

**NIRS-RSD-23**

**RADIOACTIVITY  
SURVEY DATA  
in Japan**

**NUMBER 23**

**MAY. 1969**

**National Institute of Radiological Sciences**

**Chiba, Japan**

# Radioactivity Survey Data in Japan

Number 23

May 1969

---

## Contents

### Meteorological Data

- Strontium-90 and Cesium-137 in Rain and Dry Fallout  
(*Japan Analytical Chemistry Research Institute*)..... 1
- Strontium-90, Cesium-137 and Cerium-144 in Air-borne  
Dust  
(*Japan Analytical Chemistry Research Institute*)..... 8

### Geographical Data

- Strontium-90, Cesium-137 and Cerium-144 in Soil  
(*Japan Analytical Chemistry Research Institute*).....11

### Water Data

- Strontium-90 and Cesium-137 in Source Water  
(*Japan Analytical Chemistry Research Institute*).....13
- Strontium-90 and Cesium-137 in Potable Rain Water  
(*Japan Analytical Chemistry Research Institute*) .....16
- Strontium-90 and Cesium-137 in Potable Rain Water used  
by Lighthouses  
(*Japan Analytical Chemistry Research Institute*).....17

---

National Institute of Radiological Sciences

# Meteorological Data

## Strontium-90 and Cesium-137 in Rain and Dry Fallout

(Japan Analytical Chemistry Research Institute)

Since May 1963, the Japan Analytical Chemistry Research Institute has measured the level of strontium-90 and cesium-137 in rain and dry fallout samples acquired at various locations throughout Japan. Sampling and pre-treatment for concentration were performed by 25 prefectural public health laboratories throughout Japan.

Sampling locations are indicated in Figure 1.

The collection tray has an area of 5,000cm<sup>2</sup>, and is exposed to rain and dust for about a month. The depth of water in the tray is kept at 10mm to prevent dust from being blown away. At the end of each month, water in the tray and water used to wash the tray are combined with strontium and cesium carriers, and passed through a column filled with sodium type cation exchange resin (Dowex 50W-X8, 50-100mesh). The column was then sent to the Japan Analytical Chemistry Research Institute for analysis.

After the fraction containing both strontium-90 and cesium-137 was eluted from the resin, radiochemical analysis was carried out using the method recommended by the Science and Technology Agency.

Results obtained during the period from April 1968 to March 1969 are shown in Table 1.

Table 1. <sup>90</sup>Sr and <sup>137</sup>Cs in Rain and Dry Fallout—Apr., 1968 to Mar., 1969—

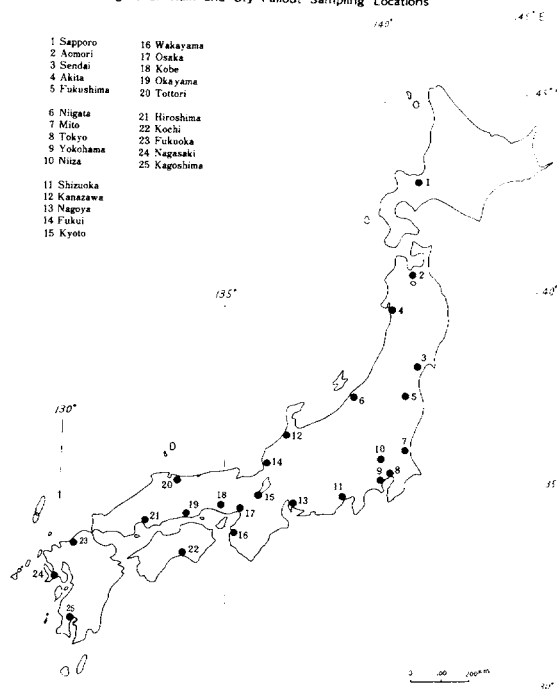
By T. Asari, M. Chiba and M. Kuroda

(Japan Analytical Chemistry Research Institute)

(Continued from Table 1, Issue No. 19, of this Publication)

Location	Duration (days)	Precipitation (mm)	<sup>90</sup> Sr (mCi/km <sup>2</sup> )	<sup>137</sup> Cs (mCi/km <sup>2</sup> )
<b>Apr. 1968</b>				
Sapporo, HOKKAIDO	31	33	0.05	0.04
Aomori, AOMORI	36	51	0.11	0.11
Sendai, MIYAGI	30	76	0.10	0.17
Akita, AKITA	31	107	0.16	0.22
Fukushima, FUKUSHIMA	31	89	0.11	0.15
Niigata, NIIGATA	30	82	0.15	0.23
Mito, IBARAKI	30	117	0.17	0.24
TOKYO	30	114	0.29	0.33
Yokohama, KANAGAWA	32	128	0.26	0.37
Niiza, SAITAMA	32	118	0.16	0.21
Shizuoka, SHIZUOKA	27	138	0.30	0.39
Kanazawa, ISHIKAWA	30	122	0.20	0.26

Figure 1. Rain and Dry Fallout Sampling Locations



Location	Duration (days)	Precipitation (mm)	<sup>90</sup> Sr (mCi/km <sup>2</sup> )	<sup>137</sup> Cs (mCi/km <sup>2</sup> )
Nagoya, AICHI	31	135	0.18	0.25
Fukui, FUKUI	30	106	0.18	0.26
Kyoto, KYOTO	31	113	0.15	0.17
Wakayama, WAKAYAMA				
Osaka, OSAKA	30	114	0.17	0.20
Kobe, HYOGO	30	88	0.15	0.19
Okayama, OKAYAMA	31	83	0.09	0.10
Tottori, TOTTORI	30	100	0.14	0.21
Hiroshima HIROSHIMA	31	59	0.10	0.07
Kochi, KOCHI	30	93	0.23	0.29
Fukuoka, FUKUOKA	31	48	0.14	0.22
Nagasaki, NAGASAKI	30	77	0.16	0.22
Kagoshima, KAGOSHIMA	31	54	0.07	0.09
<b>May '68</b>				
Sapporo, HOKKAIDO	32	84	0.11	0.11
Aomori, AOMORI	31	169	0.15	0.18
Sendai, MIYAGI	31	180	0.26	0.29
Akita, AKITA	34	148	0.23	0.28
Fukushima, FUKUSHIMA	32	89	0.18	0.23
Niigata, NIIGATA	31	76	0.07	0.20
Mito, IBARAKI	31	211	0.29	0.37
TOKYO	31	160	0.07	0.08
Yokohama, KANAGAWA	32		0.22	0.25
Niiza, SAITAMA	34	135	0.11	0.32
Shizuoka, SHIZUOKA	30	167	0.13	0.24
Kanazawa, ISHIKAWA	31	92	0.13	0.15
Nagoya, AICHI	35	126	0.15	0.20
Fukui, FUKUI	31	104	0.16	0.22
Kyoto, KYOTO	32	106	0.10	0.14
Wakayama, WAKAYAMA	32	69	0.10	0.12
Osaka, OSAKA	33	95	0.07	0.10
Kobe, HYOGO	32	77	0.07	0.09
Okayama, OKAYAMA	31	109	0.12	0.14
Tottori, TOTTORI	31	99	0.20	0.24
Hiroshima, HIROSHIMA	32	36	0.05	0.08
Kochi, KOCHI	31	270	0.38	0.49
Fukuoka, FUKUOKA	32	24	0.12	0.13
Nagasaki, NAGASAKI	31	150	0.15	0.20
Kagoshima, KAGOSHIMA	31	148	0.12	0.14
<b>June '68</b>				
Sapporo, HOKKAIDO	31	30	0.10	0.05
Aomori, AOMORI	30	67	0.11	0.16
Sendai, MIYAGI	30	162	0.34	0.31
Akita, AKITA	29	80	0.14	0.16
Fukushima, FUKUSHIMA	31	168	0.23	0.29
Niigata, NIIGATA	30	43	0.08	0.10
Mito, IBARAKI	30	166	0.15	0.35
TOKYO	30	175	0.08	0.16
Yokohama, KANAGAWA	34	176	0.35	0.45
Niiza, SAITAMA	31	138	0.37	0.45
Shizuoka, SHIZUOKA	28	373	0.24	0.34
Kanazawa, ISHIKAWA	30	135	0.33	0.37
Nagoya, AICHI	26	172	0.27	0.32
Fukui, FUKUI	30	56	0.11	0.15
Kyoto, KYOTO	31	126	0.17	0.19
Wakayama, WAKAYAMA	35	95	0.17	0.17
Osaka, OSAKA	29	113	0.17	0.18
Kobe, HYOGO	31	79	0.12	0.19
Okayama, OKAYAMA	30	116	0.14	0.14
Tottori, TOTTORI	30	80	0.18	0.24

