

Public information disclosure site: Environmental radioactivity and radiation



Environmental Radioactivity and Radiation In Japan



How to use this website

<https://www.kankyo-hoshano.go.jp/en/>



About this website

The website Environmental Radioactivity and Radiation in Japan publishes information on environmental radioactivity and radiation. You can browse information such as the results of environmental radioactivity surveys conducted by the Secretariat of the Nuclear Regulation Authority with the cooperation of the relevant ministries and prefectural governments, as well as the definitions of terms and the basic information on environmental radioactivity. This website was completely revamped in March 2021, adopting a new website design and structure for easier access to information by users. This revamp also supports mobile devices, including smartphones, in consideration of the recent widespread use of smartphones. In addition, new contents, “Radiation Around Me” and “Radioactivity Concentration in Japan” have been added to allow you to check information around your current location using the location feature of mobile devices. The Environmental Radiation Database enables you to search for the results of environmental radioactivity surveys, as before. This guidebook will help you to effectively and comprehensively use this website. We hope you will find this information helpful.



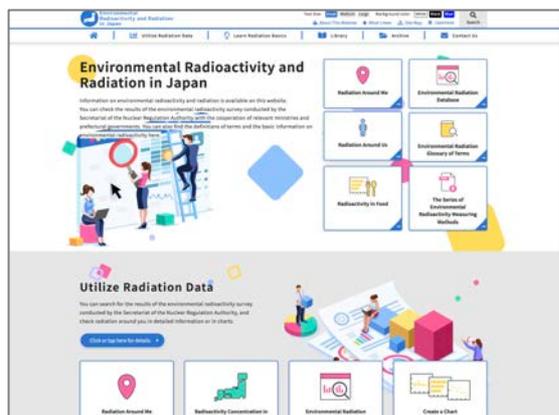
- Environmental Radiation Database
Improved search interface
- Supporting smartphones
- New content using a location feature
Addition



The website: Environmental Radioactivity and Radiation in Japan

<https://www.kankyo-hoshano.go.jp/en/>

Computer screen



Search and access as follows

Environmental radioactivity Search for

Smartphone screen



Access through QR code



Available contents

Utilize Radiation Data

You can search for data by using the results of environmental radioactivity surveys conducted by the Secretariat of the Nuclear Regulation Authority with the cooperation of the relevant ministries and governments, as well as displaying information around your current location and creating charts.

Environmental Radiation Database

P4,5

You can search for data from environmental radioactivity surveys.

Radiation Around Me

P6,7

You can check the radiation information around your current location by using the location feature of your smartphone.

Radioactivity Concentration in Japan

P8,9

You can check the results of radioactivity surveys conducted by the 47 prefectural governments on various samples.

Create a Chart

P10

You can create charts of air radiation dose rates, annual changes, and concentration ranges, by using the specified search conditions.

Create a Summary Table

P11

You can create a summary table by using the specified search conditions.

Radioactivity in Food

P12,13

You can check radioactivity information related to food.

Learn Radiation Basics

You can learn basic information on radioactivity and radiation.

P14

Library

You can check materials and data on environmental radioactivity.

P15

Archive

You can check various past data from the archive.

P15



Environmental Radiation Database

You can search for the results of environmental radioactivity surveys conducted by the Secretariat of the Nuclear Regulation Authority with the cooperation of relevant ministries and prefectural governments. Data registered in the Environmental Radiation Database is checked and assessed by specialists or staff of the relevant ministry or prefectural government.

Condition Selection

Please specify the survey period to search.

Survey Period

Any period from January 1957 to the present

Please specify the survey region to search. You can select any prefectures (multiple choice allowed). You can also select "Nationwide" to see data for the whole country.

Survey Region

● Nationwide ● Prefectures ● Atmosphere, or ocean (prefectures cannot be specified)

Please select one category, and make one or more selections from the subcategory list that then appears below.

