

**Results of ALPS Treated Water Marine Monitoring:
Seawater survey (tritium) (May-June, 2023)**

1. Outline of survey

(1) Date of sampling

May 30-June 21, 2023

(2) Sampling points

27 sampling points on coastal waters in the Fukushima Prefecture, 1 sampling point on coastal waters in the Miyagi Prefecture, and 1 sampling point on coastal waters in the Ibaraki Prefecture.

* Water samples were collected from surface and bottom layers at 23 sampling points within 30 km of ALPS treated water discharge outlet and from surface layer at 6 sampling points beyond 30 km .

(3) Detail of the survey

- The measurement of radioactive material concentrations in seawater. (tritium)

Analysis with target lower limit of detection of 0.1 Bq/L.

* 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 (29 sampling points (52 samples))

Concentrations of tritium in seawater range from below the lower limit of detection to 0.16 Bq/L.

(Detailed are attached)

(Maps attached)

Attachment

Analysis result for tritium in seawater at sampling points within 3 km of the discharge outlet

Sampling point	Sampling date (yyyy/mm/dd)	Sampling layer	Sampling depth (m)	Nuclide	Radioactivity concentration ^{*1,*2}			Unit
E-S1	2023/05/30	Surface layer	1.5	H-3	0.044	±	0.0076	Bq/L
E-S1	2023/05/30	Bottom layer	4.4	H-3	0.053	±	0.0080	Bq/L
E-S3	2023/05/30	Surface layer	1.5	H-3	0.078	±	0.018	Bq/L
E-S3	2023/05/30	Bottom layer	6.6	H-3	0.091	±	0.019	Bq/L
E-S4	2023/05/30	Surface layer	1.5	H-3	0.051	±	0.0079	Bq/L
E-S4	2023/05/30	Bottom layer	6.2	H-3	0.058	±	0.0080	Bq/L
E-S5	2023/05/30	Surface layer	1.5	H-3	0.091	±	0.018	Bq/L
E-S5	2023/05/30	Bottom layer	7.5	H-3	0.064	±	0.018	Bq/L
E-S10	2023/05/30	Surface layer	1.5	H-3	0.087	±	0.018	Bq/L
E-S10	2023/05/30	Bottom layer	12.2	H-3	0.079	±	0.018	Bq/L
E-S13	2023/05/30	Surface layer	1.5	H-3	0.055	±	0.018	Bq/L
E-S13	2023/05/30	Bottom layer	10.0	H-3	0.068	±	0.018	Bq/L
E-S14	2023/05/30	Surface layer	1.5	H-3	0.16	±	0.025	Bq/L
E-S14	2023/05/30	Bottom layer	7.3	H-3	0.16	±	0.026	Bq/L
E-S15	2023/05/31	Surface layer	1.5	H-3	0.12	±	0.025	Bq/L
E-S15	2023/05/31	Bottom layer	5.5	H-3	0.10	±	0.025	Bq/L
E-S16	2023/05/31	Surface layer	1.5	H-3	< 0.05			Bq/L
E-S16	2023/05/31	Bottom layer	4.8	H-3	0.10	±	0.024	Bq/L

