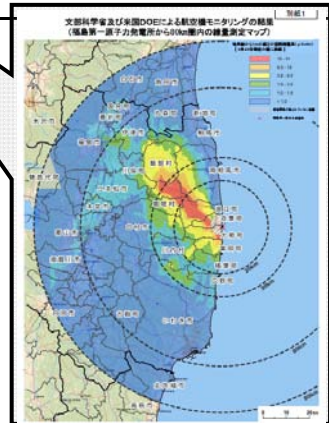


Environmental effect caused by the nuclear power accident at Fukushima Daiichi nuclear power station: As of August 4

Environmental effect	Area within 30 km radius	Area in Fukushima Pref beyond 30 km	Other prefectures in east Japan
Air Dose Rate Radiation Level of dust	<Trend and Pattern of air dose rate distribution> Trend : Air dose rate has been decreasing gradually since it reached its peak just after the accident occurred. Pattern: Relatively high level of radiation has been monitored in the area north east of the power station. NSC evaluates the Environmental Monitoring Results published by MEXT almost every day.(Japanese)→ http://www.nsc.go.jp/NSCenglish/mnt/index.htm		
	<Result of monitoring published by MEXT on 8/3 (μ Sv/hr) > •The Maximum level : 30. 0 μ Sv/hr observed at the point located northwesterly 24km from the power plant in Namie Town. <Establishing Evacuation area and other special area > •Evacuation area :Area within 20km radius (R) •Deliberate Evacuation Area:Area in which more than 20 milleSv/year of radiation is detected within 30km R beyond 20 km R from the power plant. •Emergency Evacuation Preparation Areas:Other area within 30km R <School> All preschools and schools close within 30km R	<Result of monitoring published by MEXT on 8/3 (μ Sv/hr) > •The Maximum level : 16. 6 μ Sv/hr observed at the point located northwesterly 33km from the power plant in IitateVillage . <Specific Spots Recommended for Evacuation> There are some specific spots estimated to exceed an integral dose of 20mSv over a one year outside 30km R from the power plant. Government decided to call the attention of residents living in these specific spots and assist and promote their evacuation .(June 16) The central government designated the some hundreds households in Date City, Minami Soma City and Kawauchi Village. <School> •Countermeasures for Reducing Dose Rate in Schoolyards such as top/bottom soil subscription being conducted. •MEXT has implemented and strengthened various radiation monitoring surveys at schools in Fukushima pref, especially 52 schools, in which relatively high radiation was monitored •Integral dosimeters are being distributed to every school and other applicable institutions throughout Fukushima Pref. •Financial support is now available for schools, etc. with a schoolyard air dose rate of higher than 1milleSv /hour who seek soil dose reduction measures (5/27).	 <Result of broad area monitoring released by the cabinet> •Maximum value in area beyond Fukushima Pref 0.098 μ Sv/h observed at Yamaguchi Pref on August 3 <School> •Financial support is now available for schools, etc. with a schoolyard air dose rate of higher than 1milleSv / hour who seek soil dose reduction measures (5/27).
	<Survey of the soil for contamination> MEXT started soil survey activity for the purpose of making a soil contamination map that will cover whole Fukushima Pref and area adjacent to it. (News of June 6)		
	<Radioactive substance> It is reported that Cesium, Strontium and slight amount of Peritoneum has been found in soil sample taken from some towns in Fukushima pref. <Restriction of farming> •Rice planting has been restricted within the evacuation area, the deliberate evacuation area and the emergency evacuation preparation areas.		
Radioactivity in the Soil	<fertilizers, humus> The Gov'tt called on farmers not to use or sell compost and humus made in the east of the country since the crisis. (News of July 26) The Gov't has laid down a new set of criteria for the use of fertilizers contaminated with radioactive cesium.(News of August 3)		
	<Shipment/intake restraint, voluntary restraint of shipment> •Radioactive substance in excess of provisional standard was found in some products from some areas. Instruction of shipment/intake restraint has been imposed on designated products. →See the box of "Shipment/intake restrain" below.		<Shipment/intake restraint, voluntary restraint of shipment> •Tea leaves grown in Ibaragi Prefecture and in some specified area of Chiba, Kanagawa and Tochigi Prefectures are subject to request of shipment/intake restraint.→See the box of "Shipment/intake restrain" below.
