

March 6, 2024

**Results of ALPS Treated Water Marine Monitoring:
Seawater survey (seven major nuclides) (November, 2023)**

1. Outline of survey

(1) Date of sampling

November 14-15, 2023

(2) Sampling points

3 sampling points on the coastal waters in the Fukushima Prefecture.

(3) Detail of the survey

- Measurements of radioactive material concentration (seven major nuclides) in seawater
- The target lower limits of detection of each nuclide* are shown below.

Nuclides	Target lower limits of detection (Bq/L)
Cesium 134	0.001
Cesium 137	0.001
Ruthenium 106	1.2
Antimony 125	0.5
Cobalt 60	0.3
Strontium 90	0.001
Iodine 129	0.01

* A target lower limit of detection means a value that is set for quality control to assure at least the detection up to the value when analysis is conducted. Each actual lower limit of detection differs according to samples, and is equal to or lower than a target lower limit of detection.

2. Outline of results

(1) Seawater survey (3 sampling points [6 samples])

Two of the seven major nuclides were detected in the seawater, cesium-137 and strontium-90.

Concentrations of cesium-137 in seawater range from 0.0093 Bq/L to 0.021 Bq/L.

Concentrations of strontium-90 in seawater range from 0.00066 Bq/L to 0.0010 Bq/L.

Concentrations of cesium-134, ruthenium-106, antimony-125, cobalt-60 and iodine-129 in seawater correspond to below the lower limits of detection in all samples.

(Detailed are attached)

(Maps attached)

Analysis results for the seven major nuclides in seawater

Sampling point	Sampling date (yyyy/mm/dd)	Sampling layer	Sampling depth (m)	Nuclide	Radioactivity concentration ^{*1*2}	Unit
E-S3	2023/11/14	Surface layer	1.5	Cs-134	< 0.0008	Bq/L
E-S3	2023/11/14	Surface layer	1.5	Cs-137	0.010 ± 0.00080	Bq/L
E-S3	2023/11/14	Surface layer	1.5	Ru-106	< 0.6	Bq/L
E-S3	2023/11/14	Surface layer	1.5	Sb-125	< 0.2	Bq/L
E-S3	2023/11/14	Surface layer	1.5	Co-60	< 0.08	Bq/L
E-S3	2023/11/14	Surface layer	1.5	Sr-90	0.00075 ± 0.00012	Bq/L
E-S3	2023/11/14	Surface layer	1.5	I-129	< 0.009	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	Cs-134	< 0.0008	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	Cs-137	0.019 ± 0.0014	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	Ru-106	< 0.6	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	Sb-125	< 0.2	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	Co-60	< 0.08	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	Sr-90	0.0010 ± 0.00014	Bq/L
E-S3	2023/11/14	Bottom layer	6.8	I-129	< 0.009	Bq/L
E-S10	2023/11/14	Surface layer	1.5	Cs-134	< 0.0008	Bq/L
E-S10	2023/11/14	Surface layer	1.5	Cs-137	0.021 ± 0.0015	Bq/L
E-S10	2023/11/14	Surface layer	1.5	Ru-106	< 0.6	Bq/L
E-S10	2023/11/14	Surface layer	1.5	Sb-125	< 0.2	Bq/L
E-S10	2023/11/14	Surface layer	1.5	Co-60	< 0.07	Bq/L
E-S10	2023/11/14	Surface layer	1.5	Sr-90	0.00066 ± 0.00012	Bq/L
E-S10	2023/11/14	Surface layer	1.5	I-129	< 0.009	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	Cs-134	< 0.0008	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	Cs-137	0.0093 ± 0.00073	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	Ru-106	< 0.6	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	Sb-125	< 0.2	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	Co-60	< 0.08	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	Sr-90	0.00072 ± 0.00012	Bq/L
E-S10	2023/11/14	Bottom layer	13.2	I-129	< 0.009	Bq/L

*1 Radioactivity concentrations are presented as radioactivity concentration ± combined standard uncertainty.