Location	Duration (days)	Precipitation (mm)	<sup>90</sup> Sr (mCi/km <sup>2</sup> )	<sup>137</sup> Cs (mCi/km <sup>2</sup> )
Hiroshima, HIROSHIMA	31	150	0.21	0.23
Kochi, KOCHI	30	282	0.28	0.36
Fukuoka, FUKUOKA	31	123	0.14	0.21
Nagasaki, NAGASAKI	30	375	0.14	0.20
Kagoshima, KAGOSHIMA	32	563	0.20	0.26
<b>July '68</b>				
Sapporo, HOKKAIDO	32	42	0.07	0.08
Aomori, AOMORI	31	20	0.09	0.10
Sendai, MIYAGI	31	107	0.18	0.19
Akita, AKITA	32	79	0.11	0.15
Fukushima, FUKUSHIMA	32	115	0.19	0.20
Niigata, NIIGATA	31	39	0.05	0.05
Mito, IBARAKI	31	75	0.15	0.17
TOKYO	31	136	0.08	0.05
Yokohama, KANAGAWA	29	209	0.08	0.12
Niiza, SAITAMA	31	126	0.15	0.21
Shizuoka, SHIZUOKA	34	408	0.18	0.50
Kanazawa, ISHIKAWA	31	125	0.13	0.16
Nagoya, AICHI	35	195	0.18	0.25
Fukui, FUKUI	32	97	0.10	0.10
Kyoto, KYOTO	32	274	0.11	0.18
Wakayama, WAKAYAMA	32	115	0.11	0.13
Osaka, OSAKA	31	300	0.18	0.20
Kobe, HYOGO	33	206	0.10	0.14
Okayama, OKAYAMA	31	244	0.15	0.17
Tottori, TOTTORI	31	141	0.11	0.12
Hiroshima, HIROSHIMA	32	166	0.10	0.12
Kochi, KOCHI	31	347	0.12	0.16
Fukuoka, FUKUOKA	32	287	0.09	0.14
Nagasaki, NAGASAKI	31	469	0.06	0.12
Kagoshima, KAGOSHIMA	31	302	0.07	0.09
<b>Aug. '68</b>				
Sapporo, HOKKAIDO	32	121	0.09	0.10
Aomori, AOMORI	31	298	0.13	0.14
Sendai, MIYAGI	31	204	0.16	0.16
Akita, AKITA	32	350	0.17	0.24
Fukushima, FUKUSHIMA	32	177	0.17	0.21
Niigata, NIIGATA			0.12	0.14
Mito, IBARAKI	32	239	0.08	0.09
TOKYO	31	223	0.09	0.12
Yokohama, KANAGAWA	35	249	0.09	0.06
Niiza, SAITAMA	33	266	0.10	0.11
Shizuoka, SHIZUOKA	32	35	0.26	0.75
Kanazawa, ISHIKAWA	31	399	0.07	0.08
Nagoya, AICHI	32	210	0.05	0.06
Fukui, FUKUI	31	182	0.09	0.15
Kyoto, KYOTO	33	357	0.10	0.12
Wakayama, WAKAYAMA	35	236	0.03	0.04
Osaka, OSAKA	32	84	0.10	0.04
Kobe, HYOGO	32	139	0.03	0.03
Okayama, OKAYAMA	33	96	0.01	0.01
Tottori, TOTTORI	32	229	0.10	0.14
Hiroshima, HIROSHIMA	32	65	0.03	0.03
Kochi, KOCHI	32	552	0.06	0.09
Fukuoka, FUKUOKA	32	103	0.02	0.03
Nagasaki, NAGASAKI	31	40	0.01	0.02
Kagoshima, KAGOSHIMA	33	137	0.03	0.04
<b>Sept. '68</b>				
Sapporo, HOKKAIDO	30	82	0.08	0.07
Aomori, AOMORI	30	120	0.07	0.08

Location	Duration (days)	Precipitation (mm)	<sup>90</sup> Sr (mCi/km <sup>2</sup> )	<sup>137</sup> Cs (mCi/km <sup>2</sup> )
Sendai, MIYAGI	30	88	0.22	0.28
Akita, AKITA	29	86	0.09	0.12
Fukushima, FUKUSHIMA	31	63	0.06	0.17
Niigata, NIIGATA	30	33	0.02	0.02
Mito, IBARAKI	29	77	0.09	0.12
TOKYO	30	92	0.10	0.14
Yokohama, KANAGAWA	34	111	0.11	0.14
Niiza, SAITAMA	30	72	0.13	0.15
Shizuoka, SHIZUOKA	29	170	0.06	0.12
Kanazawa, ISHIKAWA	30	139	0.05	0.06
Nagoya, AICHI	29	92	0.06	0.06
Fukui, FUKUI	29	133	0.07	0.09
Kyoto, KYOTO	30	191	0.07	0.08
Wakayama, WAKAYAMA	30	283	0.05	0.12
Osaka, OSAKA	29	172	0.10	0.12
Kobe, HYOGO	30	169	0.06	0.08
Okayama, OKAYAMA	29	196	0.08	0.09
Tottori, TOTTORI	29	148	0.90	0.12
Hiroshima, HIROSHIMA	31	217	0.03	0.12
Kochi, KOCHI	29	435	0.19	0.26
Fukuoka, FUKUOKA	30	224	0.06	0.08
Nagasaki, NAGASAKI	30	230	0.06	0.08
Kagoshima, KAGOSHIMA	28	209	0.07	0.09
Oct. '68				
Sapporo, HOKKAIDO	32	89	0.07	0.10
Aomori, AOMORI	31	66	0.09	0.12
Sendai, MIYAGI	31	132	0.08	0.11
Akita, AKITA	32	87	0.02	0.07
Fukushima, FUKUSHIMA	32	127	0.08	0.12
Niigata, NIIGATA	31	183	0.10	0.03
Mito, IBARAKI	31	138	0.05	0.07
TOKYO	31	153	0.08	0.13
Yokohama, KANAGAWA	26	160	0.04	0.06
Niiza, SAITAMA	30	153	0.09	0.11
Shizuoka, SHIZUOKA	30	165	0.06	0.10
Kanazawa, ISHIKAWA	31	266	0.09	0.13
Nagoya, AICHI	32	79	0.04	0.06
Fukui, FUKUI	31	196	0.13	0.17
Kyoto, KYOTO	32	126	0.04	0.06
Wakayama, WAKAYAMA	30	167	0.02	0.04
Osaka, OSAKA	31	120	0.04	0.06
Kobe, HYOGO	33	105	0.05	0.07
Okayama, OKAYAMA	31	105	0.04	0.06
Tottori, TOTTORI	31	151	0.10	0.15
Hiroshima, HIROSHIMA	32	126	0.04	0.09
Kochi, KOCHI	31	61	0.04	0.06
Fukuoka, FUKUOKA	32	103	0.05	0.08
Nagasaki, NAGASAKI	31	95	0.03	0.05
Kagoshima, KAGOSHIMA	32	31	0.04	0.06
Nov. '68				
Sapporo, HOKKAIDO	31	117	0.05	0.07
Aomori, AOMORI	30	135	0.14	0.20
Sendai, MIYAGI	30	11	0.03	0.03
Akita, AKITA	32	155	0.16	0.28
Fukushima, FUKUSHIMA	31	11	0.02	0.03
Niigata, NIIGATA	30	187	0.10	0.14
Mito, IBARAKI	31	20	0.03	0.03
TOKYO	30	20	0.02	0.02
Yokohama, KANAGAWA	36	46	0.04	0.06
Niiza, SAITAMA	30	31	0.02	0.04