Agricultural and livestock products	<Beef Cattle> The gov't has ordered 4 prefectures, Fukushima, Miyagi Iwate and Tochigi, to suspend shipments of all beef cattle, after radiation levels above the standards were detected in some beef from the region. The gov't set up standard for inspection of beef for radiation contamination and inform municipalities across the nation. (July 29) <Rice> The Gov'tt is to ask rice-producing regions to check their crops for radiation before and after harvest. (News of August 1)		
	<Pasture grass and rice straw to be fed> •Radioactive substance in excess of provisional standard was found in pasture grass growing in some area. Shipment of milk cow and beef cattle has been voluntarily restrained. •MAFF ask all 47 prefectures to check rice straw used to feed cattle for possible radioactive contamination. (July 19)		
River (Drinking water)	<Tap water> The health ministry panel studying radiation levels in tap water concluded that it contains no safety risks for the time being. They agreed that authorities should maintain their regular safety inspections for several more months. (News of June 13)		
	<River fish> •Cs in excess of 500Bq/kg was found in river fish caught in Fukushima Pref. Instruction of shipment/intake restraint is being imposed on designated products.		

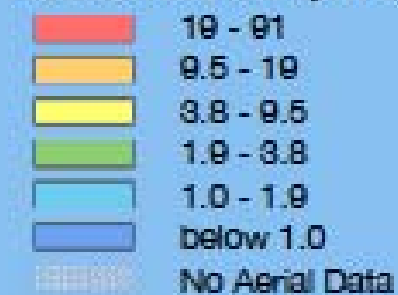
Other	<Sludge at sewerage processing plant, Debris created after Earthquake and Tunami, Ashfrom waste incineration plant> •Radioactive substance was found in sludge from sewerage processing plant and debris in many areas. NSC established guideline for dealing with contaminated waste (News of June 3) •The government announced the guidelines that suggest how to deal with radioactive sludge that has been found in wastewater treatment plants following the nuclear accident.(June 16) •Radioactive cesium up to 70,800 becquerels per kilogram have been detected in incinerated ashes at waste disposal facilities in Kashiwa, Chiba Prefecture. The way of processing the ash is to decided, since it exceed limit for landfill, which is 8000 becquerels per kilogram. High density of radioactive materials was found in ash also at othe incinerationin plant in other area including Tokyo. (News of July 12)	
	<Ditch> •High radiation levels have been detected above roadside drainage ditches in Fukushima Pref. NSC has noted the need to remove highly radioactive mud and leaves from ditches along busy streets. (News on June 5)	
Sea	<Sea water> •Radioactive substance continuously being detected near the water intake of the power station. •No radioactive substance was detected in all seawater samples taken from some locations beyond 30 km off–island at the latest survey issued on August 2. <Soil on seabed> •Radioactive Cesium was found in the soil samples taken from the seabed more than 30km off the coast of Miyagi, Fukushima and Ibaragi prefectures. (News of June 12) •Radioactive Strontium up to 44 becquerels per kilogram has been detected for the first time on the seabed near the power plant. •Radioactive strontium was not found in fish and seafood samples taken off the coast of Ibaraki and Chiba prefectures at the separate survey conducted by the fishery ministry. (News of June 28) •According to the follow up investigation conducted by MEXT, radioactive Strontium was not found on a sea bed around 20 to 30km off the coast. (News of July 6) <Marine plankton> •Radioactive cesium was found in animal plankton collected 35 kilometers off Iwaki City. The level was measured at 6 becquerels per kilogram. (News of July 9)	
	<Marine Product> •The fisheries agency gave notice to related organizations that the agency gave permission to fish bonitos at the traditional fishing ground in the sea off Fukushima prefecture except the sea within 30km from the power plant.(June 22) •Radioactive substance in excess of provisional standard was found in sand lane fish caught off the coast of Fukushima Pref.	