Survey Sample

Category

● Airborne dust & atmosphere ● Airborne dust (continuous measuring) ● Fallout ● Precipitation ● Inland water ● Soil ● Sediments ● Agricultural, forestry, and fisheries products ● Milk ● Seawater ● Aquatic products ● Food ● Daily food ● Cumulative dose ● Monitoring post ● Survey meter ● Neutron dose rate ● Specific products, etc.

Subcategory

Example

Category

● Airborne dust & atmosphere

Subcategory

● Airborne dust ● High-altitude airborne dust ● Atmosphere ● Airborne dust (high-sensitivity analysis)

Mandatory item

Please select one or more types of radionuclide to search.

Survey Nuclide

● H-3 ● Sr-90 ● Cs-137 ● U ● Pu, etc.

You can select surveys to use in your search. If nothing is selected, all surveys will be included in the search.

Surveys to Use in Your Search (Optional)

● General Environment Around Us (Radioactivity level surveys conducted by the governments and the Japan Chemical Analysis Center)
 ● Surroundings of Nuclear Facilities (Radioactivity surveys conducted by local governments eligible for subsidies for radiation monitoring)
 ● Nuclear-Powered Warships (Radioactivity survey on nuclear-powered warships) 26/ Search for the selected conditions

Search for the selected conditions



Radiation Around Me

You can search for information on radiation around you by using the location feature of smartphones or by specifying a prefecture and municipality. When you click or tap on a displayed measuring point, you can check the air radiation dose rate there.

Search

Specify the area where you want to check the air radiation dose rate.

Access from a smartphone with a location feature



Use location information

※ Please turn on the location feature.

Use location information

Access from smartphone/computer



Search for current location

● Prefecture ● Municipality

Search

Specify the measurement point (monitoring post location).

Display of measurement points

Select and click your preferable measurement point displayed on the map.

The latest measurement result of the specified measurement point will be displayed.

Display of measurement results

- Location of monitoring station
- Air radiation dose rate
- Measurement date and time

See the results for the last year

You can check the measurement results for the last 12 months in a chart. Placing the cursor on the chart displays the details of the measurement results.

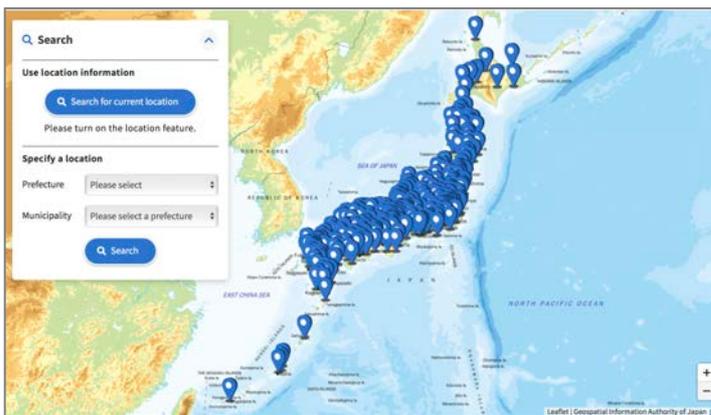
See the results for the last year

- Minimum
- Average, and
- Maximum per day

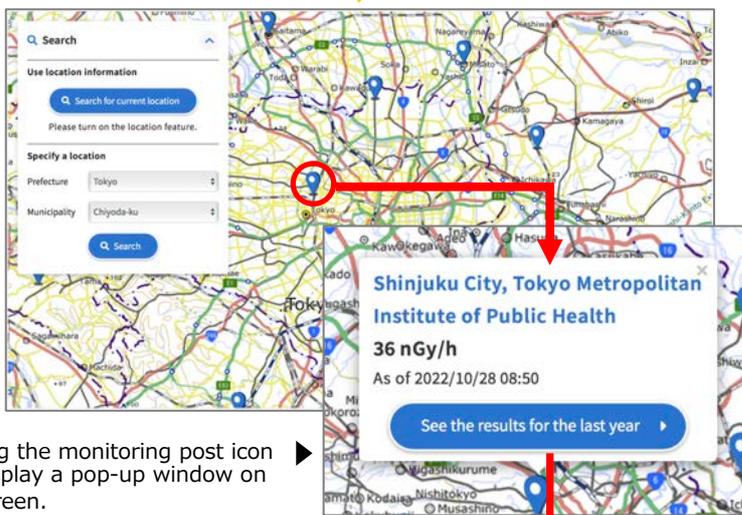
Search result example

By searching for an area, you can see the measurement points on the map. By clicking your preferable measurement point, you can check the measurement results there.

