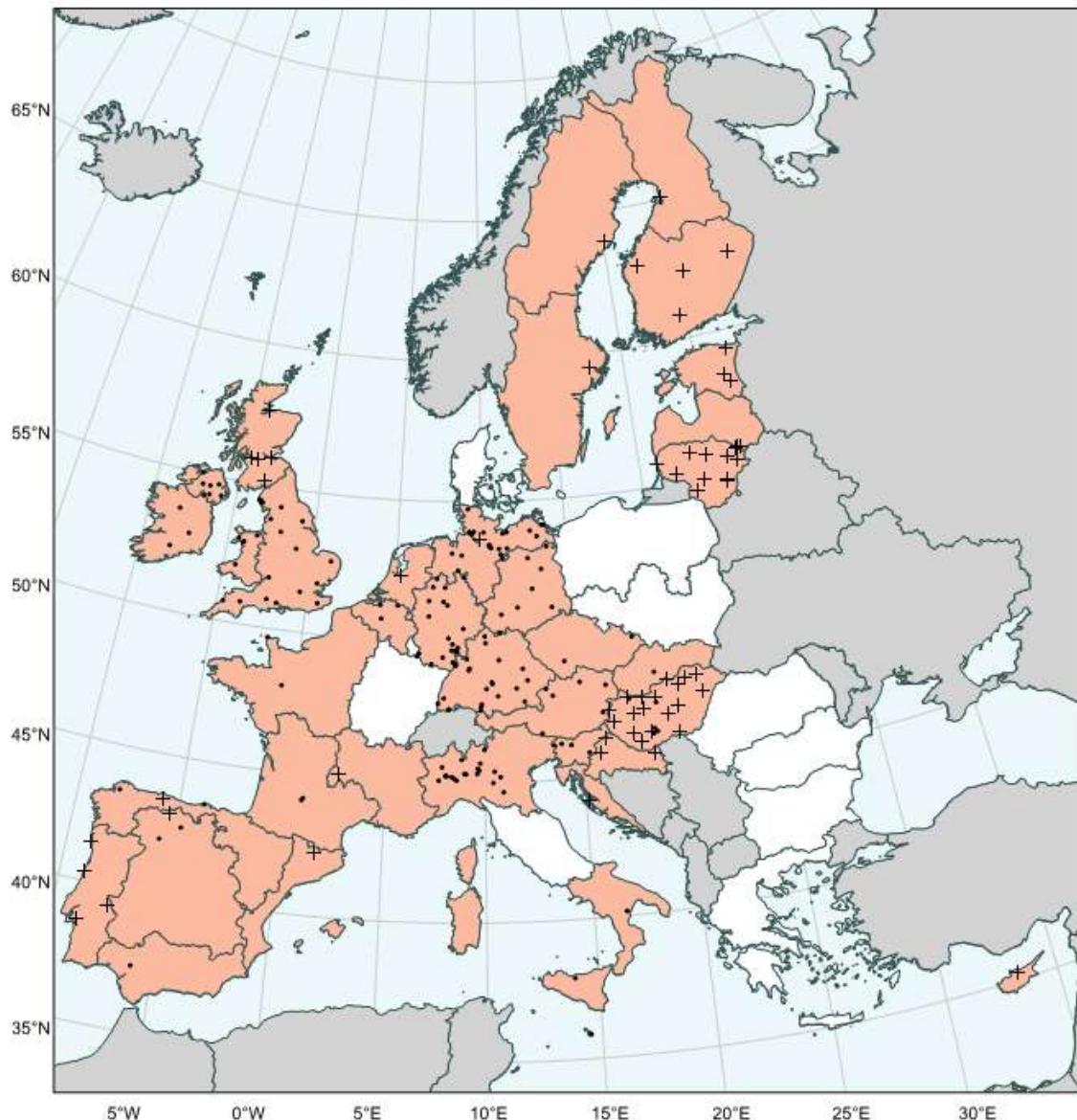
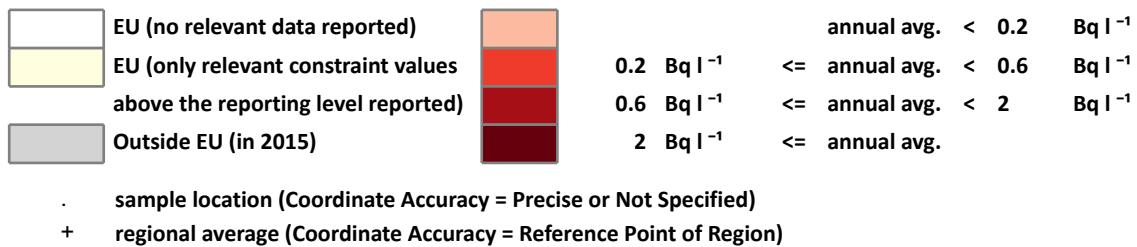
M: Month during which the maximum occurred.



Fig. M1: Geographical and time averages

DENSE

YEAR : 2015
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)



Azores (Portugal)



Madeira (Portugal)

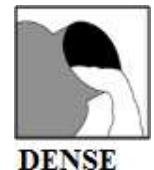


Canary Islands (Spain)



Malta



Table M1: Geographical and time averages


YEAR : 2015
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	25	7	< RL	< RL	6				
BE	42	3	< RL	< RL	1				
BG									
CY	6	1			< RL	< RL	< RL	< RL	7
CZ	5	2	< RL	< RL	2				
DE-N	110	24	< RL	< RL	11				
DE-C	63	20	< RL	< RL	1				
DE-S	74	23	< RL	< RL	4				
DE-E	67	7	< RL	< RL	1				
DE	314	74	< RL	< RL	11				
DK									
EE	12	3	< RL	< RL	10				
ES-N	36	3	< RL	< RL	8				
ES-C	12	3	< RL	< RL	5				
ES-S	12	1	< RL	< RL	1				
ES-E	12	1	< RL	< RL	12				
ES	72	8	< RL	< RL	8				
FI-N	4	1	< RL	< RL	1				
FI-S	16	4	< RL	< RL	4				
FI	20	5	< RL	< RL	4				
FR-NW	13	2		< RL	< RL	< RL	< RL	< RL	9
FR-NE									
FR-SW	2	2		< RL		< RL	< RL	< RL	6
FR-SE	1	1				< RL	< RL	< RL	11
FR	16	5		< RL	< RL	< RL	< RL	< RL	9
GB-EN	202	27	< RL	< RL	11				
GB-WL	44	5	< RL	< RL	10				
GB-SC	28	5	< RL	< RL	12				
GB-NI	73	6	< RL	< RL	10				
GB	347	43	< RL	< RL	10				
GR									
HR-A	5	1	< RL	< RL	7				
HR-C	23	3	< RL	< RL	9				
HR	28	4	< RL	< RL	9				
HU	227	23	< RL	< RL	10				
IE	16	4	< RL	< RL	2				
IT-N	55	20	< RL	< RL	9				
IT-C									
IT-S	5	2	< RL	< RL	12				
IT	60	22	< RL	< RL	10				
LT	44	12	< RL	< RL	1				
LU									
LV	8	2	< RL				< RL	< RL	1
MT	4	1	< RL	< RL	3				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	36	7	< RL	< RL	2				
RO-N									
RO-S									
RO									
SE-N	3	1		< RL	< RL	< RL	< RL	< RL	9
SE-S	3	1		< RL	< RL	< RL	< RL	< RL	8
SE	6	2		< RL	< RL	< RL	< RL	< RL	9
SI	34	4	< RL	< RL	10				
SK	12	1	< RL	< RL	1				

RL: reporting level for ^{90}Sr in milk, i.e. 2.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

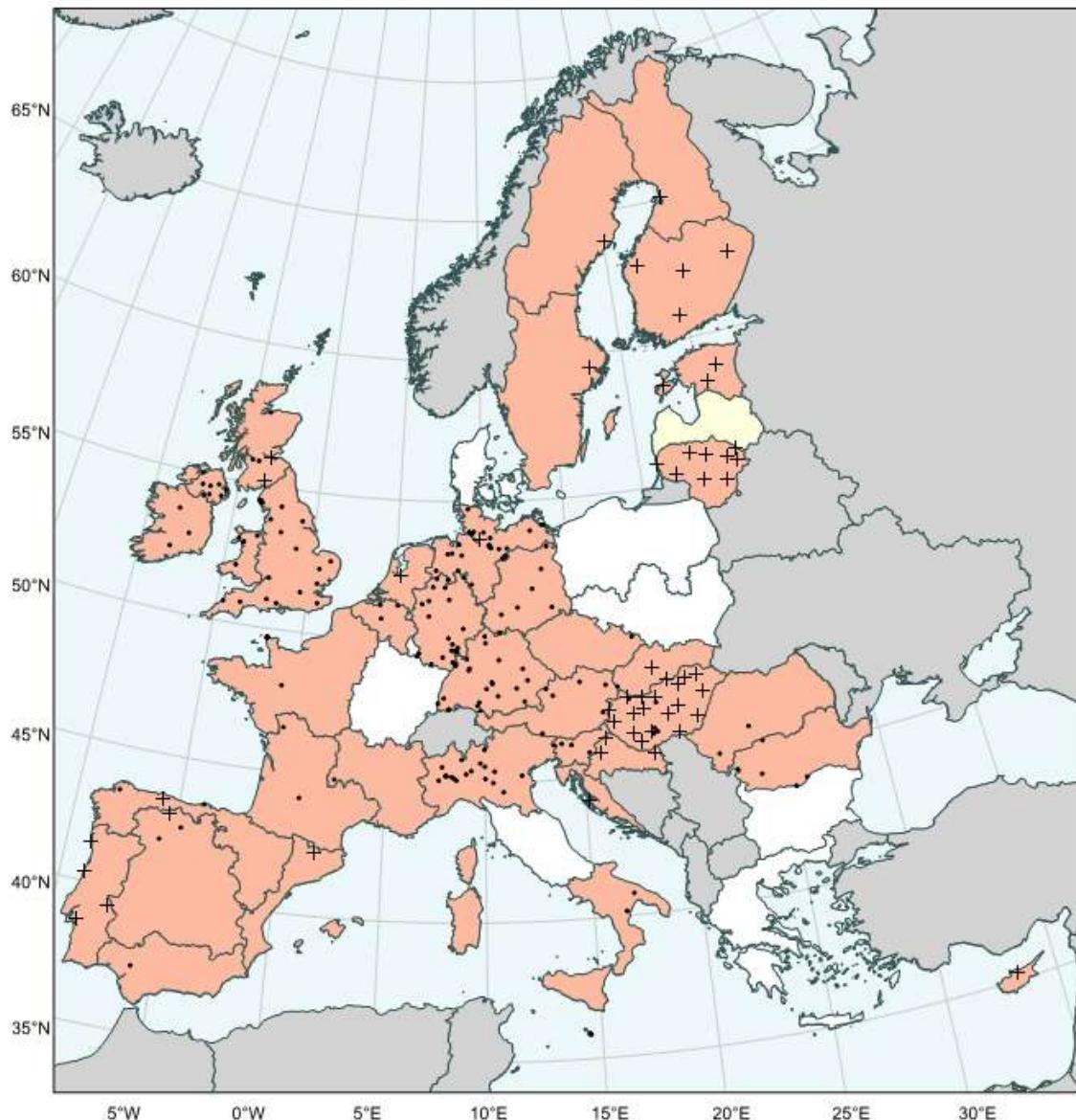
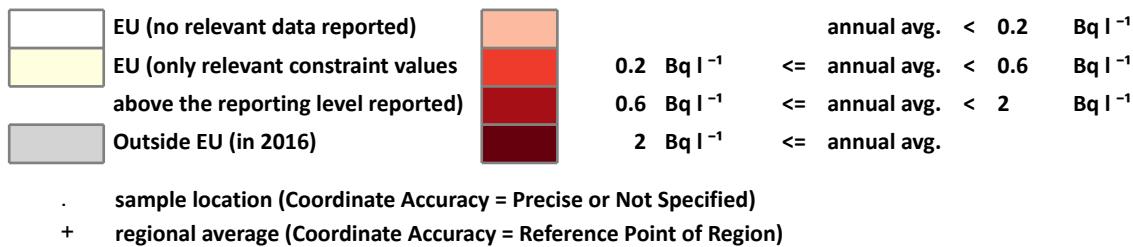
M: Month during which the maximum occurred.



Fig. M2: Geographical and time averages

DENSE

YEAR : 2016
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)



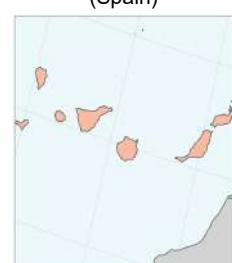
Azores (Portugal)



Madeira (Portugal)

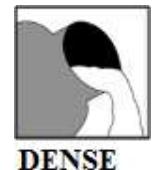


Canary Islands (Spain)



Malta



Table M2: Geographical and time averages


YEAR : 2016
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	25	7	< RL	< RL	7				
BE	42	3	< RL	< RL	5				
BG									
CY	6	1		< RL		< RL	< RL	< RL	6
CZ	4	1	< RL	< RL	10				
DE-N	119	28	< RL	< RL	12				
DE-C	71	20	< RL	< RL	11				
DE-S	71	23	< RL	< RL	3				
DE-E	54	6	< RL	< RL	3				
DE	315	77	< RL	< RL	3				
DK									
EE	12	3	< RL	< RL	2				
ES-N	36	3	< RL	< RL	9				
ES-C	12	3	< RL	< RL	9				
ES-S	12	1	< RL	< RL	11				
ES-E	12	1	< RL	< RL	1				
ES	72	8	< RL	< RL	9				
FI-N	4	1	< RL	< RL	10				
FI-S	16	4	< RL	< RL	7				
FI	20	5	< RL	< RL	7				
FR-NW	5	5			< RL	< RL	< RL	< RL	10
FR-NE									
FR-SW	3	2		< RL	< RL	< RL	< RL	< RL	11
FR-SE	1	1				< RL	< RL	< RL	10
FR	9	8			< RL	< RL	< RL	< RL	10
GB-EN	202	28	< RL	< RL	7				
GB-WL	43	5	< RL	< RL	12				
GB-SC	28	5	< RL	< RL	7				
GB-NI	71	7	< RL	< RL	8				
GB	344	45	< RL	< RL	7				
GR									
HR-A	7	1	< RL	< RL	3				
HR-C	27	3	< RL	< RL	12				
HR	34	4	< RL	< RL	12				
HU	230	24	< RL	< RL	5				
IE	16	4	< RL	< RL	5				
IT-N	57	19	< RL	< RL	7				
IT-C									
IT-S	4	2	< RL	< RL	10				
IT	61	21	< RL	< RL	7				
LT	43	10	< RL	< RL	4				
LU									
LV							Δ		
MT	4	2	< RL	< RL	3				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	36	6	< RL	< RL	4				
RO-N	2	2		< RL	< RL	< RL	< RL	< RL	11
RO-S	8	5	< RL	< RL	11				
RO	10	7	< RL	< RL	1				
SE-N	4	1	< RL	< RL	9				
SE-S	4	1	< RL	< RL	11				
SE	8	2	< RL	< RL	2				
SI	33	4	< RL	< RL	11				
SK	16	2	< RL	< RL	2				

 RL: reporting level for ^{90}Sr in milk, i.e. 2.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

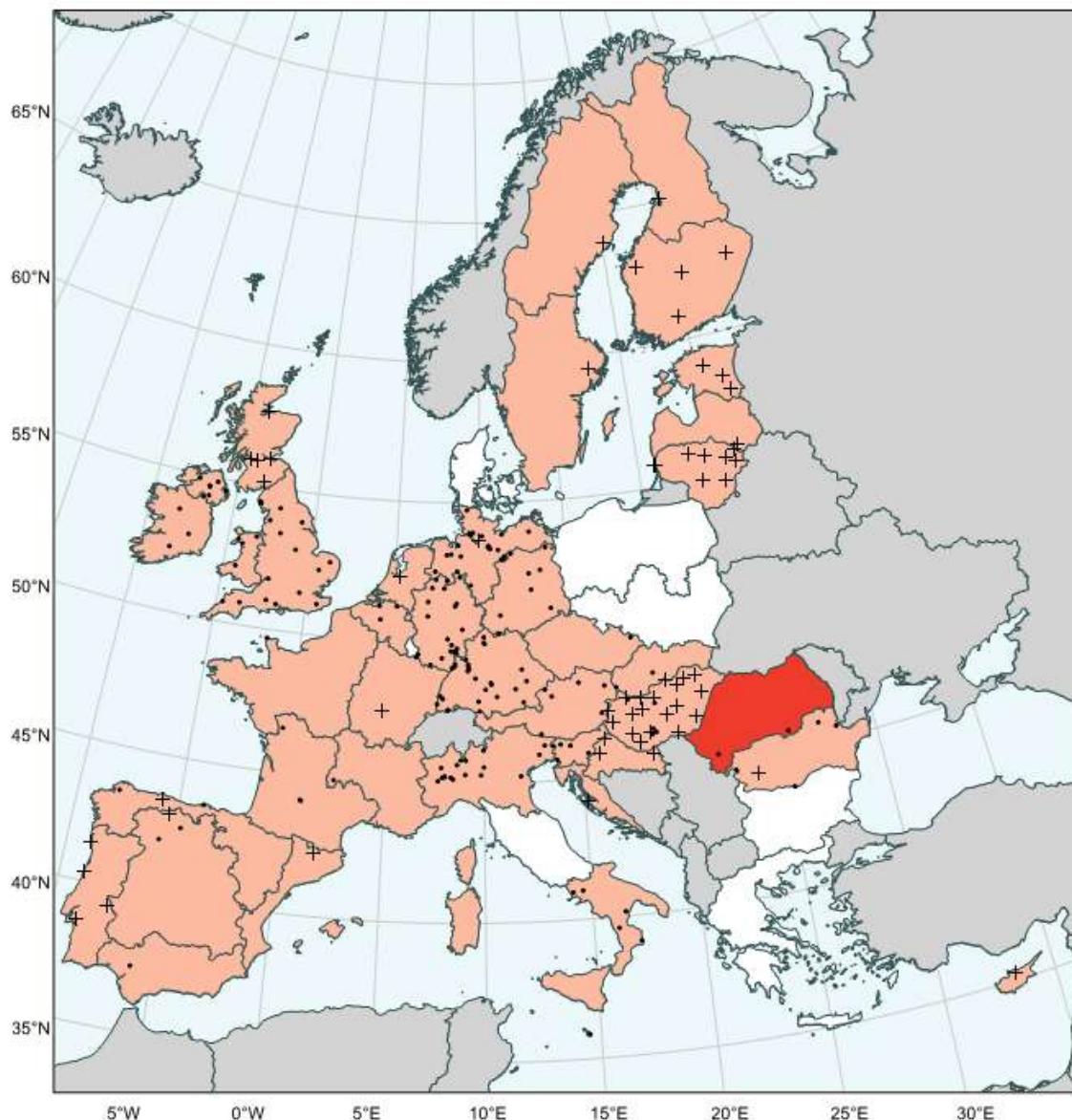
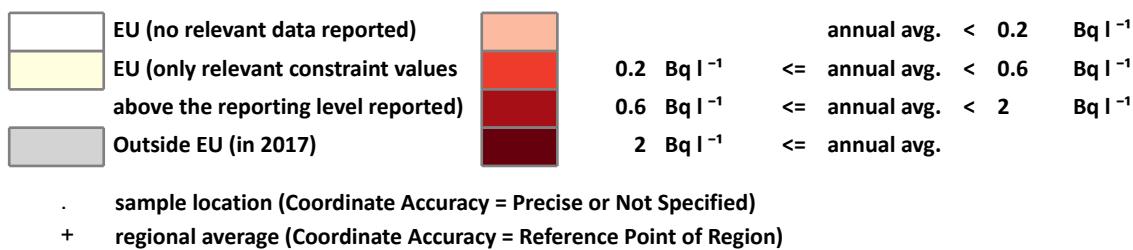


Fig. M3: Geographical and time averages

DENSE

YEAR : 2017
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY :

strontium-90 (^{90}Sr)



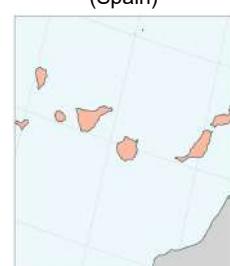
Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta



Table M3: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **milk (Bq l⁻¹)**
NUCLIDE CATEGORY : **strontium-90 (⁹⁰Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	26	7	< RL	< RL	6				
BE	42	3	< RL	< RL	4				
BG									
CY	6	1	< RL	< RL			< RL	< RL	1
CZ	4	1	< RL	< RL	10				
DE-N	111	25	< RL	< RL	8				
DE-C	60	20	< RL	< RL	9				
DE-S	75	26	< RL	< RL	3				
DE-E	57	7	< RL	< RL	10				
DE	303	78	< RL	< RL	3				
DK									
EE	12	3	< RL	< RL	11				
ES-N	36	3	< RL	< RL	8				
ES-C	12	3	< RL	< RL	8				
ES-S	12	1	< RL	< RL	8				
ES-E	12	1	< RL	< RL	10				
ES	72	8	< RL	< RL	8				
FI-N	4	1	< RL	< RL	1				
FI-S	16	4	< RL	< RL	1				
FI	20	5	< RL	< RL	1				
FR-NW	6	1		< RL	< RL		< RL	< RL	7
FR-NE	1	1		< RL			< RL	< RL	6
FR-SW	3	3		< RL	< RL	< RL	< RL	< RL	11
FR-SE	1	1		< RL			< RL	< RL	6
FR	11	6		< RL	< RL	< RL	< RL	< RL	6
GB-EN	193	20	< RL	< RL	10				
GB-WL	44	4	< RL	< RL	7				
GB-SC	28	5	< RL	< RL	2				
GB-NI	72	6	< RL	< RL	9				
GB	337	35	< RL	< RL	2				
GR									
HR-A	7	1	< RL	< RL	12				
HR-C	27	3	< RL	< RL	4				
HR	34	4	< RL	< RL	2				
HU	241	24	< RL	< RL	4				
IE	16	4	< RL	< RL	11				
IT-N	60	18	< RL	< RL	12				
IT-C									
IT-S	6	5	< RL	< RL		< RL	< RL	< RL	1
IT	66	23	< RL	< RL	12				
LT	44	12	< RL	< RL	1				
LU									
LV	8	1	< RL	< RL	3				
MT	3	1	< RL		< RL	< RL	< RL	< RL	7
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	35	6	< RL	< RL	9				
RO-N	2	2	< RL	< RL	< RL	5.1E-01	2.5E-01	1.2E+00	12
RO-S	7	5	< RL	< RL	3				
RO	9	7	< RL	< RL	< RL	2.9E-01	< RL	5.3E-01	12
SE-N	4	1	< RL	< RL	8				
SE-S	4	1	< RL	< RL	1				
SE	8	2	< RL	< RL	1				
SI	33	4	< RL	< RL	2				
SK	16	2	< RL	< RL	5				

RL: reporting level for ⁹⁰Sr in milk, i.e. 2.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

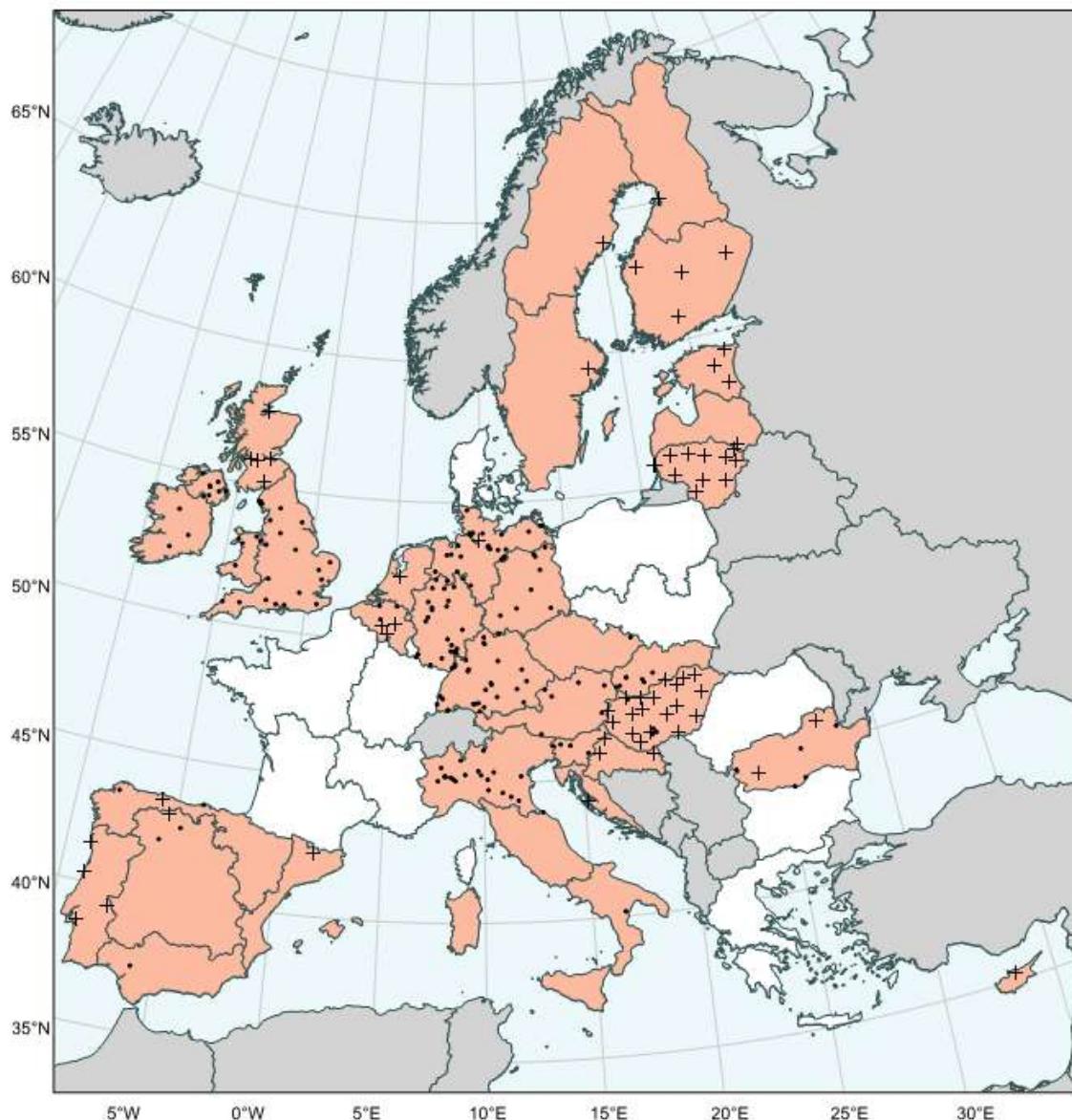
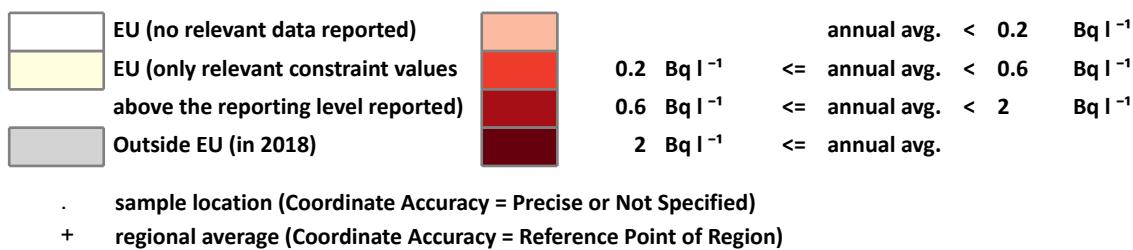
M: Month during which the maximum occurred.



Fig. M4: Geographical and time averages

DENSE

YEAR : 2018
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)



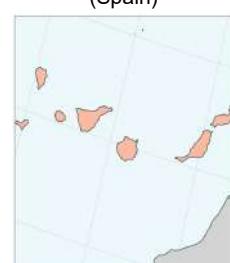
Azores (Portugal)



Madeira (Portugal)

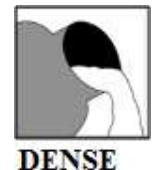


Canary Islands (Spain)



Malta



Table M4: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **milk (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	19	7	< RL	< RL	11				
BE	81	6	< RL	< RL	10				
BG									
CY	3	1			< RL	< RL	< RL	< RL	7
CZ	4	1	< RL	< RL	10				
DE-N	108	28	< RL	< RL	7				
DE-C	68	24	< RL	< RL	12				
DE-S	78	27	< RL	< RL	12				
DE-E	59	8	< RL	< RL	1				
DE	313	87	< RL	< RL	1				
DK									
EE	12	3	< RL	< RL	2				
ES-N	36	3	< RL	< RL	6				
ES-C	12	3	< RL	< RL	11				
ES-S	12	1	< RL	< RL	3				
ES-E	12	1	< RL	< RL	12				
ES	72	8	< RL	< RL	1				
FI-N	4	1	< RL	< RL	10				
FI-S	16	4	< RL	< RL	10				
FI	20	5	< RL	< RL	10				
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	208	29	< RL	< RL	7				
GB-WL	43	5	< RL	< RL	8				
GB-SC	28	5	< RL	< RL	3				
GB-NI	72	7	< RL	< RL	10				
GB	351	46	< RL	< RL	9				
GR									
HR-A	5	1	< RL	< RL	9				
HR-C	24	3	< RL	< RL	1				
HR	29	4	< RL	< RL	1				
HU	224	23	< RL	< RL	7				
IE	16	4	< RL	< RL	5				
IT-N	64	20	< RL	< RL	9				
IT-C	1	1			< RL		< RL	< RL	9
IT-S	6	1	< RL	< RL	1				
IT	71	22	< RL	< RL	10				
LT	45	13	< RL	< RL	1				
LU									
LV	8	1	< RL				< RL	< RL	1
MT									
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	36	6	< RL	< RL	11				
RO-N									
RO-S	12	7	< RL	< RL	< RL		< RL	< RL	9
RO	12	7	< RL	< RL	< RL		< RL	< RL	9
SE-N	4	1	< RL	< RL	1				
SE-S	4	1	< RL	< RL	5				
SE	8	2	< RL	< RL	1				
SI	30	4	< RL	< RL	12				
SK	29	7	< RL	< RL	11				

RL: reporting level for ^{90}Sr in milk, i.e. 2.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. M5: Geographical and time averages

DENSE

YEAR : 2019
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY :

strontium-90 (^{90}Sr)

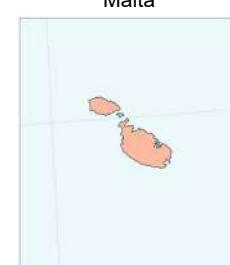
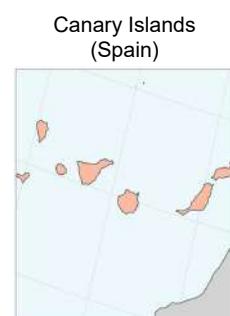
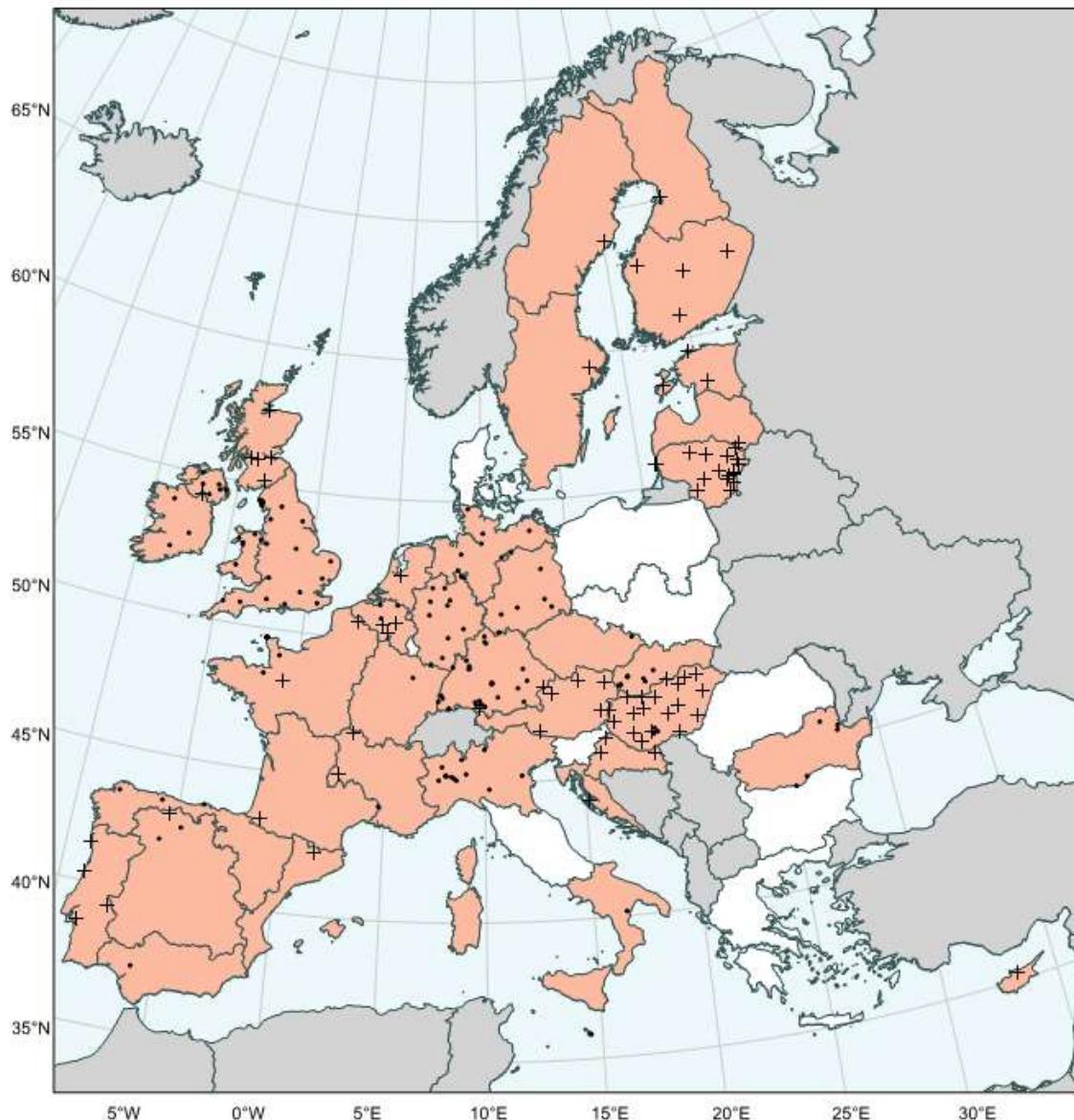
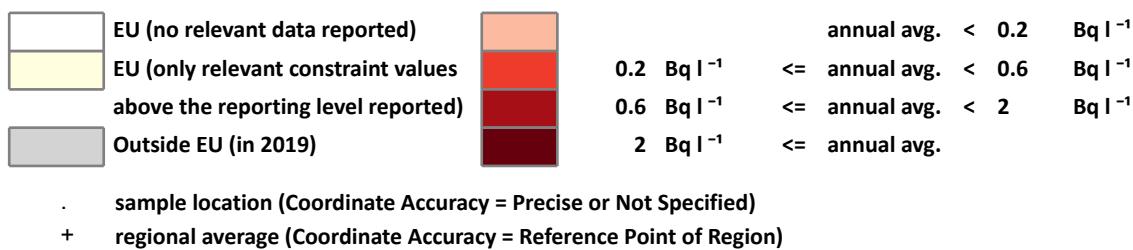


Table M5: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **milk (Bq l^{-1})**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	19	7	< RL	< RL	9				
BE	79	6	< RL	< RL	6				
BG									
CY	3	1	< RL	< RL			< RL	< RL	3
CZ	4	1	< RL	< RL	10				
DE-N	64	7	< RL	< RL	10				
DE-C	47	13	< RL	< RL	10				
DE-S	73	26	< RL	< RL	9				
DE-E	56	6	< RL	< RL	8				
DE	240	52	< RL	< RL	10				
DK									
EE	12	3	< RL	< RL	2				
ES-N	36	3	< RL	< RL	10				
ES-C	12	3	< RL	< RL	4				
ES-S	12	1	< RL	< RL	6				
ES-E	12	1	< RL	< RL	12				
ES	72	8	< RL	< RL	6				
FI-N	4	1	< RL	< RL	7				
FI-S	16	4	< RL	< RL	1				
FI	20	5	< RL	< RL	1				
FR-NW	13	13	< RL	< RL	3				
FR-NE	1	1			< RL		< RL	< RL	9
FR-SW	2	2		< RL			< RL	< RL	6
FR-SE	2	2		< RL			< RL	< RL	6
FR	18	18	< RL	< RL	6				
GB-EN	201	28	< RL	< RL	12				
GB-WL	43	6	< RL	< RL	12				
GB-SC	28	5	< RL	< RL	6				
GB-NI	71	6	< RL	< RL	12				
GB	343	45	< RL	< RL	12				
GR									
HR-A	6	1	< RL	< RL	1				
HR-C	24	3	< RL	< RL	3				
HR	30	4	< RL	< RL	3				
HU	170	22	< RL	< RL	9				
IE	14	4	< RL	< RL	5				
IT-N	39	13	< RL	< RL	10				
IT-C									
IT-S	3	1	< RL	< RL	4				
IT	42	14	< RL	< RL	10				
LT	69	19	< RL	< RL	11				
LU									
LV	9	1	< RL			< RL	< RL	< RL	11
MT	8	1	< RL	< RL	3				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	33	6	< RL	< RL	11				
RO-N									
RO-S	7	5	< RL	< RL	< RL		< RL	< RL	3
RO	7	5	< RL	< RL	< RL		< RL	< RL	3
SE-N	2	1	< RL	< RL			< RL	< RL	1
SE-S	2	1	< RL	< RL			< RL	< RL	1
SE	4	2	< RL	< RL			< RL	< RL	1
SI									
SK	23	9	< RL	< RL	8				

RL: reporting level for ^{90}Sr in milk, i.e. 2.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. M6: Geographical and time averages

DENSE

YEAR : 2020
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY :

strontium-90 (^{90}Sr)

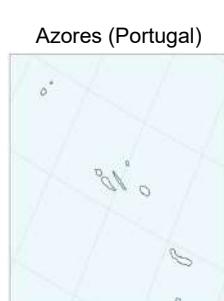
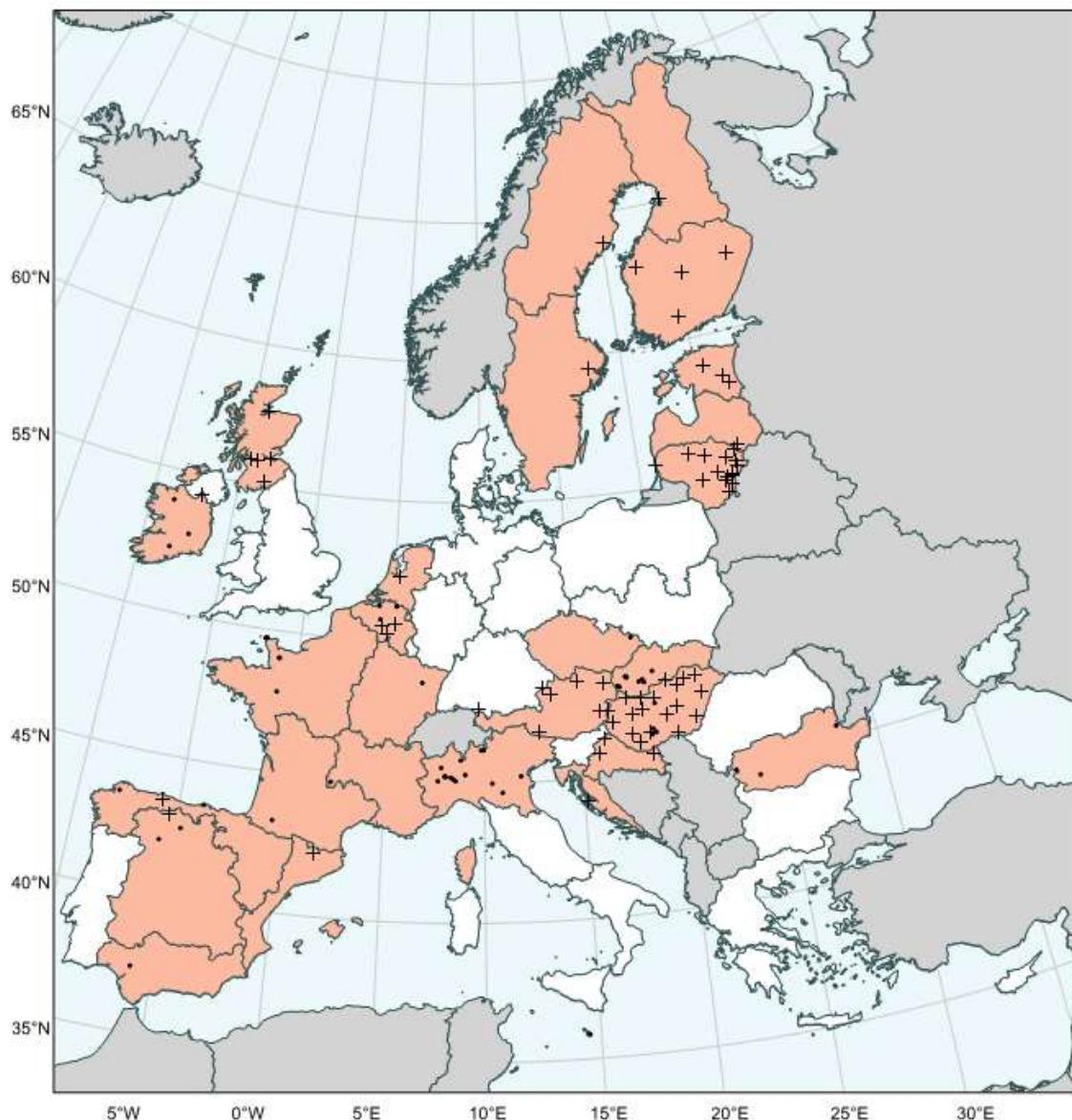
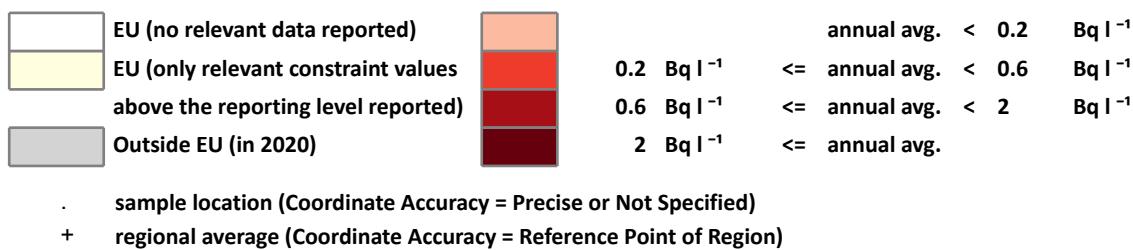


Table M6: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **milk (Bq l⁻¹)**
NUCLIDE CATEGORY : **strontium-90 (⁹⁰Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	19	7	< RL	< RL	10				
BE	163	6	< RL	< RL	3				
BG									
CY									
CZ	4	1	< RL	< RL	1				
DE-N									
DE-C									
DE-S									
DE-E									
DE									
DK									
EE	12	3	< RL	< RL	7				
ES-N	36	3	< RL	< RL	1				
ES-C	10	3	< RL	< RL	8				
ES-S	11	1	< RL	< RL	6				
ES-E	12	1	< RL	< RL	5				
ES	69	8	< RL	< RL	1				
FI-N	4	1	< RL	< RL	1				
FI-S	16	4	< RL	< RL	7				
FI	20	5	< RL	< RL	7				
FR-NW	7	6			< RL	< RL	< RL	< RL	7
FR-NE	1	1				< RL	< RL	< RL	10
FR-SW	1	1			< RL	< RL	< RL	< RL	9
FR-SE	1	1			< RL	< RL	< RL	< RL	7
FR	10	9			< RL	< RL	< RL	< RL	7
GB-EN									
GB-WL									
GB-SC	26	5	< RL	< RL	9				
GB-NI									
GB	26	5	< RL	< RL	9				
GR									
HR-A	6	1	< RL	< RL	2				
HR-C	24	3	< RL	< RL	11				
HR	30	4	< RL	< RL	11				
HU	100	23	< RL	< RL	1				
IE	16	4	< RL	< RL	6				
IT-N	39	15	< RL	2.0E-01	5				
IT-C									
IT-S									
IT	39	15	< RL	2.0E-01	5				
LT	62	15	< RL	< RL	12				
LU									
LV	3	1	< RL				< RL	< RL	1
MT	2	1		< RL		< RL	< RL	< RL	6
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT									
RO-N									
RO-S	4	3	< RL	< RL	2				
RO	4	3	< RL	< RL	2				
SE-N	4	1	< RL	< RL	9				
SE-S	4	1	< RL	< RL	8				
SE	8	2	< RL	< RL	8				
SI									
SK	38	9	< RL	< RL	12				

 RL: reporting level for ⁹⁰Sr in milk, i.e. 2.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

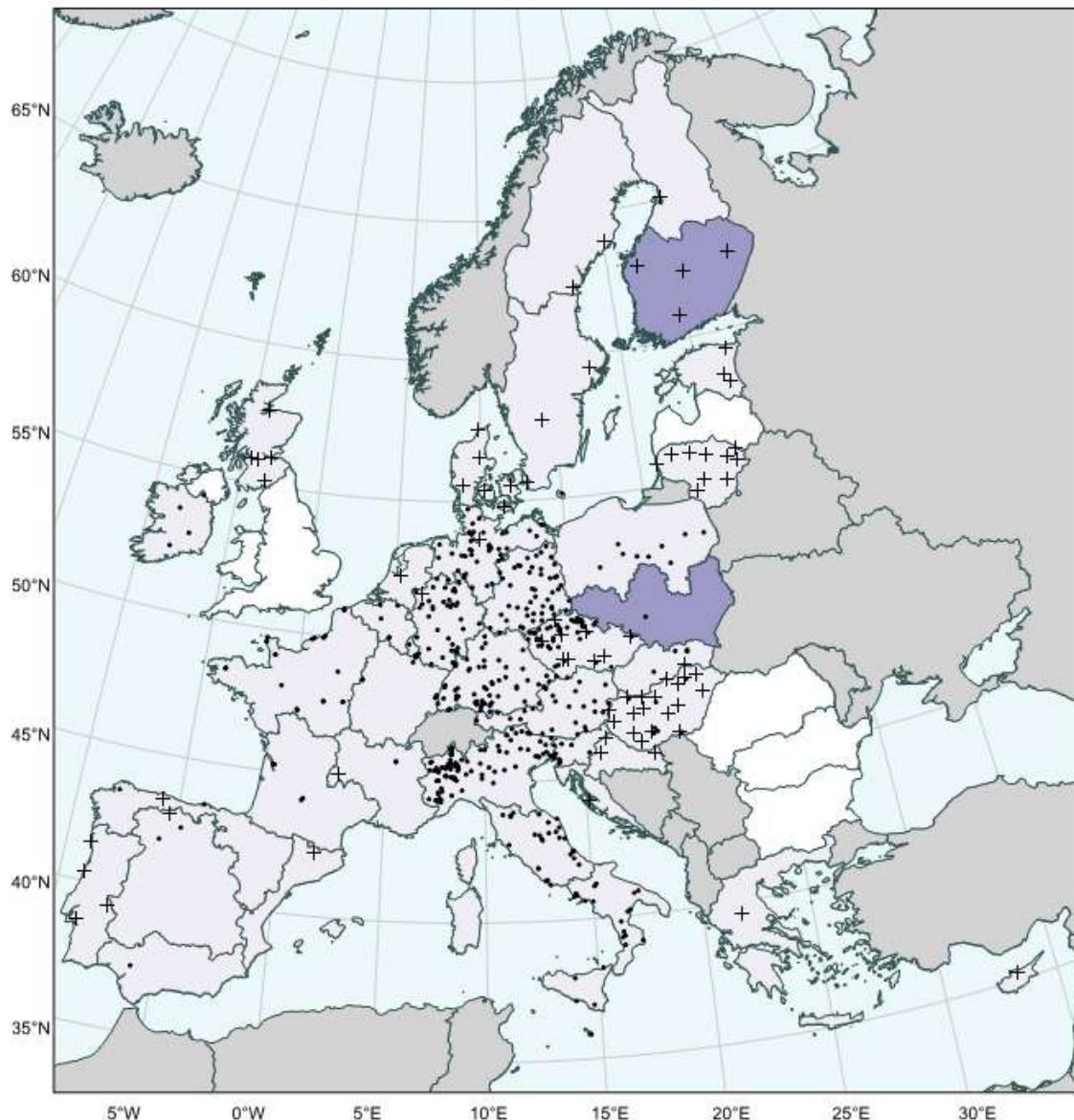
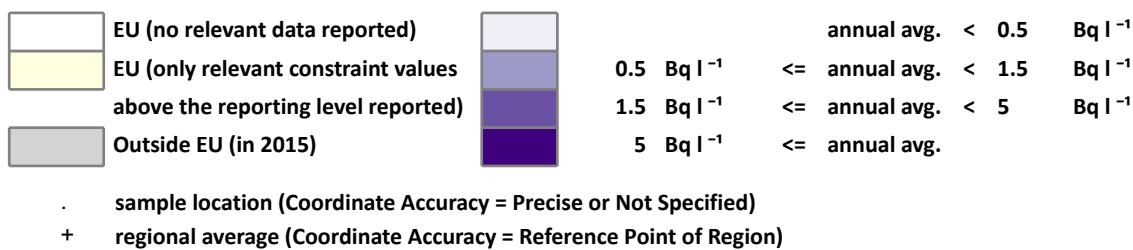
M: Month during which the maximum occurred.



Fig. M7: Geographical and time averages

DENSE

YEAR : 2015
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



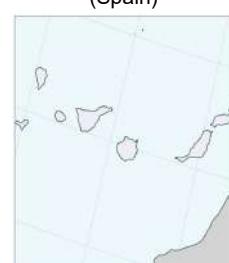
Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta



Table M7: Geographical and time averages


YEAR : 2015
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	179	28	< RL	< RL	8				
BE	159	3	< RL	< RL	5				
BG									
CY	6	1			< RL	< RL	< RL	< RL	7
CZ	124	53	< RL	< RL	5				
DE-N	341	40	< RL	< RL	6				
DE-C	234	42	< RL	< RL	4				
DE-S	324	57	< RL	< RL	11				
DE-E	288	46	< RL	< RL	4				
DE	1187	185	< RL	< RL	4				
DK	34	7	< RL		< RL	< RL	< RL	< RL	1
EE	12	3	< RL	< RL	7				
ES-N	36	3	< RL	< RL	7				
ES-C	12	3	< RL	< RL	10				
ES-S	12	1	< RL	< RL	5				
ES-E	12	1	< RL	< RL	3				
ES	72	8	< RL	< RL	7				
FI-N	12	1	< RL	< RL	6				
FI-S	48	4	6.1E-01	5.4E-01	< RL	5.2E-01	5.4E-01	7.5E-01	2
FI	60	5	5.5E-01	< RL	< RL	< RL	< RL	6.6E-01	2
FR-NW	35	21	< RL	< RL	7				
FR-NE	8	8		< RL	< RL	< RL	< RL	< RL	6
FR-SW	4	4		< RL		< RL	< RL	< RL	6
FR-SE	3	3	< RL	< RL		< RL	< RL	< RL	11
FR	50	36	< RL	< RL	7				
GB-EN									
GB-WL									
GB-SC	28	5	< RL	< RL	7				
GB-NI									
GB	28	5	< RL	< RL	7				
GR	12	1	< RL	< RL	1				
HR-A	6	1	< RL	< RL	4				
HR-C	26	3	< RL	< RL	1				
HR	32	4	< RL	< RL	1				
HU	278	25	< RL	< RL	3				
IE	23	4	< RL	< RL	4				
IT-N	421	101	< RL	< RL	8				
IT-C	108	28	< RL	< RL	1				
IT-S	103	21	< RL	< RL	10				
IT	632	150	< RL	< RL	8				
LT	45	11	< RL	< RL	11				
LU	35	3	< RL	< RL	4				
LV									
MT	4	1	< RL	< RL	6				
NL	12	1	< RL	< RL	1				
PL-N	18	9	< RL	< RL	1				
PL-S	2	1	5.5E-01	5.5E-01	5.5E-01	5.5E-01	5.5E-01	5.5E-01	12
PL	20	10	< RL	< RL	1				
PT	36	7	< RL	< RL	4				
RO-N									
RO-S									
RO									
SE-N	8	2	< RL	< RL	10				
SE-S	12	3	< RL	< RL	6				
SE	20	5	< RL	< RL	6				
SI	34	4	< RL	< RL	9				
SK	27	5	< RL	< RL	1				

RL: reporting level for ^{137}Cs in milk, i.e. 5.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

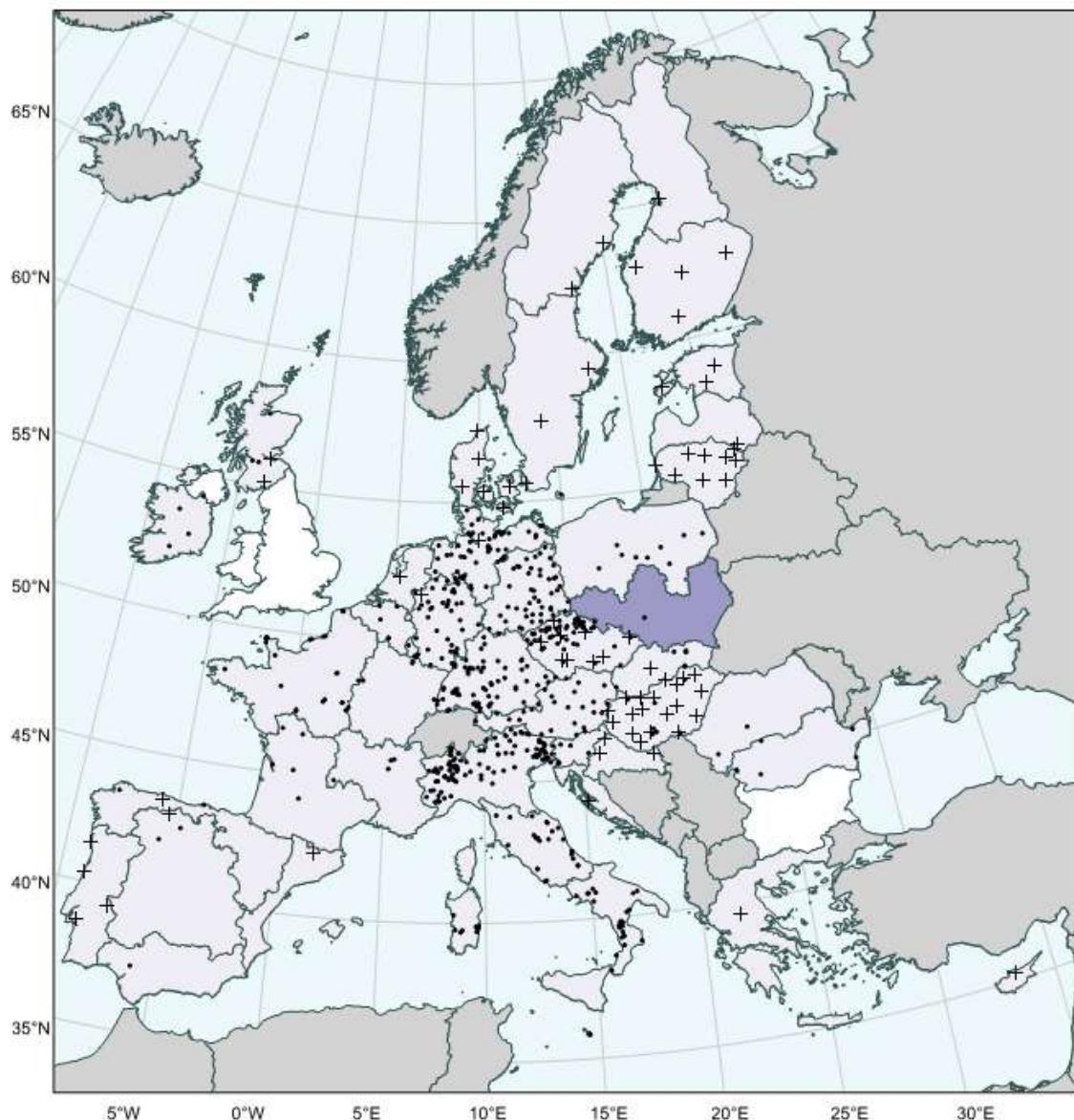
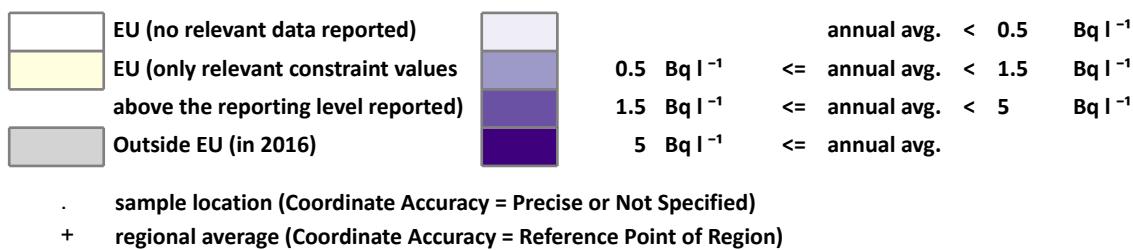
M: Month during which the maximum occurred.



Fig. M8: Geographical and time averages

DENSE

YEAR : 2016
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta



Table M8: Geographical and time averages


YEAR : **2016**
SAMPLE TYPE : **milk (Bq l⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	177	28	< RL	< RL	8				
BE	156	3	< RL	< RL	11				
BG									
CY	6	1		< RL		< RL	< RL	< RL	6
CZ	139	64	< RL	< RL	7				
DE-N	362	49	< RL	< RL	11				
DE-C	237	45	< RL	< RL	2				
DE-S	334	65	< RL	< RL	11				
DE-E	282	44	< RL	< RL	2				
DE	1215	203	< RL	< RL	12				
DK	42	7	< RL	< RL	9				
EE	12	3	< RL	< RL	7				
ES-N	36	3	< RL	< RL	9				
ES-C	12	3	< RL	< RL	1				
ES-S	12	1	< RL	< RL	2				
ES-E	12	1	< RL	< RL	6				
ES	72	8	< RL	< RL	1				
FI-N	12	1	< RL	< RL	3				
FI-S	48	4	5.4E-01	< RL	< RL	< RL	< RL	6.4E-01	3
FI	60	5	< RL	5.6E-01	3				
FR-NW	35	25	< RL	< RL	11				
FR-NE	8	8		< RL	< RL	< RL	< RL	< RL	7
FR-SW	10	5		< RL	< RL	< RL	< RL	< RL	11
FR-SE	4	4		< RL	< RL	< RL	< RL	< RL	10
FR	57	42	< RL	< RL	11				
GB-EN									
GB-WL									
GB-SC	28	5	< RL	< RL	4				
GB-NI									
GB	28	5	< RL	< RL	4				
GR	5	1	< RL	< RL			< RL	< RL	1
HR-A	13	1	< RL	< RL	7				
HR-C	51	3	< RL	< RL	7				
HR	64	4	< RL	< RL	7				
HU	288	26	< RL	< RL	11				
IE	28	4	< RL	< RL	10				
IT-N	427	108	< RL	6.4E-01	8				
IT-C	100	24	< RL	< RL	1				
IT-S	166	32	< RL	< RL	7				
IT	693	164	< RL	< RL	8				
LT	43	10	< RL	< RL	7				
LU	36	3	< RL	< RL	12				
LV	8	1	< RL	< RL	4				
MT	4	2	< RL	< RL	3				
NL	12	1	< RL	< RL	1				
PL-N	9	9	< RL	< RL	1				
PL-S	1	1	5.7E-01	5.7E-01	5.7E-01	5.7E-01	5.7E-01	5.7E-01	1
PL	10	10	< RL	< RL	1				
PT	36	6	< RL	< RL	6				
RO-N	2	2		< RL	< RL	< RL	< RL	< RL	4
RO-S	11	5	< RL	< RL	1				
RO	13	7	< RL	< RL	12				
SE-N	8	2	< RL	< RL	11				
SE-S	12	3	< RL	< RL	1				
SE	20	5	< RL	< RL	11				
SI	34	4	< RL	< RL	10				
SK	32	8	< RL	< RL	3				

RL: reporting level for ¹³⁷Cs in milk, i.e. 5.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

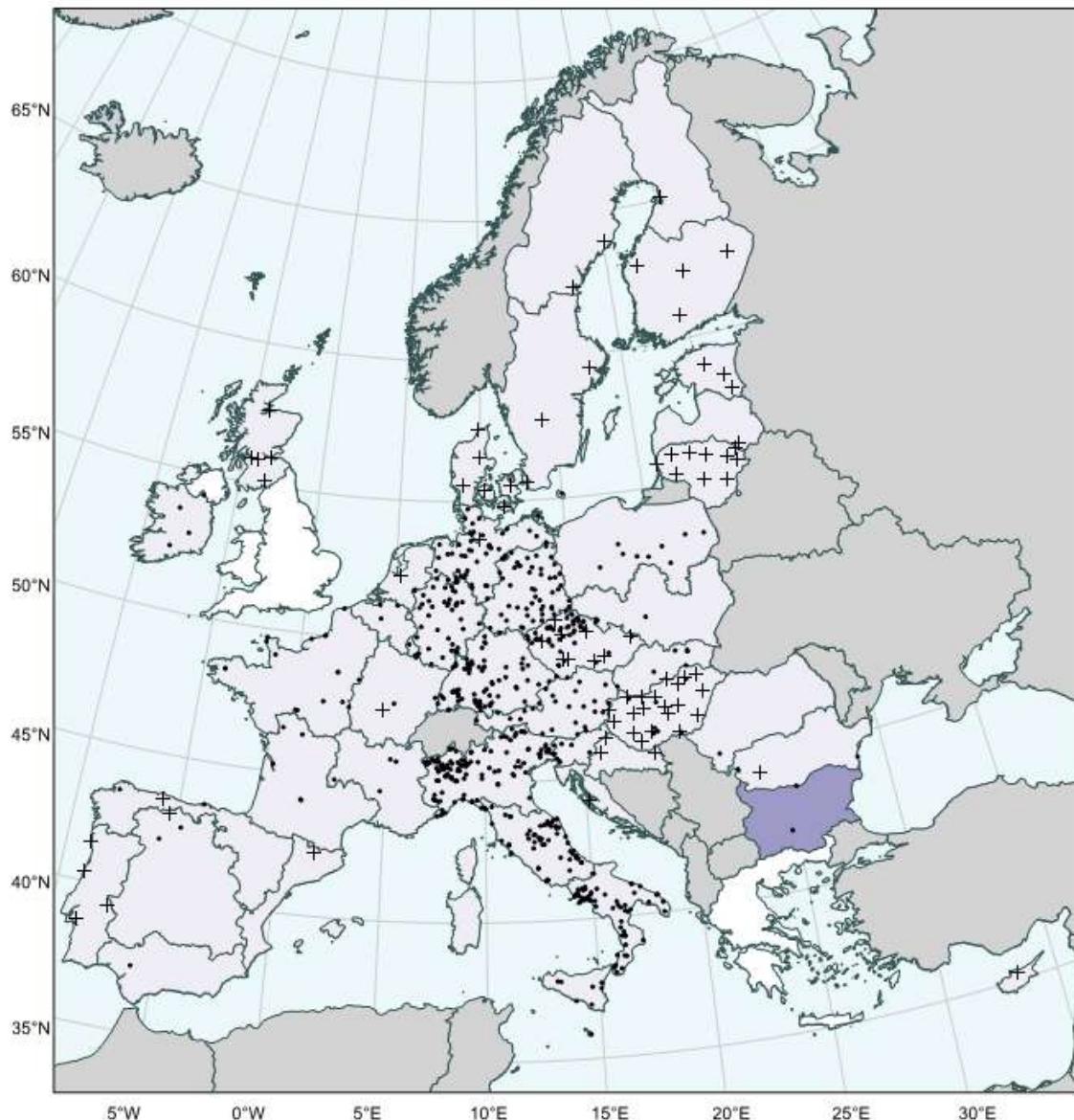
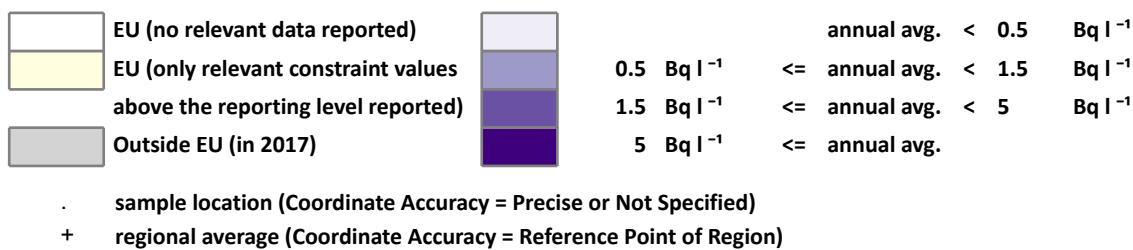
M: Month during which the maximum occurred.



Fig. M9: Geographical and time averages

DENSE

YEAR : 2017
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)

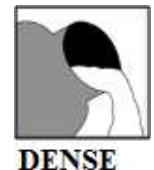


Canary Islands (Spain)



Malta



Table M9: Geographical and time averages


YEAR : 2017
SAMPLE TYPE : milk (Bq l⁻¹)
NUCLIDE CATEGORY : caesium-137 (¹³⁷Cs)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	175	28	< RL	< RL	7				
BE	159	3	< RL	< RL	10				
BG	1	1				6.2E-01	6.2E-01	6.2E-01	10
CY	6	1	< RL	< RL			< RL	< RL	5
CZ	129	57	< RL	< RL	11				
DE-N	358	44	< RL	< RL	2				
DE-C	226	47	< RL	< RL	8				
DE-S	325	68	< RL	< RL	1				
DE-E	296	49	< RL	< RL	4				
DE	1205	208	< RL	< RL	2				
DK	41	7	< RL	< RL	5				
EE	12	3	< RL	< RL	2				
ES-N	36	3	< RL	< RL	10				
ES-C	12	3	< RL	< RL	1				
ES-S	12	1	< RL	< RL	1				
ES-E	12	1	< RL	< RL	7				
ES	72	8	< RL	< RL	10				
FI-N	12	1	< RL	< RL	11				
FI-S	48	4	< RL	< RL	12				
FI	60	5	< RL	< RL	12				
FR-NW	33	16	< RL	< RL	3				
FR-NE	9	5	< RL	< RL	6				
FR-SW	9	5		< RL	< RL	< RL	< RL	< RL	10
FR-SE	5	4		< RL	< RL	< RL	< RL	< RL	9
FR	56	30	< RL	< RL	3				
GB-EN									
GB-WL									
GB-SC	28	5	< RL	< RL	12				
GB-NI									
GB	28	5	< RL	< RL	12				
GR									
HR-A	8	1	< RL	< RL	9				
HR-C	30	3	< RL	< RL	3				
HR	38	4	< RL	< RL	3				
HU	305	27	< RL	< RL	6				
IE	29	4	< RL	< RL	11				
IT-N	362	126	< RL	< RL	7				
IT-C	146	58	< RL	< RL	5				
IT-S	163	66	< RL	7.2E-01	7				
IT	671	250	< RL	< RL	7				
LT	44	12	< RL	< RL	5				
LU	35	3	< RL	< RL	5				
LV	8	1	< RL	< RL	11				
MT	3	1	< RL		< RL	< RL	< RL	< RL	3
NL	12	1	< RL	< RL	1				
PL-N	9	9				< RL	< RL	< RL	12
PL-S	1	1				< RL	< RL	< RL	12
PL	10	10				< RL	< RL	< RL	12
PT	35	6	< RL	< RL	11				
RO-N	1	1	< RL	< RL	3				
RO-S	9	4	< RL	< RL	3				
RO	10	5	< RL	< RL	1				
SE-N	7	2	< RL	< RL	8				
SE-S	12	3	< RL	< RL	8				
SE	19	5	< RL	< RL	6				
SI	33	4	< RL	< RL	4				
SK	29	6	< RL	< RL	3				

RL: reporting level for ¹³⁷Cs in milk, i.e. 5.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

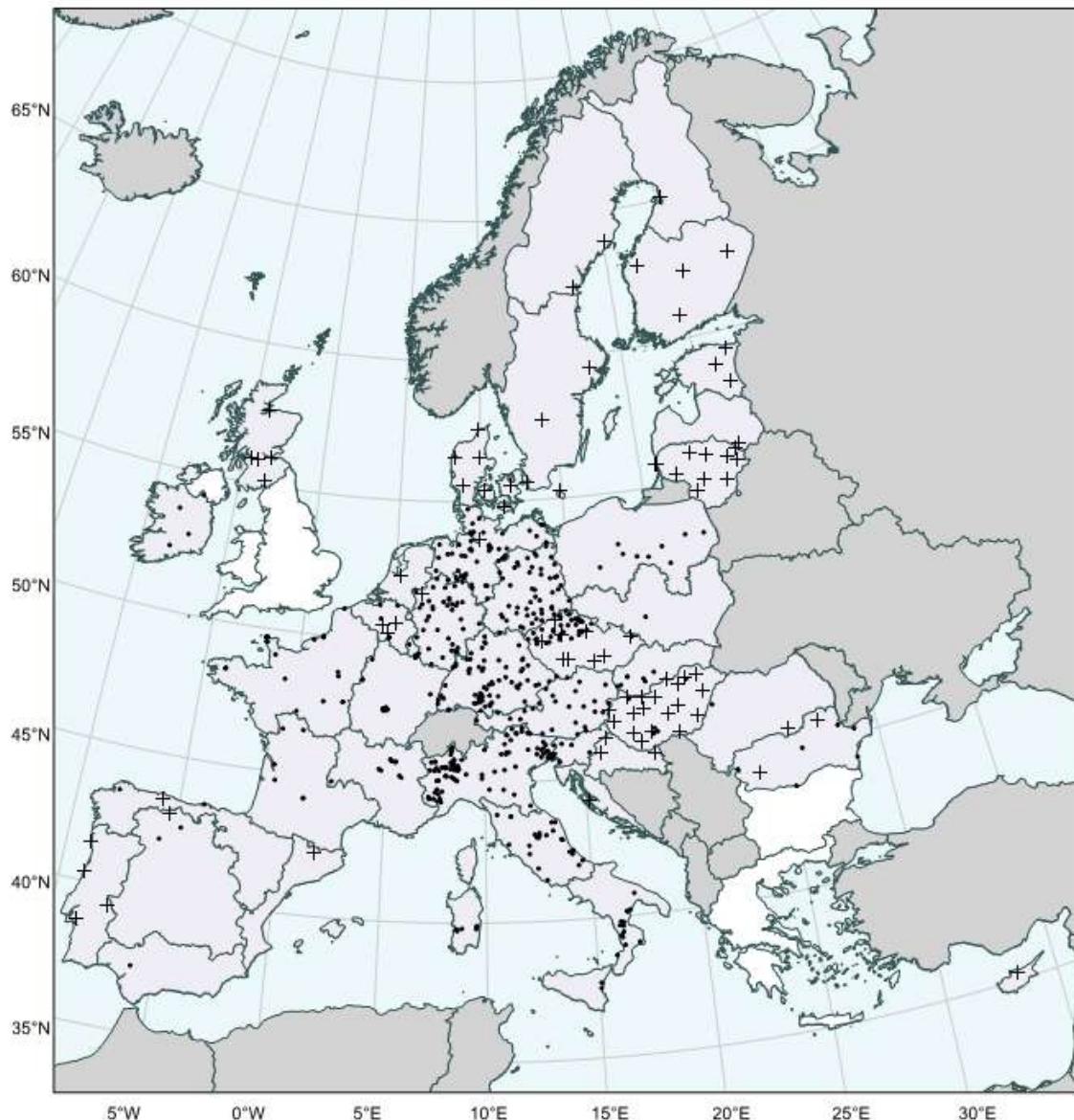
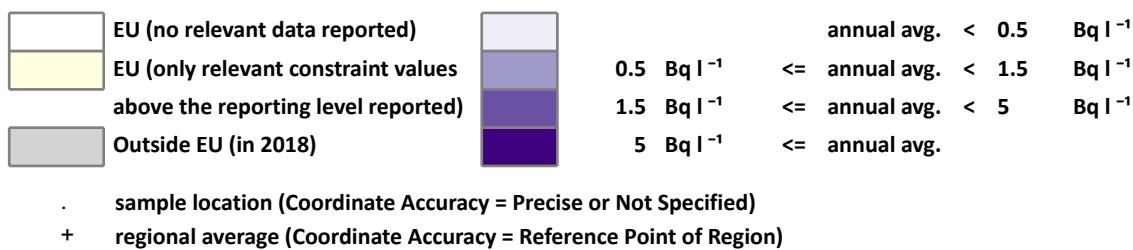
M: Month during which the maximum occurred.



Fig. M10: Geographical and time averages

DENSE

YEAR : 2018
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)

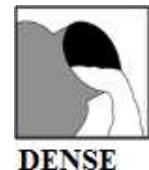


Canary Islands (Spain)



Malta



Table M10: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **milk (Bq l⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	175	28	< RL	< RL	7				
BE	161	6	< RL	< RL	6				
BG									
CY	3	1			< RL	< RL	< RL	< RL	7
CZ	75	46	< RL	< RL	12				
DE-N	338	45	< RL	< RL	4				
DE-C	238	47	< RL	< RL	1				
DE-S	322	65	< RL	< RL	2				
DE-E	292	49	< RL	< RL	11				
DE	1190	206	< RL	< RL	4				
DK	42	8	< RL	< RL	11				
EE	12	3	< RL	< RL	7				
ES-N	36	3	< RL	< RL	10				
ES-C	12	3	< RL	< RL	8				
ES-S	12	1	< RL	< RL	1				
ES-E	12	1	< RL	< RL	3				
ES	72	8	< RL	< RL	10				
FI-N	11	1	< RL	< RL	9				
FI-S	48	4	< RL	< RL	5.1E-01	5.3E-01	< RL	6.2E-01	9
FI	59	5	< RL	5.6E-01	9				
FR-NW	26	22	< RL	< RL	4				
FR-NE	16	15	< RL	< RL	5				
FR-SW	7	6		< RL	< RL	< RL	< RL	< RL	7
FR-SE	9	9		< RL	< RL	< RL	< RL	< RL	9
FR	58	52	< RL	< RL	5				
GB-EN									
GB-WL									
GB-SC	28	5	< RL	< RL	10				
GB-NI									
GB	28	5	< RL	< RL	10				
GR									
HR-A	10	1	< RL	< RL	1				
HR-C	48	3	< RL	< RL	8				
HR	58	4	< RL	< RL	8				
HU	300	24	< RL	< RL	6				
IE	26	4	< RL	< RL	1				
IT-N	371	102	< RL	< RL	8				
IT-C	88	24	< RL	< RL	5				
IT-S	146	23	< RL	< RL	5				
IT	605	149	< RL	< RL	8				
LT	45	12	< RL	< RL	7				
LU	36	3	< RL	< RL	4				
LV	5	1	< RL	< RL	3				
MT									
NL	12	1	< RL	< RL	1				
PL-N	9	9	< RL	< RL	1				
PL-S	1	1	< RL	< RL	1				
PL	10	10	< RL	< RL	1				
PT	36	6	< RL	< RL	6				
RO-N	5	2	< RL	< RL	2				
RO-S	22	8	< RL	< RL	3				
RO	27	10	< RL	< RL	2				
SE-N	8	2	< RL	< RL	6				
SE-S	12	3	< RL	< RL	11				
SE	20	5	< RL	< RL	6				
SI	30	4	< RL	< RL	2				
SK	31	7	< RL	< RL	9				

RL: reporting level for ¹³⁷Cs in milk, i.e. 5.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

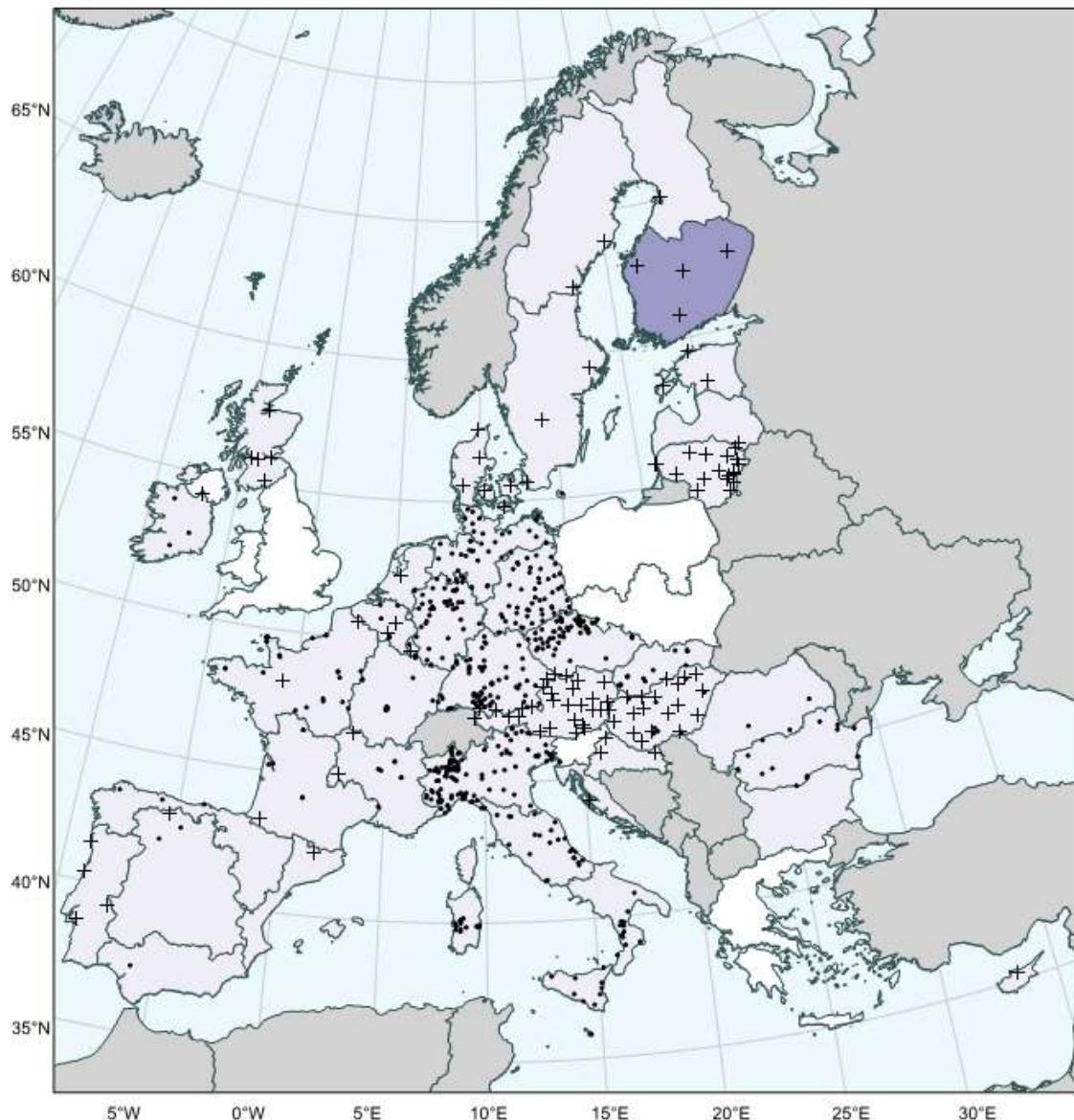
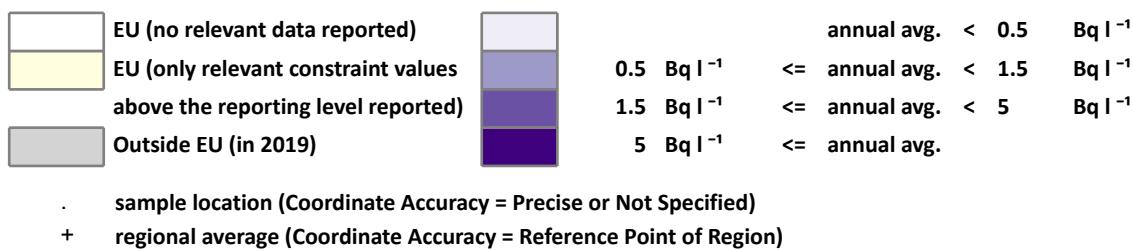
M: Month during which the maximum occurred.



Fig. M11: Geographical and time averages

DENSE

YEAR : 2019
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



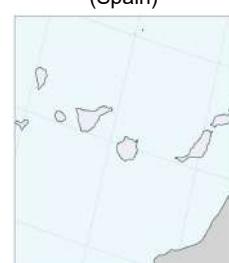
Azores (Portugal)



Madeira (Portugal)

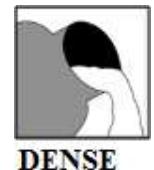


Canary Islands (Spain)



Malta



Table M11: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **milk (Bq l⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	177	28	< RL	< RL	7				
BE	164	5	< RL	< RL	8				
BG	3	1	< RL	< RL	< RL		< RL	< RL	3
CY	3	1	< RL	< RL			< RL	< RL	3
CZ	76	56	< RL	< RL	9				
DE-N	307	33	< RL	< RL	1				
DE-C	204	42	< RL	< RL	11				
DE-S	328	63	< RL	< RL	4				
DE-E	282	49	< RL	< RL	5				
DE	1121	187	< RL	< RL	5				
DK	38	7	< RL	< RL	4				
EE	12	3	< RL	< RL	6				
ES-N	36	3	< RL	< RL	10				
ES-C	12	3	< RL	< RL	9				
ES-S	12	1	< RL	< RL	7				
ES-E	12	1	< RL	< RL	10				
ES	72	8	< RL	< RL	7				
FI-N	12	1	< RL	< RL	1				
FI-S	48	4	6.5E-01	< RL	< RL	< RL	5.1E-01	7.0E-01	3
FI	60	5	5.9E-01	< RL	< RL	< RL	< RL	6.2E-01	3
FR-NW	35	32	< RL	< RL	6				
FR-NE	16	15	< RL	< RL	6				
FR-SW	8	8		< RL	< RL	< RL	< RL	< RL	4
FR-SE	8	8		< RL	< RL	< RL	< RL	< RL	11
FR	67	63	< RL	< RL	6				
GB-EN									
GB-WL									
GB-SC	28	5	< RL	< RL	6				
GB-NI									
GB	28	5	< RL	< RL	6				
GR									
HR-A	12	1	< RL	< RL	3				
HR-C	48	3	< RL	< RL	2				
HR	60	4	< RL	< RL	2				
HU	229	27	< RL	< RL	12				
IE	20	4	< RL	< RL	5				
IT-N	428	114	< RL	< RL	7				
IT-C	80	23	< RL	< RL	10				
IT-S	110	36	< RL	< RL	12				
IT	618	173	< RL	< RL	7				
LT	71	20	< RL	< RL	6				
LU	48	4	< RL	< RL	12				
LV	8	1	< RL	< RL	11				
MT	8	1	< RL	< RL	3				
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT	33	6	< RL	< RL	6				
RO-N	6	3	< RL	< RL	2				
RO-S	18	13	< RL	< RL	10				
RO	24	16	< RL	< RL	10				
SE-N	8	2	< RL	< RL	4				
SE-S	12	3	< RL	< RL	1				
SE	20	5	< RL	< RL	4				
SI									
SK	48	13	< RL	< RL	12				

RL: reporting level for ¹³⁷Cs in milk, i.e. 5.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

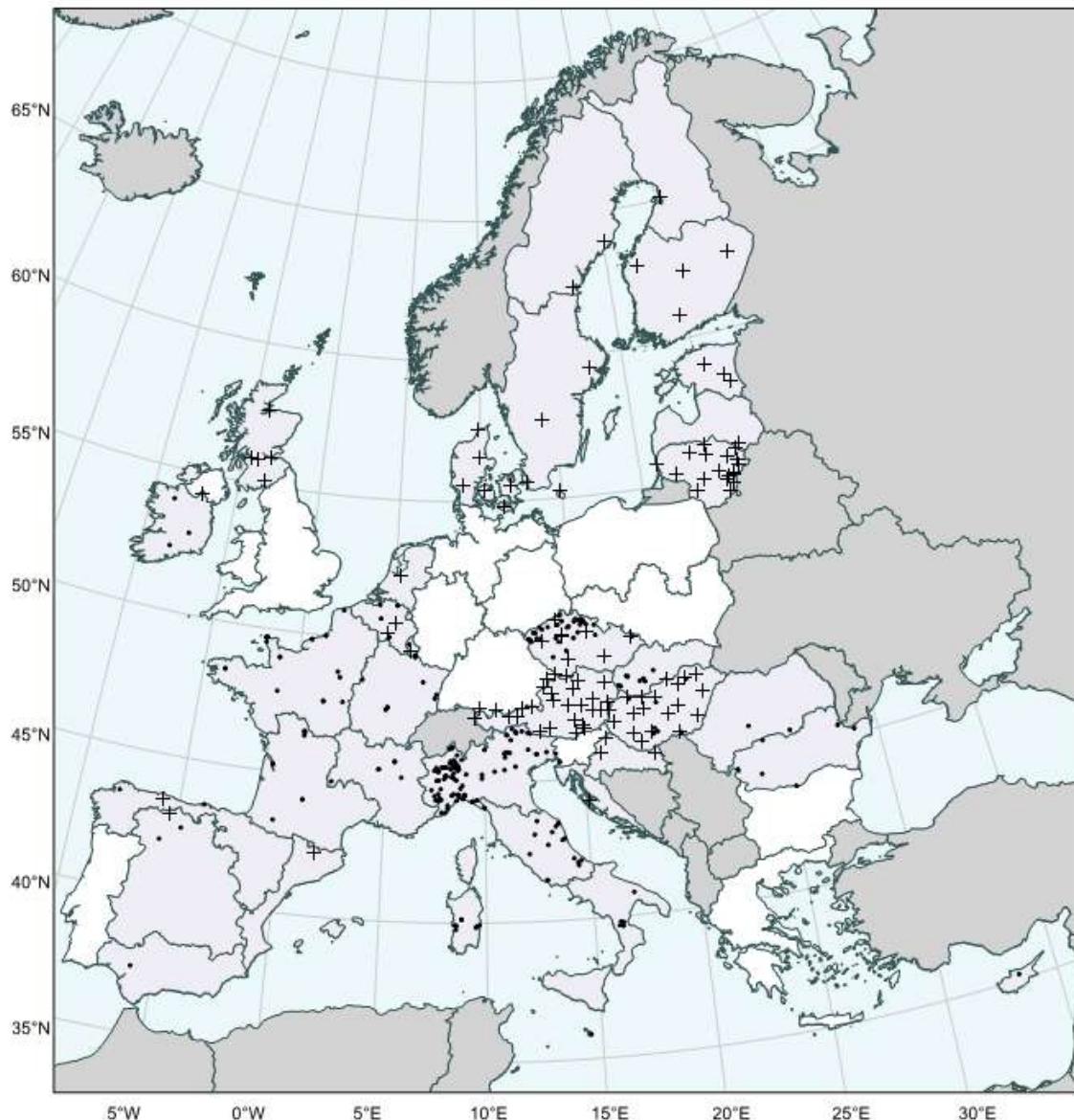
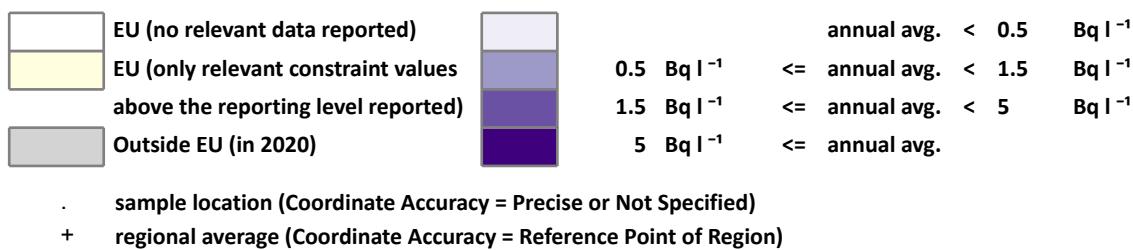
M: Month during which the maximum occurred.