Shipment/intake restrain	•Products subject to request of shipment/intake restrainand voluntary restraint of shipment http://www.maff.go.jp/e/quake/press_110312-1.html → http://www.maff.go.jp/e/quake/press_110722-1.html	
Monitoring plan and activities	Various kinds of radiation monitoring and survey have been conducted on a regional scale under the cooperation of national government, local government and civil agency in line with plan made by national government. →Monitoring plan in the area→ http://www.mext.go.jp/english/incident/1304079.htm •Radiation map is to be created based on the result of land area monitoring, airborne monitoring and sea area monitoring. →”Strengthening of Monitoring in Response to the ”Enforced Plan on Environmental Monitoring” http://www.mext.go.jp/component/english/_icsFiles/afieldfile/2011/06/03/1304084_0511.pdf •Monitoring and survey of food and tap water have been conducted by local government →Guideline on provisional standard for radioactive substance contained in food published by Ministry of Health, Labor and Welfare on April.4.(Japanese) http://www.wic-net.com/downloads/pdf/1513_12_1.pdf •Intensive radiation monitoring such as soil sampling, dust sampling and survey with integrating dosimeter has been conducted at schools in Fukushima Pref. •Result of various kind of environmental radiation monitoring and survey has been shown at MEXT’ s HP.→ http://www.mext.go.jp/english/incident/1303962.htm •Result of survey on tap water and foods has been shown at the HP of ministry of health, labor and welfare→ http://www.mhlw.go.jp/english/topics/2011eq/index.html •Result of radiation inspection of marine products has been shown at the HP of the fishery agency.(Japanese)→ http://www.jfa.maff.go.jp/j/kakou/Q_A/pdf/110804_kekka_jp.pdf	