*2 Values below detection limit are shown by lower limit of detection (e.g., “<10 Bq/L” indicates a value below 10 Bq/L).

Analysis results for the seven major nuclides in seawater

Sampling point	Sampling date (yyyy/mm/dd)	Sampling layer	Sampling depth (m)	Nuclide	Radioactivity concentration ^{*1*2}	Unit
E-S15	2023/11/15	Surface layer	1.5	Cs-134	< 0.0009	Bq/L
E-S15	2023/11/15	Surface layer	1.5	Cs-137	0.012 ± 0.00092	Bq/L
E-S15	2023/11/15	Surface layer	1.5	Ru-106	< 0.6	Bq/L
E-S15	2023/11/15	Surface layer	1.5	Sb-125	< 0.2	Bq/L
E-S15	2023/11/15	Surface layer	1.5	Co-60	< 0.08	Bq/L
E-S15	2023/11/15	Surface layer	1.5	Sr-90	0.00067 ± 0.00012	Bq/L
E-S15	2023/11/15	Surface layer	1.5	I-129	< 0.009	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	Cs-134	< 0.0009	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	Cs-137	0.013 ± 0.00098	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	Ru-106	< 0.6	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	Sb-125	< 0.2	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	Co-60	< 0.08	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	Sr-90	0.00074 ± 0.00013	Bq/L
E-S15	2023/11/15	Bottom layer	5.2	I-129	< 0.009	Bq/L

*1 Radioactivity concentrations are presented as radioactivity concentration ± combined standard uncertainty.

*2 Values below detection limit are shown by lower limit of detection (e.g., “<10 Bq/L” indicates a value lower than 10 Bq/L).

(Attachment)

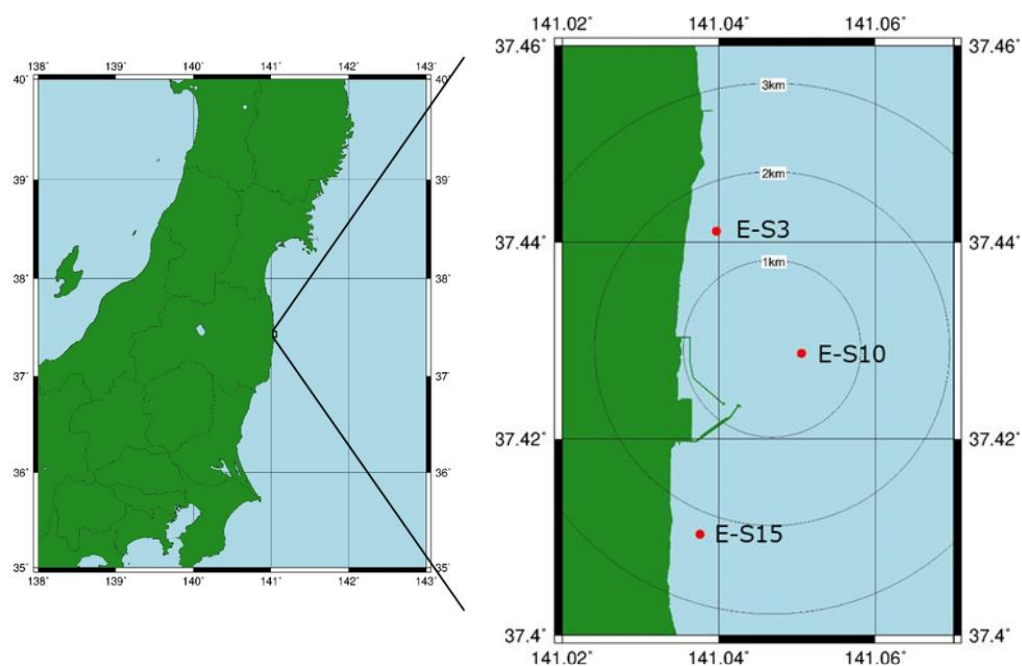


Fig. 1: Sampling points for the seven major nuclides in seawater