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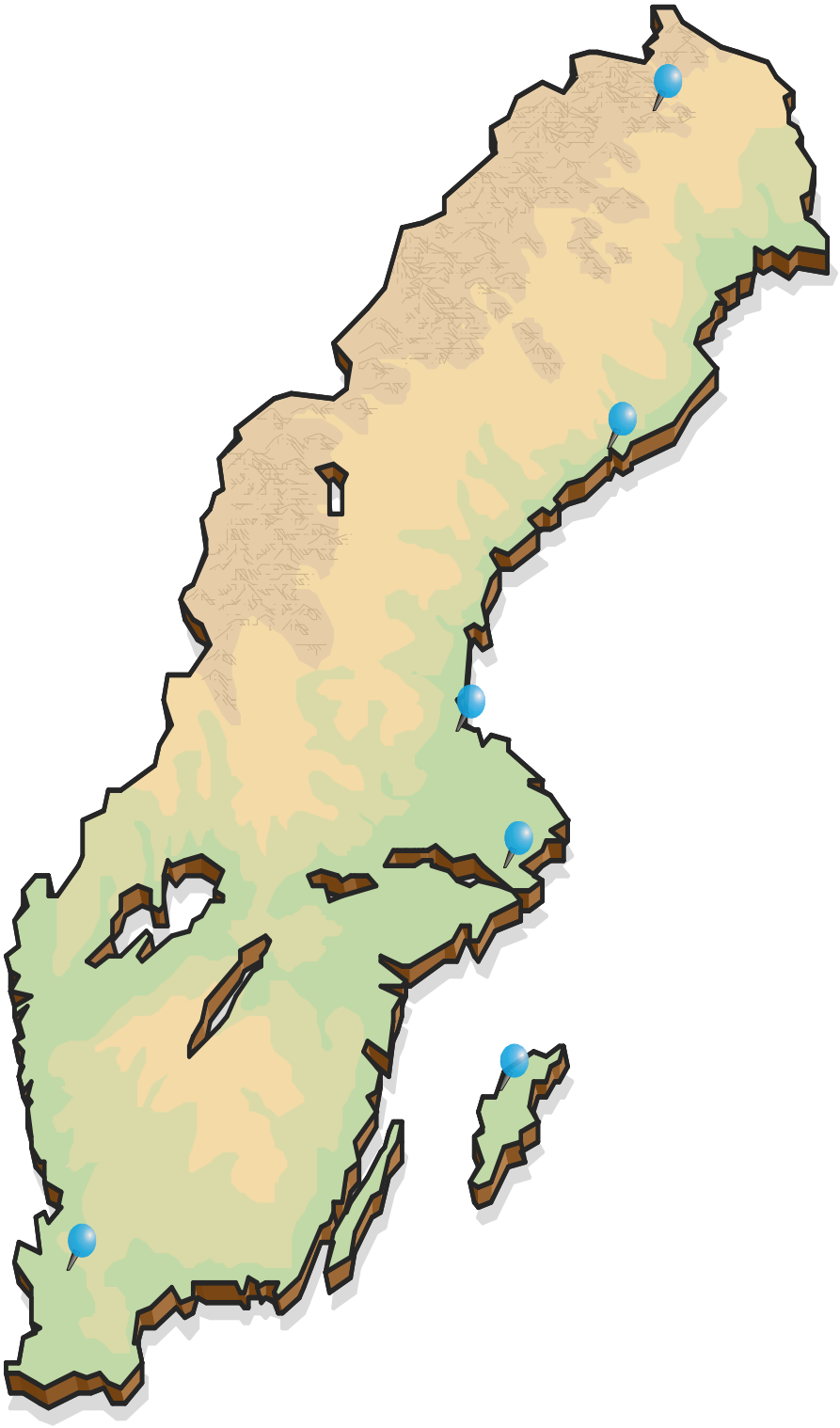

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Abstract

Filtering of ground level air is performed continuously at six different locations in Sweden: Kiruna, Umeå, Gävle, Kista, Visby and Ljungbyhed. The filters are pressed into weekly samples and the contents of different radionuclides are measured by gamma spectroscopy.
Precipitation is collected at four of the stations: Kiruna, Gävle, Kista and Ljungbyhed. The samples are ashed and the contents of radionuclides are measured.
Weekly respectively monthly activity concentrations of ^{7}Be and ^{137}Cs during 2022 in air and precipitation are presented for the different stations. Other anthropogenic radionuclides detected are also presented.

Keywords

Airborne radionuclides, deposition, ^{7}Be, ^{137}Cs, ^{131}I

Sammanfattning

Stationer för filtrering av markluft finns på sex ställen i Sverige: Kiruna, Umeå, Gävle, Kista, Visby och Ljungbyhed. Filtren pressas och analyseras veckovis med hjälp av gammaspektroskopi med germaniumdetektor.
Nederbörd samlas in på fyra av stationerna: Kiruna, Gävle, Kista och Ljungbyhed. Nederbördsproverna askas in och mäts därefter med hjälp av gammaspektroskopi.
Vecko- respektive månadsvisa aktivitetskoncentrationer av ^{7}Be och ^{137}Cs under 2022 för luft och nederbörd presenteras för de olika stationerna. I de fall andra antropogena radionuklider detekterats presenteras även dessa.