Search for area



Specify measurement point



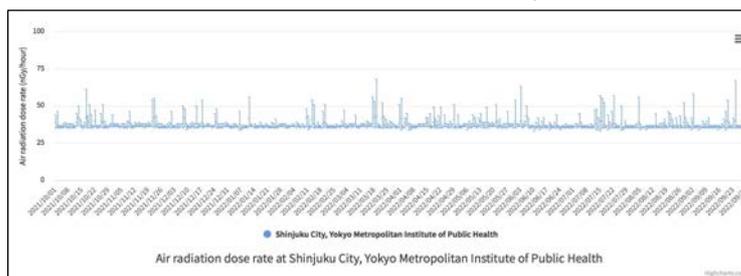
Display of Measurement results

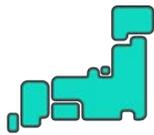


Clicking the monitoring post icon will display a pop-up window on the screen.

Results for the last year.

Placing the cursor on the chart will show the day's ● Minimum ● Average, and ● Maximum.





Radioactivity Concentration in Japan

You can check the results of the radioactivity (concentration) survey on various samples conducted by prefectures, if your device has a location feature. When you click or tap on a displayed location, you can check the measurement results there.

Search

You can start your search by selecting a sample or a region.

Select sample

Please select a sample from 17 samples, such as **airborne dust** and the like.

Select a region

 Search for current location

* From a smartphone with a location feature

● Prefecture ● Municipality

Data for the selected sample will be displayed on the map.

Survey point display

Select and click your preferable survey point displayed on the map.

* The default display area is "nationwide."

You can also select a region.

Select a region

 Search for current location

* From a smartphone with a location feature

● Prefecture ● Municipality

Select sample

Please select a sample from 17 samples, such as **airborne dust** and the like.

Data for the selected sample will be displayed on the map.

Survey point display

Select and click your preferable survey point displayed on the map.

The latest data for the selected sample/survey point will be displayed from the data registered in the Environmental Radiation Database.

Survey result display

- Survey point
- Radioactivity concentration of Sr-90 and Cs-137
- Sampling date
- Sources of survey results

Search result example

By searching for a sample and a region, you can see the survey points on the map.
By clicking your preferable survey point, you can check the survey results there.

Select a sample

Select a region

Specify a survey point

Data display

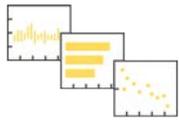
Clicking the survey point icon will display a pop-up window on the screen.

Aomori Aomori City

Sr-90 0.48 mBq/L
(Sampling date:2021/06/08)
Sources of Survey Results
FY 2021 report of commissioned project for disaster control measures, etc. at nuclear facilities, etc. (environmental radioactivity level survey (radioactivity analysis) 2021 level commission report 003

Cs-137 Not Detected
(Sampling date:2021/06/08)
Sources of Survey Results
FY 2021 report of result of environmental radioactivity level survey in Aomori

Radioactivity values vary depending on the survey location. The value shown does not represent the radioactivity concentration for the prefecture.

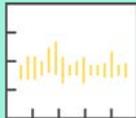


Create a Chart

Using data registered to the Environmental Radiation Database, you can create charts of air radiation dose rates, annual changes, and concentration ranges with setting conditions. You can easily create a chart by selecting the type of chart you want to create and then simply following the instructions displayed on your screen. Please note that some data for the atmosphere and ocean cannot be specified for certain prefectures, and you cannot create charts for such data.

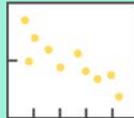
Select Chart Type/Conditions

Air Radiation Dose Rate Chart



You can create a chart in which air radiation dose rate (minimum, average, and maximum) are plotted.