Fig. M12: Geographical and time averages

DENSE

YEAR : 2020
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)

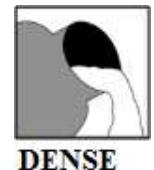


Canary Islands (Spain)



Malta



Table M12: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **milk (Bq l⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	145	28	< RL	< RL	10				
BE	322	5	< RL	< RL	8				
BG									
CY	3	1	< RL	< RL	< RL		< RL	< RL	8
CZ	58	44	< RL	< RL	9				
DE-N									
DE-C									
DE-S									
DE-E									
DE									
DK	34	7	< RL	< RL	10				
EE	12	3	< RL	< RL	7				
ES-N	36	3	< RL	< RL	6				
ES-C	10	3	< RL	< RL	2				
ES-S	11	1	< RL	< RL	5				
ES-E	12	1	< RL	< RL	5				
ES	69	8	< RL	< RL	5				
FI-N	12	1	< RL	< RL	1				
FI-S	48	4	< RL	5.4E-01	3				
FI	60	5	< RL	< RL	3				
FR-NW	20	19		< RL	< RL	< RL	< RL	< RL	11
FR-NE	10	10		< RL	< RL	< RL	< RL	< RL	11
FR-SW	11	9		< RL	< RL	< RL	< RL	< RL	9
FR-SE	6	6		< RL	< RL	< RL	< RL	< RL	11
FR	47	44		< RL	< RL	< RL	< RL	< RL	9
GB-EN									
GB-WL									
GB-SC	26	5	< RL	< RL	10				
GB-NI									
GB	26	5	< RL	< RL	10				
GR									
HR-A	12	1	< RL	< RL	11				
HR-C	48	3	< RL	< RL	2				
HR	60	4	< RL	< RL	2				
HU	144	26	< RL	< RL	9				
IE	24	4	< RL	< RL	6				
IT-N	292	94	< RL	< RL	9				
IT-C	41	16	< RL	< RL	2				
IT-S	27	13	< RL	< RL	11				
IT	360	123	< RL	< RL	8				
LT	67	19	< RL	< RL	7				
LU	40	4	< RL	< RL	2				
LV	16	1	< RL	< RL	12				
MT	2	1		< RL		< RL	< RL	< RL	6
NL	12	1	< RL	< RL	1				
PL-N									
PL-S									
PL									
PT									
RO-N	3	2	< RL	< RL	2				
RO-S	7	6	< RL	< RL	12				
RO	10	8	< RL	< RL	12				
SE-N	8	2	< RL	< RL	9				
SE-S	12	3	< RL	< RL	8				
SE	20	5	< RL	< RL	9				
SI									
SK	41	9	< RL	< RL	1				

RL: reporting level for ¹³⁷Cs in milk, i.e. 5.0 E-01 Bq/L (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

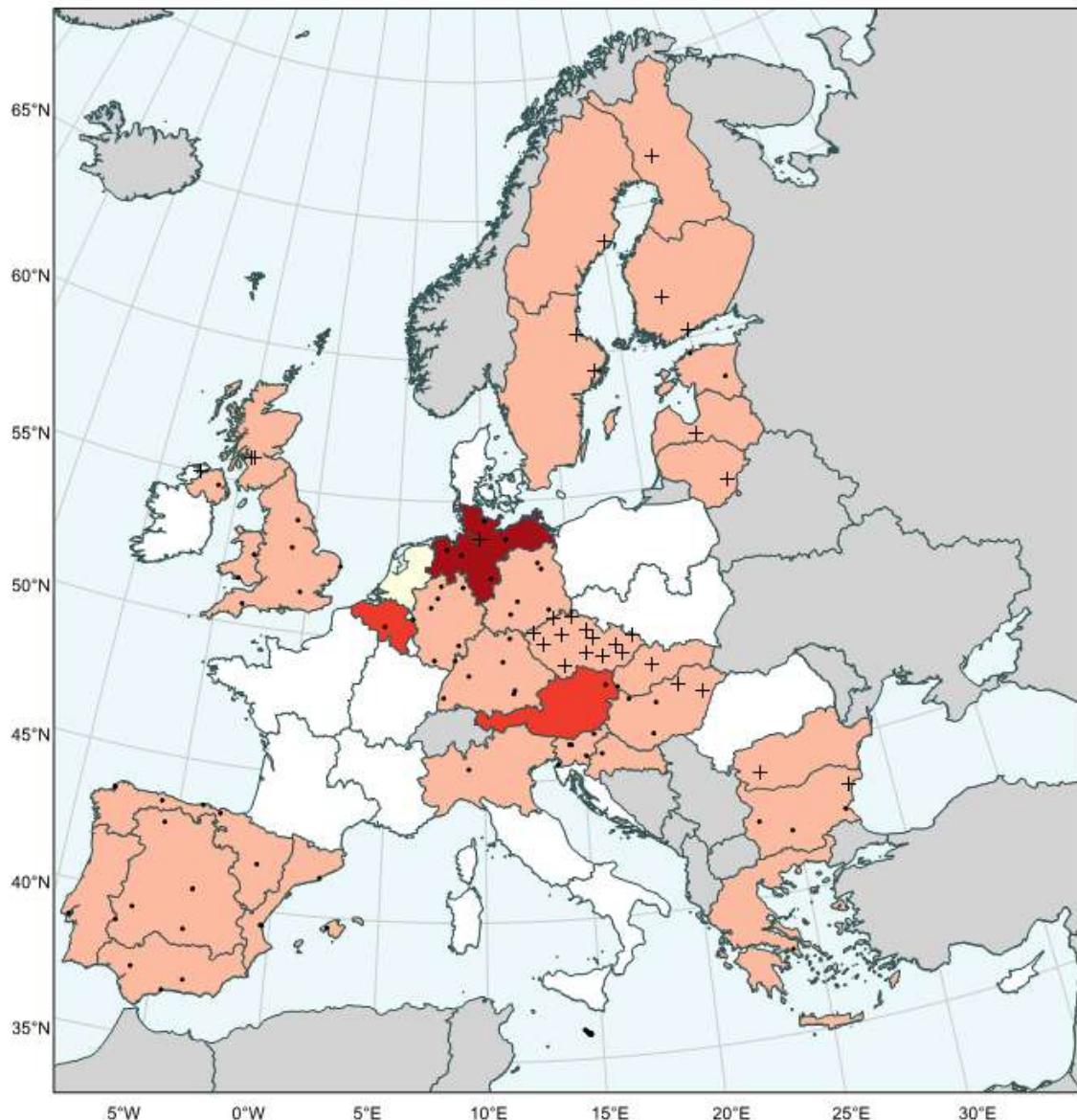
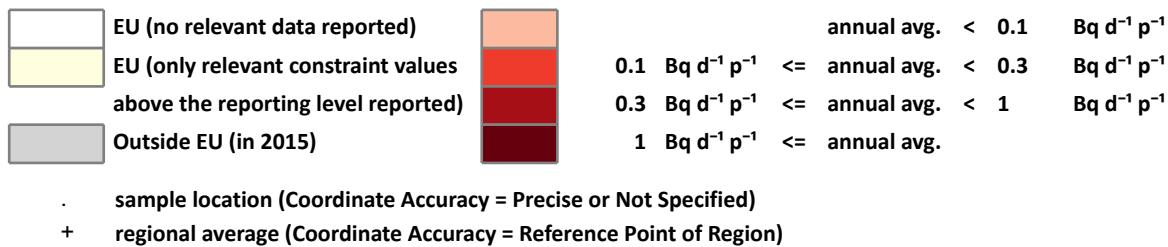


Fig. D1: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2015
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
strontium-90 (^{90}Sr)



Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D1: Geographical and time averages


YEAR : **2015**
SAMPLE TYPE : **mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	5	1	1.4E-01	1.2E-01	< RL	< RL	1.1E-01	1.4E-01	1
BE	3	1	1.4E-01		1.5E-01	1.5E-01	1.5E-01	1.5E-01	12
BG	14	4	< RL	< RL	4				
CY									
CZ	19	14	< RL	< RL	5				
DE-N	31	6	< RL	1.1E+00	< RL	< RL	3.3E-01	1.2E+00	5
DE-C	32	8	< RL	1.1E-01	1				
DE-S	21	6	1.2E-01	< RL	< RL	< RL	< RL	1.3E-01	2
DE-E	31	5	< RL	< RL	2				
DE	115	25	< RL	3.2E-01	< RL	< RL	1.3E-01	3.4E-01	5
DK									
EE	4	2	< RL			< RL	< RL	< RL	3
ES-N	18	6	< RL	< RL	4				
ES-C	24	6	< RL	< RL	12				
ES-S	14	4	< RL	< RL	11				
ES-E	16	4	< RL	< RL	11				
ES	72	20	< RL	< RL	8				
FI-N	1	1				< RL	< RL	< RL	10
FI-S	2	2				< RL	< RL	< RL	10
FI	3	3				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	< RL		< RL	< RL	1
GB-WL	5	2	< RL	< RL	3				
GB-SC	14	2	< RL	1.2E-01	3				
GB-NI	5	2	< RL	< RL	3				
GB	32	11	< RL	1.1E-01	6				
GR	1	1		< RL			< RL	< RL	5
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	12	5	< RL	< RL	< RL		< RL	1.0E-01	1
IE									
IT-N	5	1	< RL	< RL	1				
IT-C									
IT-S									
IT	5	1	< RL	< RL	1				
LT	11	1	< RL	< RL	4				
LU									
LV	2	1	< RL	< RL			< RL	< RL	3
MT	12	10	< RL	< RL	2				
NL							Δ		
PL-N									
PL-S									
PL									
PT	9	1	< RL	1.1E-01	< RL	< RL	< RL	1.8E-01	5
RO-N									
RO-S	2	1	< RL				< RL	< RL	1
RO	2	1	< RL				< RL	< RL	1
SE-N	2	1			< RL	1.2E-01	< RL	1.2E-01	10
SE-S	4	2		< RL	< RL	1.3E-01	< RL	1.3E-01	10
SE	6	3		< RL	< RL	1.3E-01	< RL	1.3E-01	10
SI	5	5	< RL				< RL	< RL	3
SK	8	2	< RL	< RL	4				

RL: reporting level for ^{90}Sr in mixed diet, i.e. 1.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

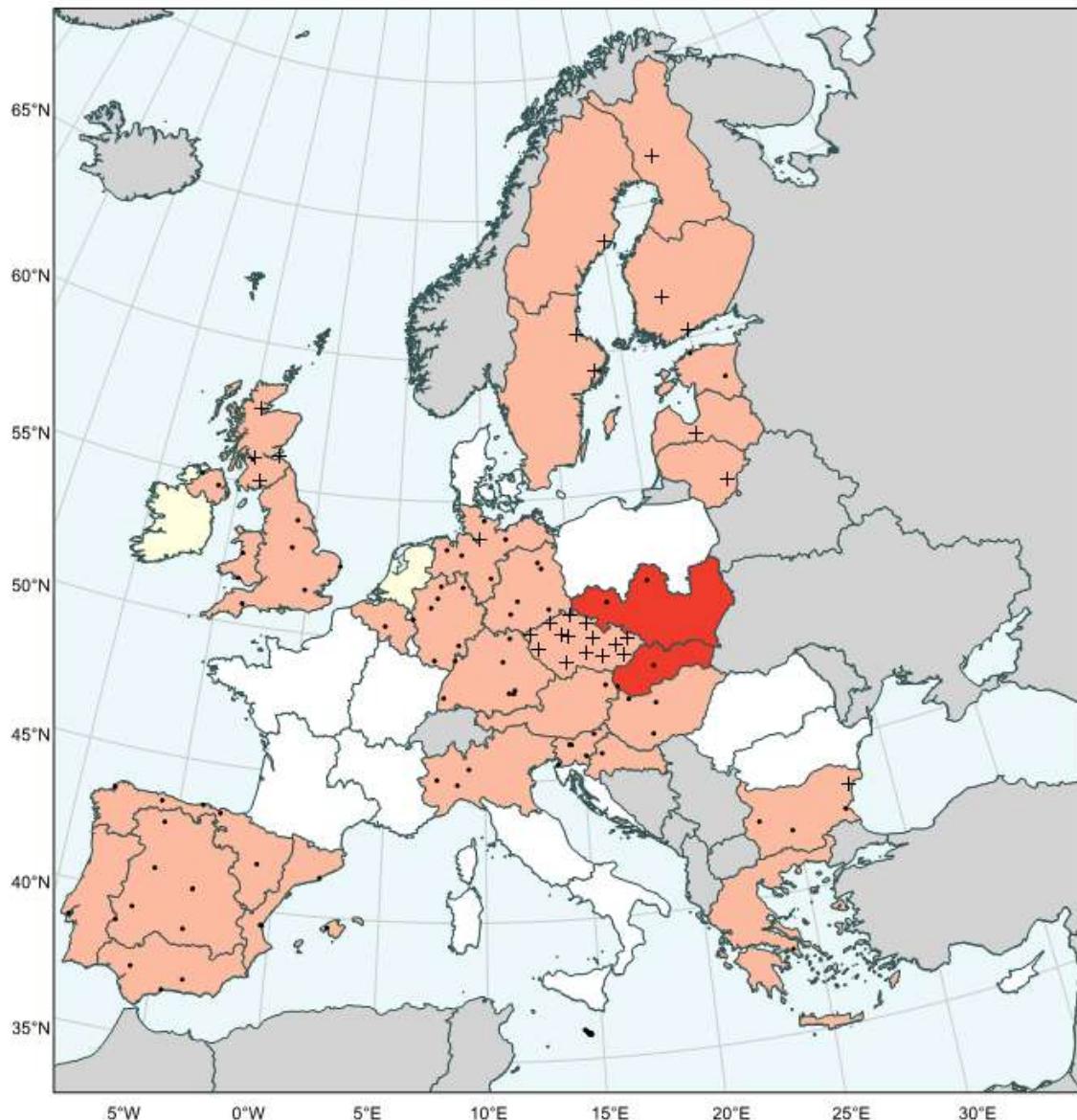
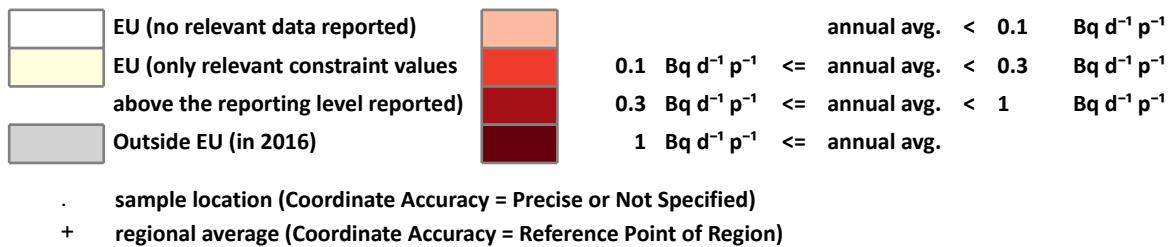


Fig. D2: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2016
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
strontium-90 (^{90}Sr)



Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D2: Geographical and time averages


YEAR : 2016
SAMPLE TYPE : mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	5	1	< RL	< RL	7				
BE	3	1	< RL		< RL		< RL	1.0E-01	7
BG	14	4	< RL	< RL	6				
CY									
CZ	20	14	< RL	< RL	11				
DE-N	31	6	< RL	1.0E-01	6				
DE-C	31	8	< RL	< RL	5				
DE-S	18	6	< RL	1.7E-01	3				
DE-E	32	5	< RL	1.3E-01	8				
DE	112	25	< RL	< RL	3				
DK									
EE	4	2	< RL			< RL	< RL	< RL	2
ES-N	20	5	< RL	< RL	4				
ES-C	25	7	< RL	1.2E-01	4				
ES-S	16	4	< RL	< RL	10				
ES-E	16	4	< RL	< RL	1				
ES	77	20	< RL	< RL	4				
FI-N	1	1				< RL	< RL	< RL	10
FI-S	2	2				< RL	< RL	< RL	10
FI	3	3				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL		< RL	< RL	< RL	< RL	9
GB-WL	5	2	< RL	< RL	4				
GB-SC	28	5	< RL	< RL	6				
GB-NI	5	2	< RL	< RL	3				
GB	46	14	< RL	< RL	6				
GR	1	1		< RL			< RL	< RL	5
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	8	3	< RL		< RL		< RL	< RL	3
IE							Δ		
IT-N	7	3	< RL	< RL	7				
IT-C									
IT-S									
IT	7	3	< RL	< RL	7				
LT	12	1	< RL	< RL	1				
LU									
LV	1	1	< RL				< RL	< RL	3
MT	13	12	1.1E-01	< RL	< RL	< RL	< RL	1.2E-01	2
NL							Δ		
PL-N									
PL-S	2	2					2.4E-01	2.4E-01	2.4E-01
PL	2	2					2.4E-01	2.4E-01	2.4E-01
PT	11	1	< RL	< RL	2				
RO-N									
RO-S									
RO									
SE-N	2	1		< RL		< RL	< RL	< RL	5
SE-S	4	2		< RL		< RL	< RL	< RL	5
SE	6	3		< RL		< RL	< RL	< RL	5
SI	5	5	< RL	< RL			< RL	< RL	4
SK	7	2	< RL	3.6E-01	< RL		1.6E-01	6.8E-01	5

RL: reporting level for ^{90}Sr in mixed diet, i.e. 1.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

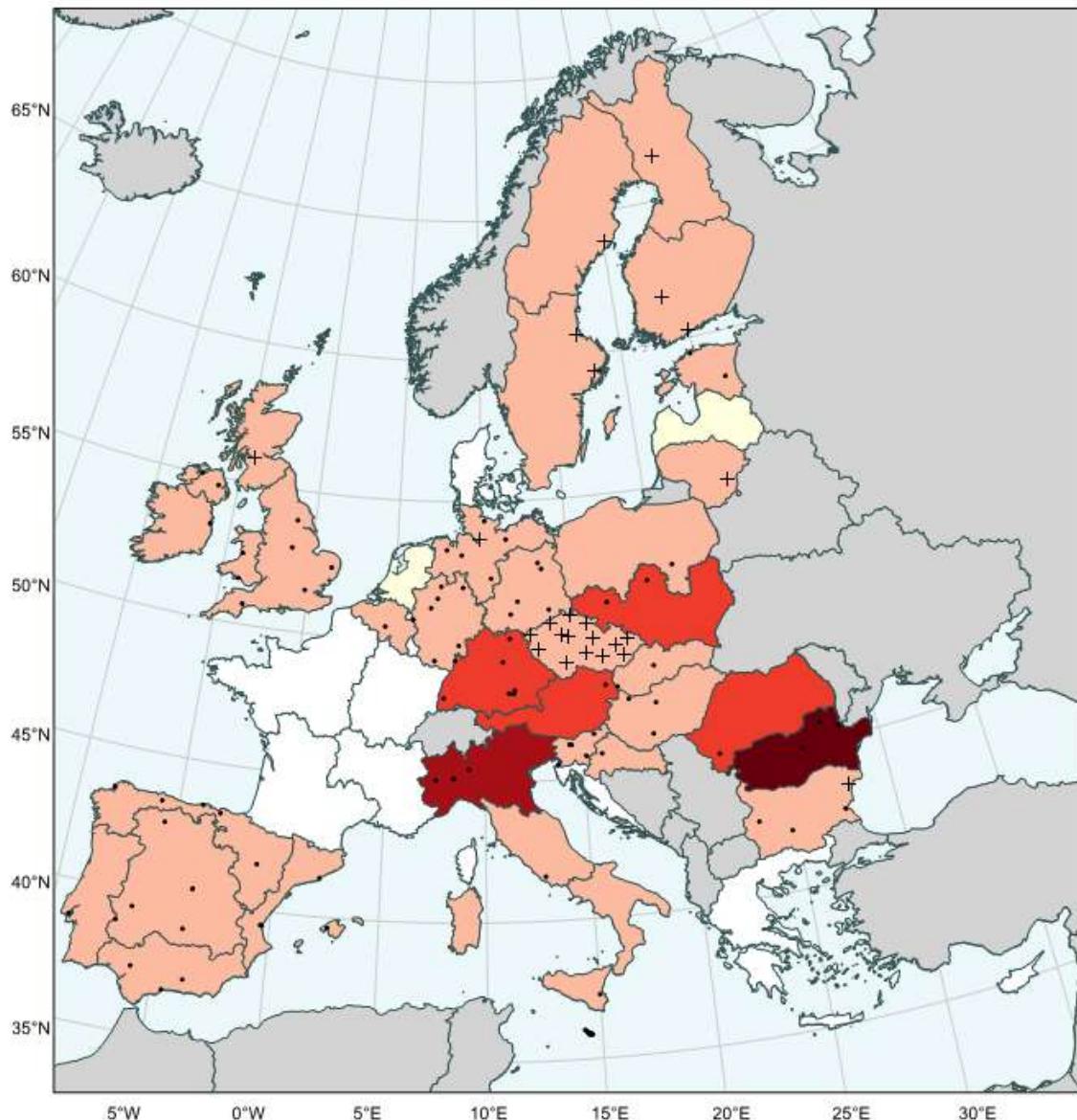
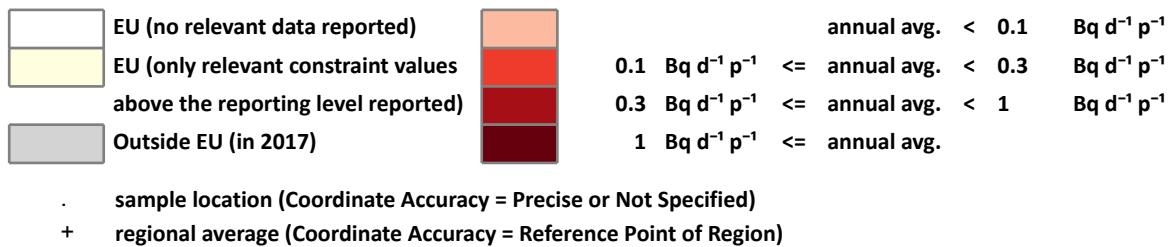
M: Month during which the maximum occurred.



Fig. D3: Geographical and time averages

DENSE

YEAR : 2017
SAMPLE TYPE : mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)



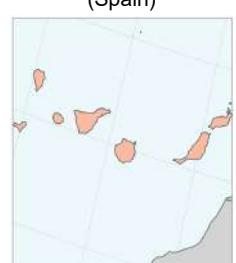
Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta

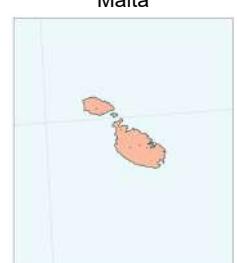


Table D3: Geographical and time averages


YEAR : 2017
SAMPLE TYPE : mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	5	1	1.3E-01	< RL	< RL	< RL	1.0E-01	1.4E-01	1
BE	1	1	< RL				< RL	< RL	1
BG	16	4	< RL	< RL	< RL	< RL		< RL	1
CY									
CZ	20	14	< RL	< RL	10				
DE-N	29	6	< RL	1.3E-01	4				
DE-C	30	8	< RL	< RL	11				
DE-S	19	6	2.7E-01	< RL	< RL	< RL	1.1E-01	6.5E-01	3
DE-E	32	5	< RL	< RL	8				
DE	110	25	1.0E-01	< RL	< RL	< RL	< RL	1.9E-01	3
DK									
EE	4	2	< RL			< RL	< RL	< RL	2
ES-N	19	5	< RL	< RL	2				
ES-C	24	6	< RL	< RL	5				
ES-S	16	4	< RL	1.3E-01	10				
ES-E	16	4	< RL	1.6E-01	4				
ES	75	19	< RL	< RL	10				
FI-N	1	1				< RL	< RL	< RL	10
FI-S	2	2				< RL	< RL	1.0E-01	11
FI	3	3				< RL	< RL	1.0E-01	11
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	< RL		< RL	< RL	4
GB-WL	5	2	< RL	< RL	2				
GB-SC	12	1	< RL	< RL	1				
GB-NI	5	2	< RL	< RL	12				
GB	30	10	< RL	< RL	1				
GR									
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	8	3	< RL		< RL		< RL	< RL	3
IE	1	1				< RL	< RL	< RL	11
IT-N	4	3	< RL	1.3E+00	< RL	< RL	3.6E-01	1.3E+00	5
IT-C	1	1		< RL	< RL		< RL	< RL	6
IT-S	1	1	< RL	< RL			< RL	< RL	3
IT	6	5	< RL	2.6E-01	< RL	< RL	1.1E-01	6.7E-01	5
LT	12	1	< RL	< RL	9				
LU									
LV							Δ		
MT	13	10	< RL	1.0E-01	3				
NL							Δ		
PL-N	1	1				< RL	< RL	< RL	12
PL-S	2	2	2.4E-01	2.4E-01	2.4E-01	2.4E-01	2.4E-01	2.4E-01	12
PL	3	3	2.4E-01	2.4E-01	2.4E-01	2.1E-01	2.3E-01	2.4E-01	1
PT	6	1	< RL	< RL		< RL	< RL	1.0E-01	11
RO-N	1	1	2.9E-01	2.9E-01	2.9E-01	2.9E-01	2.9E-01	2.9E-01	3
RO-S	7	3	< RL	1.3E-01	< RL	3.9E+00	1.0E+00	3.9E+00	10
RO	8	4	1.0E-01	2.6E-01	2.1E-01	8.8E-01	3.6E-01	2.1E+00	10
SE-N	2	1		< RL		< RL	< RL	< RL	5
SE-S	4	2		< RL		< RL	< RL	< RL	10
SE	6	3		< RL		< RL	< RL	< RL	5
SI	5	5	< RL	< RL			< RL	< RL	4
SK	8	2	< RL	< RL	4				

RL: reporting level for ^{90}Sr in mixed diet, i.e. 1.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

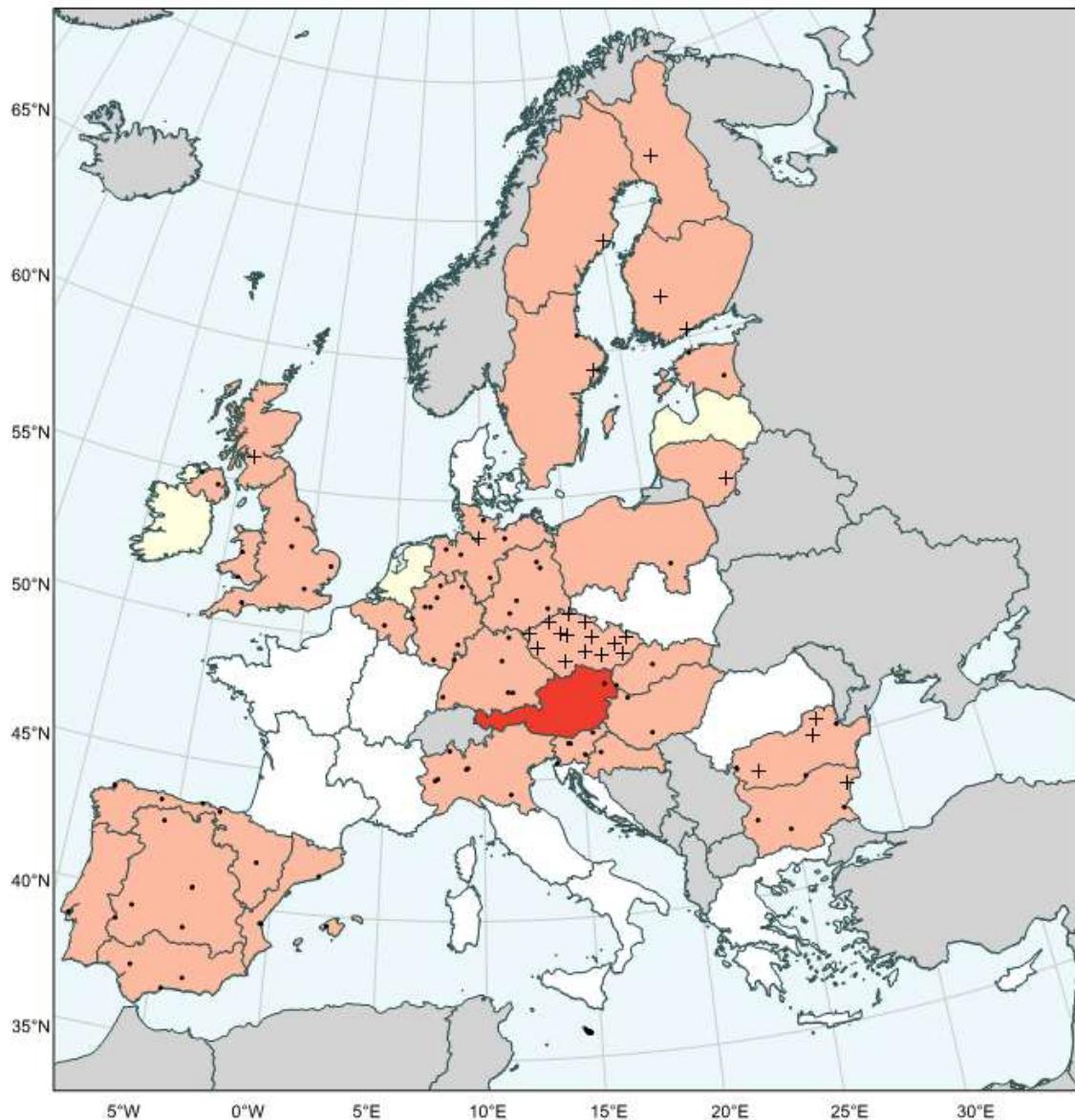
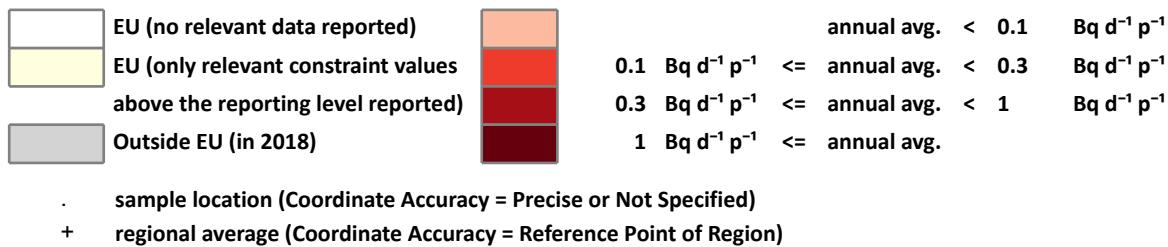


Fig. D4: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2018
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
strontium-90 (^{90}Sr)



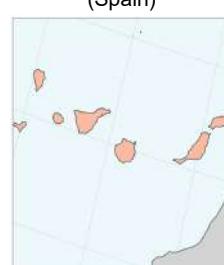
Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D4: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	4	1	< RL	1.0E-01	1.2E-01	< RL	1.1E-01	1.2E-01	7
BE	3	1		< RL	< RL	< RL	< RL	< RL	4
BG	14	4	< RL	< RL	6				
CY									
CZ	20	14	< RL	< RL	2				
DE-N	31	6	< RL	< RL	12				
DE-C	30	9	< RL	< RL	4				
DE-S	17	5	< RL	< RL	4				
DE-E	31	5	< RL	< RL	2				
DE	109	25	< RL	< RL	4				
DK									
EE	4	2	< RL			< RL	< RL	< RL	2
ES-N	20	5	< RL	< RL	4				
ES-C	24	6	< RL	< RL	12				
ES-S	16	4	< RL	< RL	1				
ES-E	16	4	< RL	< RL	5				
ES	76	19	< RL	< RL	1				
FI-N	1	1				< RL	< RL	< RL	10
FI-S	2	2				< RL	< RL	< RL	10
FI	3	3				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	3				
GB-WL	5	2	< RL	< RL	1				
GB-SC	12	1	< RL	< RL	8				
GB-NI	5	2		< RL	< RL	< RL	< RL	< RL	11
GB	30	10	< RL	< RL	8				
GR									
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	6	2	< RL		< RL		< RL	< RL	9
IE							Δ		
IT-N	8	6	< RL	< RL	10				
IT-C									
IT-S									
IT	8	6	< RL	< RL	10				
LT	12	1	< RL	< RL	3				
LU									
LV							Δ		
MT	11	10	< RL	1.1E-01	9				
NL							Δ		
PL-N	1	1	< RL	< RL	1				
PL-S									
PL	1	1	< RL	< RL	1				
PT	11	1	< RL	1.3E-01	5				
RO-N									
RO-S	14	6	< RL	< RL	< RL		< RL	< RL	9
RO	14	6	< RL	< RL	< RL		< RL	< RL	9
SE-N	2	1		< RL		< RL	< RL	< RL	5
SE-S	4	2		< RL		< RL	< RL	< RL	10
SE	6	3		< RL		< RL	< RL	< RL	10
SI	5	5	< RL	< RL			< RL	< RL	4
SK	8	2	< RL	1.1E-01	2				

RL: reporting level for ^{90}Sr in mixed diet, i.e. 1.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. D5: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2019
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
strontium-90 (^{90}Sr)

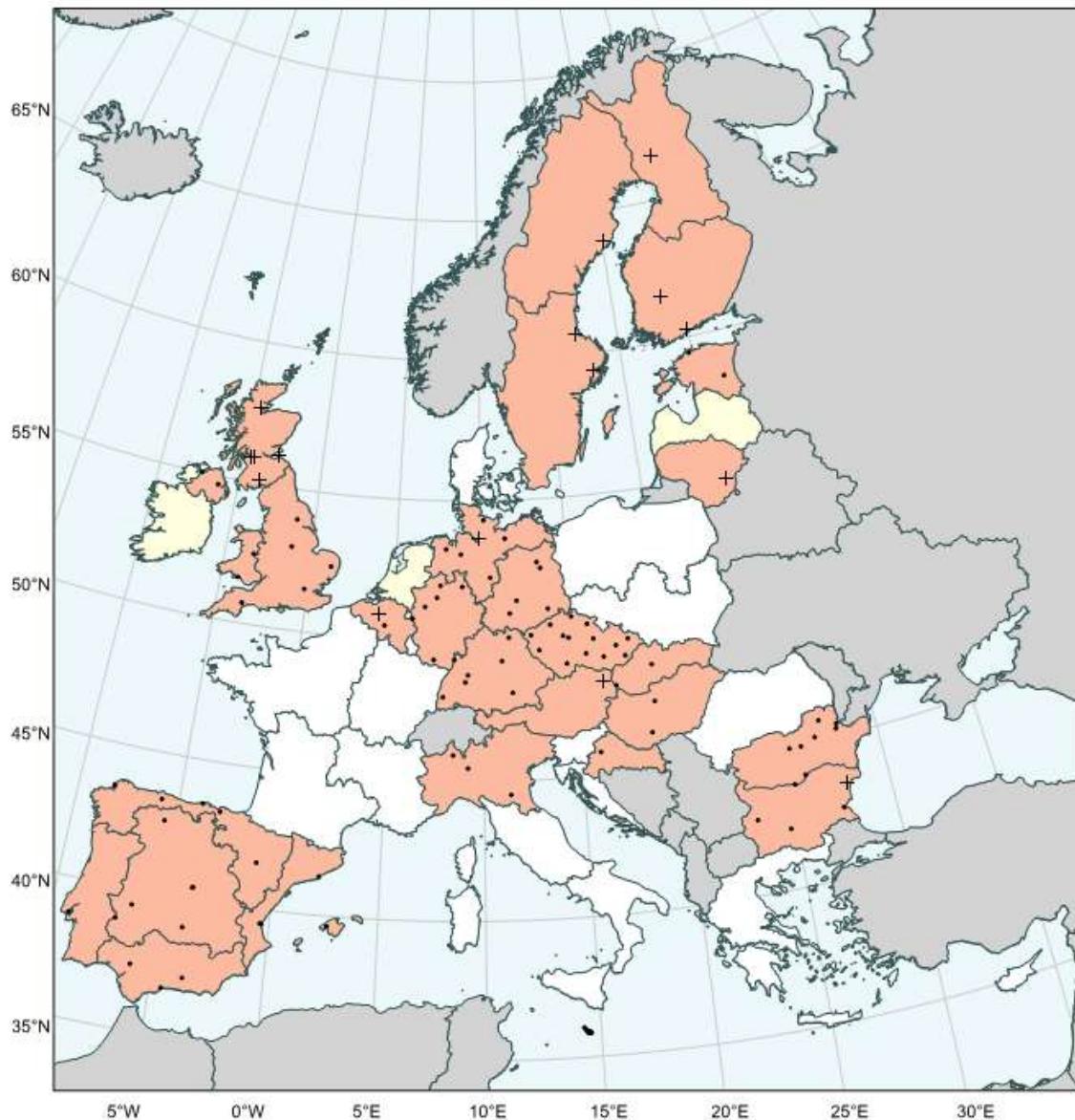
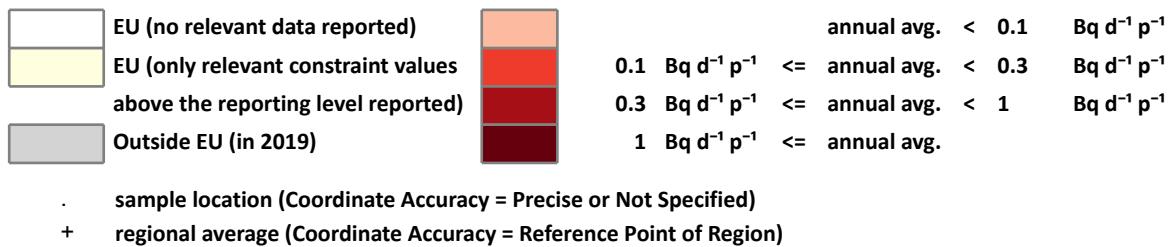


Table D5: Geographical and time averages


YEAR : 2019
SAMPLE TYPE : mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	4	1	< RL	1.2E-01	< RL	< RL	< RL	1.2E-01	4
BE	2	2	< RL	< RL			< RL	< RL	1
BG	14	4	< RL	< RL	12				
CY									
CZ	21	14	< RL	< RL	1				
DE-N	29	6	< RL	< RL	12				
DE-C	29	7	< RL	< RL	8				
DE-S	21	6	< RL	< RL	3				
DE-E	25	5	< RL	1.2E-01	4				
DE	104	24	< RL	< RL	4				
DK									
EE	4	2	< RL			< RL	< RL	< RL	2
ES-N	20	5	< RL	< RL	11				
ES-C	23	6	< RL	< RL	6				
ES-S	16	4	< RL	< RL	9				
ES-E	16	4	< RL	< RL	10				
ES	75	19	< RL	< RL	6				
FI-N	1	1				< RL	< RL	< RL	10
FI-S	2	2				< RL	< RL	< RL	10
FI	3	3				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	3				
GB-WL	5	2	< RL	< RL	5				
GB-SC	28	5	< RL	1.3E-01	5				
GB-NI	5	2	< RL	< RL	8				
GB	46	14	< RL	< RL	5				
GR									
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	6	2	< RL	< RL	4				
IE							Δ		
IT-N	5	3	< RL	< RL		< RL	< RL	< RL	5
IT-C									
IT-S									
IT	5	3	< RL	< RL		< RL	< RL	< RL	5
LT	12	1	< RL	< RL	12				
LU									
LV							Δ		
MT	12	11	< RL	1.0E-01	2				
NL							Δ		
PL-N									
PL-S									
PL									
PT	11	1	< RL	< RL	10				
RO-N									
RO-S	13	8	< RL	< RL	3				
RO	13	8	< RL	< RL	3				
SE-N	2	1		< RL		< RL	< RL	< RL	10
SE-S	3	2		< RL		< RL	< RL	< RL	10
SE	5	3		< RL		< RL	< RL	< RL	10
SI									
SK	7	2	1.8E-01	< RL	1.0E-01	< RL	< RL	3.2E-01	3

RL: reporting level for ^{90}Sr in mixed diet, i.e. 1.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

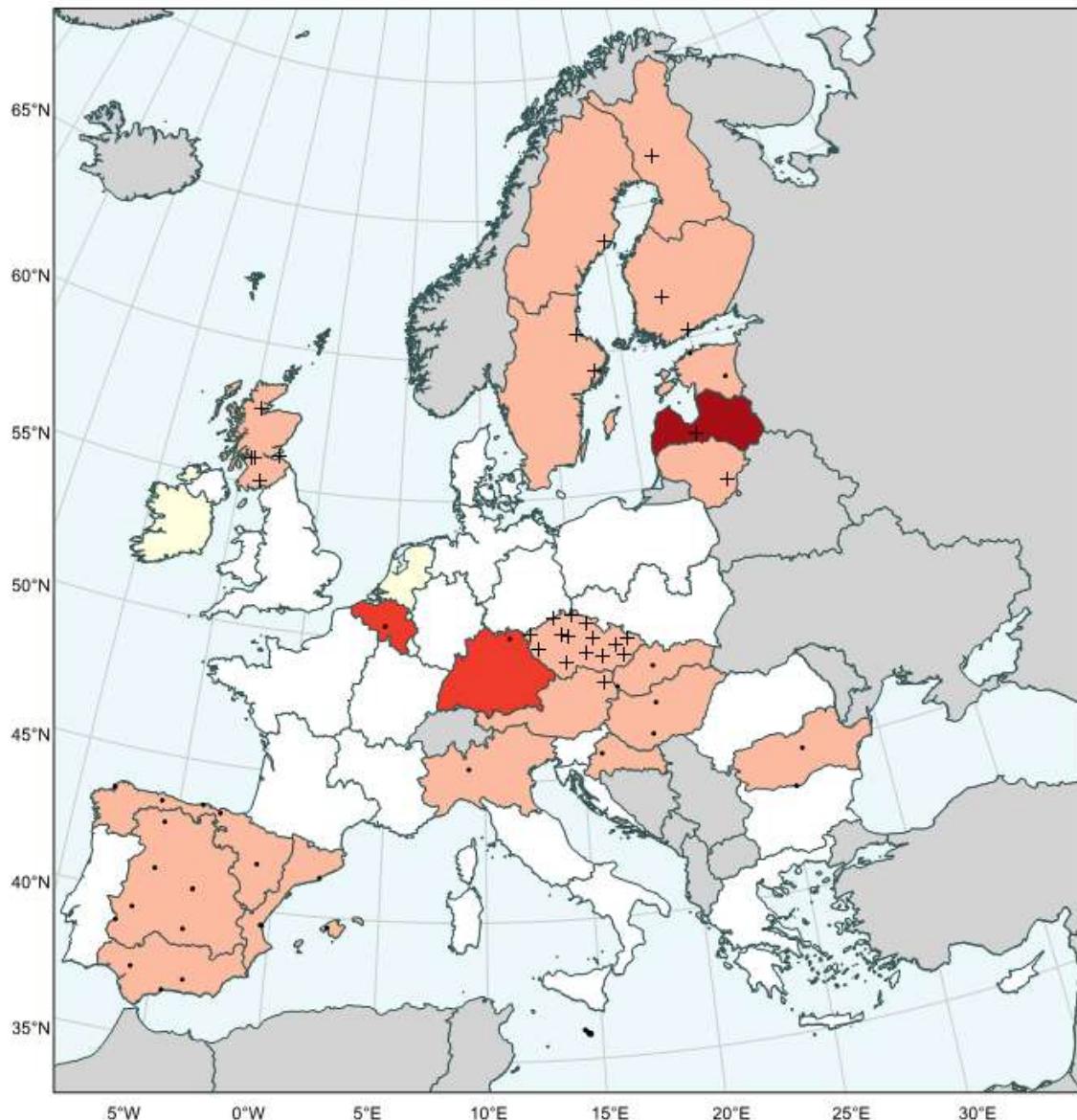
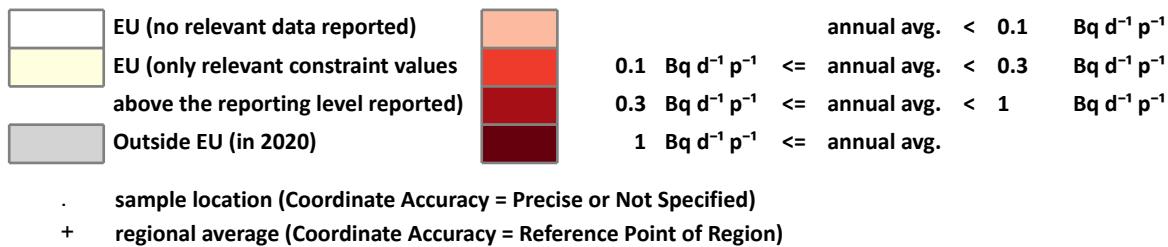


Fig. D6: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2020
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
strontium-90 (^{90}Sr)



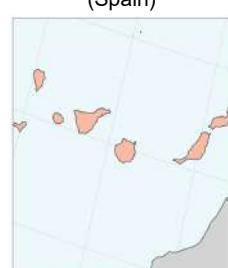
Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D6: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**
NUCLIDE CATEGORY : **strontium-90 (^{90}Sr)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	4	1	< RL	< RL	1				
BE	1	1	2.7E-01				2.7E-01	2.7E-01	1
BG									
CY									
CZ	20	14	< RL	1.0E-01	2				
DE-N									
DE-C									
DE-S	1	1	1.4E-01				1.4E-01	1.4E-01	1
DE-E									
DE	1	1	1.4E-01				1.4E-01	1.4E-01	1
DK									
EE	4	2	< RL			< RL	< RL	< RL	3
ES-N	18	5	< RL	< RL	6				
ES-C	23	7	< RL	< RL	5				
ES-S	16	4	< RL	< RL	10				
ES-E	16	4	< RL	< RL	9				
ES	73	20	< RL	< RL	5				
FI-N	1	1				< RL	< RL	< RL	11
FI-S	2	2				< RL	< RL	< RL	10
FI	3	3				< RL	< RL	< RL	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	23	5	< RL	1.0E-01	6				
GB-NI									
GB	23	5	< RL	1.0E-01	6				
GR									
HR-A									
HR-C	5	1				< RL	< RL	< RL	12
HR	5	1				< RL	< RL	< RL	12
HU	6	2		< RL	< RL		< RL	< RL	4
IE							Δ		
IT-N	3	1	< RL		< RL	< RL	< RL	< RL	1
IT-C									
IT-S									
IT	3	1	< RL		< RL	< RL	< RL	< RL	1
LT	8	1	< RL	< RL	1				
LU									
LV	1	1	6.3E-01				6.3E-01	6.3E-01	3
MT	7	7	< RL		< RL	< RL	< RL	< RL	1
NL							Δ		
PL-N									
PL-S									
PL									
PT									
RO-N									
RO-S	2	2	< RL	< RL	< RL		< RL	< RL	5
RO	2	2	< RL	< RL	< RL		< RL	< RL	5
SE-N	2	1		< RL		< RL	< RL	< RL	11
SE-S	4	2		< RL		< RL	< RL	1.3E-01	5
SE	6	3		< RL		< RL	< RL	1.3E-01	5
SI									
SK	6	2	< RL	< RL		< RL	< RL	< RL	10

RL: reporting level for ^{90}Sr in mixed diet, i.e. 1.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

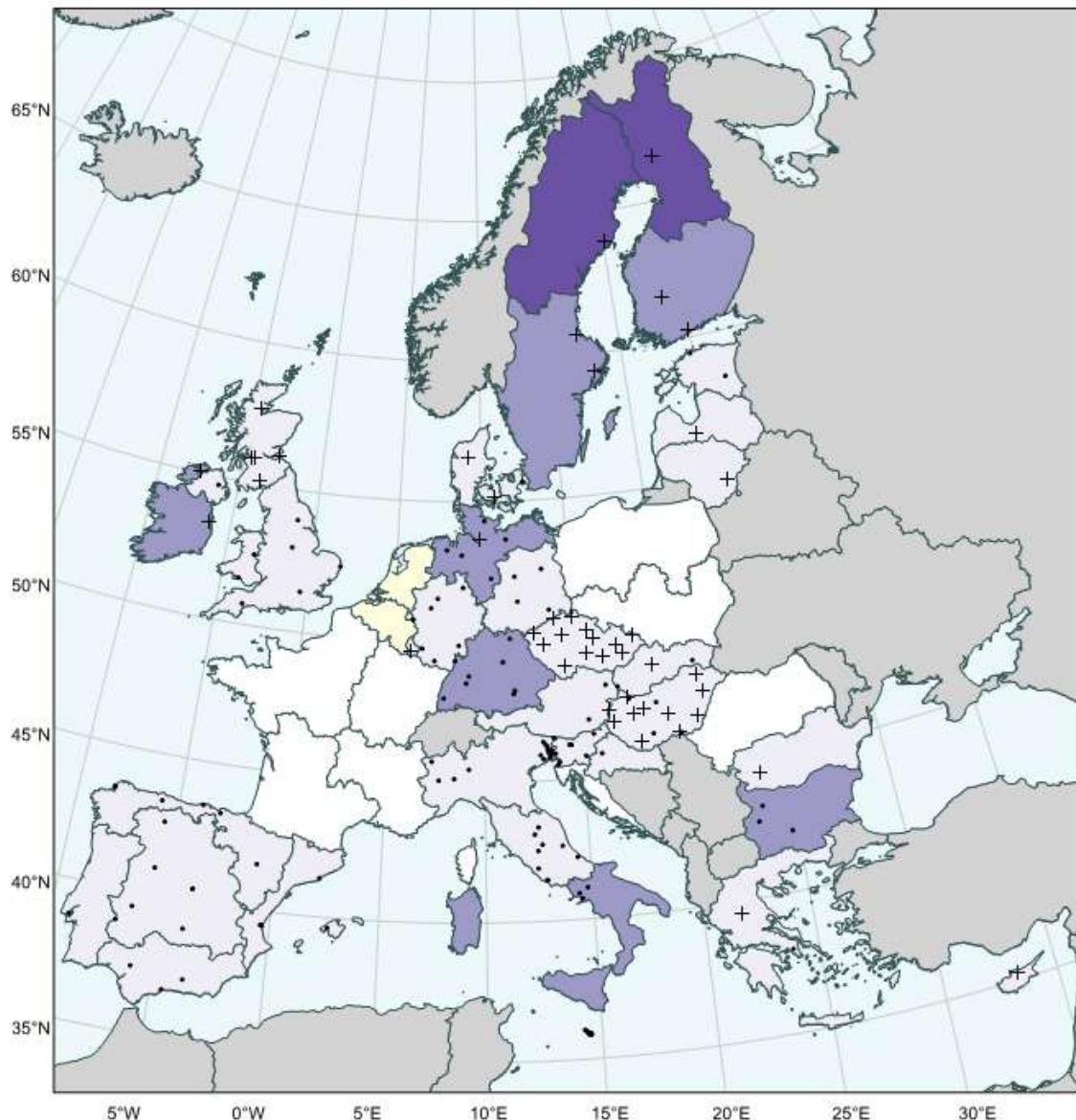
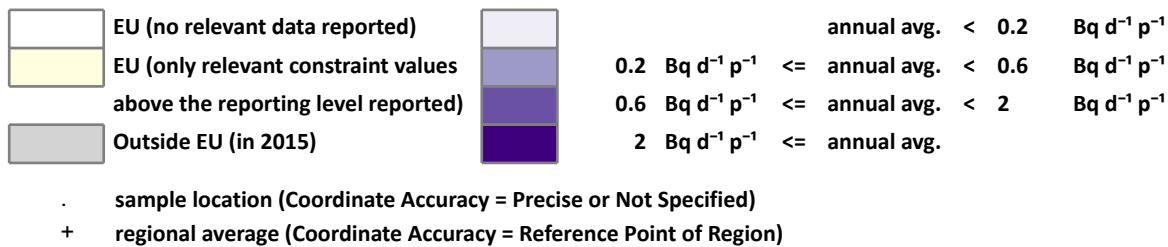


Fig. D7: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2015
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
caesium-137 (^{137}Cs)



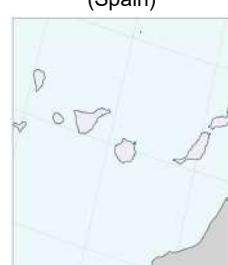
Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D7: Geographical and time averages


YEAR : **2015**
SAMPLE TYPE : **mixed diet (Bq d⁻¹ p⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	26	2	< RL	< RL	8				
BE							Δ		
BG	11	3	6.3E-01	< RL	2.4E-01	7.7E-01	4.5E-01	7.7E-01	10
CY	6	1				< RL	< RL	< RL	12
CZ	21	14	< RL	< RL	7				
DE-N	119	6	< RL	2.4E-01	3.0E-01	2.1E-01	2.4E-01	5.0E-01	8
DE-C	125	8	< RL	< RL	6				
DE-S	106	7	< RL	2.4E-01	2.8E-01	< RL	2.1E-01	3.9E-01	4
DE-E	84	4	< RL	2.3E-01	9				
DE	434	25	< RL	2.0E-01	2.1E-01	< RL	< RL	2.5E-01	4
DK	3	3		< RL			< RL	< RL	4
EE	4	2	< RL			< RL	< RL	< RL	10
ES-N	21	6	< RL	< RL	6				
ES-C	26	7	< RL	< RL	6				
ES-S	16	4	< RL	< RL	10				
ES-E	16	4	< RL	< RL	4				
ES	79	21	< RL	< RL	6				
FI-N	7	1				7.0E-01	7.0E-01	7.0E-01	10
FI-S	14	2				5.1E-01	5.1E-01	5.1E-01	10
FI	21	3				5.7E-01	5.7E-01	5.7E-01	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	< RL		< RL	< RL	4
GB-WL	5	2	< RL	< RL	2				
GB-SC	28	5	< RL	< RL	2				
GB-NI	5	2	< RL	< RL	11				
GB	46	14	< RL	< RL	2				
GR	18	2	< RL	< RL	7				
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	27	15	< RL	< RL	6				
IE	3	1	2.7E-01			3.5E-01	3.1E-01	5.1E-01	12
IT-N	42	20	< RL	< RL	9				
IT-C	11	9	< RL	< RL	8				
IT-S	3	3				9.0E-01	2.7E-01	5.9E-01	9
IT	56	32	< RL	< RL	2.1E-01	< RL	< RL	3.6E-01	9
LT	12	1	< RL	< RL	9				
LU	12	1	< RL	< RL	11				
LV	3	1	< RL	< RL		< RL	< RL	< RL	11
MT	12	10	< RL	2.8E-01	12				
NL							Δ		
PL-N									
PL-S									
PL									
PT	10	1	< RL	< RL	2				
RO-N									
RO-S	2	1	< RL				< RL	< RL	1
RO	2	1	< RL				< RL	< RL	1
SE-N	3	1				2.8E-01	2.1E+00	1.2E+00	11
SE-S	4	2		< RL		< RL	4.5E-01	2.6E-01	4.5E-01
SE	7	3		< RL		2.1E-01	2.0E+00	8.0E-01	11
SI	5	5	< RL				< RL	< RL	3
SK	12	3	< RL	< RL		3.7E-01	< RL	< RL	7

RL: reporting level for ¹³⁷Cs in mixed diet, i.e. 2.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

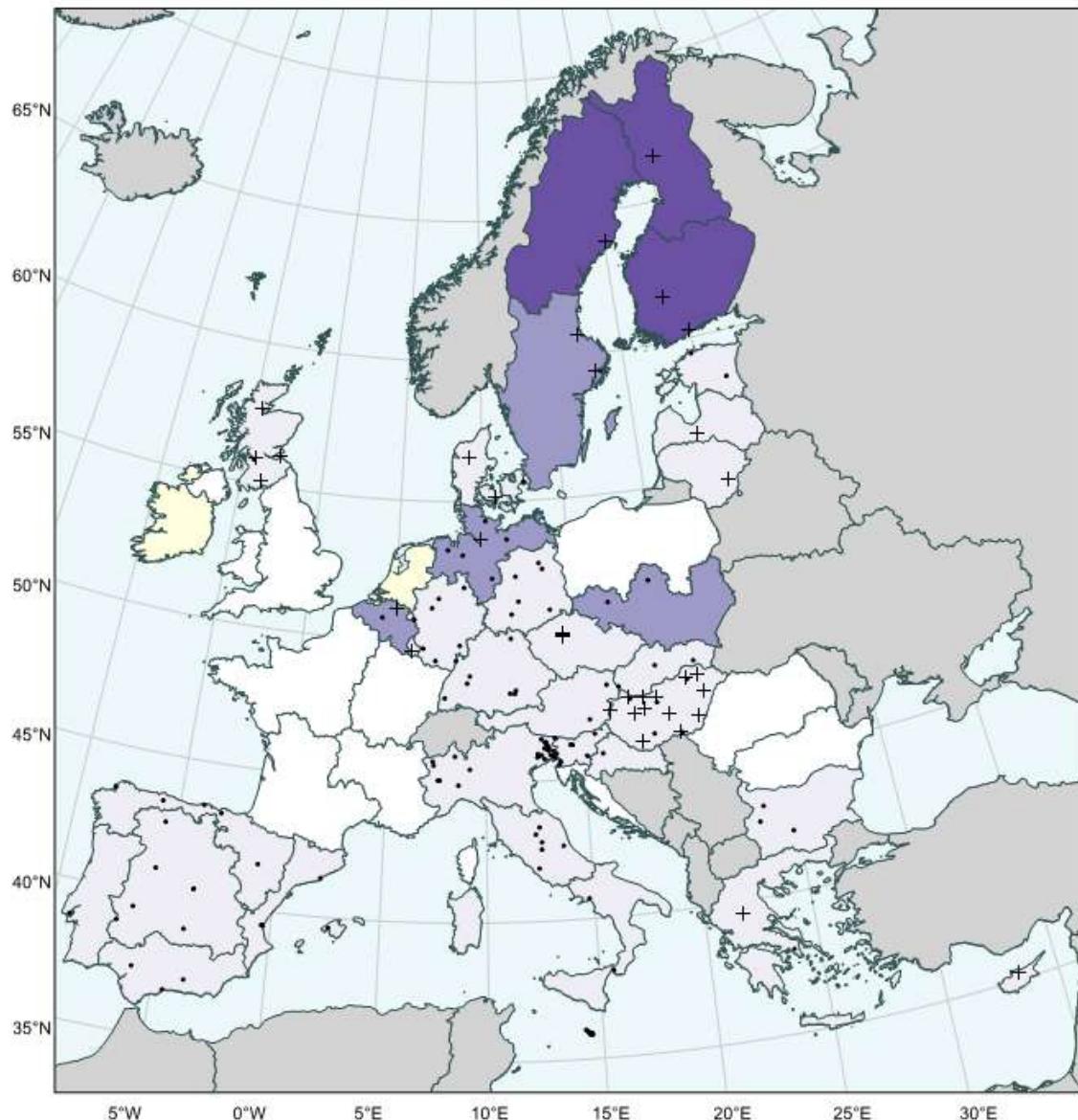
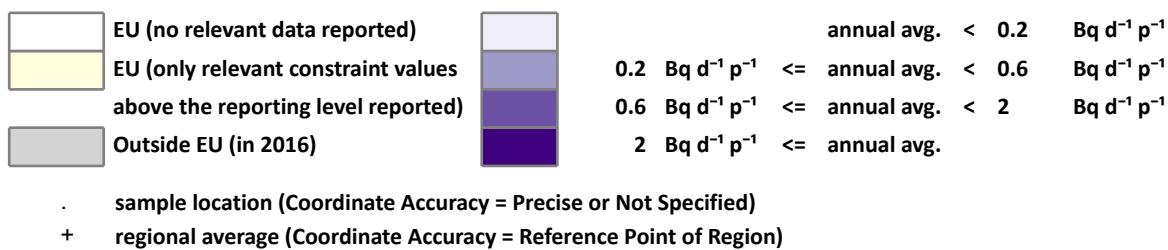


Fig. D8: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2016
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D8: Geographical and time averages


YEAR : **2016**
SAMPLE TYPE : **mixed diet (Bq d⁻¹ p⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	23	2	< RL	< RL	5				
BE	7	2	< RL	< RL		3.1E-01	2.0E-01	4.6E-01	10
BG	10	3	< RL	2.0E-01	< RL	2.3E-01	< RL	4.1E-01	11
CY	22	1		< RL		< RL	< RL	< RL	11
CZ	3	3		2.3E-01		< RL	< RL	2.3E-01	6
DE-N	118	6	< RL	3.3E-01	2.2E-01	2.1E-01	2.3E-01	4.6E-01	4
DE-C	149	8	3.6E-01	< RL	< RL	< RL	< RL	4.8E-01	1
DE-S	90	7	< RL	< RL	< RL	2.2E-01	< RL	3.5E-01	12
DE-E	77	6	< RL	2.2E-01	< RL	< RL	< RL	4.2E-01	4
DE	434	27	2.3E-01	< RL	< RL	< RL	< RL	2.5E-01	1
DK	3	3		< RL			< RL	< RL	5
EE	4	2	< RL			< RL	< RL	< RL	2
ES-N	20	5	< RL	< RL	2				
ES-C	27	7	< RL	< RL	3				
ES-S	16	4	< RL	< RL	1				
ES-E	16	4	< RL	< RL	1				
ES	79	20	< RL	< RL	12				
FI-N	7	1				7.7E-01	7.7E-01	7.7E-01	10
FI-S	14	2				9.2E-01	9.2E-01	9.2E-01	10
FI	21	3				8.7E-01	8.7E-01	8.7E-01	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN									
GB-WL									
GB-SC	28	5	< RL	< RL	12				
GB-NI									
GB	28	5	< RL	< RL	12				
GR	12	2	< RL	< RL	8				
HR-A									
HR-C	5	1				< RL	< RL	< RL	12
HR	5	1				< RL	< RL	< RL	12
HU	30	18	< RL	< RL	6				
IE							Δ		
IT-N	45	29	< RL	< RL	< RL	2.0E-01	< RL	3.6E-01	11
IT-C	7	6	< RL	< RL	5				
IT-S	3	2		< RL		< RL	< RL	< RL	6
IT	55	37	< RL	< RL	< RL	2.0E-01	< RL	3.2E-01	11
LT	12	1	< RL	< RL	11				
LU	12	1	< RL	< RL	3				
LV	4	1	< RL	< RL	< RL	5.0E-01	< RL	9.0E-01	11
MT	13	12	< RL	< RL	2.0E-01	< RL	< RL	2.6E-01	10
NL							Δ		
PL-N									
PL-S	2	2				3.7E-01	3.7E-01	3.7E-01	12
PL	2	2				3.7E-01	3.7E-01	3.7E-01	12
PT	11	1	< RL	< RL	4				
RO-N									
RO-S									
RO									
SE-N	3	1		< RL		1.4E+00	7.4E-01	2.0E+00	11
SE-S	4	2		< RL		2.8E-01	2.3E-01	2.8E-01	10
SE	7	3		< RL		1.4E+00	7.9E-01	2.0E+00	11
SI	5	5	< RL	< RL			< RL	< RL	3
SK	12	3	< RL	4.1E-01	5				

RL: reporting level for ¹³⁷Cs in mixed diet, i.e. 2.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

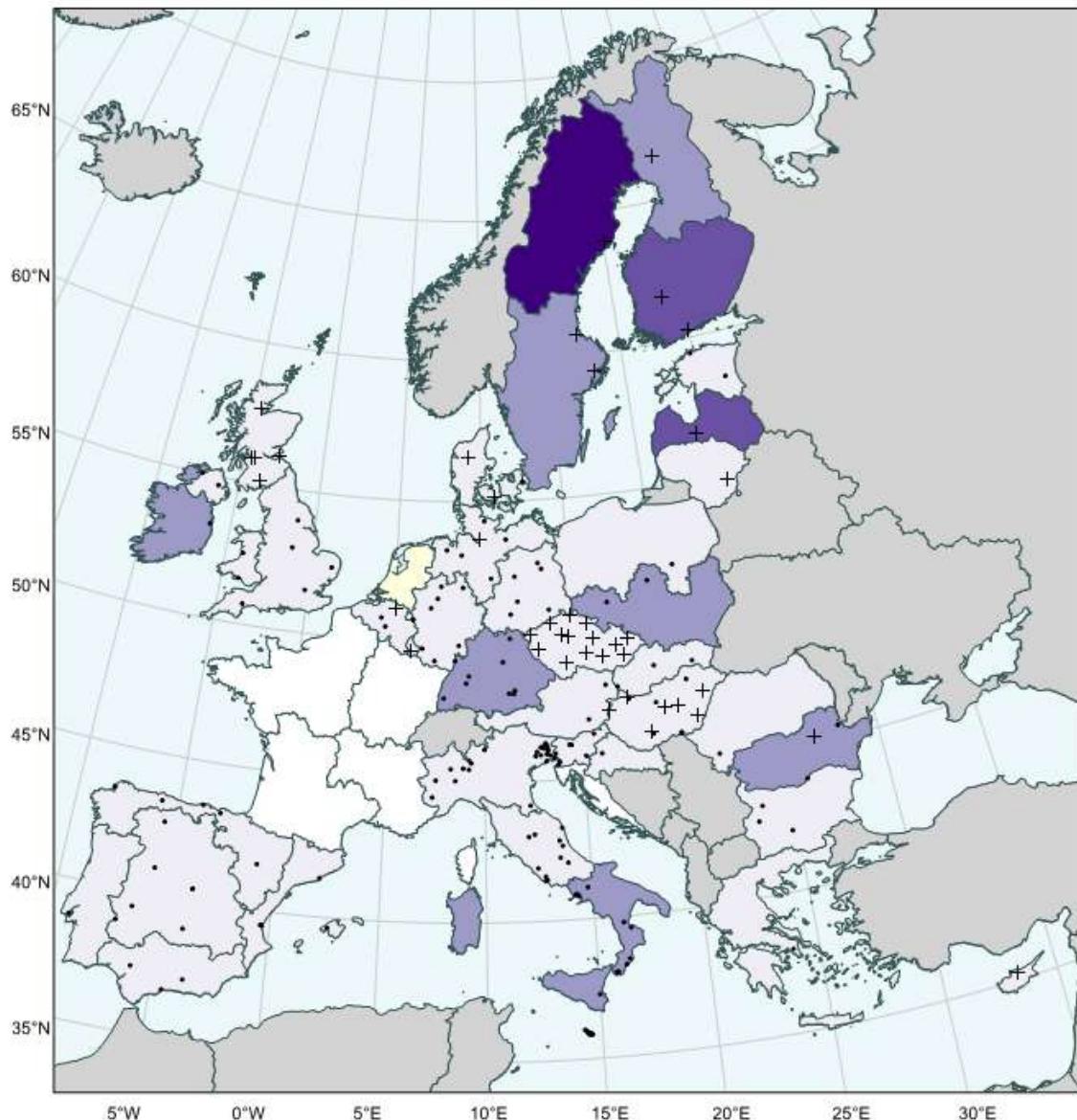
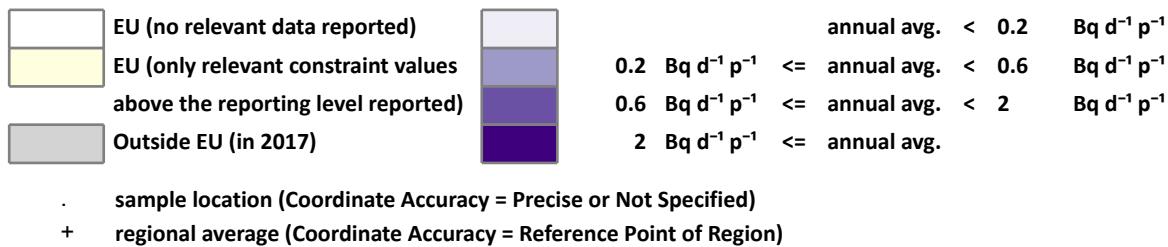


Fig. D9: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2017
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D9: Geographical and time averages


YEAR : **2017**
SAMPLE TYPE : **mixed diet (Bq d⁻¹ p⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	24	2	< RL	< RL	10				
BE	11	3	< RL	< RL	7				
BG	15	4	< RL	< RL	2.4E-01	< RL	< RL	4.5E-01	7
CY	50	1	< RL	< RL		< RL	< RL	< RL	10
CZ	42	29	< RL	< RL	1				
DE-N	112	6	< RL	2.5E-01	12				
DE-C	145	9	< RL	2.0E-01	4				
DE-S	113	8	2.4E-01	5.5E-01	2.6E-01	< RL	3.0E-01	1.0E+00	4
DE-E	76	6	< RL	< RL	< RL	3.9E-01	< RL	6.3E-01	12
DE	446	29	< RL	2.6E-01	< RL	< RL	< RL	4.1E-01	4
DK	3	3		< RL	< RL		< RL	< RL	7
EE	4	2	< RL			< RL	< RL	< RL	2
ES-N	20	5	< RL	< RL	12				
ES-C	27	7	< RL	< RL	11				
ES-S	16	4	< RL	< RL	7				
ES-E	16	4	< RL	< RL	2				
ES	79	20	< RL	< RL	10				
FI-N	7	1				3.3E-01	3.3E-01	3.3E-01	10
FI-S	14	2				6.8E-01	6.8E-01	7.4E-01	11
FI	21	3				6.1E-01	6.1E-01	7.4E-01	11
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	< RL		< RL	< RL	8
GB-WL	5	2	< RL	< RL	8				
GB-SC	28	5	< RL	< RL	4				
GB-NI	5	2	< RL	< RL	12				
GB	46	14	< RL	< RL	12				
GR	1	1		2.0E-01			2.0E-01	2.0E-01	6
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	35	13	< RL	2.0E-01	1				
IE	2	1	8.6E-01		2.4E-01		5.5E-01	8.6E-01	1
IT-N	53	29	< RL	2.2E-01	2				
IT-C	13	11	< RL	2.6E-01	< RL	< RL	< RL	4.0E-01	6
IT-S	11	11	< RL	< RL	3.4E-01	< RL	2.2E-01	3.4E-01	7
IT	77	51	< RL	2.0E-01	< RL	< RL	< RL	2.4E-01	6
LT	12	1	< RL	< RL	1				
LU	10	1	< RL	< RL	3				
LV	4	1	1.9E+00		1.5E+00	2.5E+00	2.0E+00	3.7E+00	3
MT	13	10	< RL	2.4E-01	6				
NL							Δ		
PL-N	1	1				< RL	< RL	< RL	12
PL-S	2	2	3.7E-01	3.7E-01	3.7E-01	3.7E-01	3.7E-01	3.7E-01	12
PL	3	3	3.7E-01	3.7E-01	3.7E-01	3.4E-01	3.6E-01	3.7E-01	1
PT	11	1	< RL	< RL	1				
RO-N	1	1	< RL	< RL	3				
RO-S	2	2	< RL	< RL	< RL	1.6E+00	4.2E-01	1.6E+00	10
RO	3	3	< RL	< RL	< RL	3.5E-01	< RL	1.0E+00	10
SE-N	3	1		3.6E+00		1.2E+00	2.4E+00	3.6E+00	5
SE-S	5	2		4.4E-01		3.5E-01	3.9E-01	4.4E-01	5
SE	8	3		1.5E+00		6.4E-01	1.1E+00	1.5E+00	5
SI	5	5	< RL	< RL			< RL	< RL	2
SK	12	3	< RL	< RL	9				

RL: reporting level for ¹³⁷Cs in mixed diet, i.e. 2.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. D10: Geographical and time averages

DENSE

YEAR :

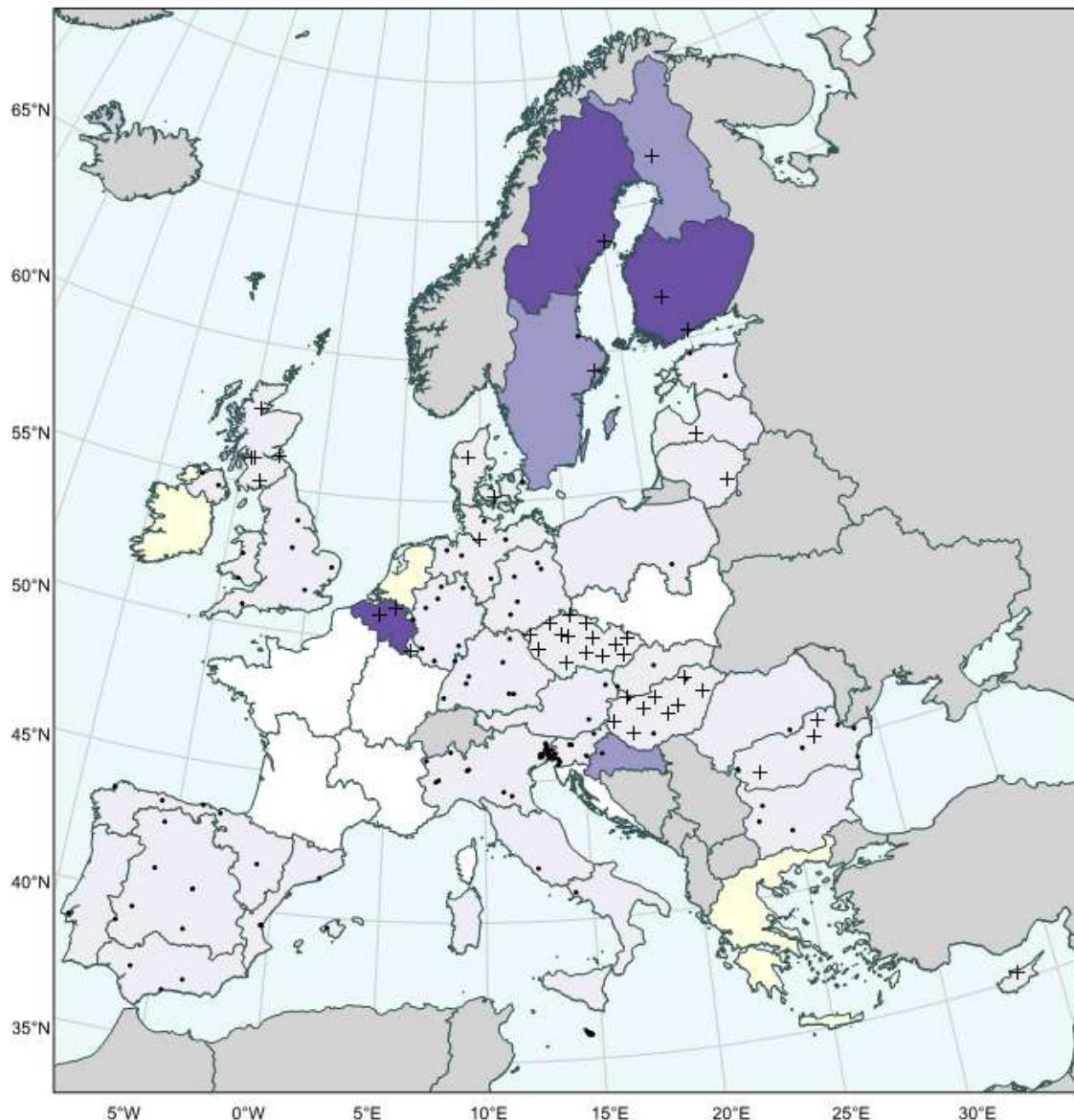
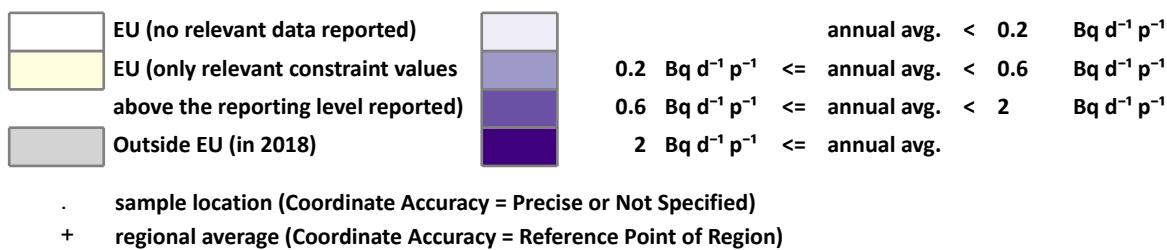
2018

SAMPLE TYPE :

mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta



Table D10: Geographical and time averages


YEAR : **2018**
SAMPLE TYPE : **mixed diet (Bq d⁻¹ p⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M	
AT	25	2	< RL	< RL	7					
BE	2	2			1.0E+00		1.0E+00	1.5E+00	9	
BG	10	3	< RL	2.0E-01	< RL	2.3E-01	< RL	4.1E-01	11	
CY	51	1	< RL	< RL	< RL		< RL	< RL	3	
CZ	20	14	< RL	2.3E-01	< RL	< RL	< RL	3.3E-01	6	
DE-N	117	6	< RL	< RL	12					
DE-C	170	9	< RL	< RL	< RL	4.1E-01	< RL	1.0E+00	12	
DE-S	101	7	< RL	< RL	2.0E-01	< RL	< RL	3.0E-01	8	
DE-E	69	5	< RL	2.1E-01	10					
DE	457	27	< RL	< RL	< RL	2.3E-01	< RL	4.2E-01	12	
DK	3	3		< RL	< RL		< RL	< RL	4	
EE	4	2	< RL			< RL	< RL	< RL	2	
ES-N	20	5	< RL	< RL	2					
ES-C	28	7	< RL	< RL	3					
ES-S	16	4	< RL	< RL	7					
ES-E	16	4	< RL	< RL	9					
ES	80	20	< RL	< RL	7					
FI-N	7	1				4.7E-01	4.7E-01	4.7E-01	10	
FI-S	14	2				8.4E-01	8.4E-01	8.4E-01	10	
FI	21	3				7.2E-01	7.2E-01	7.2E-01	10	
FR-NW										
FR-NE										
FR-SW										
FR-SE										
FR										
GB-EN	8	5	< RL	< RL	4					
GB-WL	5	2	< RL	< RL	1					
GB-SC	28	5	< RL	< RL	4					
GB-NI	5	2		< RL		< RL	< RL	< RL	5	
GB	46	14	< RL	< RL	4					
GR							Δ			
HR-A										
HR-C	5	1				2.6E-01	2.6E-01	4.3E-01	10	
HR	5	1				2.6E-01	2.6E-01	4.3E-01	10	
HU	23	12	< RL	2.2E-01	1					
IE							Δ			
IT-N	57	31	< RL	2.3E-01	5					
IT-C	3	1	< RL	< RL	3					
IT-S	1	1	< RL				< RL	< RL	3	
IT	61	33	< RL	2.2E-01	5					
LT	12	1	< RL	< RL	12					
LU	12	1	< RL	< RL	1					
LV	4	1	< RL		< RL	< RL	< RL	< RL	3	
MT	11	10	< RL	< RL	11					
NL							Δ			
PL-N	1	1	< RL	< RL	1					
PL-S										
PL	1	1	< RL	< RL	1					
PT	11	1	< RL	< RL	1					
RO-N	8	1	< RL	< RL	3					
RO-S	29	8	< RL	< RL	2					
RO	37	9	< RL	< RL	2					
SE-N	3	1		< RL			1.5E+00	7.8E-01	2.1E+00	11
SE-S	4	2		< RL			3.1E-01	2.1E-01	5.2E-01	10
SE	7	3		< RL			1.2E+00	6.4E-01	2.1E+00	12
SI	5	5	< RL	< RL				< RL	< RL	4
SK	8	2	< RL	< RL	2					

RL: reporting level for ¹³⁷Cs in mixed diet, i.e. 2.0 E-01 Bq/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.



Fig. D11: Geographical and time averages

DENSE

YEAR :

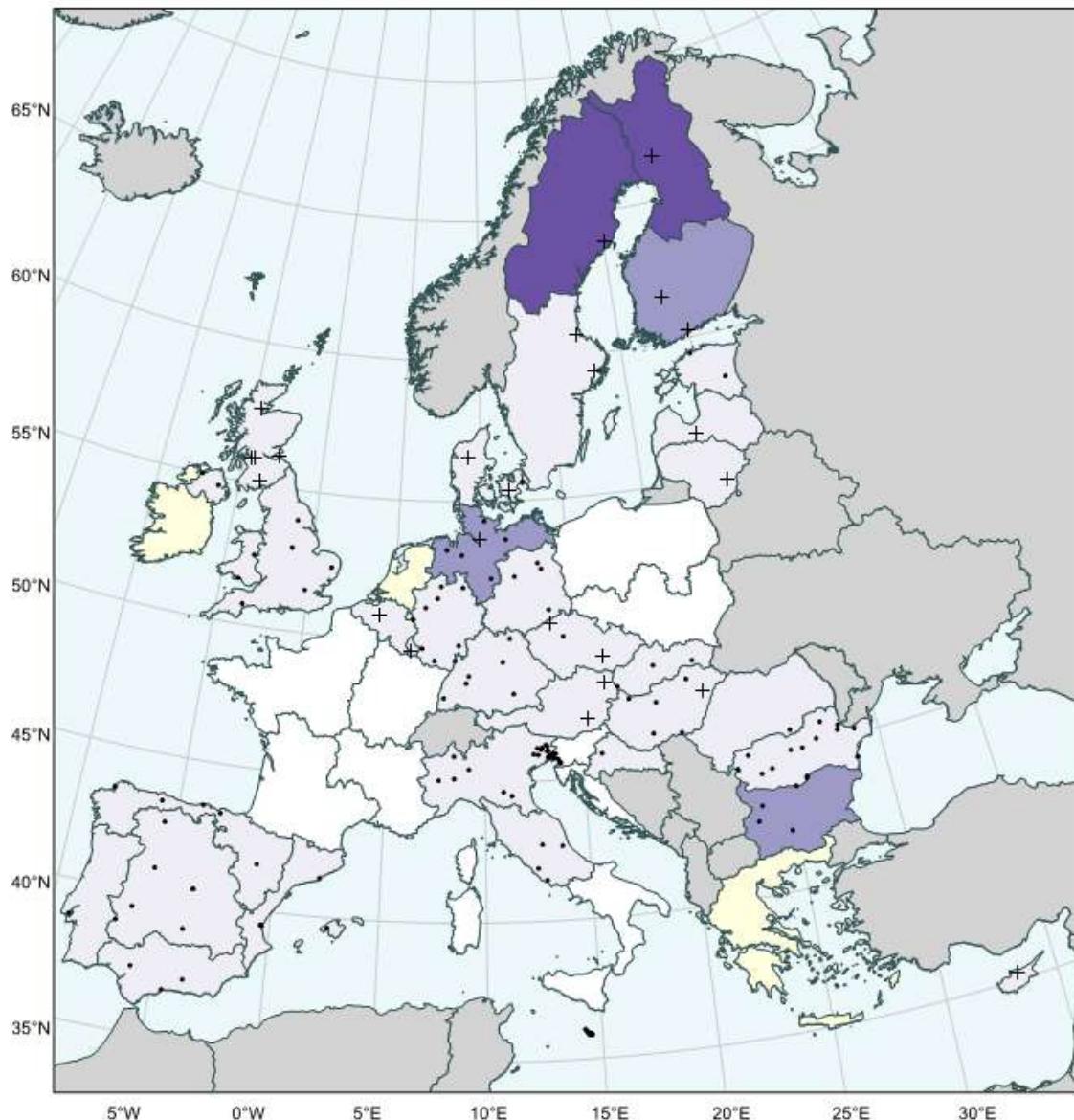
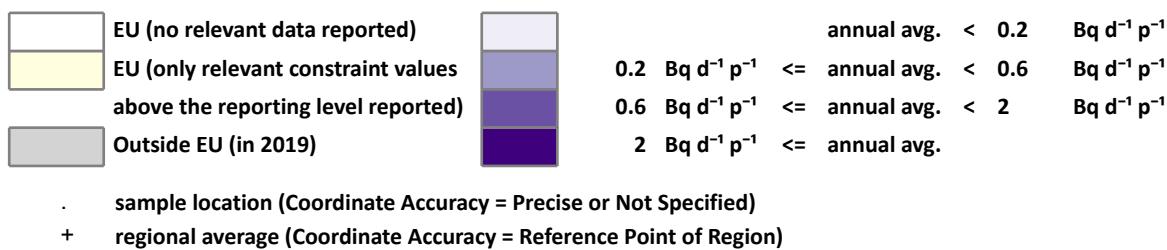
2019

SAMPLE TYPE :

mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)



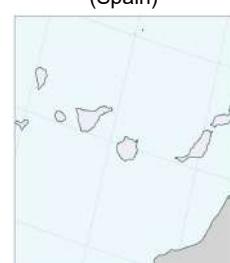
Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D11: Geographical and time averages


YEAR : **2019**
SAMPLE TYPE : **mixed diet (Bq d⁻¹ p⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M
AT	29	2	< RL	< RL	2				
BE	1	1	< RL				< RL	< RL	1
BG	14	4	< RL	5.6E-01	4.7E-01	< RL	3.3E-01	9.2E-01	6
CY	48	1	< RL	< RL	5				
CZ	3	3	< RL	< RL	2				
DE-N	112	6	< RL	< RL	2.0E-01	2.9E-01	2.0E-01	3.6E-01	10
DE-C	158	9	< RL	< RL	5				
DE-S	105	6	< RL	3.5E-01	< RL	< RL	< RL	7.7E-01	4
DE-E	63	4	< RL	2.3E-01	9				
DE	438	25	< RL	2.1E-01	< RL	< RL	< RL	3.6E-01	4
DK	3	3		< RL	< RL		< RL	< RL	5
EE	4	2	< RL			2.6E-01	< RL	2.6E-01	10
ES-N	20	5	< RL	< RL	7				
ES-C	28	7	< RL	< RL	4				
ES-S	16	4	< RL	< RL	9				
ES-E	16	4	< RL	< RL	5				
ES	80	20	< RL	< RL	1				
FI-N	7	1				7.4E-01	7.4E-01	7.4E-01	10
FI-S	14	2				5.6E-01	5.6E-01	5.6E-01	10
FI	21	3				6.2E-01	6.2E-01	6.2E-01	10
FR-NW									
FR-NE									
FR-SW									
FR-SE									
FR									
GB-EN	8	5	< RL	< RL	11				
GB-WL	5	2	< RL	< RL	6				
GB-SC	28	5	< RL	< RL	1				
GB-NI	5	2	< RL	2.7E-01	8				
GB	46	14	< RL	< RL	8				
GR							Δ		
HR-A									
HR-C	5	1				< RL	< RL	< RL	11
HR	5	1				< RL	< RL	< RL	11
HU	16	6	< RL	< RL	7				
IE							Δ		
IT-N	45	25	< RL	2.1E-01	< RL	< RL	< RL	2.6E-01	6
IT-C	8	4	< RL	< RL	11				
IT-S									
IT	53	29	< RL	2.1E-01	6				
LT	12	1	< RL	< RL	8				
LU	10	1	< RL	< RL	12				
LV	3	1		< RL	< RL	< RL	< RL	< RL	4
MT	12	11	2.4E-01	2.2E-01	< RL	< RL	2.0E-01	3.1E-01	1
NL							Δ		
PL-N									
PL-S									
PL									
PT	11	1	< RL	< RL	11				
RO-N	2	1	< RL		< RL		< RL	< RL	3
RO-S	38	15	< RL	< RL	11				
RO	40	16	< RL	< RL	11				
SE-N	3	1		2.8E-01		1.3E+00	7.9E-01	2.5E+00	12
SE-S	5	2	2.0E-01	< RL		< RL	< RL	2.0E-01	2
SE	8	3	2.0E-01	2.1E-01		5.2E-01	3.1E-01	1.4E+00	12
SI									
SK	11	3	< RL	3.5E-01	6				

RL: reporting level for ¹³⁷Cs in mixed diet, i.e. 2.0 E-01 Bq/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

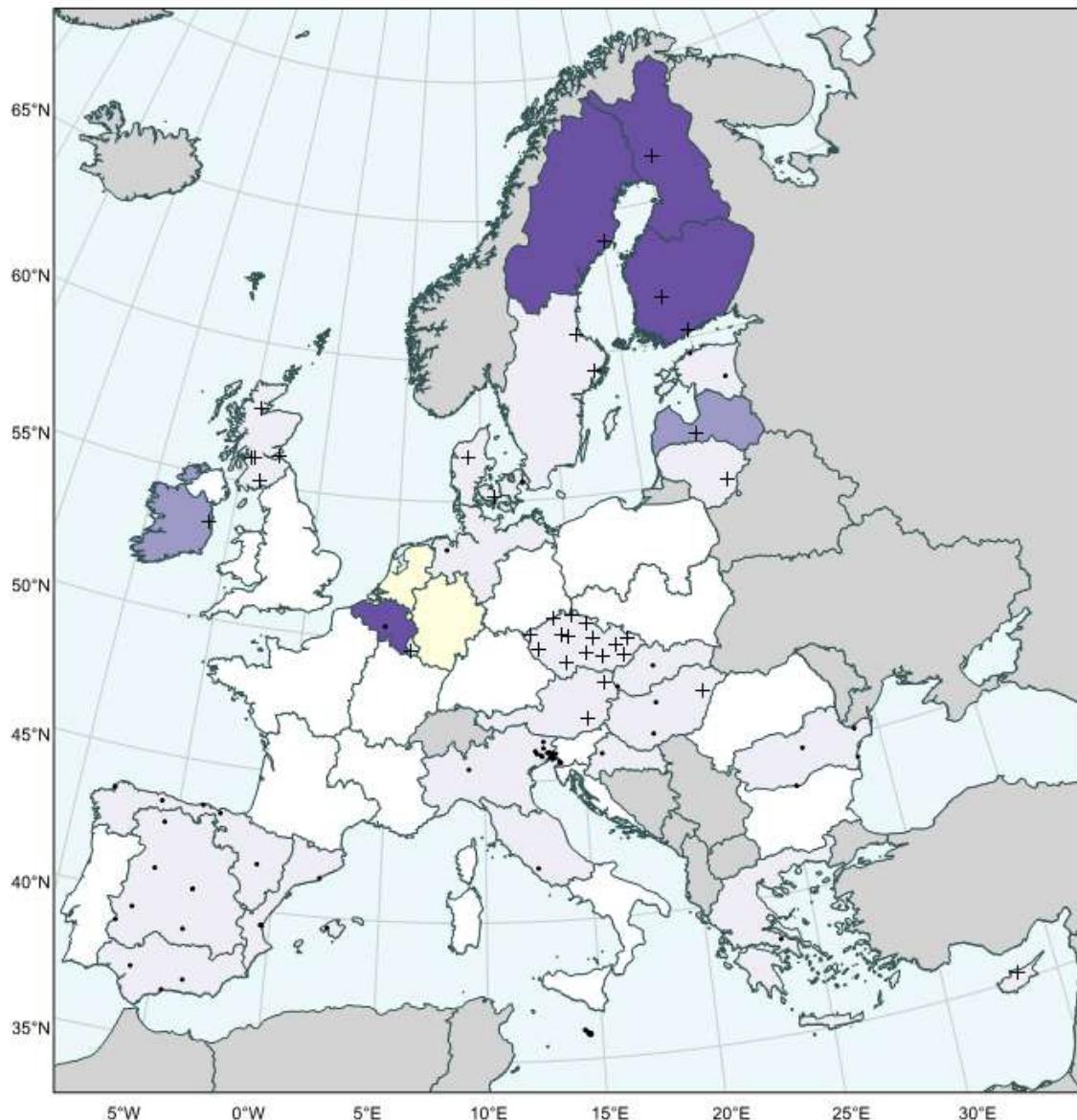
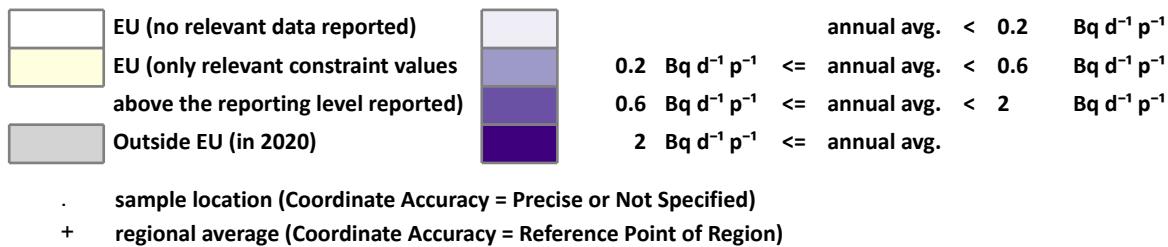


Fig. D12: Geographical and time averages

DENSE

YEAR :
SAMPLE TYPE :
NUCLIDE CATEGORY :

2020
mixed diet ($\text{Bq d}^{-1} \text{ p}^{-1}$)
caesium-137 (^{137}Cs)



Azores (Portugal)



Madeira (Portugal)



Canary Islands
(Spain)



Malta



Table D12: Geographical and time averages


YEAR : **2020**
SAMPLE TYPE : **mixed diet (Bq d⁻¹ p⁻¹)**
NUCLIDE CATEGORY : **caesium-137 (¹³⁷Cs)**

Country	N	L	1st quarter	2nd quarter	3rd quarter	4th quarter	Annual average	Monthly max	M	
AT	23	2	< RL	< RL	6					
BE	1	1			1.4E+00		1.4E+00	1.4E+00	8	
BG										
CY	43	1	< RL	< RL		< RL	< RL	< RL	10	
CZ	22	14	< RL	< RL	4					
DE-N	1	1	< RL				< RL	< RL	1	
DE-C							Δ			
DE-S										
DE-E										
DE	1	1	< RL				< RL	< RL	1	
DK	3	3			< RL		< RL	< RL	8	
EE	4	2	< RL			< RL	< RL	< RL	3	
ES-N	18	5	< RL	< RL	6					
ES-C	26	7	< RL	< RL	2					
ES-S	16	4	< RL	< RL	10					
ES-E	16	4	< RL	< RL	7					
ES	76	20	< RL	< RL	1					
FI-N	7	1				9.8E-01	9.8E-01	9.8E-01	11	
FI-S	14	2			1.0E+00	1.1E+00	1.1E+00	1.1E+00	10	
FI	21	3			1.0E+00	1.0E+00	1.0E+00	1.1E+00	10	
FR-NW										
FR-NE										
FR-SW										
FR-SE										
FR										
GB-EN										
GB-WL										
GB-SC	23	5	< RL	< RL	9					
GB-NI										
GB	23	5	< RL	< RL	9					
GR	3	1	< RL			< RL	< RL	< RL	12	
HR-A										
HR-C	5	1				< RL	< RL	< RL	12	
HR	5	1				< RL	< RL	< RL	12	
HU	8	3		< RL	< RL		< RL	< RL	9	
IE	1	1		3.5E-01			3.5E-01	3.5E-01	6	
IT-N	25	17	< RL	< RL	6					
IT-C	2	1			< RL	< RL	< RL	< RL	7	
IT-S										
IT	27	18	< RL	< RL	6					
LT	8	1	< RL	< RL	10					
LU	9	1	< RL	< RL	2					
LV	3	1	5.2E-01		< RL	< RL	2.8E-01	5.2E-01	3	
MT	8	8	2.1E-01	2.0E-01	2.0E-01	2.0E-01	2.0E-01	3.0E-01	1	
NL							Δ			
PL-N										
PL-S										
PL										
PT										
RO-N										
RO-S	15	4	< RL	< RL	5					
RO	15	4	< RL	< RL	5					
SE-N	3	1		3.6E-01			2.5E+00	1.4E+00	2.6E+00	12
SE-S	4	2			< RL		< RL	< RL	6	
SE	7	3			< RL		1.7E+00	9.1E-01	2.6E+00	12
SI										
SK	6	2	< RL	< RL		< RL	< RL	< RL	10	

RL: reporting level for ¹³⁷Cs in mixed diet, i.e. 2.0 E-01 BQ/D.P (see Appendix B)

Δ: only constraint (<) values above the reporting level were reported

N: Number of measurements considered in calculating the annual concentration.