Nyckelord

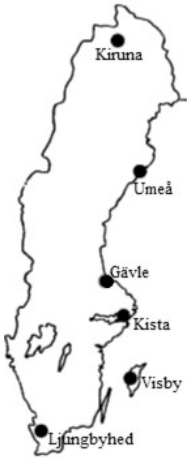
Luftburen radioaktivitet, deposition, ^{7}Be, ^{137}Cs, ^{131}I

Contents

1 Sampling and analysis procedures

Sampling of ground level air is performed at six different locations in Sweden, as follows:

Location	Latitude	Longitude	Height (asl)
Kiruna	67.84°N	20.42°E	415m
Umeå	63.85°N	20.34°E	46m
Gävle	60.67°N	17.19°E	7m
Kista	59.40°N	17.95°E	30m
Visby	57.61°N	18.32°E	59m
Ljungbyhed	56.08°N	13.22°E	45m



At five stations, 1000 $m^3\ h^{-1}$ of air is filtered through glass fibre filters (HB5773). At each station the filters are changed twice a week (Monday and Thursday or Friday) and sent by mail to FOI's laboratory in Kista for activity measurement and analysis. At the station in Kista 1600 $m^3\ h^{-1}$ of air is filtered and the filters are changed every 28th hour.

Weekly samples are made from each station by taking 3/4 of each filter (1/4 of the filter is archived) and compressing them together into a disc (60 mm diameter and 13 mm thick). These samples are measured 3-4 days after collection, on shielded High Purity Germanium (HPGe) detectors. From the station in Kista, the filters are assembled in a Marinelli-like geometry by pressing them into one circular disc (94 mm diameter, 16 mm thickness), placed on top of the detector, and into six rectangular bricks ($77 \times 48 \times 13$ mm) placed around the detector.

At five of the stations (Kiruna, Umeå, Gävle, Kista and Ljungbyhed) a small part of the air flow (12 $m^3\ h^{-1}$) downstream the filter is passed through an active charcoal cartridge in order to collect gaseous iodine. The cartridges are changed weekly but only analysed if particulate iodine has been detected in the filter.

The stations at Kiruna, Gävle, Kista and Ljungbyhed are each equipped with a stainless steel funnel (1 m radius) to collect precipitation. The precipitation is passed through a column consisting of a filter part, an an-ion exchanger part and a cat-ion exchanger part. The columns are changed weekly and sent by mail to FOI's laboratory in Kista. Four samples are combined to a monthly sample by ashing. The samples are measured on HPGe detectors. From these measurements the total deposition is calculated.

The particulate radionuclides detected in the filters are normally due to the naturally occurring radon daughters and ^{7}Be. In addition ^{137}Cs is commonly detected mainly due to resuspension of the Chernobyl fallout. With time the activity concentrations of ^{137}Cs are decreasing reaching the detection limit with the current measurement setup for some stations. In Tables I and II and Figures I and II the activity concentrations of ^{7}Be and ^{137}Cs are presented. The precipitation measurement results are presented in Table III. Other anthropogenic radionuclides detected are presented in Table IV.

Uncertainties are given as relative combined standard uncertainty according to GUM. For a more detailed description of uncertainty estimations see FOI Report ”Implementation of uncertainty of measurement according to GUM” (FOI-D–0643–SE, internal report, in Swedish).