Location	Duration (days)	Precipitation (mm)	<sup>90</sup> Sr (mCi/km <sup>2</sup> )	<sup>137</sup> Cs (mCi/km <sup>2</sup> )
Shizuoka, SHIZUOKA	36	74	0.19	0.32
Kanazawa, ISHIKAWA	30	247	0.16	0.25
Nagoya, AICHI	33	51	0.05	0.05
Fukui, FUKUI	31	164	0.16	0.28
Kyoto, KYOTO	32	33	0.02	0.03
Wakayama, WAKAYAMA	30	93	0.04	0.04
Osaka, OSAKA	31	33	0.02	0.03
Kobe, HYOGO	35	24	0.03	0.04
Okayama, OKAYAMA	31	12	0.02	0.02
Tottori, TOTTORI	30	77	0.10	0.15
Hiroshima, HIROSHIMA	31	33	0.02	0.02
Kochi, KOCHI	31	19	0.03	0.02
Fukuoka, FUKUOKA	31	64	0.05	0.07
Nagasaki, NAGASAKI	32	56	0.04	0.05
Kagoshima, KAGOSHIMA	31	26	0.02	0.13
<b>Dec. '68</b>				
Sapporo, HOKKAIDO	28	81	0.06	0.08
Aomori, AOMORI	36	130	0.09	0.07
Sendai, MIYAGI	31	138	0.08	0.08
Akita, AKITA	25	131	0.09	0.16
Fukushima, FUKUSHIMA	32	139	0.07	0.08
Niigata, NIIGATA	35	228	0.26	0.40
Mito, IBARAKI	35	193	0.06	0.10
TOKYO	35	196	0.06	0.10
Yokohama, KANAGAWA	34	232	0.06	0.08
Niiza, SAITAMA	36	178	0.07	0.08
Shizuoka, SHIZUOKA	28	185	0.05	0.07
Kanazawa, ISHIKAWA	28	246	0.19	0.02
Nagoya, AICHI	34	124	0.05	0.06
Fukui, FUKUI	32	264	0.29	0.39
Kyoto, KYOTO	35	64	0.14	0.15
Wakayama, WAKAYAMA	30	90	0.01	0.02
Osaka, OSAKA	35	53	0.03	0.06
Kobe, HYOGO	33	67	0.03	0.03
Okayama, OKAYAMA	35	59	0.03	0.03
Tottori, TOTTORI	28	199	0.03	0.18
Hiroshima, HIROSHIMA	28	87	0.03	0.05
Kochi, KOCHI	35	91	0.06	0.06
Fukuoka, FUKUOKA	31	148	0.08	0.11
Nagasaki, NAGASAKI	30	150	0.10	0.04
Kagoshima, KAGOSHIMA	37	172	0.09	0.13
<b>Jan. 1969</b>				
Sapporo, HOKKAIDO	36	65	0.05	0.07
Aomori, AOMORI	25	246	0.01	0.05
Sendai, MIYAGI	31	26	0.03	0.11
Akita, AKITA	28	110	0.08	0.12
Fukushima, FUKUSHIMA	31	80	0.03	0.05
Niigata, NIIGATA	28	296	0.21	0.35
Mito, IBARAKI	25	66	0.03	0.04
TOKYO	25	55	0.03	0.05
Yokohama, KANAGAWA	25	49	0.03	0.04
Niiza, SAITAMA	26	67	0.09	0.06
Shizuoka, SHIZUOKA	29	147	0.05	0.09
Kanazawa, ISHIKAWA	33	259	0.27	0.34
Nagoya, AICHI	28	70	0.03	0.03
Fukui, FUKUI	30	336	0.32	0.45
Kyoto, KYOTO	28	68	0.02	0.03
Wakayama, WAKAYAMA	36	79	0.05	0.08
Osaka, OSAKA	27	42	0.02	0.04
Kobe, HYOGO	26	39	0.03	0.04
Okayama, OKAYAMA	26	88	0.02	0.03

Location	Duration (days)	Precipitation (mm)	<sup>90</sup> Sr (mCi/km <sup>2</sup> )	<sup>137</sup> Cs (mCi/km <sup>2</sup> )
Tottori, TOTTORI	34	203	0.28	0.40
Hiroshima, HIROSHIMA	35	70	0.04	0.06
Kochi, KOCHI	26	149	0.04	0.05
Fukuoka, FUKUOKA	31	100	0.07	0.13
Nagasaki, NAGASAKI	31	112	0.06	0.12
Kagoshima, KAGOSHIMA	25	47	0.04	0.06
<b>Feb. '69</b>				
Sapporo, HOKKAIDO	29	120	0.04	0.05
Aomori, AOMORI	28	134	0.09	0.14
Sendai, MIYAGI	28	80	0.03	0.07
Akita, AKITA	29	65	0.06	0.10
Fukushima, FUKUSHIMA	29	64	0.04	0.07
Niigata, NIIGATA	28	119	0.11	0.17
Mito, IBARAKI	28	76	0.03	0.04
TOKYO	28	78	0.04	0.08
Yokohama, KANAGAWA			0.05	0.09
Niiza, SAITAMA	28	95	0.09	0.07
Shizuoka, SHIZUOKA	32	121	0.08	0.11
Kanazawa, ISHIKAWA	28	165	0.13	0.20
Nagoya, AICHI	28	81	0.04	0.06
Fukui, FUKUI	26	188	0.19	0.30
Kyoto, KYOTO	29	121	0.04	0.04
Wakayama, WAKAYAMA	27	97	0.04	0.05
Osaka, OSAKA	28	104	0.04	0.05
Kobe, HYOGO	29	69	0.05	0.06
Okayama, OKAYAMA	28	54	0.03	0.03
Tottori, TOTTORI	28	163	0.21	0.34
Hiroshima, HIROSHIMA	29	59	0.04	0.06
Kochi, KOCHI	28	80	0.07	0.07
Fukuoka, FUKUOKA	29	104	0.08	0.10
Nagasaki, NAGASAKI	28	67	0.07	0.09
Kagoshima, KAGOSHIMA	28	81	0.05	0.07
<b>Mar. '69</b>				
Sapporo, HOKKAIDO	31	43	0.07	0.11
Aomori, AOMORI	31	70	0.06	0.12
Sendai, MIYAGI	31	64	0.05	0.13
Akita, AKITA	25	77	0.12	0.18
Fukushima, FUKUSHIMA	32	109	0.05	0.08
Niigata, NIIGATA	31	137	0.14	0.19
Mito, IBARAKI	31	178	0.09	0.11
TOKYO	31	121	0.07	0.09
Yokohama, KANAGAWA	31	144	0.09	0.16
Niiza, SAITAMA	24	125	0.04	0.05
Shizuoka, SHIZUOKA	29	300	0.27	0.34
Kanazawa, ISHIKAWA	31	149	0.19	0.27
Nagoya, AICHI	32	151	0.06	0.07
Fukui, FUKUI	31	168	0.14	0.17
Kyoto, KYOTO	31	143	0.08	0.11
Wakayama, WAKAYAMA	31	118	0.08	0.04
Osaka, OSAKA	28	155	0.06	0.10
Kobe, HYOGO	31	107	0.06	0.10
Okayama, OKAYAMA	31	52	0.04	0.04
Tottori, TOTTORI	30	138	0.15	0.29
Hiroshima, HIROSHIMA	32	63	0.06	0.08
Kochi, KOCHI	26	68	0.07	0.08
Fukuoka, FUKUOKA	32	85	0.06	0.11
Nagasaki, NAGASAKI	31	114	0.12	0.15
Kagoshima, KAGOSHIMA	32	188	0.10	0.15



Table 2 shows the monthly mean values of strontium-90 and cesium-137 collected by the 25 locations during the period from April 1968 to March 1969.

Table 3 shows the monthly mean values of precipitation, strontium-90 and cesium-137 deposits in each sampling location during the period from April 1968 to March 1969.