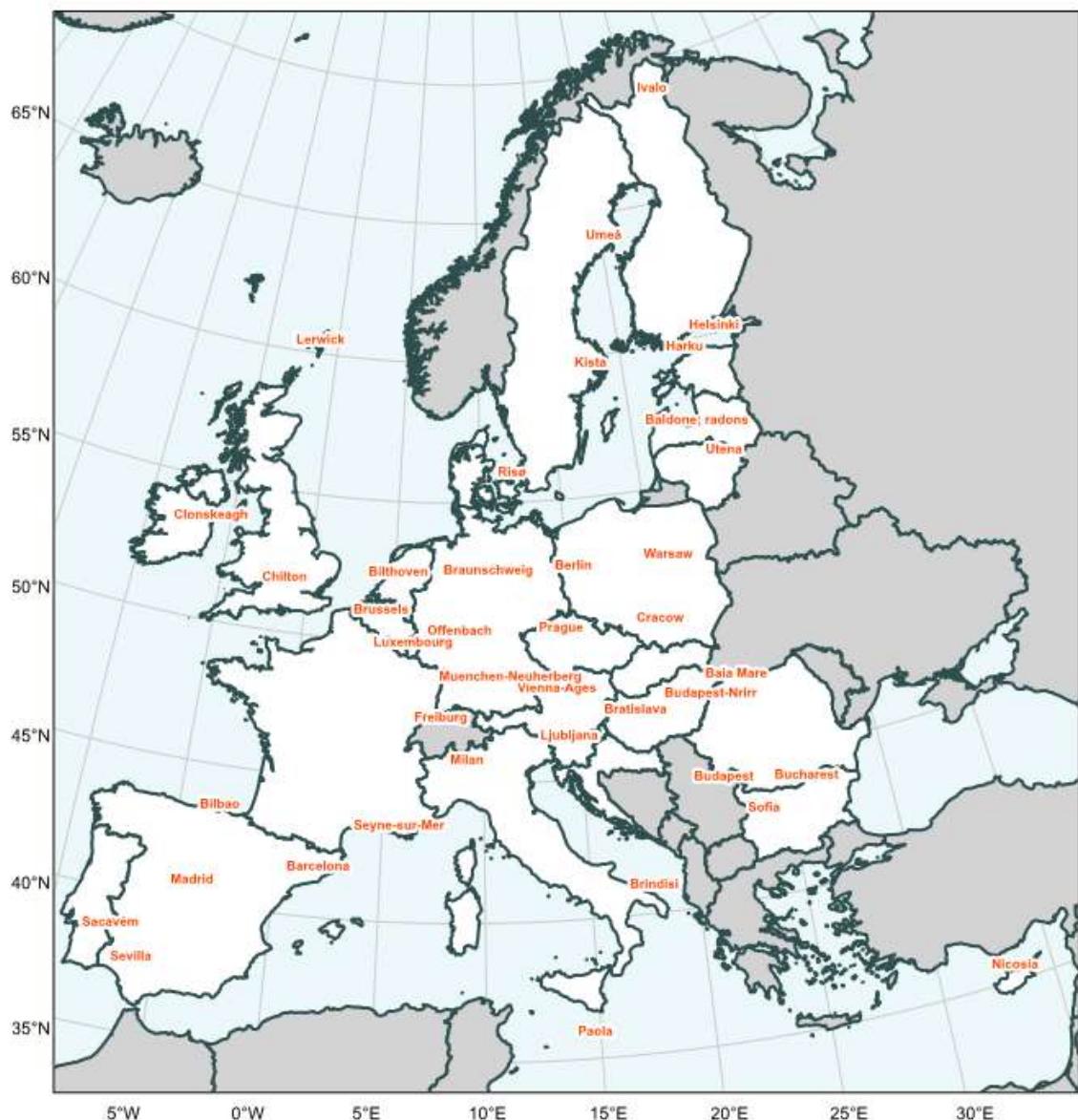
L: Number of sampling locations considered in calculating the annual concentration.

Monthly max: Maximum monthly average in the year.

M: Month during which the maximum occurred.

Fig. A13

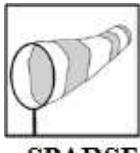
Sampling locations for ^{7}Be and ^{137}Cs in airborne particulates considered in Figures A14 – A41


Azores (Portugal)

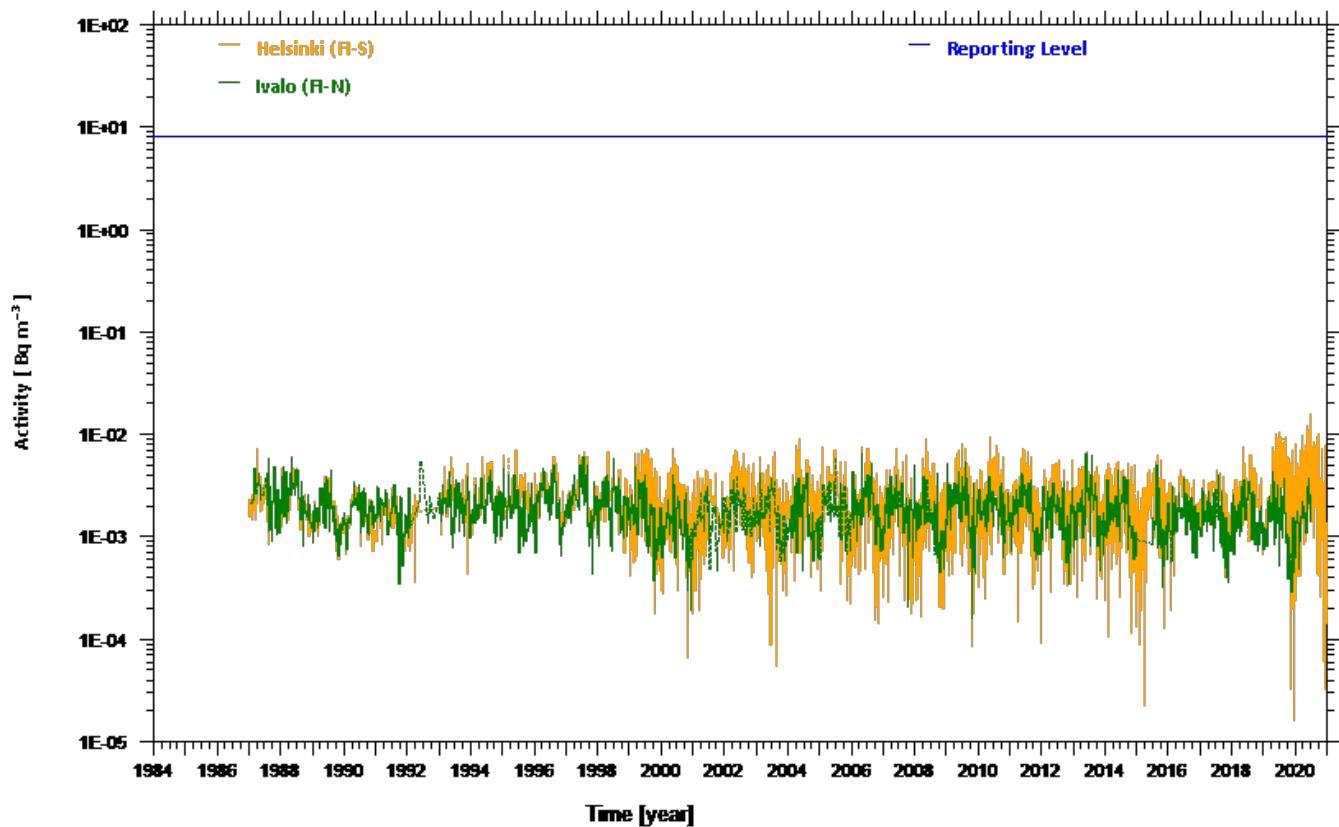
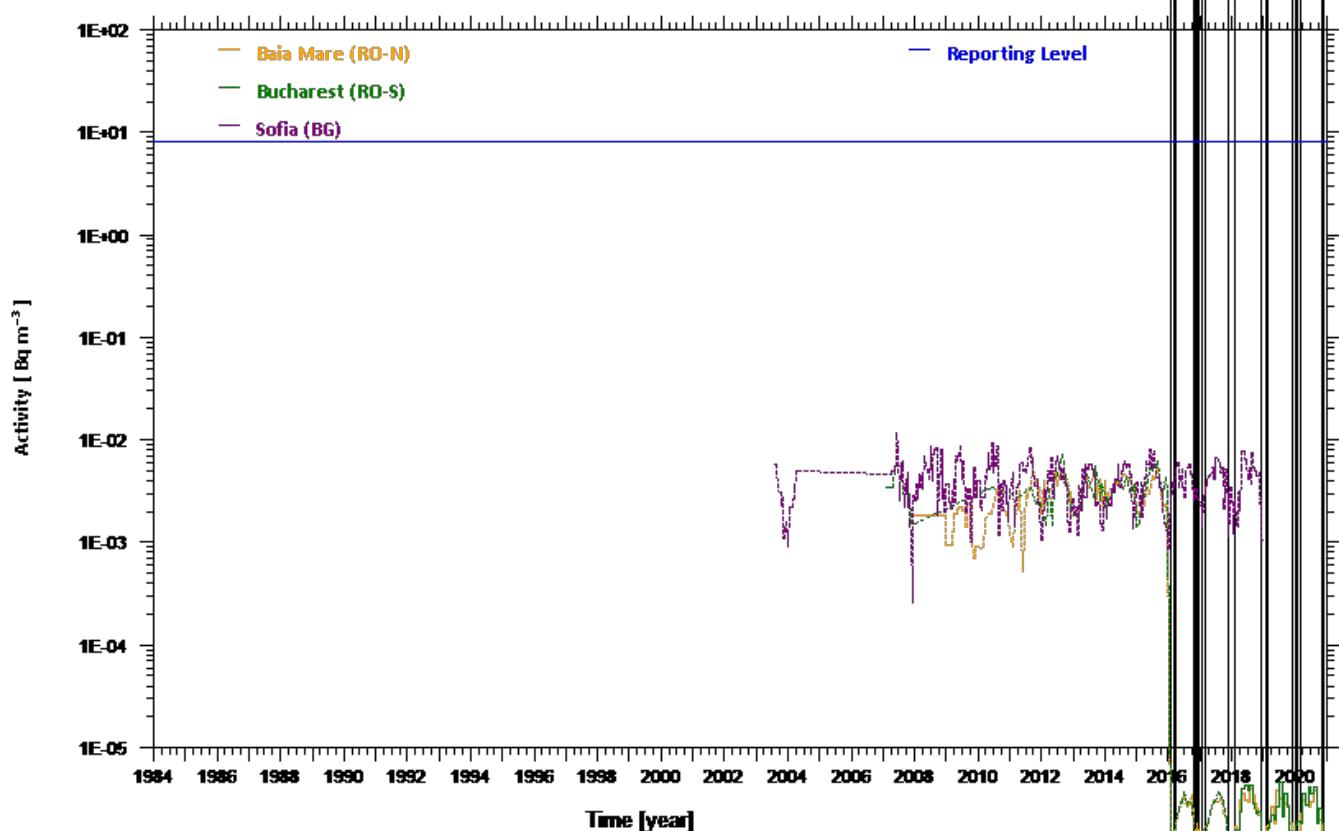
Madeira (Portugal)

Canary Islands (Spain)

Malta

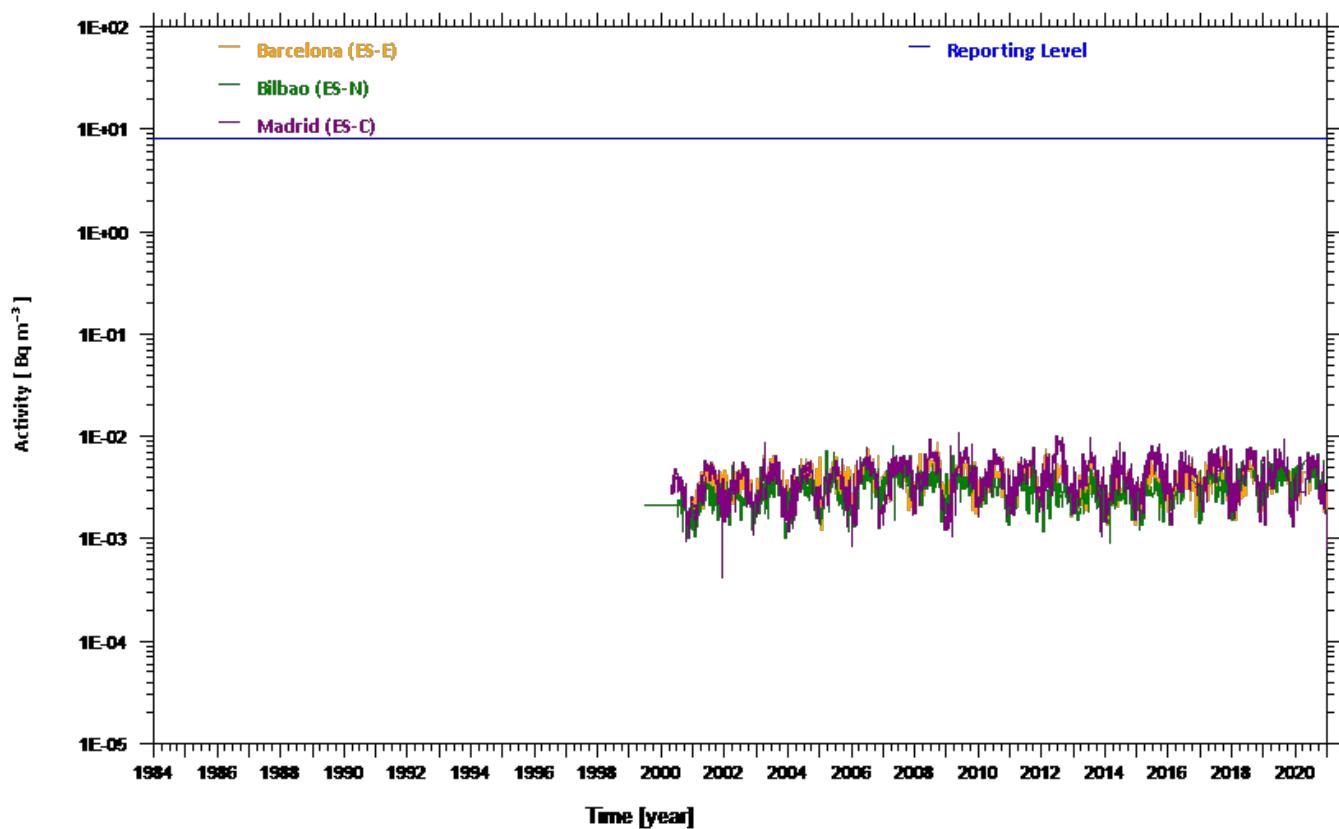
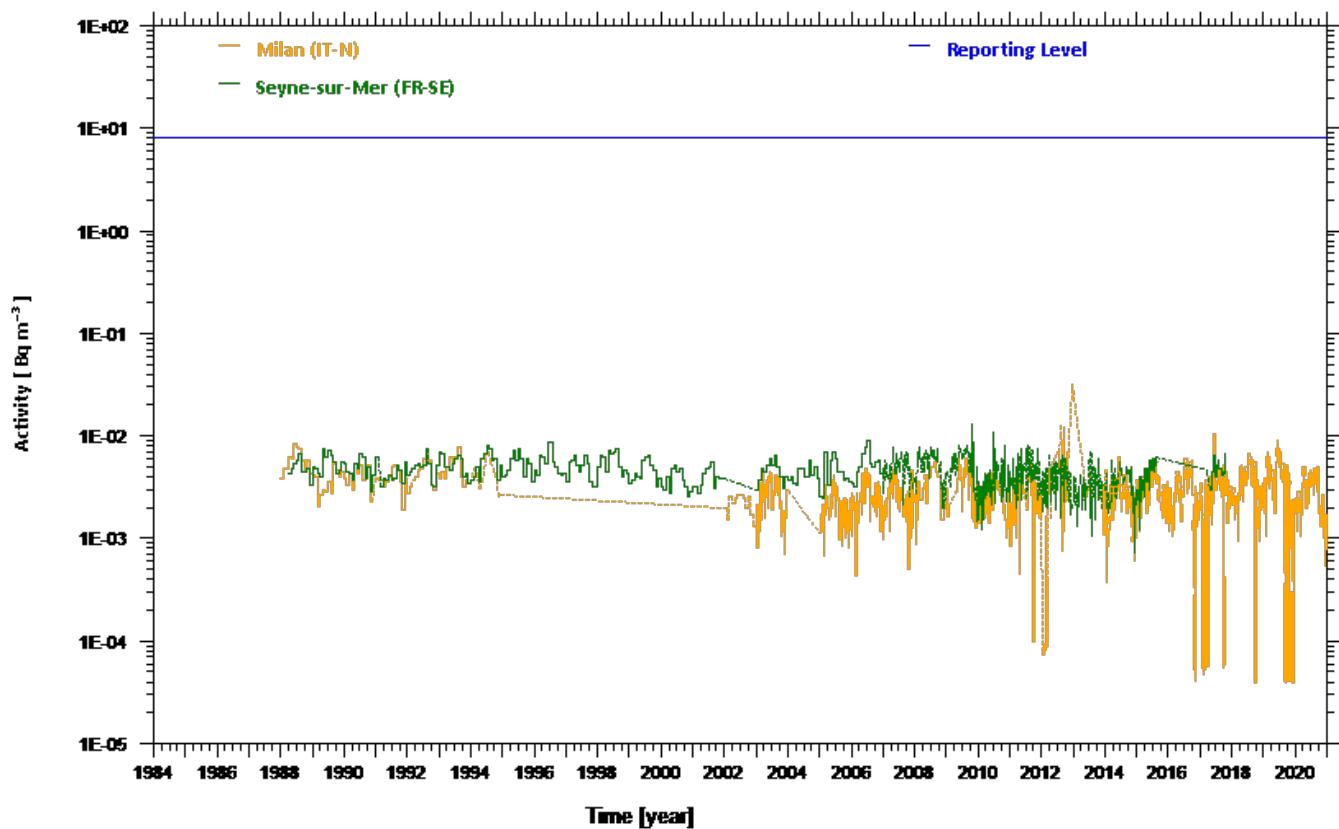



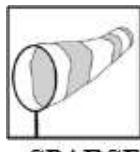
SPARSE

Activity trends**SAMPLE TYPE** : airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY** : beryllium-7 (^{7}Be)**Fig. A14** Activity trends for ^{7}Be in airborne particulates (Helsinki and Ivalo)**Fig. A15** Activity trends for ^{7}Be in airborne particulates (Baia Mare, Bucharest and Sofia)

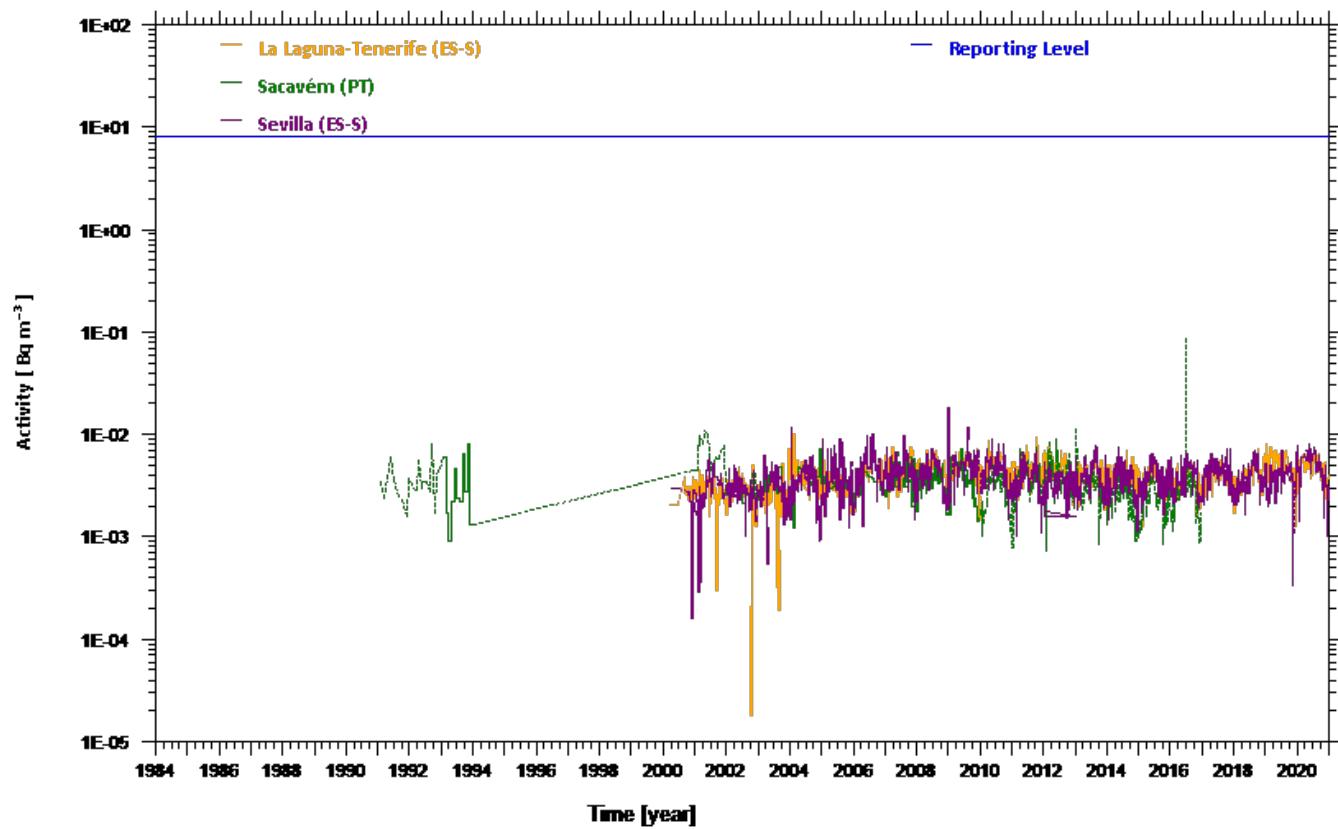
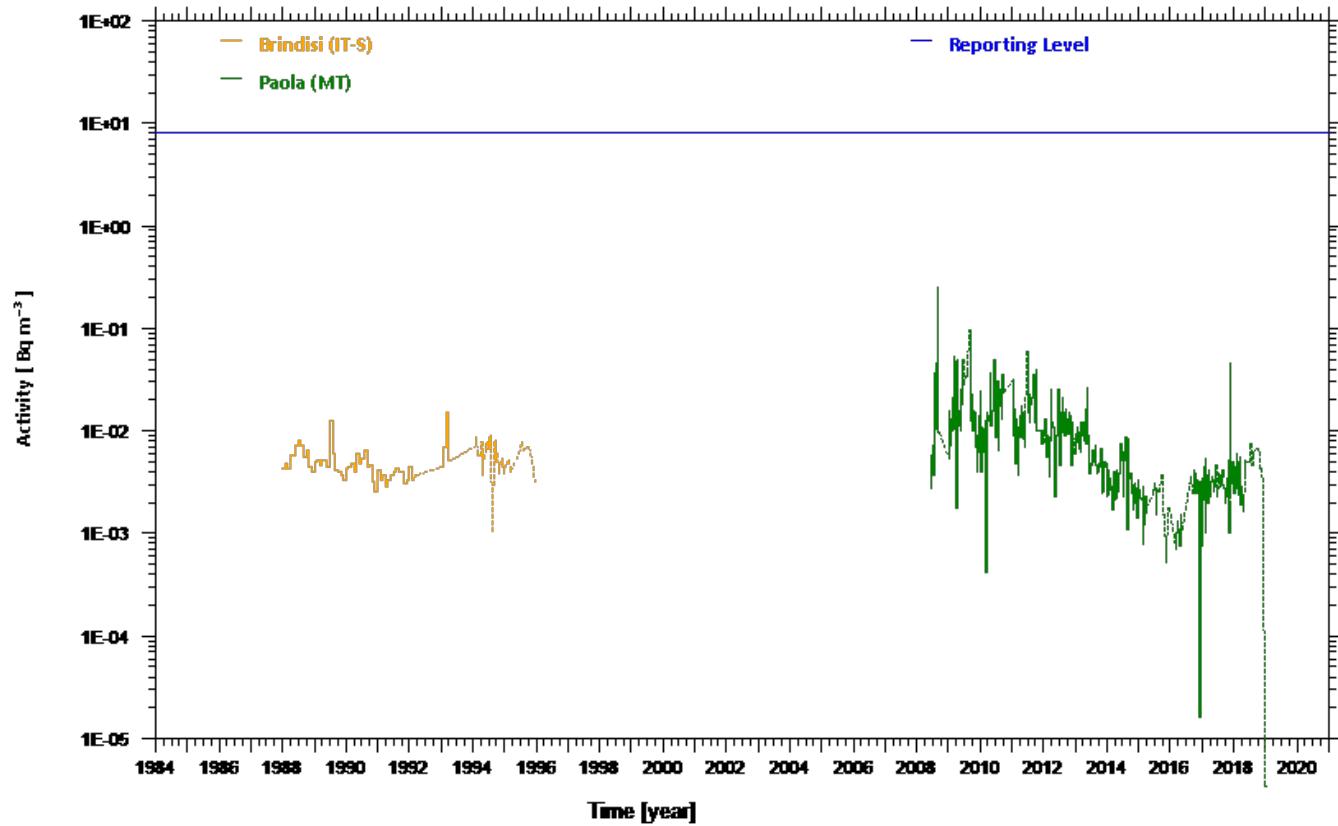
Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**beryllium-7 (^{7}Be)

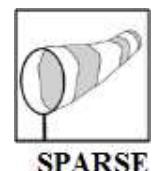
SPARSE

Fig. A16 Activity trends for ^{7}Be in airborne particulates (Barcelona, Bilbao and Madrid)**Fig. A17** Activity trends for ^{7}Be in airborne particulates (Milan and Seyne-sur-Mer)

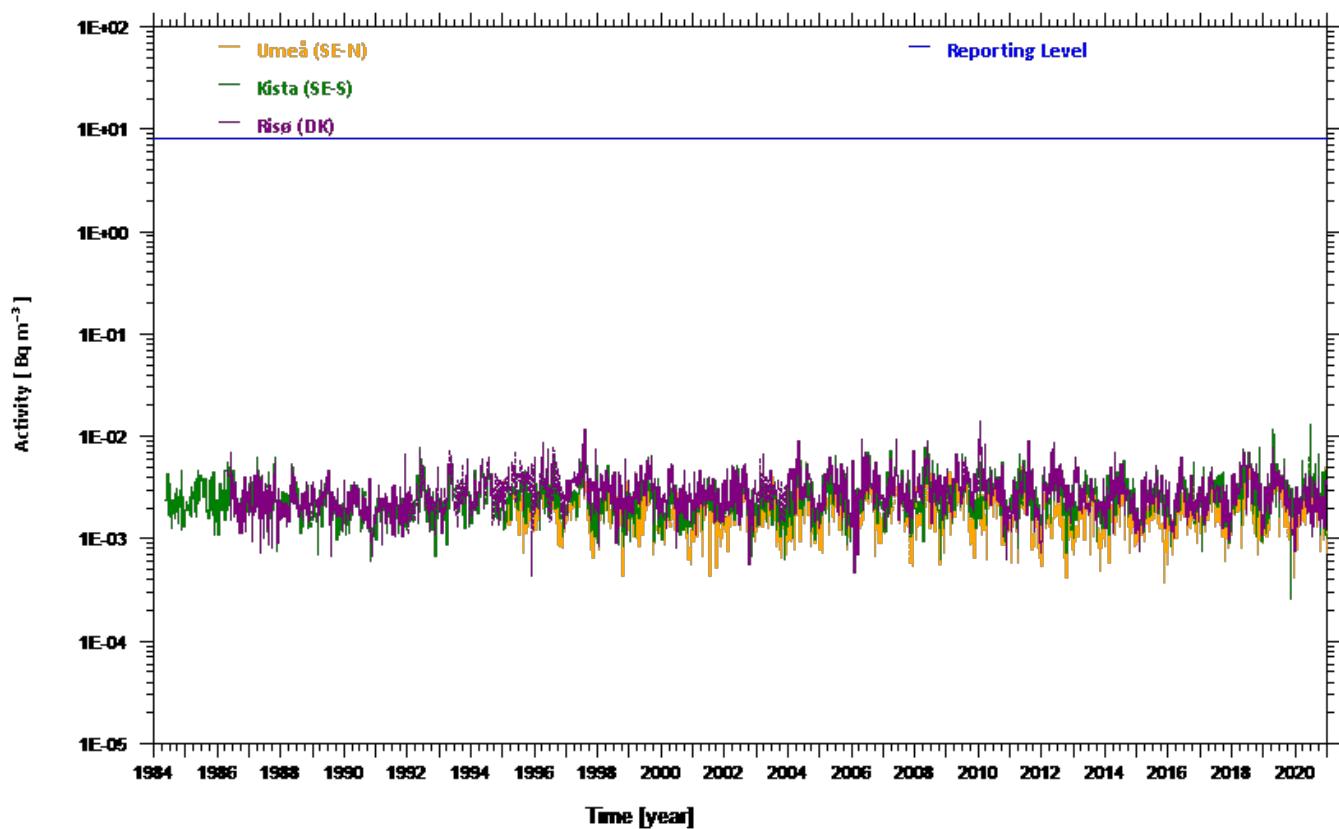
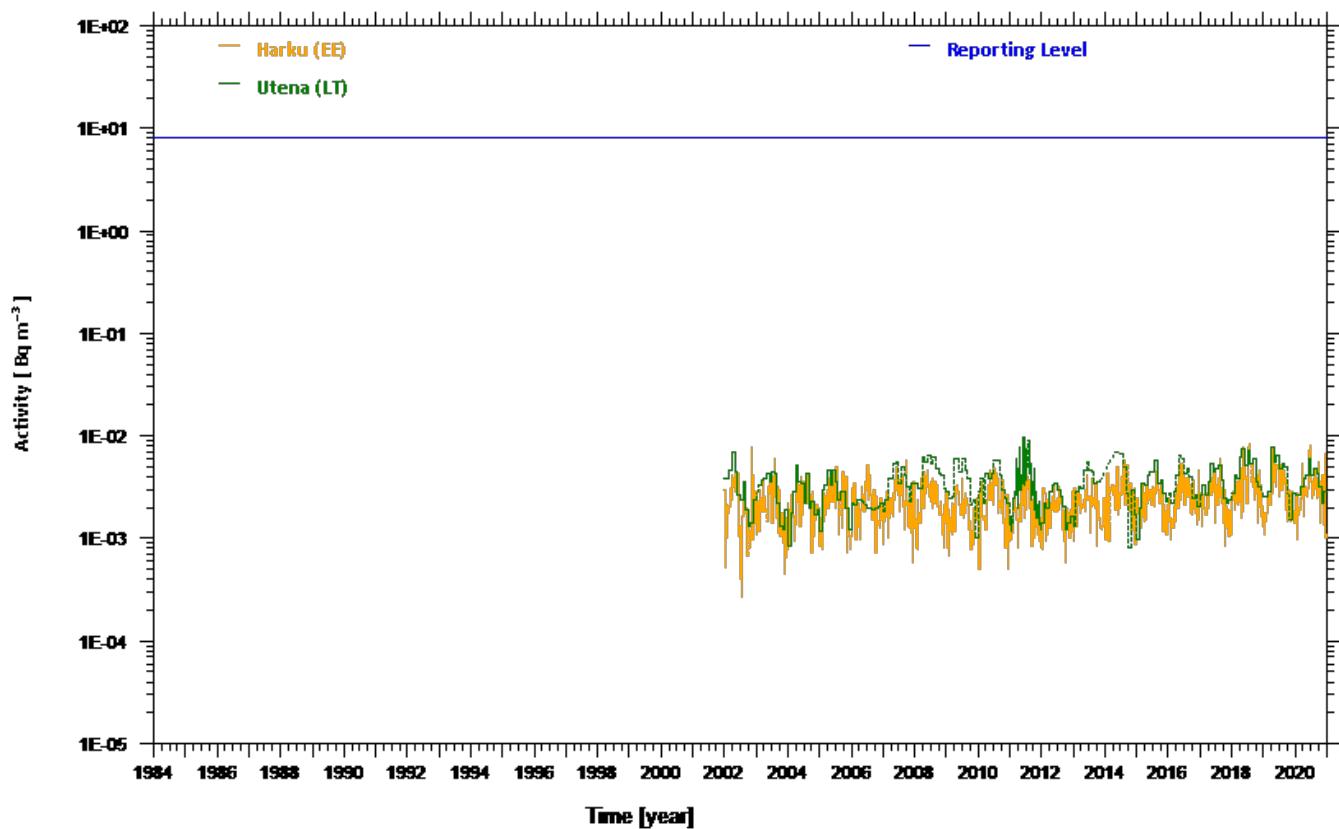


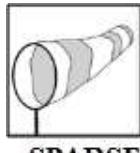
SPARSE

Activity trends**SAMPLE TYPE** : airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY** : beryllium-7 (^{7}Be)**Fig. A18** Activity trends for ^{7}Be in airborne particulates (La Laguna-Tenerife, Sacavém and Sevilla)**Fig. A19** Activity trends for ^{7}Be in airborne particulates (Brindisi and Paola)

Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**beryllium-7 (^{7}Be)

SPARSE

Fig. A20 Activity trends for ^{7}Be in airborne particulates (Umeå, Kista and Risø)**Fig. A21** Activity trends for ^{7}Be in airborne particulates (Harku and Utēna)



Activity trends

SAMPLE TYPE : airborne particulates (Bq m^{-3})
NUCLIDE CATEGORY : beryllium-7 (^{7}Be)

SPARSE

Fig. A22 Activity trends for ^{7}Be in airborne particulates (Chilton, Lerwick and Clonskeagh)

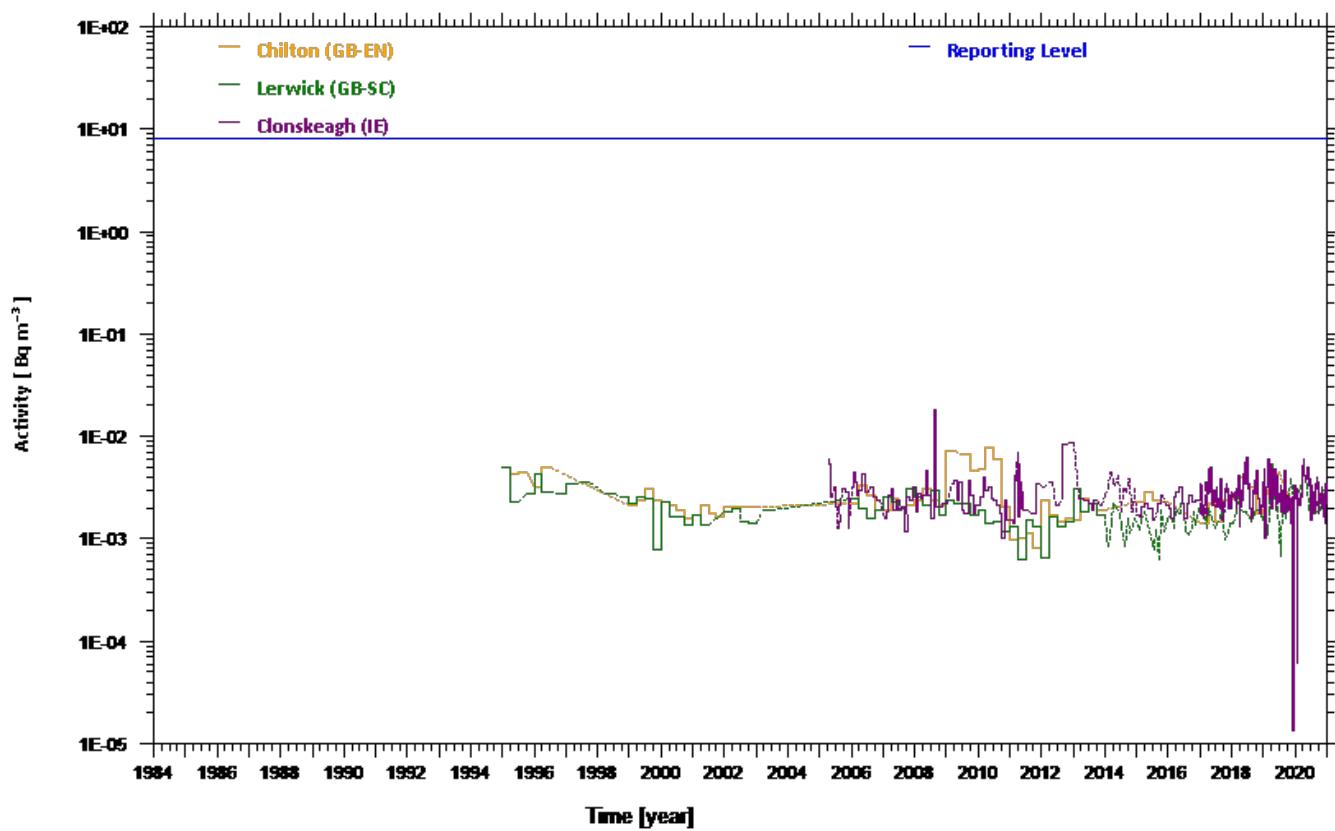
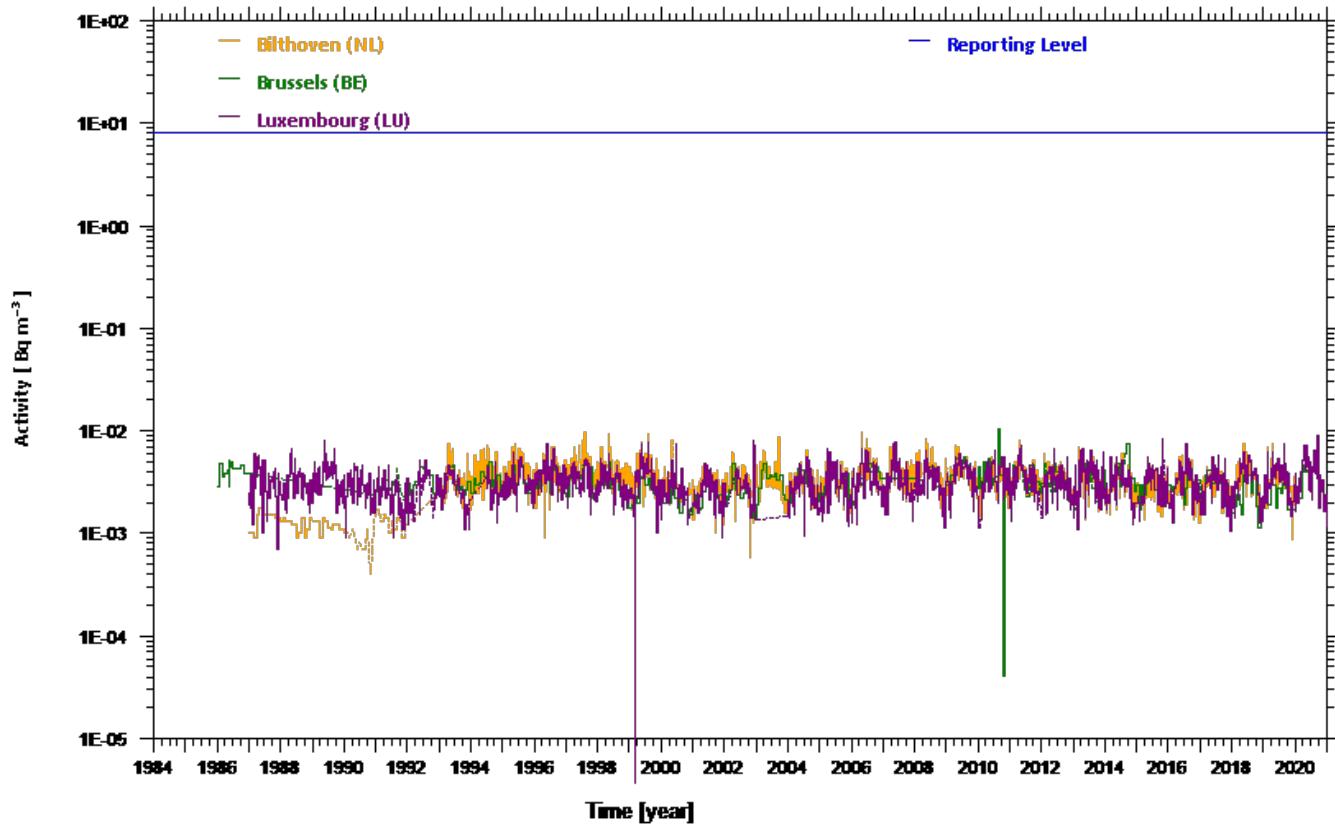
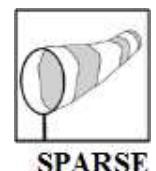
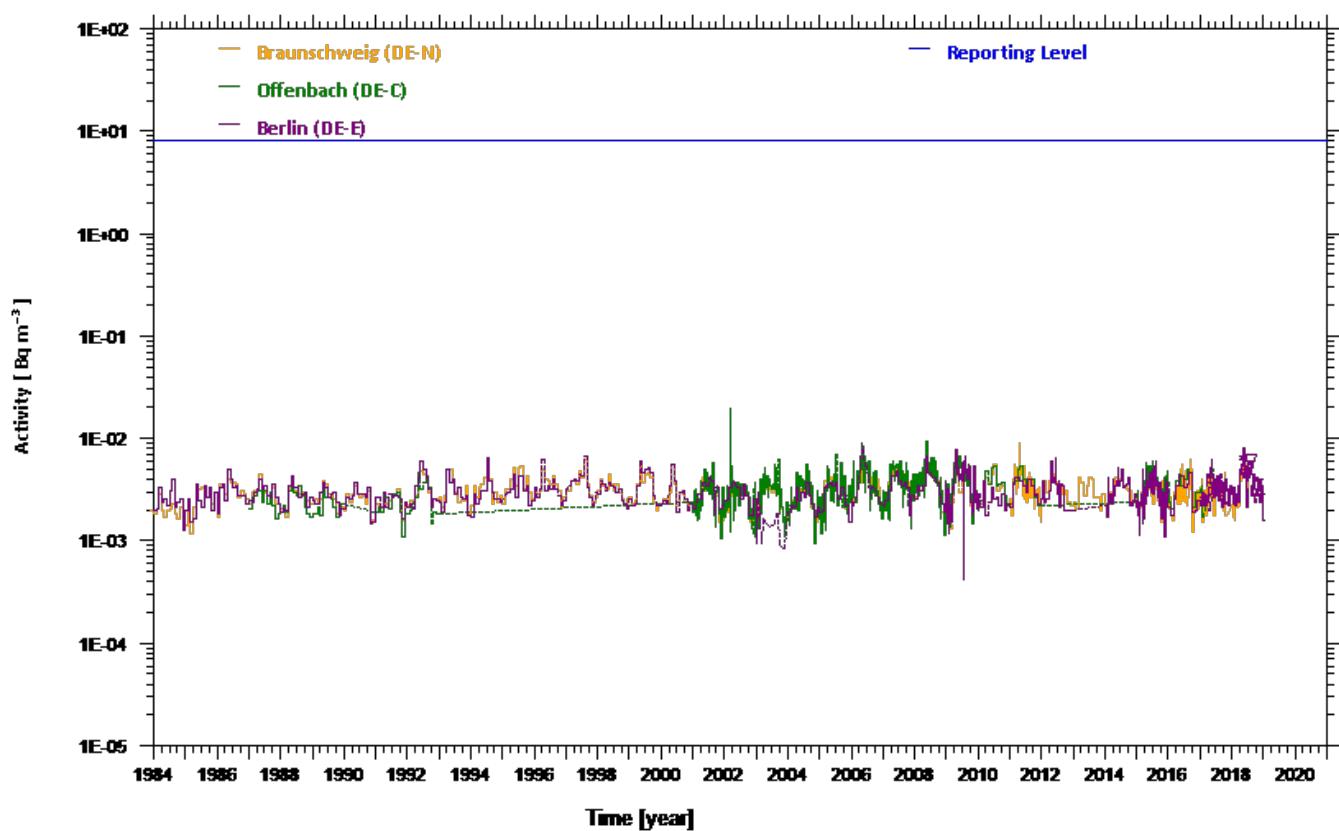
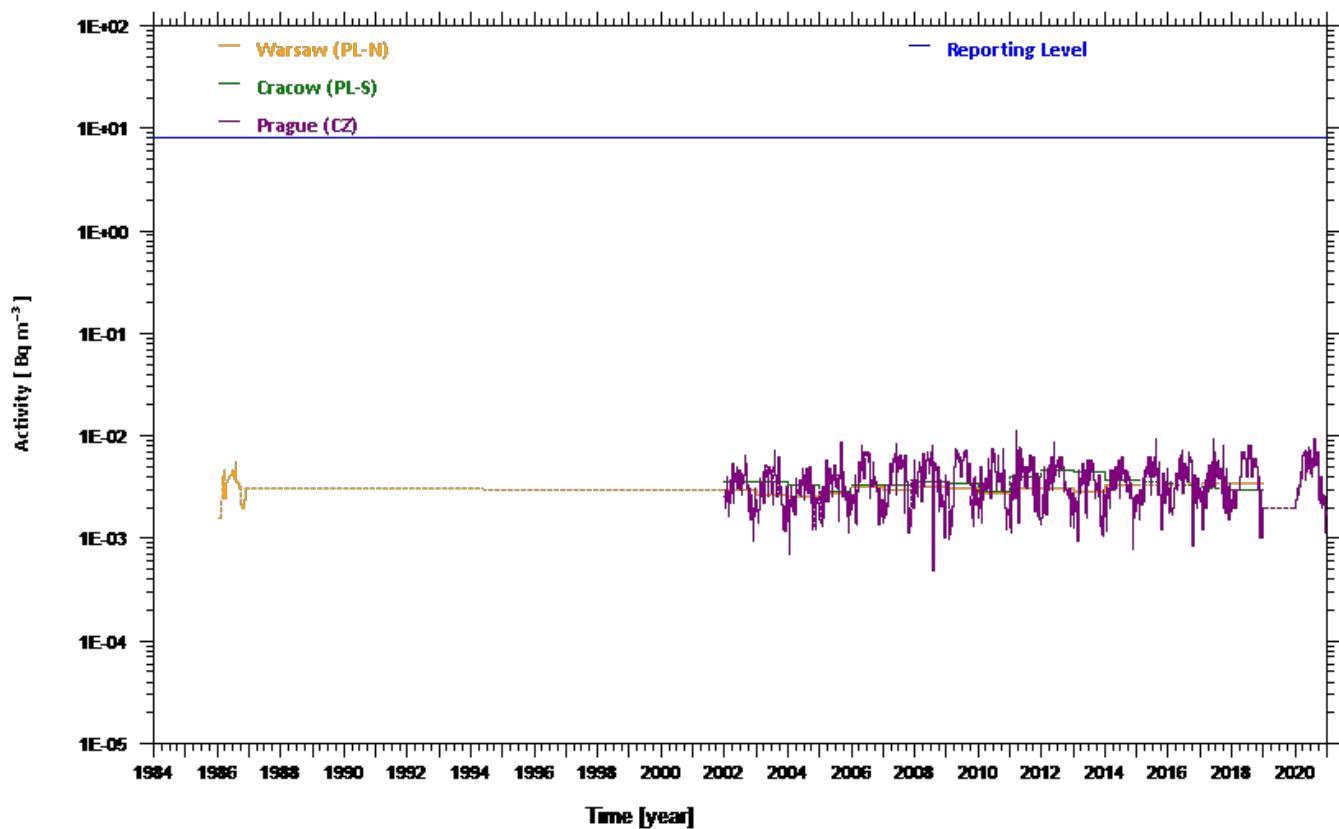
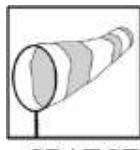


Fig. A23 Activity trends for ^{7}Be in airborne particulates (Bilthoven, Brussels and Luxembourg)

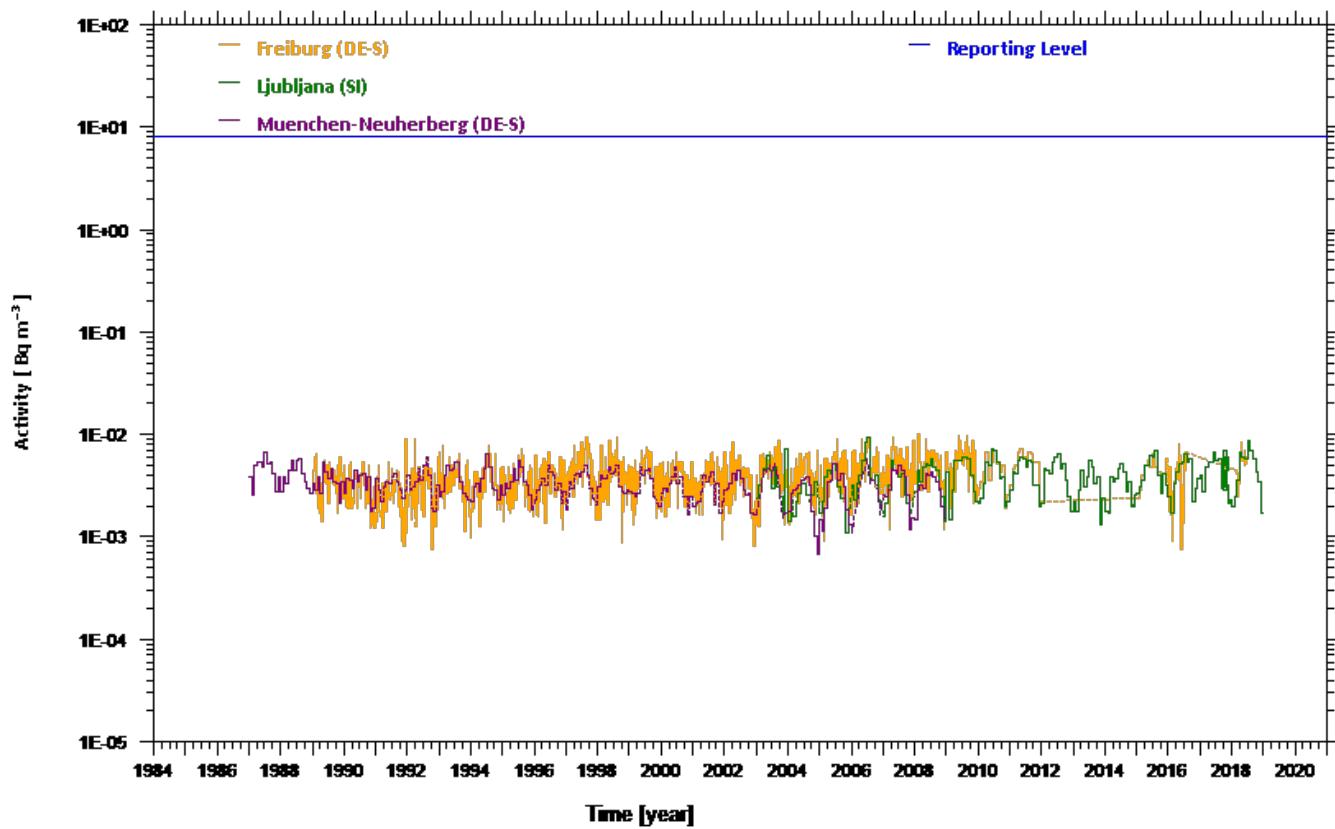
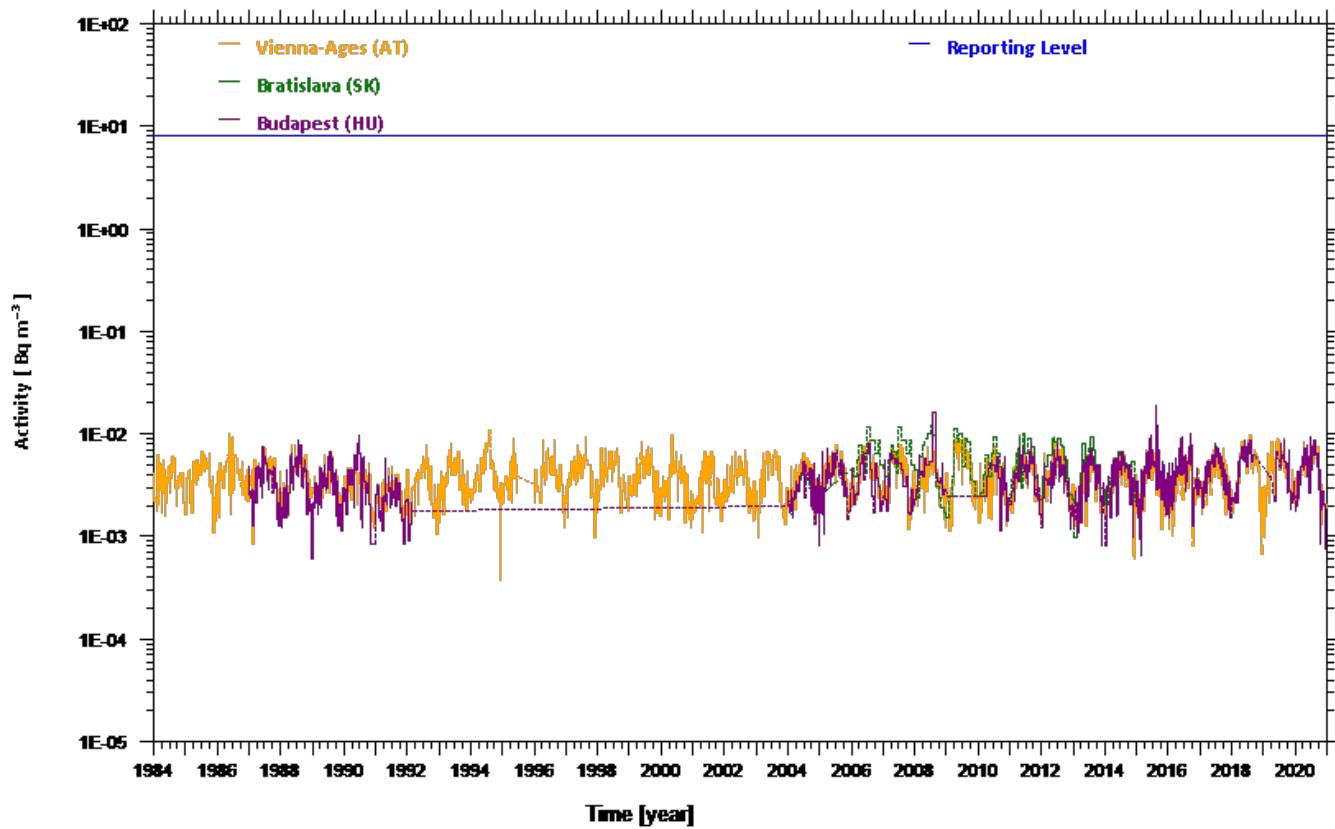


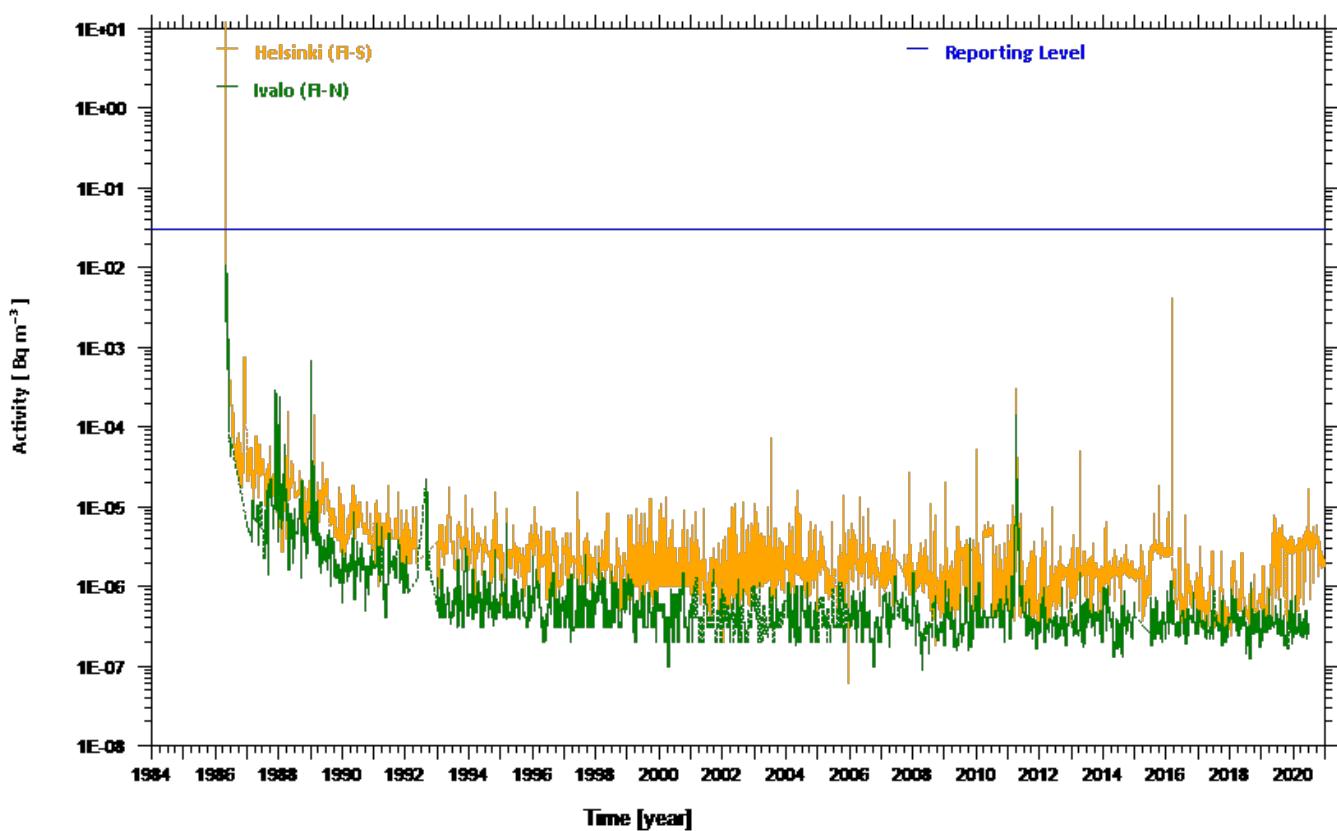
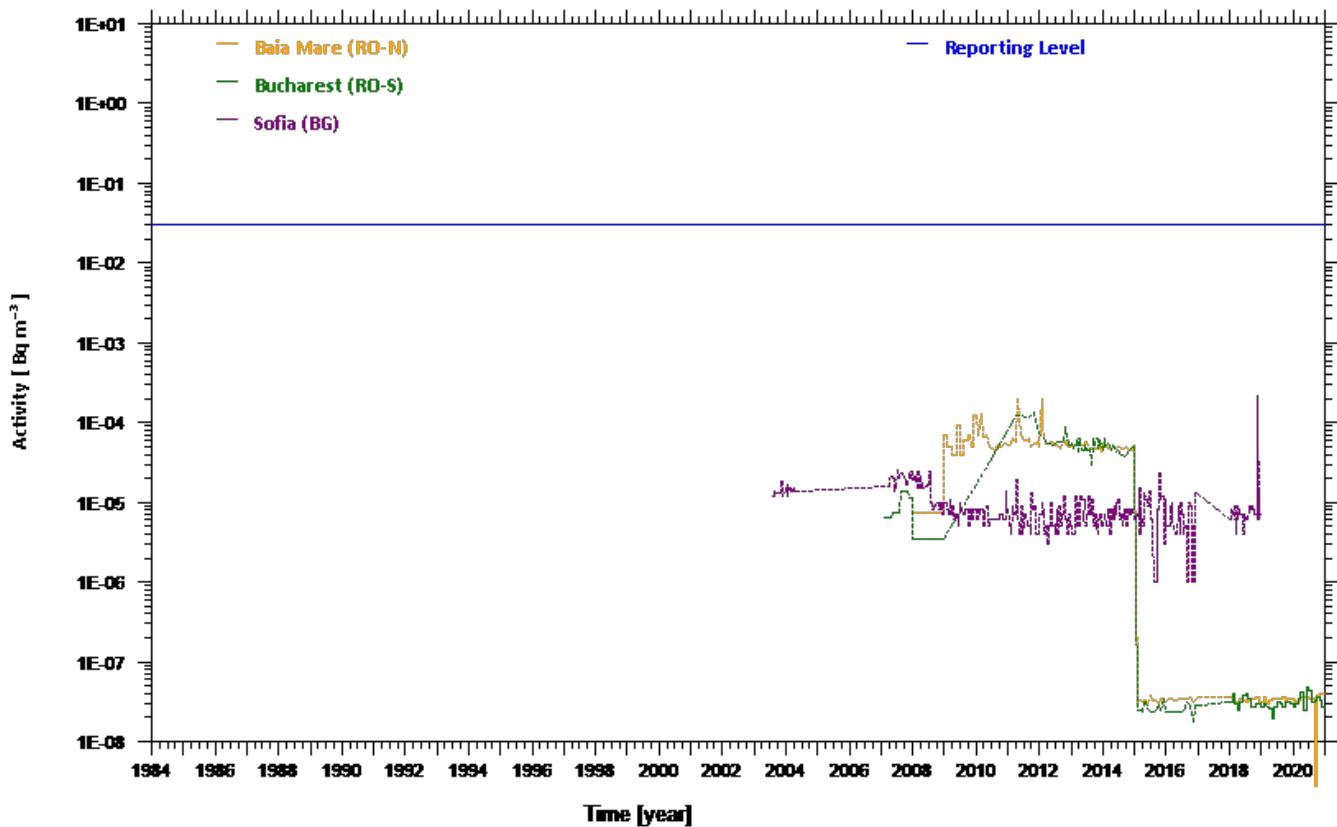
* The ^{7}Be results for Bilthoven between 1987 and 1992 are underestimates due to a different sampling procedure and sample treatment

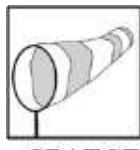
Activity trends**SAMPLE TYPE** :airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY** :beryllium-7 (^{7}Be)**Fig. A24** Activity trends for ^{7}Be in airborne particulates (Braunschweig, Offenbach and Berlin)**Fig. A25** Activity trends for ^{7}Be in airborne particulates (Warsaw, Cracow and Prague)

**Activity trends****SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**beryllium-7 (^{7}Be)

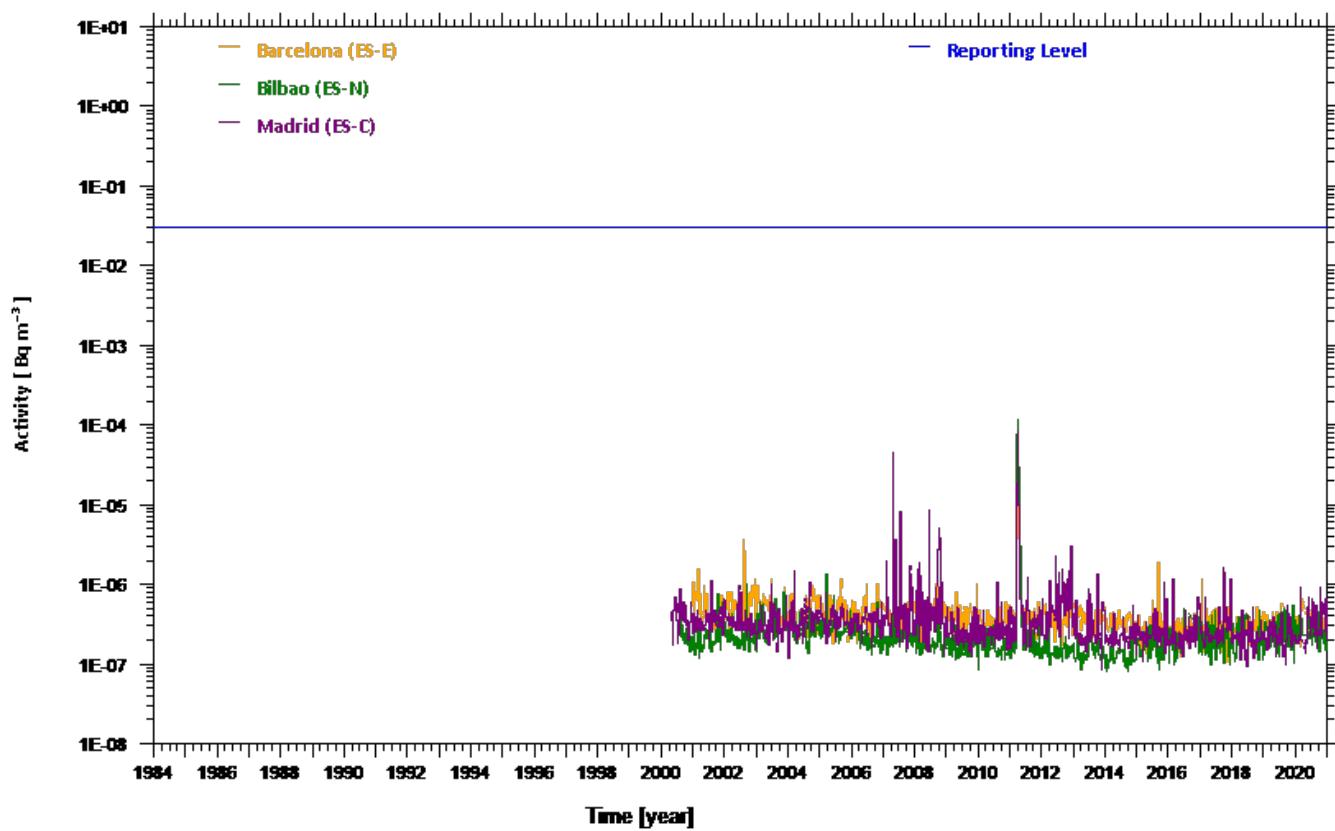
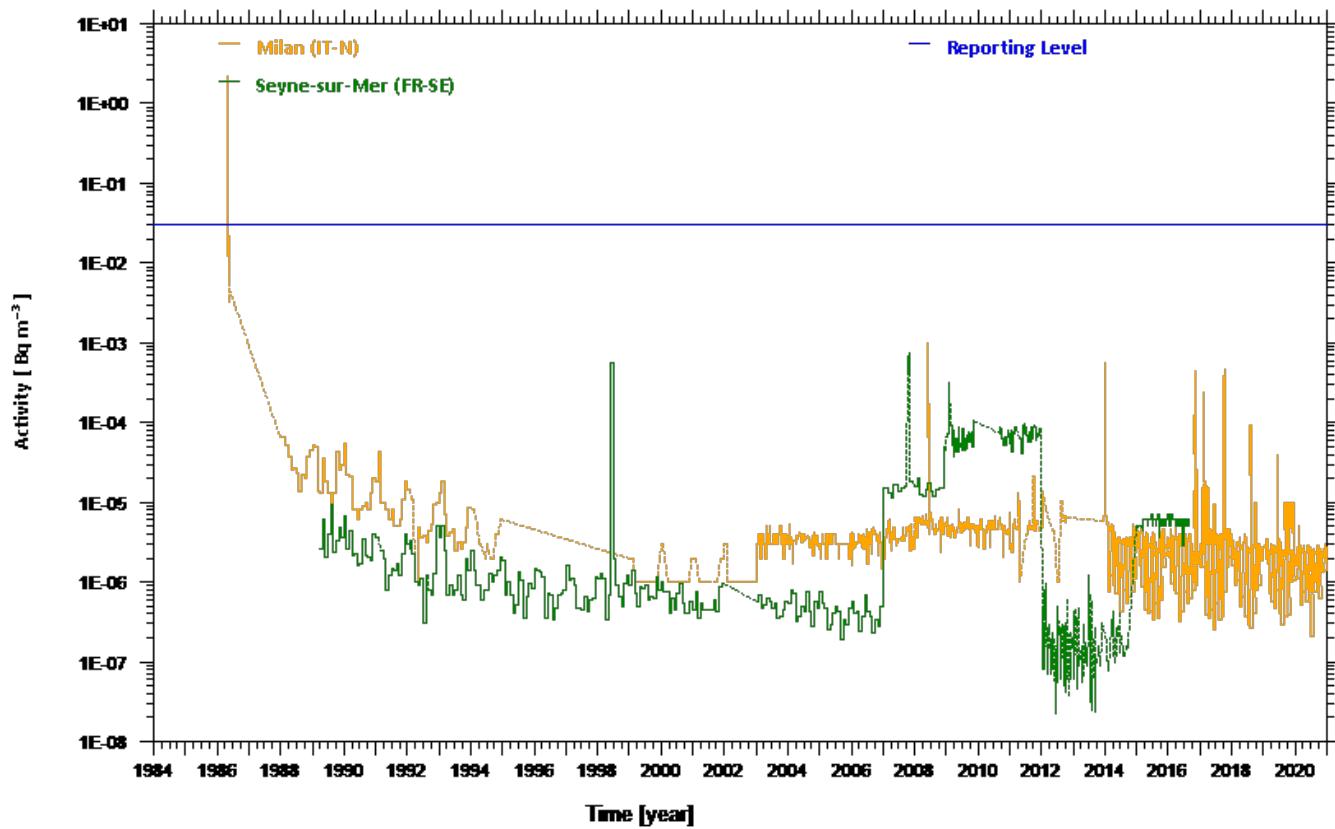
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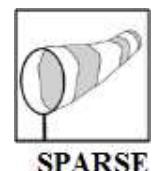
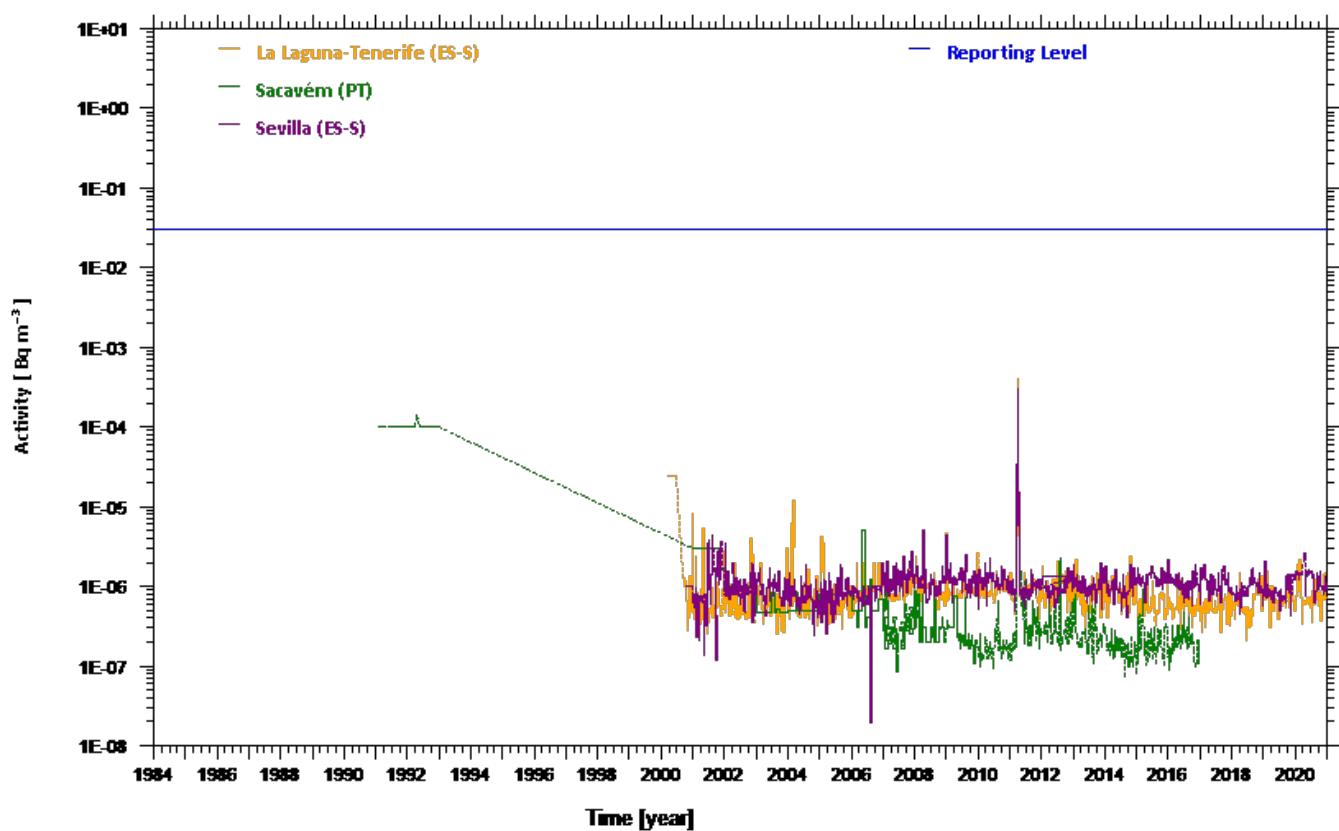
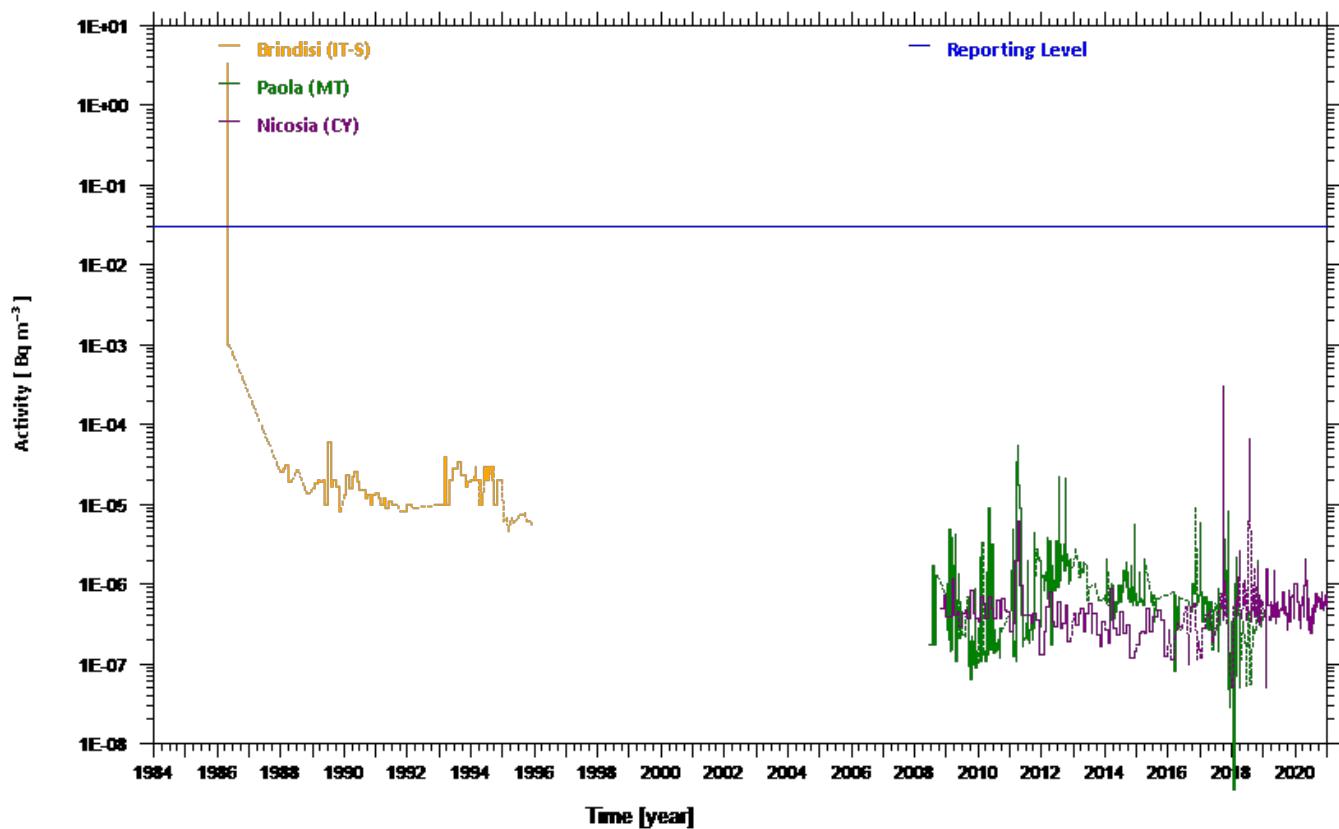
Fig. A26 Activity trends for ^{7}Be in airborne particulates (Freiburg, Ljubljana and Muenchen-Neuherberg)**Fig. A27** Activity trends for ^{7}Be in airborne particulates (Vienna-Ages, Bratislava and Budapest)

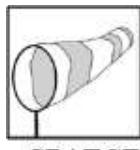
Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. A28** Activity trends for ^{137}Cs in airborne particulates (Helsinki and Ivalo)**Fig. A29** Activity trends for ^{137}Cs in airborne particulates (Baia Mare, Bucharest and Sofia)

**Activity trends****SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)

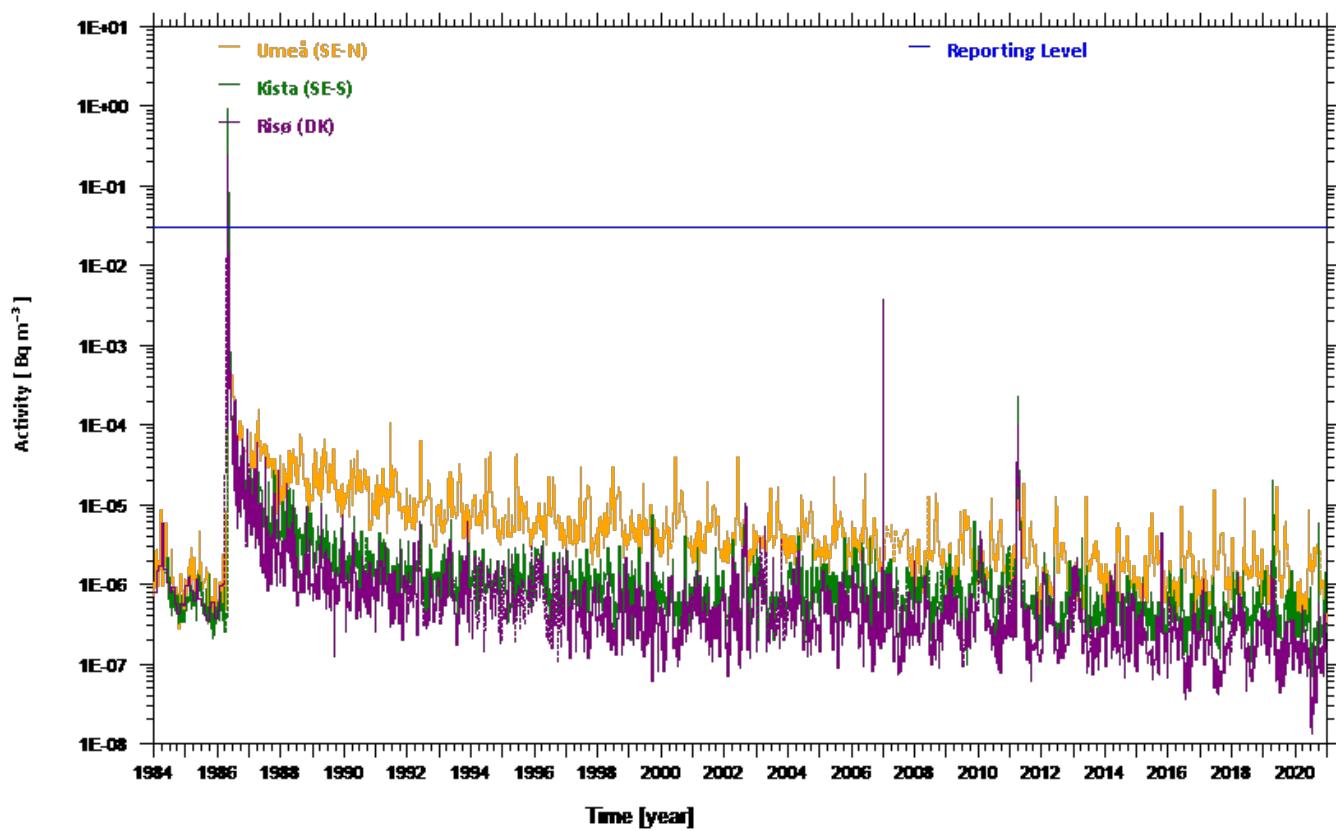
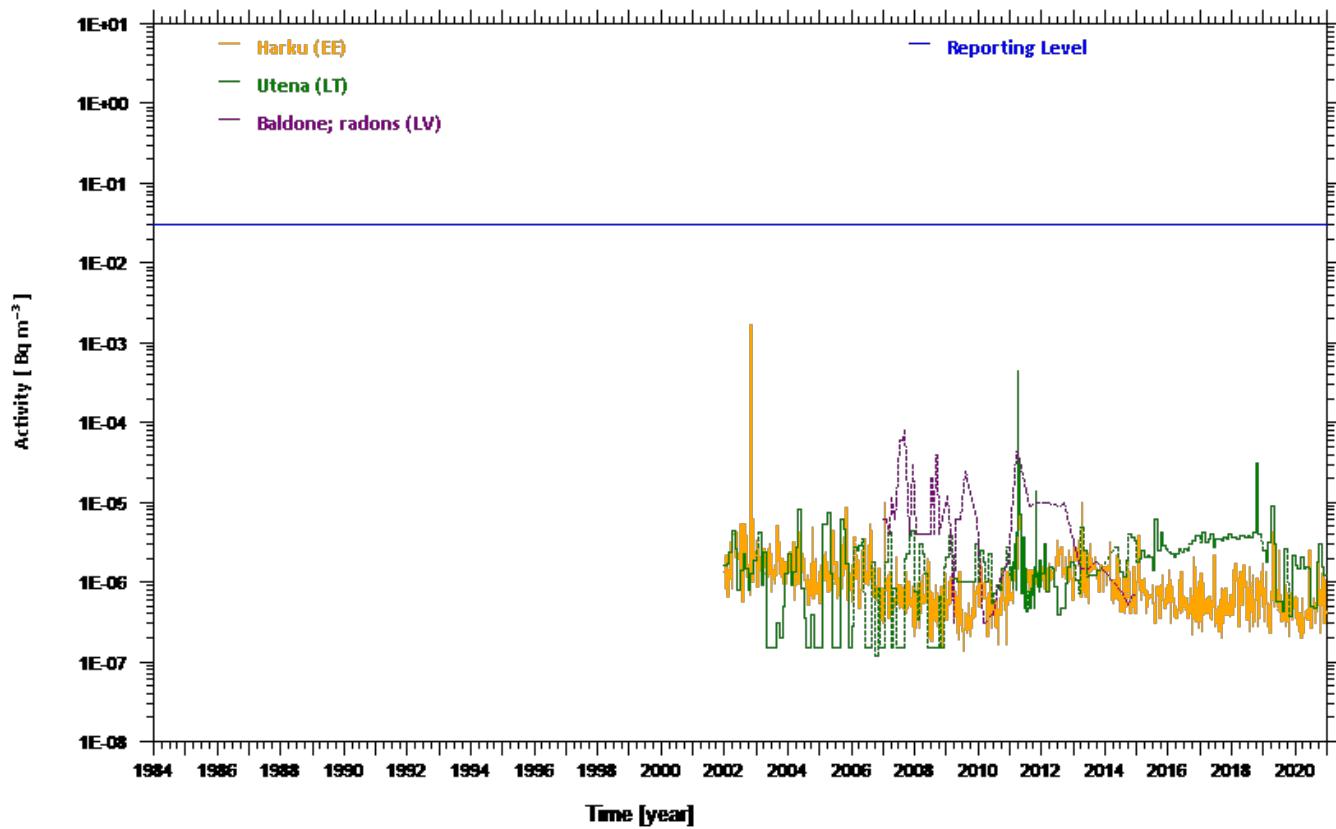
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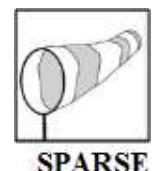
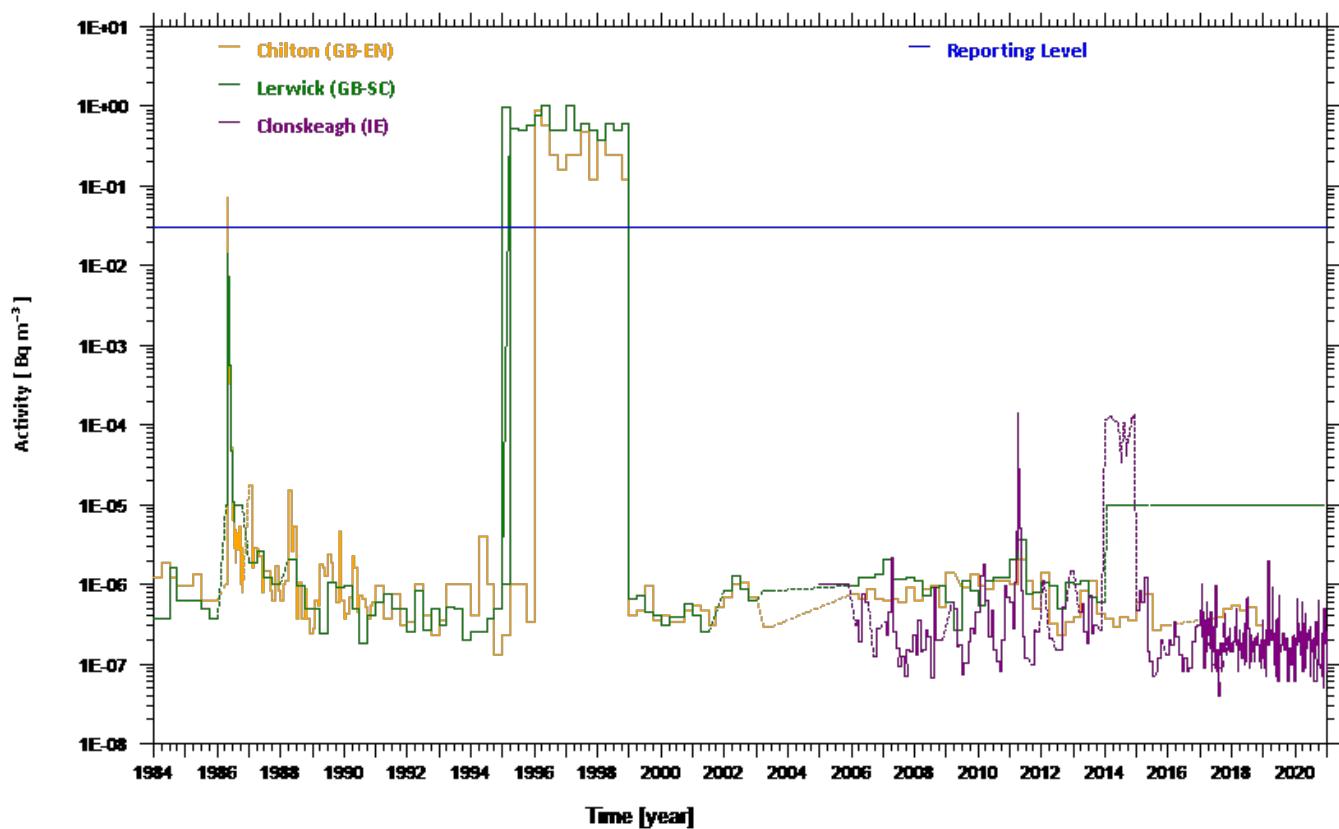
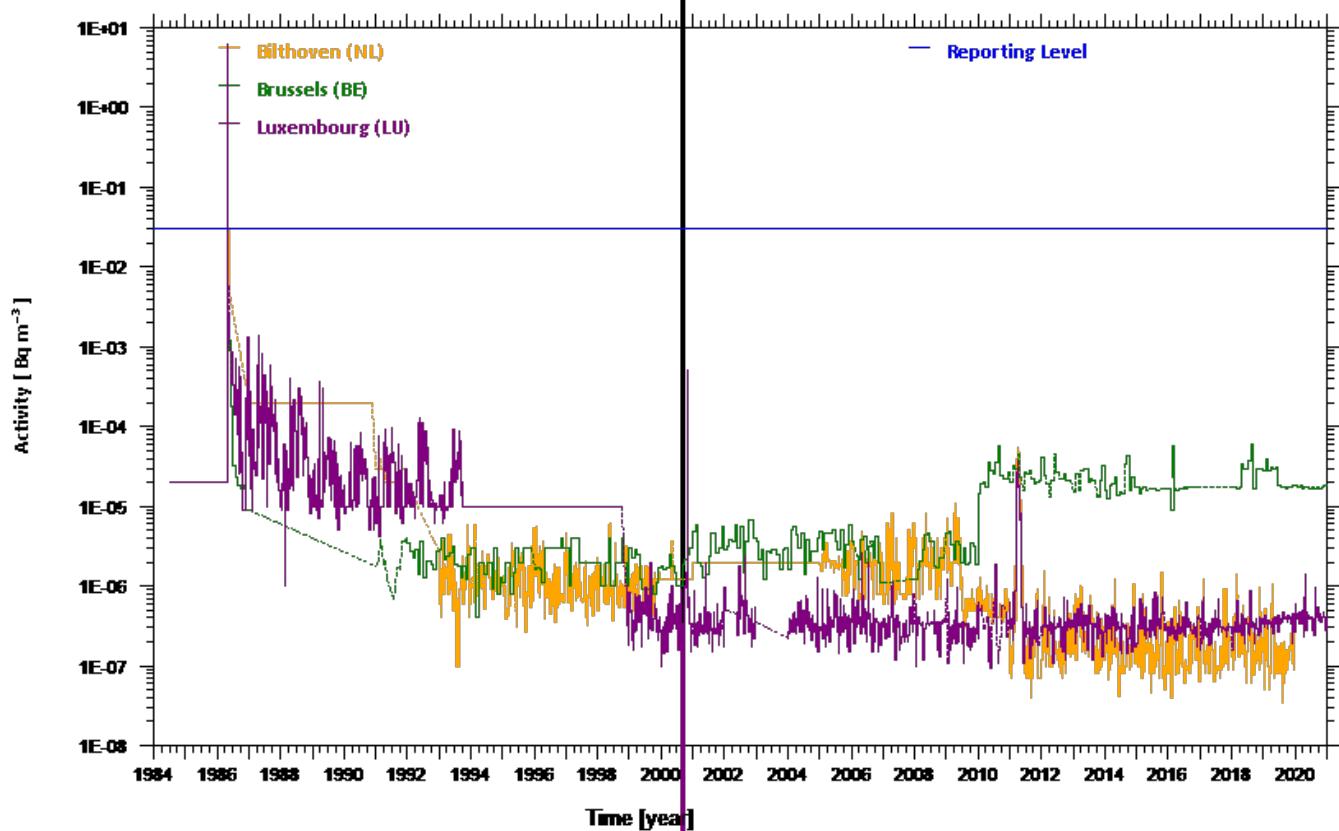
Fig. A30 Activity trends for ^{137}Cs in airborne particulates (Barcelona, Bilbao and Madrid)**Fig. A31** Activity trends for ^{137}Cs in airborne particulates (Milan and Seyne-sur-Mer)