2 Concentrations of ^{7}Be in air

Table 2.1. ^{7}Be concentrations in Sweden, 2022

Week Starting	Kiruna	Umeå	Gävle	Kista	Visby	Ljungbyhed
3 Jan	1340 (2.8)	2280 (4.9)	1790[7] (2.9)	2120 (2.8)	2200 (2.8)	2480 (2.7)
10 Jan	1380 (2.8)	1780 (4.9)	1190 (2.8)	1550 (2.8)	1930 (2.8)	2840 (2.7)
17 Jan	1410 (2.7)	1320 (4.9)	1490 (2.8)	1750 (2.8)	1830 (2.8)	1710 (2.8)
24 Jan	1250 (2.7)	1450 (4.9)	1350 (2.8)	1850 (2.8)	1790 (2.8)	2010 (2.7)
31 Jan	1340 (2.7)	1110 (4.9)	1410 (2.8)	2130 (2.8)	2250 (2.8)	2140 (2.7)
7 Feb	1460 (2.8)	1700 (4.9)	1300 (2.8)	2080 (2.8)	2660 (2.7)	2770 (2.7)
14 Feb	1490 (2.7)	1280 (4.9)	1210[8] (2.8)	2080 (2.8)	2280 (2.8)	2050 (2.7)
21 Feb	2280 (2.7)	2480 (4.9)	2110[9] (2.8)	2290 (2.8)	2300 (2.8)	2350 (2.7)
28 Feb	1480 (2.7)	1340 (2.8)	1650 (4.9)	2200 (2.8)	2050 (2.8)	2160 (2.7)
7 Mar	2780 (2.7)	3150 (4.9)	3510 (2.8)	4290 (2.8)	7090[10] (2.8)	3920 (2.8)
14 Mar	4570 (2.7)	4300 (4.9)	3220 (2.8)	3930 (2.8)	3810 (2.8)	3570 (2.7)
21 Mar	2750 (2.7)	3070 (4.9)	4290 (2.8)	5110 (2.8)	5830 (2.8)	5220 (2.7)
28 Mar	2010[1] (2.7)	1700 (4.9)	1530 (2.8)	2320 (2.8)	2540 (2.8)	2760 (2.7)
4 Apr	1780[2] (2.7)	1140 (2.8)	1210 (4.9)	1860 (2.8)	2190 (2.8)	2000 (2.8)
11 Apr	1830[3] (2.7)	1540 (4.9)	2180[3] (2.8)	2800 (2.8)	2150 (2.8)	3440[3] (2.7)
18 Apr	3270[4] (2.7)	3040 (4.9)	2520[4] (2.8)	3040 (2.8)	3000 (2.8)	3390[4] (2.7)
25 Apr	1770 (2.7)	1890 (4.9)	2210 (2.8)	2930 (2.8)	3580 (2.8)	3970 (2.7)
2 May	2000 (2.7)	2490 (4.9)	3030 (2.8)	3590 (2.8)	3820 (2.8)	4190 (2.7)
9 May	1100 (2.7)	2240 (4.9)	2560 (2.8)	3080 (2.8)	4120 (2.7)	4050 (2.7)
16 May	2670 (2.7)	4330 (2.8)	4610 (4.9)	4610 (2.8)	4930 (2.7)	5050 (2.8)
23 May	5090 (2.8)	3930 (2.7)	2360 (5.0)	3330 (2.8)	3020 (2.8)	2660 (2.7)
30 May	3490[5] (2.7)	1870 (6.4)	2670[5] (2.7)	2350 (2.8)	2310 (2.8)	2260 (2.7)
6 Jun	2480[6] (2.8)	3580 (2.8)	2620[6] (2.7)	3600 (2.8)	3650 (2.8)	3320 (2.7)
13 Jun	2210 (2.7)	1280 (2.8)	1300 (2.8)	2680 (2.8)	3490 (2.7)	4250 (4.9)
20 Jun	2690 (2.8)	2690 (4.9)	3500 (2.7)	3510 (2.8)	3700 (2.8)	4120 (2.7)
27 Jun	5170 (2.8)	5600 (4.9)	4340 (2.8)	5800 (2.8)	5140 (2.7)	4810 (2.7)

Values are reported in $\mu Bq\,m^{-3}$
Relative combined standard uncertainty (1σ%) within brackets

[1]Eight days sampling 28/3-5/4
[2]Six days sampling 5/4-11/4
[3]Eight days sampling 11/4-19/4
[4]Six days sampling 19/4-25/4
[5]Eight days sampling 30/5-7/6
[6]Six days sampling 7/6-13/6
[7]Six days sampling 4/1-10/1
[8]Eight days sampling 14/2-22/2
[9]Six days sampling 22/2-28/2
[10]Four days sampling 10/3-14/3