Table 2 . Monthly Mean Values of  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  Collected by the 25 Locations —Apr.,1968 to Mar.,1969—  
(Continued from Table 2, Issue No. 19, of this Publication)

Month	Precipitation (mm)	$^{90}\text{Sr}$ (mCi/km <sup>2</sup> )	$^{137}\text{Cs}$ (mCi/km <sup>2</sup> )	$^{137}\text{Cs}/^{90}\text{Sr}$
Apr.1968	94	0.159	0.208	1.31
May "	122	0.150	0.200	1.33
June "	162	0.193	0.241	1.25
July "	185	0.114	0.156	1.37
Aug. "	208	0.088	0.120	1.36
Sept. "	153	0.083	0.114	1.37
Oct. "	127	0.060	0.086	1.43
Nov. "	69	0.062	0.096	1.55
Dec. "	145	0.084	0.105	1.25
Jan.1969	114	0.077	0.116	1.51
Feb. "	99	0.070	0.100	1.43
Mar. "	122	0.093	0.133	1.43
Average	133	0.103	0.140	1.38

Table 3. Monthly Mean Values of Precipitation,  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  deposits in each Sampling Location —Apr.,1968 to Mar.,1969—  
(Continued from Table 3, Issue No. 19, of this Publication)

Location	Precipitation (mm)	$^{90}\text{Sr}$ (mCi/km <sup>2</sup> )	$^{137}\text{Cs}$ (mCi/km <sup>2</sup> )
1 Hokkaido	75	0.070	0.078
2 Aomori	125	0.095	0.123
3 Miyagi	105	0.130	0.161
4 Akita	122	0.119	0.173
5 Fukushima	102	0.103	0.140
6 Niigata	129	0.118	0.168
7 Ibaraki	129	0.102	0.144
8 Tokyo	126	0.084	0.113
9 Kanagawa	150	0.118	0.157
10 Saitama	125	0.118	0.155
11 Shizuoka	190	0.156	0.281
12 Ishikawa	195	0.162	0.191
13 Aichi	123	0.097	0.123
14 Fukui	166	0.162	0.228
15 Kyoto	143	0.087	0.108
16 Wakayama	131	0.064	0.077
17 Osaka	115	0.083	0.098
18 Hyogo	96	0.065	0.088
19 Okayama	101	0.064	0.072
20 Tottori	144	0.141	0.215
21 Hiroshima	94	0.063	0.084
22 Kochi	203	0.131	0.166
23 Fukuoka	117	0.080	0.118
24 Nagasaki	161	0.083	0.112
25 Kagoshima	163	0.075	0.109
Average	133	0.103	0.140

# Strontium-90, Cesium-137 and Cerium-144 in Air-borne Dust

(Japan Analytical Chemistry Research Institute)

Since April 1964, the Japan Analytical Chemistry Research Institute started the analyses of strontium-90, cesium-137 and cerium-144 content in air-borne dust.

Samples are collected by 9 prefectural public health laboratories, using a cottrell type dust collector (1,200 liters per hour). Figure 2 shows the sampling locations.

Results obtained during the period from April 1968 to March 1969 are shown in Table 4.

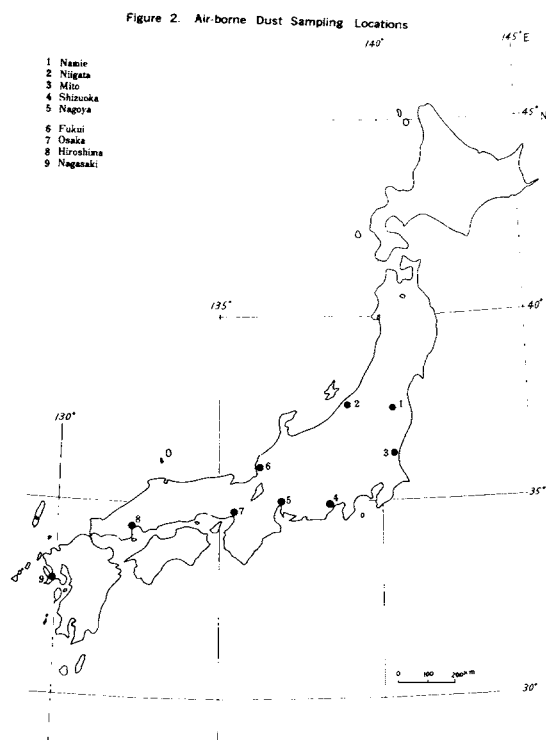


Table 4. <sup>90</sup>Sr, <sup>137</sup>Cs and <sup>144</sup>Ce in Air-borne Dust -Apr.,1968 to Mar.,1969-

By T.Asari, M.Chiba and M.Kuroda

(Japan Analytical Chemistry Research Institute)

(Continued from Table 4, Issue No. 19, of this Publication)

Location	Duration (days)	Air Inhaled (m <sup>3</sup> )	Efficiency of Cottrell (%)	<sup>90</sup> Sr (pCi/10 <sup>6</sup> l)	<sup>137</sup> Cs (pCi/10 <sup>6</sup> l)	<sup>144</sup> Ce+ <sup>144</sup> Pr (pCi/10 <sup>6</sup> l)
<b>Apr. 1968</b>						
Niigata, NIIGATA	21	1286	95	3.18	3.16	19.48
Mito, IBARAKI	30	38880	70	2.38	3.78	32.69
Nagoya, AICHI	18	2340	95	2.54	4.42	42.70
Fukui, FUKUI	21	900	96	7.97	11.83	104.20
" "	16	840	96	2.08	2.83	22.16
Osaka, OSAKA	20	8298	90	4.75	7.69	77.22
Hiroshima, HIROSHIMA	28	7800	80	0.37	0.46	27.55
Nagasaki, NAGASAKI	23	1800	90	8.07	14.51	87.72
<b>May. '68</b>						
Niigata, NIIGATA	13	1286	95	1.73	1.03	6.73
Mito, IBARAKI	25	30240	70	2.20	3.25	31.89
Shizuoka, SHIZUOKA	4	3240	90	0.57	1.23	10.64
Nagoya, AICHI	15	2160	95	1.64	2.01	17.59
Osaka, OSAKA	24	7446	90	2.85	5.65	42.05

Location	Duration (days)	Air Inhaled (m <sup>2</sup> )	Efficiency of Cottrell (%)	<sup>90</sup> Sr (pCi/10 <sup>6</sup> l)	<sup>137</sup> Cs (pCi/10 <sup>6</sup> l)	<sup>144</sup> Ce† <sup>144</sup> Pr (pCi/10 <sup>6</sup> l)
Hirshima, HIROSHIMA	25	7800	80	4.54	4.69	2.99
Nagasaki, NAGASAKI	23	1800	90	6.22	10.36	212.50
<b>June. '68</b>						
Niigata, NIIGATA	22	1286	95	1.80	4.48	8.99
Mito, IBARAKI	25	34560	70	2.18	3.75	37.64
Shizuoka, SHIZUOKA	11	3240	90	2.23	3.76	28.53
" "	18	3240	90	1.21	1.80	19.84
Nagoya, AICHI	18	1980	95	2.39	3.50	37.25
Fukui, FUKUI	21	848	96	3.13	3.65	38.43
Osaka, OSAKA	23	7122	90	1.58	2.09	32.73
Hiroshima, HIROSHIMA	22	7800	80	4.13	0.52	23.53
Nagasaki, NAGASAKI	25	1800	90	8.27	11.45	92.41
<b>July. '68</b>						
Niigata, NIIGATA	27	2160	95	0.62	5.30	8.90
Mito, IBARAKI	29	38160	70	1.46	2.39	27.35
Shizuoka, SHIZUOKA	21	6480	90	1.16	1.83	17.45
Nagoya, AICHI	8	1080	95	0.85	1.09	18.27
Fukui, FUKUI	23	720	96	1.49	2.68	29.44
Osaka, OSAKA	26	9342	90	3.29	4.83	24.39
Hiroshima, HIROSHIMA	32	7800	80	3.25	4.28	22.10
Nagasaki, NAGASAKI	28	1800	90	1.89	1.50	19.09
<b>Aug. '68</b>						
Niigata, NIIGATA	23	1728	95	1.50	1.00	5.65
Mito, IBARAKI	29	38340	70	0.99	1.50	16.31
Shizuoka, SHIZUOKA	11	3240	90	0.71	4.70	11.61
Nagoya, AICHI	19	2880	95	0.74	1.15	14.47
Fukui, FUKUI	23	960	96	3.81	1.94	24.44
Osaka, OSAKA	26	6876	90	1.40	1.83	13.17
Hiroshima, HIROSHIMA	26	7800	80	3.08	1.72	18.86
Nagasaki, NAGASAKI	26	1800	90	1.91	3.01	32.94
<b>Sept. '68</b>						
Niigata, NIIGATA	29	2160	95	0.42	0.78	4.98
Mito, IBARAKI	28	34560	70	0.33	0.79	6.07
Shizuoka, SHIZUOKA	12	3240	90	1.33	1.90	4.91
Nagoya, AICHI	17	1620	95	2.74	2.19	36.08
Fukui, FUKUI	22	2880	96	1.24	3.57	47.12
Osaka, OSAKA	25	6475	90	0.86	1.20	7.96
Hiroshima, HIROSHIMA	23	7800	80	1.18	4.54	9.27
Nagasaki, NAGASAKI	25	1800	90	1.88	3.70	18.21
<b>Oct. '68</b>						
Niigata, NIIGATA	22	864	95	1.14	1.60	5.24
Mito, IBARAKI	28	34360	70	0.31	1.47	2.42
Shizuoka, SHIZUOKA	13	3240	90	1.04	2.61	6.76
Nagoya, AICHI	8	1620	95	0.61	1.36	12.18
Fukui, FUKUI	18	2160	96	1.69	7.63	18.52
Osaka, OSAKA	24	5478	90	1.32	1.84	12.03
Hiroshima, HIROSHIMA	17	7700	80	1.67	3.01	20.50
Nagasaki, NAGASAKI	21	1800	90	1.98	1.78	14.35
<b>Nov. '68</b>						
Niigata, NIIGATA	22	1728	95	0.46	0.74	2.93
Mito, IBARAKI	25	34560	70	0.27	0.23	1.23
Shizuoka, SHIZUOKA	5	3240	90	1.06	1.70	3.90
Nagoya, AICHI	10	1170	95	1.29	1.53	13.49
Fukui, FUKUI	23	2160	96	1.28	3.66	10.31
Osaka, OSAKA	17	8229	90	1.48	1.92	9.00
Hiroshima, HIROSHIMA	26	7600	80	1.24	1.61	15.31
Nagasaki, NAGASAKI	23	1800	90	2.17	3.07	16.06
<b>Dec. '68</b>						
Niigata, NIIGATA	30	3456	95	0.36	0.69	1.62