Annual Change Chart



You can create a chart in which radioactivity concentration is plotted against time (year).

Concentration Range Chart



You can create a concentration range chart by using radioactivity concentration data.

Condition Selection

Mandatory

Select Measurement Equipment

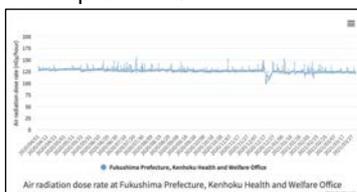
Survey Period

Survey Region

Measurement Point

Search for the selected conditions

Example



Condition Selection

Mandatory

Reference Item

Survey Region

Survey Period

Survey Sample

Survey Nuclide

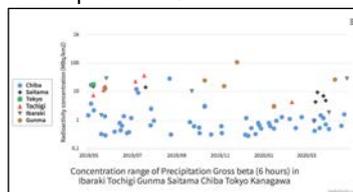
Concentration Unit

Display Method

Surveys to Use in Your Search (Optional)

Search for the selected conditions

Example



Condition Selection

Mandatory

Reference Item

Survey Period

Survey Region

Survey Sample

Survey Nuclide

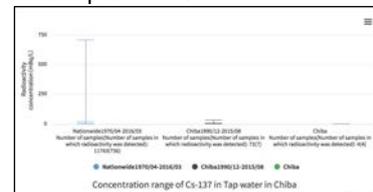
Concentration Unit

Option

Surveys to Use in Your Search (Optional)

Search for the selected conditions

Example



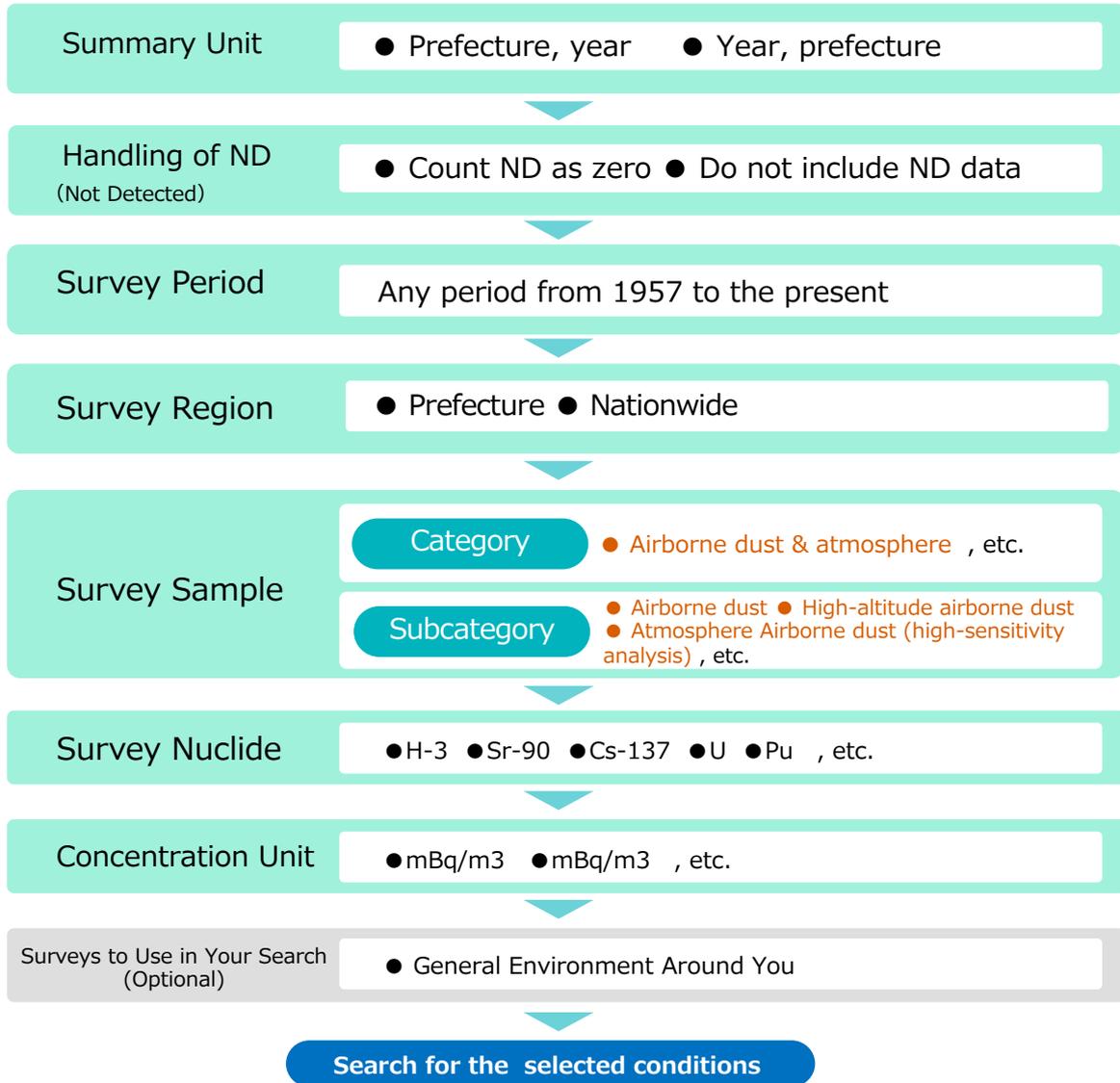
Edit-the-chart options: ● Change the title ● Change the maximum bound and tick interval Others: ● Display in full screen ● Print out the chart ● Download ● Print out the page FAQs on how to read the charts are available on each page. Please see such pages for more detail.