Table 2.2. ^{7}Be concentrations in Sweden, 2022

Week Starting	Kiruna	Umeå	Gävle	Kista	Visby	Ljungbyhed
4 Jul	1590 (2.7)	1630 (4.9)	1310 (2.8)	1960 (2.8)	2040 (2.8)	1350 (2.8)
11 Jul	1740 (2.8)	1770 (2.7)	1900 (2.8)	2560 (2.8)	3320 (2.8)	3000 (4.9)
18 Jul	1260 (5.0)	1800[1] (2.8)	2750 (2.8)	4100 (2.8)	4810 (2.7)	4420 (2.8)
25 Jul	2650 (2.8)	1980[2] (2.8)	2740 (2.8)	3370 (2.8)	3110 (2.8)	3230 (4.9)
1 Aug	1800 (2.8)	2180 (4.9)	2050 (2.8)	4260[9] (2.8)	4660 (2.8)	3140 (2.7)
8 Aug	1890 (2.8)	2880 (4.9)	3000[3] (5.0)	4170 (2.8)	4780 (2.8)	4470 (2.8)
15 Aug	3030 (2.8)	4050 (2.8)	2760[4] (5.0)	6080 (2.8)	7180 (2.7)	4270 (2.7)
22 Aug	2600 (4.9)	3180 (2.7)	2800 (2.8)	4640 (2.8)	5920 (2.8)	4500 (2.7)
29 Aug	1610 (2.8)	1510 (2.8)	1330 (2.8)	1700 (2.8)	2270 (2.7)	2400 (4.9)
5 Sep	2240 (2.7)	3250 (4.9)	3050 (2.8)	3550 (2.8)	3480 (2.8)	2650 (2.7)
12 Sep	590 (2.7)	1610 (4.9)	1230 (2.8)	1700 (2.8)	1760 (2.8)	1220 (2.7)
19 Sep	1900 (2.7)	2170 (4.9)	2040 (2.8)	2680 (2.8)	2460 (2.8)	2070 (2.7)
26 Sep	2100 (2.8)	1850 (2.8)	2040 (2.8)	2610 (2.8)	2990 (2.7)	1650 (4.9)
3 Oct	630 (2.7)	1180 (2.8)	1200 (2.8)	1860 (2.8)	2320 (4.9)	1960 (2.8)
10 Oct	1100 (2.7)	1570 (4.9)	2010 (2.8)	2730 (2.8)	2800 (2.8)	2960 (2.7)
17 Oct	930 (2.7)	1010 (4.9)	1530 (2.8)	2580 (2.8)	2390 (2.7)	1790 (2.8)
24 Oct	1220 (2.7)	1260 (4.9)	1460 (5.5)	1860 (2.8)	2500 (2.8)	3060 (2.7)
31 Oct	960 (2.7)	1040 (4.9)	1790 (2.8)	2250 (2.8)	2290 (2.8)	2200[10] (2.8)
7 Nov	540 (2.8)	560 (4.9)	1210 (2.8)	1770 (2.8)	1850 (2.8)	2200[11] (2.7)
14 Nov	4590 (2.7)	1220 (4.9)	1420 (2.8)	1490 (2.8)	1940 (2.8)	2270 (2.7)
21 Nov	1660 (2.7)	2260 (4.9)	1130[5] (2.8)	1560 (2.8)	1300 (2.8)	1880 (2.7)
28 Nov	1310 (2.7)	580 (4.9)	680[6] (2.8)	2720 (2.8)	4100 (2.8)	3090 (2.7)
5 Dec	1130 (2.7)	1080 (4.9)	900 (2.8)	1130 (2.8)	1470 (2.8)	1150 (2.7)
12 Dec	1530 (2.7)	1670 (4.9)	1450 (2.8)	1920 (2.8)	2550 (2.8)	2020 (2.7)
19 Dec	910 (2.7)	1320 (2.8)	1290[7] (2.8)	2230 (2.8)	2390 (2.8)	1860 (4.9)
26 Dec	990 (2.7)	1380 (4.9)	1210[8] (2.8)	1460 (2.8)	2130 (2.8)	1790 (2.8)

Values are reported in $\mu Bq\,m^{-3}$
Relative combined standard uncertainty (1σ%) within brackets

[1]Four days sampling 18/7-22/7
[2]Ten days sampling 22/7-1/8
[3]Nine days sampling 8/8-17/8
[4]Five days sampling 17/8-22/8
[5]Eight days sampling 21/11-29/11
[6]Six days sampling 29/11-5/12
[7]Eight days sampling 19/12-27/12
[8]Six days sampling 27/12-2/1
[9]Six days sampling 1/8-6/8
[10]Eight days sampling 31/10-8/11
[11]Six days sampling 8/11-14/11