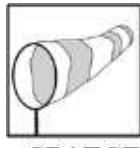
Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. A32** Activity trends for ^{137}Cs in airborne particulates (La Laguna-Tenerife, Sacavém and Sevilla)**Fig. A33** Activity trends for ^{137}Cs in airborne particulates (Brindisi, Paola and Nicosia)



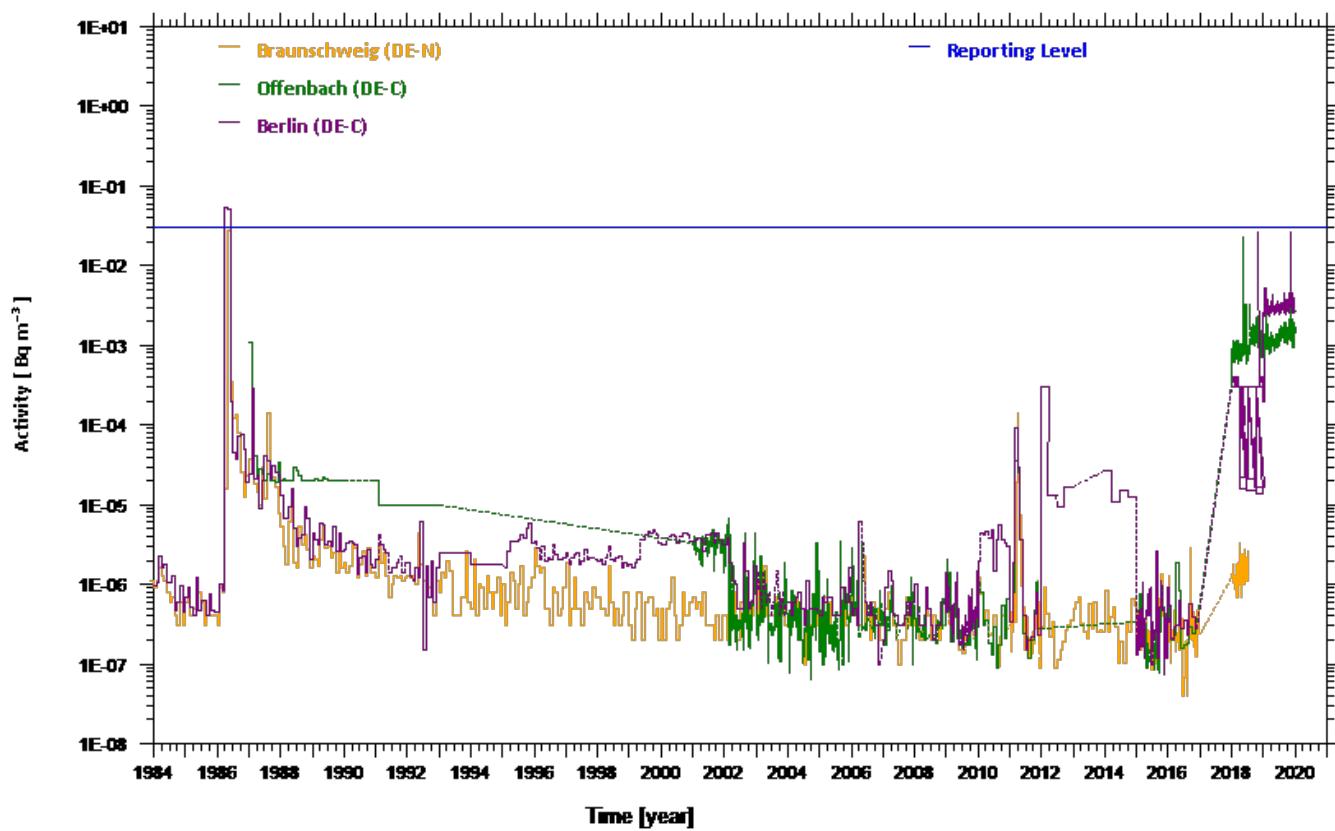
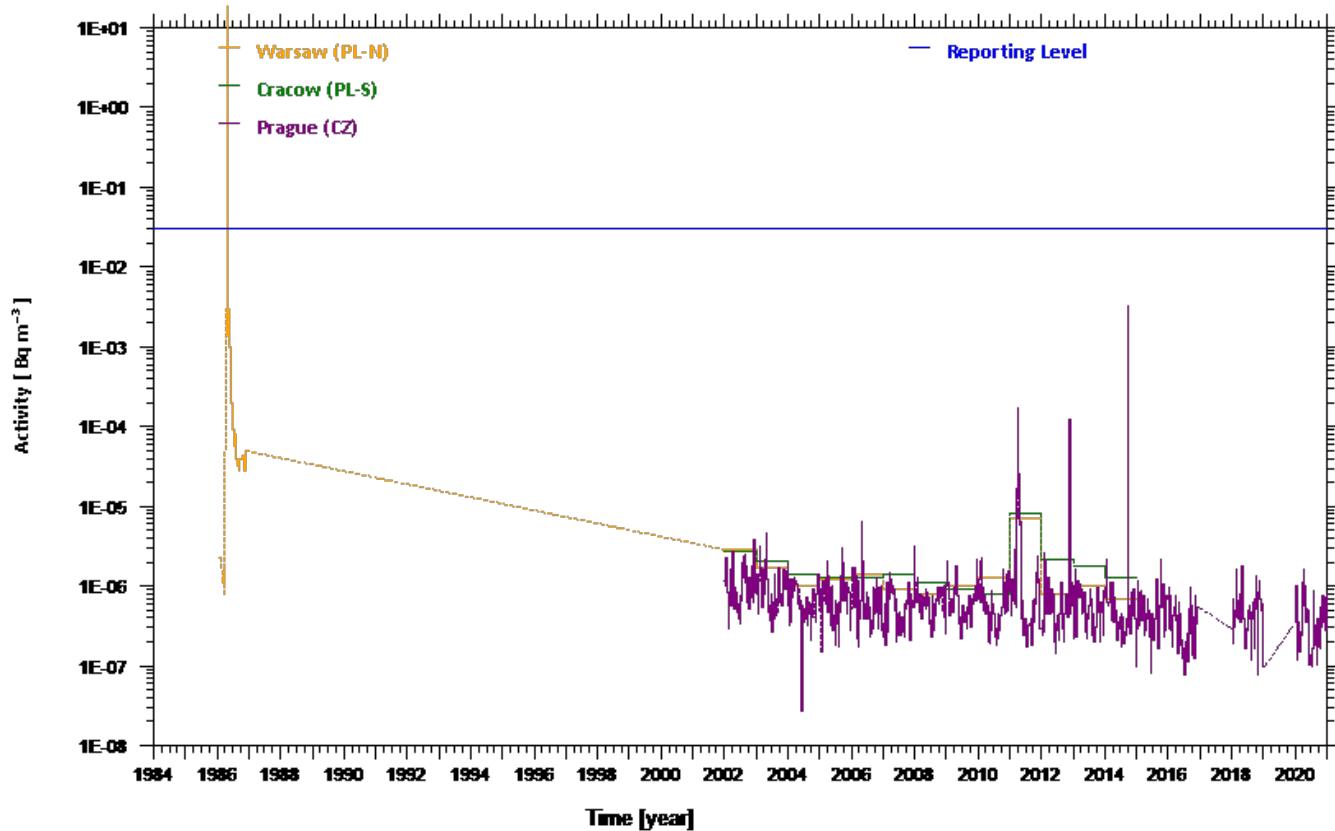
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Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. A34** Activity trends for ^{137}Cs in airborne particulates (Umeå, Kista and Risø)**Fig. A35** Activity trends for ^{137}Cs in airborne particulates (Harku, Utēna and Baldone; radons)

Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. A36** Activity trends for ^{137}Cs in airborne particulates (Chilton, Lerwick and Clonskeagh)**Fig. A37** Activity trends for ^{137}Cs in airborne particulates (Bilthoven, Brussels and Luxembourg)



SPARSE

Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. A38** Activity trends for ^{137}Cs in airborne particulates (Braunschweig, Offenbach and Berlin)**Fig. A39** Activity trends for ^{137}Cs in airborne particulates (Warsaw, Cracow and Prague)

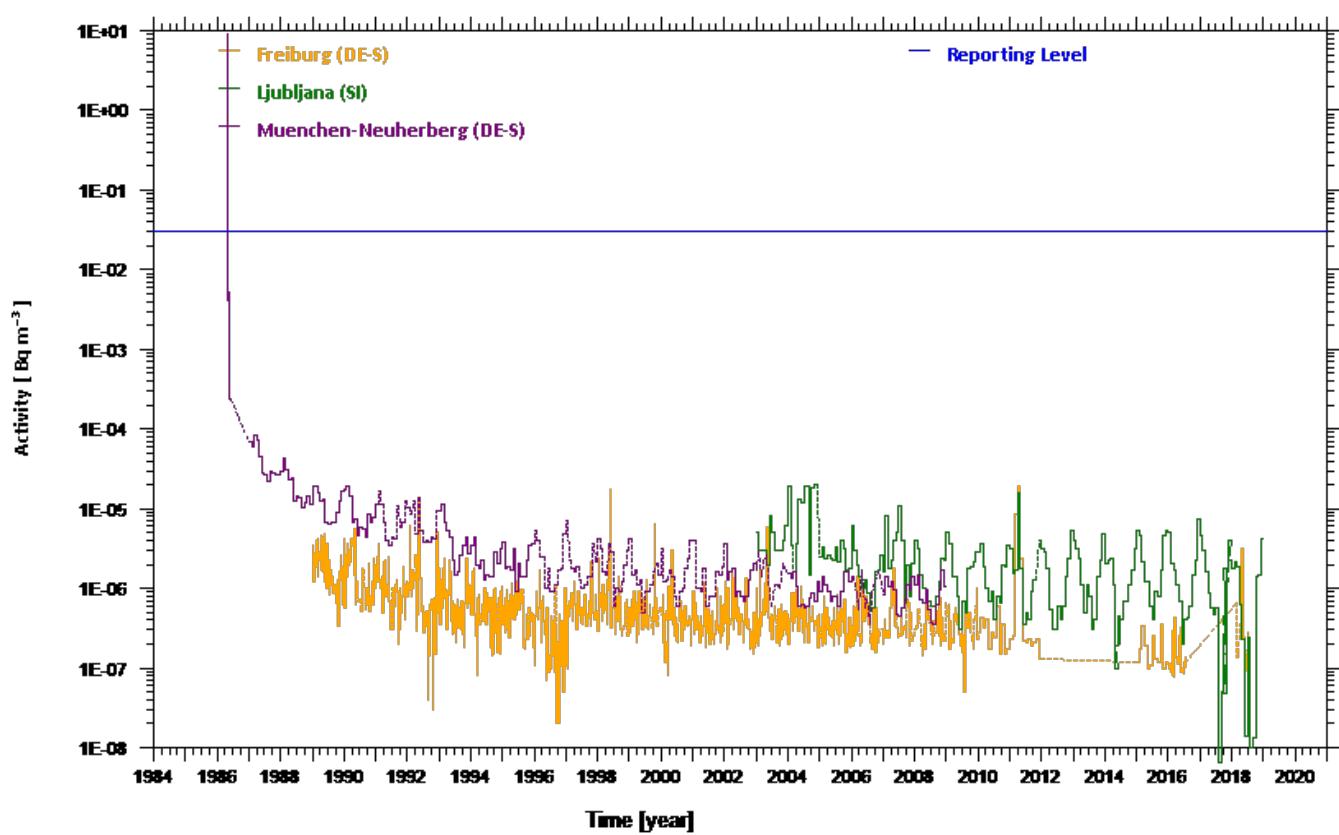
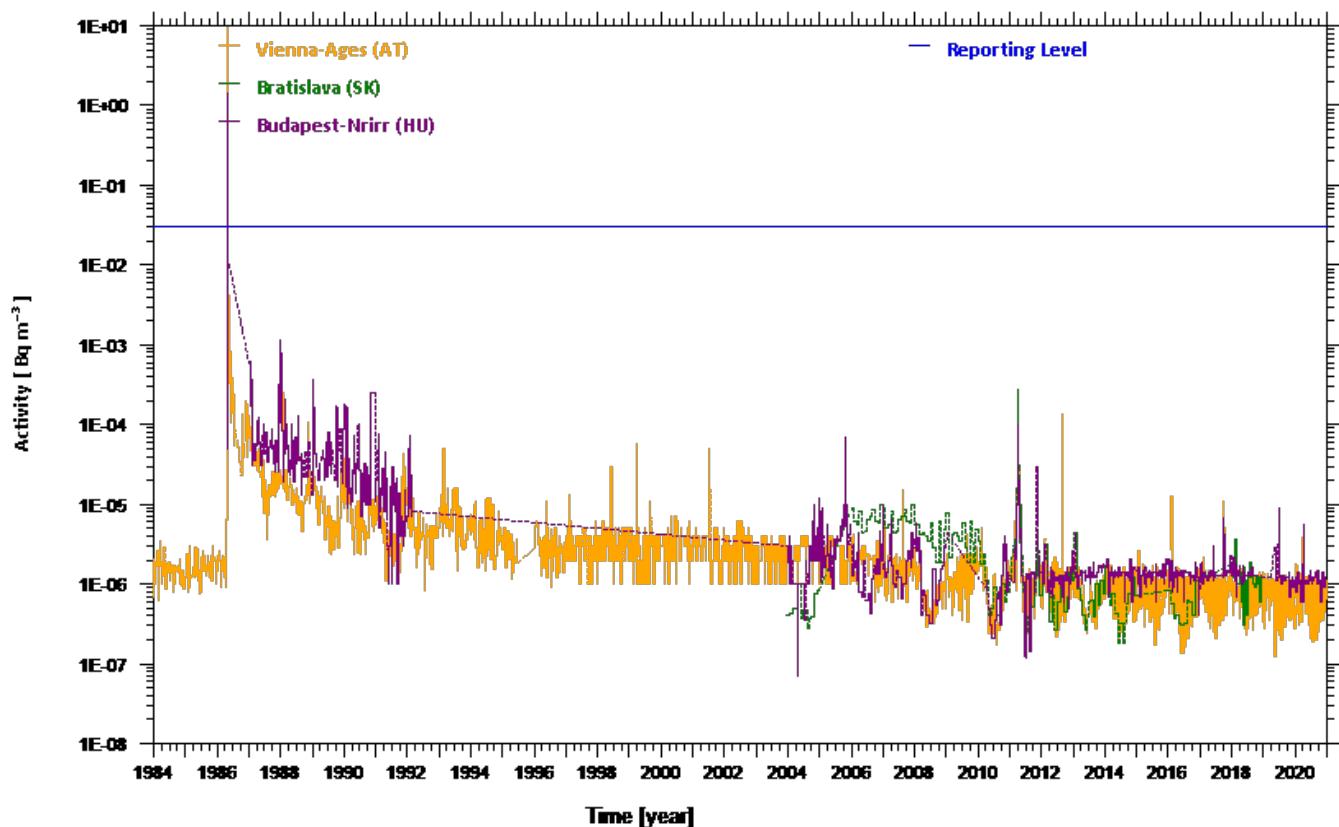
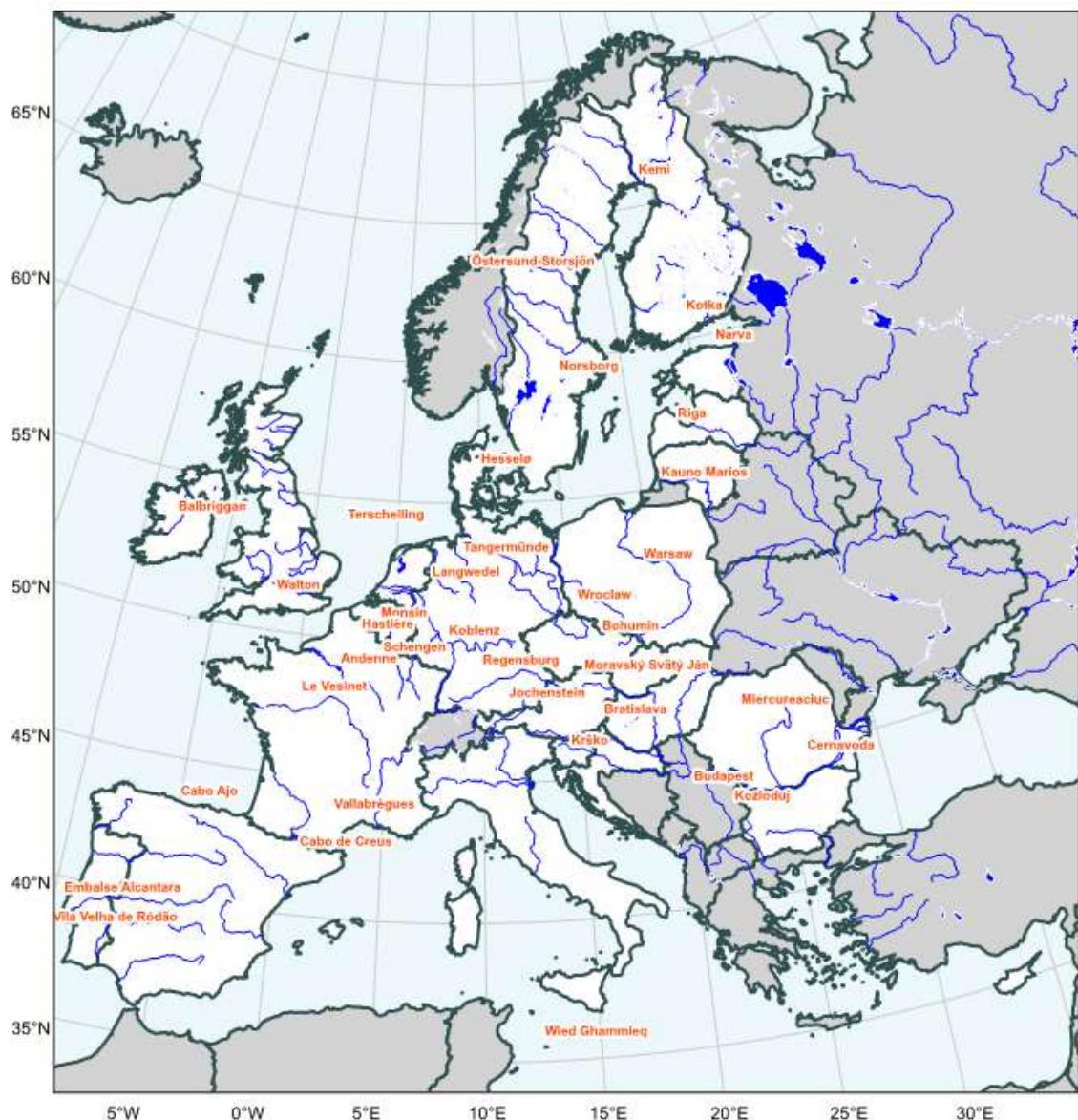
Activity trends**SAMPLE TYPE**airborne particulates (Bq m^{-3})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. A40** Activity trends for ^{137}Cs in airborne particulates (Freiburg, Ljubljana and Muenchen-Neuherberg)**Fig. A41** Activity trends for ^{137}Cs in airborne particulates (Vienna-Ages, Bratislava and Budapest-Nrerr)

Fig. S27

Sampling locations for ^{137}Cs in surface water considered in Figures S28 – S42


Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta





SPARSE

Activity trends

SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Fig. S28 Activity trends for ^{137}Cs in surface water (Langwedel, Koblenz and Tangermünde)

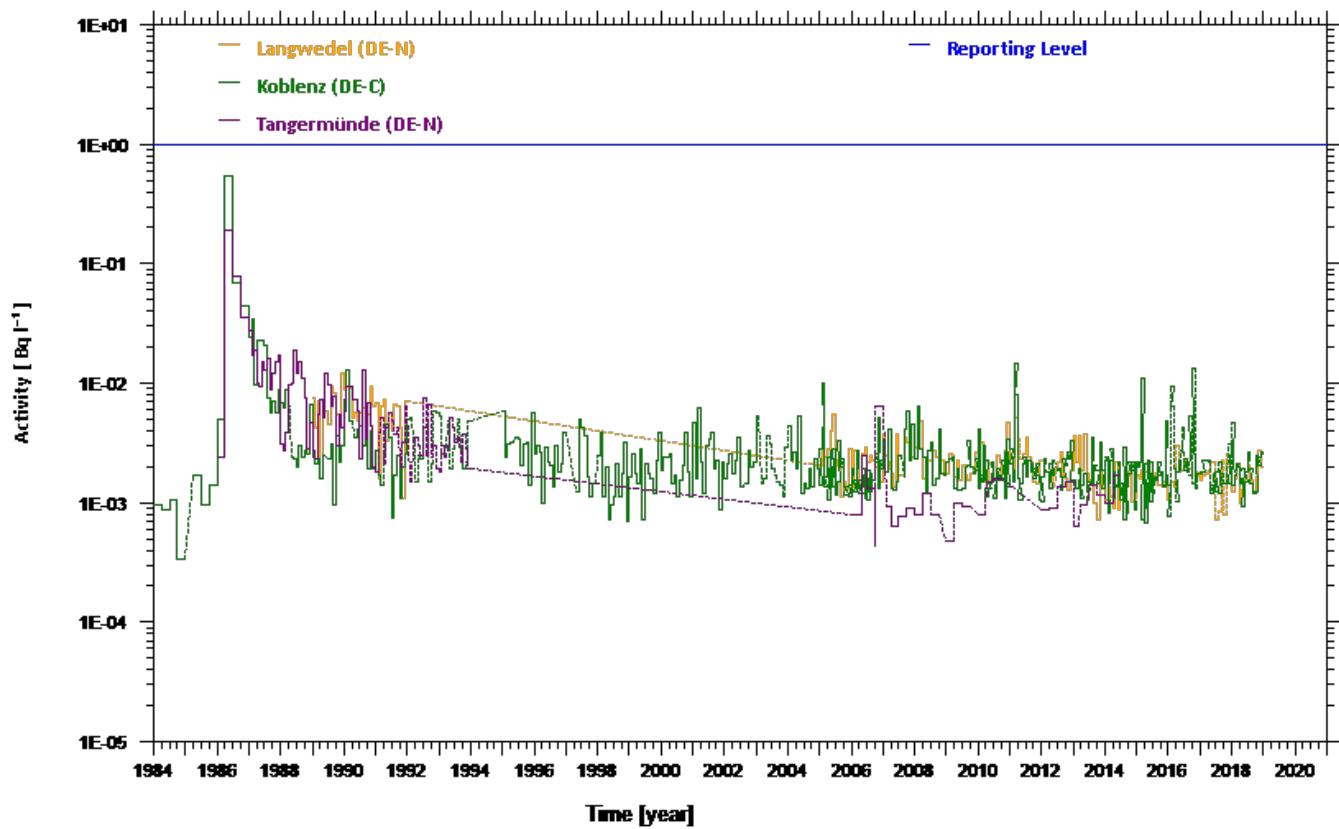
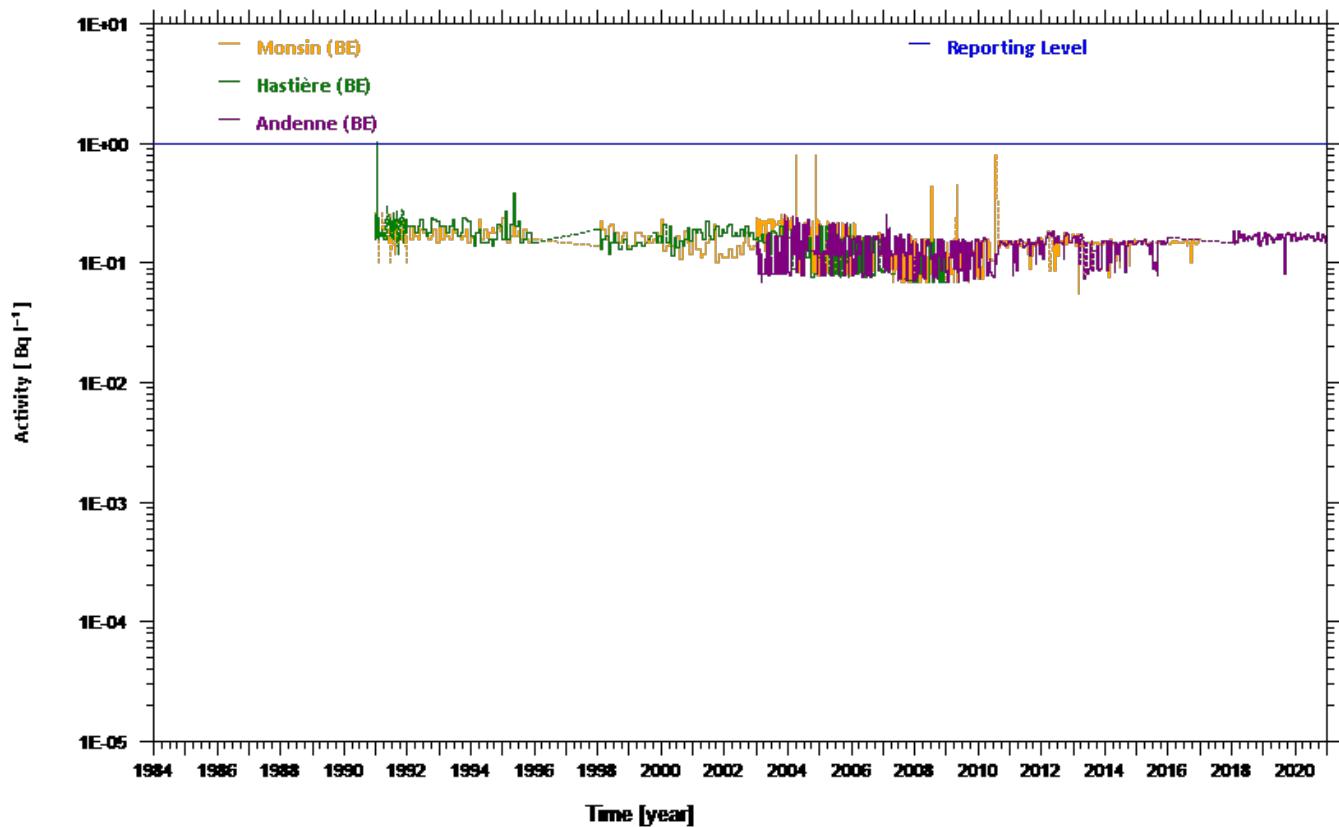
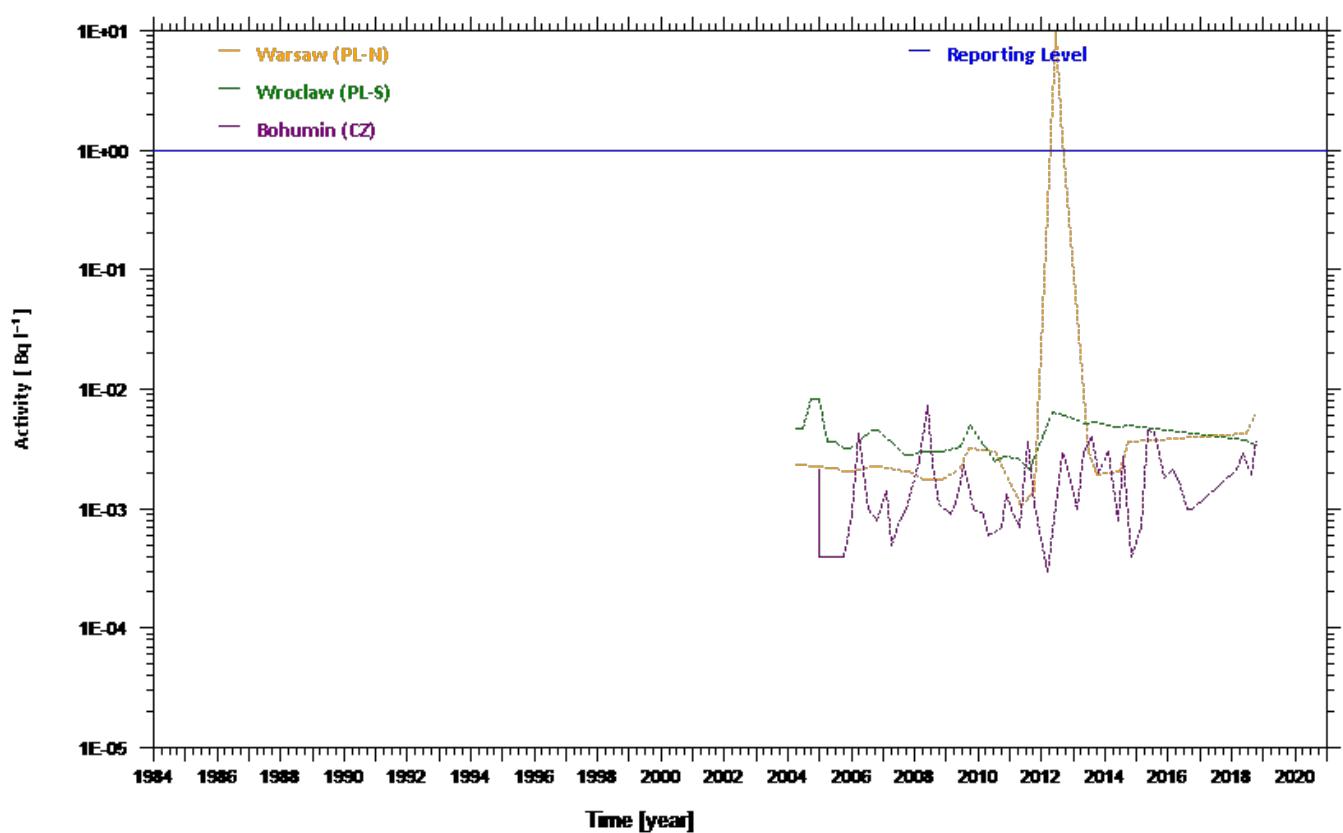
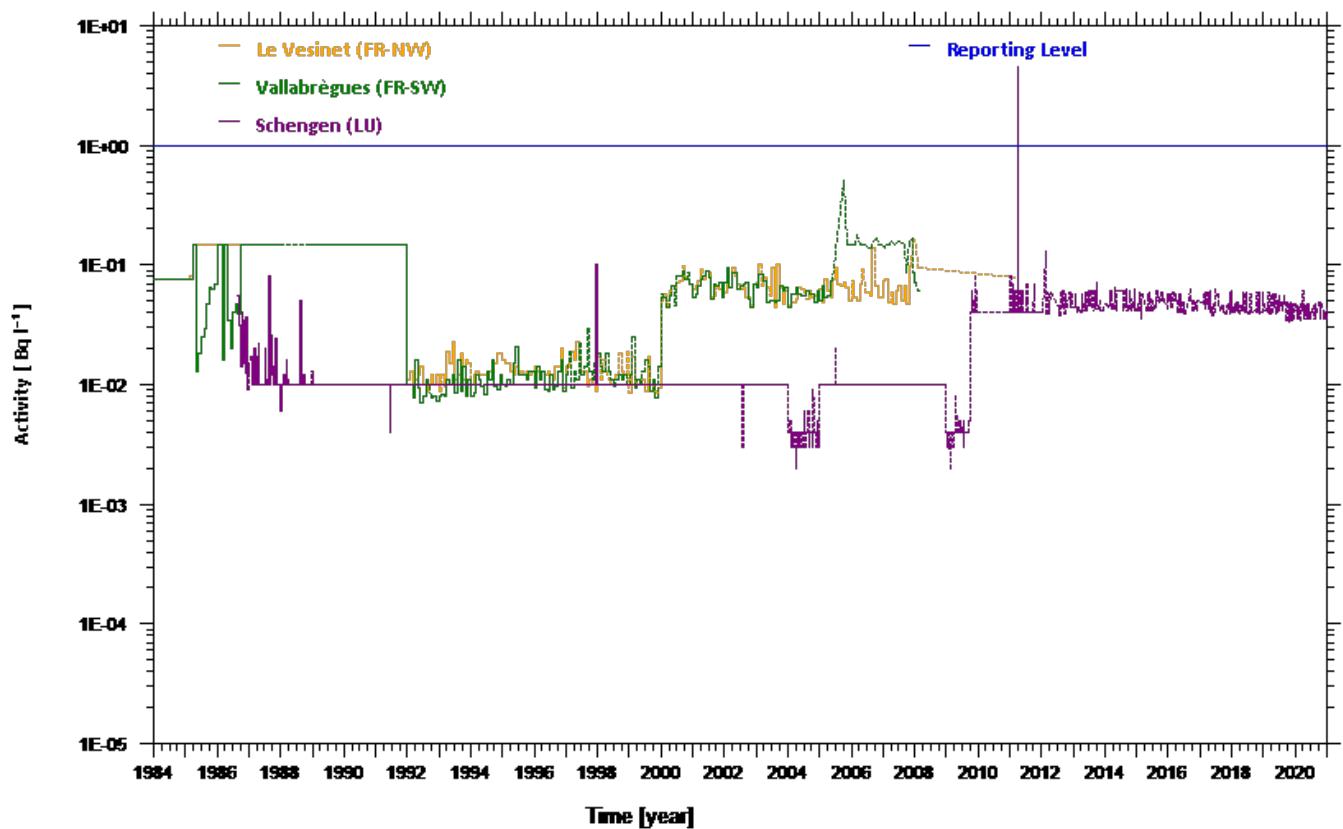


Fig. S29 Activity trends for ^{137}Cs in surface water (Monsin, Hastière and Andenne)



Activity trends**SAMPLE TYPE**surface water (Bq l^{-1})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. S30** Activity trends for ^{137}Cs in surface water (Warsaw, Wroclaw and Bohumin)**Fig. S31** Activity trends for ^{137}Cs in surface water (Le Vesinet, Vallabregues and Schengen)



SPARSE

Activity trends

SAMPLE TYPE

:

surface water (Bq l^{-1})

NUCLIDE CATEGORY

:

caesium-137 (^{137}Cs)

Fig. S32 Activity trends for ^{137}Cs in surface water (Walton and Balbriggan)

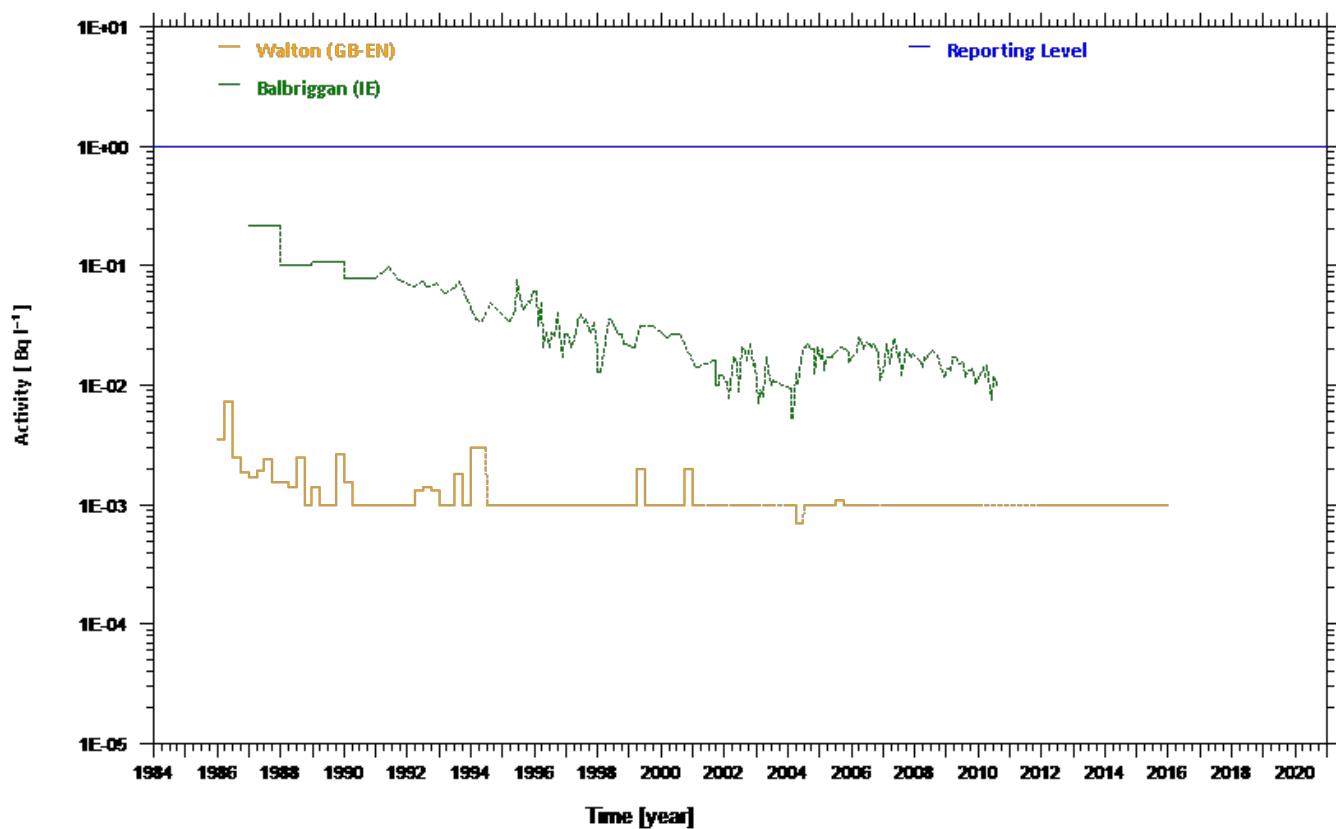
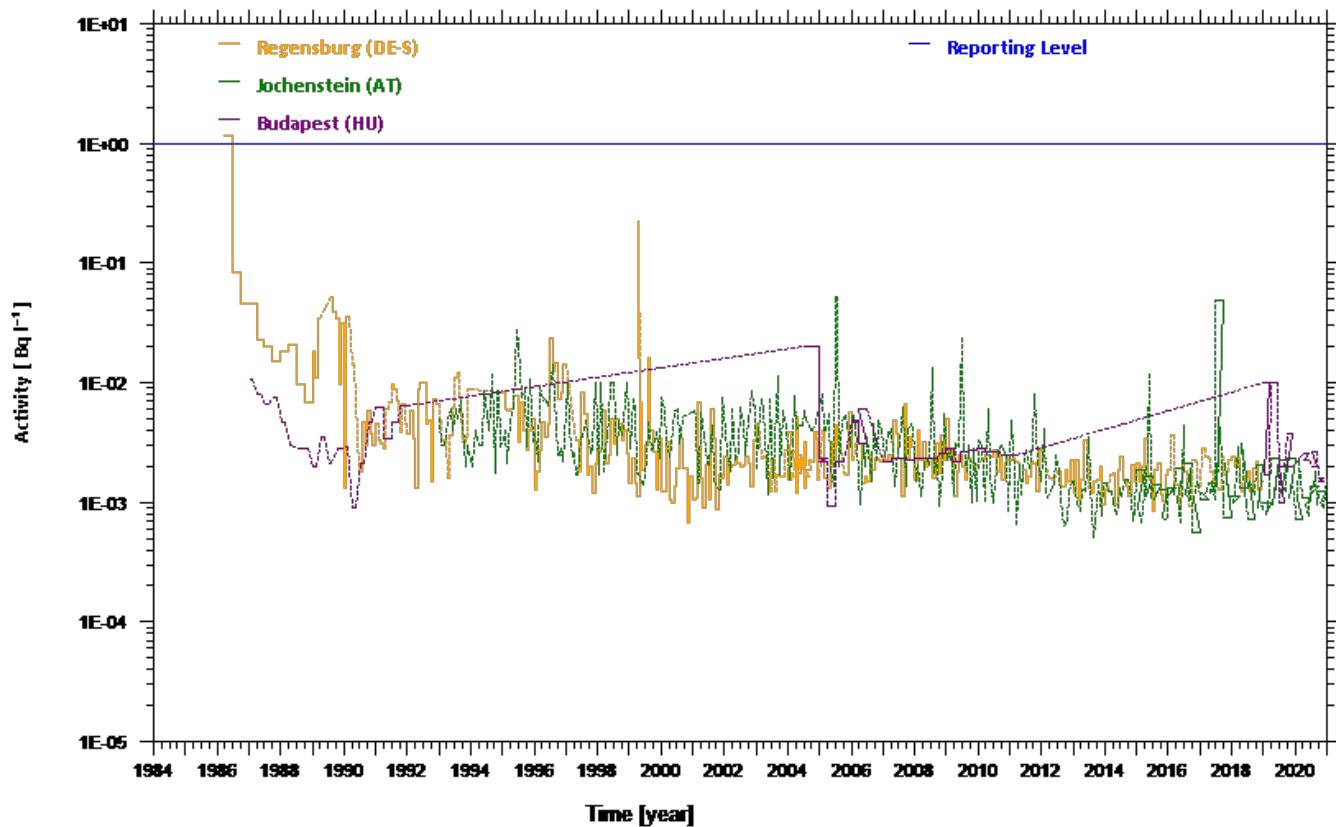
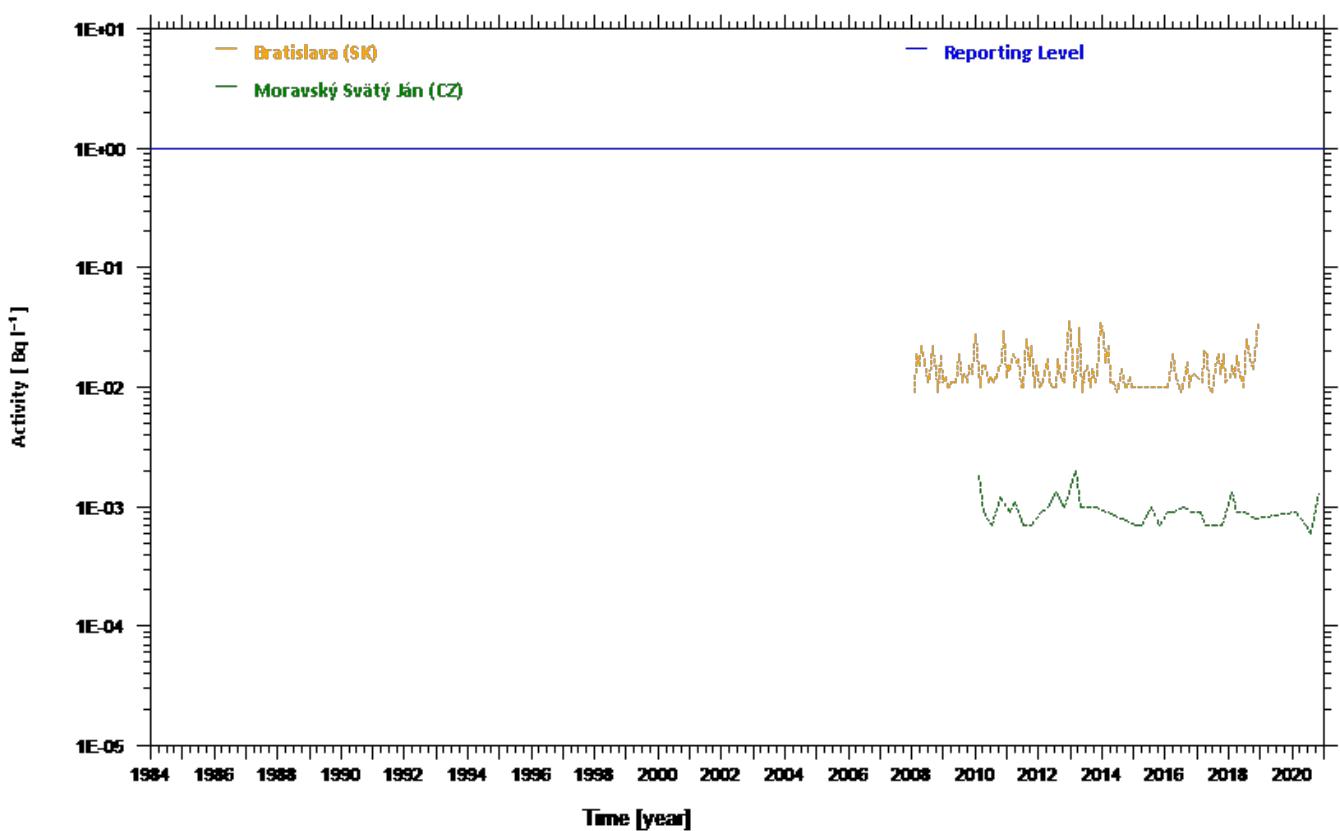
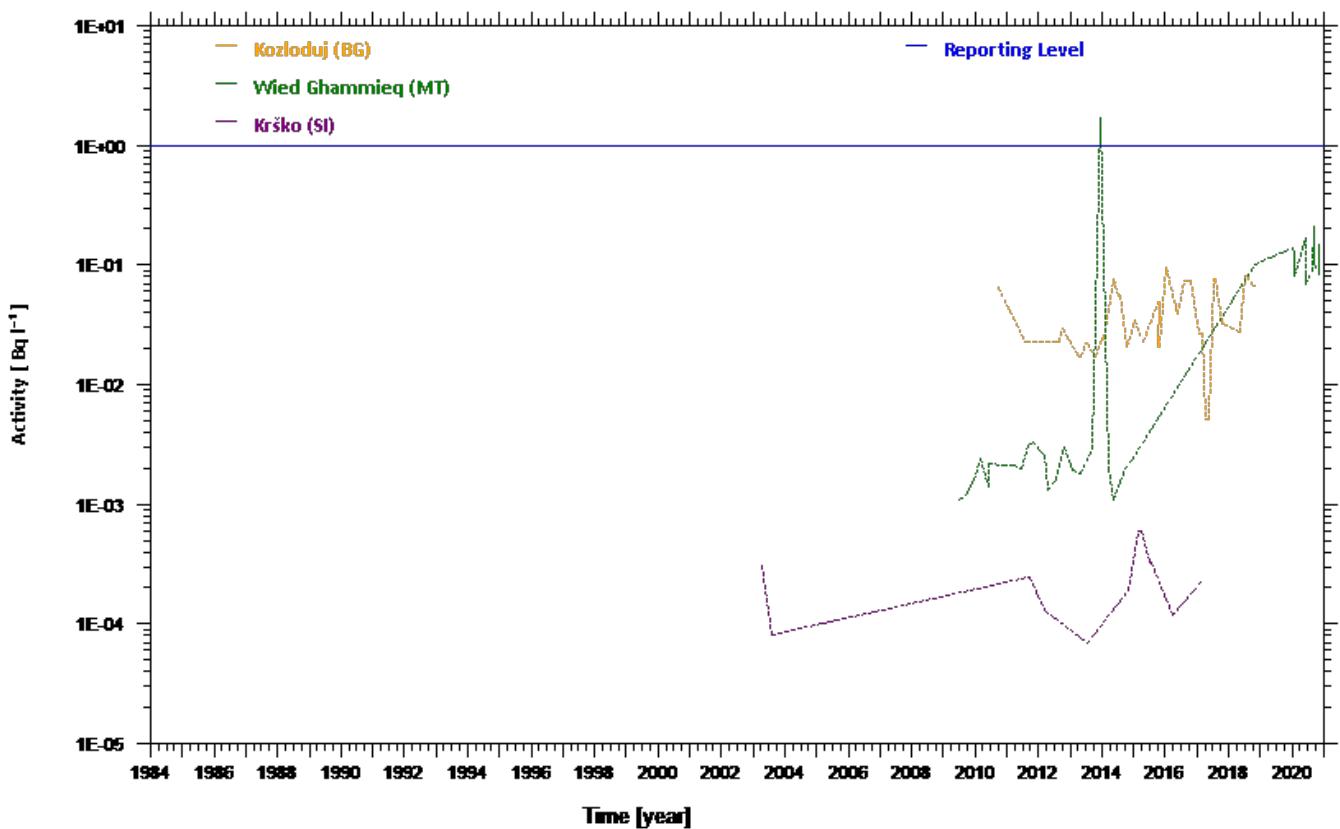


Fig. S33 Activity trends for ^{137}Cs in surface water (Regensburg, Jochenstein and Budapest)



Activity trends**SAMPLE TYPE**surface water (Bq l^{-1})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. S34** Activity trends for ^{137}Cs in surface water (Bratislava and Moravský Svätý Ján)**Fig. S35** Activity trends for ^{137}Cs in surface water (Kozloduj, Wied Ghammieg and Krško)



SPARSE

Activity trends

SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Fig. S36 Activity trends for ^{137}Cs in surface water (Cabo Ajo and Cabo de Creus)

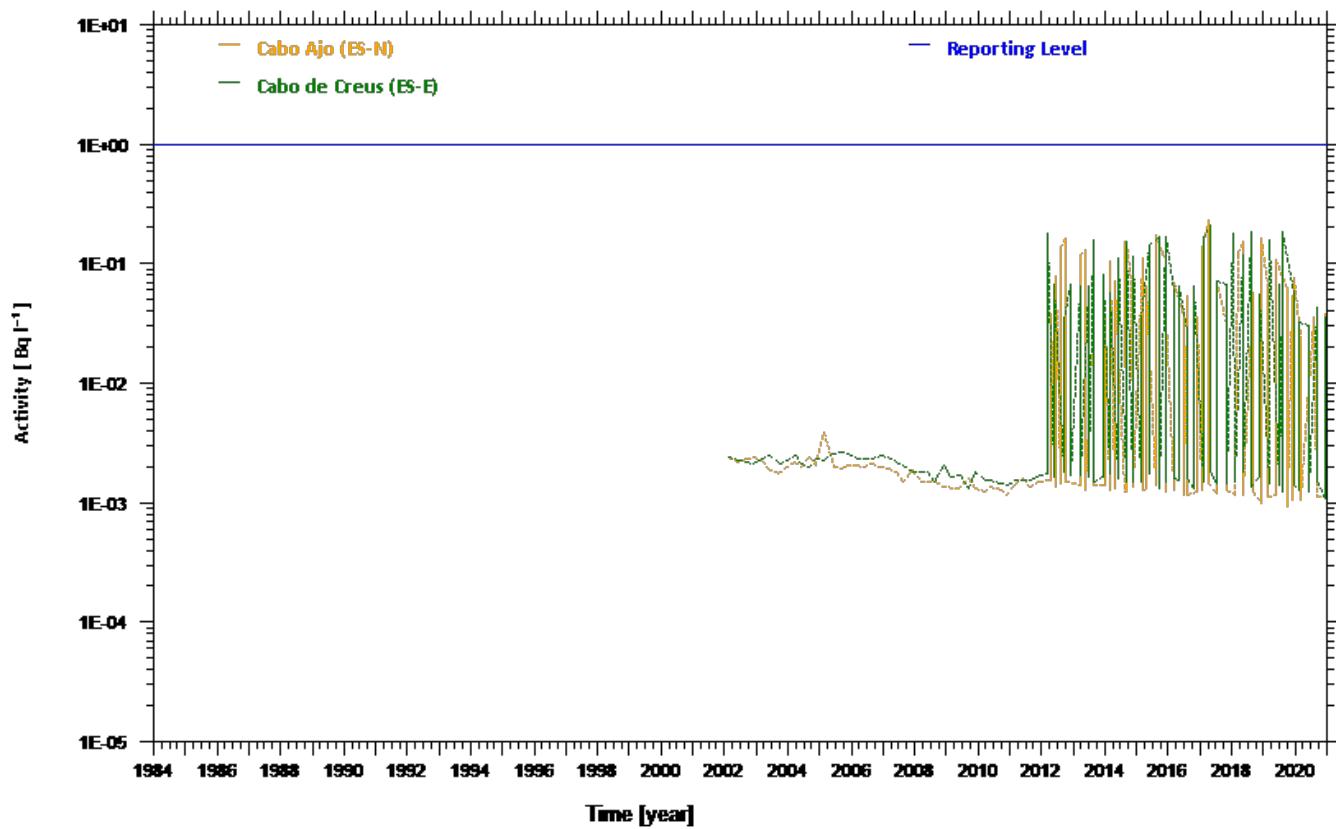
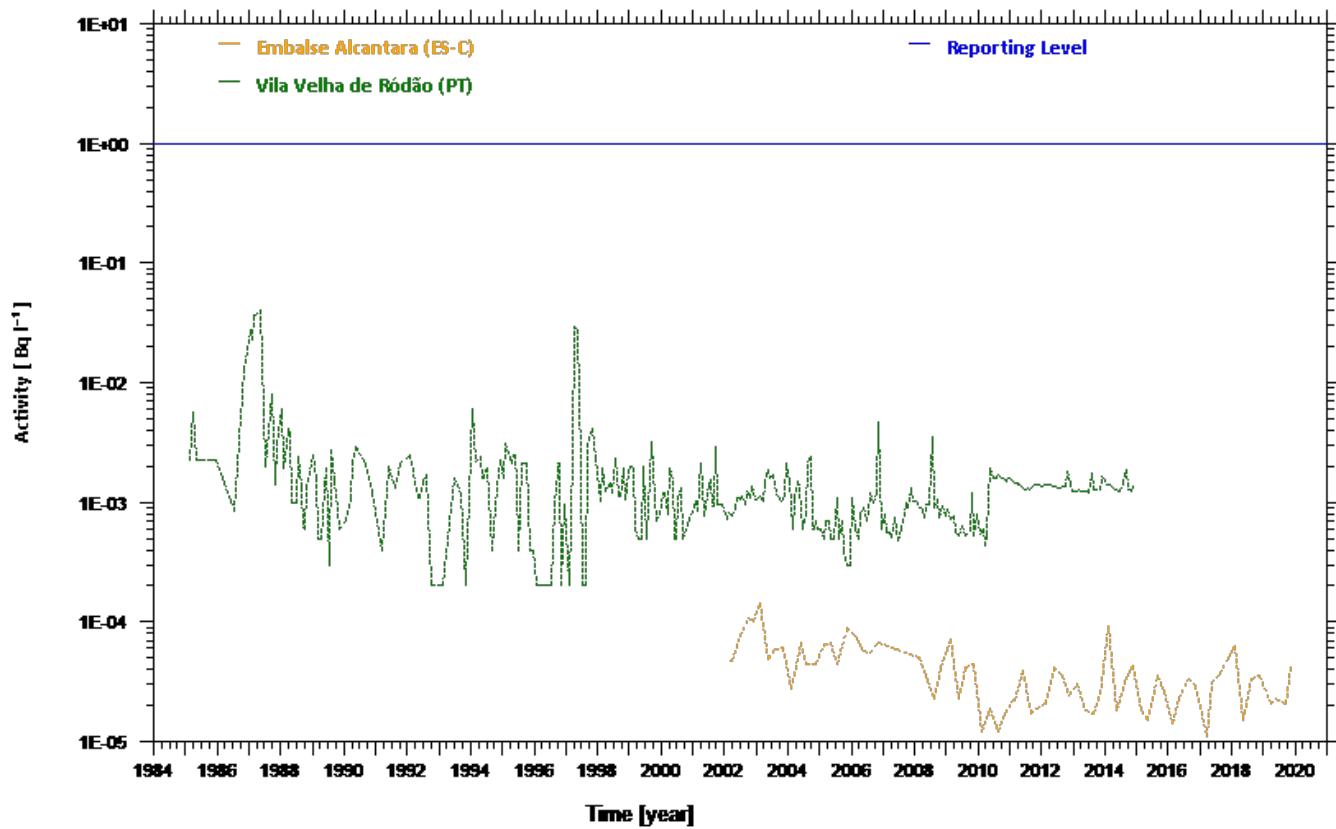
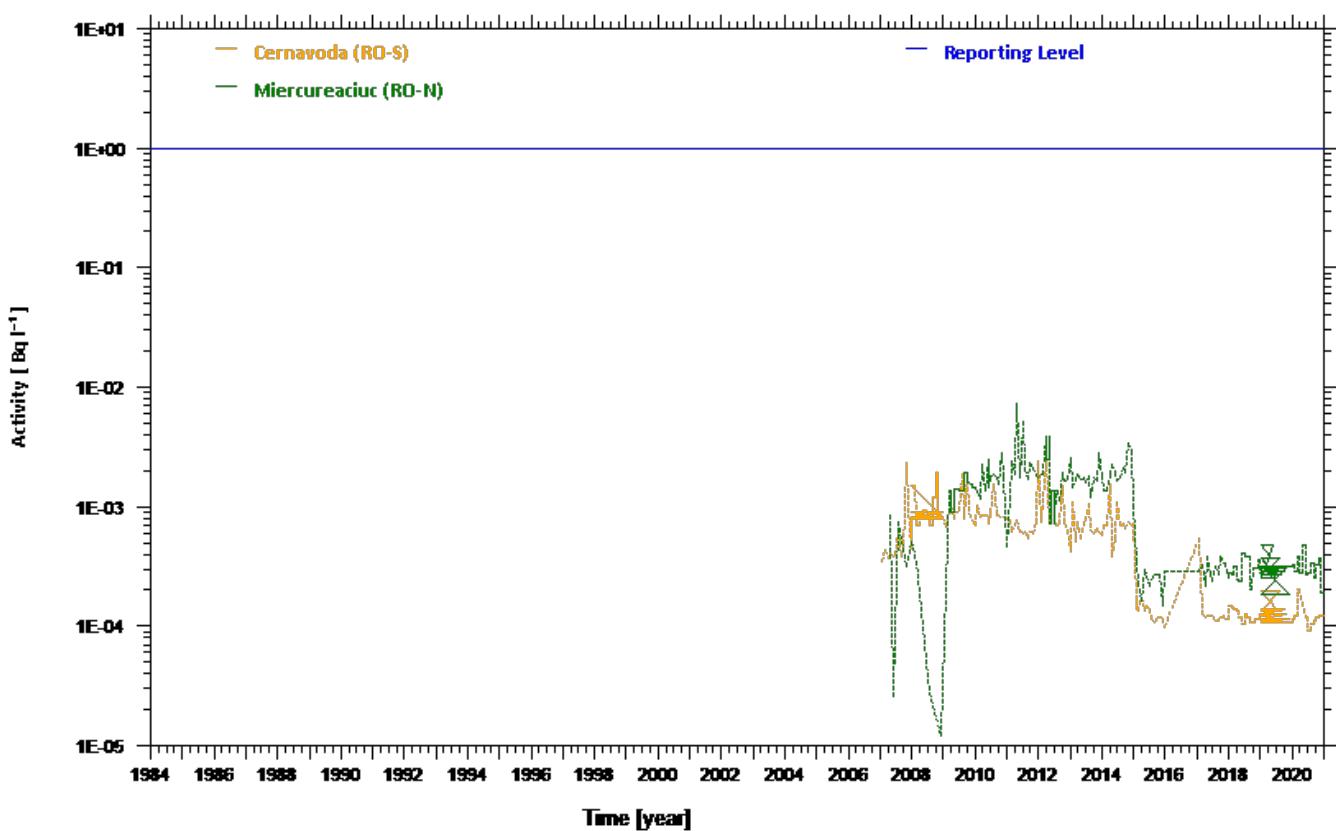
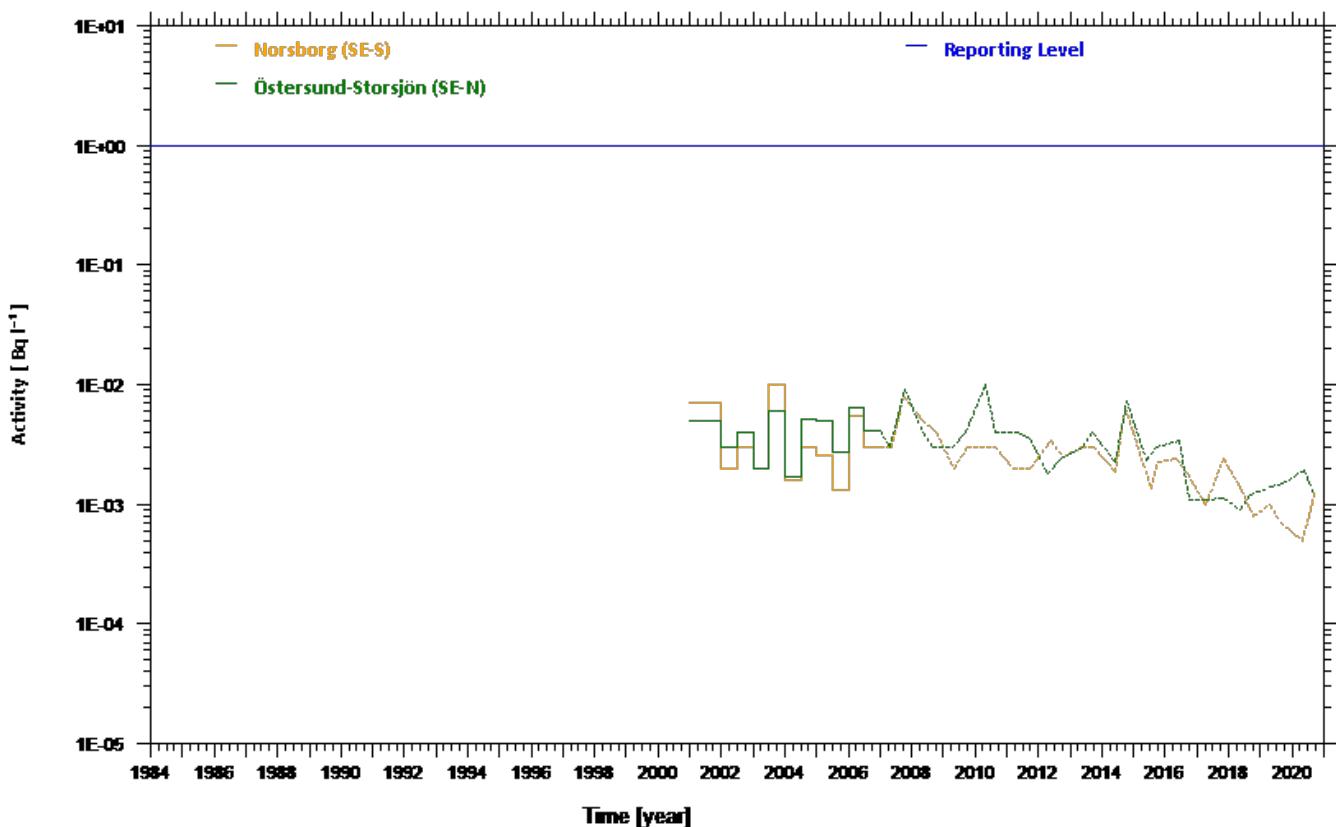


Fig. S37 Activity trends for ^{137}Cs in surface water (Embalse Alcantara and Vila Velha de Ródão)



Activity trends**SAMPLE TYPE** :surface water (Bq l^{-1})**NUCLIDE CATEGORY** :caesium-137 (^{137}Cs)**Fig. S38** Activity trends for ^{137}Cs in surface water (Cernavoda and Miercureaciu)**Fig. S39** Activity trends for ^{137}Cs in surface water (Norsborg and Östersund-Storsjön)



SPARSE

Activity trends

SAMPLE TYPE : surface water (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Fig. S40 Activity trends for ^{137}Cs in surface water (Kemi and Kotka)

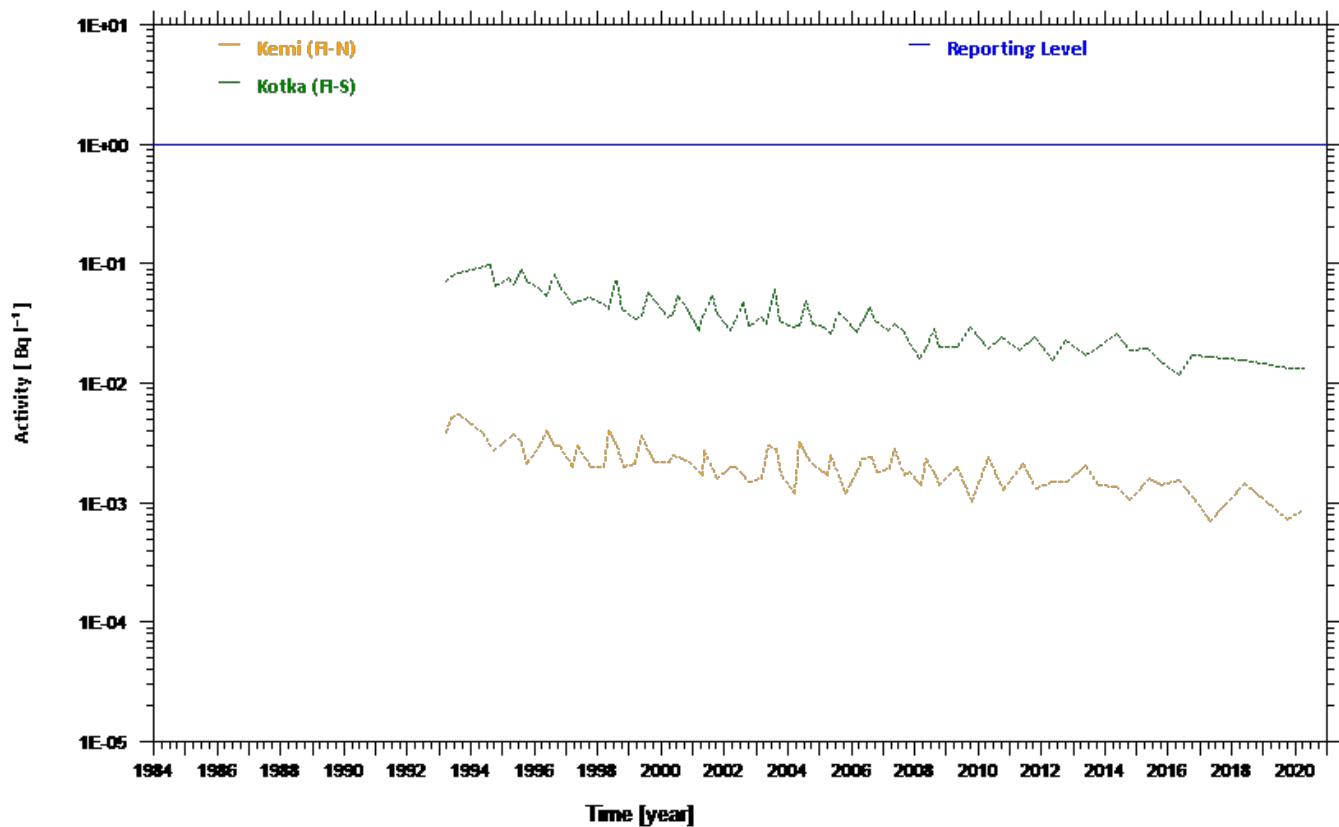
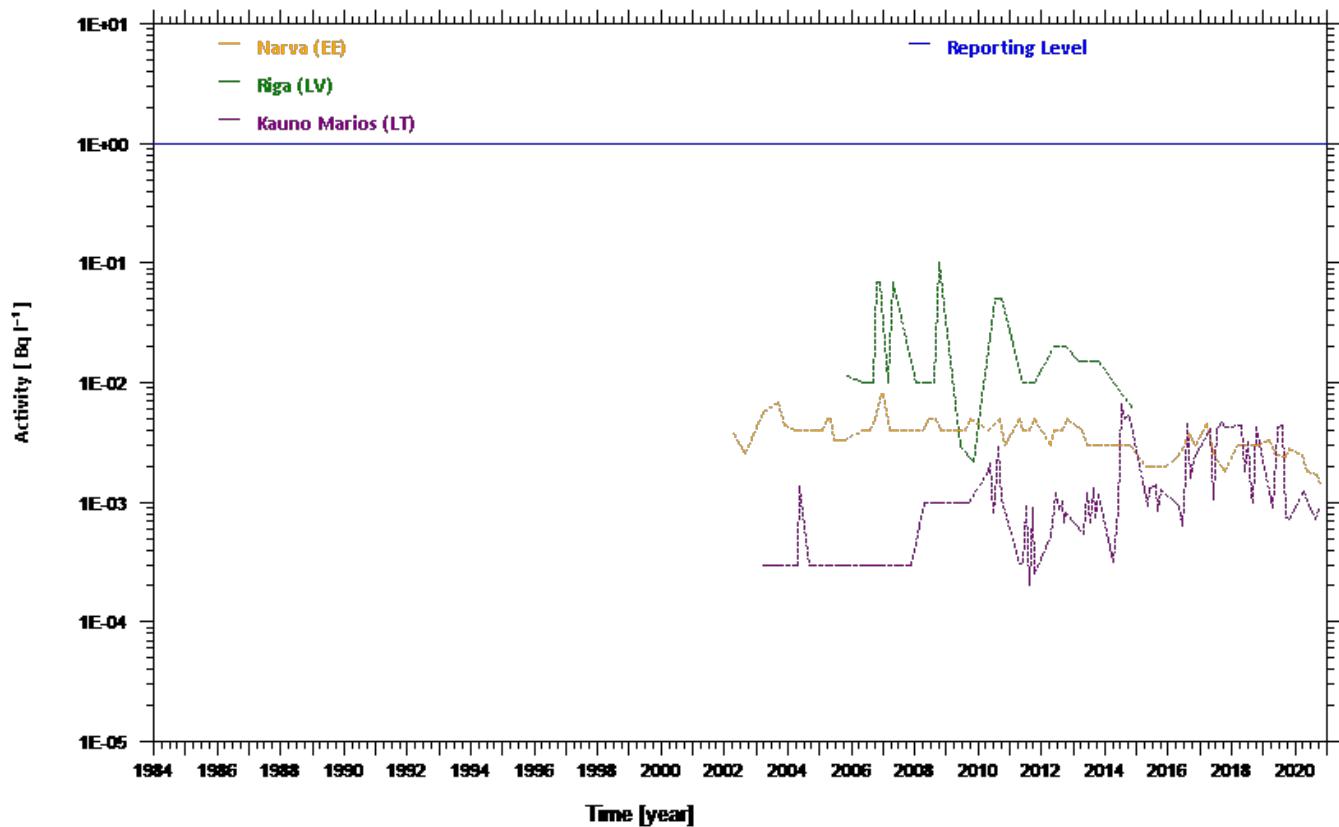


Fig. S41 Activity trends for ^{137}Cs in surface water (Narva, Riga and Kauno Marios)



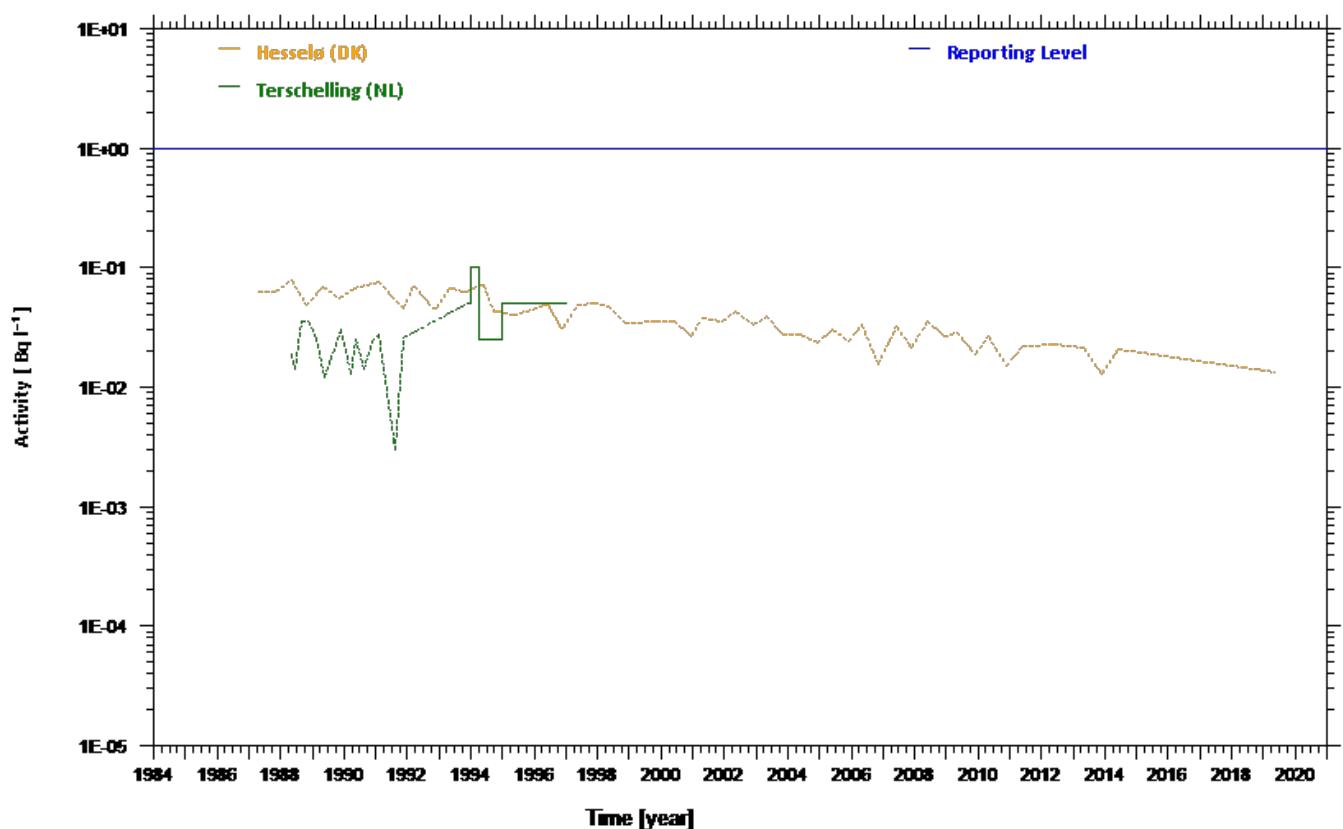
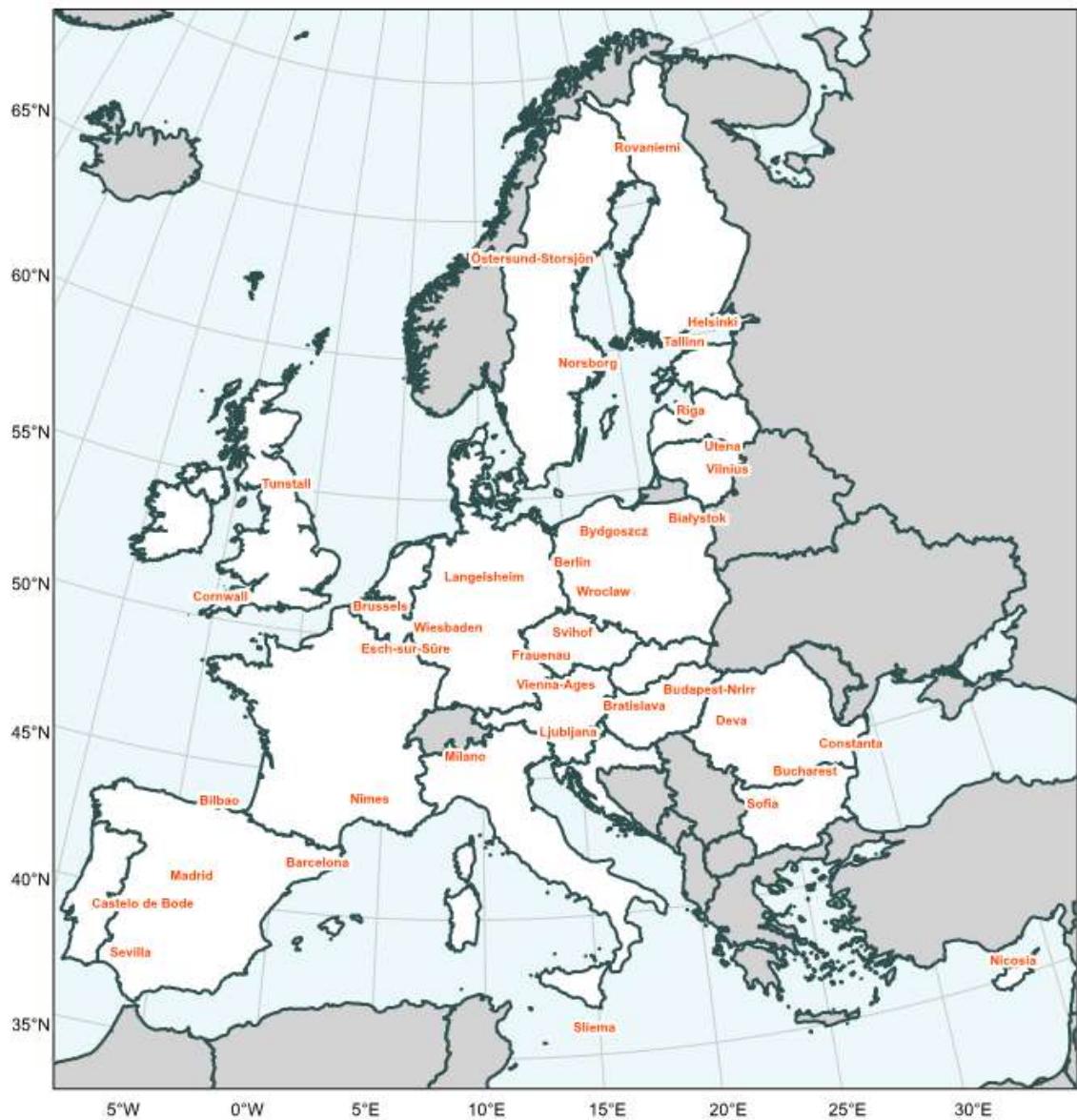
Activity trends**SAMPLE TYPE** :surface water (Bq l^{-1})**NUCLIDE CATEGORY** :caesium-137 (^{137}Cs)**Fig. S42** Activity trends for ^{137}Cs in surface water (Hesselø and Terschelling)



Fig. W19

Sampling locations for ${}^3\text{H}$, ${}^{90}\text{Sr}$ and ${}^{137}\text{Cs}$ in drinking water considered in Figures W20 – W54



Azores (Portugal)



Madeira (Portugal)



Canary Islands (Spain)



Malta





SPARSE

Activity trends

SAMPLE TYPE : drinking water (Bq l^{-1})
NUCLIDE CATEGORY : tritium (${}^3\text{H}$)

Fig. W20 Activity trends for ${}^3\text{H}$ in drinking water (Rovaniemi and Helsinki)