Create a Summary Table

You can create a summary table by specifying survey years and the survey area. You can easily create a summary table by simply following the instructions displayed on your screen.

Condition Selection



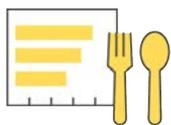
Example

Gross beta summary table for Airborne dust

You can download the summary data by pressing "Save data in CSV format" below.

Sample	Prefecture name	Year	Minimum	Average	Maximum	Total number of samples	Median	Standard deviation	Number of detections
Airborne dust	Hokkaido	2000	0.26	0.95	2.1	360	0.84	0.46	360
Airborne dust	Hokkaido	2001	0.24	0.90	1.8	360	0.92	0.39	360
Airborne dust	Hokkaido	2002	0.18	0.90	2	359	0.85	0.44	359
Airborne dust	Hokkaido	2003	0.12	0.96	1.9	360	0.95	0.39	360
Airborne dust	Hokkaido	2004	0.29	0.93	1.6	360	0.91	0.31	360
Airborne dust	Hokkaido	2005	0.18	0.89	1.7	360	0.83	0.38	360
Airborne dust	Hokkaido	2006	0.17	0.98	2.3	359	0.98	0.46	359
Airborne dust	Hokkaido	2007	0.11	0.96	1.9	360	0.85	0.43	360
Airborne dust	Hokkaido	2008	0.22	1	2	360	1.1	0.44	360
Airborne dust	Hokkaido	2009	0.13	0.93	2.6	355	0.90	0.44	355
Airborne dust	Hokkaido	2010	0.24	0.99	2.2	357	0.95	0.45	357
Airborne dust	Hokkaido	2011	0.22	1.01	2.7	360	0.97	0.44	360
Airborne dust	Hokkaido	2012	0.15	0.83	2.2	360	0.79	0.40	360
Airborne dust	Hokkaido	2013	0.13	0.84	1.9	360	0.82	0.39	360

- You can save the search results in CSV format.
- Filtering conditions are displayed.
- You can regenerate the chart and/or table for different search conditions.



Radioactivity in Food

Information on radioactivity related to food is available here. You can check the level of radioactivity in various food and committed effective doses for evaluating the impact of radioactivity taken into our bodies through food consumption.

Select Chart Type/Conditions

Search by Food



You can select the food to check the radioactivity level of that food.