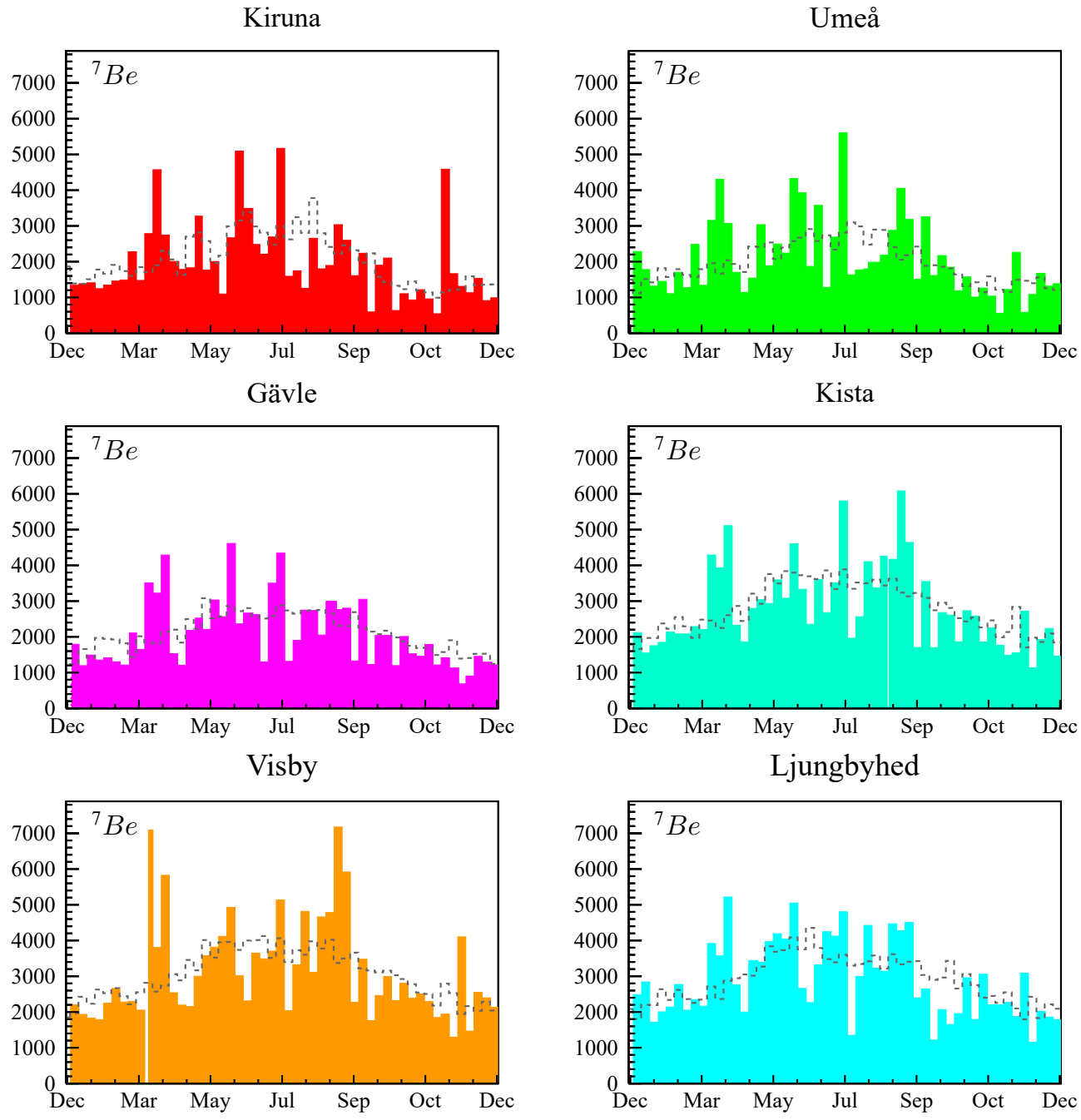


Figure 1. Activity concentrations (μBq m^{-3}) in ground level air of ^{7}Be in the Swedish network during 2022. The dotted line shows average concentration for the period 2012-2021.

3 Concentrations of ^{137}Cs in air

Table 3.1. ^{137}Cs concentrations in Sweden, 2022

Week Starting	Kiruna	Umeå	Gävle	Kista	Visby	Ljungbyhed
3 Jan	< 0.2	0.6 (13)	0.9[7] (9)	0.4 (8)	0.3 (21)	0.5 (14)
10 Jan	< 0.2	0.6 (13)	0.6 (11)	0.3 (7)	0.3 (21)	0.4 (13)
17 Jan	< 0.2	0.4 (16)	0.7 (18)	0.4 (7)	0.1 (37)	0.6 (12)
24 Jan	< 0.2	0.6 (11)	0.4 (32)	0.3 (9)	< 0.3	0.2 (21)
31 Jan	< 0.2	0.8 (5)	0.9 (14)	0.5 (5)	0.1 (57)	0.4 (14)
7 Feb	< 0.2	0.6 (11)	0.4 (23)	0.2 (10)	< 0.4	0.7 (8)
14 Feb	< 0.2	0.6 (10)	0.5[8] (20)	0.2 (8)	0.2 (18)	0.4 (8)
21 Feb	0.1 (51)	0.5 (15)	0.6[9] (22)	0.3 (8)	0.2 (15)	0.2 (19)
28 Feb	< 0.2	0.6 (9)	0.8 (10)	0.3 (7)	0.2 (55)	0.6 (9)
7 Mar	< 0.2	1.3 (6)	1.2 (9)	0.5 (6)	0.6[10](13)	0.3 (17)
14 Mar	0.2 (19)	1.1 (9)	1.9 (9)	1.0 (5)	1.2 (9)	0.7 (8)
21 Mar	< 0.6	0.8 (11)	1.9 (9)	0.8 (5)	0.8 (7)	1.0 (5)
28 Mar	< 0.2[1]	0.6 (13)	0.7 (17)	0.5 (6)	0.2 (43)	0.4 (17)
4 Apr	< 0.2[2]	0.7 (8)	0.5 (13)	0.2 (9)	0.2 (29)	0.5 (19)
11 Apr	< 0.2[3]	0.7 (13)	1.4[3] (10)	0.3 (9)	0.2 (27)	0.4[3] (14)
18 Apr	< 0.3[4]	0.9 (9)	1.5[4] (11)	0.4 (7)	0.2 (40)	< 0.7[4]
25 Apr	< 0.4	0.4 (9)	1.6 (8)	0.4 (7)	0.2 (30)	0.2 (32)
2 May	< 0.2	0.8 (9)	1.3 (10)	0.3 (7)	0.2 (14)	0.2 (27)
9 May	< 0.2	0.9 (9)	1.1 (14)	0.2 (14)	0.2 (19)	0.2 (27)
16 May	< 0.3	1.2 (9)	2.1 (6)	0.4 (8)	0.3 (25)	< 0.6
23 May	< 0.3	1.6 (5)	1.9 (6)	0.3 (7)	0.2 (28)	0.2 (15)
30 May	< 0.3[5]	2.5 (6)	3.1[5] (4)	0.5 (6)	0.3 (11)	0.2 (37)
6 Jun	< 0.5[6]	6.1 (4)	1.3[6] (6)	0.2 (12)	0.2 (35)	< 0.3
13 Jun	< 0.4	2.9 (5)	1.3 (7)	0.3 (7)	0.2 (22)	< 0.3
20 Jun	< 0.5	1.7 (6)	1.5 (7)	0.2 (11)	0.2 (30)	0.1 (44)
27 Jun	0.5 (14)	1.0 (11)	1.6 (10)	0.5 (6)	0.6 (12)	0.1 (30)