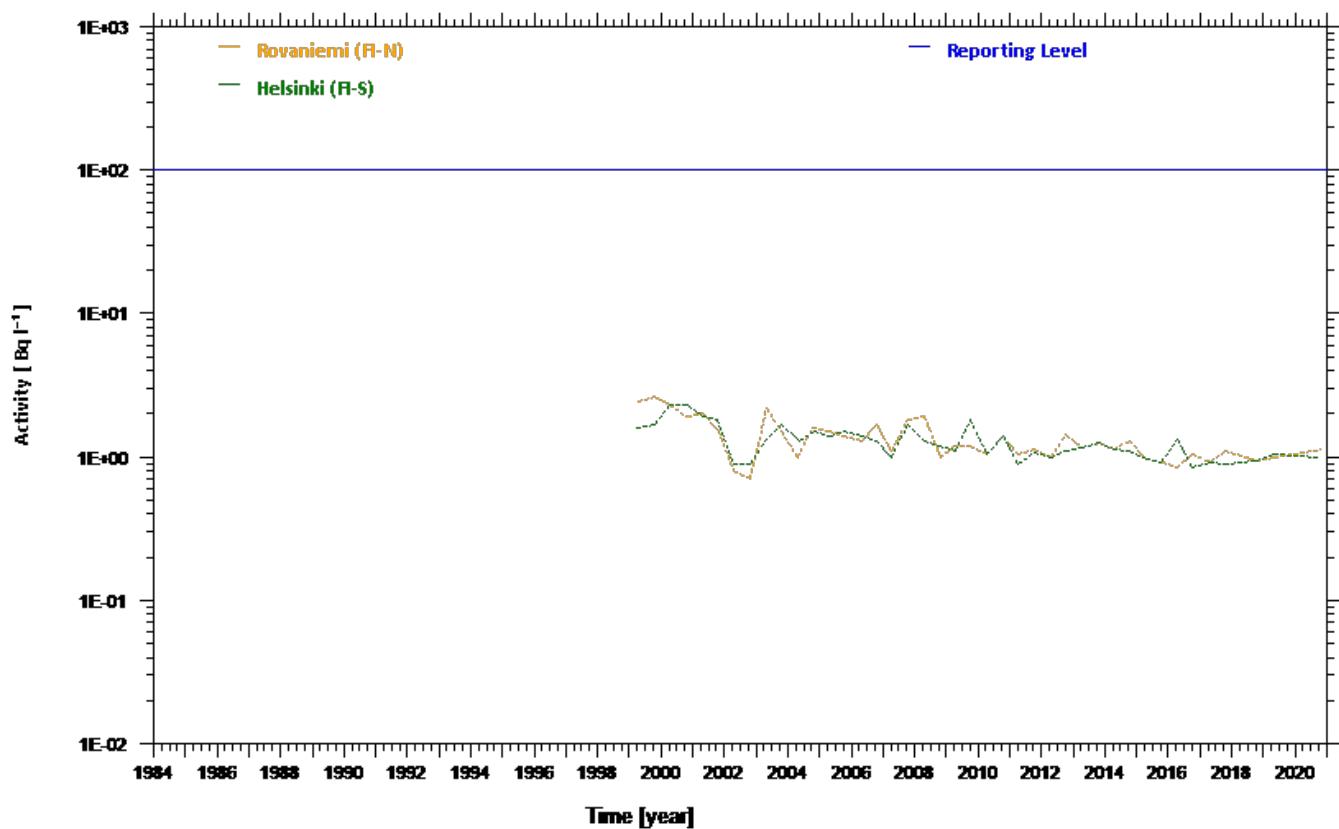
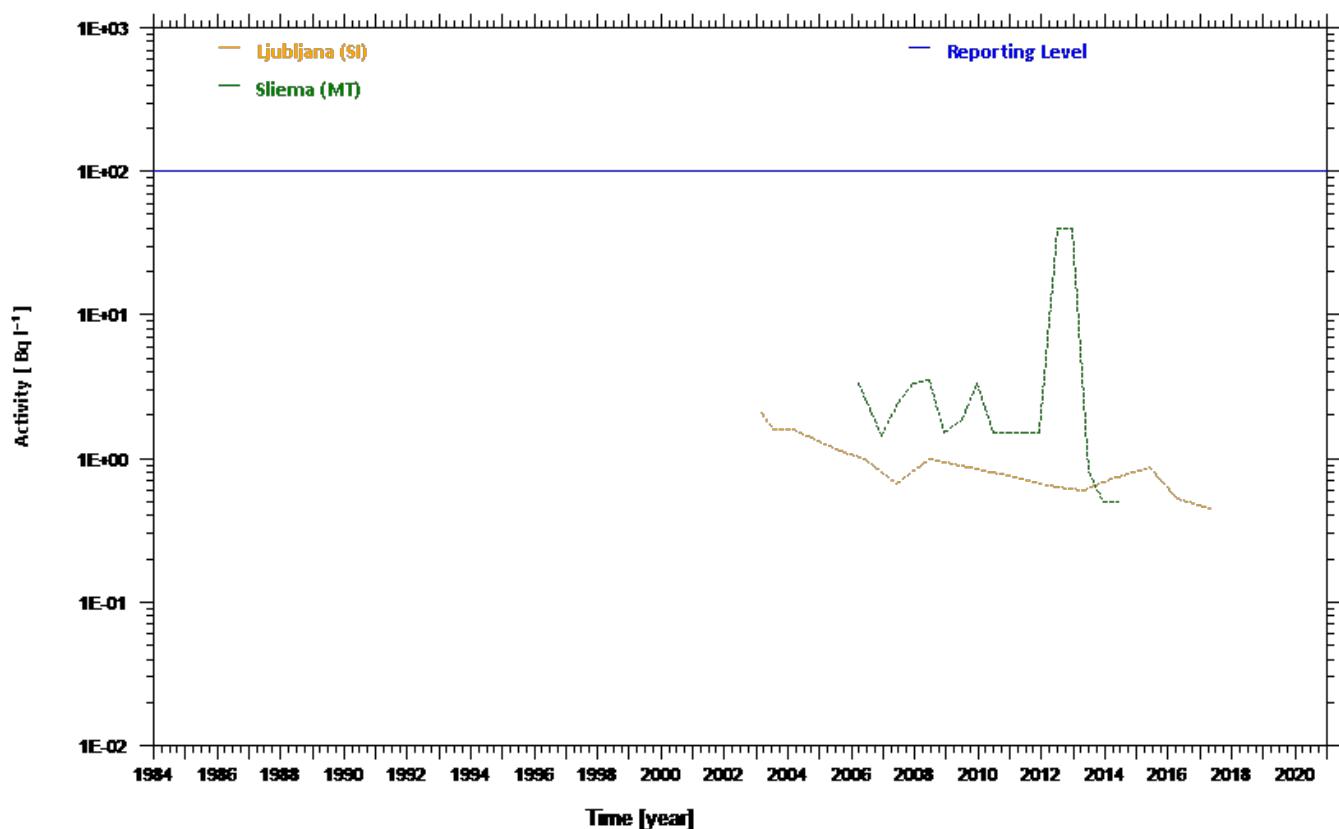
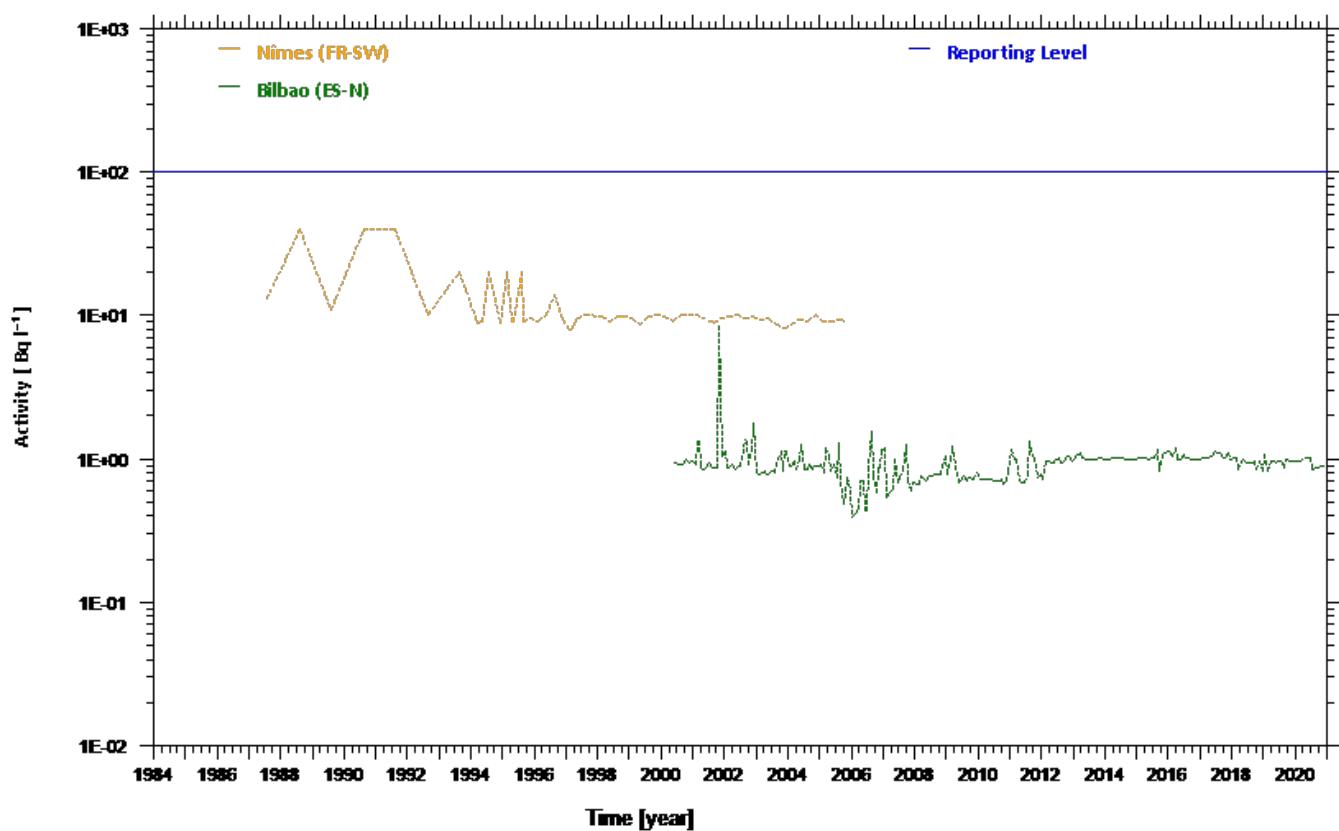
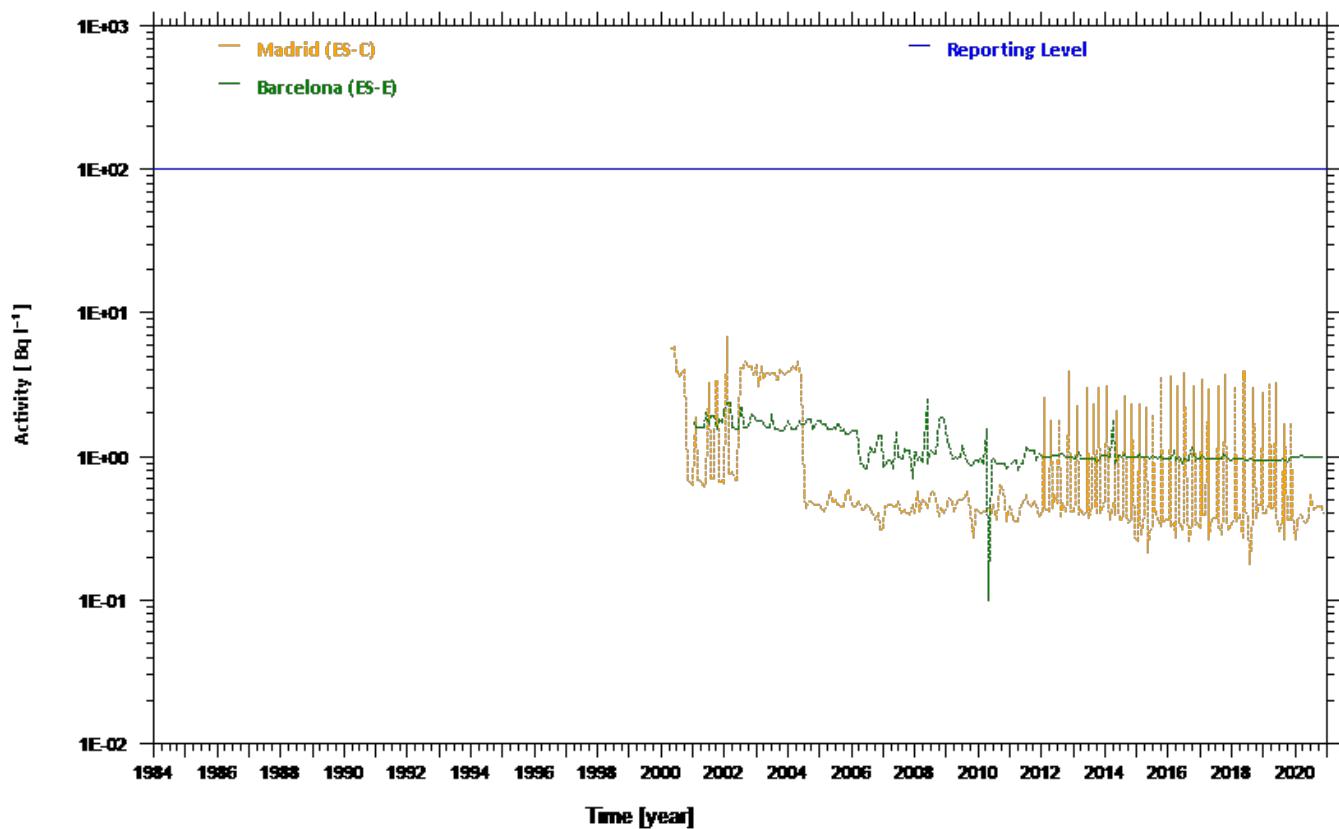


Fig. W21 Activity trends for ${}^3\text{H}$ in drinking water (Ljubljana and Sliema)



Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**tritium (${}^3\text{H}$)**Fig. W22** Activity trends for ${}^3\text{H}$ in drinking water (Nîmes and Bilbao)**Fig. W23** Activity trends for ${}^3\text{H}$ in drinking water (Madrid and Barcelona)



SPARSE

Activity trends

SAMPLE TYPE : drinking water (Bq l^{-1})

NUCLIDE CATEGORY : tritium (${}^3\text{H}$)

Fig. W24 Activity trends for ${}^3\text{H}$ in drinking water (Sevilla, La Laguna-Tenerife and Castelo de Bode)

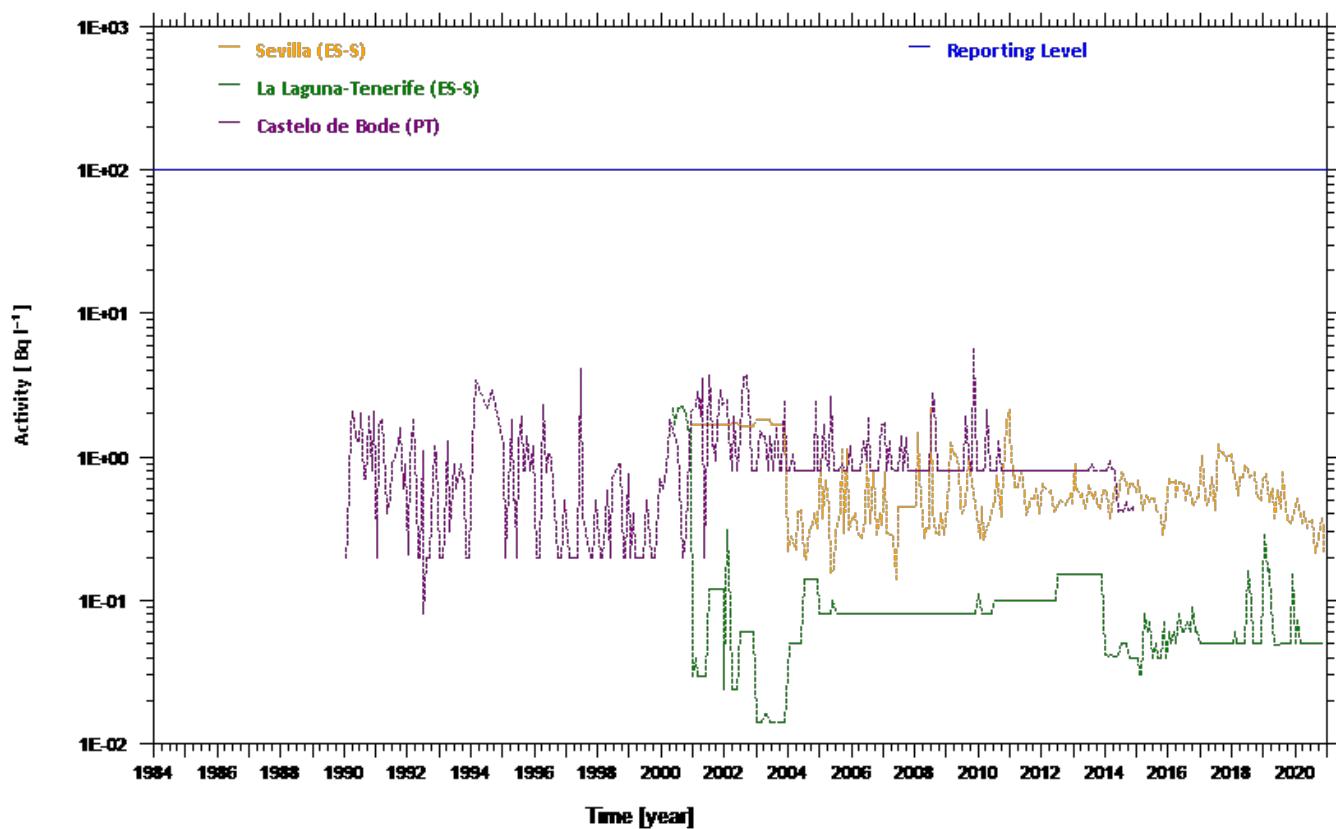
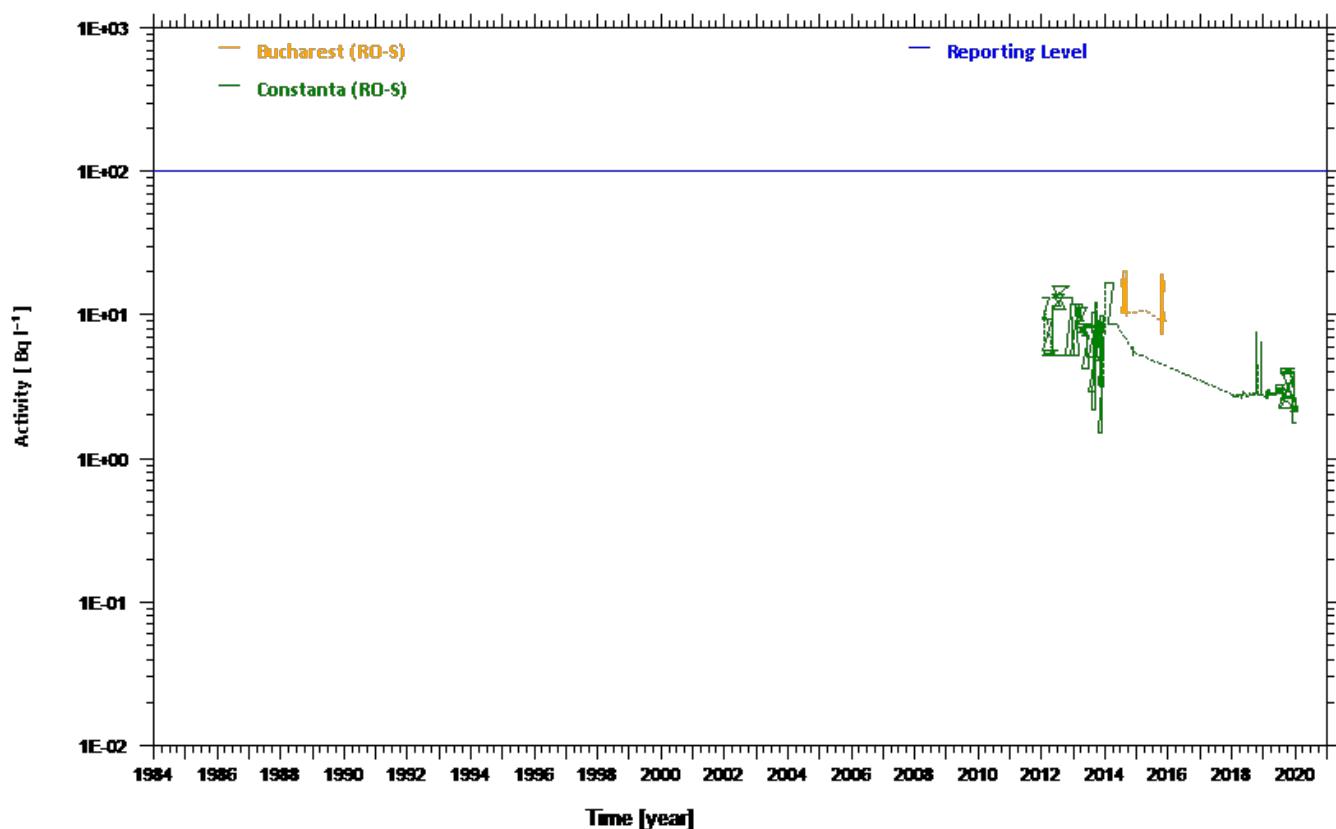
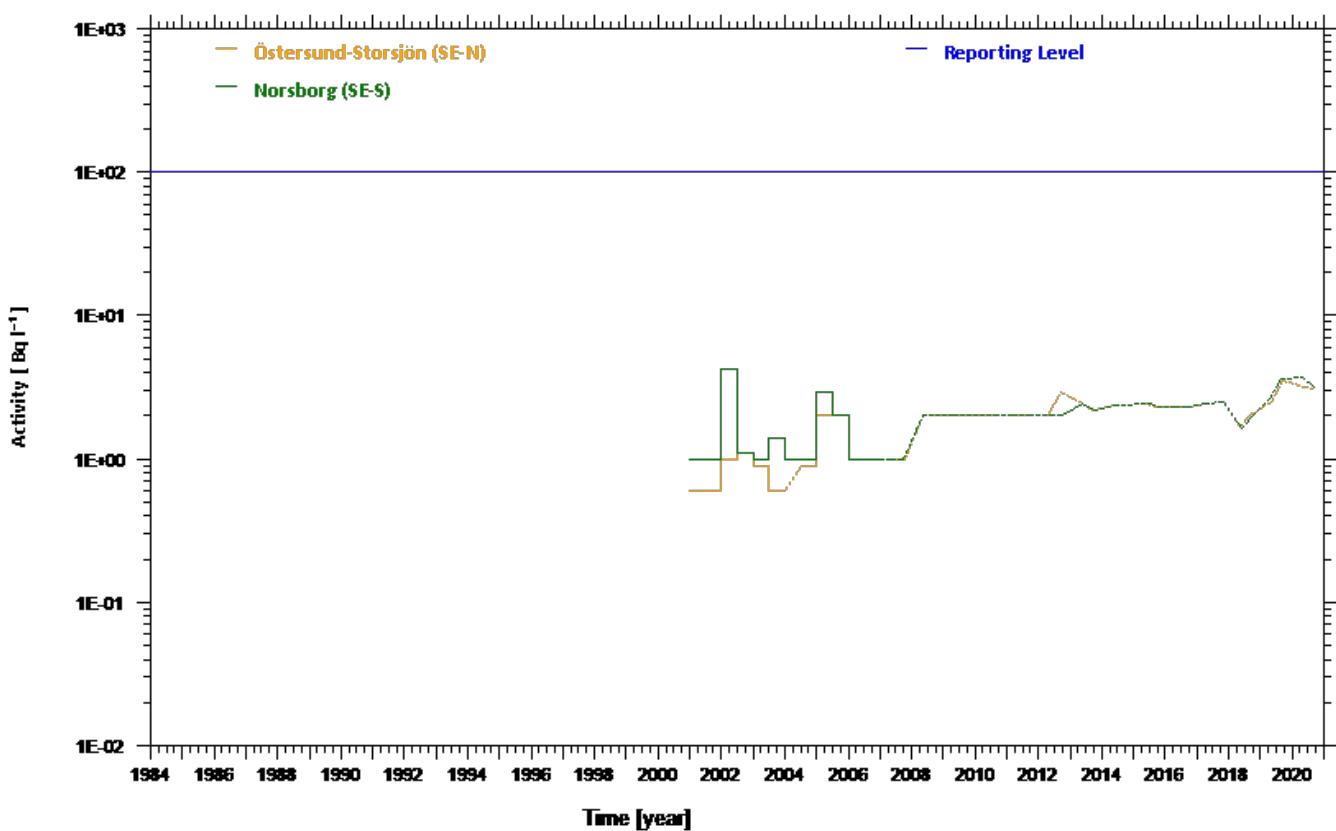
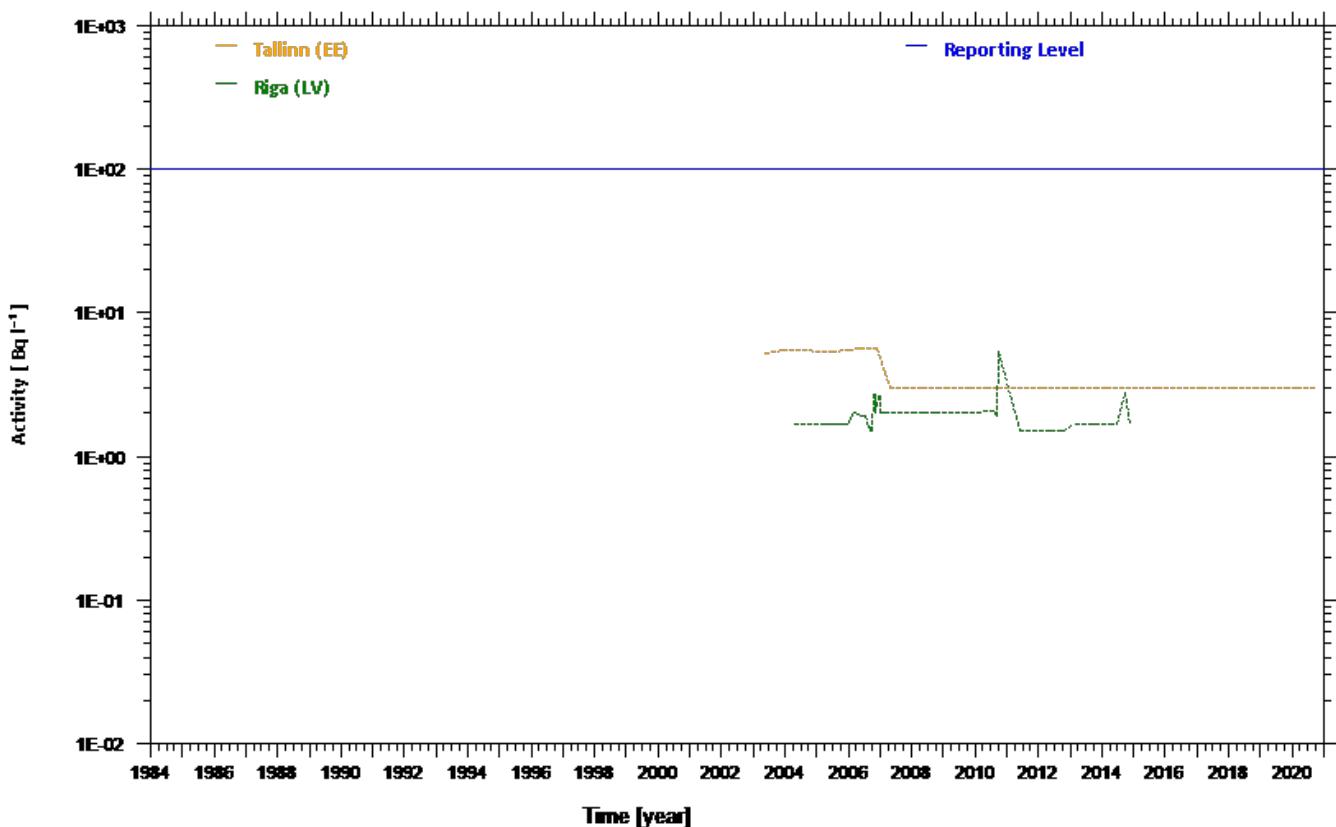


Fig. W25 Activity trends for ${}^3\text{H}$ in drinking water (Bucharest and Constanta)



Activity trends**SAMPLE TYPE** :drinking water (Bq l^{-1})**NUCLIDE CATEGORY** :tritium (${}^3\text{H}$)**Fig. W26** Activity trends for ${}^3\text{H}$ in drinking water (Östersund-Storsjön and Norsborg)**Fig. W27** Activity trends for ${}^3\text{H}$ in drinking water (Tallinn and Riga)



Activity trends

SAMPLE TYPE :

drinking water (Bq l^{-1})

NUCLIDE CATEGORY :

tritium (${}^3\text{H}$)

SPARSE

Fig. W28 Activity trends for ${}^3\text{H}$ in drinking water (Utena and Vilnius)

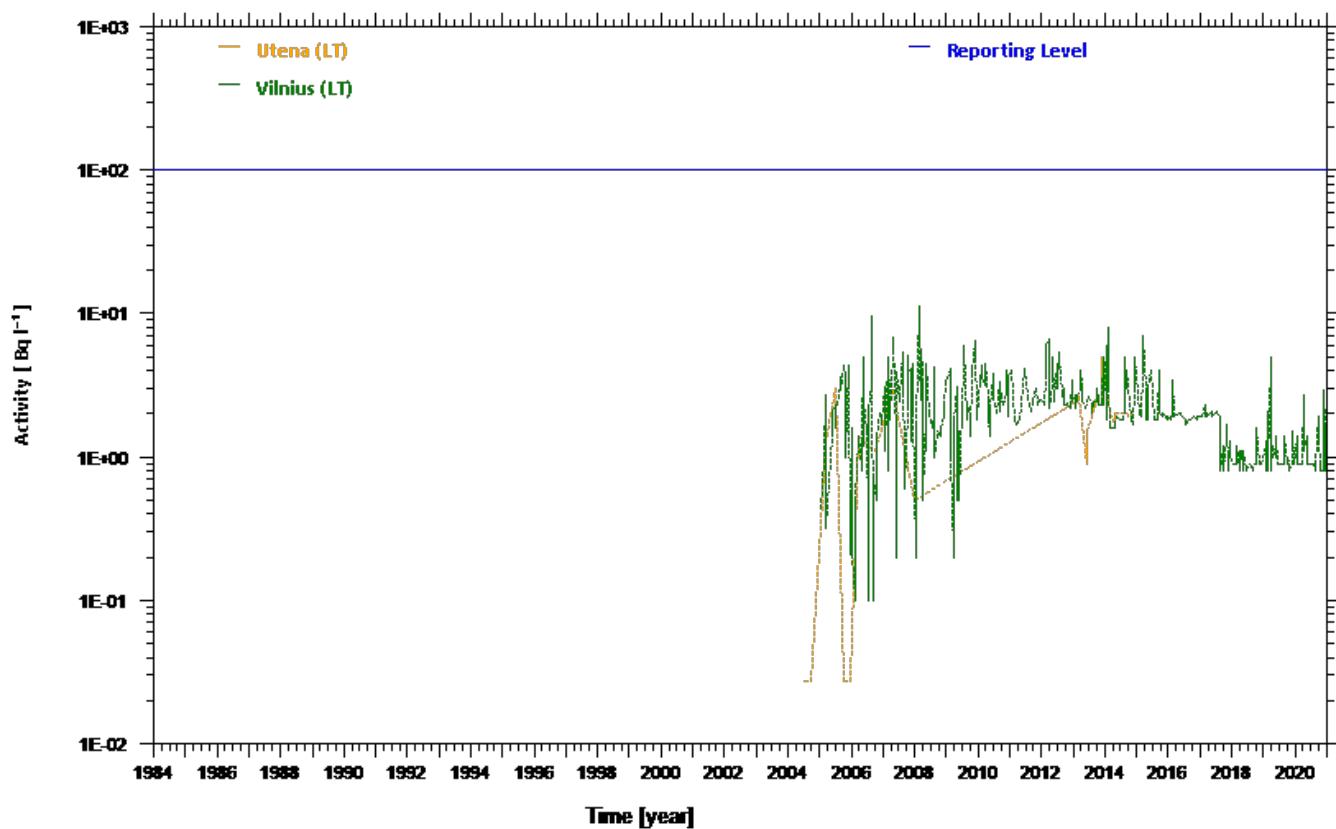
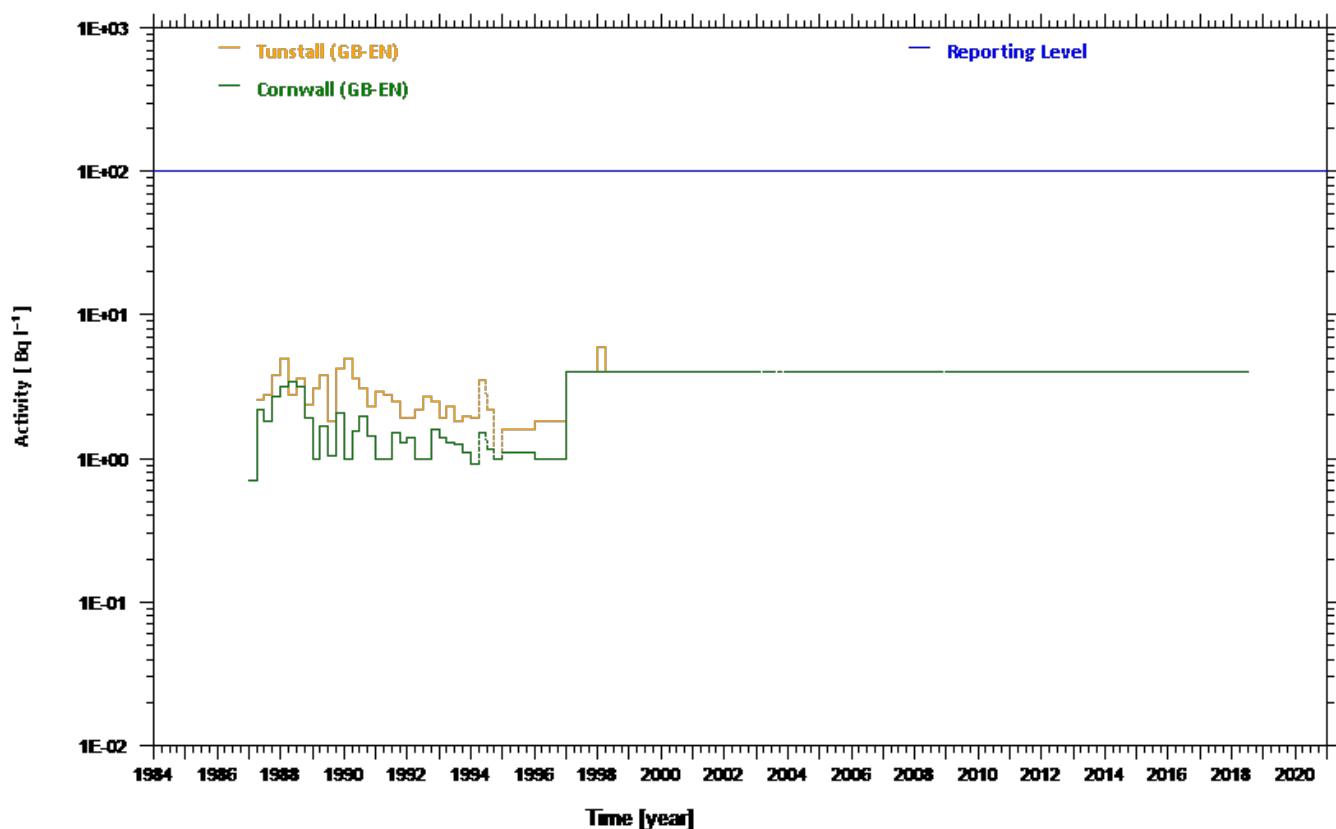
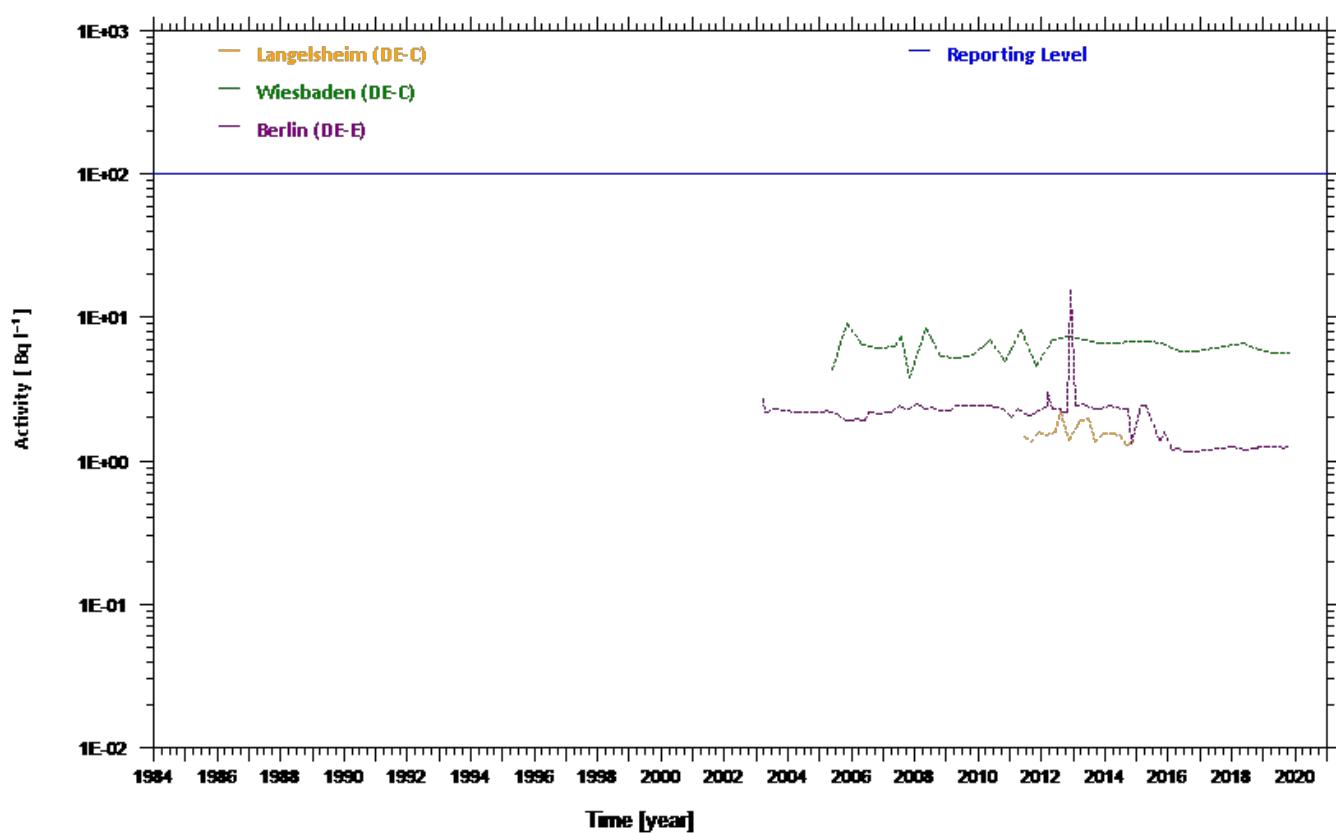
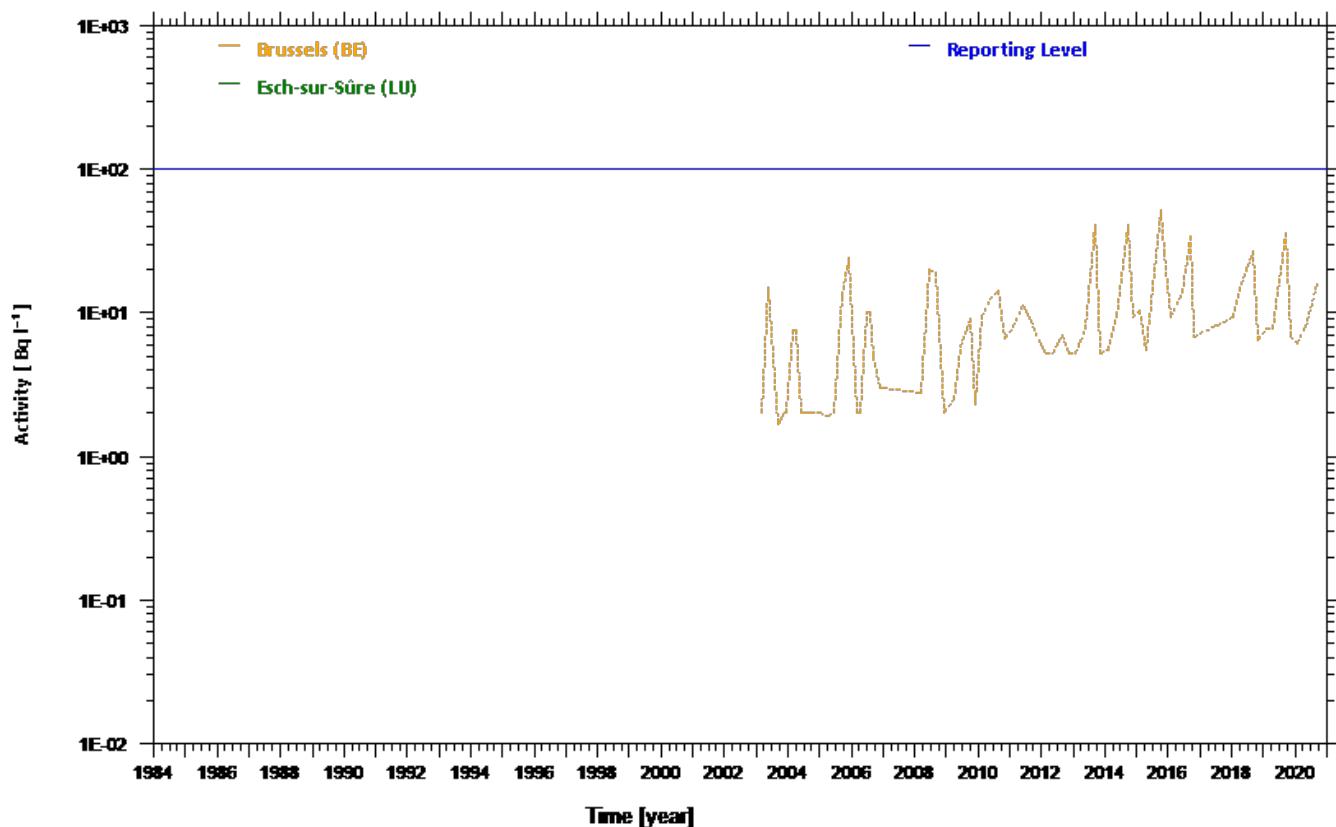


Fig. W29 Activity trends for ${}^3\text{H}$ in drinking water (Tunstall and Cornwall)



Activity trends**SAMPLE TYPE** :drinking water (Bq l^{-1})**NUCLIDE CATEGORY** :tritium (${}^3\text{H}$)**Fig. W30** Activity trends for ${}^3\text{H}$ in drinking water (Langelsheim, Wiesbaden and Berlin)**Fig. W31** Activity trends for ${}^3\text{H}$ in drinking water (Brussels and Esch-sur-Sûre)



Activity trends

SAMPLE TYPE :

drinking water (Bq l^{-1})

NUCLIDE CATEGORY :

tritium (${}^3\text{H}$)

SPARSE

Fig. W32 Activity trends for ${}^3\text{H}$ in drinking water (Svihof and Vienna-Ages)

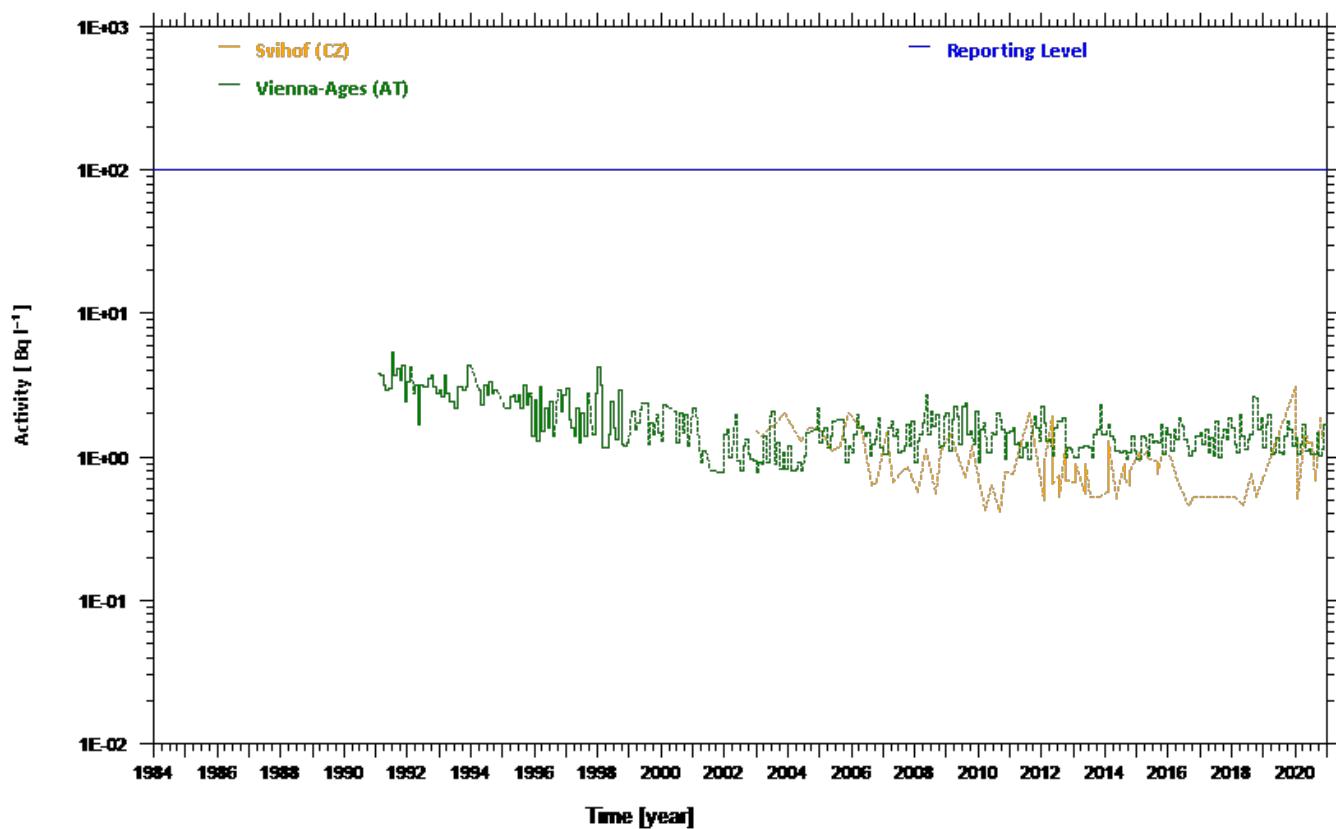
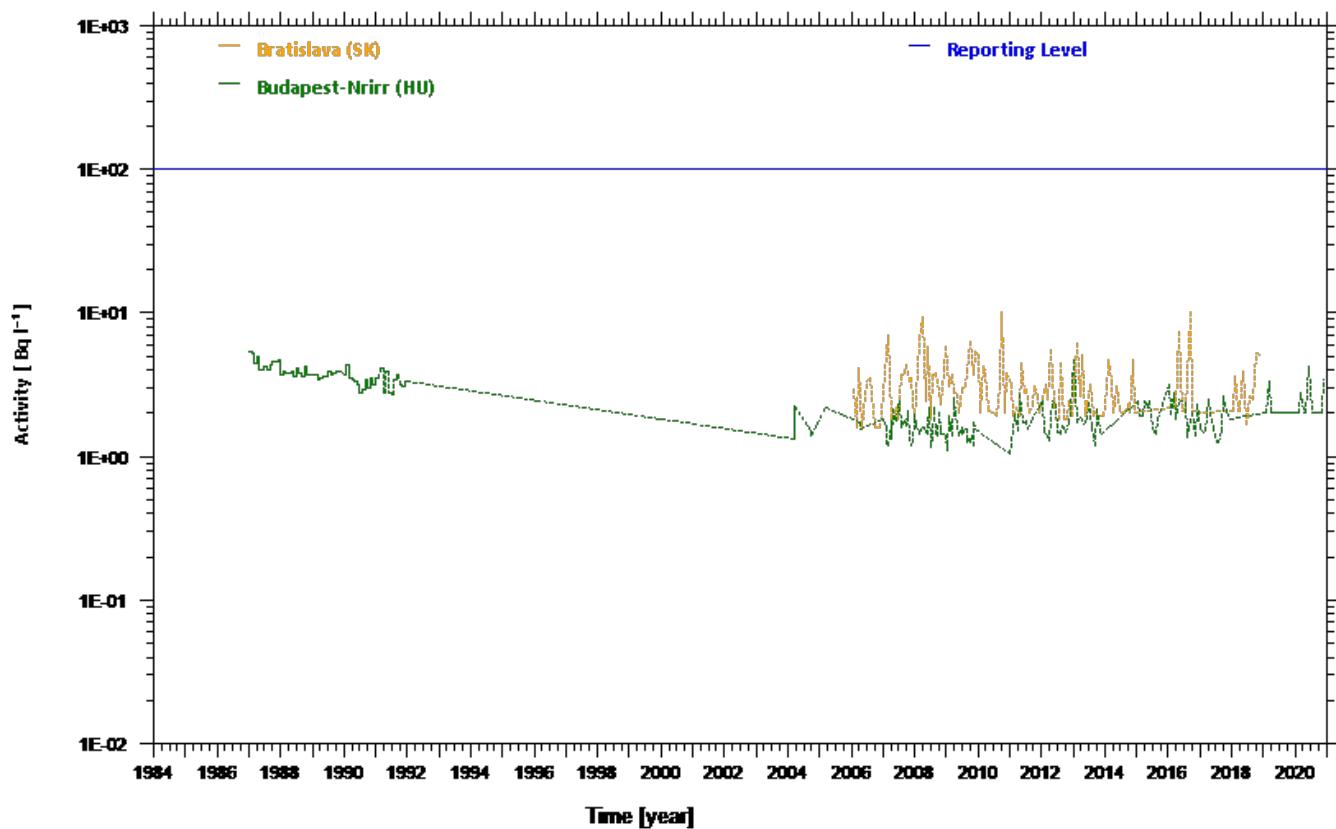
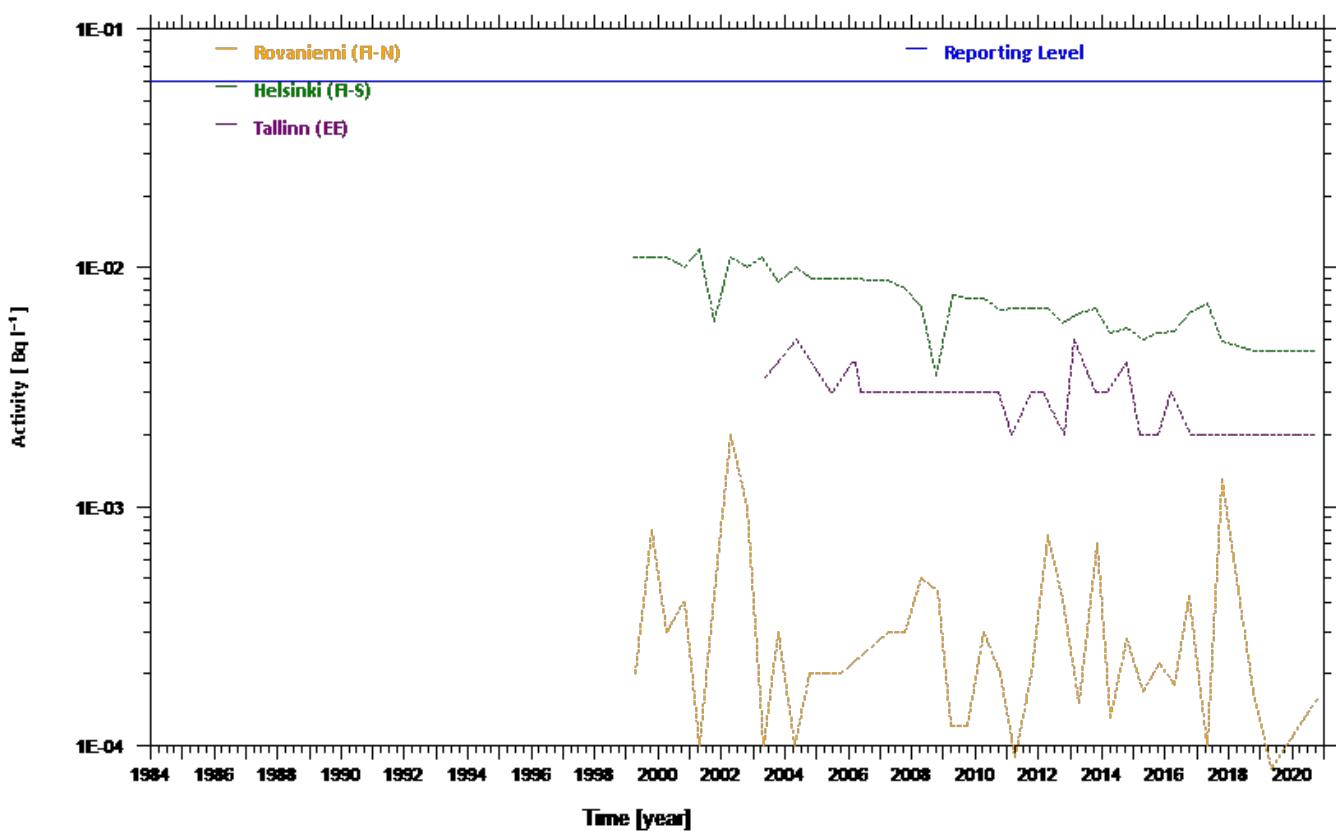
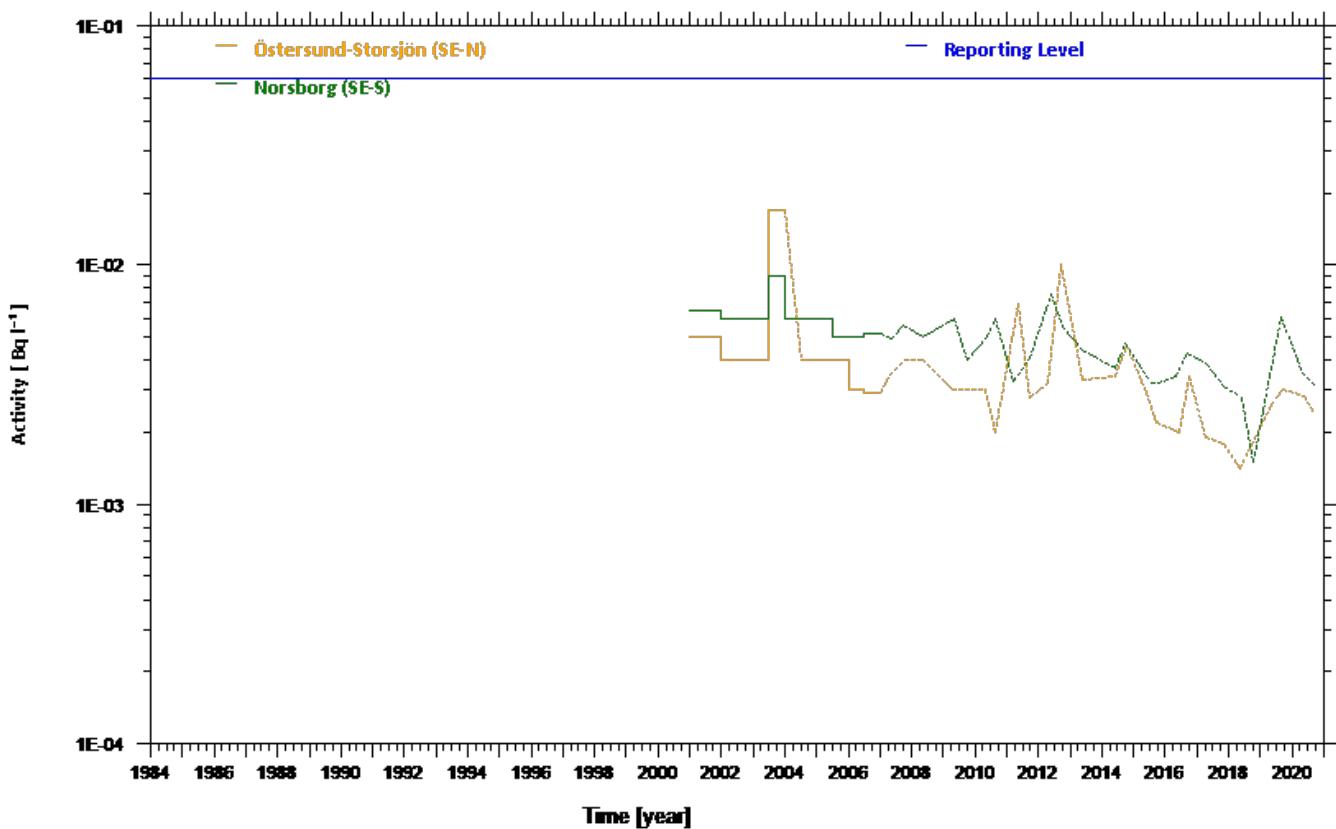


Fig. W33 Activity trends for ${}^3\text{H}$ in drinking water (Bratislava and Budapest-Nrerr)



Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. W34** Activity trends for ^{90}Sr in drinking water (Rovaniemi, Helsinki and Tallinn)**Fig. W35** Activity trends for ^{90}Sr in drinking water (Östersund-Storsjön and Norsborg)



SPARSE

Activity trends

SAMPLE TYPE :

drinking water (Bq l^{-1})

NUCLIDE CATEGORY :

strontium-90 (^{90}Sr)

Fig. W36 Activity trends for ^{90}Sr in drinking water (Cornwall, Tunstall and Nîmes)

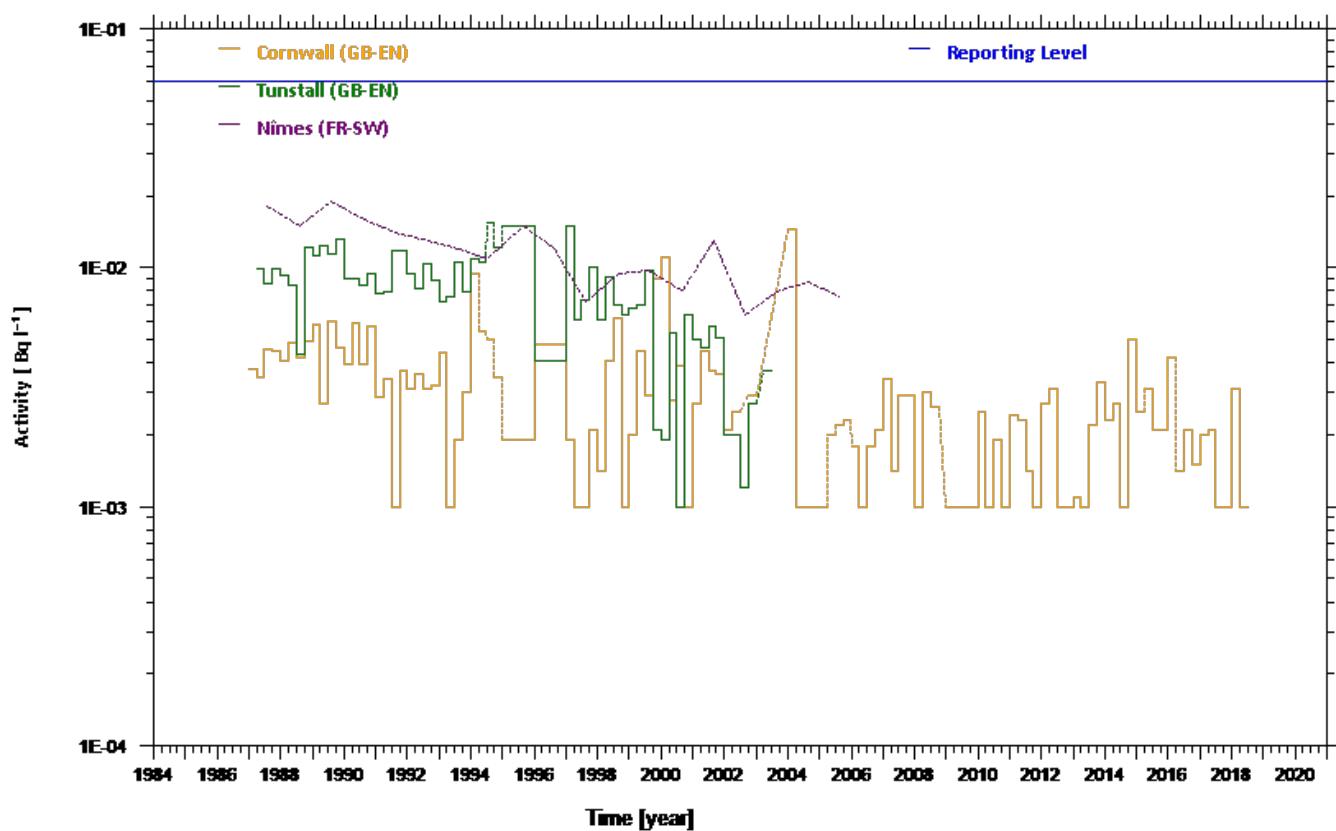
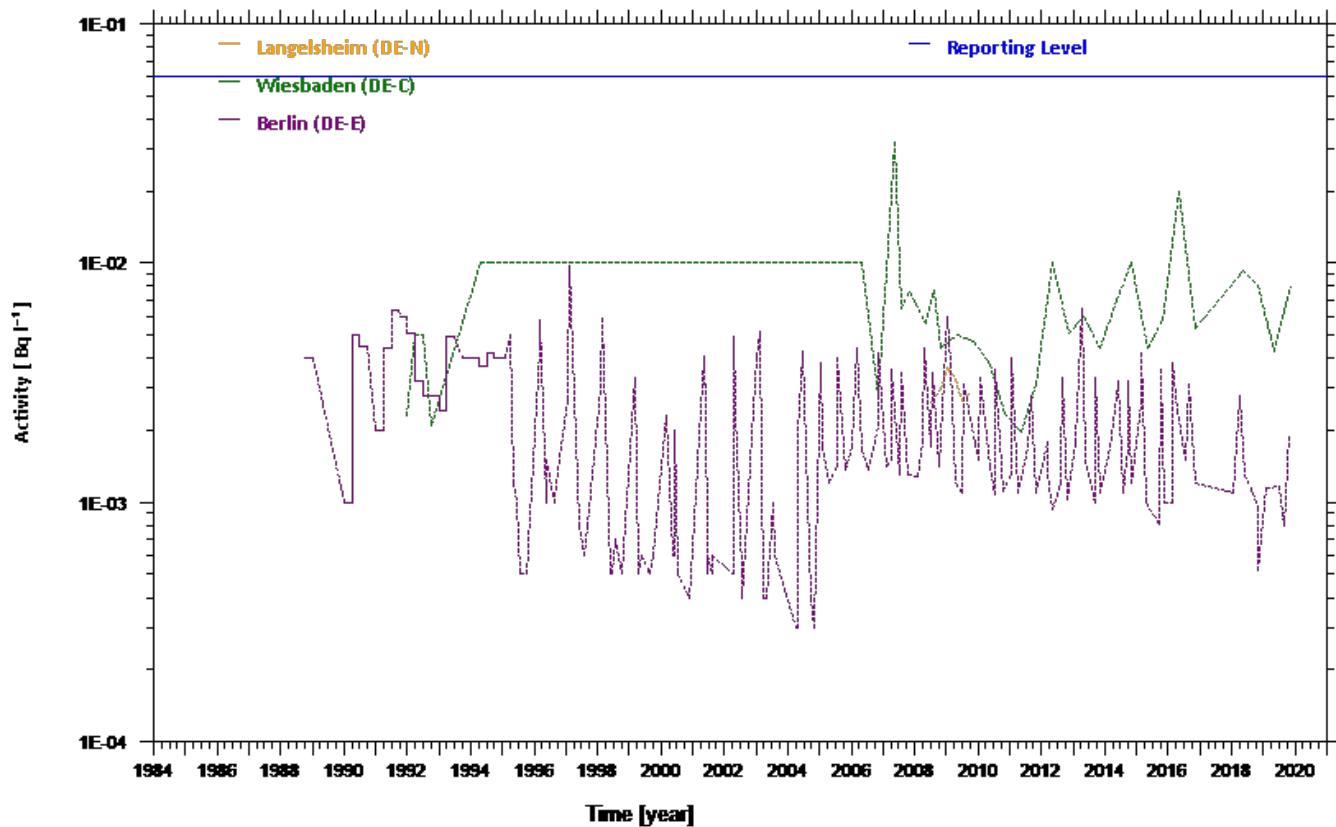
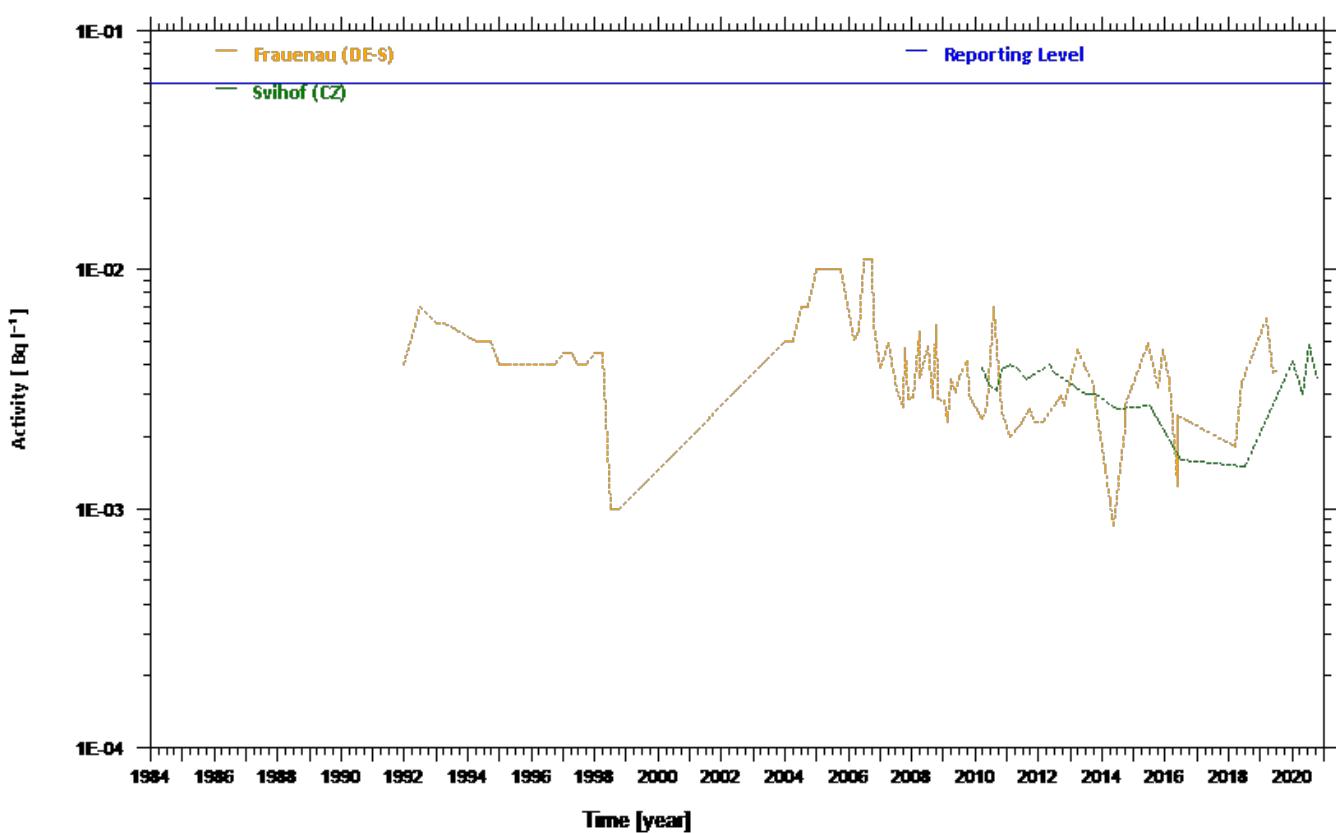
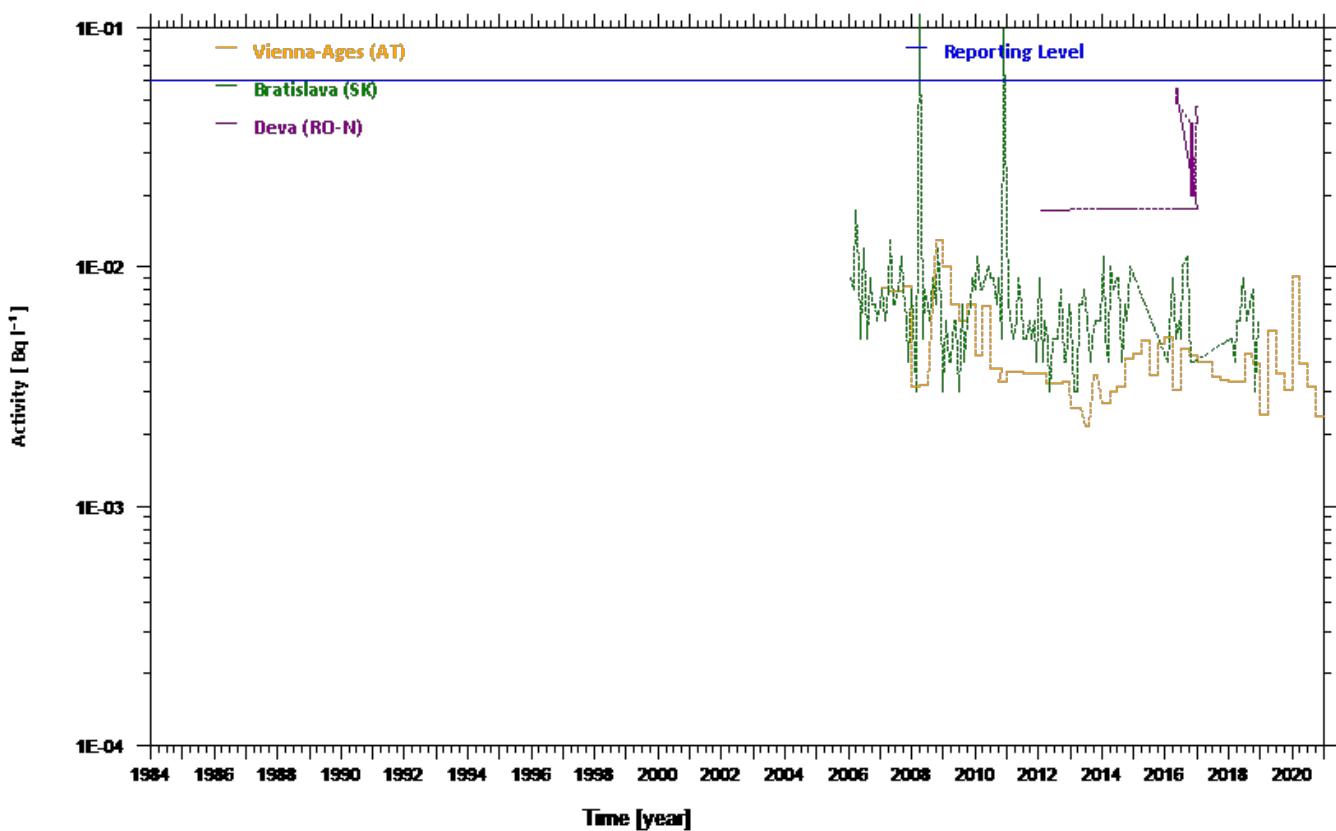


Fig. W37 Activity trends for ^{90}Sr in drinking water (Langelsheim, Wiesbaden and Berlin)



Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. W38** Activity trends for ^{90}Sr in drinking water (Frauenau and Svihof)**Fig. W39** Activity trends for ^{90}Sr in drinking water (Vienna-Ages, Bratislava and Deva)



SPARSE

Activity trends

SAMPLE TYPE :

drinking water (Bq l^{-1})

NUCLIDE CATEGORY :

strontium-90 (^{90}Sr)

Fig. W40 Activity trends for ^{90}Sr in drinking water (Ljubljana, Sliema and Sofia)

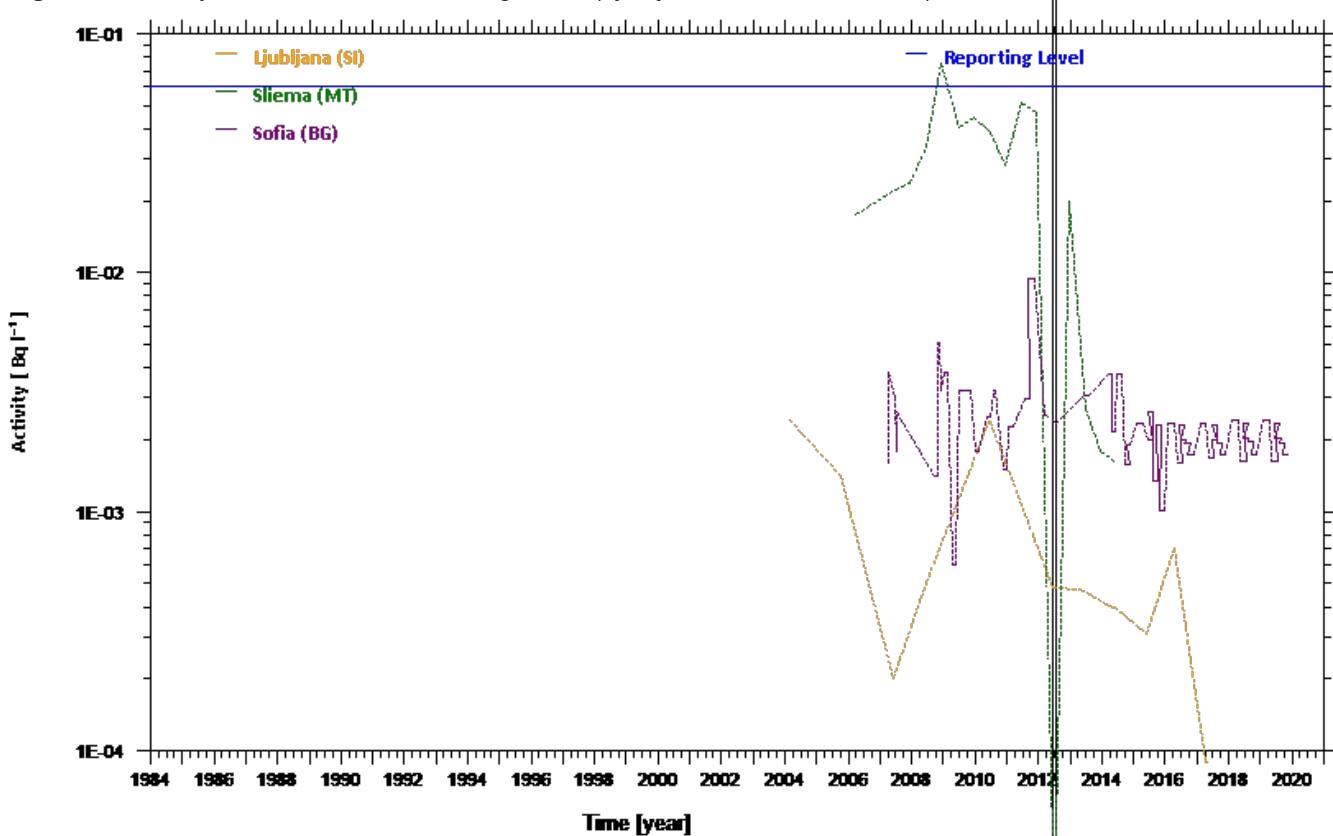
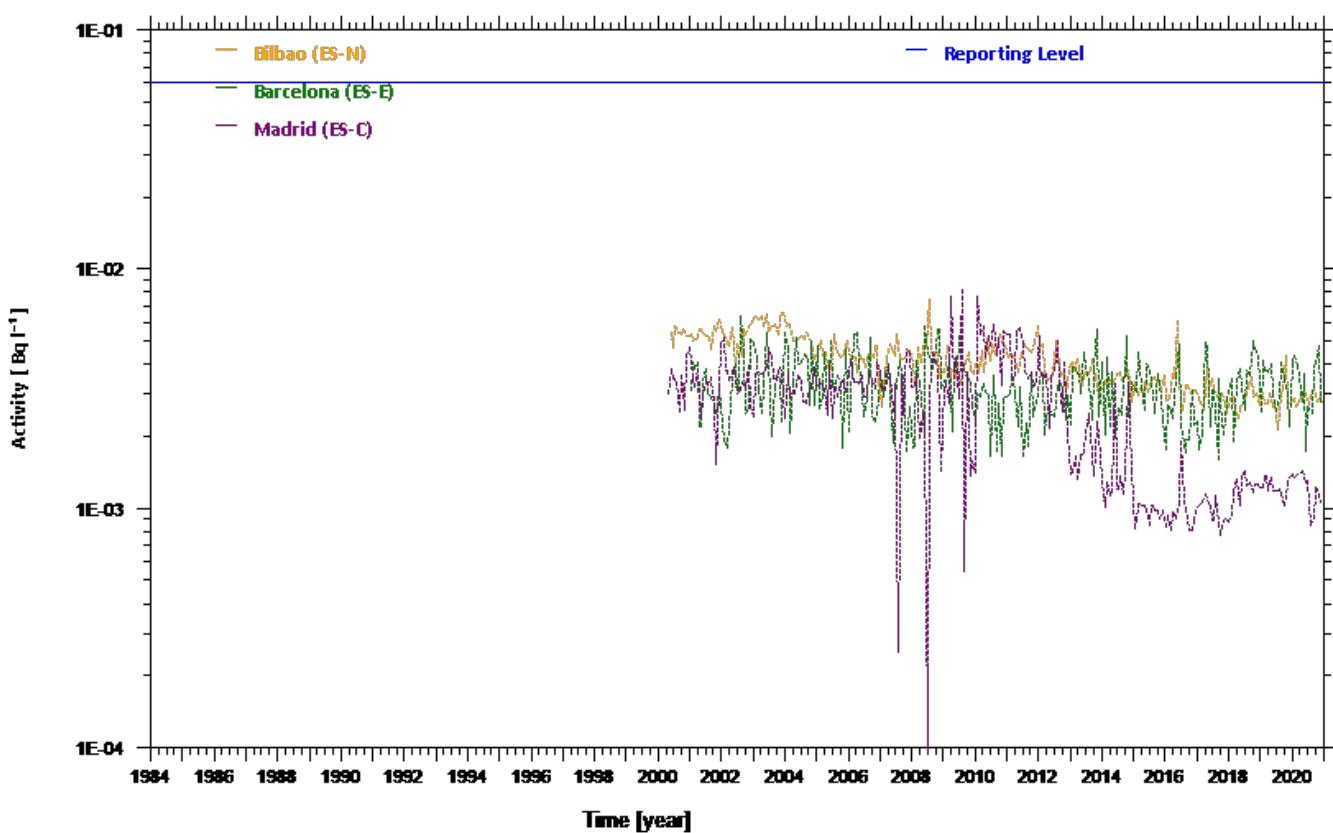
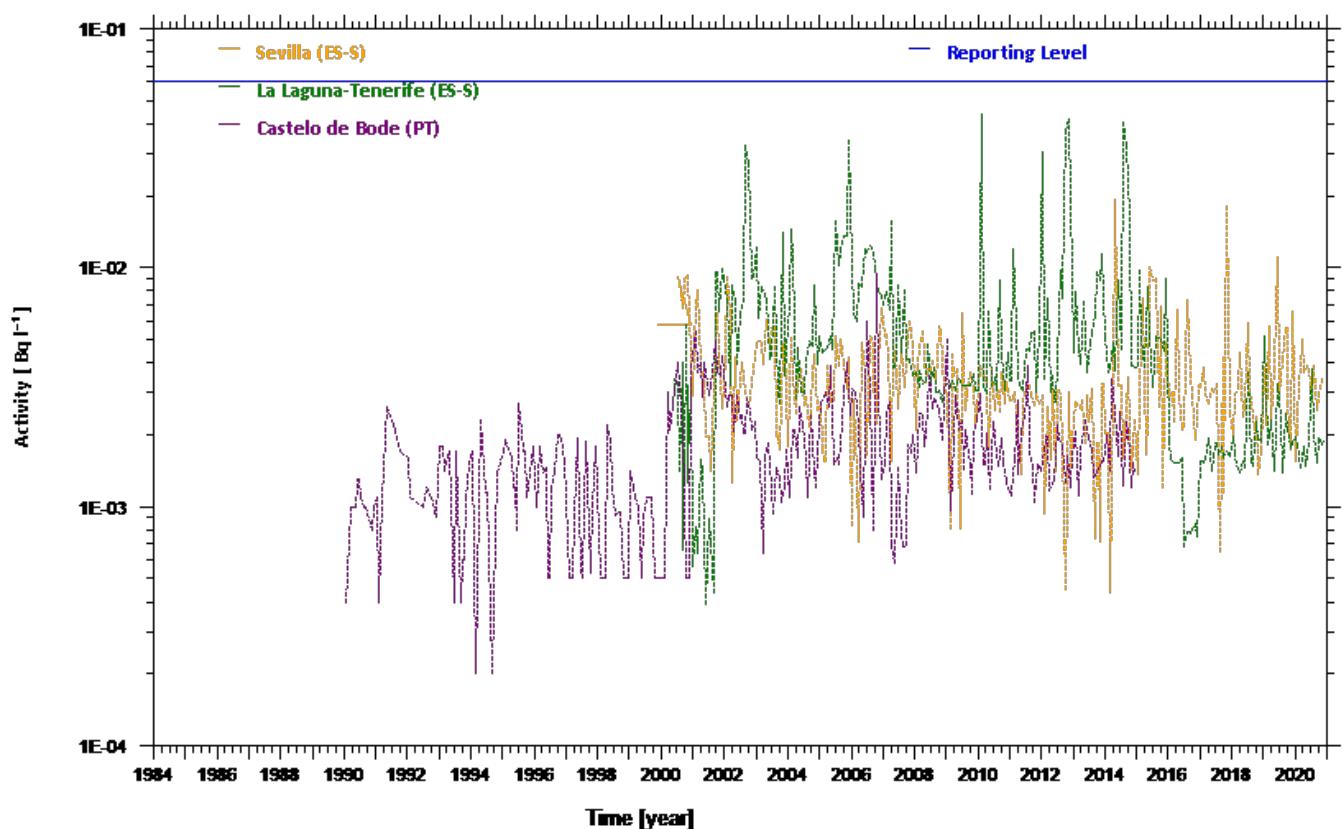


Fig. W41 Activity trends for ^{90}Sr in drinking water (Bilbao, Barcelona and Madrid)



Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. W42** Activity trends for ^{90}Sr in drinking water (Sevilla, La Laguna-Tenerife and Castelo de Bode)



SPARSE

Activity trends

SAMPLE TYPE

: drinking water (Bq l^{-1})

NUCLIDE CATEGORY

: caesium-137 (^{137}Cs)

Fig. W43 Activity trends for ^{137}Cs in drinking water (Rovaniemi and Helsinki)

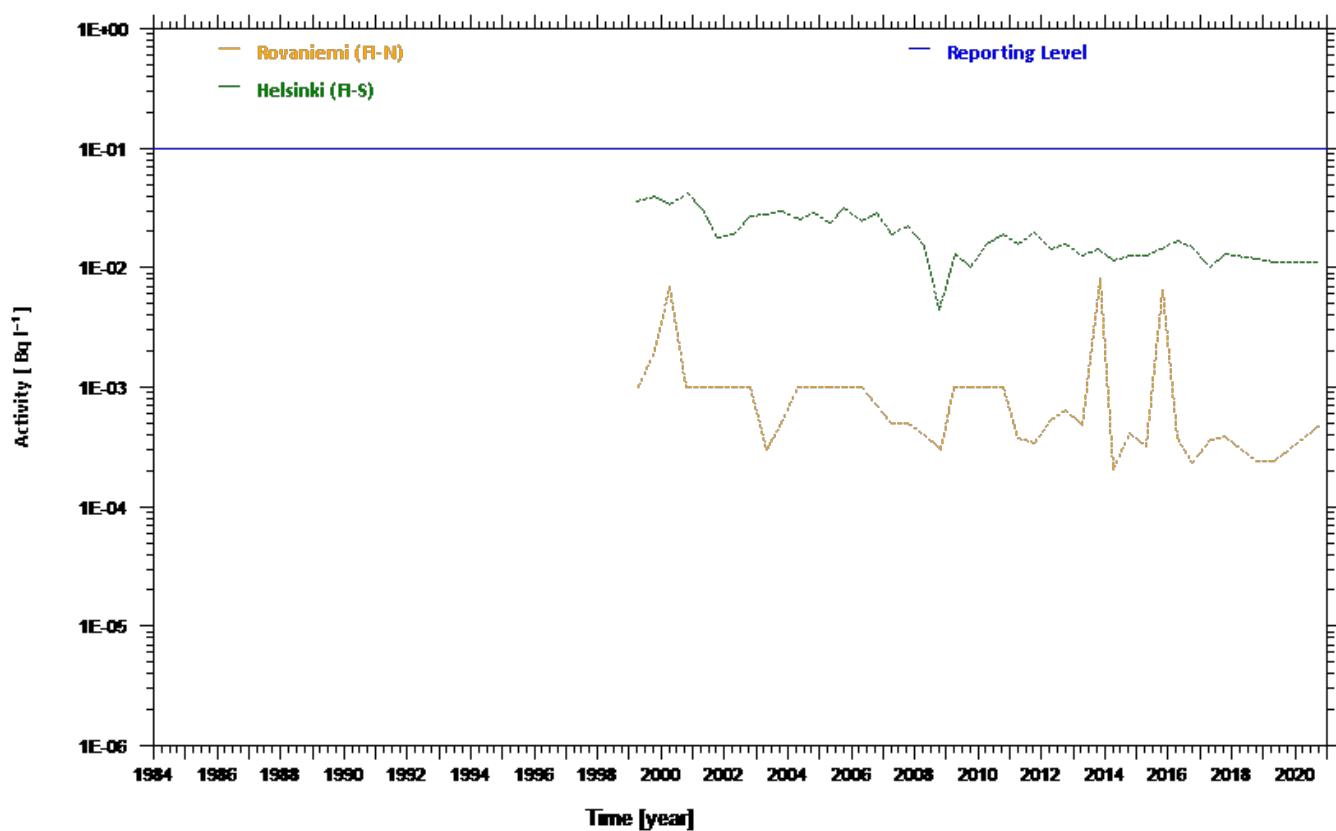
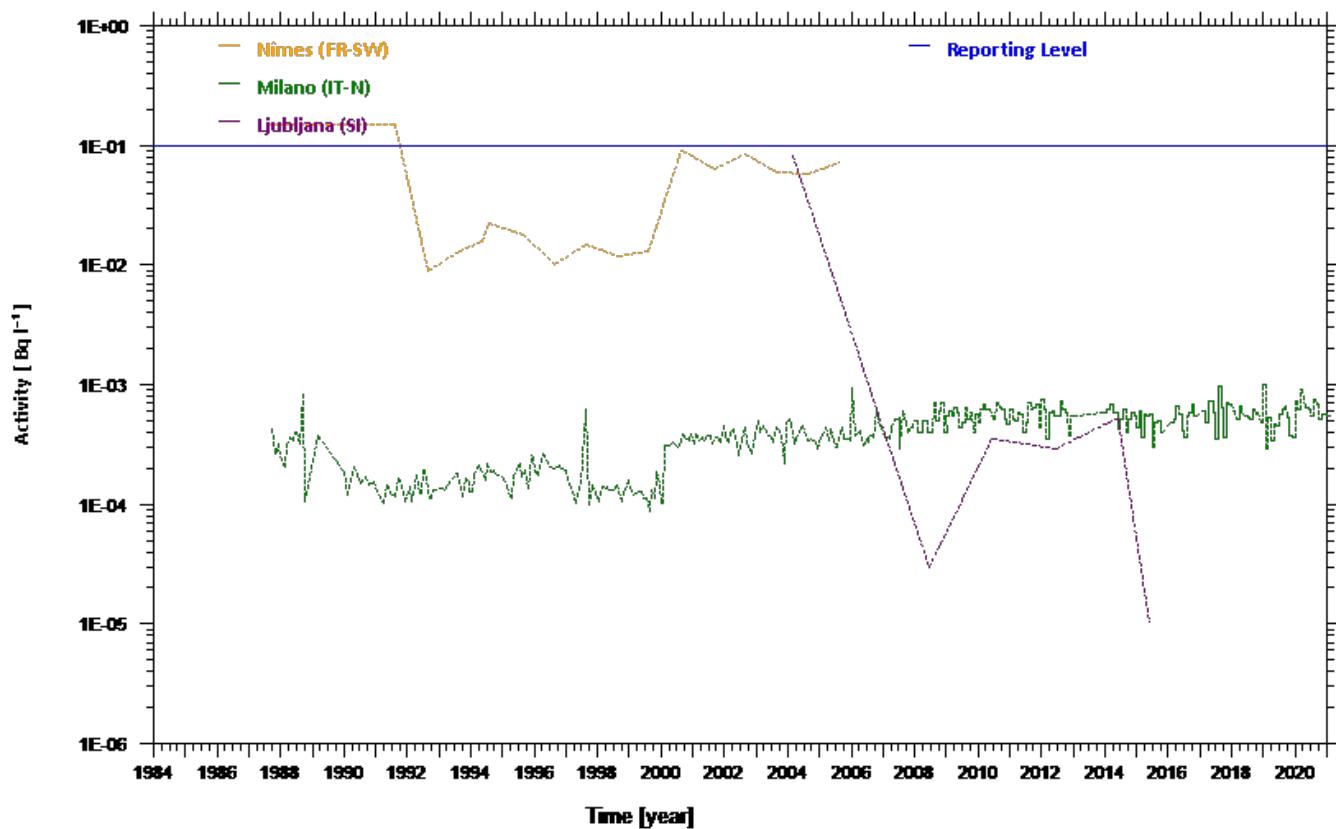
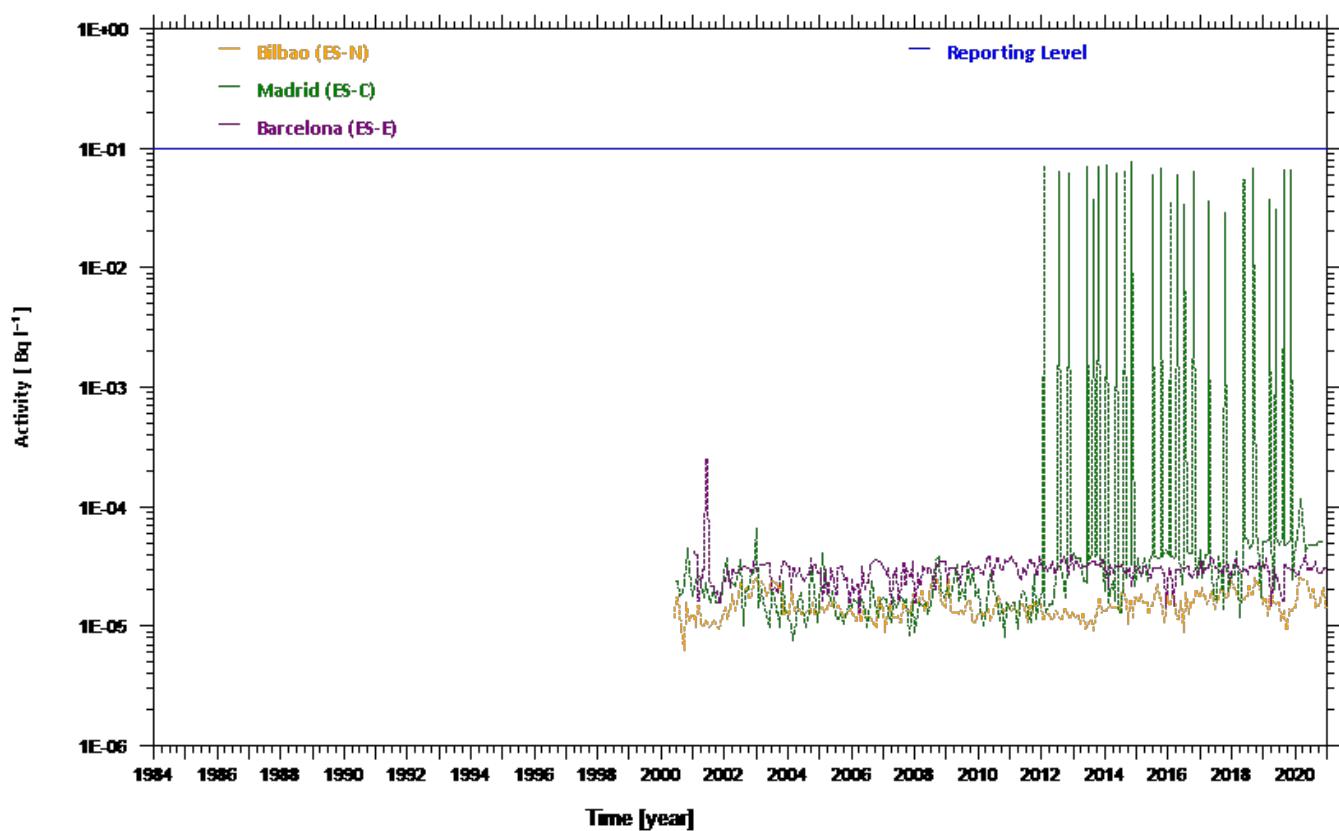
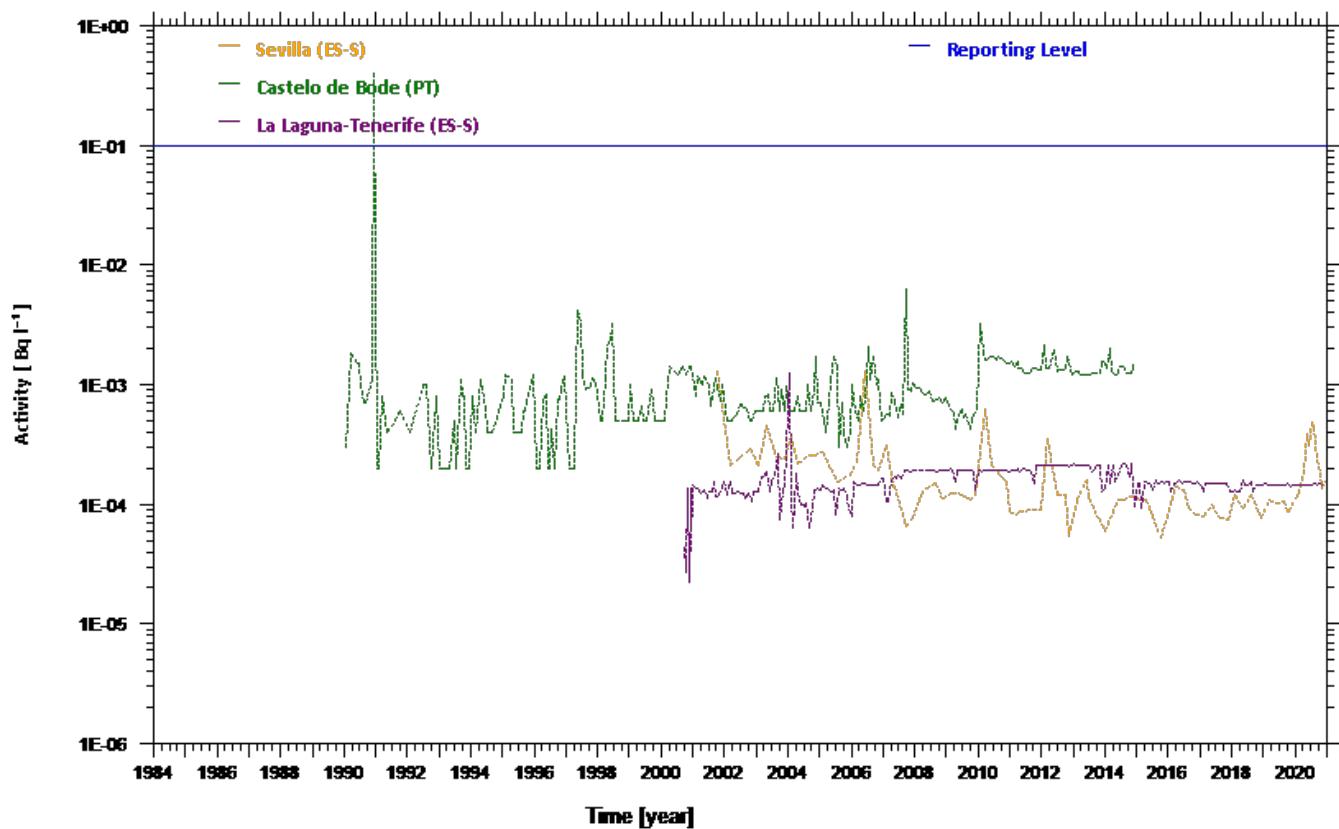