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

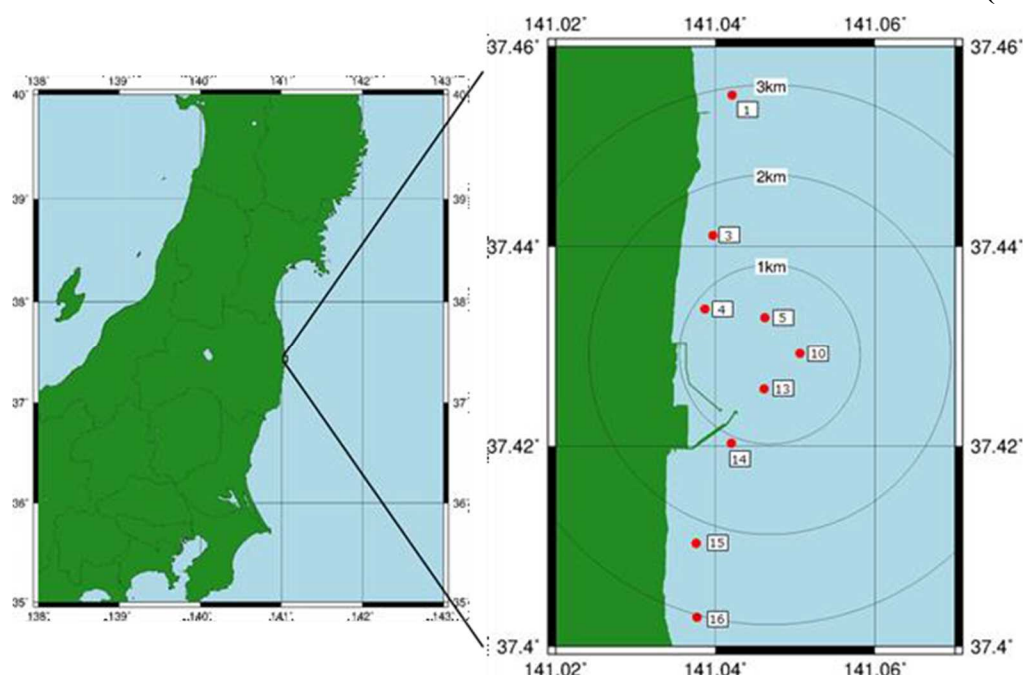
*2 Values below detection limit are shown by lower limit of detection (e.g., “<10 Bq/L” indicates a value below 10 Bq/L).

Analysis result for tritium in seawater at sampling points beyond 3 km of the discharge outlet

Sampling point	Sampling date (yyyy/mm/dd)	Sampling layer	Sampling depth (m)	Nuclide	Radioactivity concentration ^{*1,*2}			Unit
E-S17	2023/05/30	Surface layer	1.5	H-3	0.096	±	0.0097	Bq/L
E-S18	2023/05/30	Surface layer	1.5	H-3	0.075	±	0.0093	Bq/L
E-S19	2023/05/31	Surface layer	1.5	H-3	0.063	±	0.0088	Bq/L
E-S19	2023/05/31	Bottom layer	9.3	H-3	0.072	±	0.0089	Bq/L
E-S20	2023/05/31	Surface layer	1.5	H-3	0.070	±	0.011	Bq/L
E-S20	2023/05/31	Bottom layer	7.9	H-3	0.073	±	0.011	Bq/L
E-S21	2023/05/31	Surface layer	1.5	H-3	0.058	±	0.011	Bq/L
E-S21	2023/05/31	Bottom layer	21.7	H-3	0.066	±	0.011	Bq/L
E-S22	2023/05/31	Surface layer	1.5	H-3	0.079	±	0.012	Bq/L
E-S22	2023/05/31	Bottom layer	7.5	H-3	0.056	±	0.011	Bq/L
E-S23	2023/06/01	Surface layer	1.5	H-3	0.071	±	0.011	Bq/L
E-S23	2023/06/01	Bottom layer	21.3	H-3	0.064	±	0.011	Bq/L
E-S24	2023/06/01	Surface layer	1.5	H-3	0.080	±	0.011	Bq/L
E-S24	2023/06/01	Bottom layer	24.5	H-3	0.074	±	0.011	Bq/L
E-S25	2023/05/31	Surface layer	1.5	H-3	0.053	±	0.011	Bq/L
E-S25	2023/05/31	Bottom layer	41.9	H-3	0.069	±	0.011	Bq/L
E-S26	2023/06/01	Surface layer	1.5	H-3	0.064	±	0.011	Bq/L
E-S26	2023/06/01	Bottom layer	22.7	H-3	0.074	±	0.011	Bq/L
E-S27	2023/06/01	Surface layer	1.5	H-3	0.061	±	0.011	Bq/L
E-S27	2023/06/01	Bottom layer	10.0	H-3	0.076	±	0.011	Bq/L
E-S28	2023/05/31	Surface layer	1.5	H-3	0.053	±	0.011	Bq/L
E-S28	2023/05/31	Bottom layer	31.4	H-3	0.057	±	0.011	Bq/L
E-S29	2023/05/31	Surface layer	1.5	H-3	0.074	±	0.012	Bq/L
E-S29	2023/05/31	Bottom layer	10.2	H-3	0.086	±	0.012	Bq/L
E-S30	2023/06/21	Surface layer	1.5	H-3	0.075	±	0.011	Bq/L
E-S30	2023/06/21	Bottom layer	11.7	H-3	0.069	±	0.011	Bq/L
E-S31	2023/06/21	Surface layer	1.5	H-3	0.075	±	0.011	Bq/L
E-S32	2023/06/01	Bottom layer	1.5	H-3	0.073	±	0.012	Bq/L
E-S33	2023/05/30	Surface layer	1.5	H-3	0.13	±	0.025	Bq/L
E-S34	2023/05/31	Bottom layer	1.5	H-3	0.060	±	0.0087	Bq/L
E-S34	2023/05/31	Surface layer	11.1	H-3	0.060	±	0.0085	Bq/L
E-S35	2023/06/21	Bottom layer	1.5	H-3	0.069	±	0.0085	Bq/L
E-S35	2023/06/21	Surface layer	12.5	H-3	0.041	±	0.0080	Bq/L
E-S36	2023/06/21	Bottom layer	1.5	H-3	0.060	±	0.018	Bq/L