Location	Duration (days)	Air Inhaled (m <sup>3</sup> )	Efficiency of Cottrell (%)	<sup>90</sup> Sr (pCi/10 <sup>6</sup> l)	<sup>137</sup> Cs (pCi/10 <sup>6</sup> l)	<sup>144</sup> Ce† <sup>144</sup> Pr (pCi/10 <sup>6</sup> l)
Mito, IBARAKI	30	51840	70	0.14	0.18	0.75
Shizuoka, SHIZUOKA	23	3240	90	1.18	2.14	3.40
Nagoya, AICHI	25	3240	95	0.79	1.07	5.50
Fukui, FUKUI	30	7992	96	1.17	2.04	7.06
Osaka, OSAKA	16	7956	90	1.33	1.57	9.63
Hiroshima, HIROSHIMA	28	9200	80	1.11	1.45	10.66
Nagasaki, NAGASAKI	30	2700	90	2.08	4.61	21.76
<b>Jan. 1969</b>						
Niigata, NIIGATA	22	1728	95	1.44	0.69	3.47
Mito, IBARAKI	29	90540	70	0.12	0.14	0.67
Shizuoka, SHIZUOKA	19	3240	90	3.66	1.00	4.61
Nagoya, AICHI	9	1080	95	2.96	1.35	8.29
Fukui, FUKUI	18	2908	96	0.33	2.41	11.66
Osaka, OSAKA	12	7113	90	0.36	1.14	3.87
Hiroshima, HIROSHIMA	22	9100	80	0.98	1.28	8.95
Nagasaki, NAGASAKI	22	1800	90	2.27	4.65	21.38
<b>Feb. '69</b>						
Namie, FUKUSHIMA	23	1814400	97	0.003	0.001	0.01
Niigata, NIIGATA	22	1728	95	0.63	0.93	5.55
Mito, IBARAKI	25	30240	70	0.15	0.23	0.93
Shizuoka, SHIZUOKA	24	3240	90	1.66	1.98	4.33
Nagoya, AICHI	9	1600	95	1.03	1.20	6.76
Fukui, FUKUI	22	2160	96	2.81	3.51	24.66
Osaka, OSAKA	14	8358	90	1.22	1.43	1.06
Hiroshima, HIROSHIMA	25	7600	80	1.71	2.29	17.45
Nagasaki, NAGASAKI	22	1800	90	2.02	2.43	13.86
<b>Mar. '69</b>						
Namie, FUKUSHIMA	25	2687400	97	0.002	0.003	0.02
Niigata, NIIGATA	29	1160	95	1.09	1.45	8.92
Mito, IBARAKI	29	35280	70	0.31	0.49	2.20
Shizuoka, SHIZUOKA	15	3240	90	1.70	4.93	17.28
Nagoya, AICHI	21	2160	95	1.35	1.50	34.16
Fukui, FUKUI	23	2160	96	3.67	4.44	10.28
Osaka, OSAKA	25	8952	90	2.08	2.85	1.89
Hiroshima, HIROSHIMA	24	7800	80	1.42	2.12	17.74
Nagasaki, NAGASAKI	24	1800	90	2.93	5.90	15.81

# Geographical Data

## Strontium-90, Cesium-137 and Cerium-144 in Soil

(Japan Analytical Chemistry Research Institute)

The Japan Analytical Chemistry Research Institute has analyzed surface soil samples collected from 18 prefectures, to determine the total deposits of fallout.

Sampling locations are indicated in Figure 3.

Soil samples were collected at depths of 0~5 cm and 0~20 cm on grassland or bare surface at each sampling location. The samples were analyzed using the method recommended by the Science and Technology Agency.

Results obtained during the period from July to December, 1968 are shown in Table 5.

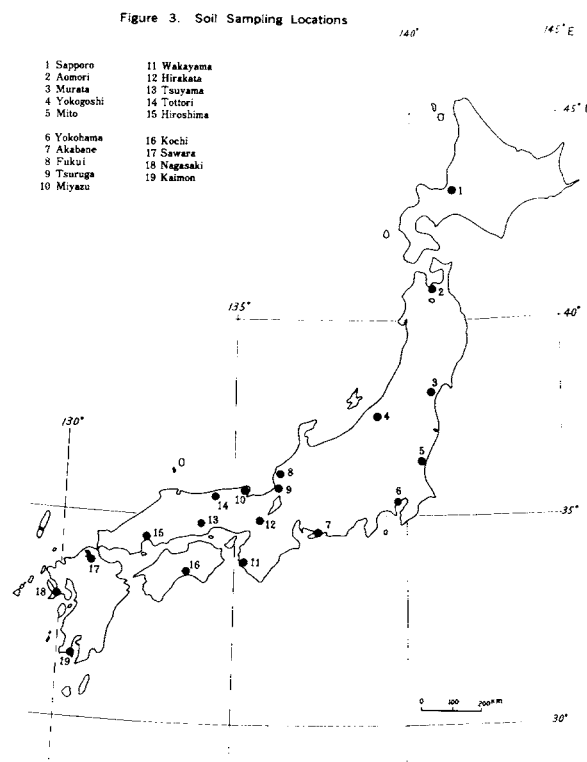


Table 5.  $^{90}\text{Sr}$ ,  $^{137}\text{Cs}$  and  $^{144}\text{Ce}$  in Soil —July to Dec., 1968—

By T. Asari, M. Chiba and M. Kuroda

(Japan Analytical Chemistry Research Institute)

(Continued from Table 1, Issue No. 21 of this Publication)

Location	Sampling Depth (cm)	Dry Soil Collected		$^{90}\text{Sr}$			$^{137}\text{Cs}$			$^{144}\text{Ce} + ^{144}\text{Pr}$
		Ca (%)	K (%)	(pCi/kg)	(mCi/km <sup>2</sup> )	(mCi/gCa)	(pCi/kg)	(mCi/km <sup>2</sup> )	(mCi/gK)	(mCi/km <sup>2</sup> )
<b>July 1968</b>										
Sapporo, HOKKAIDO	0~5	0.44	0.12	616	24.9	140	723	29.2	603	7.4
" "	0~20	0.58	0.16	319	44.6	55	440	61.7	275	17.8
Aomori, AOMORI	0~5	0.08	0.16	1302	45.0	1628	1097	37.9	686	14.5
" "	0~20	0.04	0.15	409	58.8	1023	741	106.4	494	12.4
Murata, MIYAGI	0~5	0.08	0.11	462	20.5	578	677	30.1	615	7.4
" "	0~20	0.08	0.09	330	56.6	413	552	94.9	613	26.2
Akabane, AICHI	0~5	0.03	0.15	190	11.2	633	502	29.5	335	11.8
" "	0~20	0.09	0.17	198	69.3	220	514	179.8	302	57.0
Miyazu, KYOTO	0~5	0.02	0.17	395	15.9	1975	990	39.9	582	8.9
" "	0~20	0.01	0.17	256	64.7	2560	447	113.2	263	15.9
Tsuyama, OKAYAMA	0~5	0.05	0.23	576	21.5	1152	1254	46.8	545	8.3

