

Results of ALPS Treated Water Marine Monitoring: Seawater survey (seven major nuclides) (January-February 2024)

1. Outline of survey

(1) Date of sampling

January 31-February 8, 2024

(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 0.0022 Bq/L to 0.022 Bq/L.

Concentrations of strontium-90 in seawater range from 0.00058 Bq/L to 0.0013 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	2024/01/31	Surface layer	1.5	Cs-134	< 0.0008	Bq/L
E-S3	2024/01/31	Surface layer	1.5	Cs-137	0.0033 ± 0.00034	Bq/L
E-S3	2024/01/31	Surface layer	1.5	Ru-106	< 0.6	Bq/L
E-S3	2024/01/31	Surface layer	1.5	Sb-125	< 0.2	Bq/L
E-S3	2024/01/31	Surface layer	1.5	Co-60	< 0.08	Bq/L
E-S3	2024/01/31	Surface layer	1.5	Sr-90	0.00088 ± 0.00013	Bq/L
E-S3	2024/01/31	Surface layer	1.5	I-129	< 0.006	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	Cs-134	< 0.0009	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	Cs-137	0.0049 ± 0.00044	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	Ru-106	< 0.6	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	Sb-125	< 0.2	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	Co-60	< 0.08	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	Sr-90	0.00079 ± 0.00012	Bq/L
E-S3	2024/01/31	Bottom layer	7.4	I-129	< 0.006	Bq/L
E-S10	2024/01/31	Surface layer	1.5	Cs-134	< 0.0007	Bq/L
E-S10	2024/01/31	Surface layer	1.5	Cs-137	0.0022 ± 0.00025	Bq/L
E-S10	2024/01/31	Surface layer	1.5	Ru-106	< 0.6	Bq/L
E-S10	2024/01/31	Surface layer	1.5	Sb-125	< 0.2	Bq/L
E-S10	2024/01/31	Surface layer	1.5	Co-60	< 0.07	Bq/L
E-S10	2024/01/31	Surface layer	1.5	Sr-90	0.00058 ± 0.00011	Bq/L
E-S10	2024/01/31	Surface layer	1.5	I-129	< 0.006	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	Cs-134	< 0.0007	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	Cs-137	0.018 ± 0.0013	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	Ru-106	< 0.6	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	Sb-125	< 0.2	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	Co-60	< 0.07	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	Sr-90	0.0013 ± 0.00016	Bq/L
E-S10	2024/01/31	Bottom layer	12.1	I-129	< 0.006	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	2024/02/08	Surface layer	1.5	Cs-134	< 0.0007	Bq/L
E-S15	2024/02/08	Surface layer	1.5	Cs-137	0.022 ± 0.0016	Bq/L
E-S15	2024/02/08	Surface layer	1.5	Ru-106	< 0.6	Bq/L
E-S15	2024/02/08	Surface layer	1.5	Sb-125	< 0.2	Bq/L
E-S15	2024/02/08	Surface layer	1.5	Co-60	< 0.07	Bq/L
E-S15	2024/02/08	Surface layer	1.5	Sr-90	0.00083 ± 0.00013	Bq/L
E-S15	2024/02/08	Surface layer	1.5	I-129	< 0.006	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	Cs-134	< 0.0007	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	Cs-137	0.021 ± 0.0015	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	Ru-106	< 0.6	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	Sb-125	< 0.2	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	Co-60	< 0.07	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	Sr-90	0.00069 ± 0.00012	Bq/L
E-S15	2024/02/08	Bottom layer	5.6	I-129	< 0.006	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)

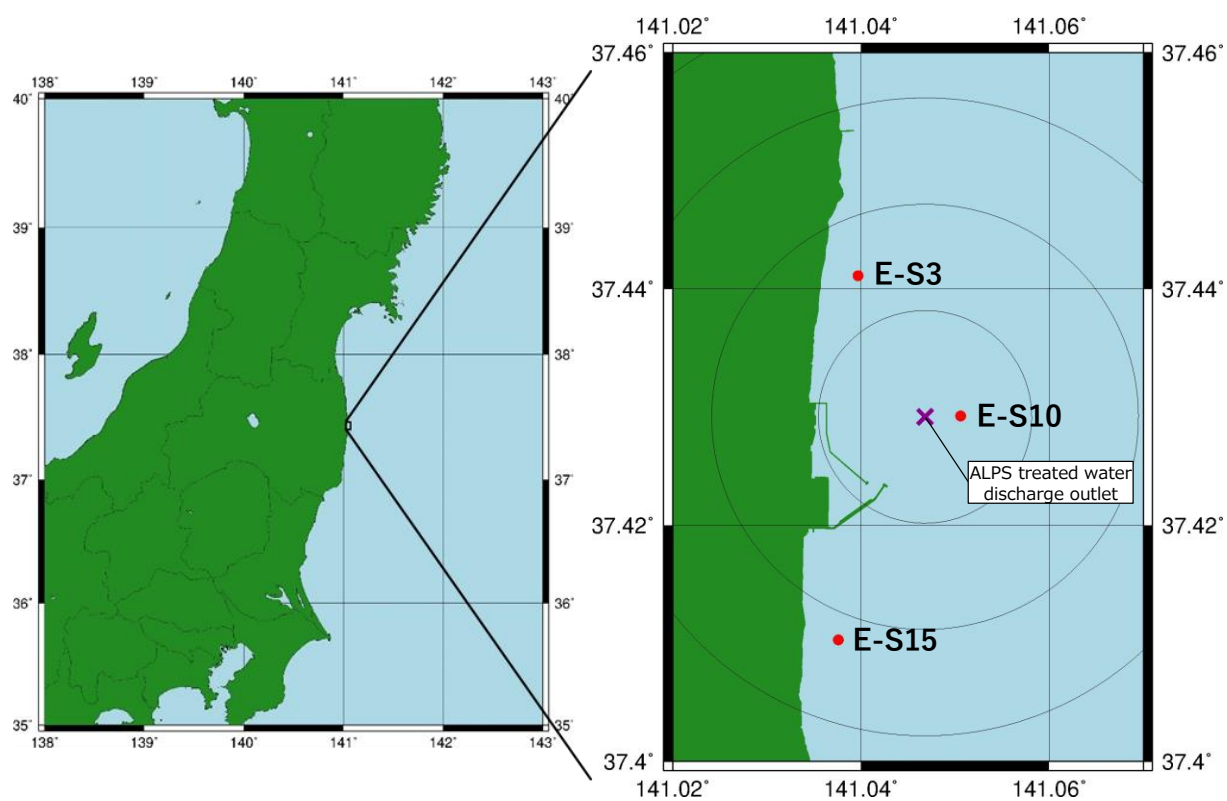


Fig. 1: Sampling points for the seven major nuclides in seawater