Search by Region



You can select a prefecture to check the radioactivity level of food sampled in that prefecture.

Search by Nuclide



You can select a nuclide to check the radioactivity level of that nuclide in foods.

Condition Selection

Mandatory item

Select Food

Survey Nuclide

Data Type

Survey Region

Survey Period

Search for the selected conditions

Condition Selection

Mandatory item

Survey Region

Select Food

Survey Nuclide

Data Type

Survey Period

Search for the selected conditions

Condition Selection

Mandatory item

Survey Nuclide

Select Food

Survey Region

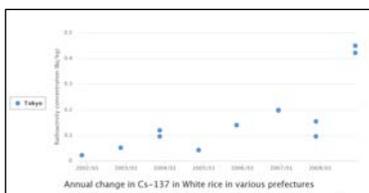
Data Type

Survey Period

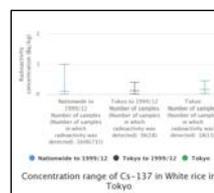
Search for the selected conditions

Example

Annual Change data



Concentration range data



Display contents: ● Chart of search results ● Summary table of search result data by item ● Committed effective dose ● Source of survey results ● Filtering conditions

Others: ● Display in full screen ● Print out the chart ● Download ● Print out the page

* In filtering conditions, you can regenerate the chart and/or table for different search conditions.

Others

Radiation Dose Received from Food (Committed Effective Dose)

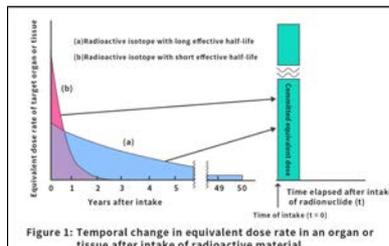
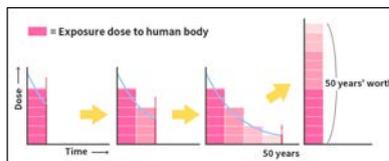
Some radioactive materials are widely present in nature and contained in food. Through consumption of food, such radioactive materials are taken into the tissues of our bodies. By this, while small in quantity, we receive radiation inside our bodies on a daily basis (internal exposure). The standard used for evaluating the impact of internal exposure is called committed effective dose, which is explained here.



What is Committed Effective Dose?

Committed effective dose is explained in detail.

- What is Committed Effective Dose?
- Committed Effective Dose Calculation Formula
- Presuppositions of Committed Effective Dose Calculation
- About potassium 40 (K-40)

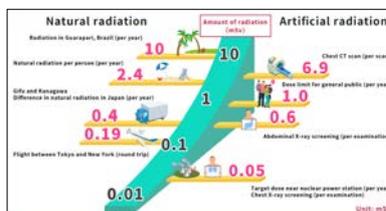


Committed Effective Dose by Food Category

You can check the committed effective dose by food category.

- Committed Effective Dose by Food Category
- Comparison with Various Radiation Sources
- Radiation Dose from Daily Food

Type	Natural radionuclides	Artificial radionuclides
Vegetable	0.029	0.00049
Fruit	0.0017	0.00011
Bread, noodles	0.0043	0.000063
Rice, wheat	0.010	0.00017
Beans, peas, sesame seeds	0.0066	0.00058
Meats	0.0071	0.00052
Seafood	0.58	0.00063
Seaweed	0.019	0.00041



Learn Radiation Basics

You can learn basic information on radioactivity and radiation.

What is radioactivity? What is radiation?



Environmental radioactivity and radiation Q&A.

- What is radioactivity?
- What happens when radiation hits an object?
- Why is radiation emitted? ,etc.

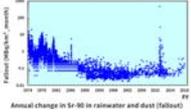


Radiation Around Us



Radiation around us, including radiation that exists in nature and artificial radiation that is used in medicine, is explained in an easy-to-understand manner.

- What kinds of radiation are present around us?
- What is artificial radiation?
- What are uranium and thorium? ,etc.