Fig. W44 Activity trends for ^{137}Cs in drinking water (Nîmes, Milano and Ljubljana)



Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. W45** Activity trends for ^{137}Cs in drinking water (Bilbao, Madrid and Barcelona)**Fig. W46** Activity trends for ^{137}Cs in drinking water (Sevilla, Castelo de Bode and La Laguna-Tenerife)



Activity trends

SAMPLE TYPE :

drinking water (Bq l^{-1})

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)

SPARSE

Fig. W47 Activity trends for ^{137}Cs in drinking water (Sliema, Nicosia and Deva)

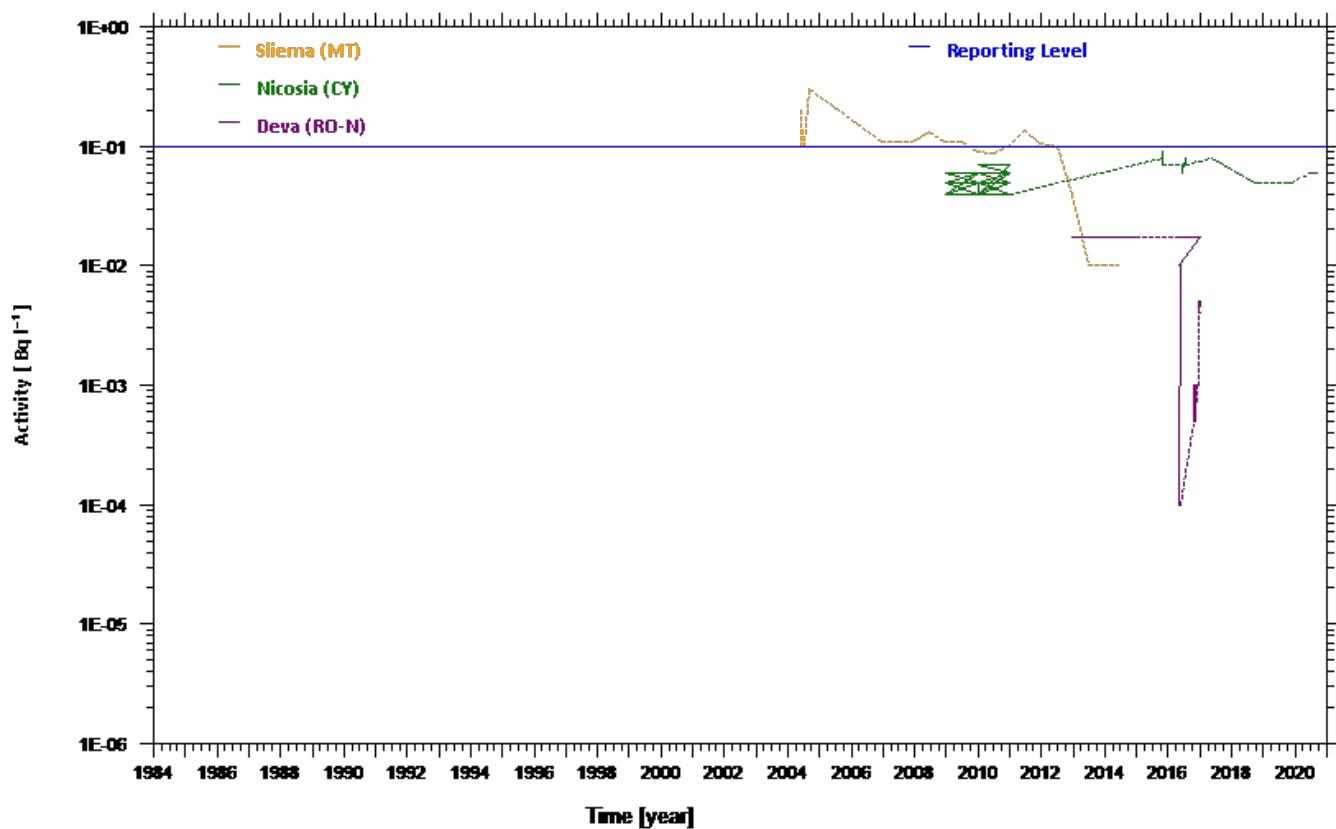
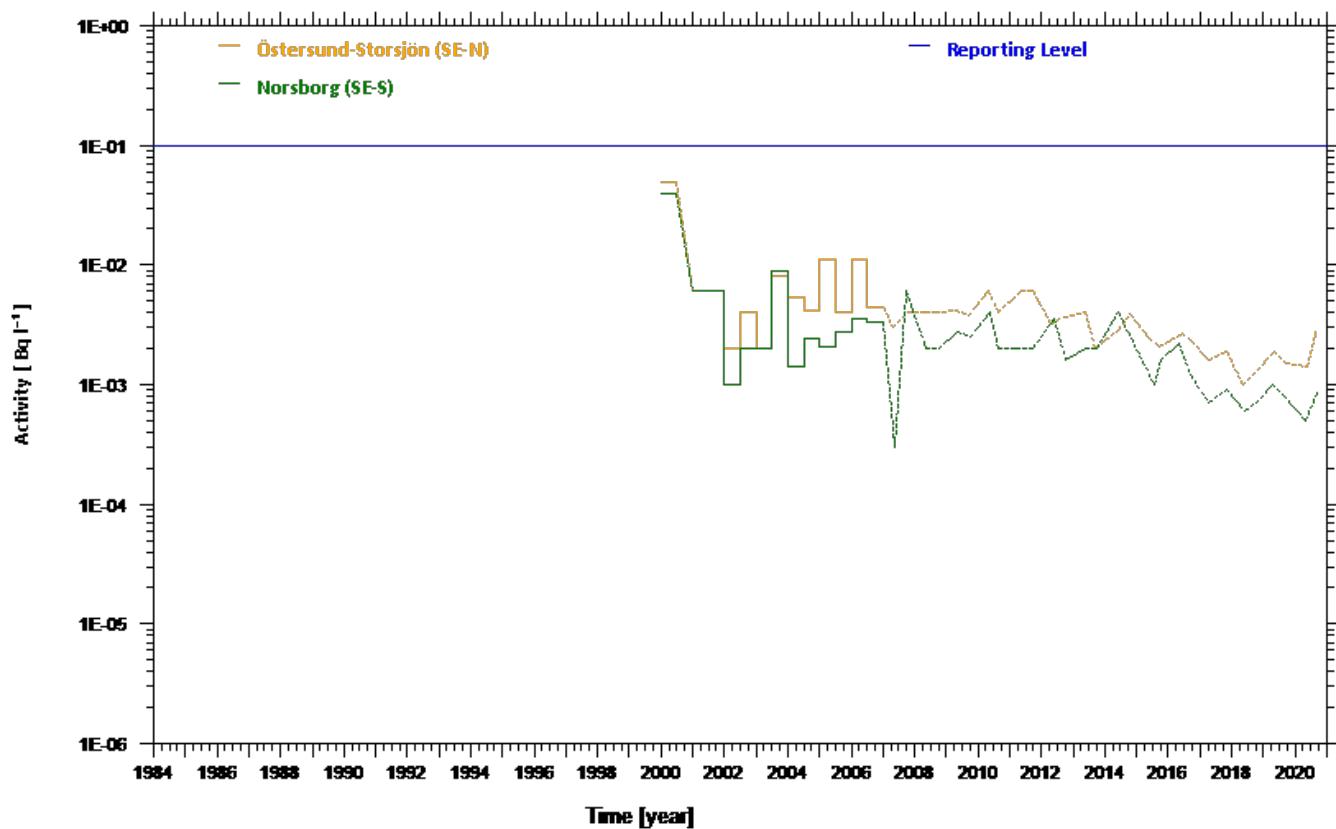
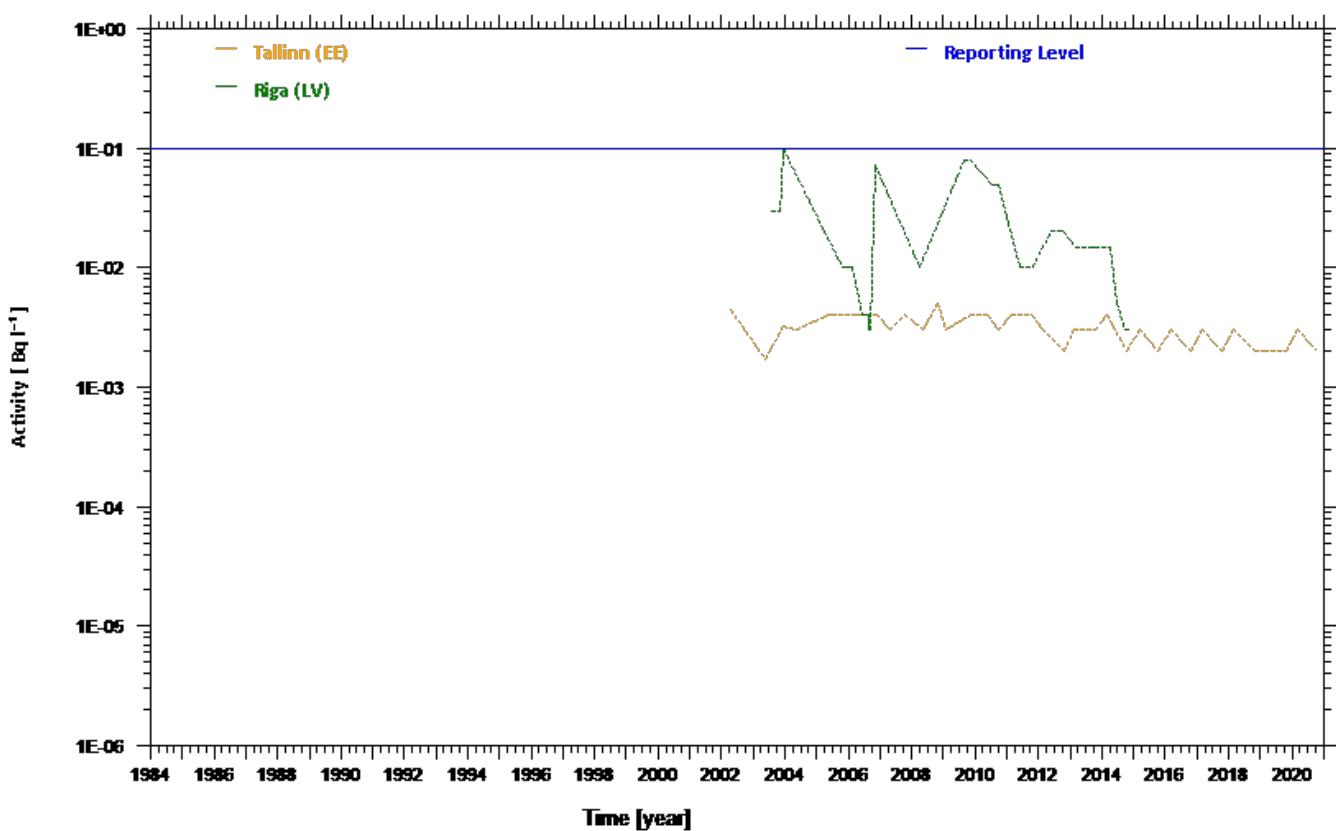
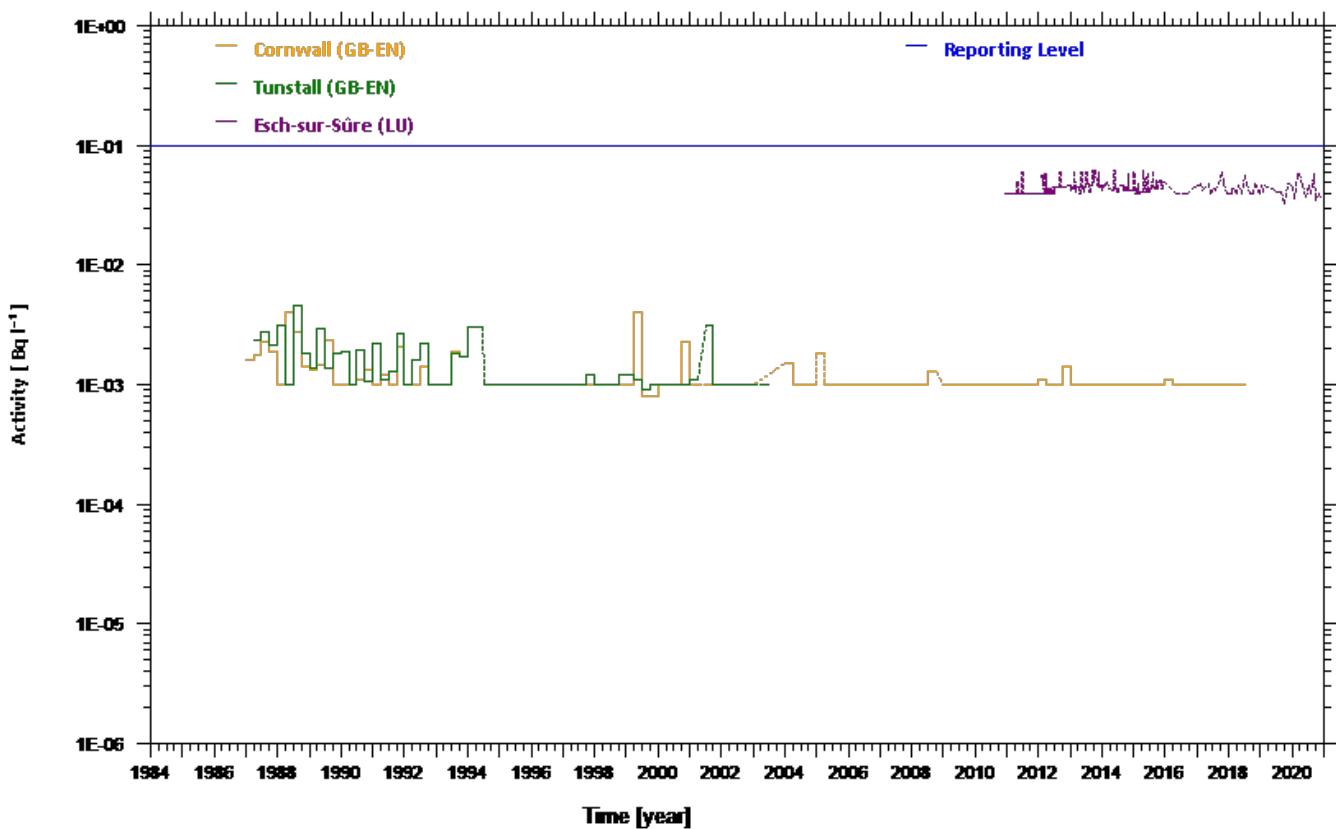


Fig. W48 Activity trends for ^{137}Cs in drinking water (Östersund-Storsjön and Norsborg)



Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. W49** Activity trends for ^{137}Cs in drinking water (Tallinn and Riga)**Fig. W50** Activity trends for ^{137}Cs in drinking water (Cornwall, Tunstall and Esch-sur-Sûre)



SPARSE

Activity trends

SAMPLE TYPE

: drinking water (Bq l^{-1})

NUCLIDE CATEGORY

: caesium-137 (^{137}Cs)

Fig. W51 Activity trends for ^{137}Cs in drinking water (Langelsheim, Wiesbaden and Berlin)

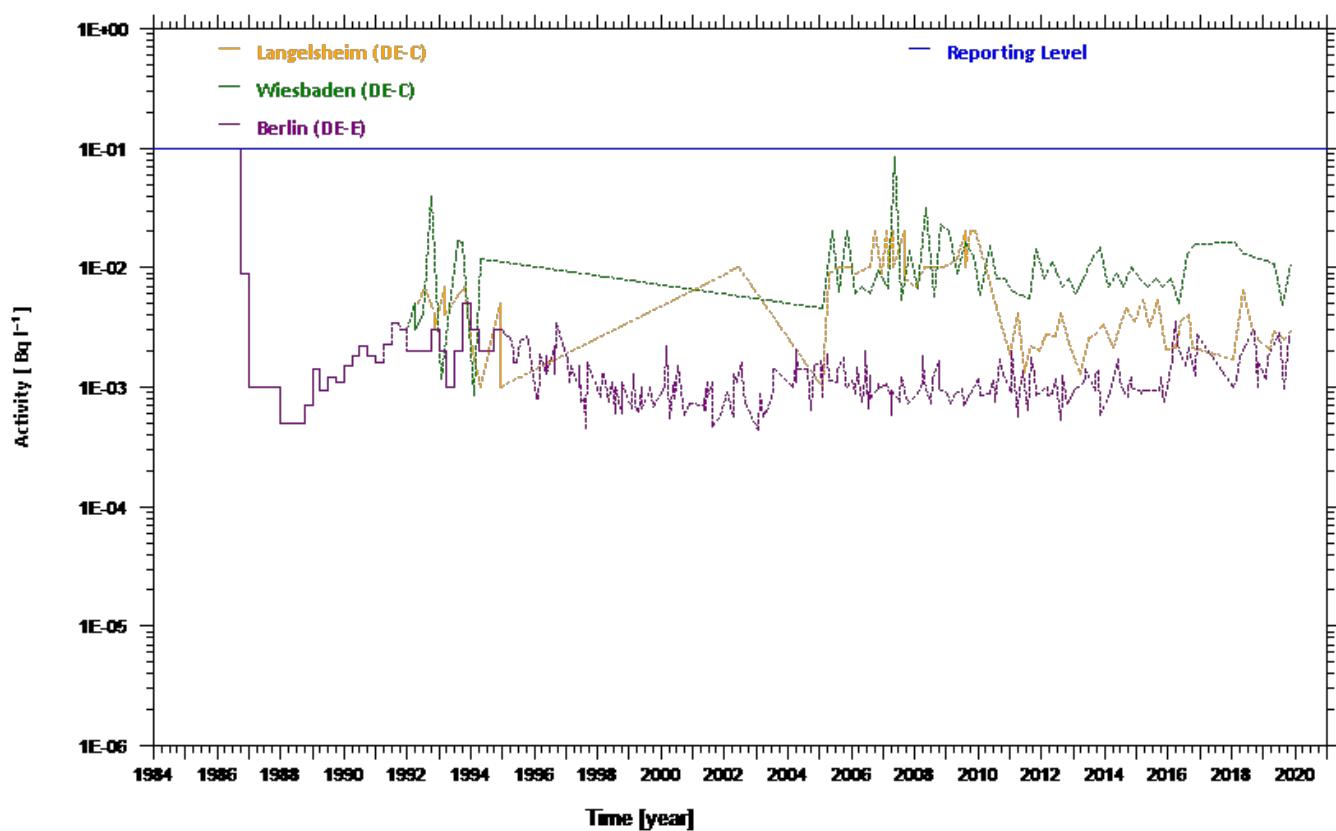
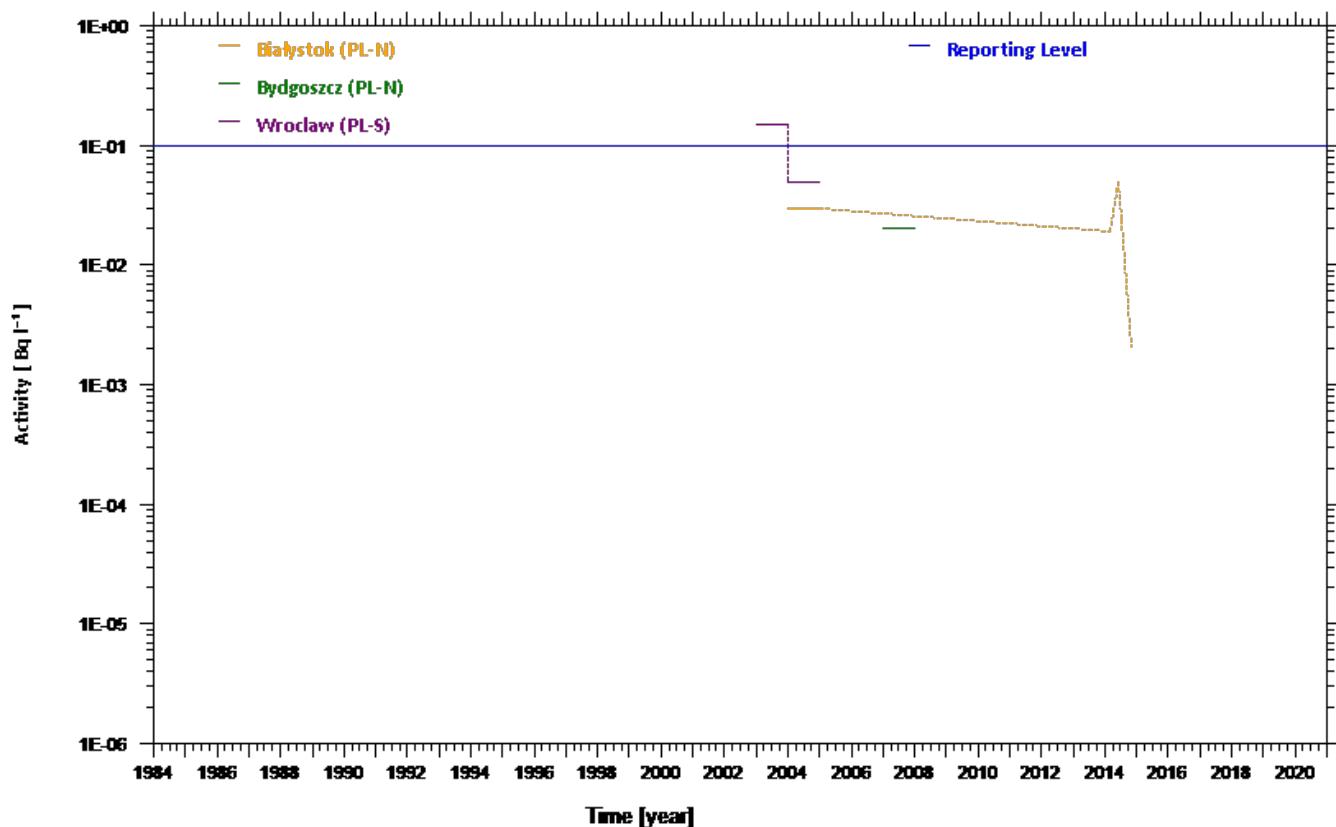


Fig. W52 Activity trends for ^{137}Cs in drinking water (Białystok, Bydgoszcz and Wrocław)



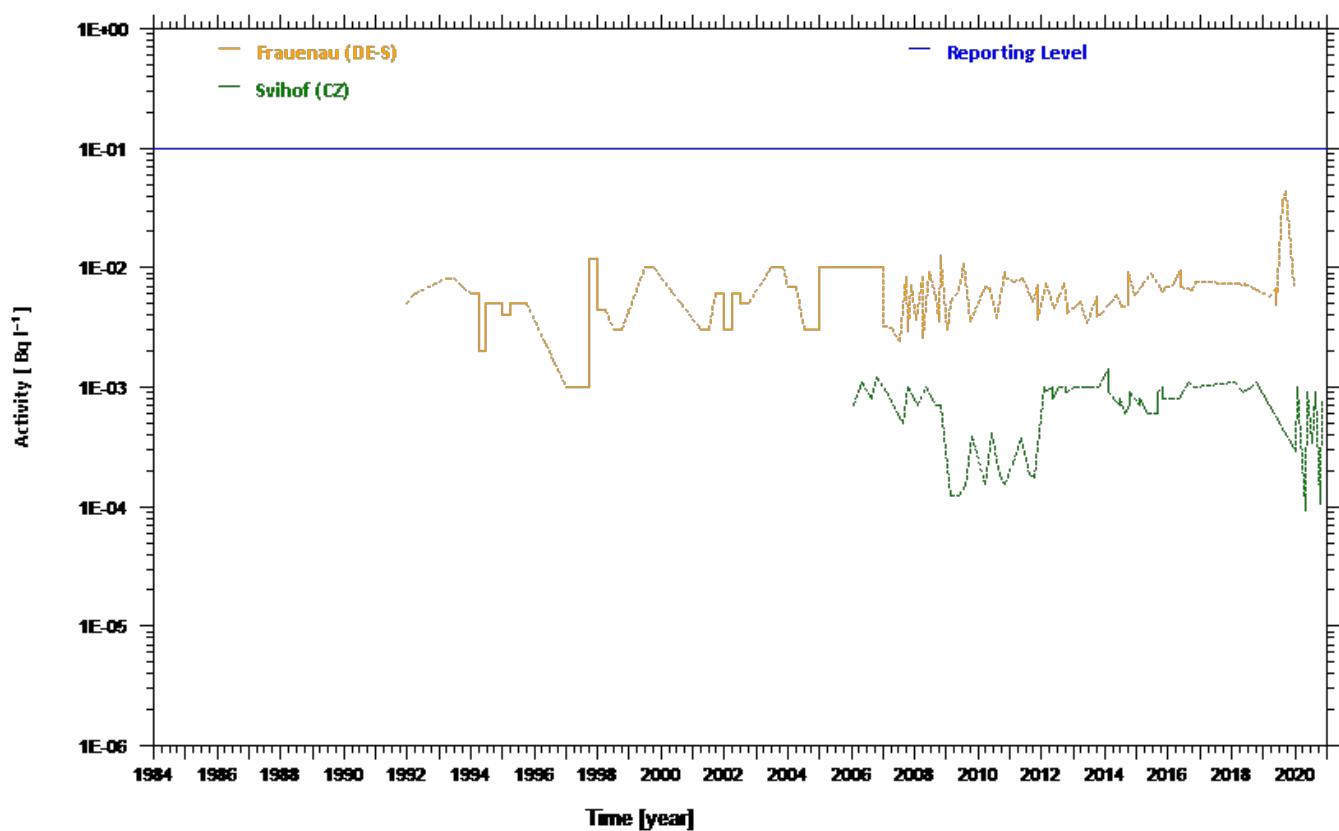
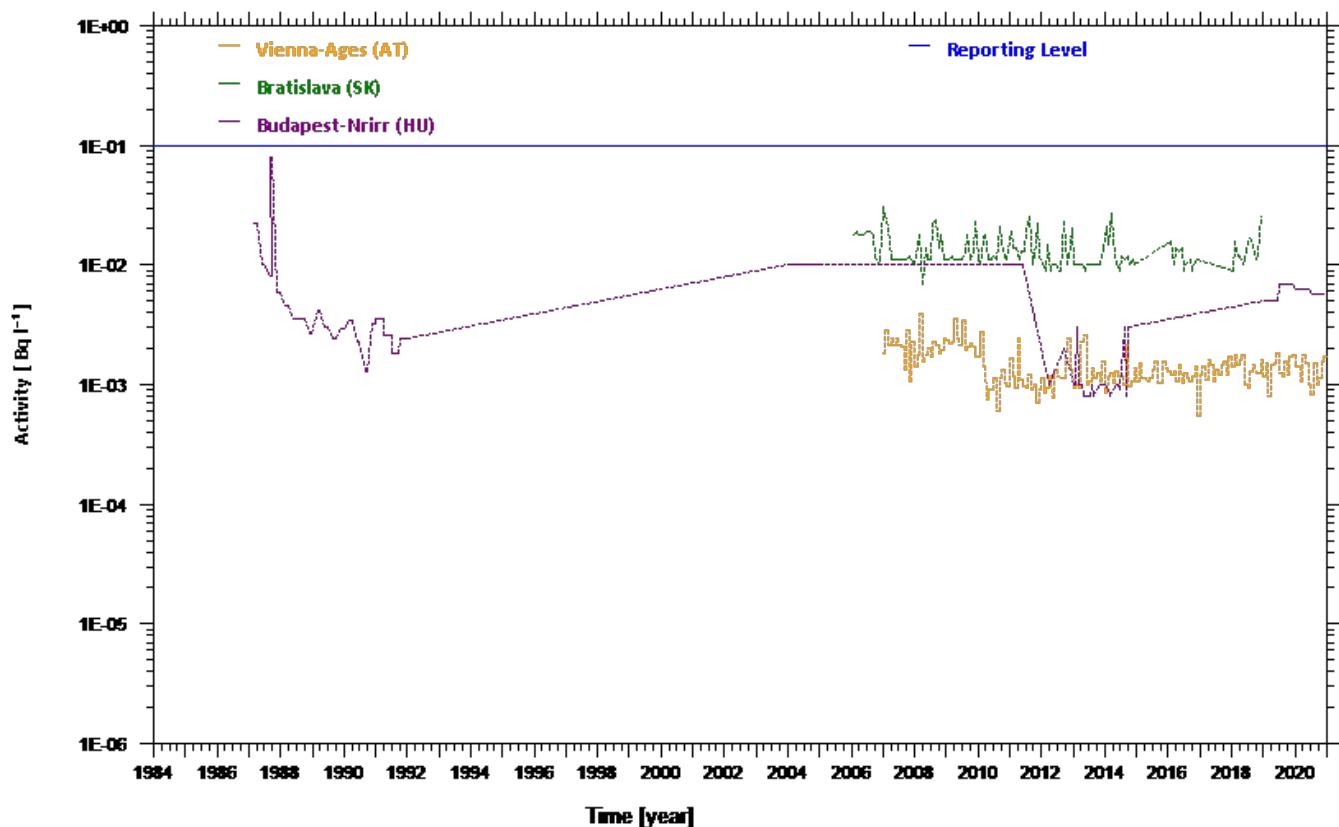
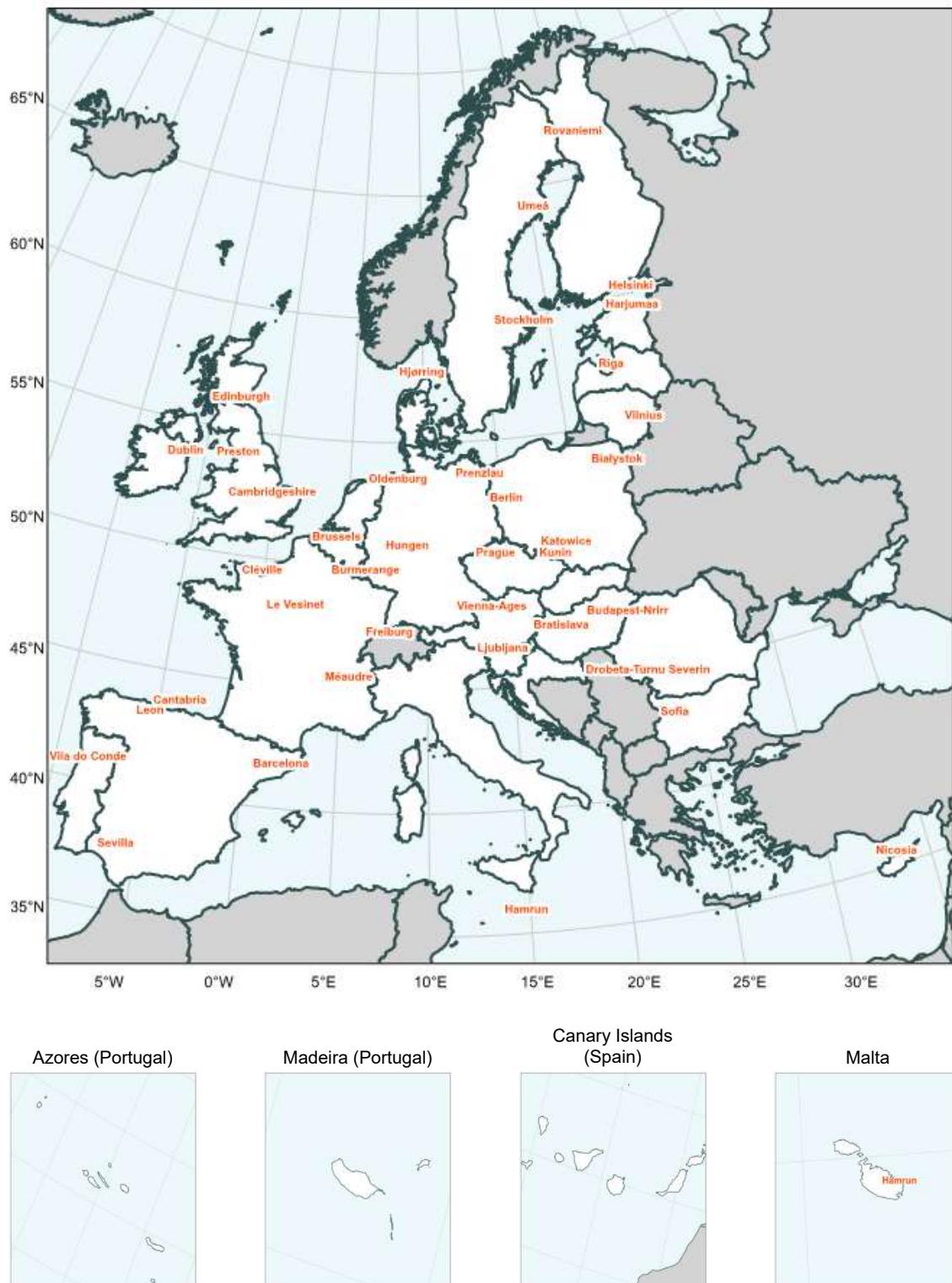
Activity trends**SAMPLE TYPE**drinking water (Bq l^{-1})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. W53** Activity trends for ^{137}Cs in drinking water (Frauenau and Svihof)**Fig. W54** Activity trends for ^{137}Cs in drinking water (Vienna-Ages, Bratislava and Budapest-Nriri)



Fig. M13

Sampling locations for ^{90}Sr and ^{137}Cs in milk considered in Figures M14 – M45





SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (${}^{90}\text{Sr}$)

Fig. M14 Activity trends for ${}^{90}\text{Sr}$ in milk (Hjørring, Rovaniemi and Helsinki)

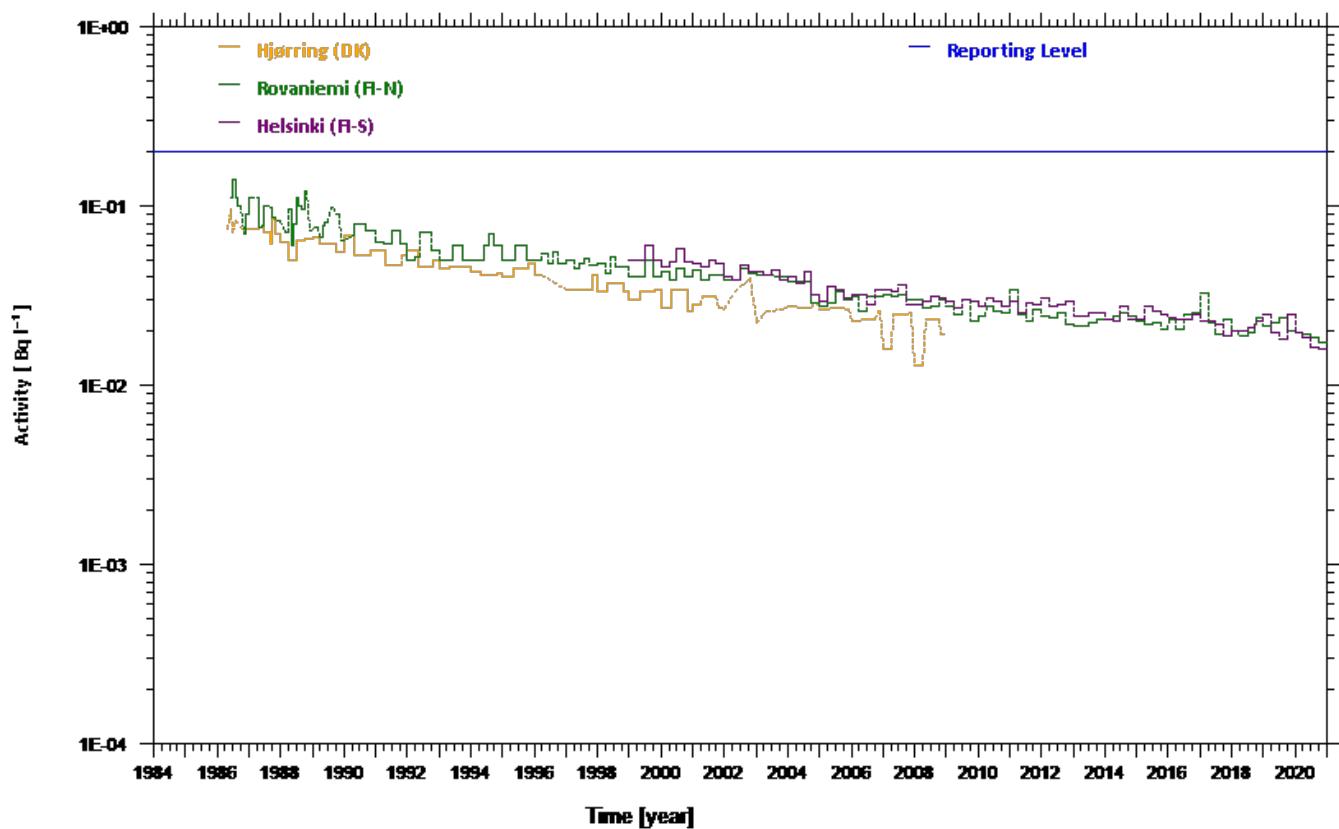
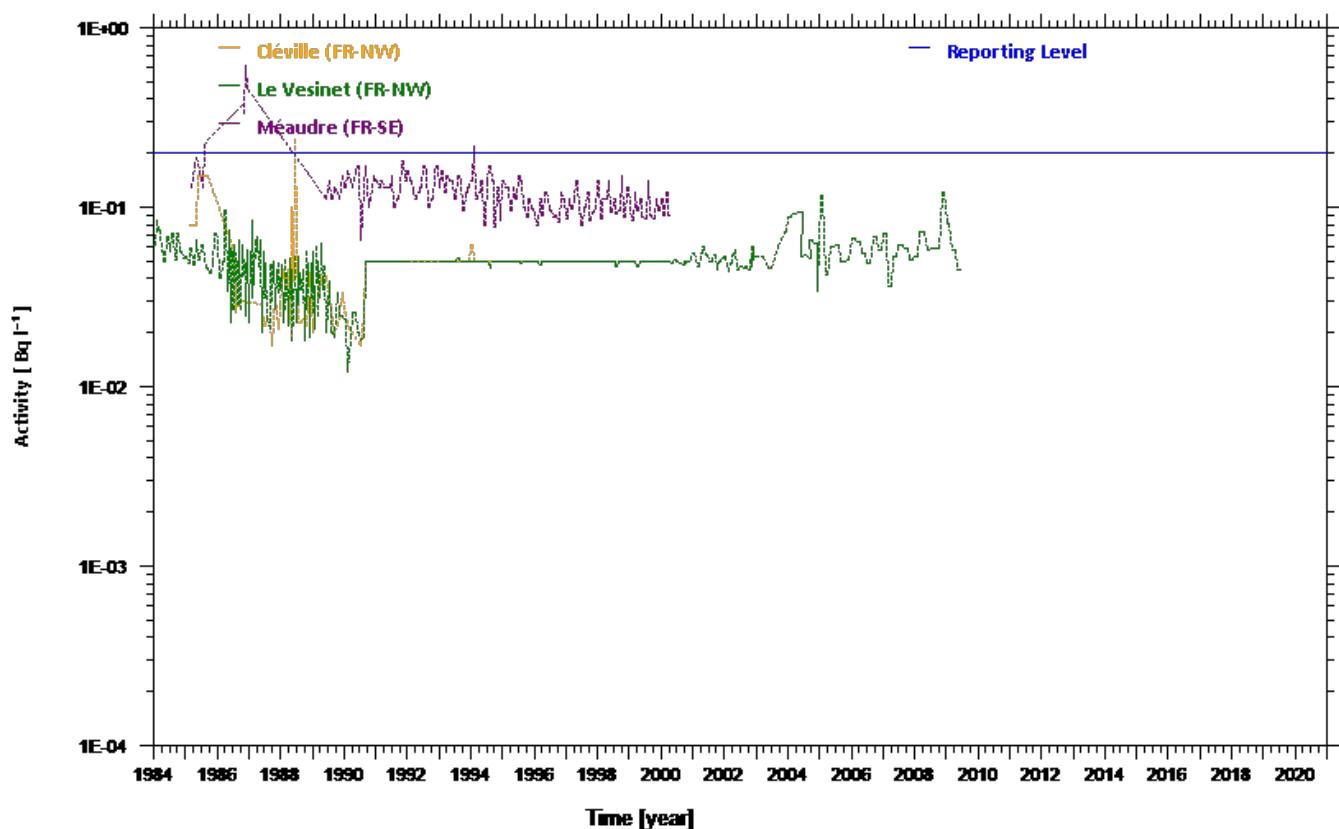
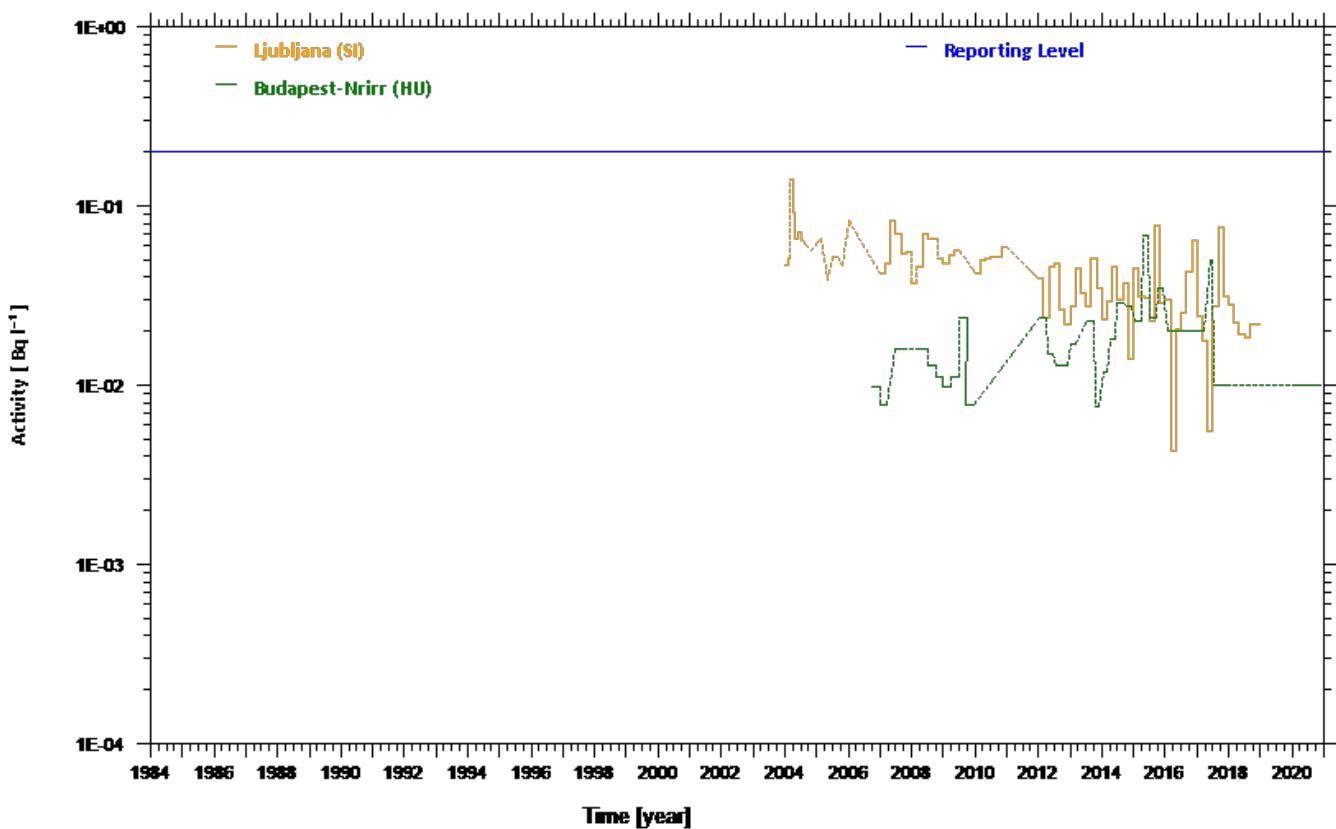
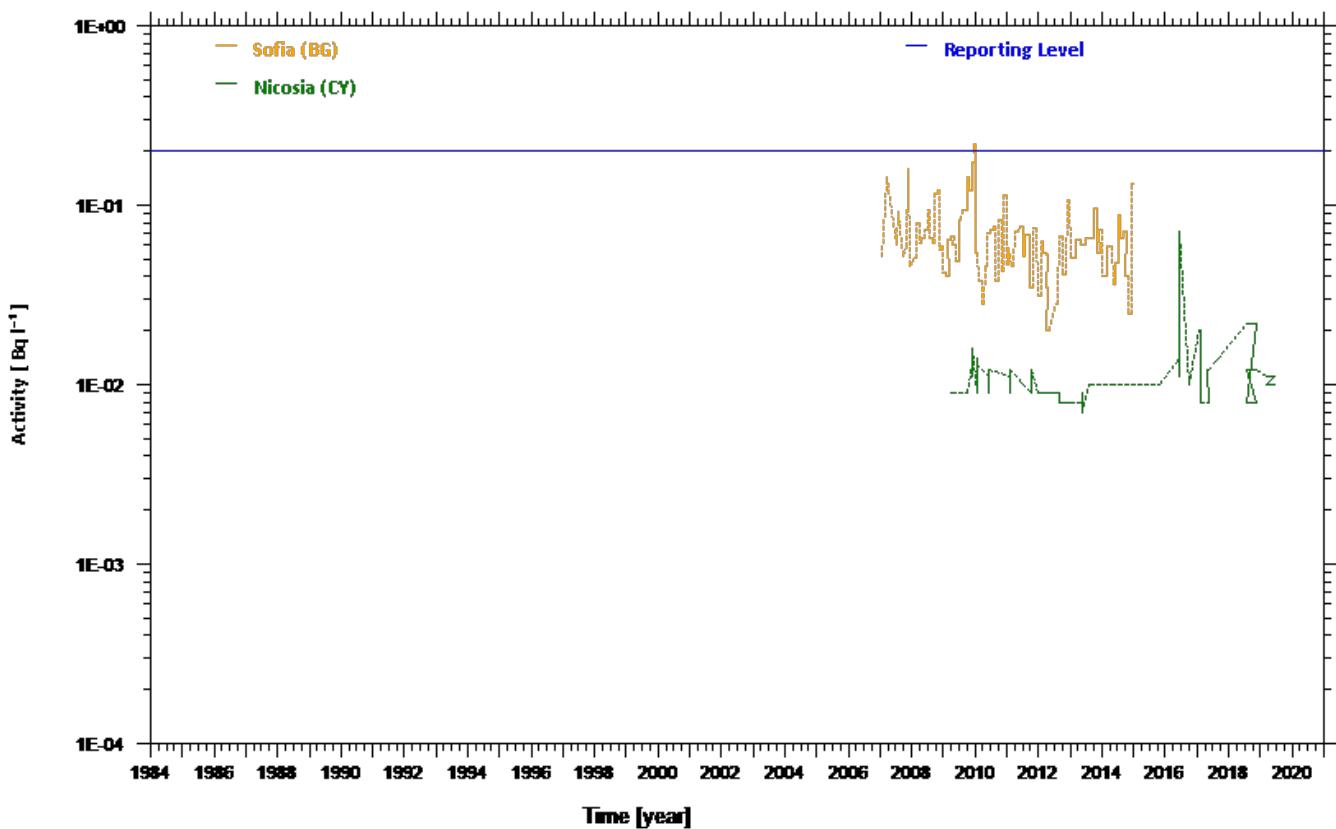


Fig. M15 Activity trends for ${}^{90}\text{Sr}$ in milk (Cléville, Le Vesinet and Méaudre)



Activity trends**SAMPLE TYPE** :milk (Bq l^{-1})**NUCLIDE CATEGORY** :strontium-90 (^{90}Sr)**Fig. M16** Activity trends for ^{90}Sr in milk (Ljubljana and Budapest-Nriri)**Fig. M17** Activity trends for ^{90}Sr in milk (Sofia and Nicosia)



SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (^{90}Sr)

Fig. M18 Activity trends for ^{90}Sr in milk (Cantabria, Leon and Barcelona)

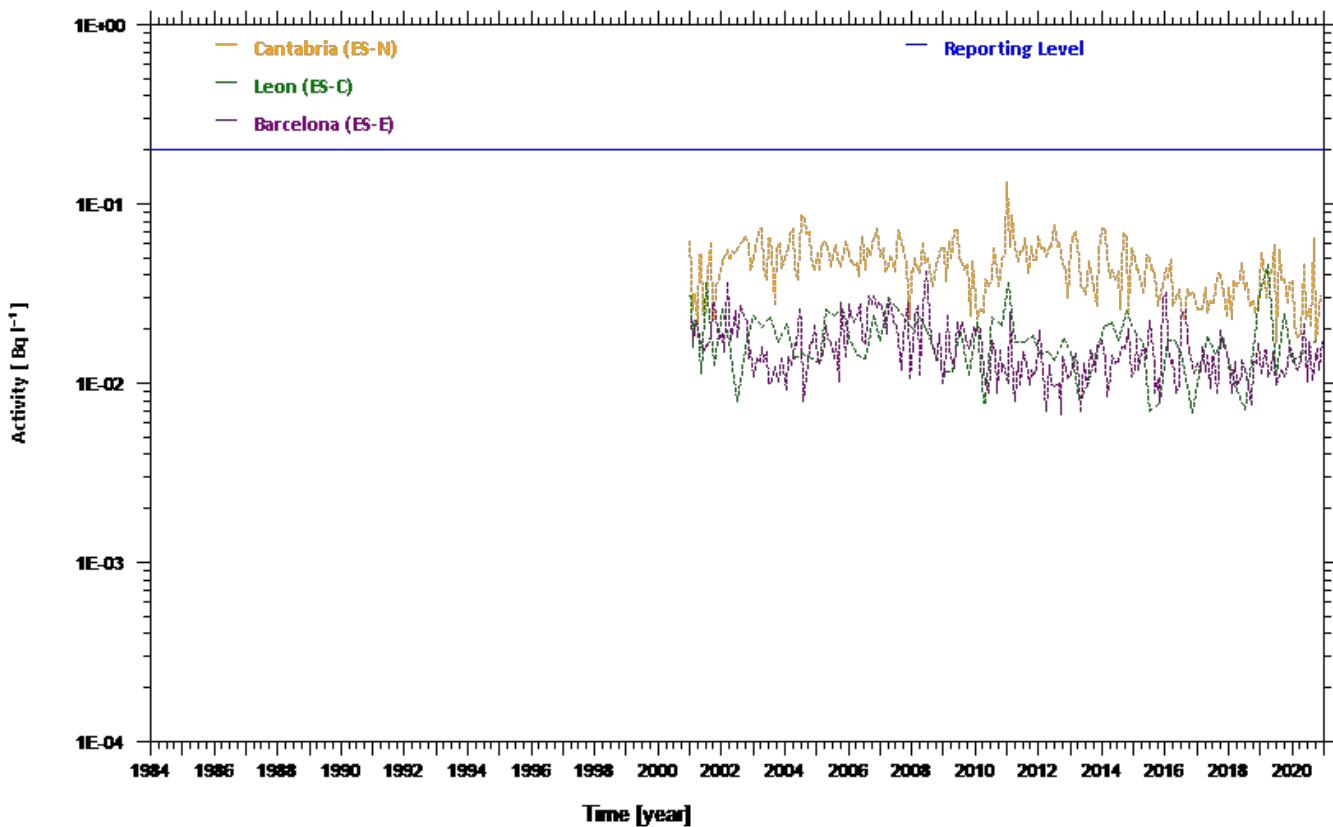
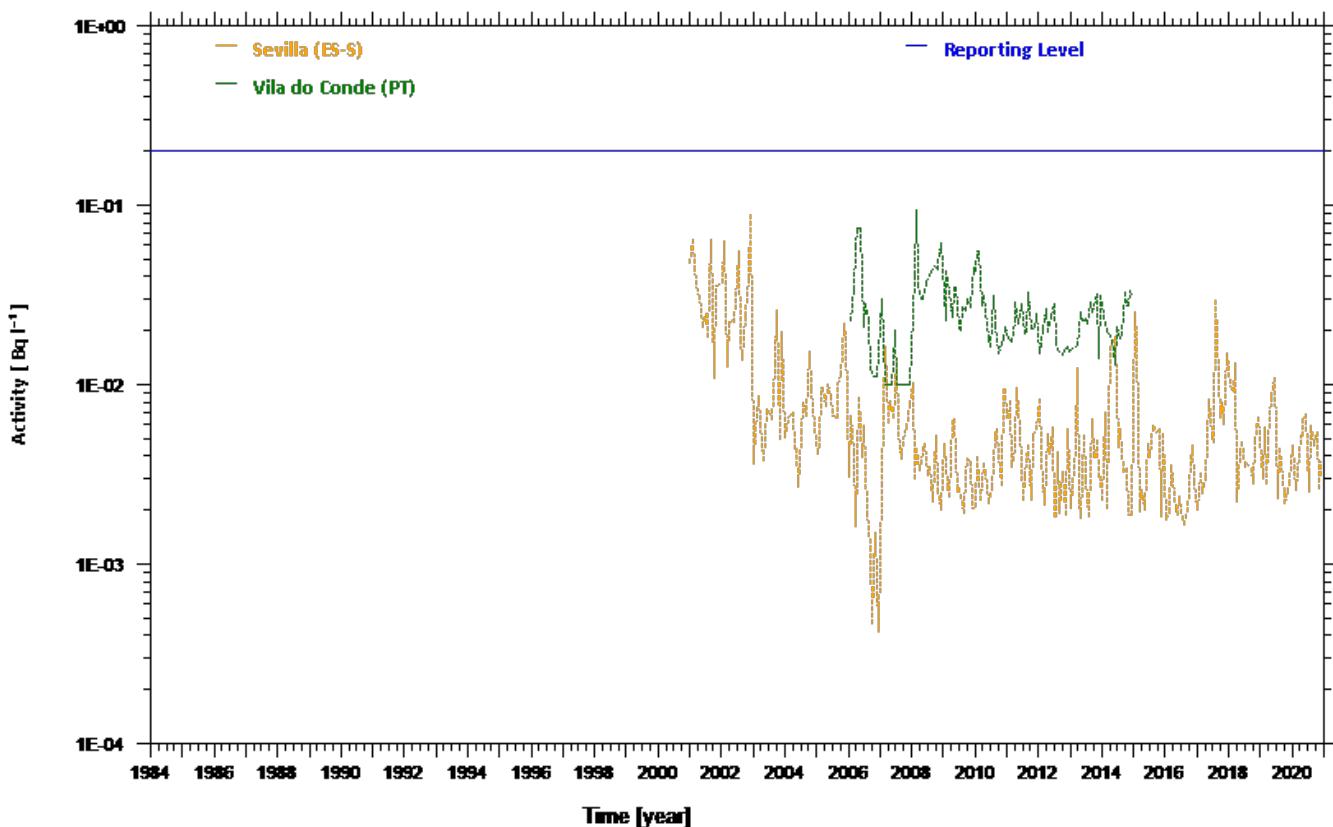
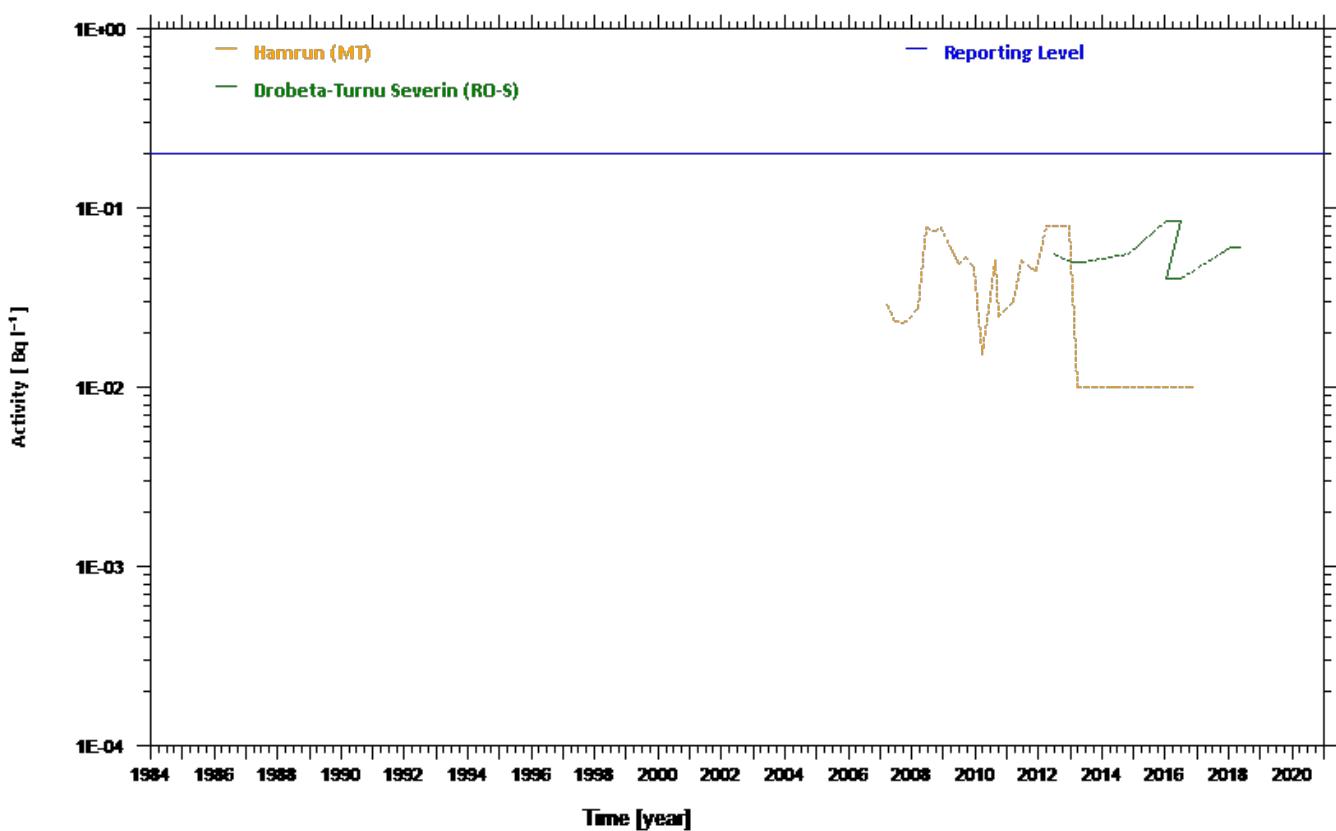
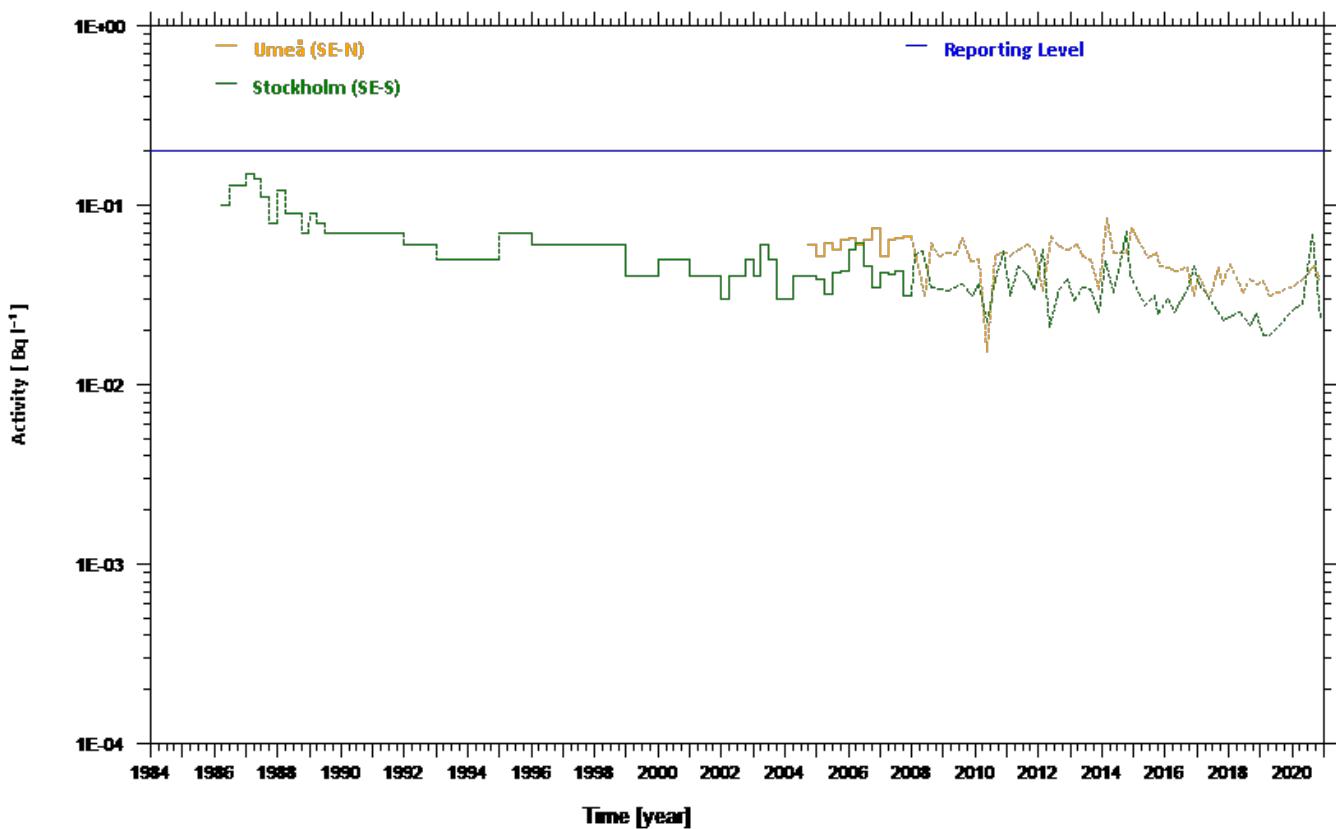


Fig. M19 Activity trends for ^{90}Sr in milk (Sevilla and Vila do Conde)



Activity trends**SAMPLE TYPE**milk (Bq l^{-1})**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. M20** Activity trends for ^{90}Sr in milk (Hamrun and Drobeta-Turnu Severin)**Fig. M21** Activity trends for ^{90}Sr in milk (Umeå and Stockholm)



SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : strontium-90 (${}^{90}\text{Sr}$)

Fig. M22 Activity trends for ${}^{90}\text{Sr}$ in milk (Harjumaa, Riga and Vilnius)

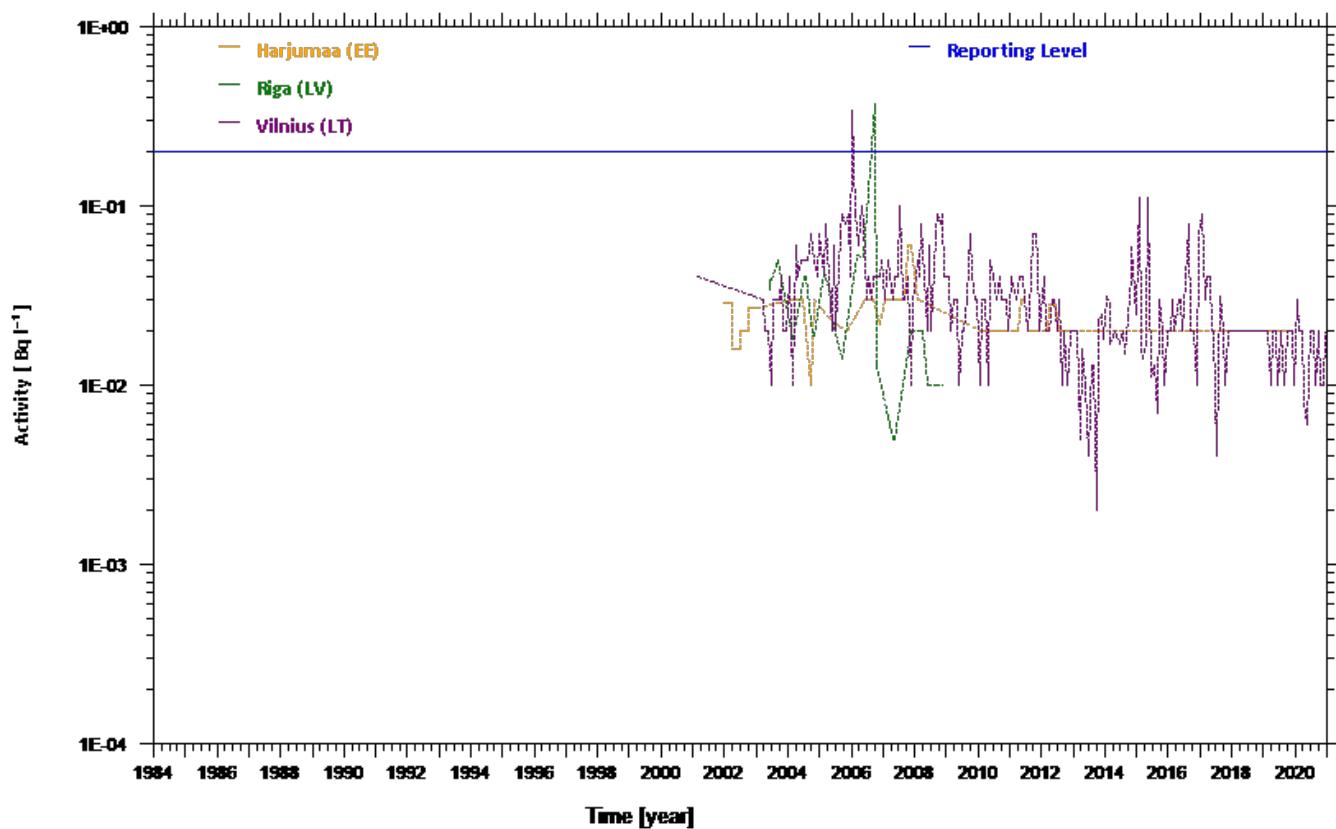
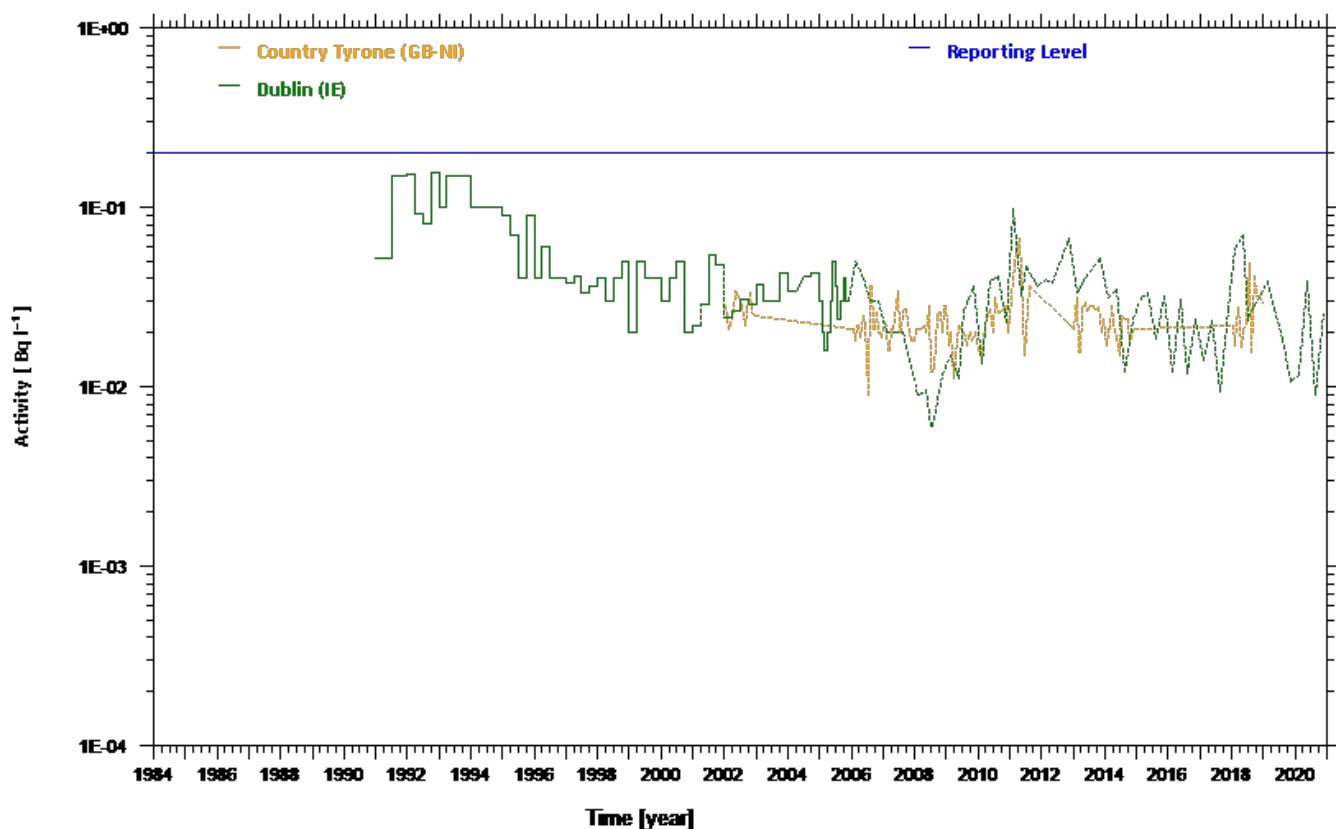


Fig. M23 Activity trends for ${}^{90}\text{Sr}$ in milk (Country Tyrone and Dublin)

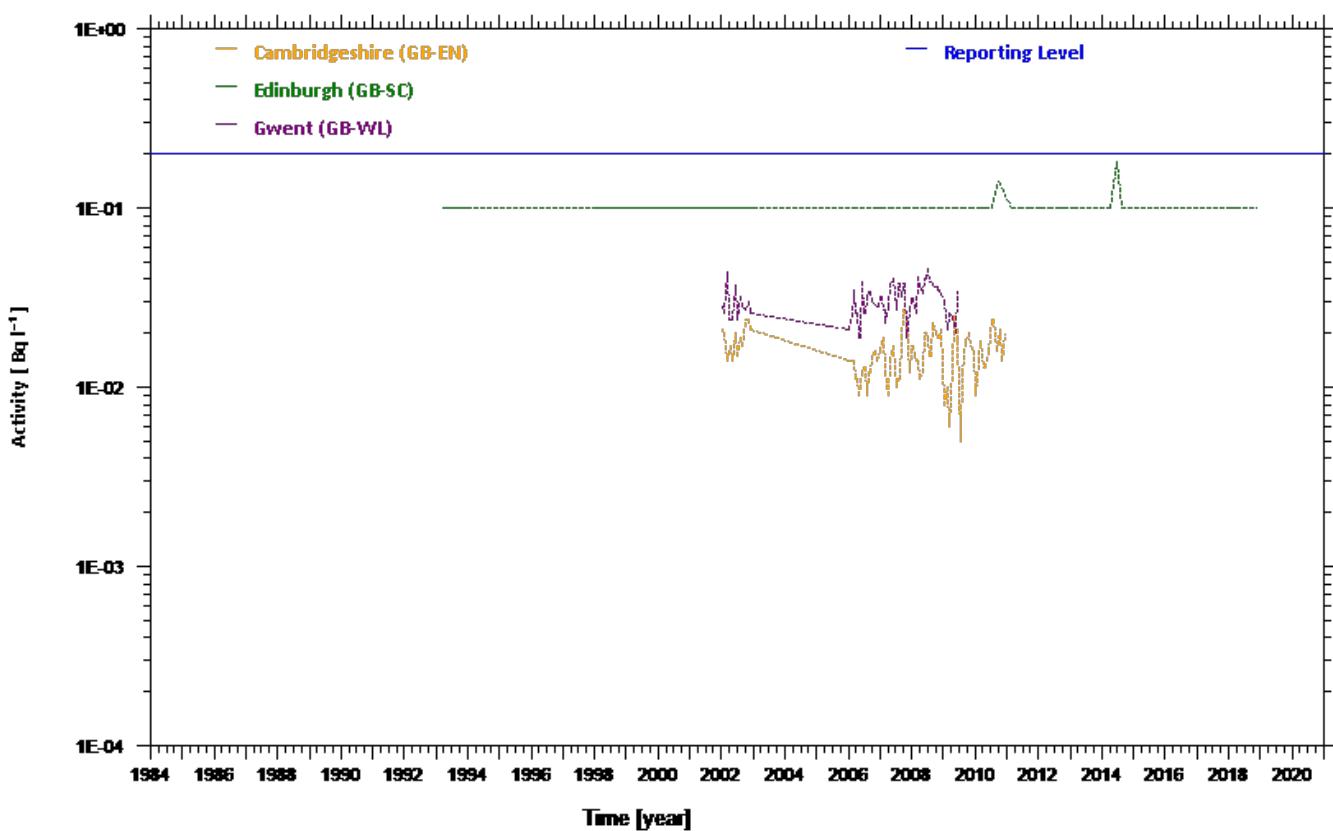
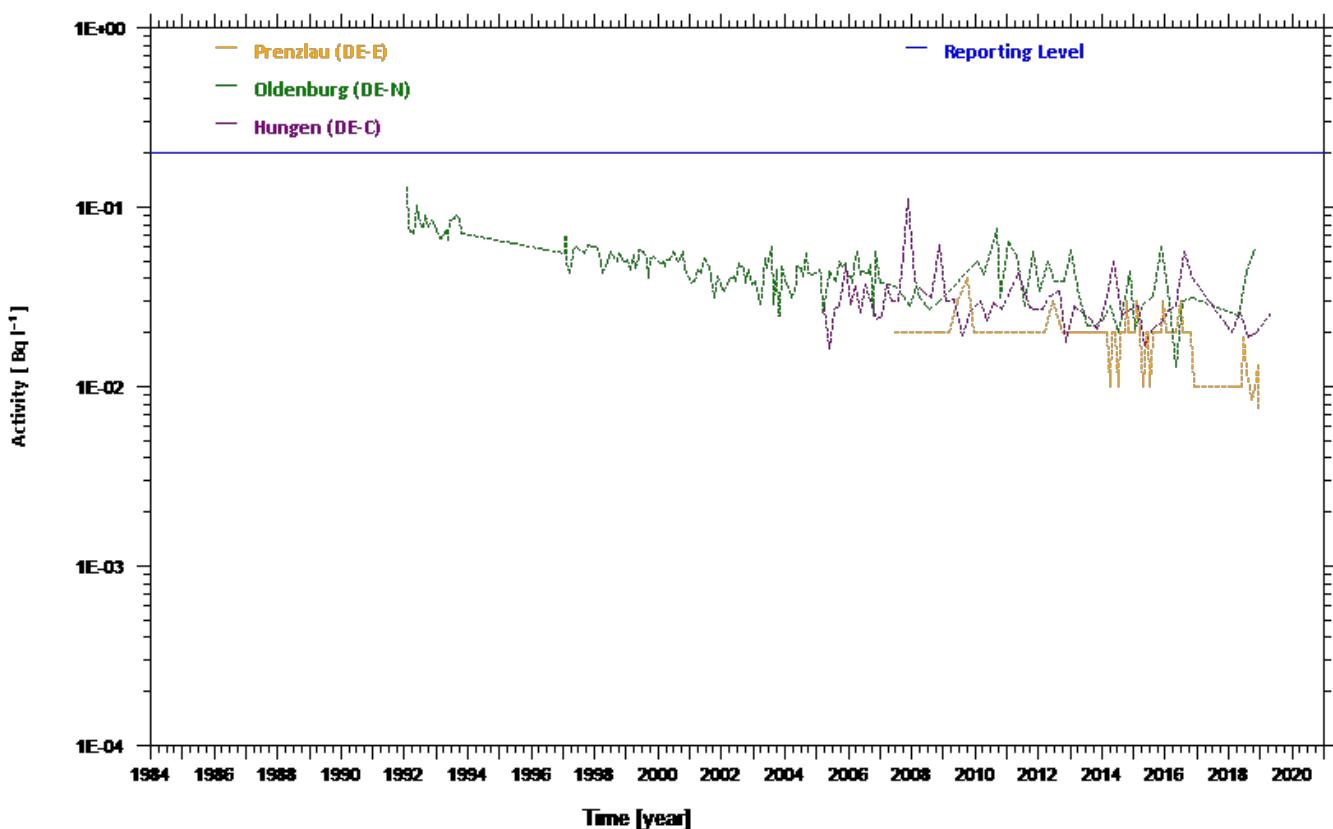


Activity trends

SAMPLE TYPE :

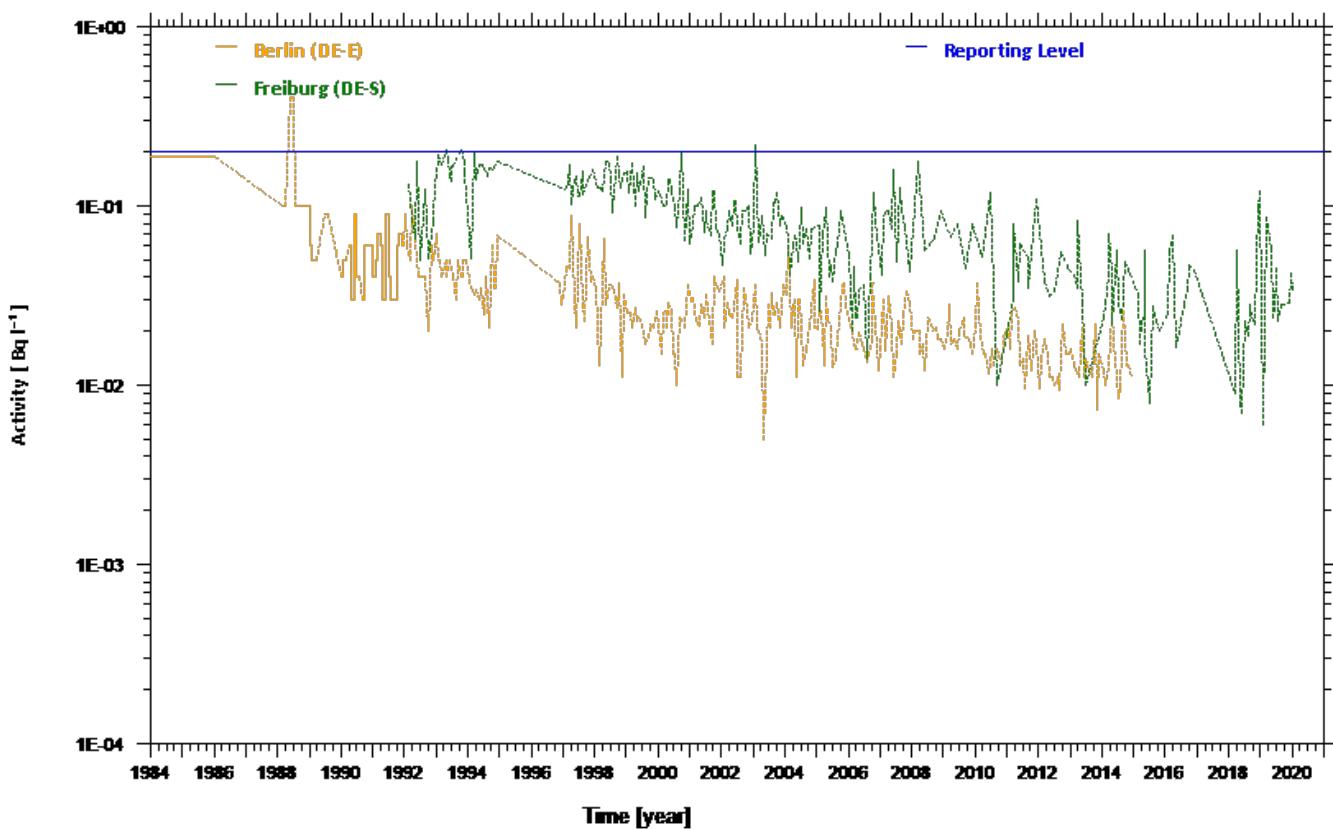
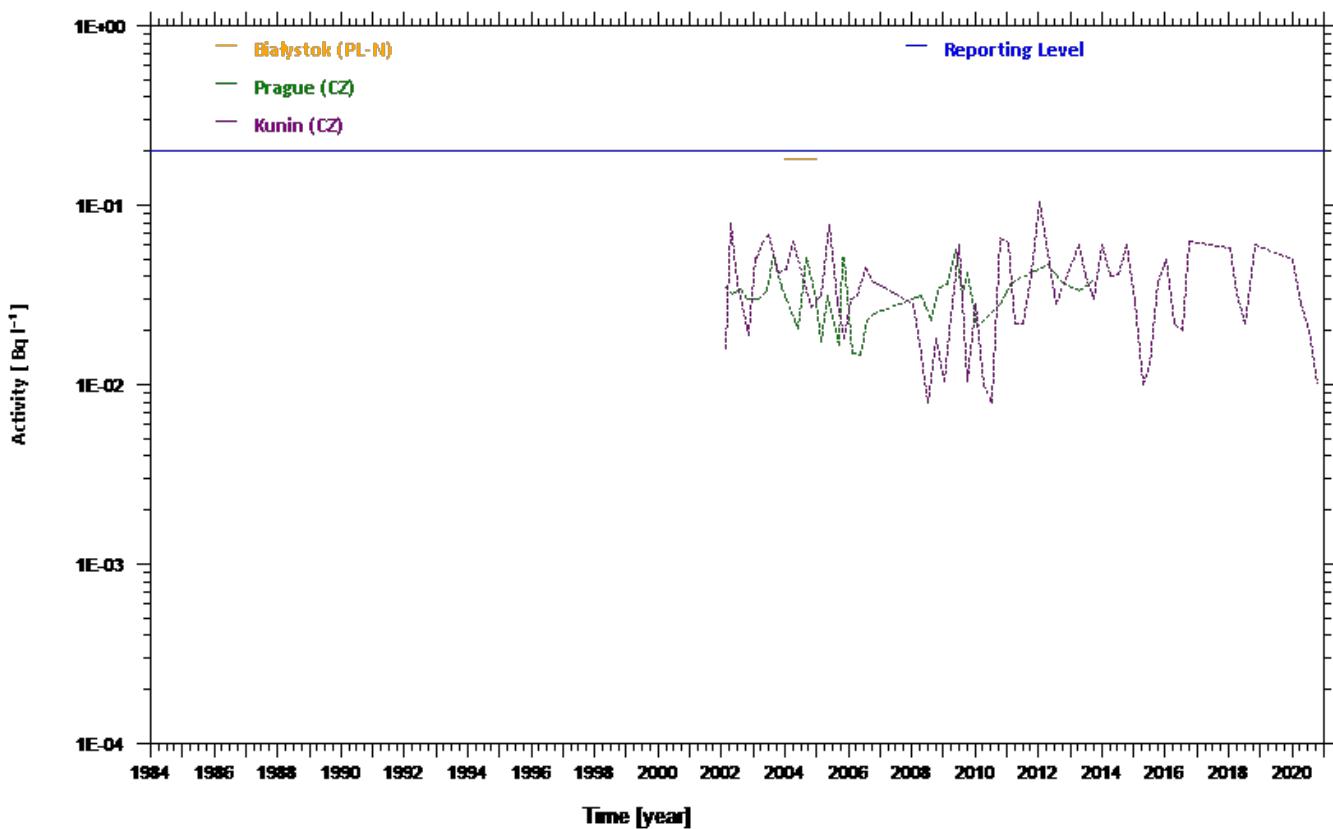
milk (Bq l^{-1})

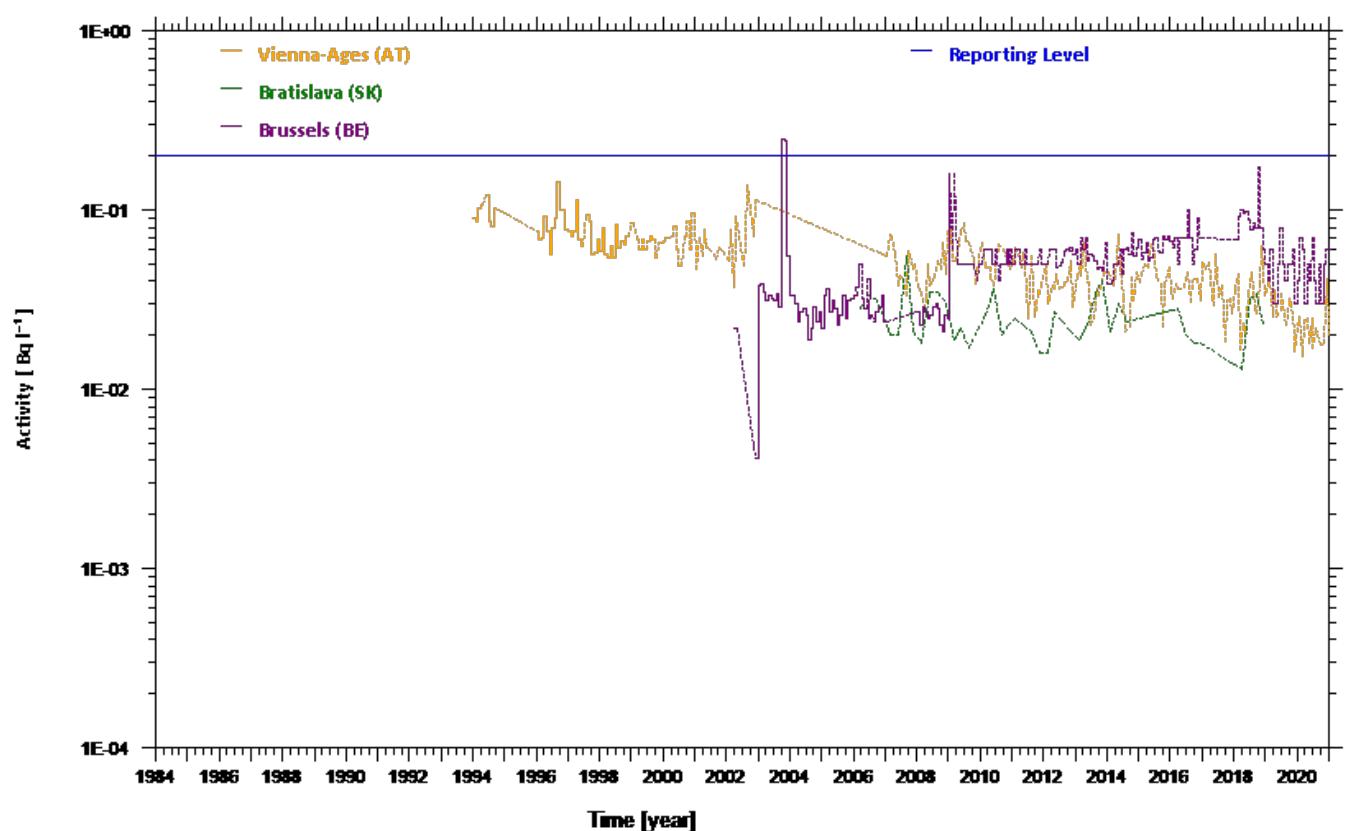
NUCLIDE CATEGORY :

strontium-90 (^{90}Sr)**Fig. M24** Activity trends for ^{90}Sr in milk (Cambridgeshire, Edinburgh and Gwent)**Fig. M25** Activity trends for ^{90}Sr in milk (Prenzlau, Oldenburg and Hungen)