Values are reported in μBq m^{-3}
When ^{137}Cs is not detected minimal detectable concentration (<MDC) is given
Relative combined standard uncertainty (1σ%) within brackets

[1]Eight days sampling 28/3-5/4
[2]Six days sampling 5/4-11/4
[3]Eight days sampling 11/4-19/4
[4]Six days sampling 19/4-25/4
[5]Eight days sampling 30/5-7/6
[6]Six days sampling 7/6-13/6
[7]Six days sampling 4/1-10/1
[8]Eight days sampling 14/2-22/2
[9]Six days sampling 22/2-28/2
[10]Four days sampling 10/3-14/3

Table 3.2. ^{137}Cs concentrations in Sweden, 2022

Week Starting	Kiruna	Umeå	Gävle	Kista	Visby	Ljungbyhed
4 Jul	< 0.4	1.2 (7)	0.9 (13)	0.1 (20)	0.1 (37)	< 0.6
11 Jul	< 0.5	1.4 (6)	1.7 (6)	0.3 (9)	0.4 (14)	< 0.3
18 Jul	< 1.2	1.2[1] (16)	1.6 (10)	0.3 (11)	< 0.6	0.3 (13)
25 Jul	< 0.9	1.3[2] (5)	0.7 (15)	0.2 (14)	0.2 (16)	0.1 (31)
1 Aug	< 2.2	2.1 (4)	0.8 (10)	0.2[9] (13)	0.2 (17)	< 0.6
8 Aug	< 2.0	2.2 (4)	1.0[3] (8)	0.1 (18)	0.2 (15)	0.3 (21)
15 Aug	0.6 (8)	3.4 (4)	1.4[4] (7)	0.7 (5)	1.3 (5)	0.6 (13)
22 Aug	0.5 (10)	3.7 (4)	1.2 (10)	0.4 (6)	1.3 (5)	0.3 (10)
29 Aug	0.1 (17)	1.7 (8)	0.8 (8)	0.4 (5)	0.3 (9)	< 0.3
5 Sep	< 0.3	1.5 (4)	1.3 (8)	0.8 (4)	1.5 (4)	0.4 (9)
12 Sep	< 0.3	1.9 (6)	1.0 (9)	0.6 (5)	0.4 (9)	0.2 (11)
19 Sep	< 0.3	2.1 (4)	1.7 (8)	0.4 (6)	0.3 (10)	0.3 (13)
26 Sep	< 0.3	2.4 (6)	1.6 (6)	0.3 (8)	0.4 (11)	0.2 (25)
3 Oct	< 0.3	2.2 (4)	1.2 (7)	0.4 (7)	0.4 (11)	0.2 (17)
10 Oct	< 0.2	1.8 (4)	1.5 (6)	0.2 (9)	0.5 (8)	0.4 (16)
17 Oct	< 0.2	1.2 (5)	1.5 (11)	0.4 (6)	< 0.5	0.2 (15)
24 Oct	< 0.2	1.4 (6)	0.7 (17)	0.2 (10)	0.2 (16)	< 0.5
31 Oct	< 0.2	0.7 (7)	0.9 (9)	0.2 (11)	0.3 (12)	0.4[10] (14)
7 Nov	< 0.5	1.0 (5)	0.9 (14)	0.2 (13)	< 0.3	0.1[11] (23)
14 Nov	< 0.3	0.6 (7)	0.6 (10)	0.2 (9)	0.2 (16)	0.2 (17)
21 Nov	< 0.2	0.8 (8)	1.0[5] (10)	0.4 (7)	< 0.5	0.2 (12)
28 Nov	< 0.2	0.7 (10)	1.0[6] (9)	0.6 (5)	0.4 (36)	0.3 (10)
5 Dec	< 0.2	0.7 (11)	1.2 (10)	0.8 (4)	0.3 (22)	0.3 (17)
12 Dec	< 0.1	1.1 (6)	1.8 (7)	0.6 (5)	0.1 (49)	0.7 (9)
19 Dec	< 0.2	0.9 (10)	0.8[7] (10)	0.2 (8)	0.3 (10)	0.4 (17)
26 Dec	< 0.2	0.6 (10)	1.3[8] (7)	0.3 (8)	< 0.2	0.2 (17)

Values are reported in μBq m^{-3}
When ^{137}Cs is not detected minimal detectable concentration (<MDC) is given
Relative combined standard uncertainty (1σ%) within brackets

