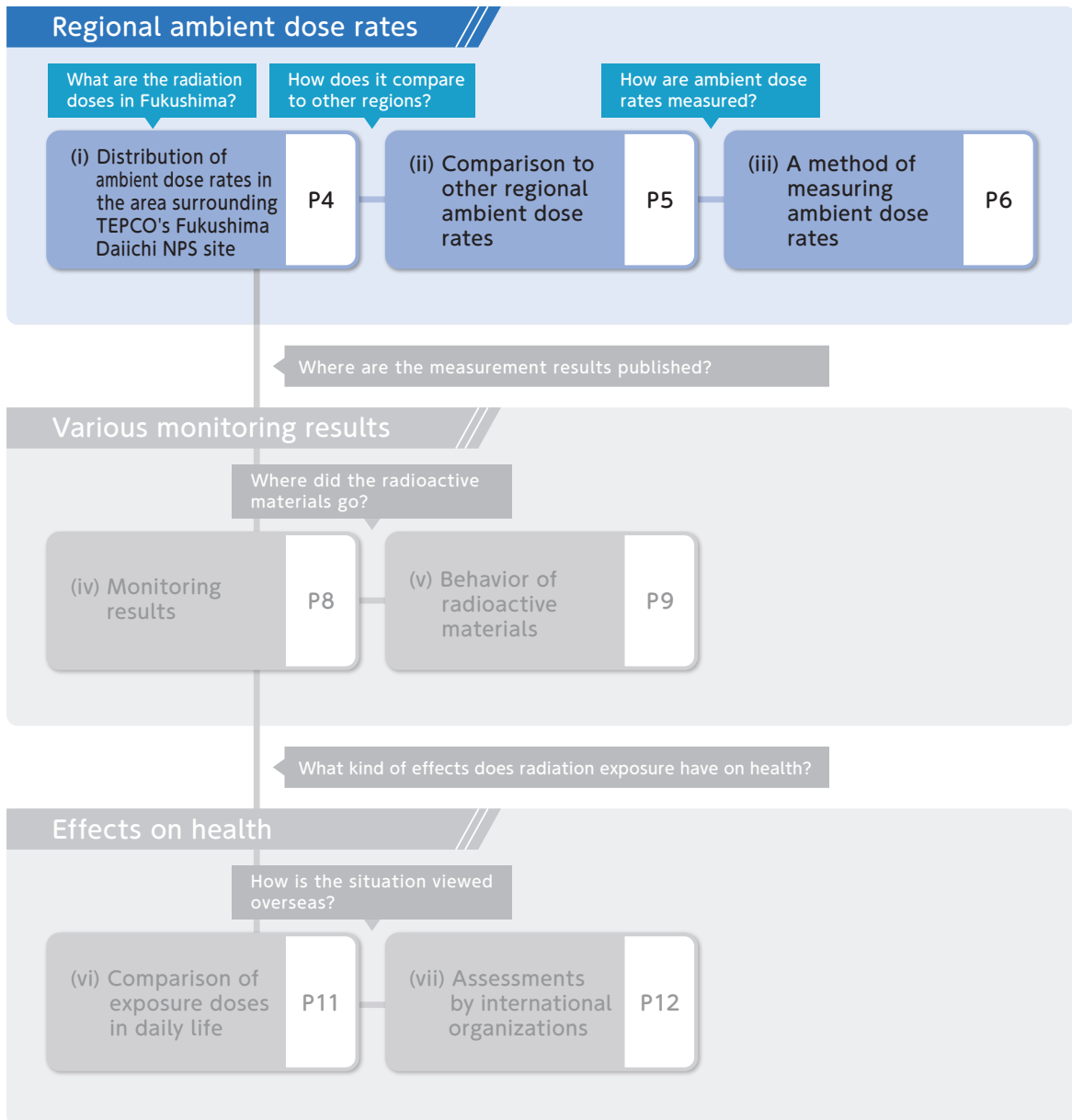




# Theme: Regional ambient dose rates

Read on and you can learn about the distribution of ambient dose rates in the area surrounding the TEPCO's Fukushima Daiichi NPS, as well as how they compare to other areas. We will also introduce the measurement methods for ambient dose rates.