SPARSE

Activity trends**SAMPLE TYPE**milk (Bq l^{-1})**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. M26** Activity trends for ^{90}Sr in milk (Berlin and Freiburg)**Fig. M27** Activity trends for ^{90}Sr in milk (Białystok, Prague and Kunin)

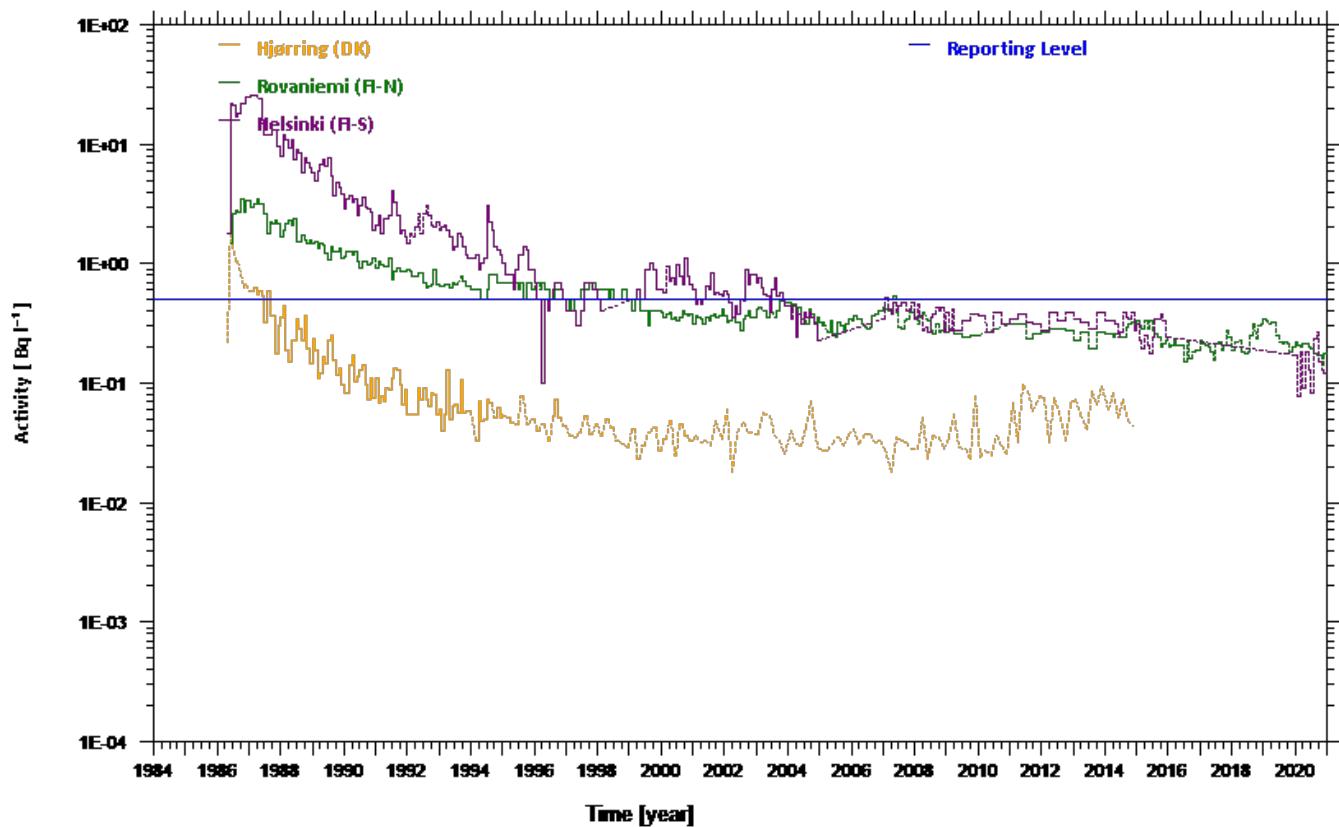
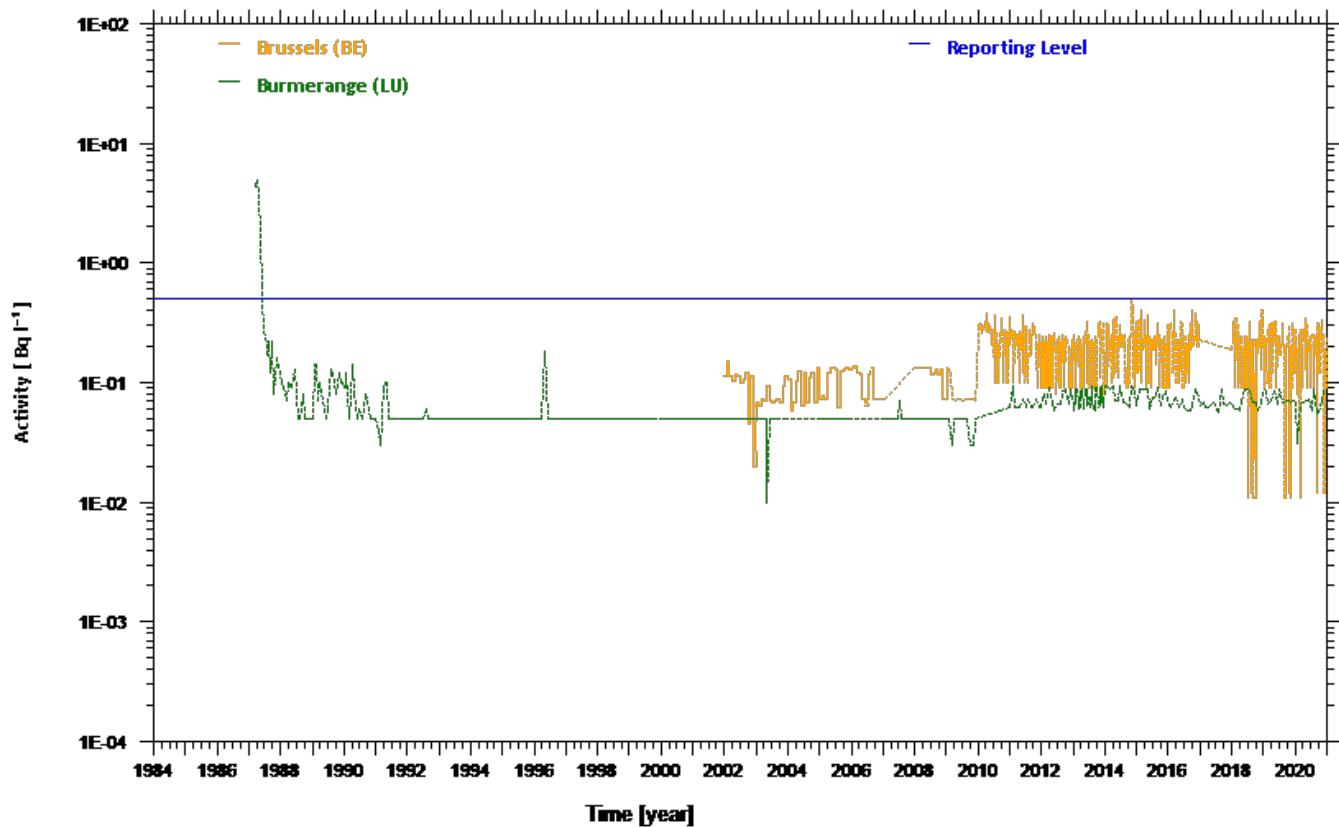
Activity trends**SAMPLE TYPE**milk (Bq l^{-1})**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. M28** Activity trends for ^{90}Sr in milk (Vienna-Ages, Bratislava and Brussels)



SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

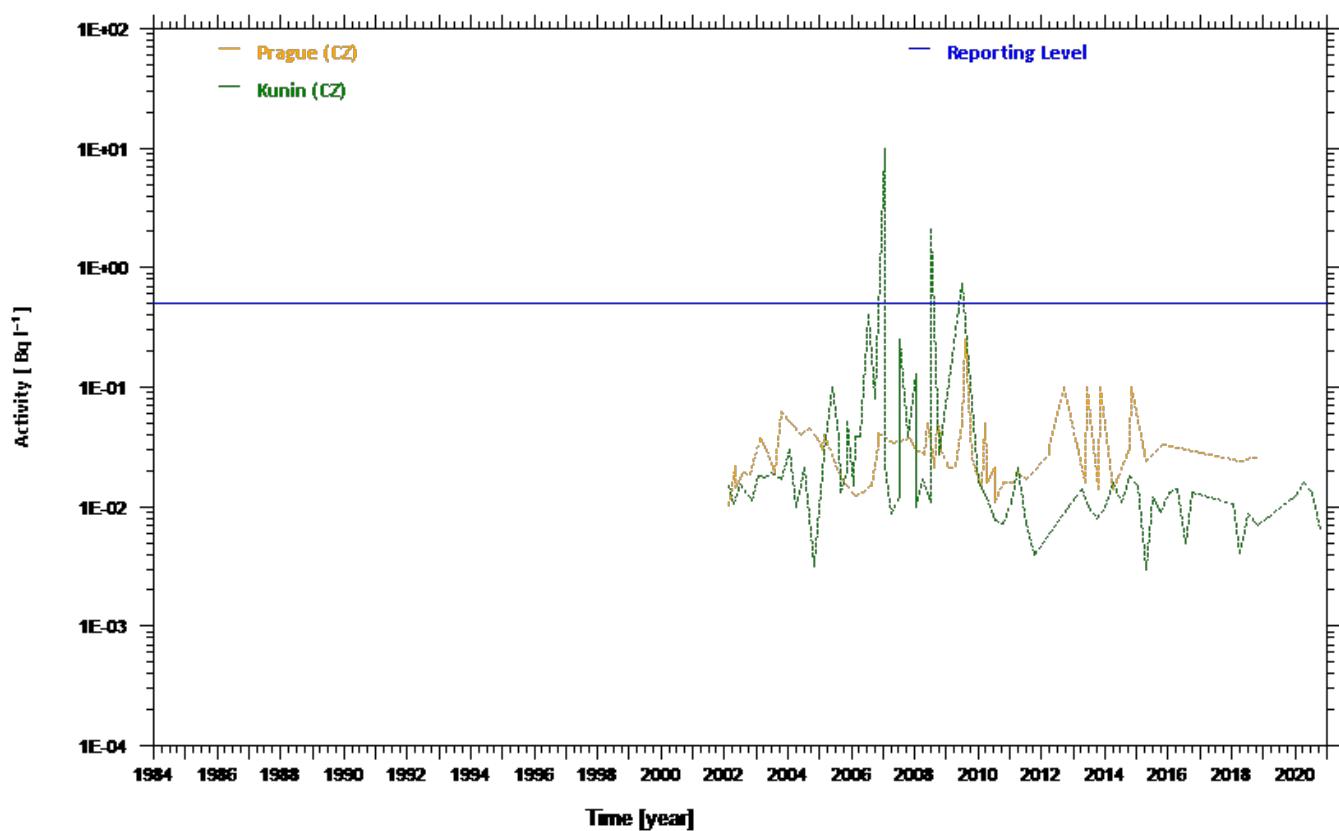
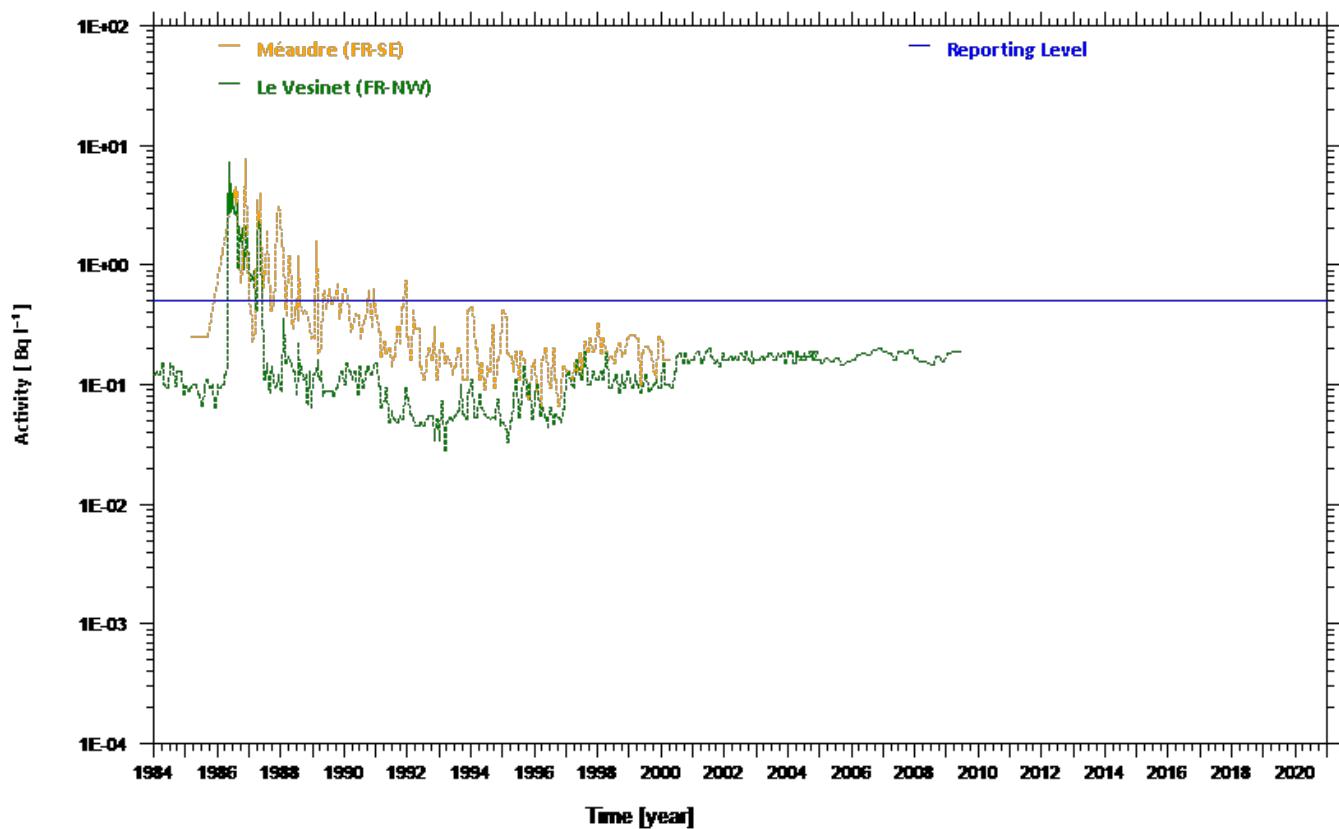
Fig. M29 Activity trends for ^{137}Cs in milk (Hjørring, Rovaniemi and Helsinki)**Fig. M30** Activity trends for ^{137}Cs in milk (Brussels and Burmerange)

Activity trends

SAMPLE TYPE :

milk (Bq l^{-1})

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)**Fig. M31** Activity trends for ^{137}Cs in milk (Prague and Kunin)**Fig. M32** Activity trends for ^{137}Cs in milk (Méaudre and Le Vesinet)



SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Fig. M33 Activity trends for ^{137}Cs in milk (Freiburg, Ljubljana and Budapest-Nrerr)

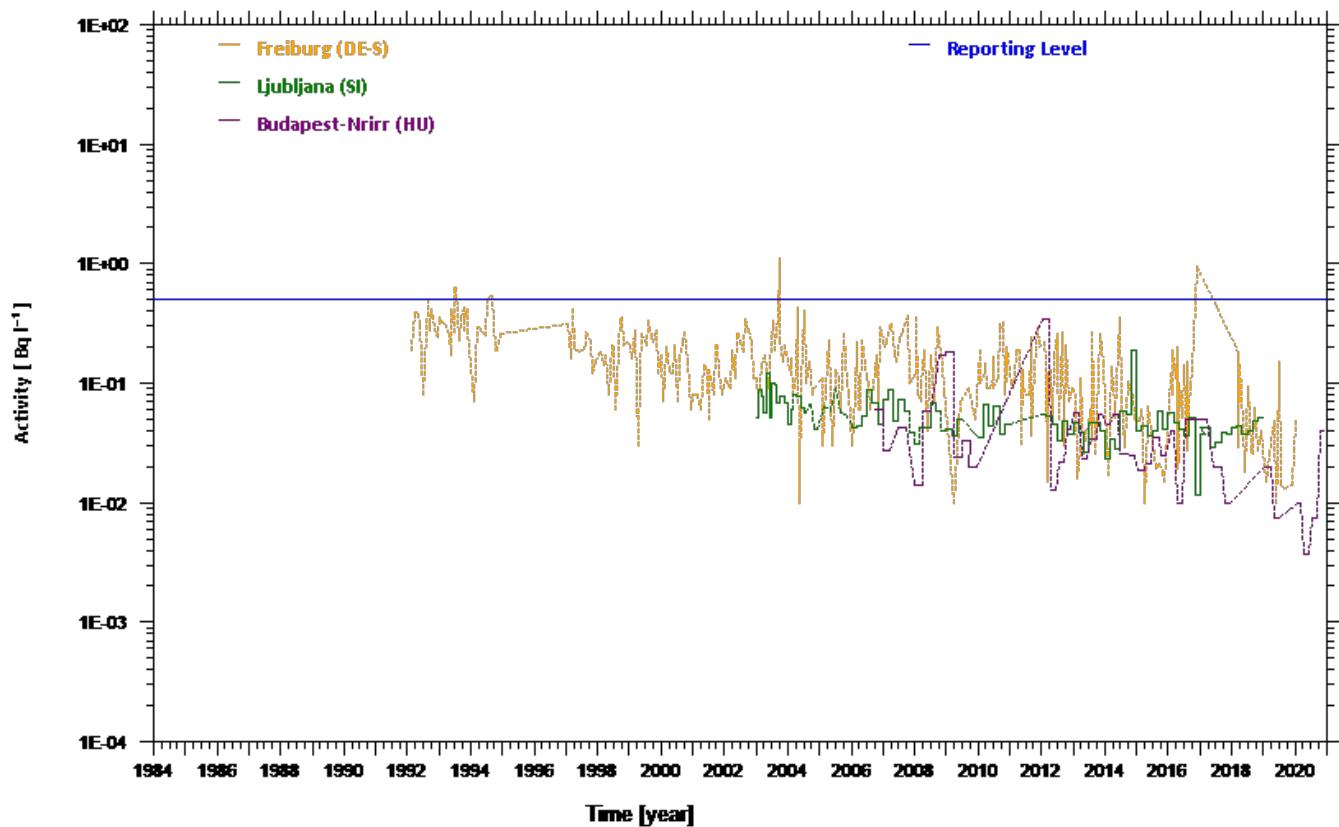
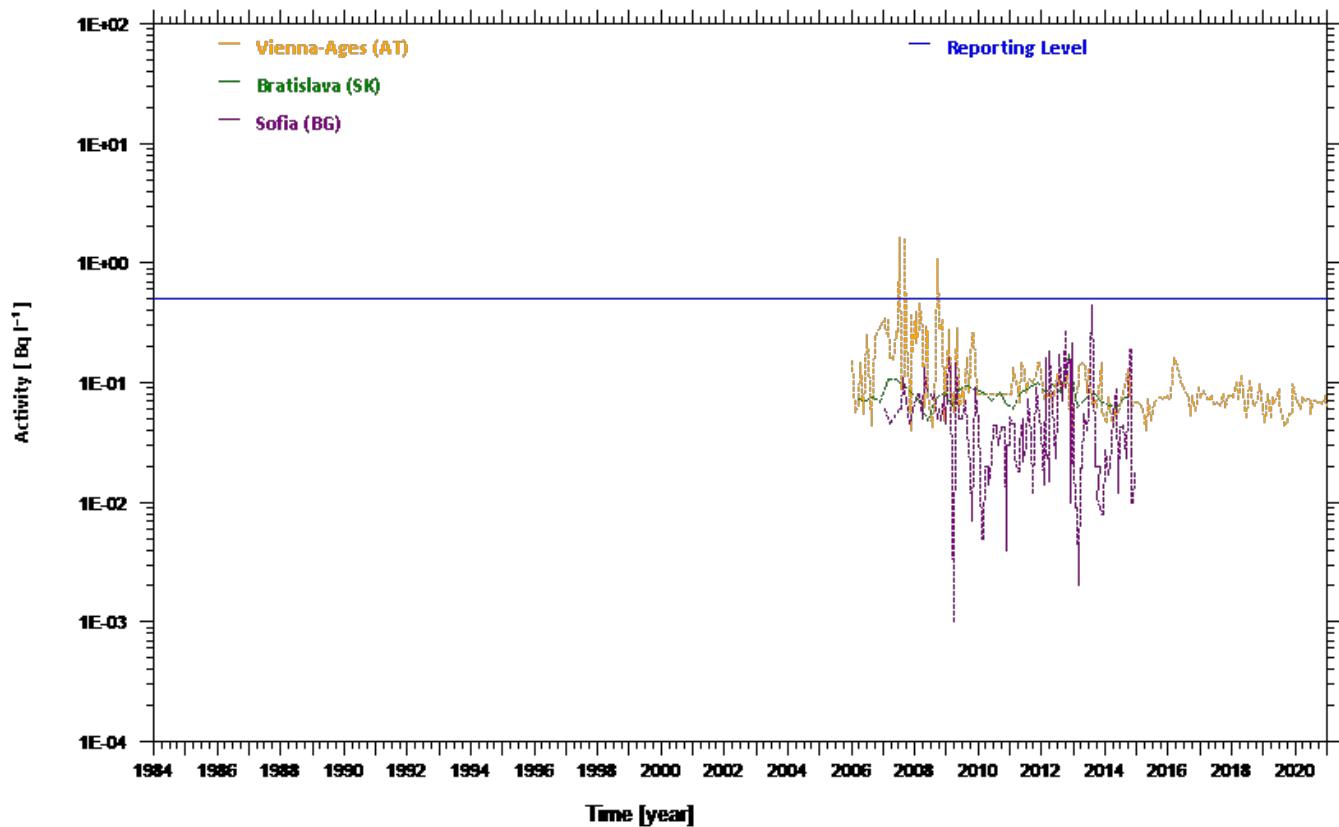


Fig. M34 Activity trends for ^{137}Cs in milk (Vienna-Ages, Bratislava and Sofia)



Activity trends
SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)



Fig. M35 Activity trends for ^{137}Cs in milk (Cantabria, Leon and Barcelona)

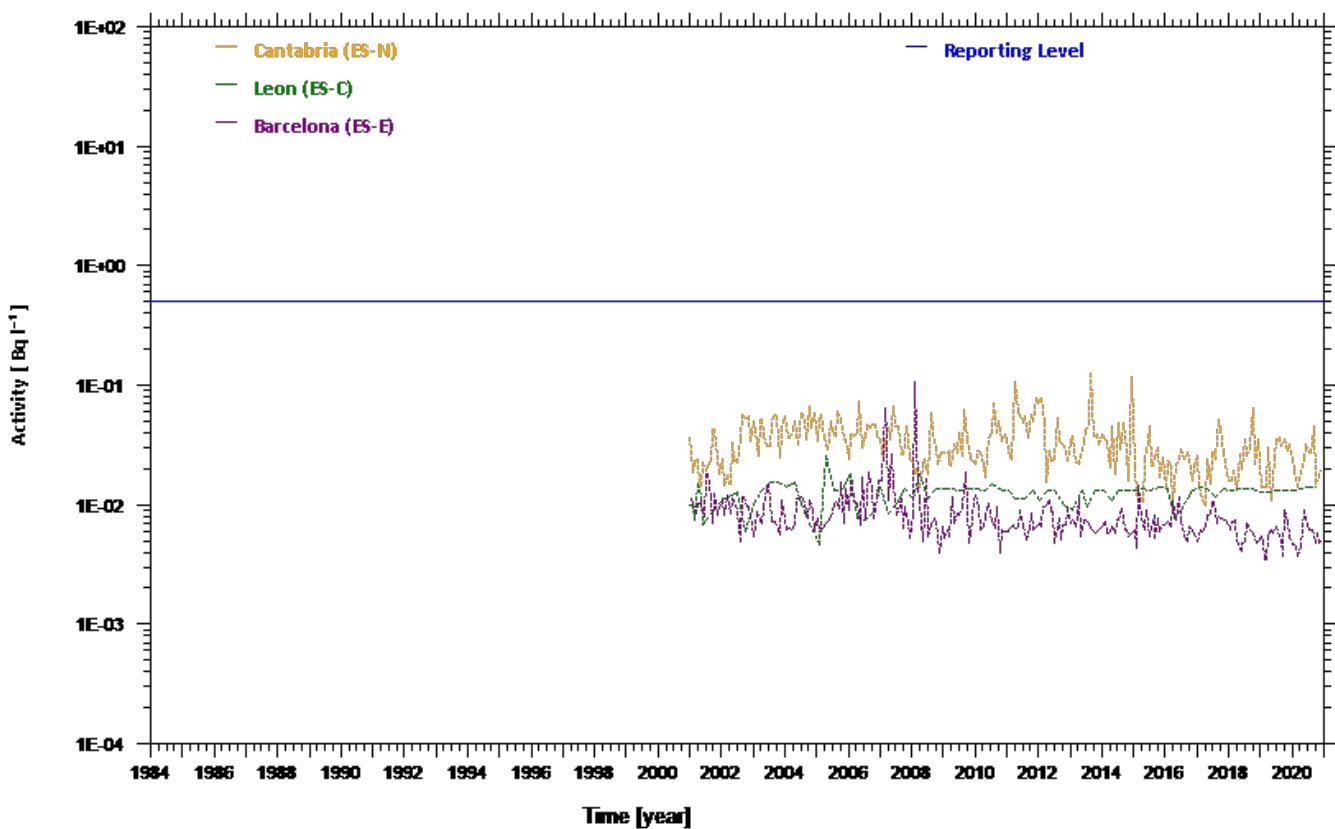
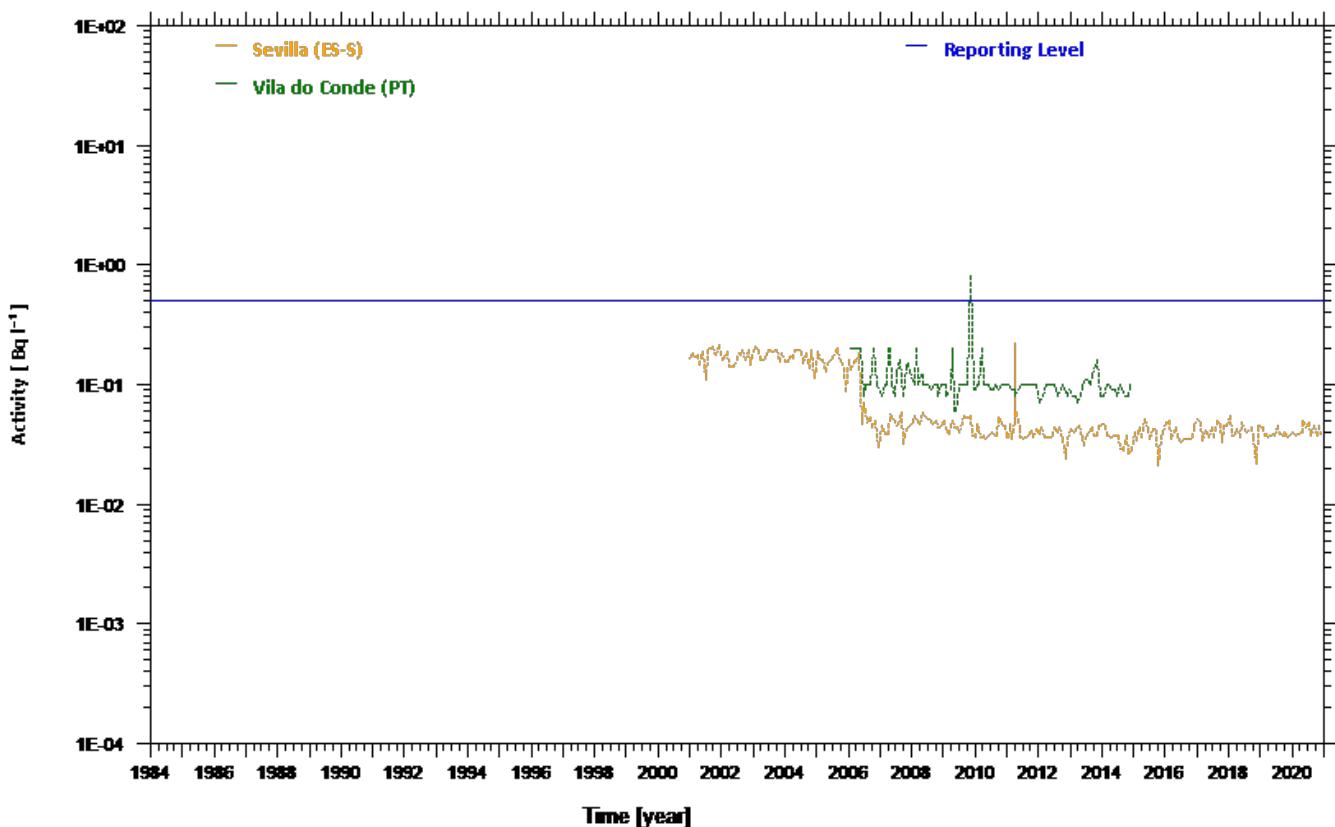


Fig. M36 Activity trends for ^{137}Cs in milk (Sevilla and Vila do Conde)

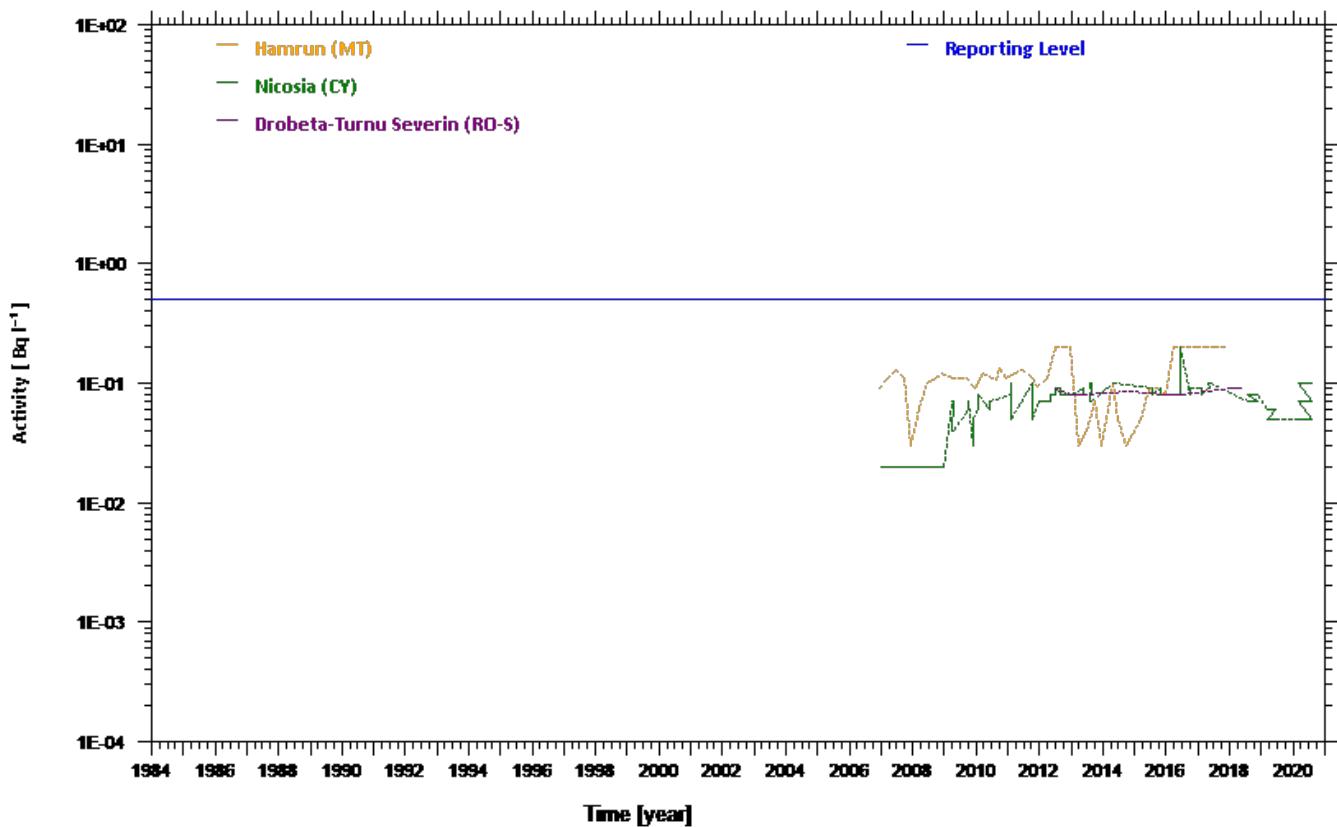
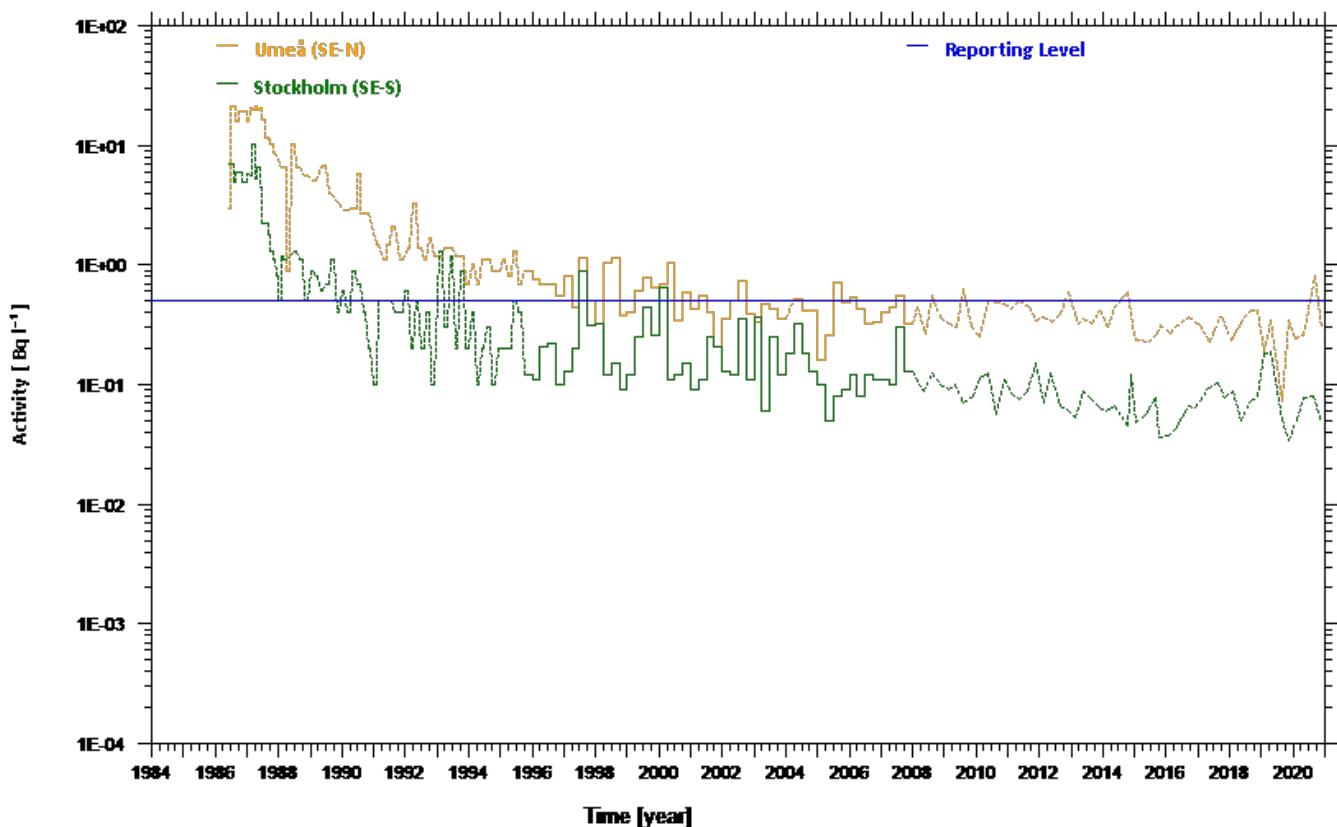




SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

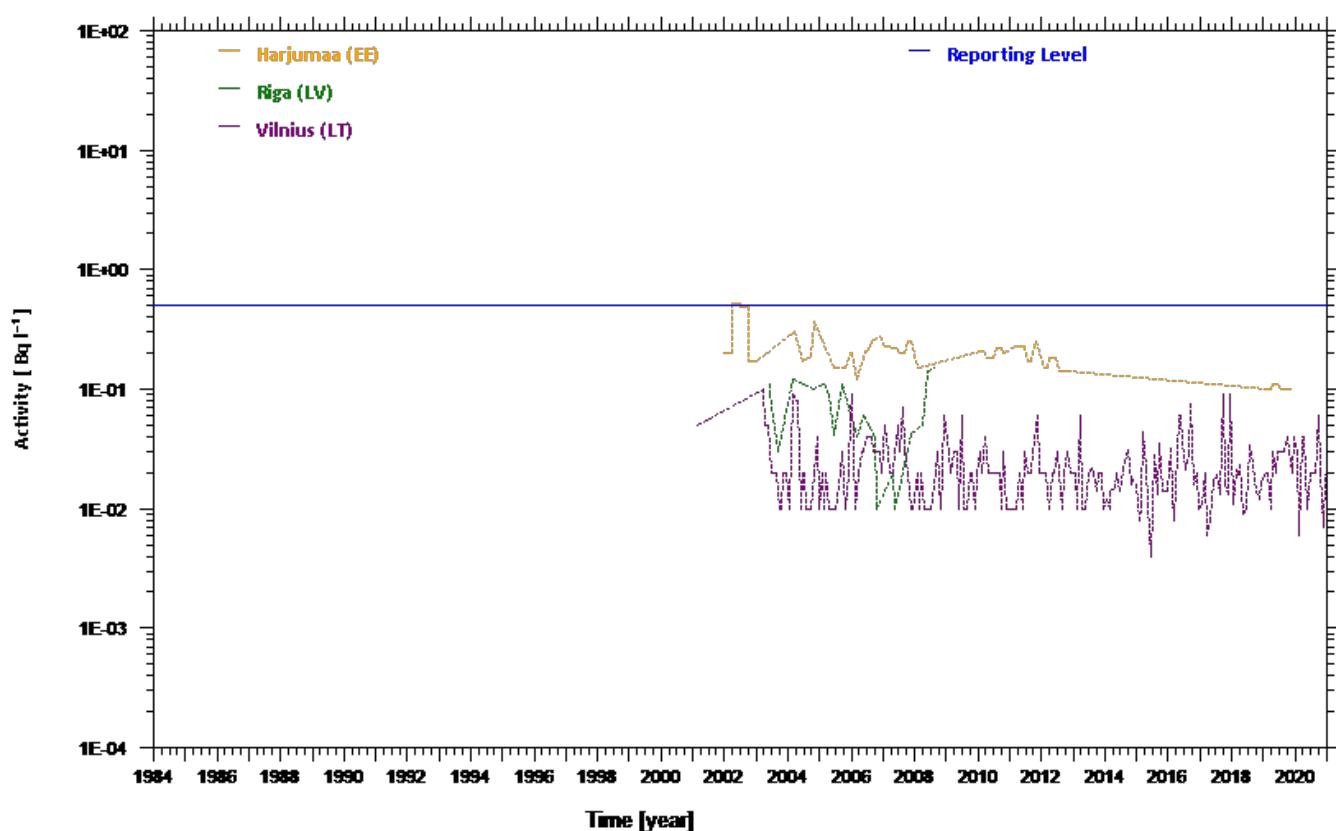
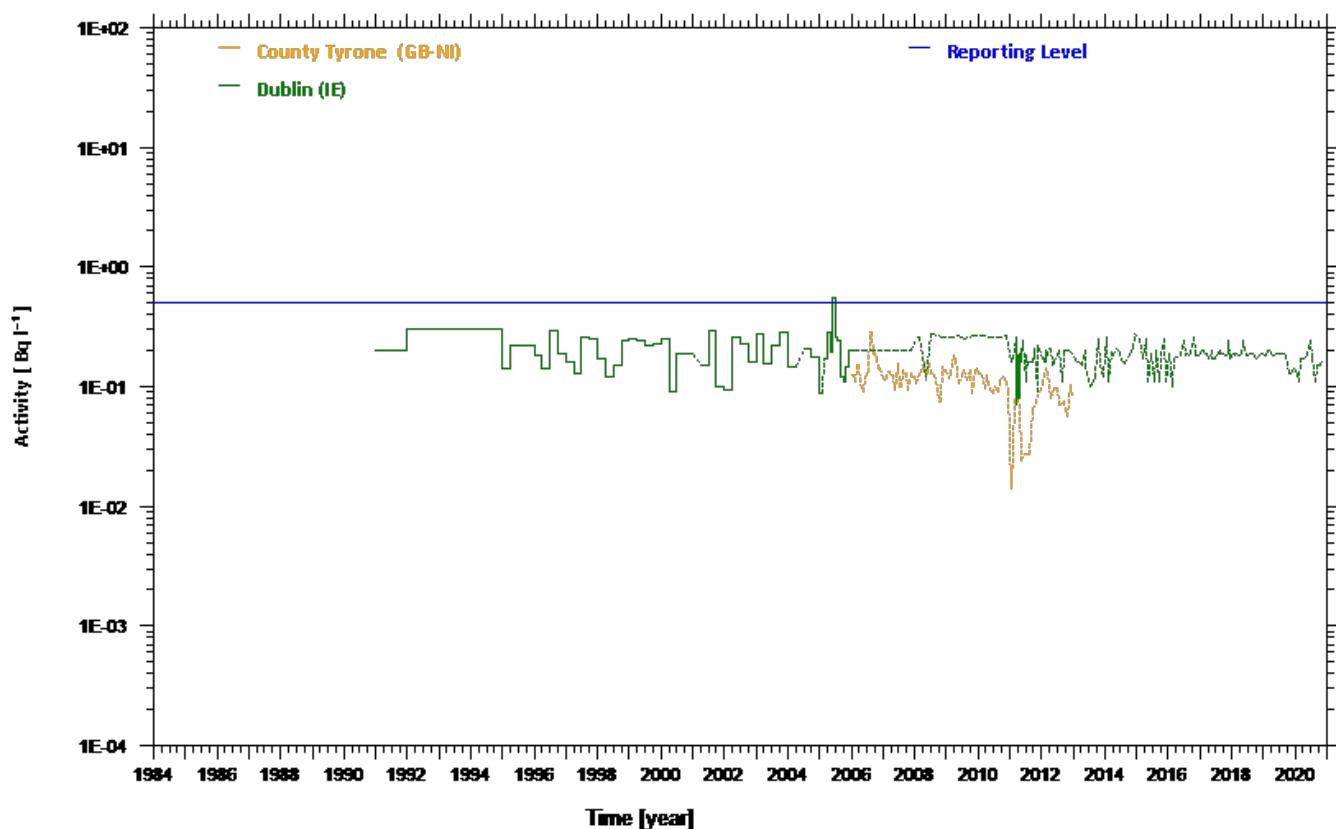
Fig. M37 Activity trends for ^{137}Cs in milk (Hamrun, Nicosia and Drobeta-Turnu Severin)**Fig. M38** Activity trends for ^{137}Cs in milk (Umeå and Stockholm)

Activity trends

SAMPLE TYPE :

milk (Bq l^{-1})

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)**Fig. M39** Activity trends for ^{137}Cs in milk (Harjumaa, Riga and Vilnius)**Fig. M40** Activity trends for ^{137}Cs in milk (County Tyrone and Dublin)



SPARSE

Activity trends

SAMPLE TYPE : milk (Bq l^{-1})
NUCLIDE CATEGORY : caesium-137 (^{137}Cs)

Fig. M41 Activity trends for ^{137}Cs in milk (Edinburgh and Gwent)

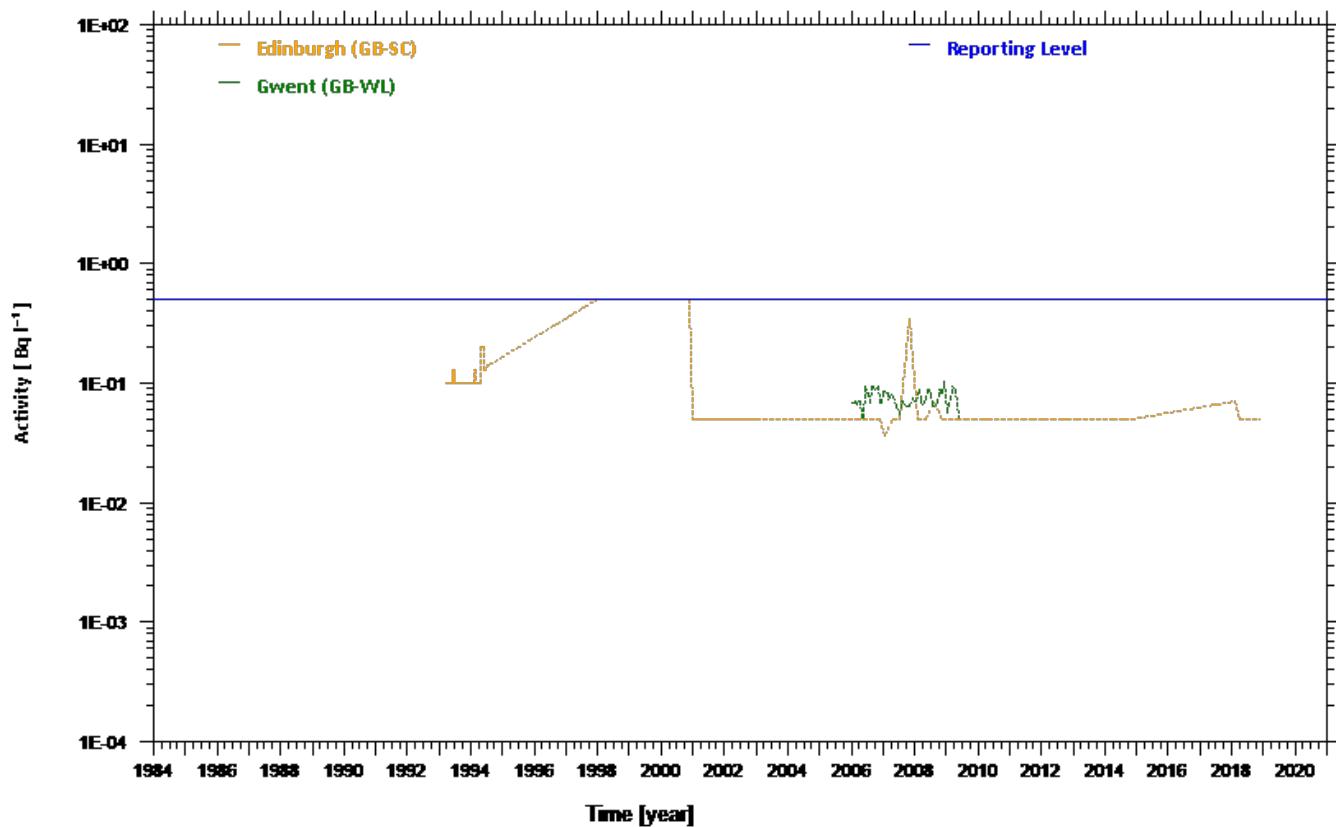
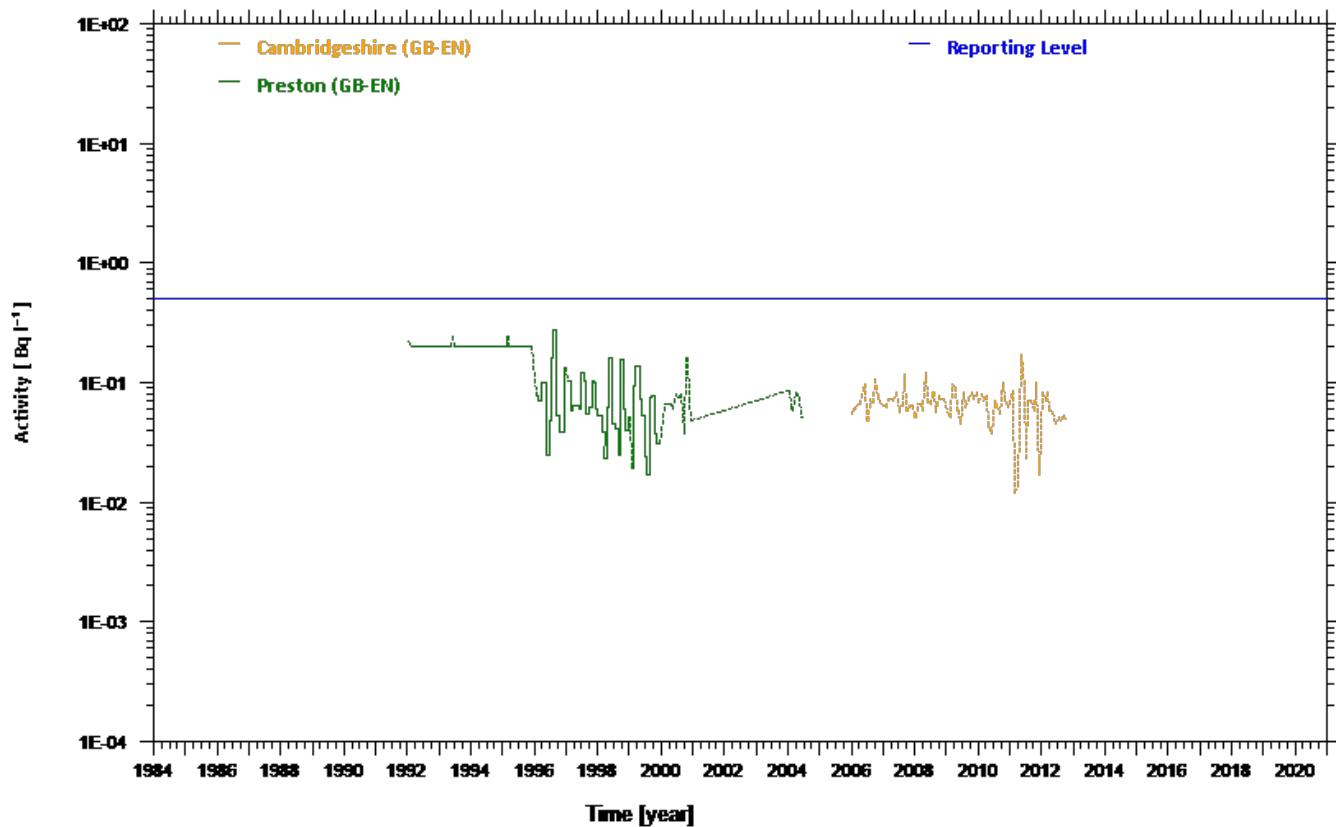


Fig. M42 Activity trends for ^{137}Cs in milk (Cambridgeshire and Preston)

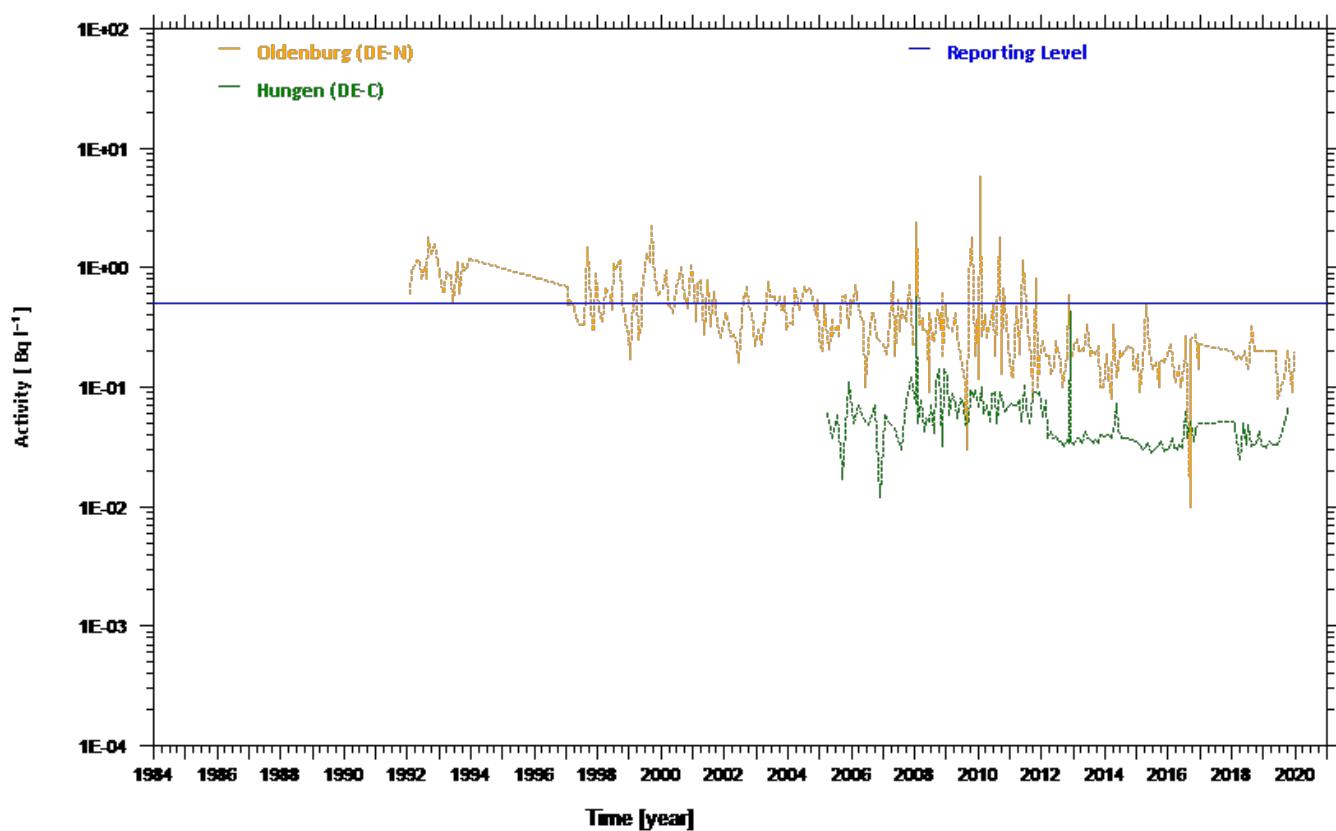
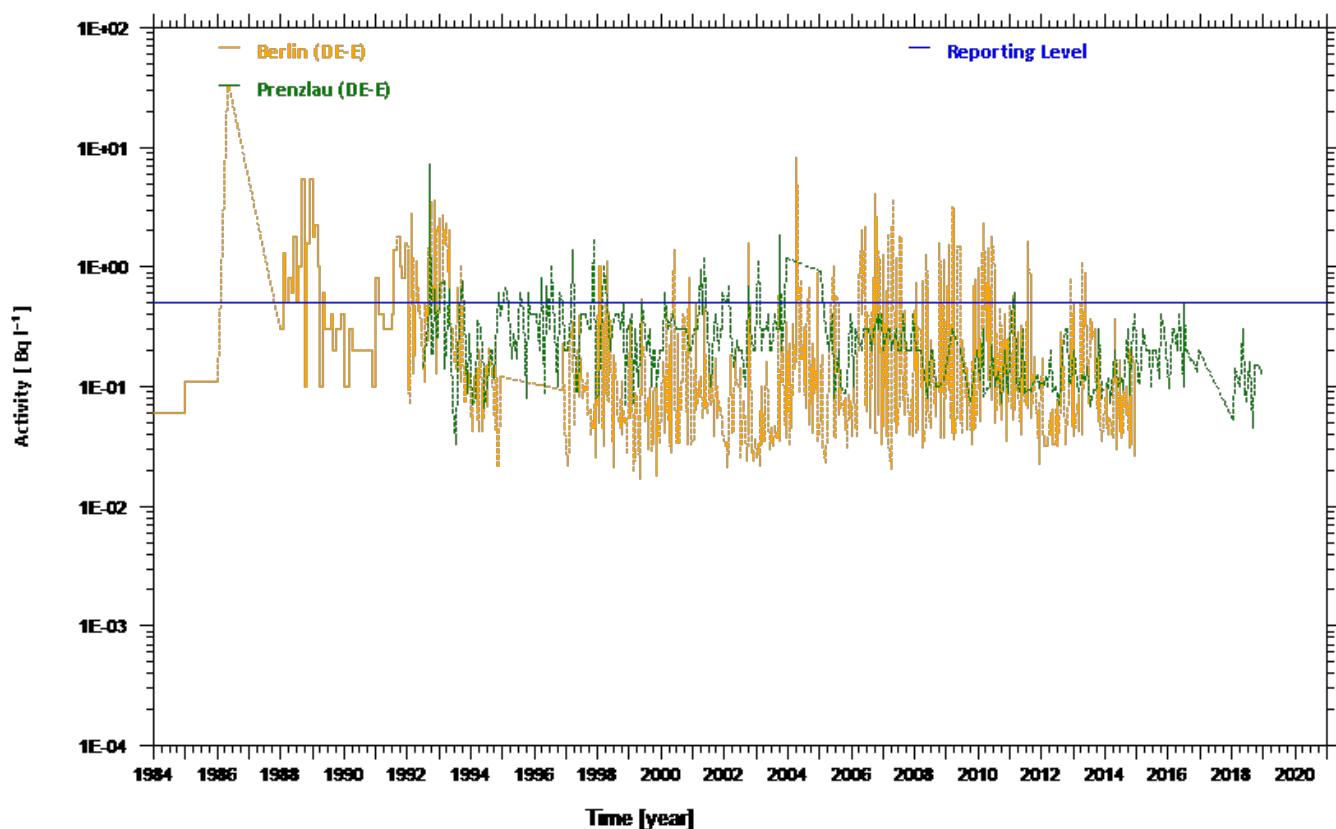


Activity trends

SAMPLE TYPE :

milk (Bq l^{-1})

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)**Fig. M43** Activity trends for ^{137}Cs in milk (Oldenburg and Hungen)**Fig. M44** Activity trends for ^{137}Cs in milk (Berlin and Prenzlau)

**Activity trends****SAMPLE TYPE**milk (Bq l^{-1})**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)

SPARSE

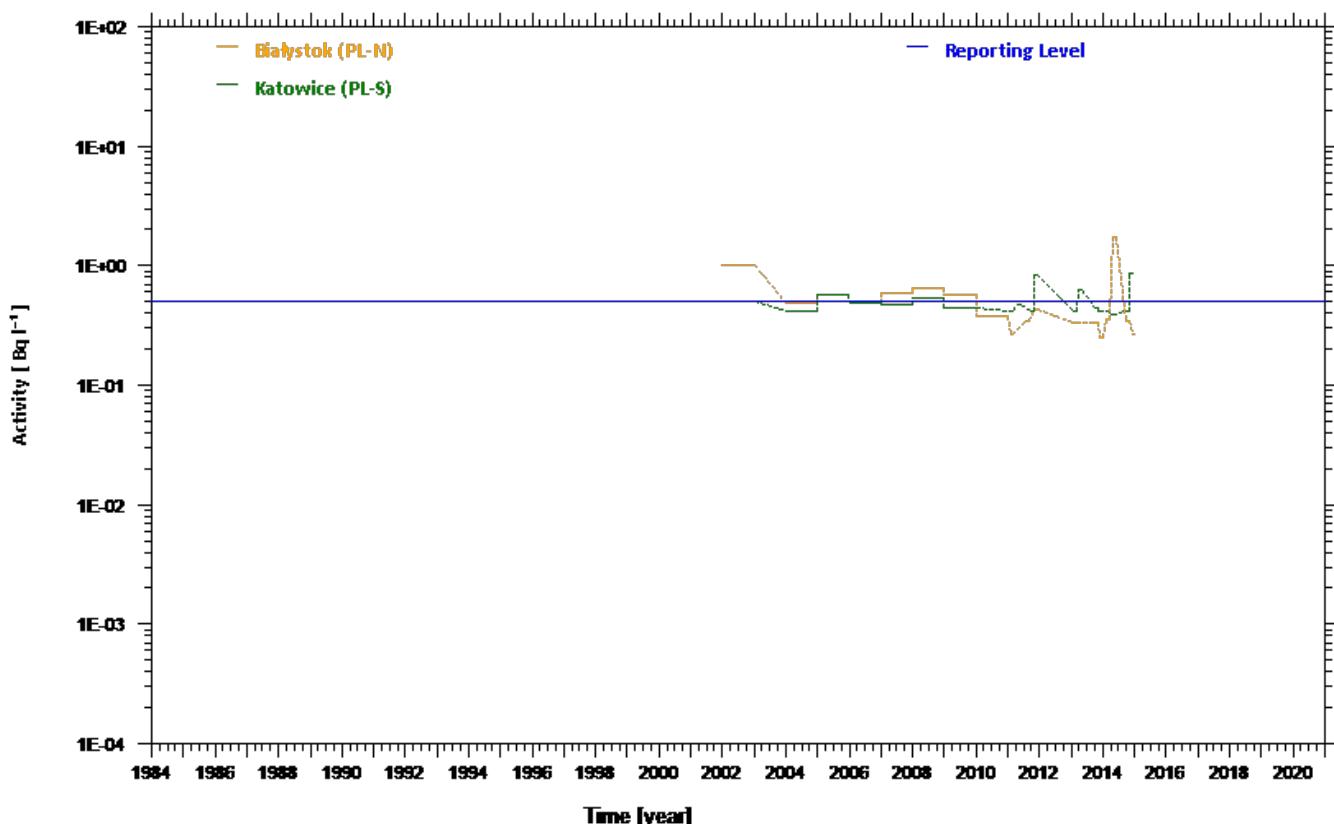
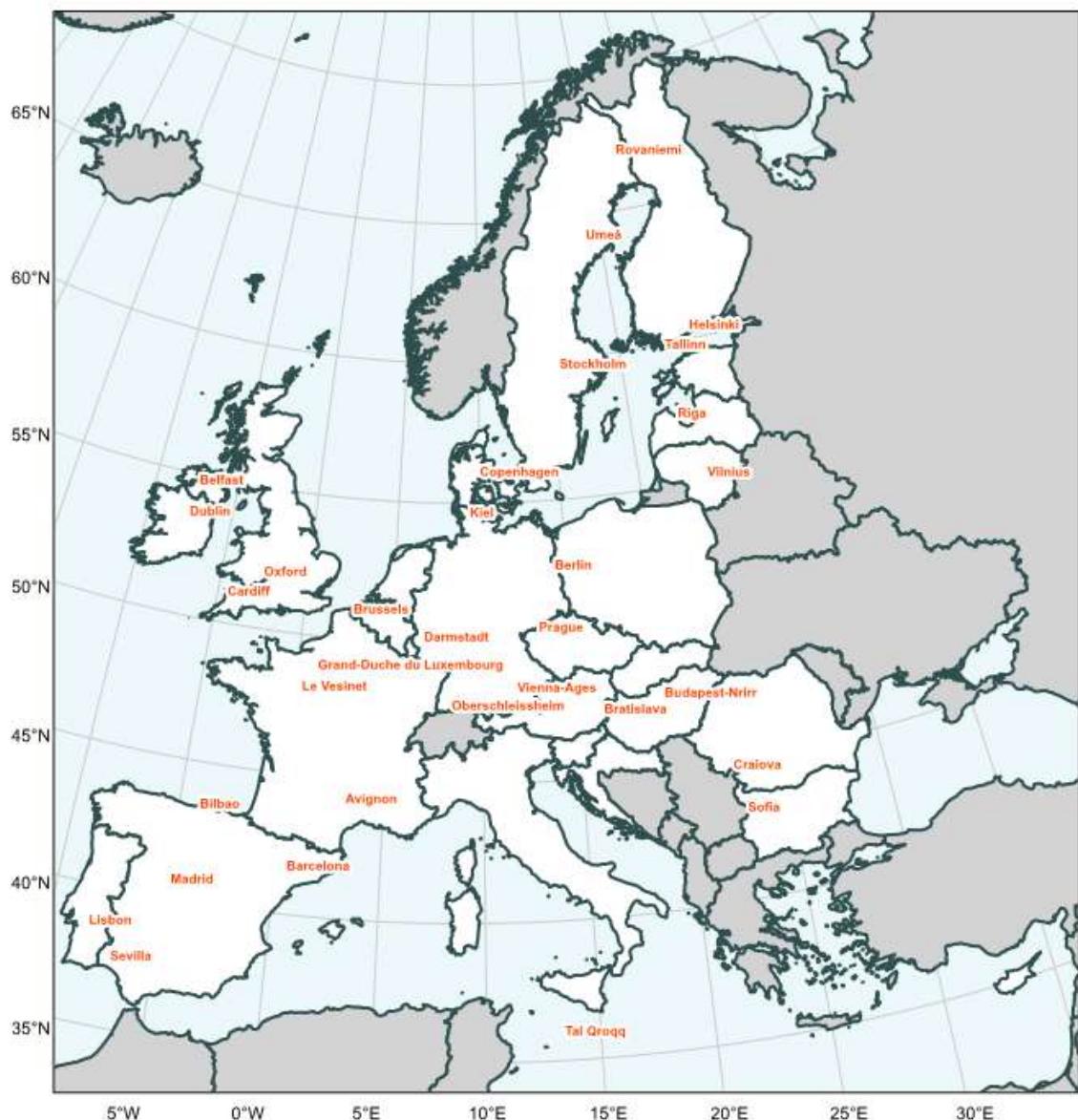
Fig. M45 Activity trends for ^{137}Cs in milk (Białystok and Katowice)

Fig. D13

Sampling locations for ^{90}Sr and ^{137}Cs in mixed diet considered in Figures D14 – D37


Azores (Portugal)

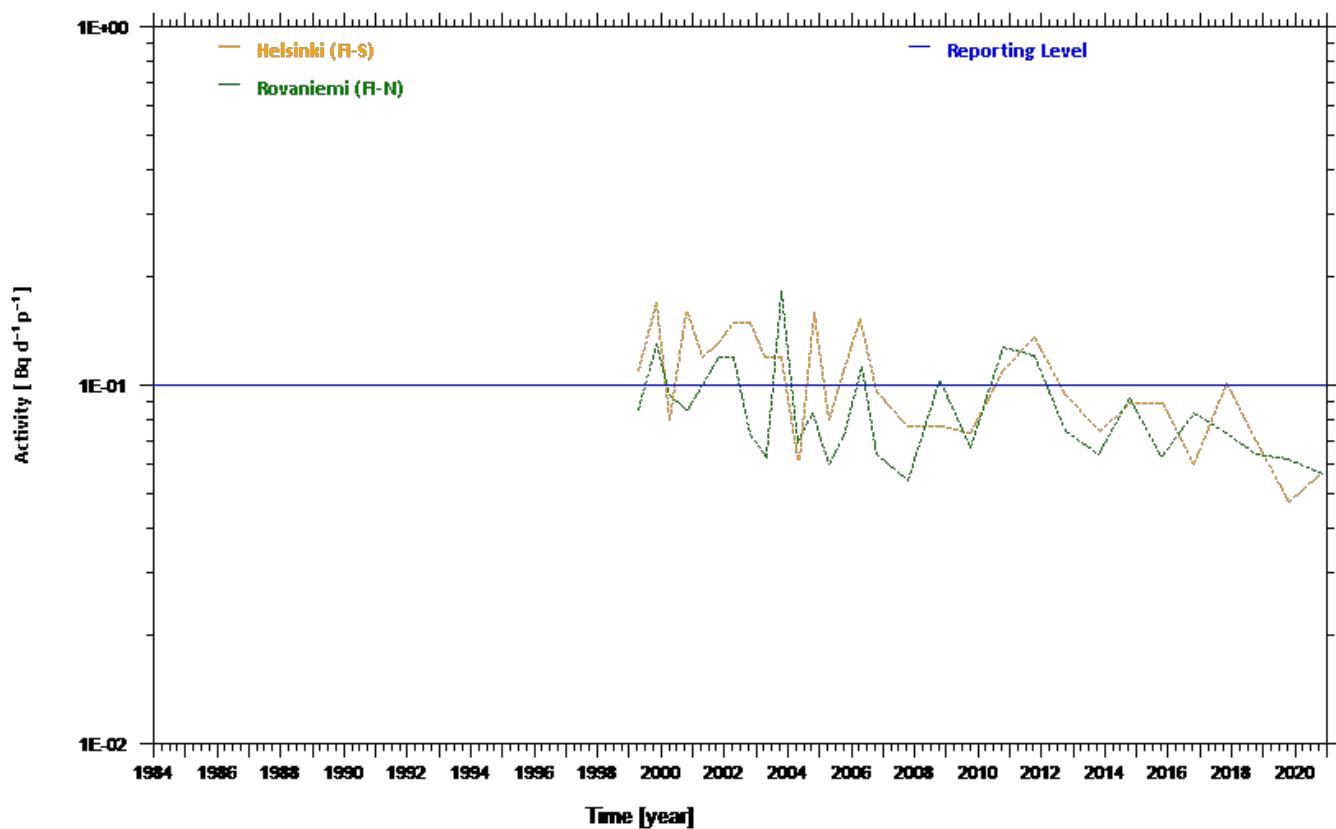
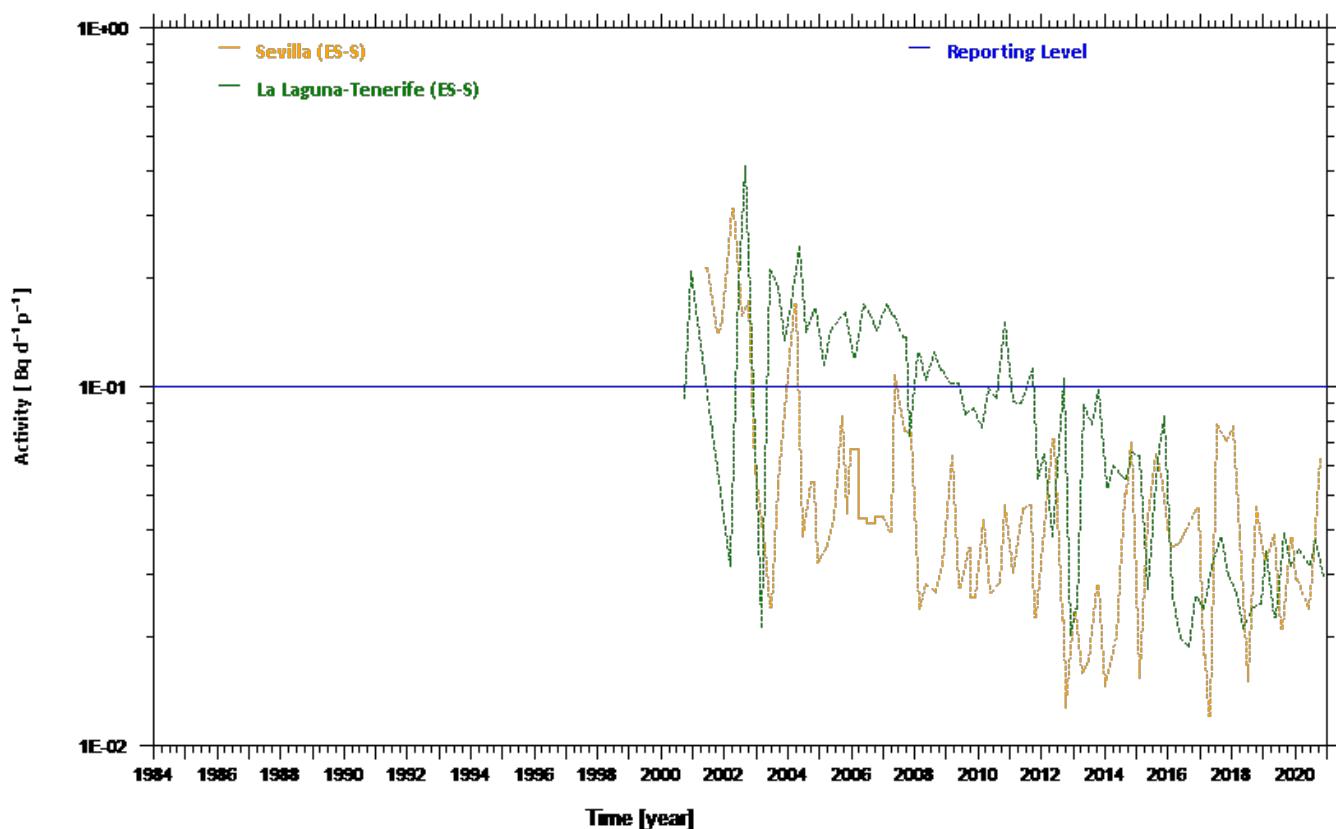
Madeira (Portugal)

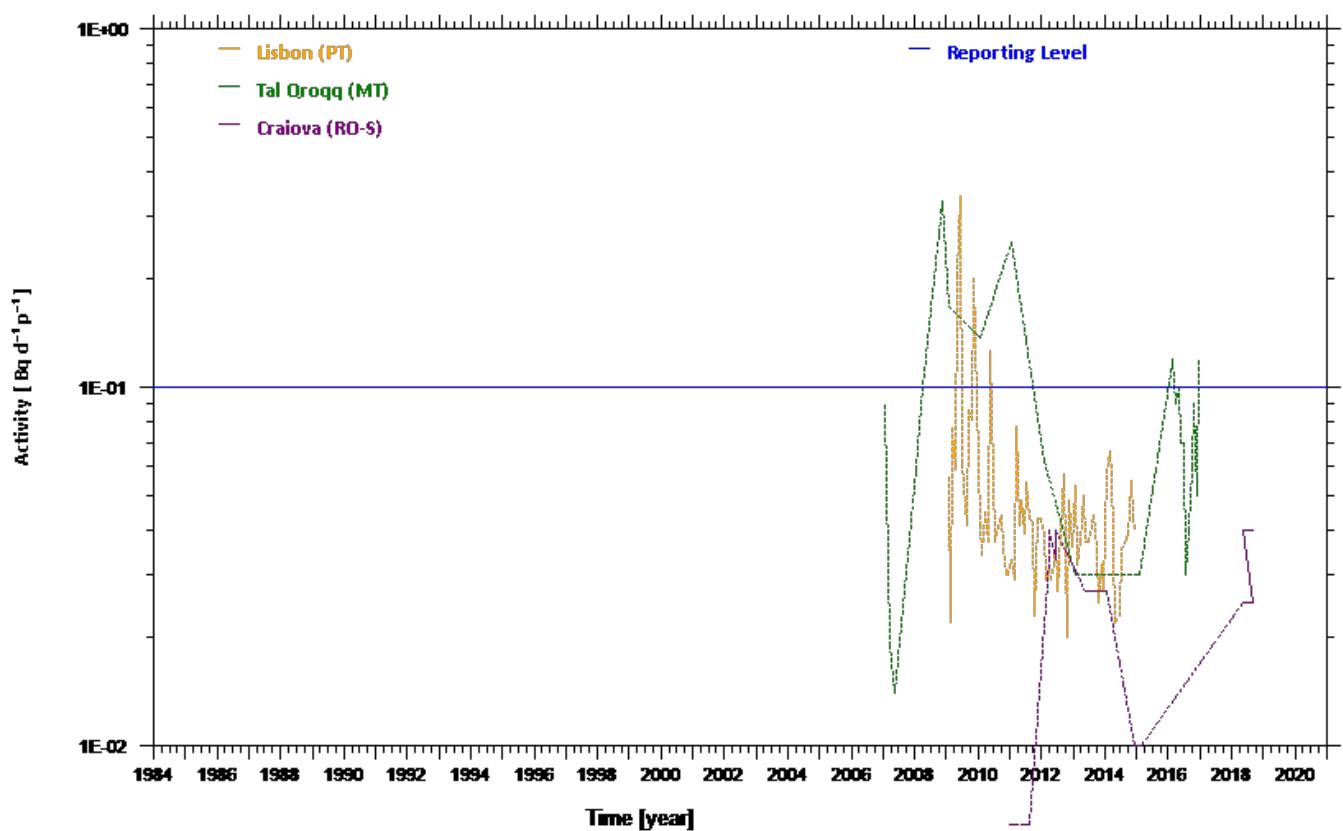
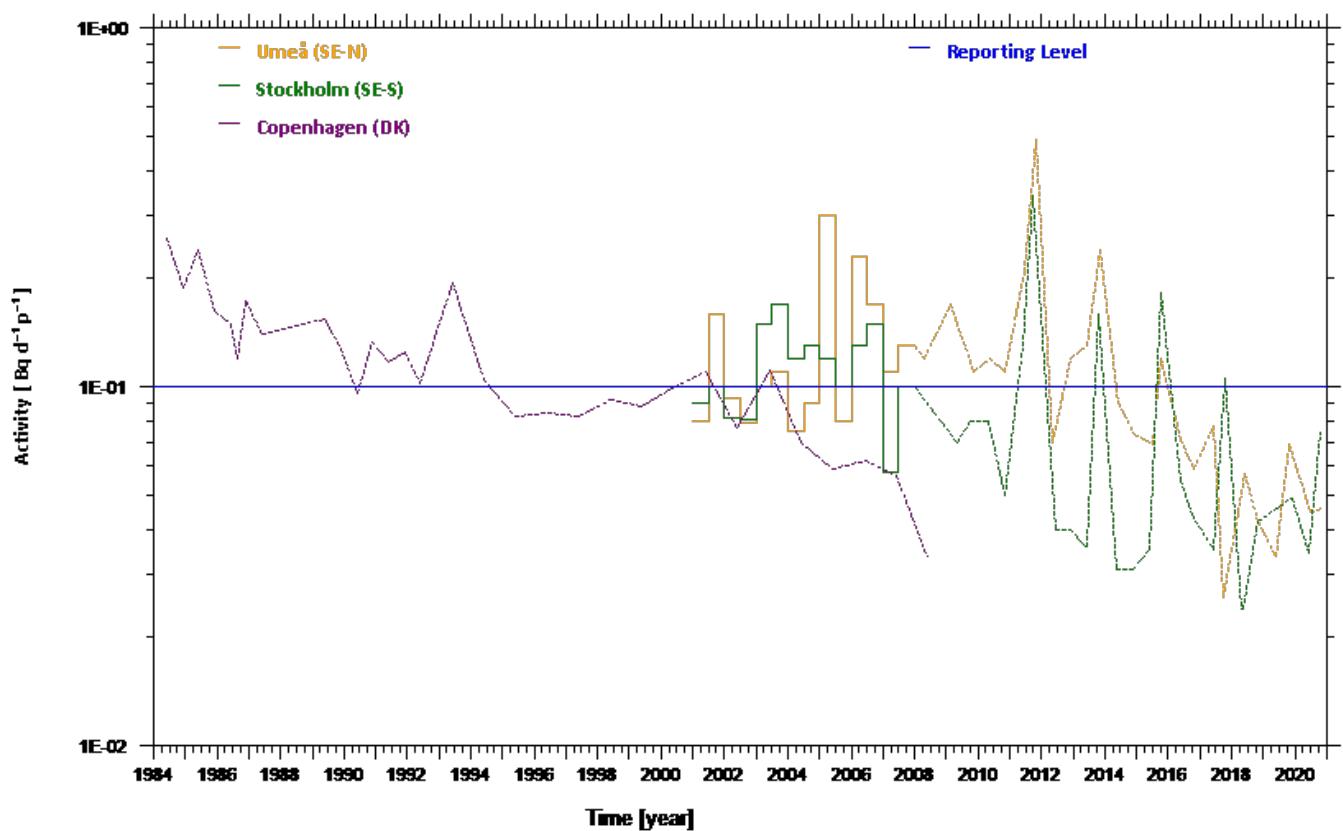
Canary Islands (Spain)

Malta



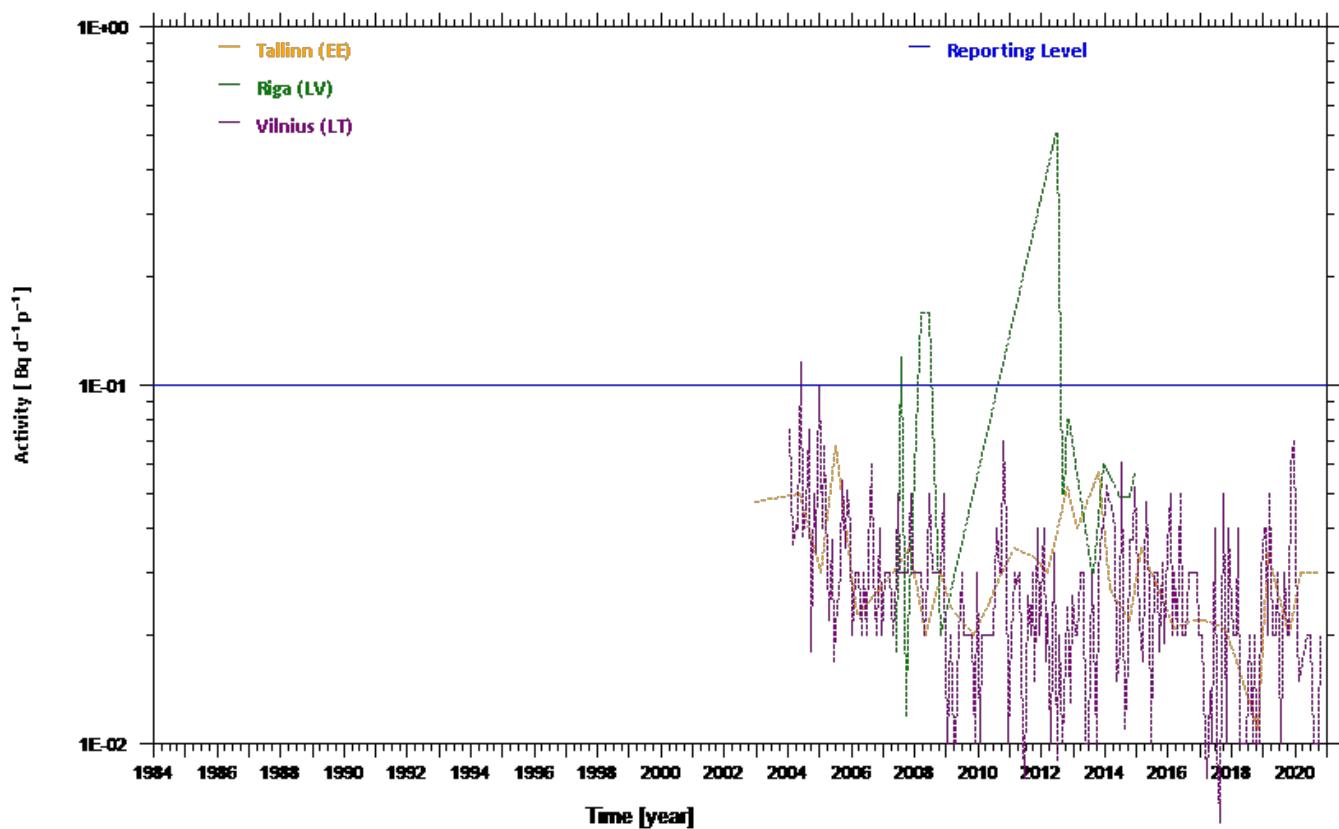
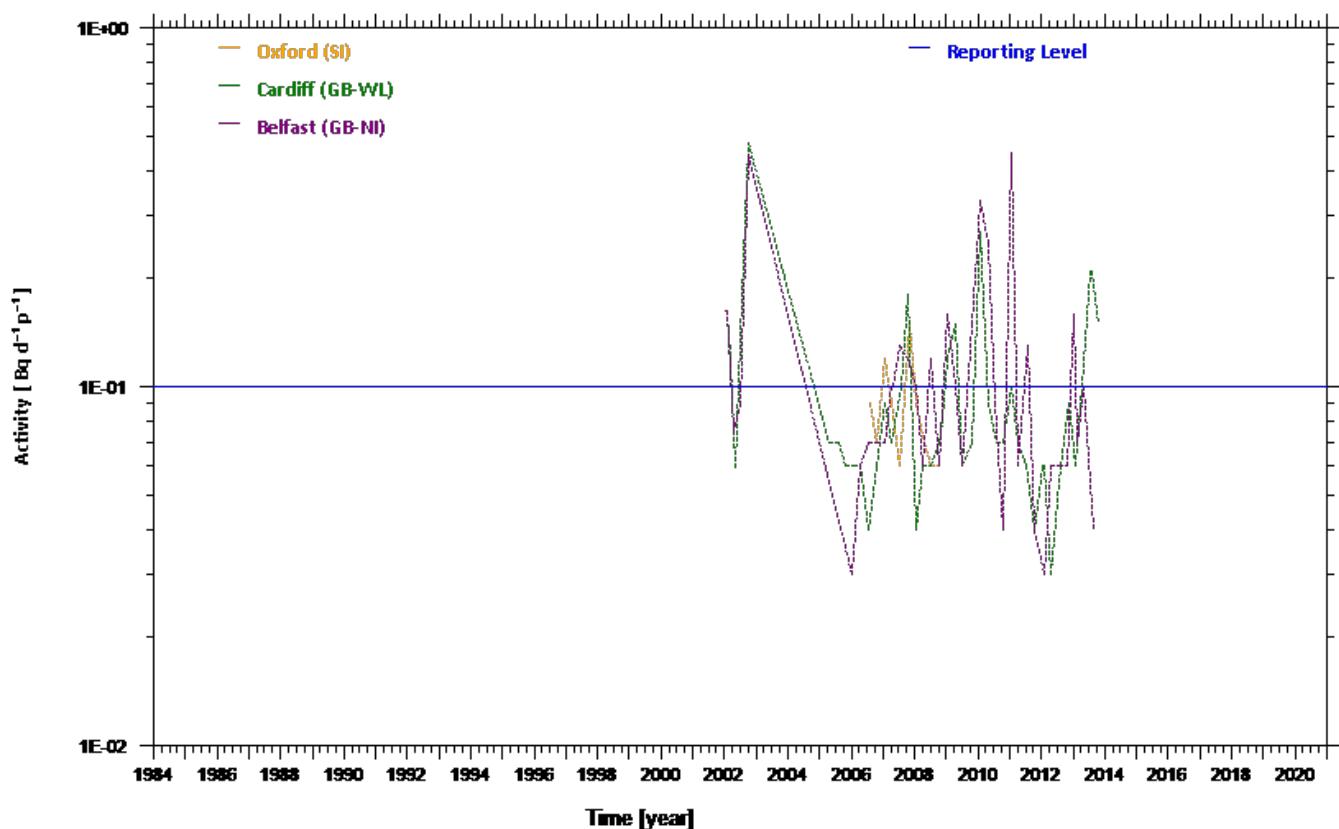