[1]Four days sampling 18/7-22/7
[2]Ten days sampling 22/7-1/8
[3]Nine days sampling 8/8-17/8
[4]Five days sampling 17/8-22/8
[5]Eight days sampling 21/11-29/11
[6]Six days sampling 29/11-5/12
[7]Eight days sampling 19/12-27/12
[8]Six days sampling 27/12-2/1
[9]Six days sampling 1/8-6/8
[10]Eight days sampling 31/10-8/11
[11]Six days sampling 8/11-14/11

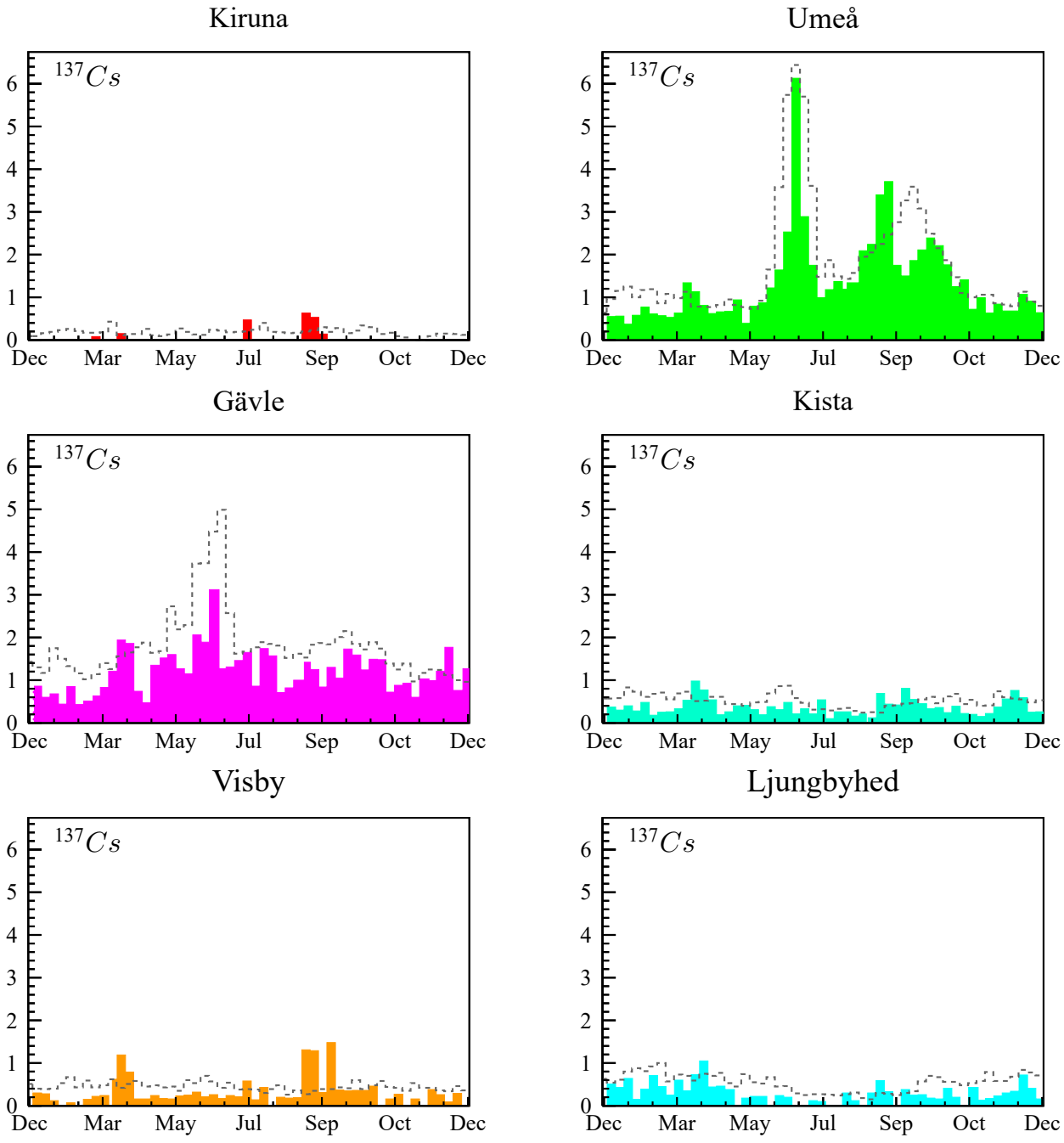


Figure 2. Activity concentrations (μBq m^{-3}) in ground level air of ^{137}Cs in the Swedish network during 2022. The dotted line shows average concentration for the period 2012-2021.

