

1-3 Collection and Provision of Environmental Radioactivity Data —Publication of Data for Environmental Reconstruction—

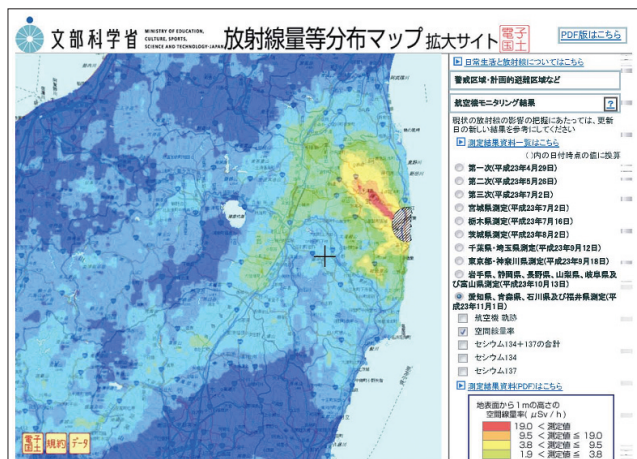


Fig.1-7 Radioactivity distribution map system

The system provides intuitive images of radionuclide concentration and air dose rate for qualitative estimation. (<http://ramap.jaea.go.jp>)



Fig.1-8 Radioactivity distribution database system

The system is designed to provide radionuclide concentration and air dose rate data for detailed analysis. (<http://radb.jaea.go.jp>)

Table 1-1 Examples of registered data

This table shows the registered environmental radioactivity data. The registration of other data is also scheduled.

Registered data	Map	Database
Concentration of Radionuclide in Soil Samples and Air Dose Rate at around 2200 Locations within Approximately 100 km from the TEPCO's Fukushima Daiichi NPS	registered	registered
Vehicle-borne Monitoring Survey within Approximately 100 km from the TEPCO's Fukushima Daiichi NPS	registered	nil
Air-borne Monitoring Survey by MEXT and DOE	registered	nil
Survey on the Movement of Radioactive Substances in River Water and Well Water	nil	registered
Present Depth Analysis of Cs Radioactivity at 77 Locations	nil	registered

IAEA has conducted extensive monitoring work to take appropriate measures against the environmental consequences of radionuclides released by the accident at the TEPCO's Fukushima Daiichi Nuclear Power Station (NPS). Radioactivity distribution maps and database systems have been developed based on the results of this monitoring work.

The radioactivity distribution map system (Fig.1-7) provides visualization of the distribution of the dose rate in air and of radionuclide concentration in soil. A zooming-up function helps to check the distribution status of environmental radionuclides intuitively. The radioactivity database system (Fig.1-8) provides not only quantitative air dose rate and radionuclide concentration data but also detailed information relating to the measurement methods, analysis methods, precision of the measured data, and so on. Examples of registered data are shown in Table 1-1.

Before providing data to the public, access loads of both systems were evaluated through stress tests. It was found that

the map system suffered from connection failure owing to heavy loads, because this system was designed to create a distribution map on demand according to user requests. To solve this problem, we redesigned the system to provide maps prepared in advance. Subsequently, the number of failures was reduced from 20% to 0.000001%. The map system was accessed by more than 300000 users over the first 10 days with no failures.

The most recent monitoring project has been in operation since June 2012. Environmental radioactivity data have continuously been collected and we intend to make these data available through maps and database systems.

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Reference

The Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT) et al., The Study on Distribution of Radioactive Substances around Fukushima Daiichi Nuclear Power Plant, The report of the FY2011 Strategic Funds for the Promotion of S&T, 2012, p.1-97 - 1 - 104 (in Japanese), http://radioactivity.mext.go.jp/ja/contents/6000/5235/26/5600_201203131000_report1-2.pdf