Location	Sampling Depth (cm)	Dry Soil Collected		<sup>90</sup> Sr			<sup>137</sup> Cs			<sup>144</sup> Ce + <sup>144</sup> Pr
		Ca(%)	(%)	(pCi/kg)	(mCi/km <sup>2</sup> )	(mCi/gCa)	(pCi/kg)	(mCi/km <sup>2</sup> )	(mCi/gK)	(mCi/km <sup>2</sup> )
Tsuyama, OKAYAMA	0~20	0.04	0.29	220	28.3	550	472	60.7	163	7.7
Hiroshima, HIROSHIMA	0~5	0.08	0.21	377	16.2	471	948	40.7	451	5.7
" "	0~20	0.14	0.16	208	52.6	149	493	124.7	308	27.6
Kochi, KOCHI	0~5	0.26	0.27	594	18.9	228	2305	7.3	854	8.0
" "	0~20	0.24	0.19	236	29.0	98	73	9.0	38	10.1
Kaimon, KAGOSHIMA	0~5	1.56	0.05	207	5.6	13	638	27.2	1276	14.9
" "	0~20	1.83	0.05	192	27.2	10	517	73.4	1034	35.0
<b>Aug. '68</b>										
Yokogoshi, NIIGATA	0~5	0.14	0.22	152	9.4	109	113	7.0	51	6.3
" "	0~20	0.12	0.16	323	48.4	269	648	97.1	405	13.9
Mito, IBARAKI	0~20	0.45	0.13	129	6.2	29	255	12.2	196	4.6
" "	0~20	0.48	0.15	158	35.0	33	336	74.7	224	50.0
Fukui, FUKUI	0~20	0.10	0.21	623	26.9	623	1857	80.3	884	19.8
" "	0~20	0.05	0.12	168	16.1	336	1804	172.4	1503	48.3
Tsuruga, FUKUI	0~5	0.13	0.22	103	3.0	79	1649	47.7	750	11.0
" "	0~20	0.01	0.06	134	30.8	1340	698	160.8	1163	24.4
Fukui, FUKUI	0~5	0.02	0.06	564	33.8	2820	863	51.7	1438	13.7
" "	0~20	0.04	0.08	242	34.2	605	1332	188.2	1665	44.5
Wakayama, WAKAYAMA	0~5	0.15	0.25	85	2.9	57	102	3.5	41	6.0
" "	0~20	0.17	0.29	138	25.2	81	430	7.8	148	11.0
Hirakata, OSAKA	0~5	0.05	0.21	261	14.0	522	534	28.7	254	7.5
Tottori, TOTTORI	0~5	0.18	0.17	1385	50.3	769	4769	173.4	2805	18.2
" "	0~20	0.06	0.18	783	154.5	1230	5251	103.6	2917	34.5
Sawara, FUKUOKA	0~5	0.11	0.19	1005	32.5	914	250	80.8	132	13.8
" "	0~20	0.06	0.19	390	90.1	650	846	195.2	445	36.1
Nagasaki, NAGASAKI	0~5	0.06	0.13	427	18.1	712	658	27.9	505	4.7
" "	0~20	0.05	0.12	251	48.7	502	332	64.5	277	20.4
<b>Sept. '68</b>										
Yokohama, KANAGAWA	0~5	0.40	0.10	1152	32.9	298	2151	61.5	2151	16.4
" "	0~20	0.26	0.08	384	68.2	148	901	160.3	1126	34.6
<b>Dec. '68</b>										
Hirakata, OSAKA	0~20	0.06	0.21	153	31.8	255	264	54.7	126	20.7

# Water Data

## Strontium-90 and Cesium-137 in Source Water

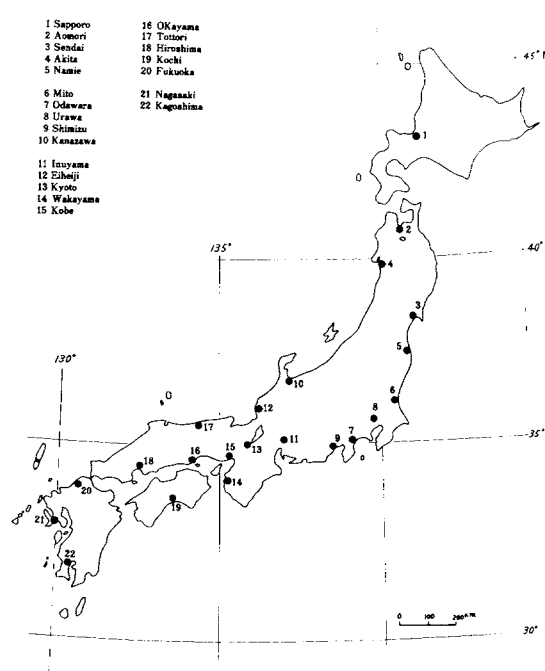
(Japan Analytical Chemistry Research Institute)

Since May 1963, the Japan Analytical Chemistry Research Institute has analyzed the strontium-90 and cesium-137 content in source water from 22 locations in Japan.

Sampling locations are shown in Figure 4. Sampling procedures and treatment method of the samples for strontium-90 and cesium-137 analyses are the same as those mentioned in the explanation of page 16, Issue No.19 of this publication.

Results obtained during the period April 1968 to March 1969 are shown in Table 6.

Figure 4. Source Water Sampling Locations



- |             |              |
|-------------|--------------|
| 1 Sapporo   | 16 Okayama   |
| 2 Aomori    | 17 Tokushima |
| 3 Sendai    | 18 Hiroshima |
| 4 Akita     | 19 Kochi     |
| 5 Namie     | 20 Fukuoka   |
| 6 Mito      | 21 Nagasaki  |
| 7 Odawara   | 22 Kagoshima |
| 8 Urawa     |              |
| 9 Shimizu   |              |
| 10 Kanazawa |              |
| 11 Inuyama  |              |
| 12 Eihei    |              |
| 13 Kyoto    |              |
| 14 Wakayama |              |
| 15 Kobe     |              |

Table 6.  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  in Source Water -Apr., 1968 to Mar., 1969-

By T. Asari, M. Chiba and M. Kuroda

(Japan Analytical Chemistry Research Institute)

(Continued from Table 10, Issue No.19, of this Publication)

Location	Source	$^{90}\text{Sr}$ (pCi/l)	$^{137}\text{Cs}$ (pCi/l)	Nature of Water	
				pH	Appearance
<b>Apr. 1968</b>					
Sapporo, HOKKAIDO	Water Purification Station	0.17	0.04	6.9	clear
Aomori, AOMORI	Station Intake	0.10	0.04	7.0	"
Sendai, MIYAGI	" "	0.16	0.06	6.8	slight muddy (brawn)
Akita, AKITA	Water Purification Station	0.33	0.06	6.6	clear
Namie, FUKUSHIMA	Station Intake	0.10	0.005	7.2	"
Iizaka, FUKUSHIMA	" "	0.19	0.03	7.2	"
Mito, IBARAKI	Water Purification Station	0.12	0.02	7.1	"
Odawara, KANAGAWA	Station Intake	0.05	0.03	6.6	"
Urawa, SAITAMA	Water Purification Station	0.02	0.001	7.2	"
Shimizu, SHIZUOKA	Reservoir	0.11	0.02	7.1	"
Kanazawa, ISHIKAWA	Water Purification Station	0.50	0.08	7.1	slight muddy
Inuyama, AICHI	Station Intake	0.11	0.03	6.5	slight muddy(white)
Eihei, FUKUI	" "	0.11	0.05	7.6	clear