# (i) Distribution of ambient dose rates in the area surrounding TEPCO's Fukushima Daiichi NPS site

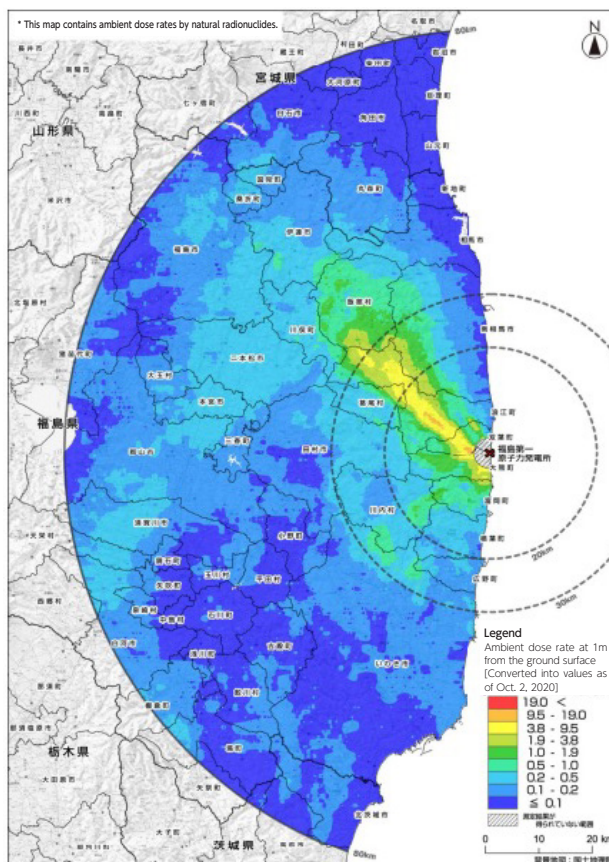
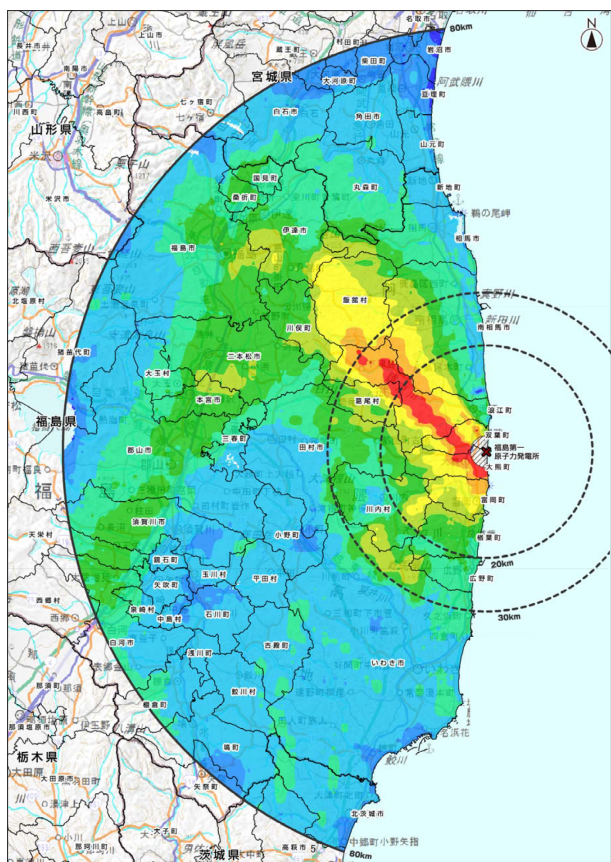
Visiting

Through the implementation of decontamination efforts and the passage of time, ambient dose rate values in the area surrounding TEPCO's Fukushima Daiichi NPS site have decreased from the levels immediately after the accident.