Environmental Radiation Glossary of Terms



Terms commonly encountered when talking about environmental radioactivity and radiation are explained here.

- List of terms in alphabetical order
- More than 100 terms are included

* Easy-to-understand description using photos and illustrations



Basics of Environmental Radioactivity Measurement



How to collect and pretreat analysis samples, and how to measure environmental radioactivity and radiation are explained.

- Collection and Pretreatment of Samples (Explanation on each sample such as airborne dust and soil)
- Environmental Radioactivity Analysis and Environmental Radiation Measurement



Explained in Text



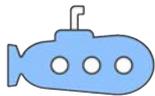
Environmental radioactivity and radiation are explained in text for easier understanding.

- What is radiation? What is radioactivity?
- Is it possible to measure radiation in the general environment?
- What are naturally occurring radioactive materials? What are artificial radioactive materials?



Library

You can check materials and data on environmental radioactivity.



Radioactivity Survey on Nuclear Powered Warships

The Secretariat of the Nuclear Regulation Authority conducts surveys on radioactivity levels at ports nuclear powered warships call in, with the cooperation of relevant entities including local governments, the Japan Coast Guard, and the Fisheries Agency. Here, you can check the survey results.

Nuclear Powered Warship Departure and Post-departure Survey

Nuclear-Powered Warship Departure and Post-departure Survey You can check the results of radioactivity surveys conducted at Yokosuka, Sasebo, and Kin-Nakagusuku Ports on and after departure of a nuclear-powered warship.

Periodic Surveys on Nuclear Powered Warships

You can check the results of radioactivity surveys conducted quarterly (four times a year) at the Yokosuka, Sasebo, and Kin-Nakagusuku Ports.

Results of Analyses in Radioactivity Surveys on Nuclear Powered Warships

Results of analyses in radioactivity surveys on nuclear powered warships are listed here by fiscal year.

The Series of Environmental Radioactivity Measuring Methods



The Series of Environmental Radioactivity Measuring Methods is available here for downloading in PDF format.

- No.1 Measurement of Gross Beta Radioactivity (3rd edition)
- No.35 Environmental Sample Collection Methods in Emergency
- * And other technical references

Environmental Radioactivity Survey Reports

Reports of environmental radioactivity surveys are published.

- Environmental Radioactivity Survey and Study Result Presentation Conference
- Environmental Radioactivity Level Surveys
- Marine Environment Radioactivity Comprehensive Evaluation Project Marine Radioactivity Surveys
- Environmental Survey Pertaining to the Issue of Misuse of Depleted Uranium Ammunition

Archive

You can check various past data from the archive.

TEPCO Fukushima Daiichi Nuclear Power Plant Accident

You can search for data related to the accident at the TEPCO Fukushima Daiichi Nuclear Power Plant.

Mandatory item

Condition Selection

Survey Sample

Survey Period

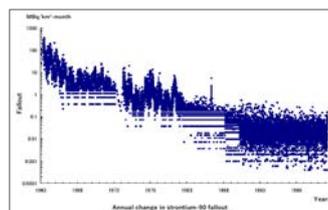
Survey Region

Survey Nuclide

Search for the selected conditions

Past Events Envisaged by Measurement Data

Past events that had a major impact on the values of environmental radioactivity concentration and radiation are explained here.



- Atmospheric Nuclear Tests (Mid-1940s to 1980)
- Chernobyl Nuclear Power Plant Accident (1986)
- JCO Criticality Accident (1999)
- Environmental Survey Pertaining to the Issue of Misuse of Depleted Uranium Ammunition

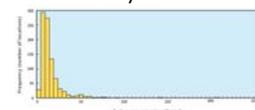
Global Radioactivity Concentration in 2000

By selecting samples such as daily food and airborne dust, you can check the radioactivity concentration in the world in the year 2000.



Radon Concentration Survey

You can check the results of radon confirmation surveys.



- Indoor Radon Concentration (from April 1993 to June 1996)
- Outdoor Radon Concentration (from FY1997 to FY1999)
- Workplace Environment Radon Concentration (from FY2000 to FY2002)



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