Location	Source	<sup>90</sup> Sr (pCi/l)	<sup>137</sup> Cs (pCi/l)	Nature of Water	
				pH	Appearance
Kyoto, KYOTO	Station Intake	0.82	0.05	7.6	clear
Wakayama, WAKAYAMA	" "	0.15	0.05	6.5	slight muddy( white )
Okayama, OKAYAMA	" "	0.17	0.03	7.1	clear
Tottori, TOTTORI	Reservoir	0.12	0.05	6.9	slight muddy( b rwn )
Hiroshima, HIROSHIMA	Station Intake	0.23	0.32	7.1	clear
Kochi, KOCHI	" "	0.12	0.01	7.2	"
Fukuoka, FUKUOKA	Water Purification Station	0.17	0.02	6.8	"
Nagasaki, NAGASAKI	Reservoir	0.15	0.07	7.3	muddy( yellow )
Kagoshima, KAGOSHIMA	" "	0.06	0.04	6.8	clear
<b>May. '68</b>					
Wakkanai, HOKKAIDO	Station Intake	0.59	0.11	5.7	muddy( yellow )
Shiga, KYOTO	" "	0.73	0.05	7.7	clear
Kobe, HYOGO	Reservoir	0.13	0.01	7.0	"
<b>June. '68</b>					
Sapporo, HOKKAIDO	Water Purification Station	0.12	0.03	7.0	"
Mito, IBARAKI	" "	0.18	0.05	7.1	"
Odawara, KANAGAWA	Station, Intake	0.07	0.01	6.6	"
Kanazawa, ISHIKAWA	Water Purification Station	0.31	0.03	7.0	slight muddy
Inuyama, AICHI	Station Intake	0.20	0.03	6.8	clear
Kusazu, KYOTO	" "	0.75	0.05	7.6	"
Ko e, HYOGO	Reservoir	0.16	0.03	7.4	muddy( yellow )
Fukuoka, FUKUOKA	Water Purification Station	0.19	0.03	6.8	clear
<b>July. '68</b>					
Wakkanai, HOKKAIDO	Station, Intake	0.83	0.34	6.0	muddy( brawn )
Sendai, MIYAGI	" "	0.22	0.07	7.2	slight muddy( brawn )
Akita, AKITA	Water Purification Station	0.16	0.05	6.8	clear
Namie, FUKUSHIMA	Station Intake	0.15	0.02	7.0	"
Iizaka, FUKUSHIMA	" "	0.21	0.02	7.4	"
Urama, SAITAMA	Water Purification Station	0.04	0.001	7.2	"
Shimizu, SHIZUOKA	Reservoir	0.10	0.02	7.1	"
Eiheiji, FUKUI	Station Intake	0.13	0.03	7.6	"
Wakayama, WAKAYAMA	" "	0.22	0.06	6.6	slight muddy( white )
Okayama, OKAYAMA	" "	0.34	0.05	7.1	" " "
Tottori, TOTTORI	Reservoir	0.26	0.06	7.1	slight muddy( brawn )
Hiroshima, HIROSHIMA	Station Intake	0.16	0.04	6.9	clear
Kochi, KOCHI	" "	0.12	0.01	7.2	"
Nagasaki, NAGASAKI	Reservoir	0.13	0.07	6.9	muddy( yellow )
Kagoshima, KAGOSHIMA	" "	0.03	0.02	6.8	clear
<b>Aug. '68</b>					
Sapporo, HOKKAIDO	Water Purification Station	0.23	0.12	7.2	slight muddy( white )
Aomori, AOMORI	Stations Intake	0.10	0.05	6.2	clear
Odawara, KANAGAWA	" "	0.06	0.01	6.6	"
Inuyama, Aichi	" "	0.22	0.03	6.9	"
Kyoto, KYOT	" "	0.79	0.05	7.8	"
Kobe, HYOGO	Reservoir	0.21	0.01	7.0	muddy( yellow )
Fukuoka, FUKUOKA	Water Purification Station	0.24	0.02	6.8	clear
<b>Sept. '68</b>					
Wakkanai HOKKAIDO	Station Intake	1.00	0.08	7.0	muddy( brawn )
Shiga, KYOTO	" "	0.78	0.03	8.2	clear
<b>Oct. '68</b>					
Sapporo, HOKKAIDO	Water Purification Station	0.15	0.03	7.1	"
Aomori, AOMORI	Station Intake	0.08	0.04	6.4	"
Sendai, MIYAGI	" "	0.17	0.10	7.1	slight muddy( brawn )
Akita, AKITA	Water Purification Station	0.33	0.05	6.8	slight muddy( green )
Namie, FUKUSHIMA	" " "	0.10	0.02	7.3	clear
Iizaka, FUKUSHIMA	Water Purification Station	0.24	0.02	7.2	clear
Mito, IBARAKI	" " "	0.13	0.02	7.4	"
Odawara, KANAGAWA	Station Intake	0.03	0.01	7.2	"
Urawa, SAITAMA	Water Purification Station	0.02	0.01	7.2	"



Location		<sup>90</sup> Sr (pCi/l)	<sup>137</sup> Cs (pCi/l)	Nature of Water	
				pH	Appearance
Shimiz SHIZUOKA	Reservoir	0.10	0.03	7.0	slight muddy
Kanazawa, ISHIKAWA	Water Purification Station	0.33	0.03	7.2	clear
Inuyama, AICHI	Station Intake	0.17	0.02	7.1	"
Eiheiji, FUKUI	" "	0.10	0.04	7.6	"
Kusazu, KYOTO	" "	0.97	0.07	7.3	"
Wakayama, WAKA AMA	" "	0.14	0.03	6.7	slight muddy(white)
Kobe, HYOGO	Reservoir	0.16	0.02	7.2	muddy(yellow)
Okayama, OKAYAMA	Station Intake	0.20	0.02	7.0	clear
Tottori, TOTTORI	Reservoir	0.18	0.06	7.1	slight muddy(brown)
Hiroshima, HIROSHIMA	Station Intake	0.15	0.03	7.0	clear
Kochi, KOCHI	" "	0.14	0.01	7.2	"
Fukuoka, FUKUOKA	Water Purification Station	0.19	0.03	6.8	"
Nagasaki, NAGASAKI	Reservoir	0.12	0.07	7.1	muddy(yellow)
Kagoshima, KAGOSHIMA	" "	0.05	0.02	6.8	clear
<b>Nov. '68</b>					
Wakkanai, HOKKAIDO	Station Intake	1.01	0.11	6.6	muddy(yellow)
<b>Dec. '68</b>					
Sapporo, HOKKAIDO	Water Purification Station	0.20	0.03	7.1	clear
Aomori, AOMORI	Station Intake	0.09	0.03	6.5	"
Odawara, KANAGAWA	" "	0.04	0.01	6.8	"
Kanazawa, ISHIKAWA	Water Purification Station	0.31	0.02	7.1	"
Inuyama, AICHI	Station Intake	0.11	0.01	7.1	"
Shiga, KYOTO	" "	0.77	0.03	7.5	"
Fukuoka, FUKUOKA	Water Purification Station	0.15	0.03	6.8	"
<b>Jan. 1969</b>					
Wakkanai, HOKKAIDO	Station Intake	0.64	0.05	6.2	slight muddy(brown)
Sendai, MIYAGI	Water Purification Station	0.15	0.06	6.7	slight muddy(yellow)
Akita, AKITA	" "	0.24	0.05	6.8	clear
Namie, FUKUSHIMA	Station Intake	0.19	0.02	8.0	slight muddy
Iizaka, FUKUSHIMA	" "	0.09	0.02	7.4	" "
Urawa, SAITAMA	Water Purification Station	0.04	0.01	7.2	clear
Shimizu, SHIZUOKA	Reservoir	0.12	0.03	7.0	"
Eiheiji, FUKUI	Station, Intake	0.10	0.03	7.1	"
Kyoto, KYOTO	" "	0.73	0.05	7.1	"
Wakayama, WAKAYAMA	Water Purification Station	0.13	0.02	7.0	slight muddy(white)
Kobe, HYOGO	Reservoir	0.16	0.03	7.2	muddy(yellow)
Okayama, OKAYAMA	Station Intake	0.15	0.02	6.8	clear
Tottori, TOTTORI	Reservoir	0.04	0.06	6.7	"
Hiroshima, HIROSHIMA	Station Intake	0.09	0.02	7.2	"
Kochi, KOCHI	" "	0.14	0.005	7.2	"
Nagasaki, NAGASAKI	Reservoir	0.13	0.02	6.9	muddy(yellow)
Kagoshima, KAGOSHIMA	" "	0.06	0.05	6.8	clear
<b>Feb. '69</b>					
Sapporo, HOKKAIDO	Water Purification Station	0.19	0.08	7.2	"
Mito, IBARAKI	" "	0.16	0.03	7.2	slight muddy(white)
Odawara, KANAGAWA	Station Intake	0.03	0.02	6.8	clear
Inuyama, AICHI	" "	0.11	0.02	7.1	"
Kusazu, KYOTO	" "	0.77	0.09	7.4	"
Kobe, HYOGO	Reservoir	0.13	0.03	7.1	slight muddy(yellow)
Fukuoka, FUKUOKA	Water Purification Station	0.16	0.03	6.8	clear
<b>Mar. '69</b>					
Wakkanai, HOKKAIDO	Station Intake	0.59	0.05	6.8	"

# Strontium-90 and Cesium-137 in Potable Rain Water

(Japan Analytical Chemistry Research Institute)

The strontium-90 and cesium-137 content in potable rain water with filtration collected from 8 prefectural public health laboratories was determined at the Japan Analytical Chemistry Research Institute.