SPARSE

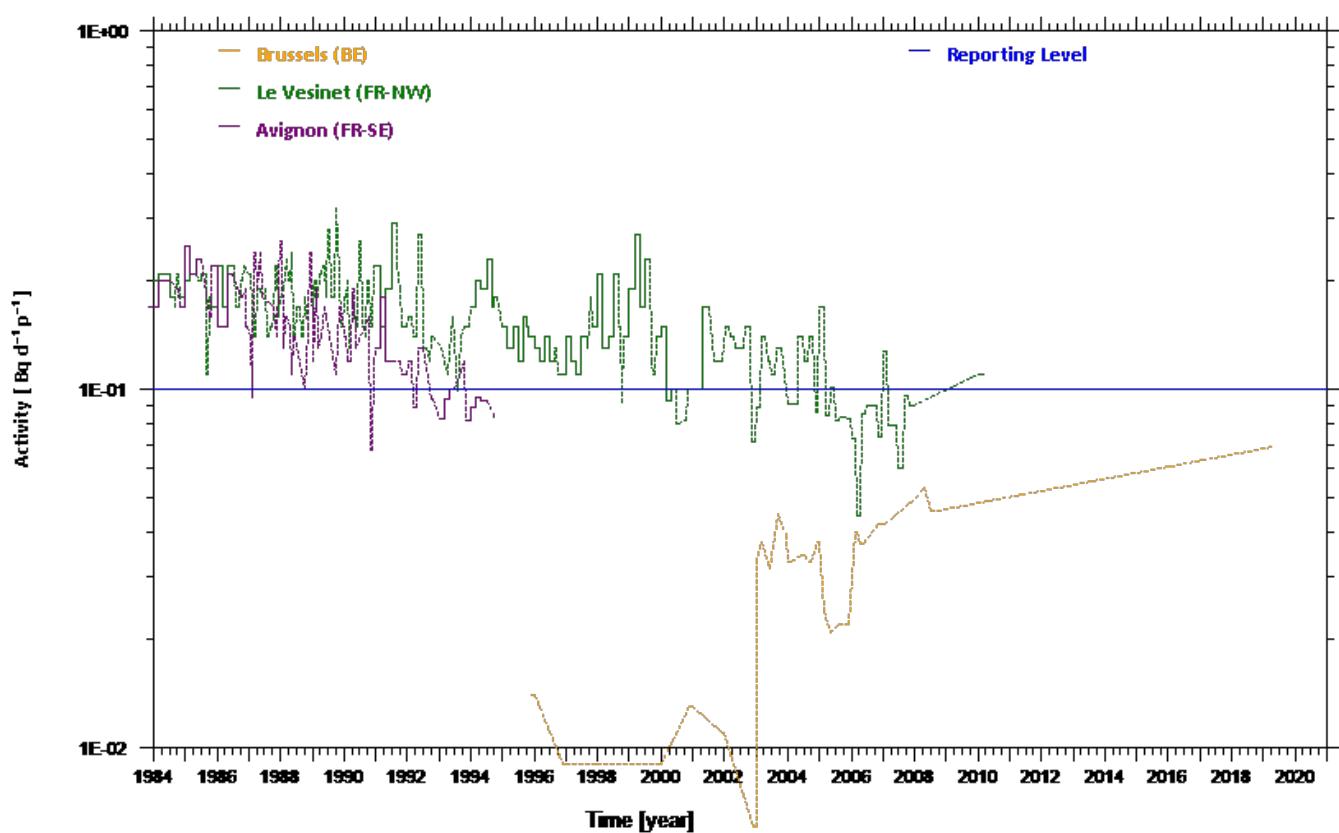
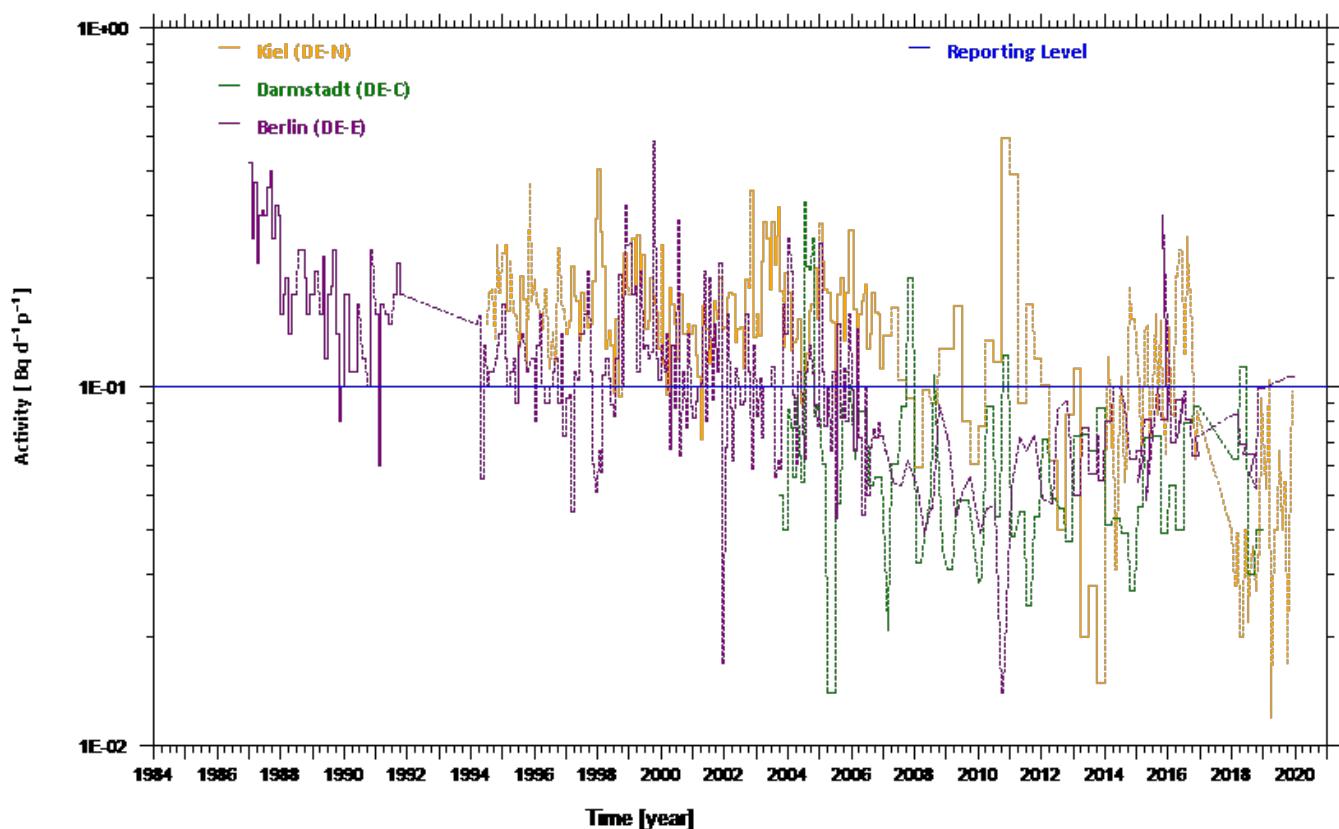
Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. D14** Activity trends for ^{90}Sr in mixed diet (Helsinki and Rovaniemi)**Fig. D15** Activity trends for ^{90}Sr in mixed diet (Sevilla and La Laguna-Tenerife)

Activity trends**SAMPLE TYPE** :mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY** :strontium-90 (${}^{90}\text{Sr}$)**Fig. D16** Activity trends for ${}^{90}\text{Sr}$ in mixed diet (Lisbon, Tal Qroqq and Craiova)**Fig. D17** Activity trends for ${}^{90}\text{Sr}$ in mixed diet (Umeå, Stockholm and Copenhagen)



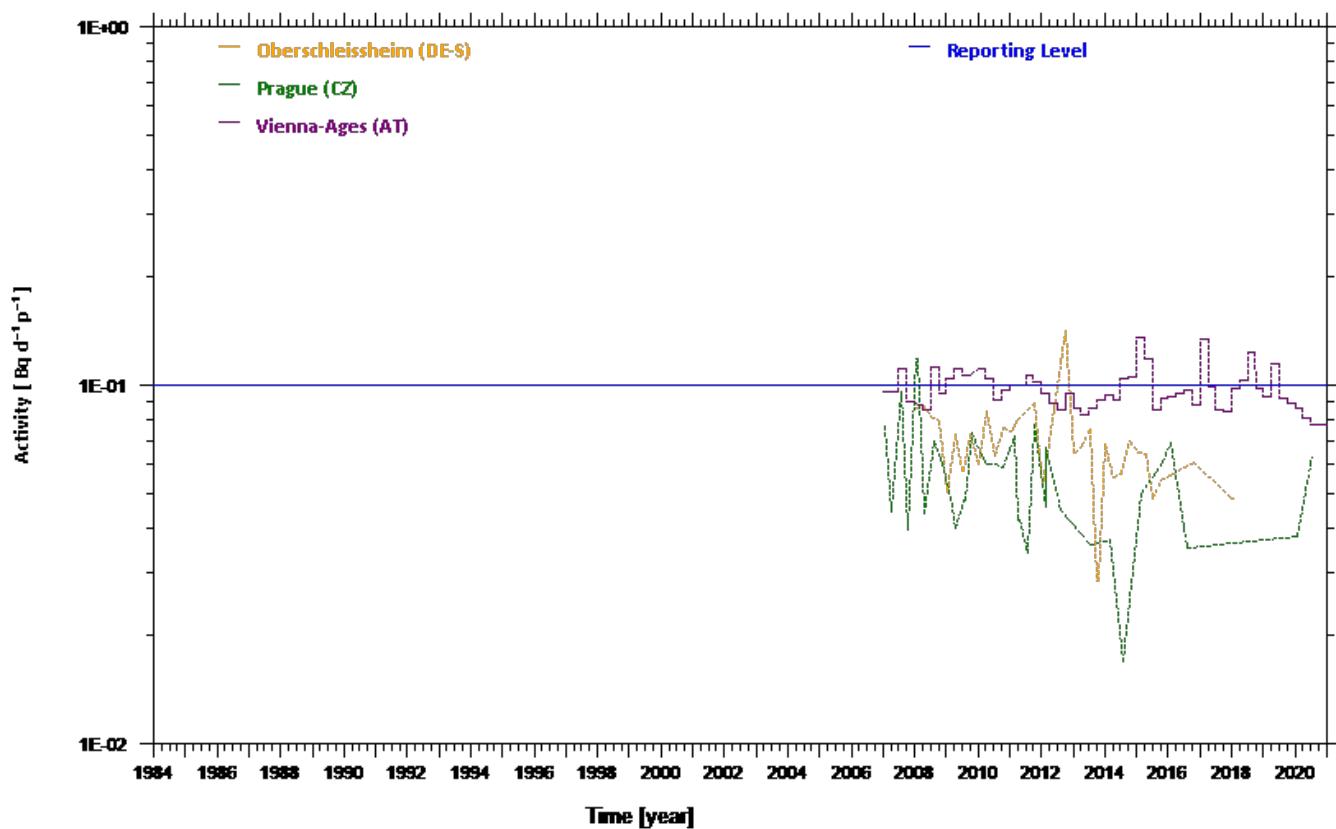
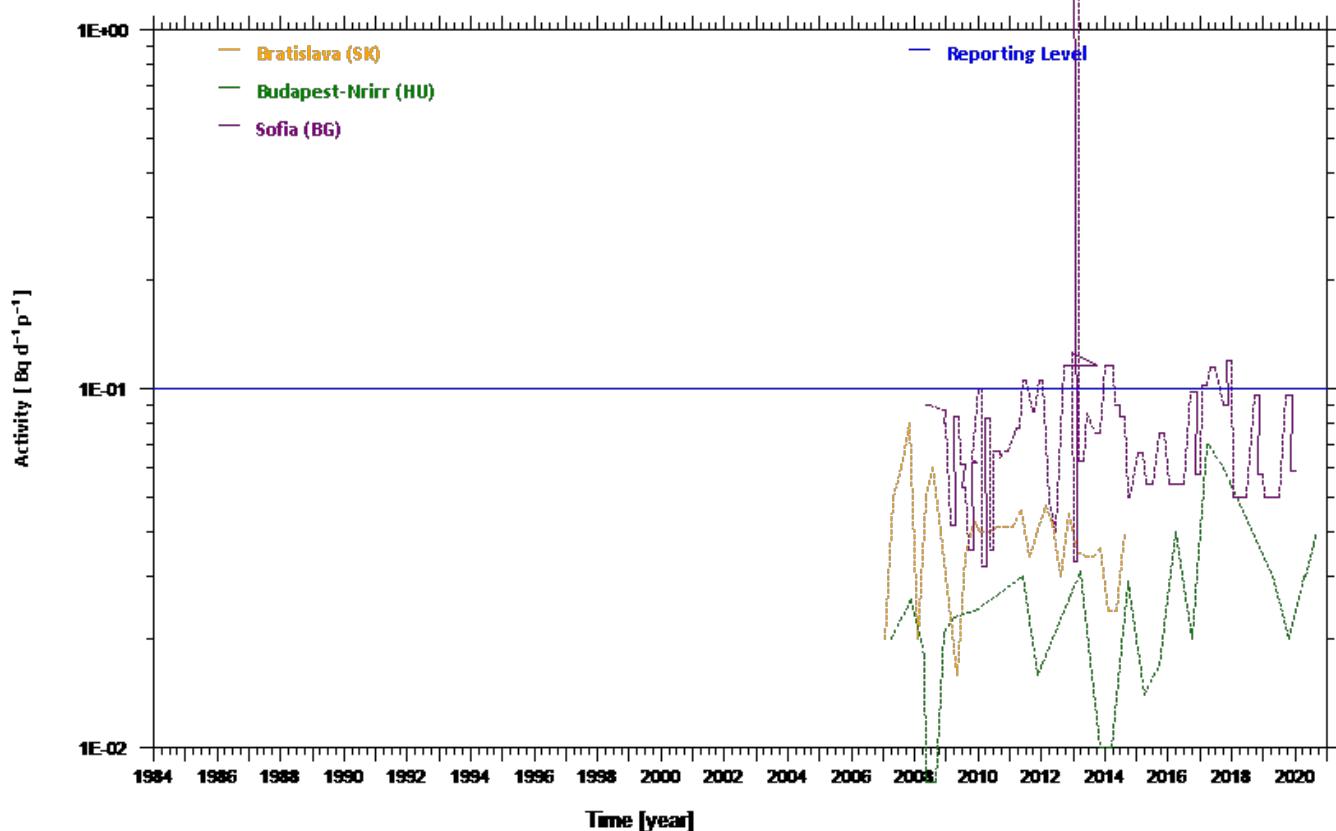
SPARSE

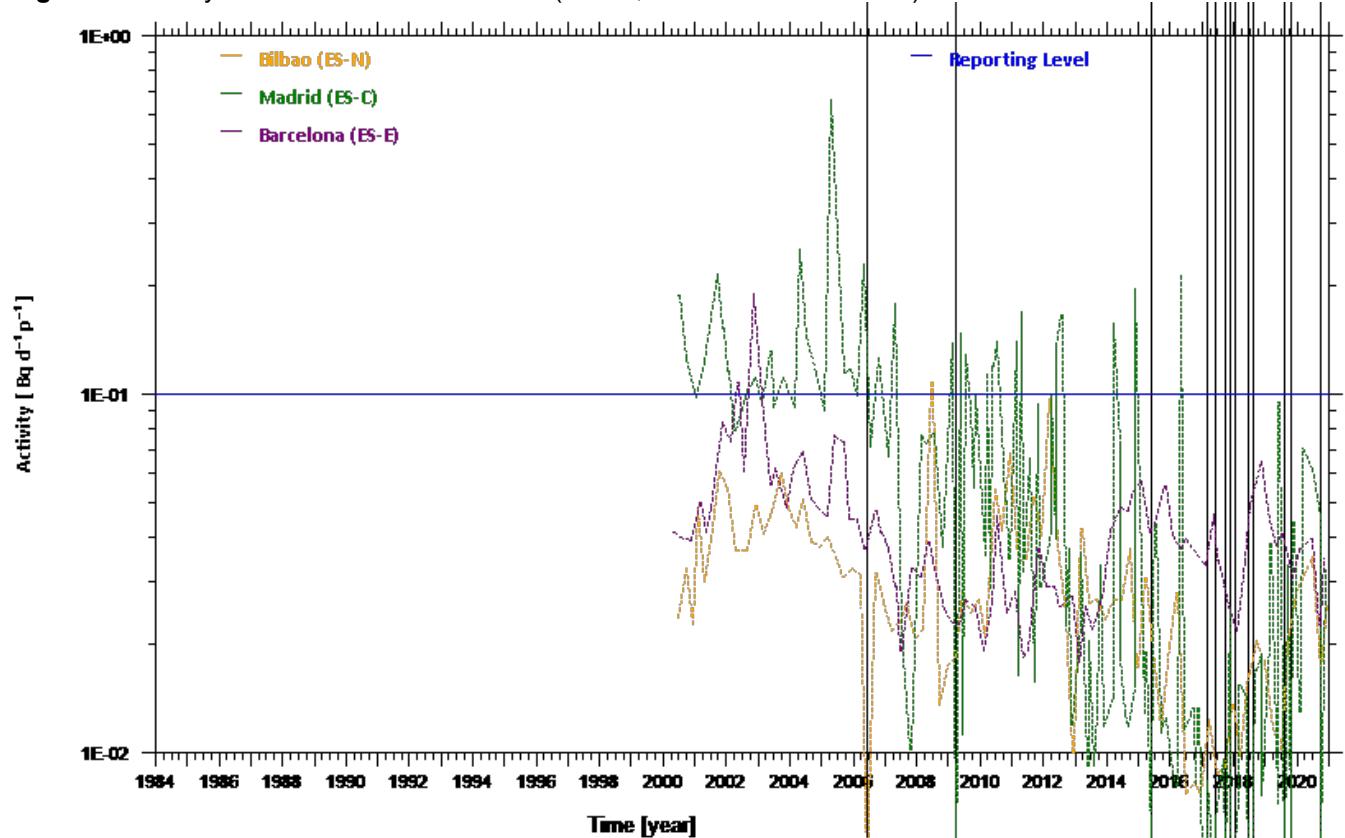
Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. D18** Activity trends for ^{90}Sr in mixed diet (Tallinn, Riga and Vilnius)**Fig. D19** Activity trends for ^{90}Sr in mixed diet (Oxford, Cardiff and Belfast)

Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. D20** Activity trends for ^{90}Sr in mixed diet (Brussels, Le Vesinet and Avignon)**Fig. D21** Activity trends for ^{90}Sr in mixed diet (Kiel, Darmstadt and Berlin)



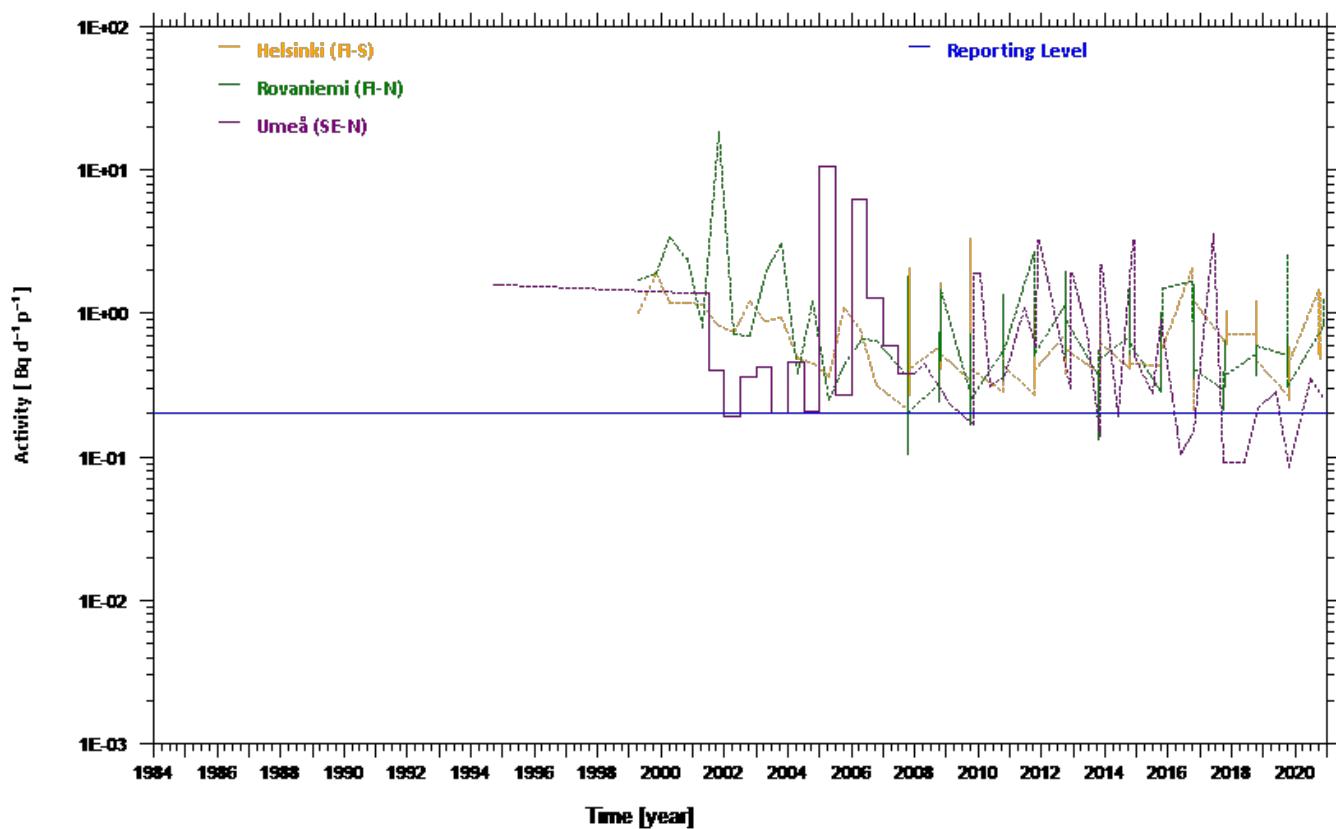
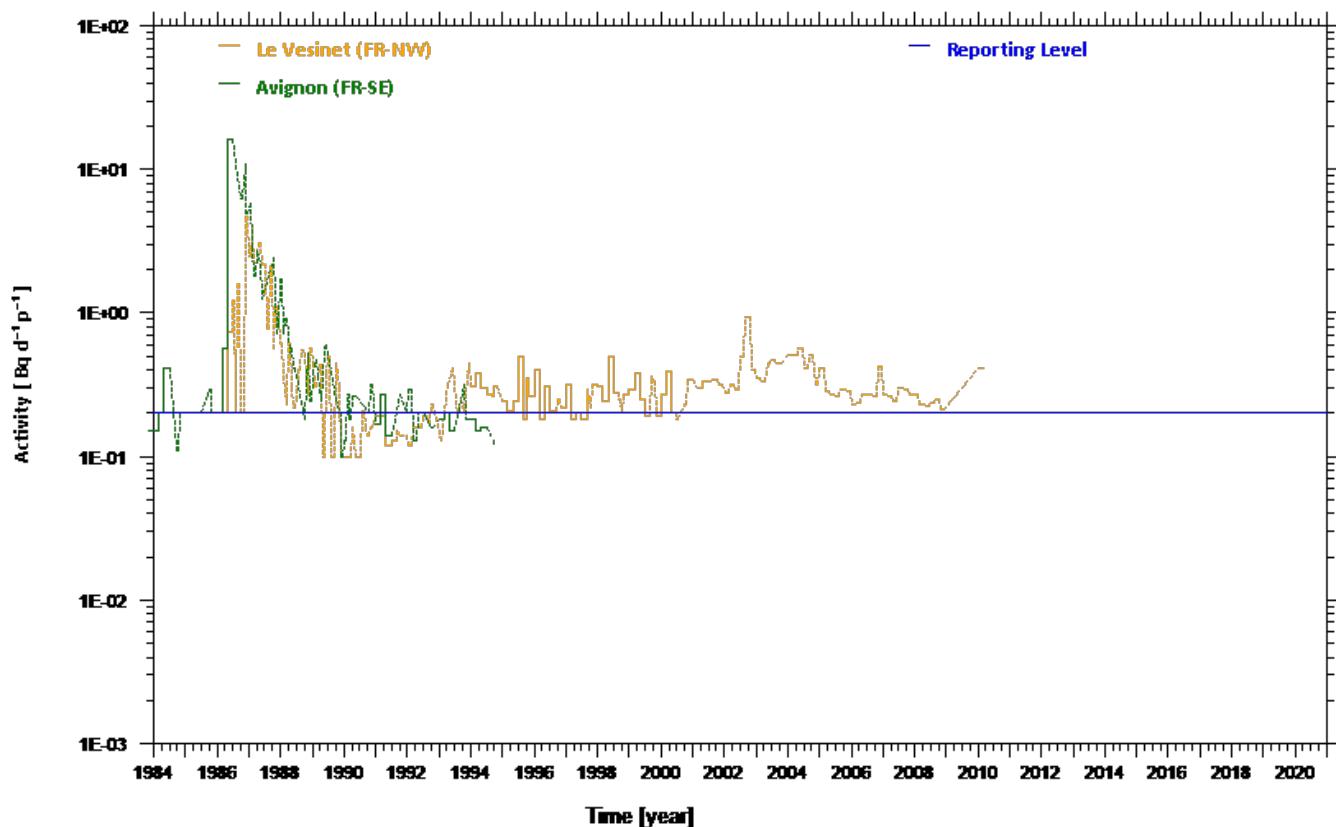
SPARSE

Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. D22** Activity trends for ^{90}Sr in mixed diet (Oberschleissheim, Prague and Vienna-Ages)**Fig. D23** Activity trends for ^{90}Sr in mixed diet (Bratislava, Budapest-Nrerr and Sofia)

Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**strontium-90 (^{90}Sr)**Fig. D24** Activity trends for ^{90}Sr in mixed diet (Bilbao, Madrid and Barcelona)



SPARSE

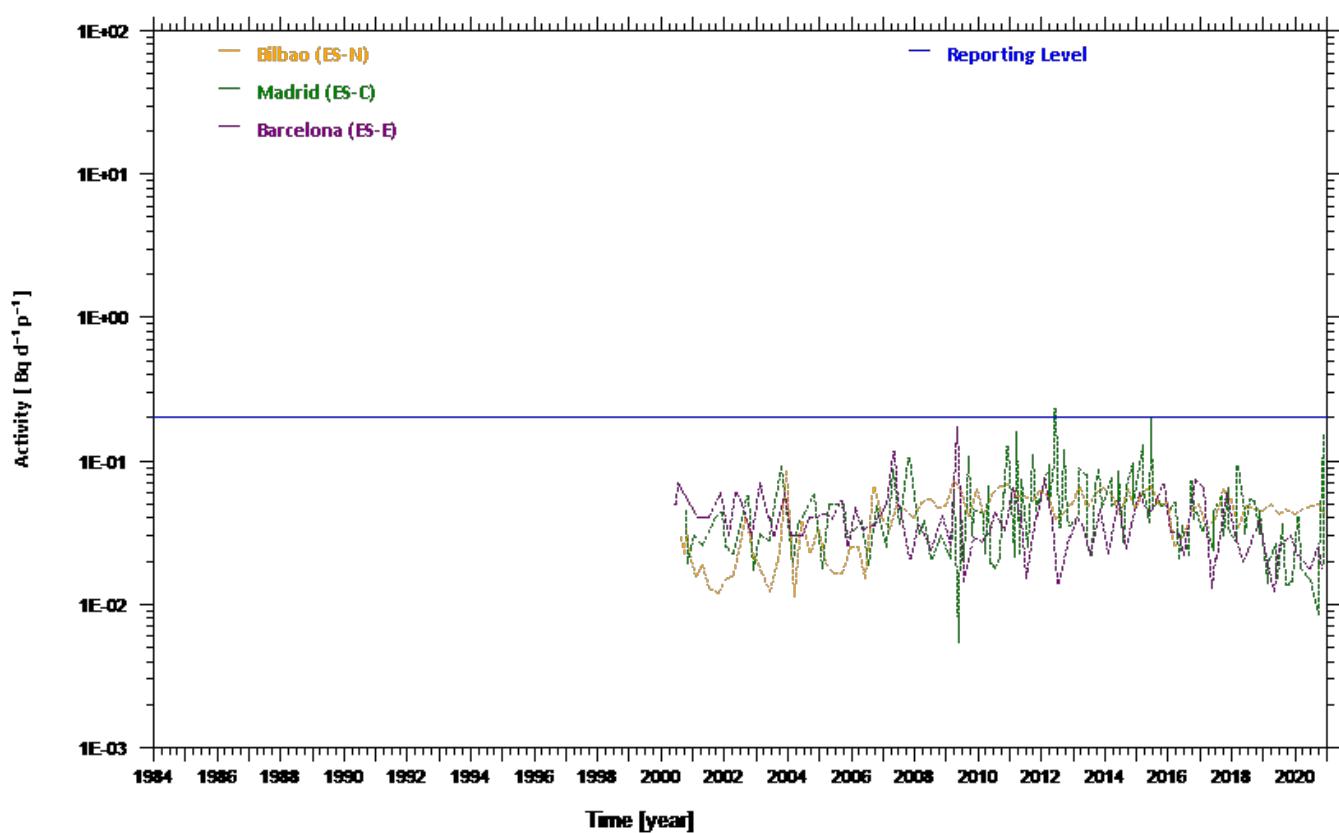
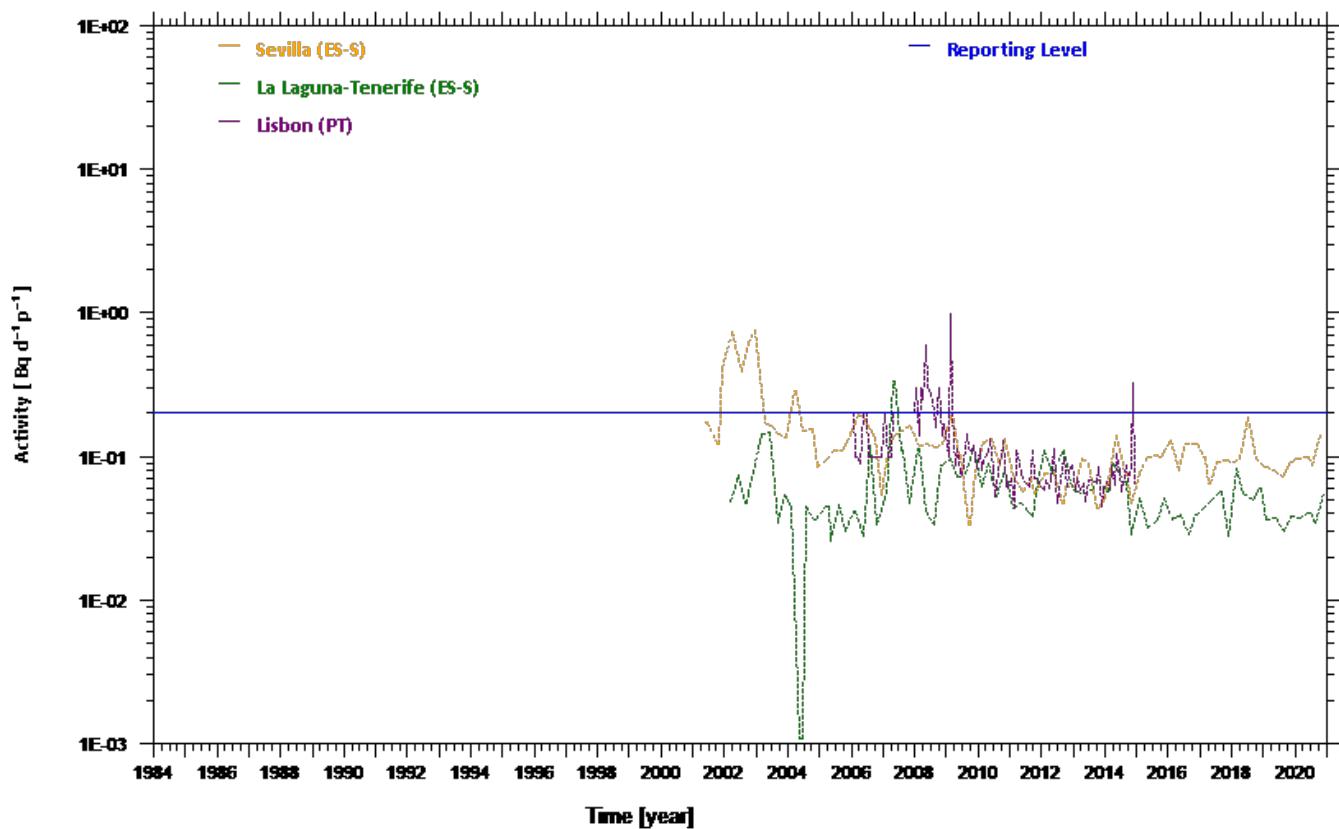
Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. D25** Activity trends for ^{137}Cs in mixed diet (Helsinki, Rovaniemi and Umeå)**Fig. D26** Activity trends for ^{137}Cs in mixed diet (Le Vesinet and Avignon)

Activity trends

SAMPLE TYPE :

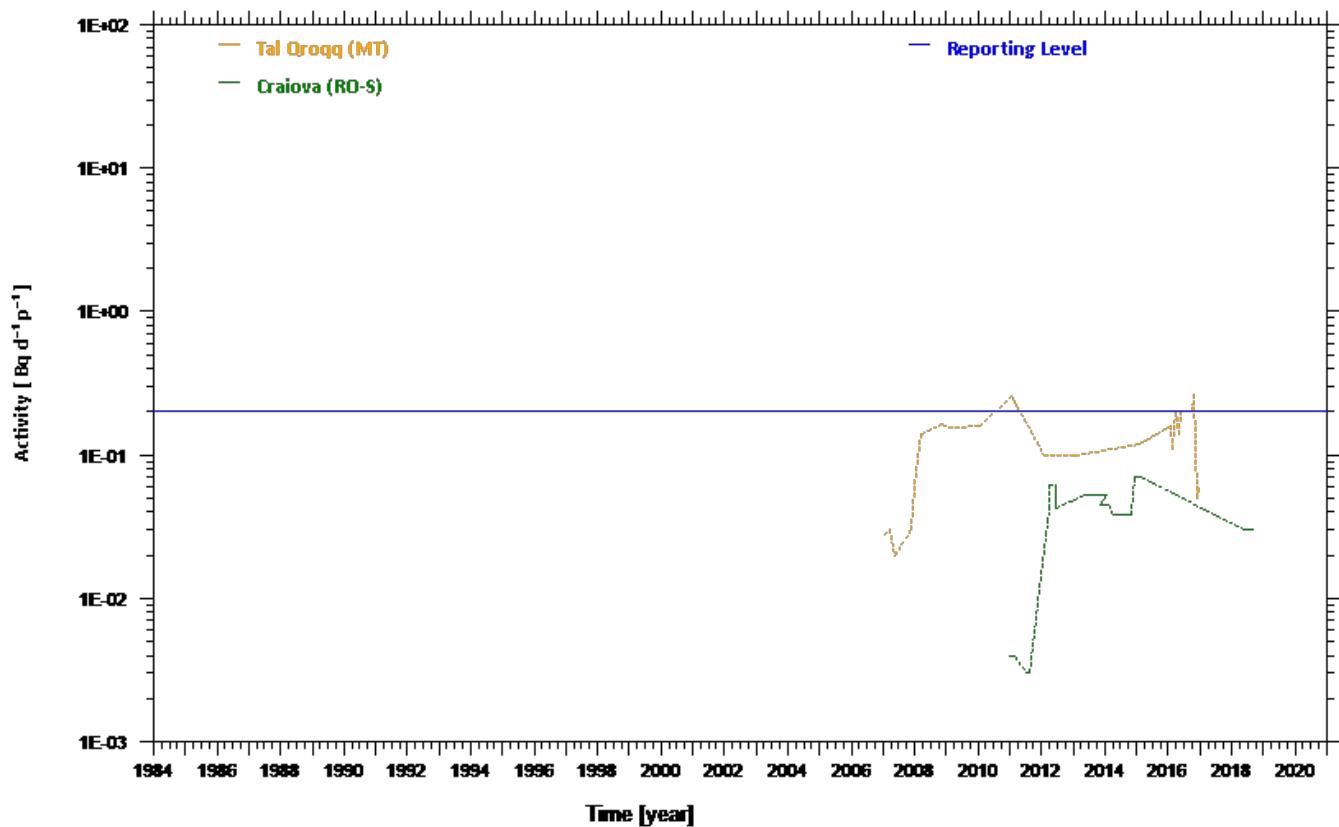
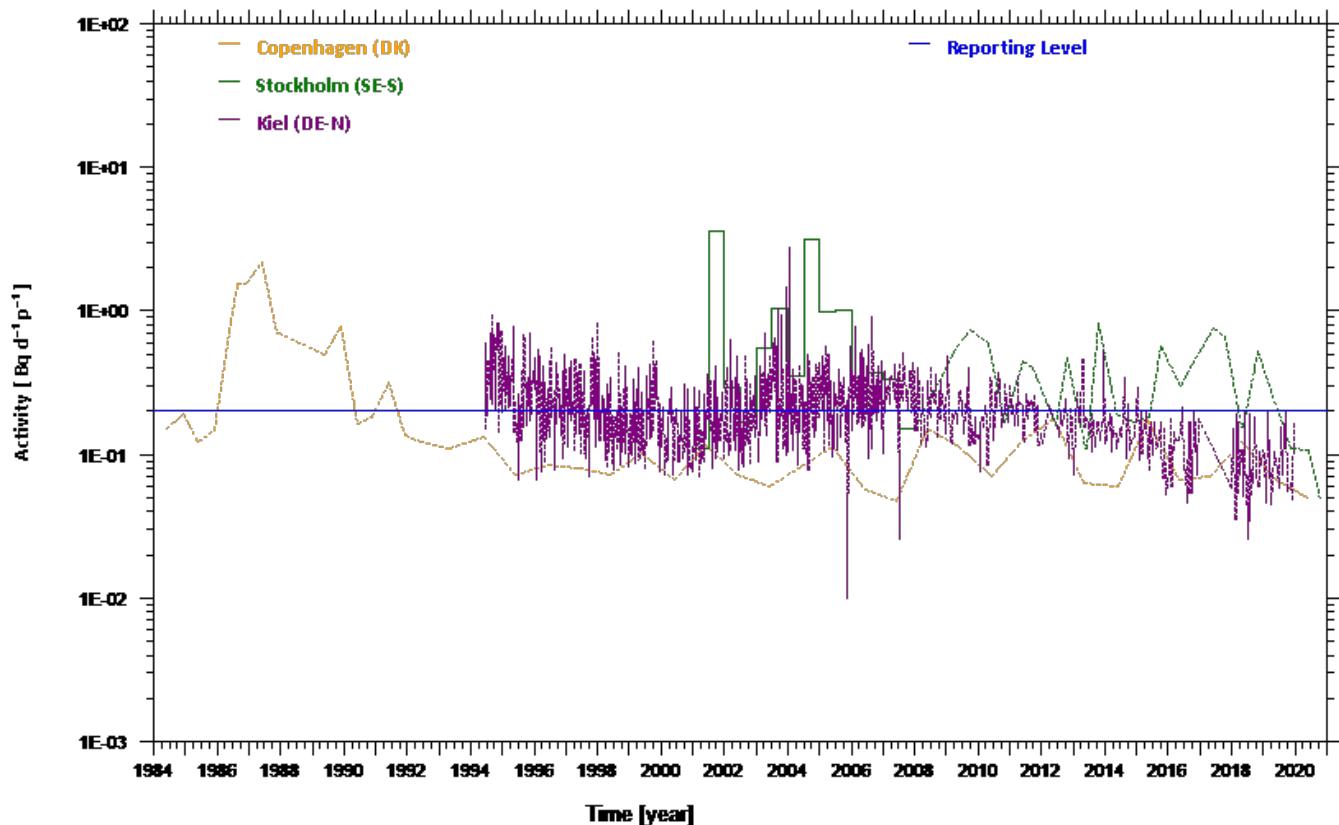
mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)**Fig. D27** Activity trends for ^{137}Cs in mixed diet (Bilbao, Madrid and Barcelona)**Fig. D28** Activity trends for ^{137}Cs in mixed diet (Sevilla, La Laguna-Tenerife and Lisbon)



SPARSE

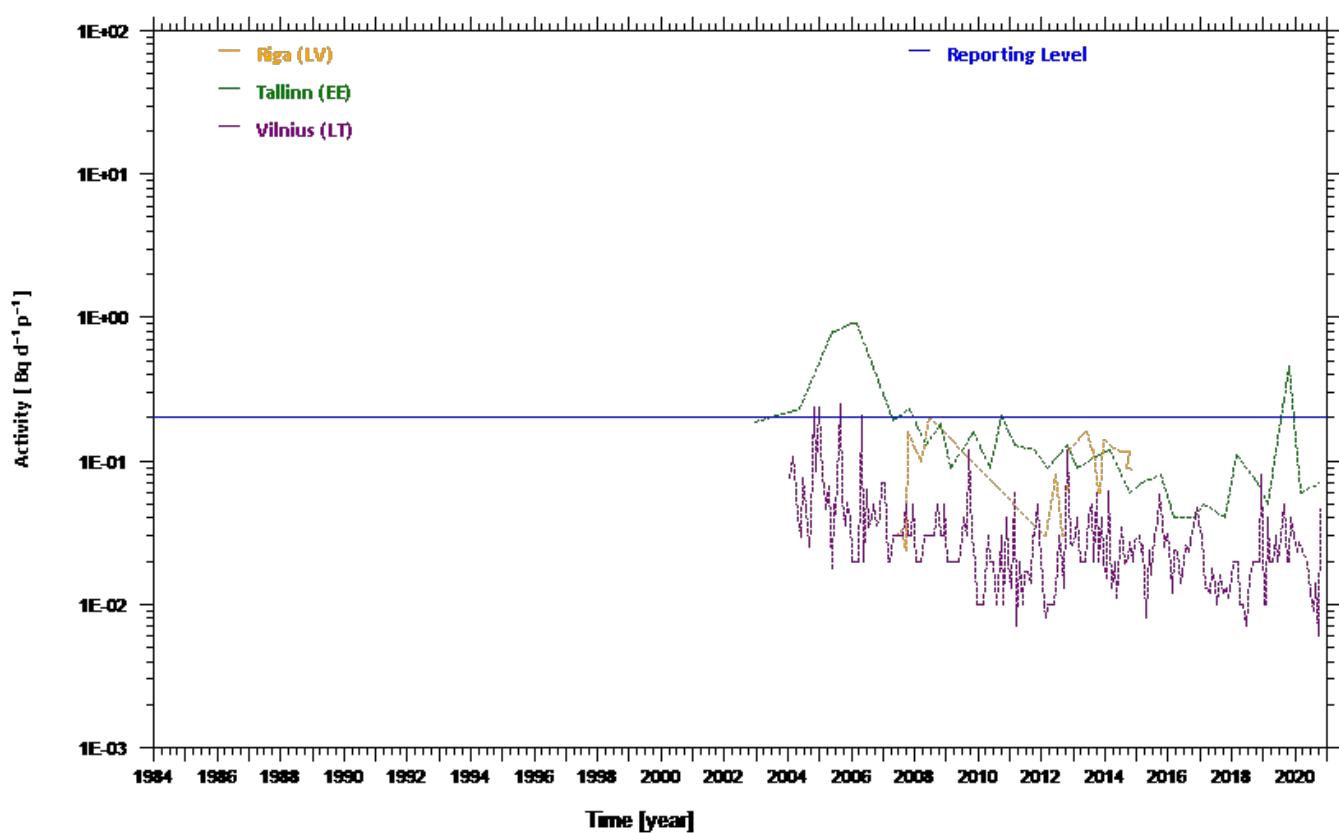
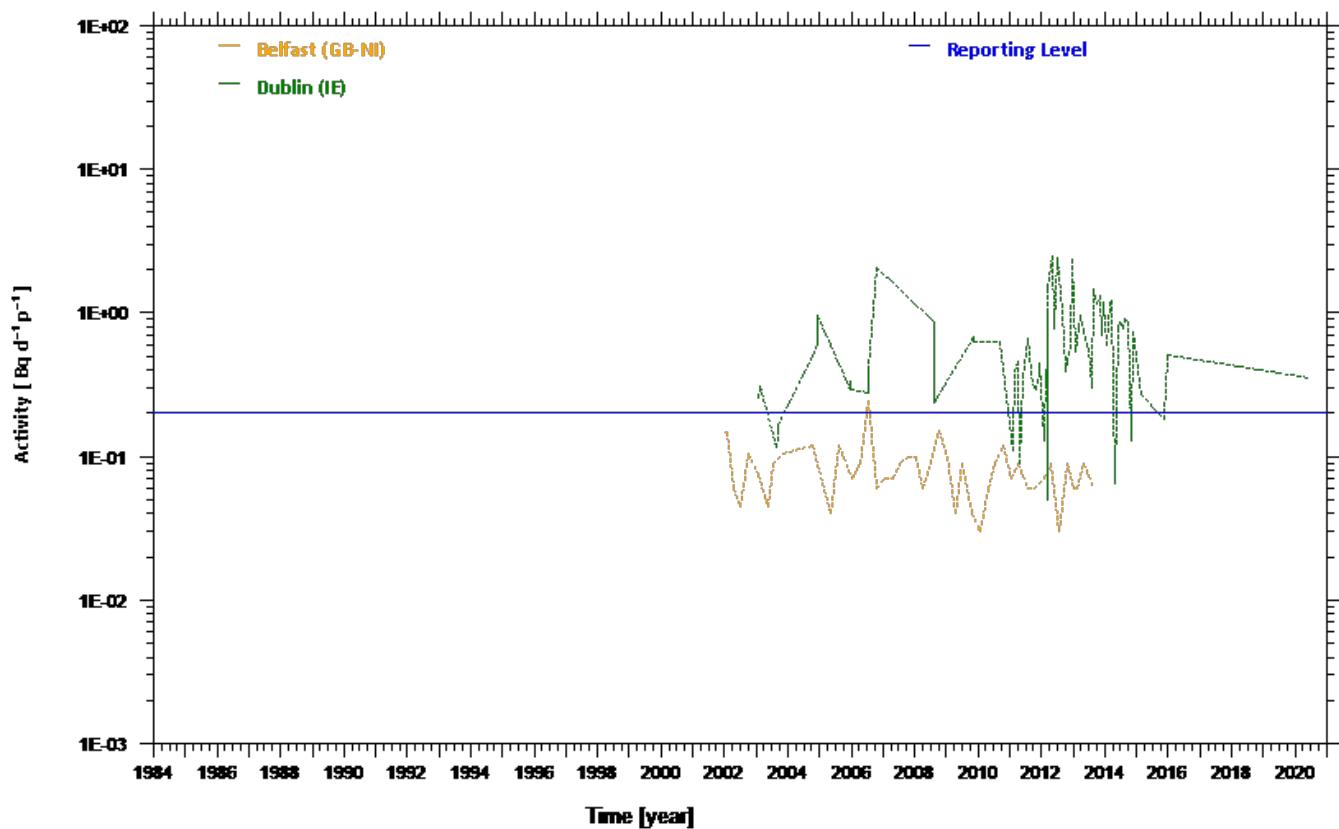
Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. D29** Activity trends for ^{137}Cs in mixed diet (Tal Qroqq and Craiova)**Fig. D30** Activity trends for ^{137}Cs in mixed diet (Copenhagen, Stockholm and Kiel)

Activity trends

SAMPLE TYPE :

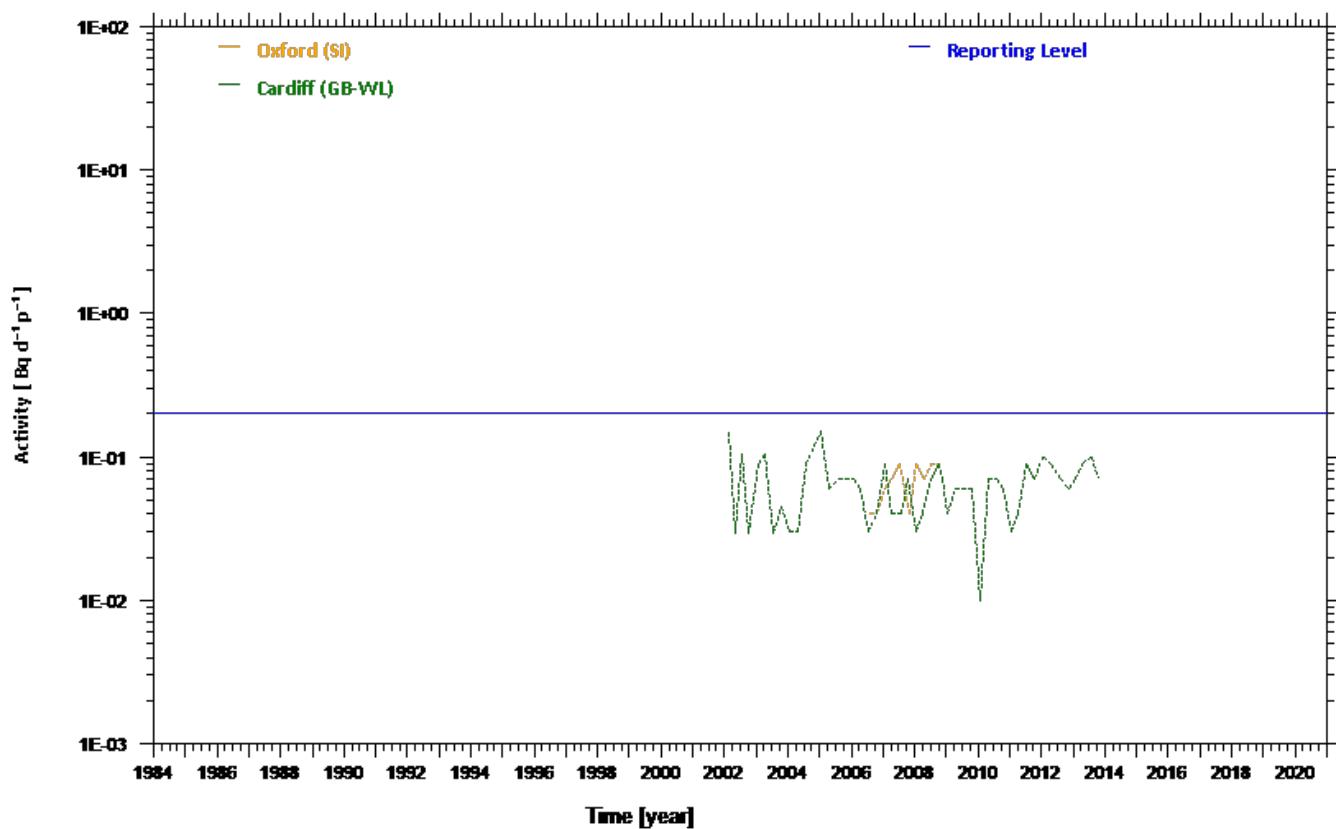
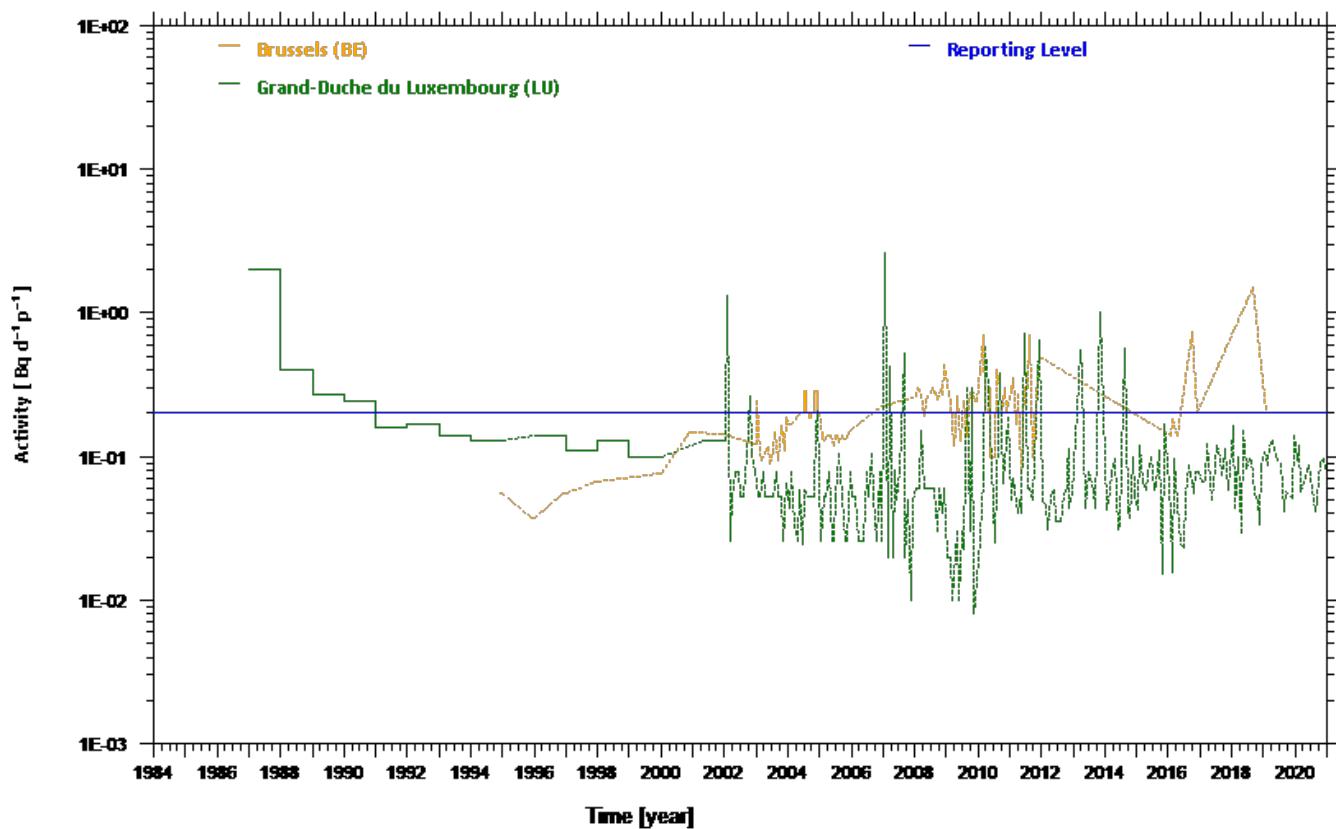
mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)**Fig. D31** Activity trends for ^{137}Cs in mixed diet (Riga, Tallinn and Vilnius)**Fig. D32** Activity trends for ^{137}Cs in mixed diet (Belfast and Dublin)



SPARSE

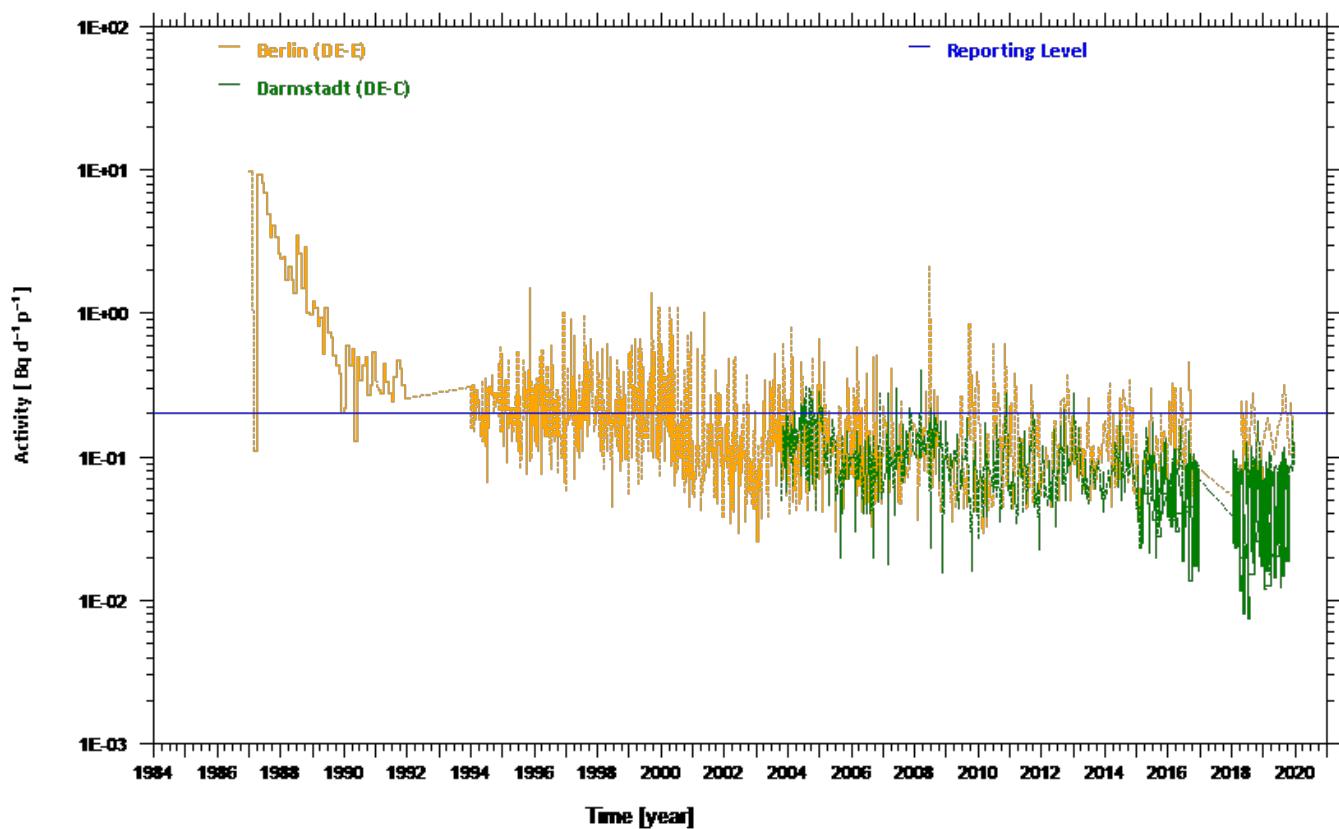
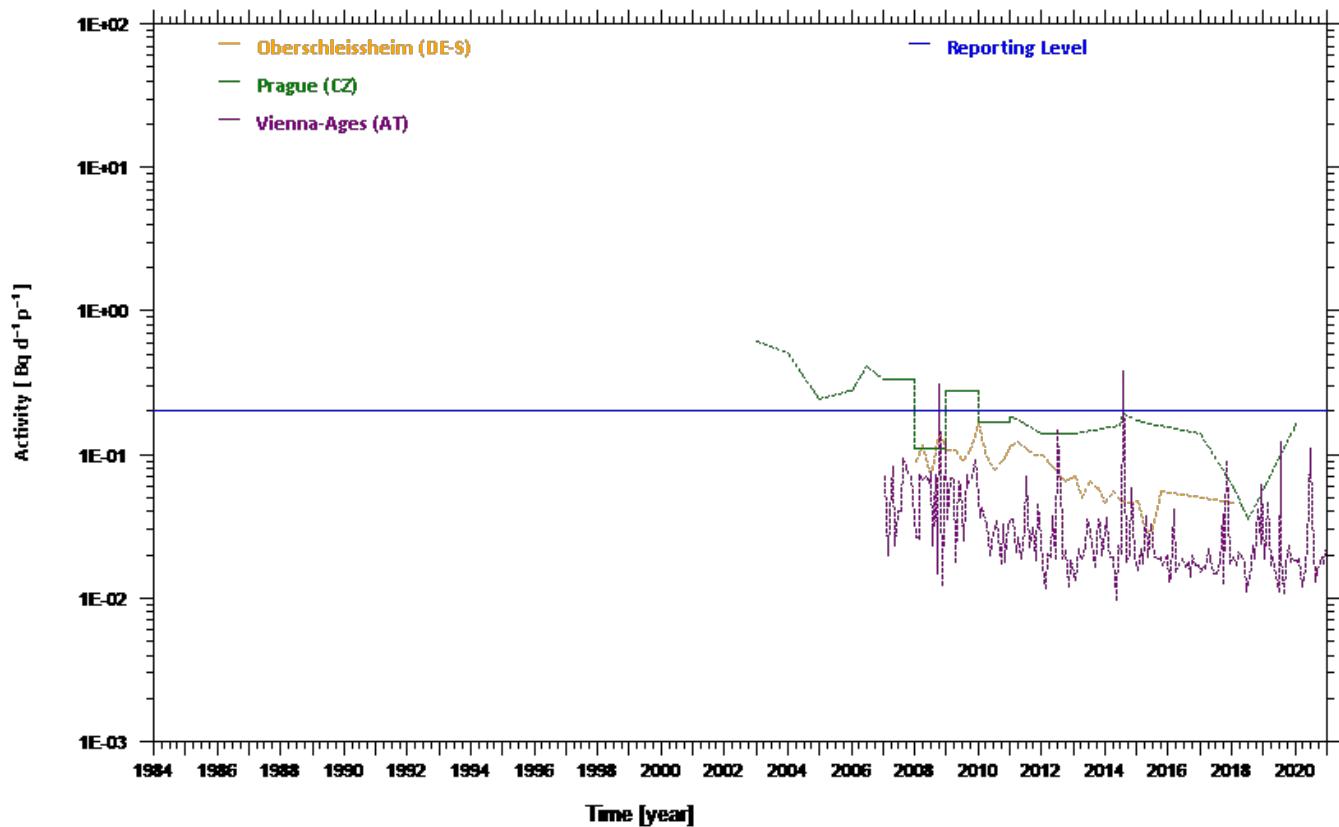
Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. D33** Activity trends for ^{137}Cs in mixed diet (Oxford and Cardiff)**Fig. D34** Activity trends for ^{137}Cs in mixed diet (Brussels and Grand-Duche du Luxembourg)

Activity trends

SAMPLE TYPE :

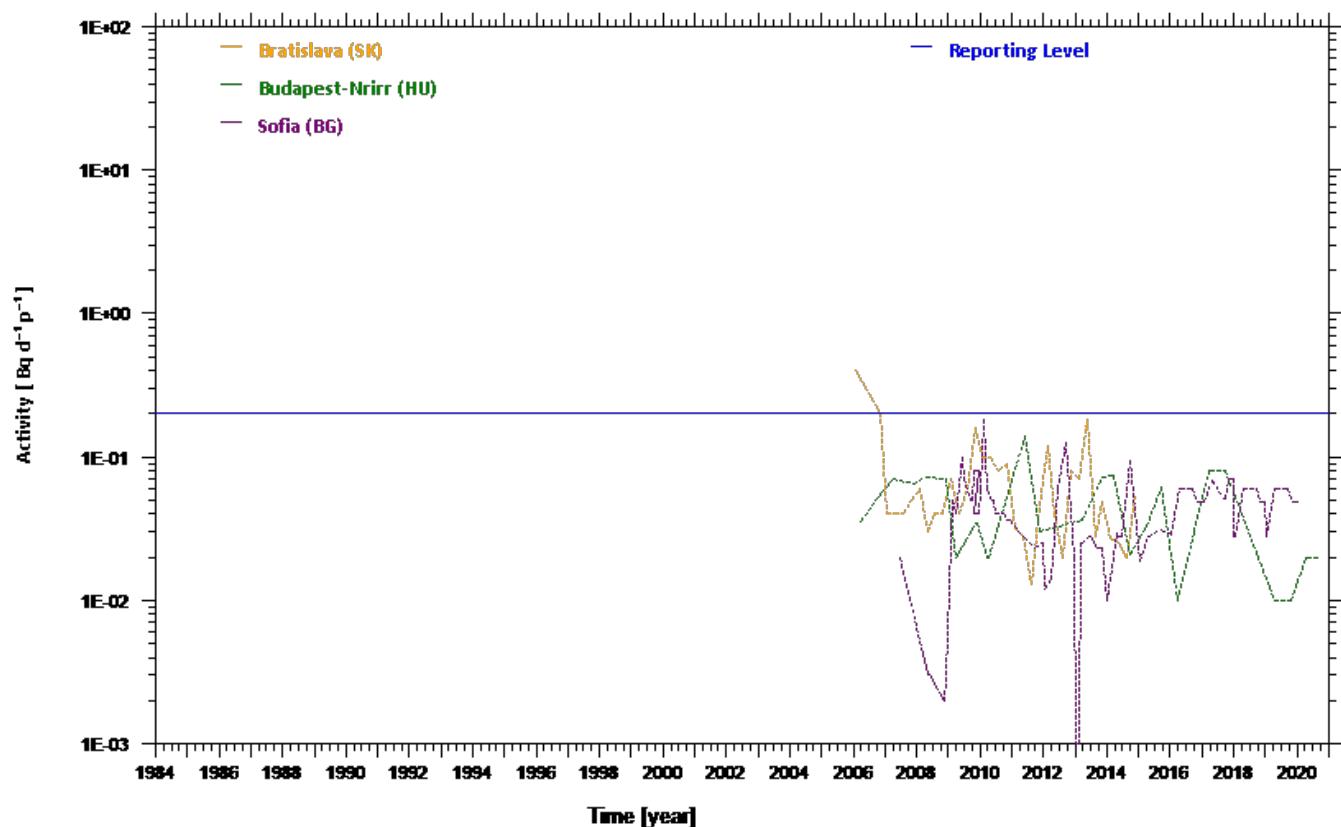
mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)

NUCLIDE CATEGORY :

caesium-137 (^{137}Cs)**Fig. D35** Activity trends for ^{137}Cs in mixed diet (Berlin and Darmstadt)**Fig. D36** Activity trends for ^{137}Cs in mixed diet (Oberschleissheim, Prague and Vienna-Ages)



SPARSE

Activity trends**SAMPLE TYPE**mixed diet ($\text{Bq d}^{-1} \text{p}^{-1}$)**NUCLIDE CATEGORY**caesium-137 (^{137}Cs)**Fig. D37** Activity trends for ^{137}Cs in mixed diet (Bratislava, Budapest-Nrerr and Sofia)

Appendix A

Origins and contents of Articles 35 and 36

The treaty establishing the European Atomic Energy Community (EURATOM) was signed in Rome on 25 March 1957. Title 2 of the Euratom Treaty sets out provisions for the encouragement of progress in the fields of nuclear energy.

Chapter III of Title 2 deals with Health and Safety matters.

Article 35 states: "Each Member State shall establish the facilities necessary to carry out continuous monitoring of the levels of radioactivity in the air, water and soil and to ensure compliance with the basic standards. The Community shall have the right of access to such facilities so that it may verify their operation and efficiency".

Article 36 states: "The appropriate authorities shall periodically communicate information on the checks referred to in Article 35 to the Community so that it is kept informed of the level of radioactivity to which the public is exposed".

The Commission Recommendations to Article 36 of the Euratom Treaty (2000/473/Euratom)

In addition to articles 35 and 36 of the Euratom Treaty, a Commission Recommendation (2000/473/Euratom) has been published (OJ L191 of 27.7.2000) in view of providing more detailed information on which sample types and radionuclide categories EU Member States should report to the Commission. In addition, more practical information is provided on recommended procedures and the time frame in which this data transfer has to be done.

The Commission Recommendation provides supplementary information on the sampling locations and of the recommended sample types and radionuclide categories on which information should be transmitted. This is summarised in the two tables below.

Sample type	Sampling locations	Additional information requested
Airborne particulates	Vicinity of densely populated areas ensuring adequate geographical coverage	
External ambient gamma dose-rate		
Surface water	Major inland waters at places for which flow rate information is available and, if relevant, from coastal waters	Average flow rate during which the sample was taken
Drinking water	Compliant with the drinking water directive (98/83/EC) Major ground or surface water supplies and for water distribution networks	Annual water volume distributed or produced
Milk	Dairies, sufficiently spread to ensure a representative average	Production rate
Mixed diet	Separate ingredients from market places or local distribution centres Complete meals from large consumption centres (canteens, restaurants,...)	Composition of mixed diet

Media	Measurement category	
	Dense network	Sparse network
Airborne particulates	¹³⁷ Cs, gross beta	¹³⁷ Cs, ⁷ Be
Air	Ambient gamma dose rate	Ambient gamma dose rate
Surface water	¹³⁷ Cs, residual beta	¹³⁷ Cs
Drinking water	³ H, ⁹⁰ Sr, ¹³⁷ Cs Natural radionuclides as monitored in compliance with Council Directive 98/83/EC	³ H, ⁹⁰ Sr, ¹³⁷ Cs Natural radionuclides as monitored in compliance with Council Directive 98/83/EC
Milk	⁹⁰ Sr, ¹³⁷ Cs	⁹⁰ Sr, ¹³⁷ Cs, ⁴⁰ K
Mixed diet	⁹⁰ Sr, ¹³⁷ Cs	⁹⁰ Sr, ¹³⁷ Cs, ¹⁴ C

Appendix B

Method for calculating the reporting levels

Reporting levels were used in the report with the aim to improve transparency when bringing together measurements as significant values and as constraint values. Uniform constraint levels have been defined on the basis of their significance from the health point of view, irrespective of the detection limits applied by the different laboratories. Although the calculation is based on a reference annual dose, it needs to be emphasized that the reporting levels are only meant to be a tool for transparent reporting and should not be confused with maximum permitted levels of radioactive contamination. The reporting level RL is derived as:

$$RL = \frac{DL}{RF \cdot EDC \cdot CF} \quad (1)$$

where: DL = annual dose limit, taken to be 1 millisievert [1]
 RF = reduction factor of the dose limit, taken to 1000
 EDC = effective dose coefficient in Sv/Bq
 CF = annual consumption per person

Sample type	Radionuclide category	EDC [2] (Sv/Bq)	Annual consumption	Reporting level (rounded values)	
Air	gross β (based on ^{90}Sr)	$2.4 \cdot 10^{-8}$	8030 m^3	[3]	$5.10^{-3} \text{ Bq m}^{-3}$
	^{137}Cs	$4.6 \cdot 10^{-9}$	8030 m^3	[3]	$3.10^{-2} \text{ Bq m}^{-3}$
Surface water	residual β (based on ^{90}Sr)	$2.8 \cdot 10^{-8}$	60 l	*	$6.10^{-1} \text{ Bq l}^{-1}$
	^{137}Cs	$1.3 \cdot 10^{-8}$	60 l	*	1.10^0 Bq l^{-1}
Drinking water	^{3}H	$1.8 \cdot 10^{-11}$	600 l	[4]	$1.10^{+2} \text{ Bq l}^{-1}$
	^{90}Sr	$2.8 \cdot 10^{-8}$	600 l	[4]	$6.10^{-2} \text{ Bq l}^{-1}$
	^{137}Cs	$1.3 \cdot 10^{-8}$	600 l	[4]	$1.10^{-1} \text{ Bq l}^{-1}$
Milk	^{90}Sr	$2.8 \cdot 10^{-8}$	200 l	[4]	$2.10^{-1} \text{ Bq l}^{-1}$
	^{137}Cs	$1.3 \cdot 10^{-8}$	200 l	[4]	$5.10^{-1} \text{ Bq l}^{-1}$
Mixed diet	^{90}Sr	$2.8 \cdot 10^{-8}$	365 d		$1.10^{-1} \text{ Bq d}^{-1} \text{ p}^{-1}$
	^{137}Cs	$1.3 \cdot 10^{-8}$	365 d		$2.10^{-1} \text{ Bq d}^{-1} \text{ p}^{-1}$

* assumed to 10 % of the annual drinking water consumption

- [1] ICRP publication 60 : 1990 Recommendations of the ICRP, Pergamon Press (1991)
- [2] Basic Safety Standards (96/29/Euratom, Tables A and B)
- [3] ICRP publication 23 : Reference man: Anatomical, Physiological and Metabolic Characteristics, Pergamon Press (1975)
- [4] Commission of the European Communities, Post-Chernobyl Action 5, Underlying data for Derived Intervention Levels, EUR 12553 (1990)

The basic annual dose limit for the public equals 1 millisievert. This limit, decreased by a factor of thousand, i.e. 1 microsievert, can be regarded as having no radiological significance. Using a nominal probability coefficient of stochastic effects for the whole population of 5.10^{-2} per sievert [1], taking only fatal cancers into consideration, this dose represents a radiological risk of 5.10^{-8} per year.

Reporting levels are introduced only for artificial radionuclides (^{3}H , ^{90}Sr and ^{137}Cs). The actual level for natural radionuclides (^{7}Be) is indicated in the sparse network graphs. The values for the effective dose coefficient (values for adults were considered), the annual consumption and the rounded values of the reporting levels obtained by applying equation 1 are given in the table below.

Appendix C

Methods for calculating time and geographical averages

Throughout the report average values were calculated as arithmetic averages with the calculating methods described below.

Air [Bq/m³]

The average concentration A over a period T and within a geographical area G is calculated as follows:

$$\bar{A} = \frac{1}{N_l} \sum_{l=1}^{N_l} \left(\frac{\sum_{i=1}^{N_{ml}} a_{i,l} \Delta t_{i,l}}{\sum_{i=1}^{N_{ml}} \Delta t_{i,l}} \right) \quad (1)$$

where: $a_{i,l}$ = the value of the i^{th} measurement with duration $\Delta t_{i,l}$ at location l within G
 N_l = the number of locations within G
 N_{ml} = number of measurements at location l during T

Surface water [Bq/l]

Only time averages for specific locations over a period T are taken. The following formula is used:

$$\bar{S} = \frac{1}{N_m} \sum_{i=1}^{N_m} s_i \quad (2)$$

where: s_i = value of the i^{th} measurement
 N_m = number of measurements during T

Drinking water and milk [Bq/l]

The average drinking water concentration W, respectively milk concentration M, over a period of time T and within a geographical area G is calculated as follows:

$$\bar{W} = \frac{1}{N_l} \sum_{l=1}^{N_l} \left(\frac{\sum_{i=1}^{N_{ml}} w_{i,l} \Delta t_{i,l}}{\sum_{i=1}^{N_{ml}} \Delta t_{i,l}} \right) \text{ or } \bar{M} = \frac{1}{N_l} \sum_{l=1}^{N_l} \left(\frac{\sum_{i=1}^{N_{ml}} m_{i,l} \Delta t_{i,l}}{\sum_{i=1}^{N_{ml}} \Delta t_{i,l}} \right) \quad (3)$$

where $w_{i,l}$ = value of the i^{th} drinking water measurement performed at location l within G
 $m_{i,l}$ = value of the i^{th} milk measurement performed at location l within G
 N_l = number of locations within G
 N_{ml} = number of measurements at location l during T

Mixed diet [Bq/d.p.]

The average mixed diet concentration D over a period of time T and within a geographical area G is calculated as follows:

$$\bar{D} = \frac{1}{N_l} \sum_{l=1}^{N_l} \left(\frac{\sum_{i=1}^{N_{ml}} d_{i,l} \Delta t_{i,l}}{\sum_{i=1}^{N_{ml}} \Delta t_{i,l}} \right) \quad (4)$$

where: $d_{i,l}$ = the value of the i^{th} measurement with duration $\Delta t_{i,l}$ at location l within G
 N_l = the number of locations within G
 N_{ml} = number of measurements at location l during T

Comments

In this report the basic period T is taken to be one month. Quarterly averages were obtained by averaging the corresponding monthly averages. When the available data do not allow the calculation of quarterly averages, semestrial or annual averages are taken.

In most cases data are taken from national reports where, very often, time or space averages are already given. Hence the quantities a, s, w, m and d are sometimes averages themselves, and the calculated averages A, S, W, M and D may only be an approximation of the true average values.

Since the number of measurements per month or region is not always the same, to avoid untoward biases, quarterly and annual regional averages are taken as the mean of the corresponding monthly and quarterly averages respectively. National averages are obtained in the same way starting from the mean of the corresponding monthly regional averages.

Appendix D

Addresses of national competent authorities and main laboratories

Austria

Bundesministerium für Land- und Forstwirtschaft,
Umwelt und Wasserwirtschaft
Abteilung V/7 Strahlenschutz
Radetzkystraße 2
A-1031 Wien
www.bmifuw.at

Bundesministerium für Gesundheit
Abteilung III Strahlenschutz
Radetzkystraße 2
A-1031 Wien
www.bmg.gv.at

Österreichische Agentur für Gesundheit und
Ernährungssicherheit
Kompetenzzentrum für Strahlenschutz und
Radiochemie
Spargelfeldstraße 191
A-1226 Wien
www.ages.at

Belgium

Federal Agency for Nuclear Control (FANC)
Markies Street 1 bus 6A
B - 1000 Brussels
Belgium
www.fanc.fgov.be

SCK.CEN
Boeretang 200
B - 2400 MOL
www.sckcen.be

IRE
Industrial Zone
Avenue de l'Esperance 1
B - 6220 FLEURUS
www.ire.eu

Bulgaria

Executive Environment Agency
136, Tsar Boris III blvd
[1618 Sofia](http://1618.sofia)

National Center of Radiobiology and Radiation
Protection
3, Georgi Sofiiski Blvd
1606 Sofia
<http://www.ncrrp.org>

Croatia

Ministry of the Interior, Civil Protection Directorate
Nehajnska 5
HR-10000 Zagreb, CROATIA
<https://civilna-zastita.gov.hr/>

Institute for Medical Research and Occupational
Health
Ksaverska cesta 2, POB 291
HR-10001 Zagreb, CROATIA
<https://www.imi.hr/en/>

Cyprus

Radiation Inspection and Control Service
Department of Labour Inspection
12, Apellis Street
1493 Nicosia
www.mlsi.gov.cy/dli

State General Laboratory
44, Kimonos Street
1451 Nicosia
www.moh.gov.cy/sql

Czech Republic

Státní úřad pro jadernou bezpečnost
Senovážné nám. 9
CZ-11000 Praha 1
www.sujb.cz

Státní ústav radiační ochrany
Bartoškova 28
CZ-14000 Praha 4
www.suro.cz

Denmark

National Institute of Radiation Protection
Knapholm 7
DK - 2730 Herlev
www.sundhedsstyrelsen.dk

Risø National Laboratory for Sustainable Energy
Technical University of Denmark
Postbox 49
DK - 4000 Roskilde
www.dtu.dk

Technical University of Denmark
DTU Environment
Radioecology and Tracer Studies Group
Climate and Monitoring
Frederiksborgvej 399, Building 201
4000 Roskilde
www.dtu.dk

Estonia

Environmental Board
Roheline 64
80010 Pärnu
<https://keskkonnaamet.ee/en>

Finland

Radiation and Nuclear Safety Authority (STUK)
Jokiniemenkuja 1,
FI-01370 Vantaa
www.stuk.fi

France

Autorité de Sûreté Nucléaire (ASN)
15 Rue Louis Lejeune
F - 92120 Montrouge
www ASN.fr

Institut de Radioprotection et de Sûreté Nucléaire
Pôle santé et environnement
Direction de l'environnement
31, rue de l'Ecluse
B.P. 40035
F - 78116 Le Vesinet
www IRSN.fr

Germany

Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz
Referat S II 5
Postfach 120 629
D - 53048 Bonn
www bmub bund de

Deutscher Wetterdienst - Zentrale
Frankfurter Straße 135
D - 63067 Offenbach am Main
www dwd de

Bundesamt für Strahlenschutz
Referat PB 3
Ingolstädter Landstraße 1
D - 85764 Oberschleißheim
www bfs de

Greece

Greek Atomic Energy Commission
PO Box 60092
GR - 15341 Aghia Paraskevi, Attiki
<http://en eeae gr>

Environmental Radioactivity Laboratory
Institute of Nuclear Technology - Radiation Protection
NCSR "Demokritos"

GR - 15310 Aghia Paraskevi, Attiki
www ipta demokritos gr

Hungary

Ministry of Human Capacities (EMMI)
National Public Health Centre -
Department of Radiobiology and Radiohygiene (NNK
SSF)
Anna u. 5.
H-1221 Budapest
<https://www nnk gov hu/index php/sugarbiologjai-es-sugar-egeszsegugyi-foosztaly/foosztaly-kezdolapja>

Ministry of Human Capacities (EMMI)
National Public Health Centre (NNK)
Albert Flórián út 2-6
H-1097 Budapest
www nnk gov hu

Ministry of Agriculture and Rural Development (FVM)
Central Agricultural Office Food and Feed Safety
Directorate
National Food Investigation Institute, Department of
Radiochemistry
Fogoly utca 13-15
H-1182 Budapest
<https://www nebih gov hu/en>

Ministry of Agriculture
National Food Chain Safety Office, Food Chain Safety
Laboratory Directorate
Radiological Reference Laboratory
Fogoly utca 13-15
H-1182 Budapest
<https://www nebih gov hu/en>

Ministry of Environment and Water (KvVM):
"Dél-dunántúli Környezetvédelmi, Természetvédelmi
és Vízügyi Felügyelőség"
(DDKTFV)
Papnövelde u. 13
H-7621 Pécs
www ddkvf hu

Baranya County Government Office, Department of
Public Health, Laboratory Section
Szabadság út 7.
H-7623 Pécs
<https://www kormanyhivatal hu/hu/baranya/>

Hungarian Atomic Energy Authority
Fényes Adolf utca 4
H-1036 Budapest
www oah hu

Nuclear Power Plant Paks
H-7031 Paks, P.O.B.: 71
<http://www atomeromu hu/hu/Lapok/default.aspx>

Ireland

Environment Protection Agency
Johnstown Castle Estate
Wexford, Y35 W821
Ireland
www.epa.ie

J.Kairiukslio 10
LT-08409 Vilnius
www.nmvri.lt

Italy

ISIN - National Inspectorate for Nuclear Safety and Radiation Protection
Via Capitan Bavastro 116
I - 00154 Roma
<https://www.isinucleare.it>

ISPRA - Institute for Environmental Protection and Research
Via Vitaliano Brancati 48
I - 00144 Roma-EUR
<http://www.isprambiente.gov.it>

Luxembourg

Direction de la Santé - Division de la Radioprotection
Villa Louvigny
Allée Marconi
L-2120 Luxembourg
Luxembourg
www.radioprotection.lu

new address from July 2022:
6b, rue Nicolas-Ernest Barblé,
L-1210 Luxembourg
Luxembourg
www.radioprotection.lu

Latvia

Latvian Environment, Geology and Meteorology Agency
Maskavas 165,
Riga, LV-1019
www.lvgma.gov.lv

Malta

Radiation Protection Commission
Unit F22
Mosta Technopark
Mosta
MST 3000
www.gov.mt

the Netherlands

Autoriteit Nucleaire Veiligheid en Stralingsbescherming (ANVS)
Koningskade 4
2596 AA Den Haag
Netherlands
<https://www.autoriteitnvs.nl/>

National Institute for Health and the Environment (RIVM) - Centrum Veiligheid
Postbus 1
NL - 3720 BA Bilthoven
www.rivm.nl

Lithuania

Environmental Protection Agency
Environment Research Department
Radiology Division
Juozapaviciaus 9
LT- 09311, Vilnius
www.gamta.lt

Rijkswaterstaat Centrale Informatievoorziening (RWS CIV)
Afdeling Laboratorium
Postbus 2232
3500 GE UTRECHT
Netherlands
<https://www.rijkswaterstaat.nl/water/waterdata-en-waterberichtgeving/waterdata>

Radiation Protection Center
Department of Expertise and Exposure Monitoring
Division of Public Exposure Monitoring
Kalvariju153
LT-08352, Vilnius
www.rsc.lt

Wageningen Food Safety Research (WFSR)
Akkermaalsbos 2
6708 WB Wageningen
Netherlands
<https://www.wur.nl/>

National Food and Veterinary Risk Assessment Institute (former National Food and Veterinary Laboratory)
Radiology section

Poland

Central Laboratory for Radiological Protection
7, Konwaliowa Str.
03-194 Warsaw
www.clor.waw.pl

National Atomic Energy Agency
36, Krucza Str.
00-522 Warsaw
www.paa.gov.pl

National Atomic Energy Agency
17, Bonifraterska
00-220 Warsaw
www.paa.gov.pl

Portugal

Instituto Tecnológico e Nuclear (ITN)
Unidade de Protecção e Segurança Radiológica
(UPSR)
Estrada Nacional 10, Apartado 21
P - 2686 Sacavém
www.itn.pt

Instituto Superior Técnico
Campus Tecnológico e Nuclear
Laboratório de Proteção e Segurança Radiológica
Estrada Nacional 10 (km 139.7)
2695-066 Bobadela LRS
www.itn.pt

Romania

Ministry of Environmental, Water and Forest, National Environmental Protection Agency, National Reference Radioactivity Laboratory
294 Splaiul Independentei, Sector 6, Bucharest, Romania
www.anpm.ro

Ministry of Health, National Institute of Public Health
5Th District
1-3 Dr. Leonte Anastasievici Street
Romania
<https://insp.gov.ro>

Slovak Republic

Public Health Authority of the Slovak republic
Trnavska 52,
P.O.BOX 45
826 45 Bratislava
www.uvzsr.sk

Regional Public Health Authority based in Košice
Ipelská 1
040 11 Košice
www.ruvzke.sk

Regional Public Health Authority based in Banská Bystrica
Cesta k nemocnici 1
975 56 Banská Bystrica
www.vzbb.sk

Slovenia

Uprava Republike Slovenije za jedrsko varnost
(Slovenian Nuclear Safety Administration)
Litostrojska cesta 54
SI-1000 Ljubljana
www.ursjv.gov.si

Uprava Republike Slovenije za varstvo pred sevanji
(Slovenian Radiation Protection Administration)
Ajdovščina 4
SI-1000 Ljubljana
www.uvps.gov.si

Institut Jožef Stefan (Jožef Stefan Institute)
Jamova cesta 39
SI-1000 Ljubljana
www.ijs.si

Zavod za varstvo pri delu (Institute of Occupational Safety)
Pot k izviru 6
SI-1260 Ljubljana-Polje
www.zvd.si

Spain

Consejo de Seguridad Nuclear
Pedro Justo Dorado Dellmans, 11
E - 28040 Madrid
www.csn.es/kprgisweb2/

Ministerio de Fomento
Centro de Estudios y Experimentación de Obras Públicas (CEDEX)
Alfonso XII, 3
E - 28014 Madrid
www.cedex.es

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Appendix E

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APPENDIX F

The REM Data bank

After the accident at Chernobyl, a task Force was created by the relevant Directorates of the European Commission (EC) to re-examine all aspects of nuclear safety. The necessity of interpreting a large number of data on environmental radioactivity led to the creation of the REM (Radioactivity Environmental Monitoring) data bank at the Joint Research Centre, Ispra in Italy for holding data on the contamination resulting from the Chernobyl accident.

At a meeting with Member State representatives for the purposes of Articles 35 and 36 of the Euratom Treaty (Luxembourg, October 1987), it was decided to take advantage of the informatic structure of the REM data bank to streamline the various formats adopted in the EU for reporting routine environmental measurements and to prepare the EC report concerning these data in a more systematic way.

The information in REM largely concerns radioactivity levels in Europe of air, deposition, water, milk, meat, crops and vegetables from 1.1.1984 and is continuously being updated. Each data record contains information describing the sample measurement (value, nuclide, etc.), the sample type, location and date of sampling and source of the data.

The REM Data bank contains more than 5,400,000 data records as of October 2023.

For further information please contact:
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Glossary

ABSORBED DOSE	The amount of energy imparted by the ionising radiation to unit mass of absorbing material. It is expressed in gray, Gy. (1 Gy = 1 Joule per kilogram).
ACTIVITY	The amount of a radionuclide at a given time. It expresses the rate at which radioactive transformations occur. The unit of measurement is the becquerel, Bq. (1 Bq = one transformation per second).
ALPHA PARTICLE	A particle, consisting of two protons and two neutrons, which is emitted from the nucleus of certain radionuclides.
ATOM	The smallest portion of an element that can combine chemically with other atoms. see Activity.
BECQUEREL	
BETA PARTICLE	High energy electron which is emitted from the nucleus of certain radionuclides.
CONSTRAINT VALUE	Activity value known to be less than a certain value.
COSMIC RAYS	High energy ionising radiation from outer space.
DOSE	The term used either for individual absorbed dose or effective dose.
DOSE LIMIT	Recommended by the ICRP and authorised by regulatory authorities to apply to occupational and public exposure.
EFFECTIVE DOSE	Weighted sum of the equivalent doses to the various organs or tissues. The weighing factors are derived from the risk of stochastic effect to the individual tissue or organ. The unit of measurement is the sievert, Sv.
ENVIRONMENTAL MONITORING	The application of automatic or mobile equipment to measure the activity in the environment of a release of radioactivity. The parameters usually include the activity of air, ground deposition, river water, drinking water and milk.
EQUIVALENT DOSE	The quantity obtained by multiplying the absorbed dose by a factor to take into account the relative harmfulness of the various types of ionising radiations. The unit is the sievert, Sv. One sievert produces the same biological effect irrespective of the type of radiation.
GAMMA RAY	A quantity of ionising electromagnetic radiation which is emitted by certain radionuclides.
GRAY	See Absorbed Dose.
GROSS BETA	The total measured beta activity in a sample. Depending on the measurement methodology it may exclude tritium and/or radon.
HALF-LIFE	The time taken for the activity of a radionuclide to lose half of its value by decay. Also referred to as "physical half-life".
ICRP	The International Commission on Radiological Protection is a non-governmental scientific organisation which publishes recommendations on radiation protection.
IONISING RADIATION	Radiation which has sufficient energy to produce ionisation in matter; includes alpha particles, beta particles, gamma rays, X-rays and neutrons (neutrons cause ionisation indirectly).
ISOTOPE	Nuclides of the same element but with different number of neutrons.
NATURAL BACKGROUND	The radiation field due to naturally occurring radioactivity. It includes radiation arising from the presence of long-lived radionuclides and their daughters in the earth's crust, atmosphere and cosmic radiation.
NEUTRON	An elementary particle with no electric charge which combines with protons to form an atomic nucleus.
PROTON	An elementary particle with positive electric charge. The amount of protons in an atomic nucleus determines the chemical element.
RADIOACTIVE CONTAMINATION	The undesirable presence of unsealed radioactive materials on surfaces, in air or in water.
RADIOACTIVE DECAY	The decay of a radionuclide by the spontaneous transformation of the nuclides, at a rate represented by the half-life. The rate is expressed as the activity in becquerel, Bq, indicating the number of transformations per second.
RADIONUCLIDE	A species of atom characterised by the number of protons and neutrons (and sometimes by the energy state of the nucleus), and which emits ionising radiation. It is described by the element and the total amount of protons and neutrons (eg caesium-137).
RADON	A naturally occurring radioactive element and the heaviest noble gas. Radon-222 and Radon-220 (also called thoron) are the most important isotopes.
REPORTING LEVEL	Value below which average Activity levels are not quoted exactly in this Monitoring Report.
RESIDUAL BETA	Gross beta activity minus potassium-40 (^{40}K), which is the major natural beta emitting component in surface water.
SIEVERT	See equivalent Dose and Effective Dose.

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