4 Deposition measurements

Table 4.1. Kiruna

Period	^{7}Be	^{137}Cs	Precipitation (mm)
27 Dec - 17 Jan	6000 (5)	< 7	9
17 Jan - 21 Feb	6500 (5)	< 7	16
21 Feb - 24 Mar	4000 (5)	< 6	11
24 Mar - 19 Apr	21 200 (5)	4 (42)	58
19 Apr - 16 May	22 000 (5)	< 7	25
16 May - 13 Jun	19 900 (5)	68 (8)	50
13 Jun - 11 Jul	93 800 (5)	13 (9)	97
11 Jul - 8 Aug	175 100 (5)	11 (12)	141
8 Aug - 5 Sep	32 000 (5)	6 (17)	45
5 Sep - 3 Oct	58 300 (5)	< 8	90
3 Oct - 31 Oct	18 600 (5)	< 9	37
31 Oct - 28 Nov	8200 (5)	< 7	7
28 Nov - 26 Dec	18 500 (5)	8 (21)	3

Values are reported in mBq m^{-2}
When ^{137}Cs is not detected minimal detectable concentration (<MDC) is given
Relative combined standard uncertainty (1σ%) within brackets

Table 4.2. Gävle

Period	^{7}Be	^{137}Cs	Precipitation (mm)
20 Dec - 17 Jan	2600 (5)	7 (16)	37
17 Jan - 14 Feb	3600 (5)	10 (20)	40
14 Feb - 25 Mar	2300 (5)	8 (26)	19
25 Mar - 19 Apr	3800 (5)	6 (26)	29
19 Apr - 16 May	4100 (5)	10 (23)	16
16 May - 13 Jun	60 000 (5)	< 7	45
13 Jun - 11 Jul	33 900 (5)	38 (13)	46
11 Jul - 8 Aug	62 900 (5)	31 (17)	72
8 Aug - 5 Sep	32 800 (5)	22 (8)	86
5 Sep - 3 Oct	11 700 (5)	3 (71)	46
3 Oct - 31 Oct	8600 (5)	7 (14)	32
31 Oct - 29 Nov	27 000 (5)	11 (17)	46
29 Nov - 27 Dec	4800 (5)	< 7	59

Values are reported in mBq m^{-2}
When ^{137}Cs is not detected minimal detectable concentration (<MDC) is given
Relative combined standard uncertainty (1σ%) within brackets

Table 4.3. Kista

Period	^{7}Be	^{137}Cs	Precipitation (mm)
13 Dec - 10 Jan	41 100 (5)	5 (36)	30
10 Jan - 7 Feb	19 500 (5)	6 (30)	35
7 Feb - 7 Mar	37 000 (5)	3 (38)	41
7 Mar - 4 Apr	1800 (5)	< 9	1
4 Apr - 3 May	14 900 (5)	< 7	27
3 May - 30 May	48 600 (5)	9 (30)	43
30 May - 27 Jun	48 500 (5)	< 16	40
27 Jun - 25 Jul	56 400 (5)	< 9	48
25 Jul - 22 Aug	66 500 (5)	8 (13)	45
22 Aug - 19 Sep	32 400 (5)	9 (12)	36
19 Sep - 17 Oct	56 300 (5)	6 (17)	40
17 Oct - 14 Nov	36 300 (5)	< 9	34
14 Nov - 12 Dec	60 600 (5)	4 (29)	54

Values are reported in mBq m^{-2}
When ^{137}Cs is not detected minimal detectable concentration (<MDC) is given
Relative combined standard uncertainty (1σ%) within brackets

Table 4.4. Ljungbyhed

Period	^{7}Be	^{137}Cs	Precipitation (mm)
3 Jan - 31 Jan	71 100 (5)	6 (33)	101
31 Jan - 28 Feb	132 100 (5)	9 (26)	133
28 Feb - 28 Mar	1300 (5)	< 6	0
28 Mar - 25 Apr	22 900 (5)	11 (20)	10
25 Apr - 23 May	43 500 (5)	5 (34)	20
23 May - 20 Jun	65 500 (5)	6 (30)	61
20 Jun - 18 Jul	92 800 (5)	6 (16)	56
18 Jul - 15 Aug	43 300 (5)	< 9	23
15 Aug - 12 Sep	43 000 (5)	7 (15)	23
12 Sep - 10 Oct	67 000 (5)	5 (20)	76
10 Oct - 8 Nov	62 900 (5)	< 17	53
8 Nov - 5 Dec	25 500 (5)	< 8	8
5 Dec - 2 Jan	83 200 (5)	5 (53)	85

Values are reported in mBq m^{-2}
When ^{137}Cs is not detected minimal detectable concentration (<MDC) is given
Relative combined standard uncertainty (1σ%) within brackets

5 Other detections

5.1 Detections of ^{131}I in the network during 2022

At a few occasions during the year ^{131}I was detected in the network. Detections of low concentrations of ^{131}I are common, the sources of for the detections have not been established.

Table 5.1. Detections of ^{131}I during 2022

Station	Sampling Period	^{7}Be	^{137}Cs	^{131}I
Umeå	13 Jun - 20 Jun	1280 (2.8)	2.9 (5)	2.1 (11)
Visby	26 Sep - 3 Oct	2990 (2.7)	0.4 (11)	1.0 (19)
Gävle	5 Dec - 12 Dec	900 (2.8)	1.2 (10)	2.5 (8)

Values are reported in $\mu Bq\,m^{-3}$
Relative combined standard uncertainty (1σ%) within brackets

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