Ten liter samples taken from potable rain water tanks with filter were collected by the prefectural public health laboratories, and sent to the Japan Analytical Chemistry Research Institute for strontium-90 and cesium-137 content analyses.

Sampling locations are shown in Figure 5. After pre-treatment for concentration, the samples were analyzed by the fuming nitric acid method. The analytical procedure applied was the method recommended by the Science and Technology Agency.

Results obtained during the period from July 1968 to January 1969 are shown in Table 7.

Figure 5. Potable Rain Water Sampling Locations

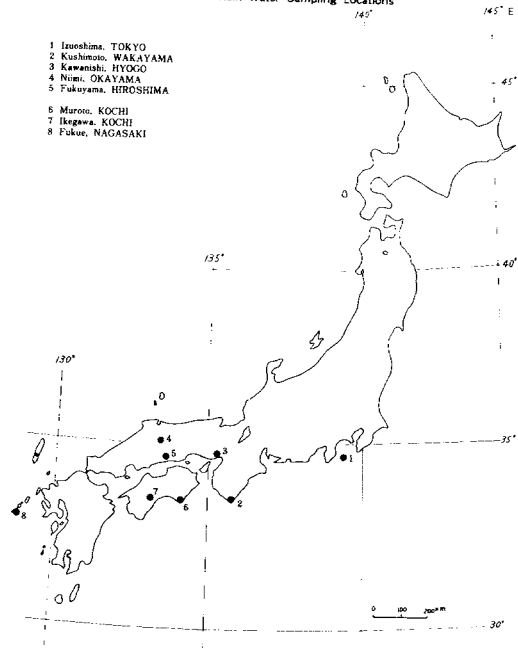


Table 7.  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  in Potable Rain Water —July, 1968 to Jan., 1969—

By T. Asari, M. Chiba and M. Kuroda

(Japan Analytical Chemistry Research Institute)

(Continued from Table 2, Issue No. 21, of this Publication)

Location	Date of Sampling	$^{90}\text{Sr}$ (pCi/ℓ)	$^{137}\text{Cs}$ (pCi/ℓ)	pH
Izuoshima, TOKYO	July 1968	0.49	0.06	6.2
Kushimoto, WAKAYAMA	"	1.70	0.65	6.5
Kawanishi, HYOGO	"	1.25	0.67	7.1
Niimi, OKAYAMA	"	1.41	0.12	7.0
Fukuyama, HIROSHIMA	"	0.26	0.06	8.5
Muroto, KOCHI	"	0.29	0.04	6.8
Ikegawa, KOCHI	"	0.41	0.13	6.8
Fukue, NAGASAKI	"	1.12	0.22	7.6
Izuoshima, TOKYO	Oct. '68	0.99	0.12	6.5
Kushimoto, WAKAYAMA	"	1.85	0.13	6.4
Kawanishi, HYOGO	"	0.89	0.41	7.2
Niimi, OKAYAMA	"	1.58	0.14	7.1
Fukuyama, HIROSHIMA	"	0.37	0.02	8.0
Muroto, KOCHI	"	0.48	0.07	6.8
Ikegawa, KOCHI	"	0.50	0.11	7.0
Fukue, NAGASAKI	"	2.02	0.48	7.8
Izuoshima, TOKYO	Jan. 1969	0.94	0.09	6.8
Kushimoto, WAKAYAMA	"	1.08	0.37	6.7
Kawanishi, HYOGO	"	0.94	0.40	7.3
Niimi, OKAYAMA	"	1.26	0.10	6.8
Fukuyama, HIROSHIMA	"	0.16	0.01	7.8
Muroto, KOCHI	"	0.50	0.06	6.8
Ikegawa, KOCHI	"	0.18	0.05	7.1
Fukue, NAGASAKI	"	1.00	0.27	8.1

## Strontium-90 and Cesium-137 in Potable Rain Water used by Lighthouses.

(Japan Analytical Chemistry Research Institute)

Since April 1964, potable rain water used by residents of beacon lighthouses has been analyzed for strontium-90 and cesium-137 content by the Japan Analytical Chemistry Research Institute.

Samples of potable rain water were collected in polyethylene bottles at 7 lighthouses and also ten liter samples, with and without filtration through sand and charcoal, were sent from each lighthouse.

Sampling locations are shown in Figure 6.

The analytical procedure applied was the method recommended by the Science and Technology Agency.

Results obtained during the period from April 1968 to January 1969, are shown in Table 8.

Figure 6. Potable Rain Water used by Lighthouse Sampling Locations

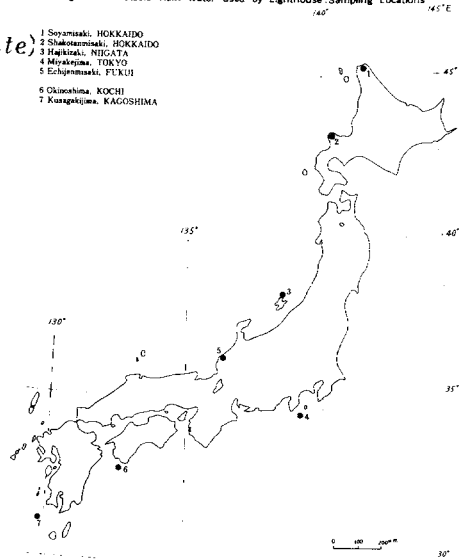


Table 8.  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  in Potable Rain Water used by Lighthouses —Apr., 1968 to Jan., 1969—  
By T. Asari, M. Chiba and M. Kuroda

(Japan Analytical Chemistry Research Institute)

(Continued from Table 3, Issue No. 21, of this Publication)

Lighthouse Location	$^{90}\text{Sr}$ (pCi/l)		$^{137}\text{Cs}$ (pCi/l)	
	Original	Filtrate	Original	Filtrate
<b>Apr. 1968</b>				
Okinoshima, KOCHI	2.43	1.54	6.69	0.28
<b>May '68</b>				
Soyamisaki, HOKKAIDO	2.02	0.05	1.14	0.08
Shakotanmisaki, HOKKAIDO	0.13	2.29	0.12	0.79
Hajikizaki, NIIGATA	1.53	1.82	2.03	0.21
Miyakejima, TOKYO	1.71	1.83	2.70	1.20
Echizenmisaki, FUKUI	1.81	1.97	0.45	0.45
Kusagakijima, KAGOSHIMA	1.31	1.83	2.53	0.30
<b>Aug. '68</b>				
Okinoshima, KOCHI	1.26	1.53	1.44	0.31
<b>Sept. '68</b>				
Soyamisaki, HOKKAIDO	1.17	0.05	0.31	0.04
Shakotanmisaki, HOKKAIDO	0.12	0.08	0.005	0.01
Hajikizaki, NIIGATA	1.51	1.02	0.96	0.43
Miyakejima, TOKYO	1.61	0.52	1.68	0.49
Echizenmisaki, FUKUI	1.16	1.08	0.60	0.51
Kusagakijima, KAGOSHIMA	0.79	0.95	0.32	0.17
<b>Nov. '68</b>				
Echizenmisaki, FUKUI	1.33	1.84	0.31	0.32
Okinoshima, KOCHI	1.11	1.20	0.87	0.36
<b>Jan. 1969</b>				
Soyamisaki, HOKKAIDO	0.60	0.06	0.53	0.05
Shakotanmisaki, HOKKAIDO	0.14	0.14	0.07	0.22
Hajikizaki, NIIGATA	2.58	1.85	0.32	0.84
Miyakejima, TOKYO	0.90	0.87	0.73	0.89
Kusagakijima, KAGOSHIMA	1.00	1.03	1.20	0.29