## ● Distribution of Ambient Dose Rates within the 80-km Zone of TEPCO's Fukushima Daiichi NPS

● Released by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) on Dec. 16, 2011

● Released by the Nuclear Regulation Authority on Feb. 15, 2021



Regional ambient dose rates

Various monitoring results

Effects on health

In order to ascertain the changes in the effect of radioactive materials, an airborne monitoring survey is being conducted continuously within an 80-km radius from TEPCO's Fukushima Daiichi NPS.

It was confirmed that ambient dose rates within the 80-km zone decreased over time both in areas showing higher dose rates (areas extending to the northwest of the NPS) and areas showing lower dose rates.

For more information about the distribution of ambient dose rates, see page 24 of Vol. 2, FY2022 edition.



## (ii) Comparison to other regional ambient dose rates

Visiting

Comparing the ambient dose rates shown here for 4 municipalities in Fukushima Prefecture and other major cities inside and outside of Japan shows that as a result of decontamination efforts and physical attenuation of radioactive materials, the levels are roughly the same.

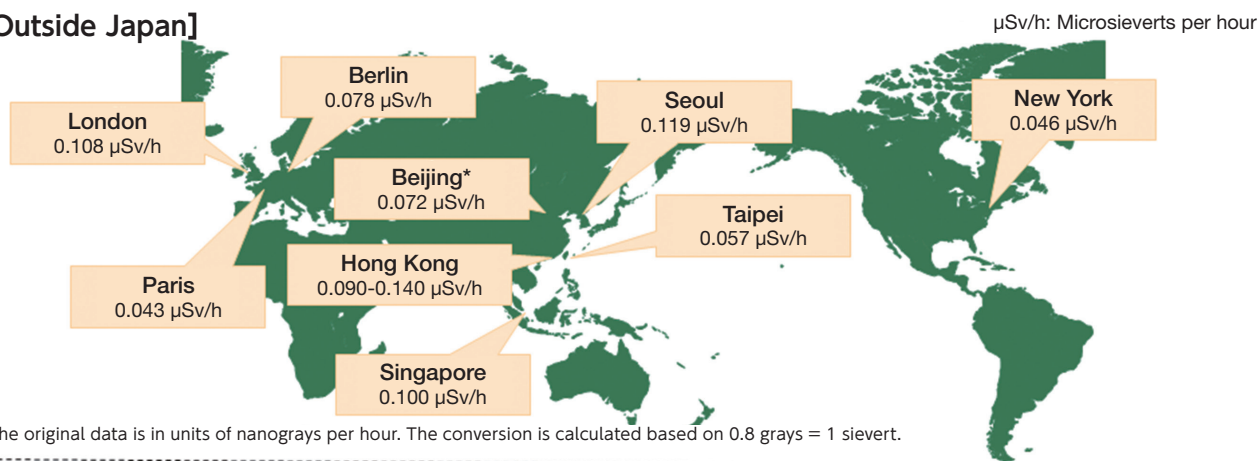
### Measurement results for ambient dose rates in major cities