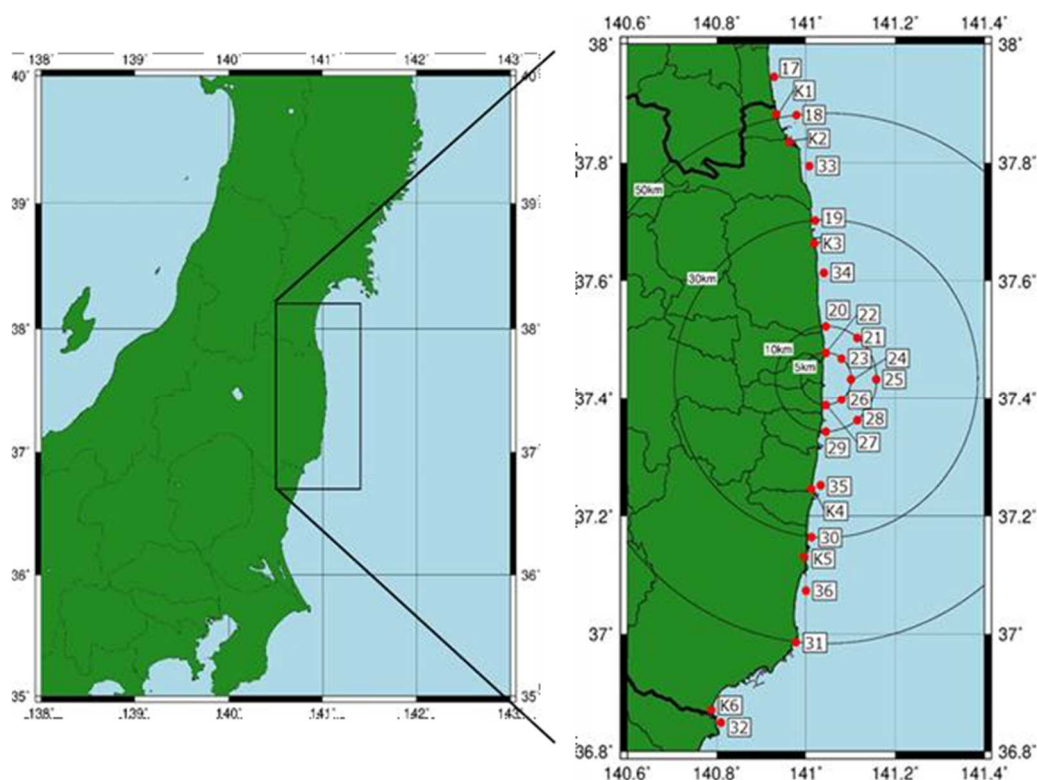
*1 Radioactivity concentrations are presented as radioactivity concentration ± combined standard uncertainty.

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



*Numbers in the map show sampling points this time, and “E-S” is omitted from labels in the map (e.g., E-S1 is marked as 1).

Fig. 1 Sampling points within 3 km of the ALPS treated water discharge outlet



*Numbers in the map show sampling points this time, and “E-S” is omitted from labels in the map (e.g., E-S17 is marked as 17 and E-SK1 is marked as K1).

*Among numbers in the map, numbers that include “K” indicate sampling points at swimming beaches.

Fig. 2 Sampling points beyond 3 km of the ALPS treated water discharge outlet