Regional ambient dose rates

Various monitoring results

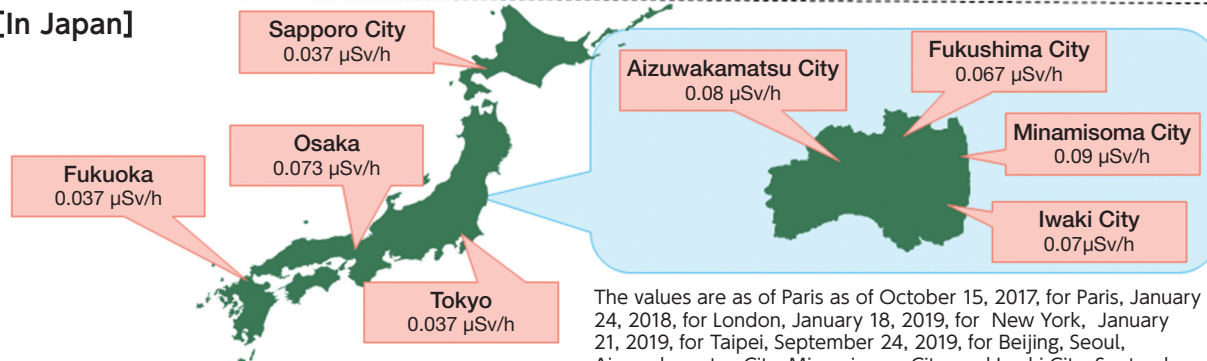
Effects on health

#### [Outside Japan]



\*The original data is in units of nanograys per hour. The conversion is calculated based on 0.8 grays = 1 sievert.

#### [In Japan]



The values are as of Paris as of October 15, 2017, for Paris, January 24, 2018, for London, January 18, 2019, for New York, January 21, 2019, for Taipei, September 24, 2019, for Beijing, Seoul, Aizuwakamatsu City, Minamisoma City, and Iwaki City, September 26, 2019, for Singapore, September 27, 2019, for Berlin and Hong Kong, and September 18, 2019, for the rest.

Source: Prepared based on data by the Japan National Tourism Organization (<https://www.japan.travel/en/news/post-2011-3-11-general-information/>, as of December 2018)

This figure shows ambient dose rate measurements for major cities in Japan and other parts of the world in 2017 or 2018. Radiation dose can be seen to vary by region. This is due to variations in the amount of ground radiation, mainly caused by differences in soil and rock composition.

For more information about ambient dose rate measurement results for major cities, see page 69 of Vol. 1, FY2022 edition.

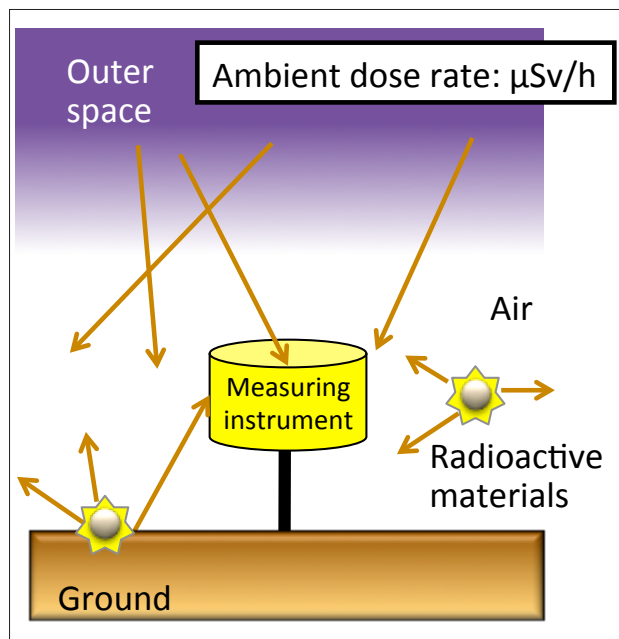




### (iii) A method of measuring ambient dose rates

At the radiation monitoring posts set up in various areas of Fukushima Prefecture, ambient dose rate measurements are taking. This section explains how these radiation monitoring posts are measuring the ambient dose rate.

#### ● Ambient dose rate measurement



Ambient dose rate measures  $\gamma$  (gamma) rays in the air Indicated in microsieverts per hour ( $\mu\text{Sv/hr}$ )



Actual measuring instrument (radiation monitoring post)

The ambient dose rate is obtained by measuring  $\gamma$ -ray doses in the air, and is indicated in microsieverts per hour. The measured value is not limited to the amount of radiation derived from accidents. Natural radiation mainly comes from the ground and cosmic rays. Normally, a measuring instrument is placed at a height of about 1 m from the ground, because most important internal organs are located at this height in the case of an adult. The height of measuring instruments may be set to 50 cm from the ground in places mainly visited by children, such as schools and pre-schools.

For more information about ambient dose rates, see page 52 of Vol. 1, FY2022 edition.