Standard and guideline	•Establishment of provisional standard for radioactive substance contained foods based on food sanitation act.(Japanese)→ http://www.nsc.go.jp/info/20100823.pdf •Guideline for food inspection and specifying products and area of production for shipment/intake and its cancellation(Japanese)→ http://www.mhlw.go.jp/stf/houdou/2r9852000001h0ni-att/2r9852000001h0tr.pdf •Provisional guideline on utilization of school buildings and school yard in Fukushima Pref established by MEXT on April 19.(Japanese)→ http://www.mext.go.jp/a_menu/saigaijohou/syousai/1305173.htm •Roadmap for Immediate Actions for the Assistance of Nuclear Sufferers (5/17 :Nuclear Emergency Response Headquarters)→ http://www.meti.go.jp/english/earthquake/nuclear/roadmap/ •Guideline on how to deal with byproducts created through water treatment process or sewage treatment process in which radioactive substance is detected (Japanese) → http://www.meti.go.jp/press/2011/06/20110616006/20110616006.html •Regarding Response to the Specific Spots Estimated to Exceed an Integral Dose of 20mSv Over a One Year Period After the Occurrence of the Accident (“Specific Spots Recommended for Evacuation”) → http://www.nisa.meti.go.jp/english/press/2011/06/en20110621-2.pdf •Draft evaluation report prepared by Food Safety Commission(Japanese)→ http://www.fsc.go.jp/sonota/emerg/radio_hyoka.html	
Radioactive substance to the environment	NISA estimated total amount radioactive substance released to the environment through the air: I-131: 1.6E17 Cs-137: 1.5E16 (Report of Japanese Government to the IAEA Ministerial Conference on Nuclear Safety)	

Abbreviation NSC: Nuclear Safety Commission MEXT: Ministry of Education, Culture, Sports, Science and Technology MAFF: Ministry of Agriculture, Forestry and Fisheries NISA: Nuclear and Industrial Safety Agency
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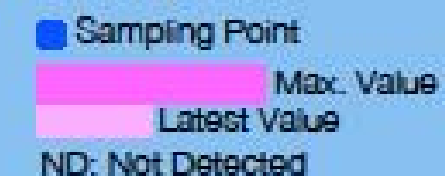
Radiation in the Environment around Fukushima Daiichi NPS

Source: MEXT, U.S.DOE, and others

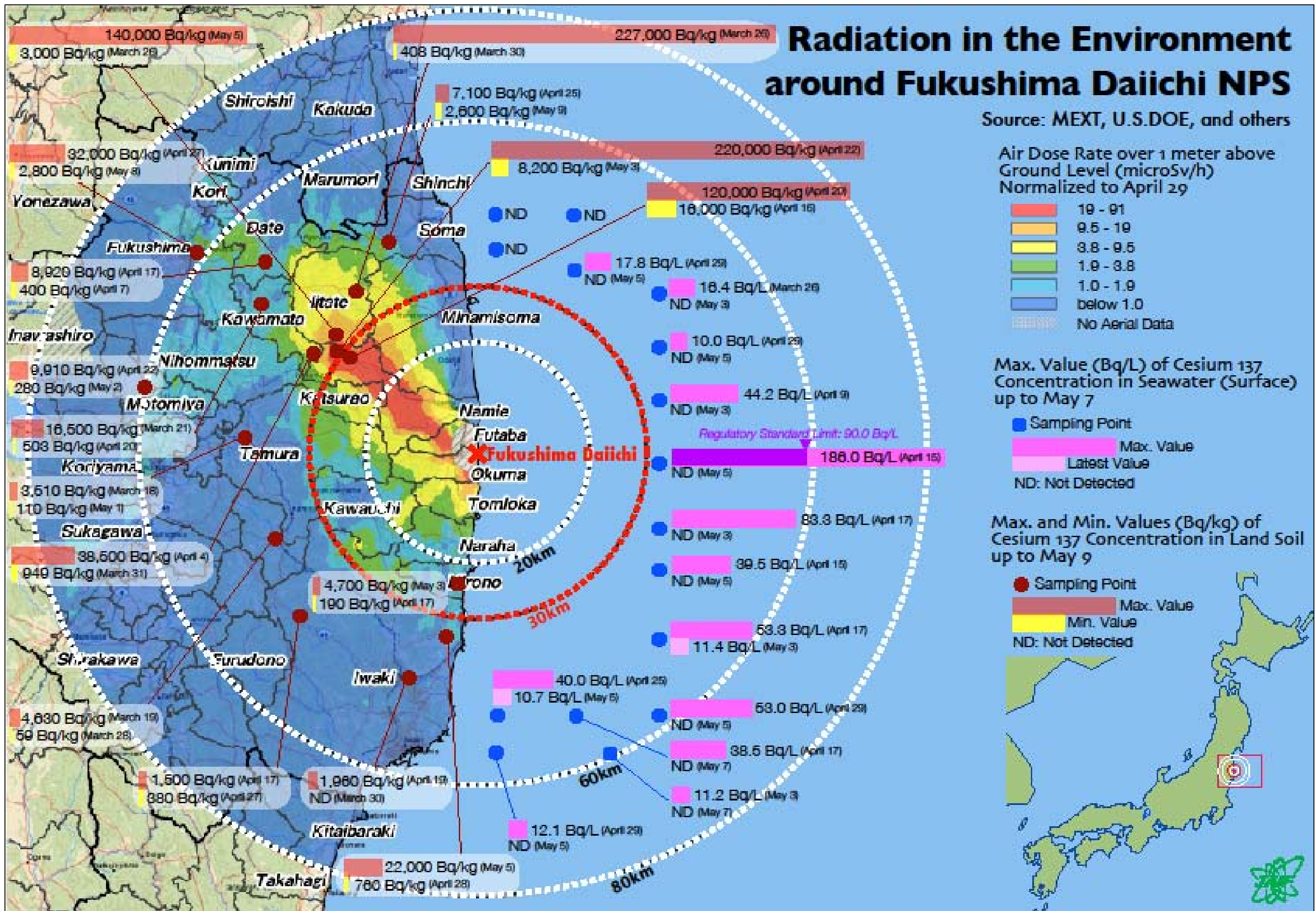
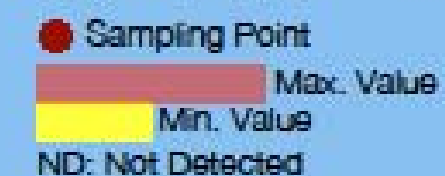
Air Dose Rate over 1 meter above Ground Level (microSv/h)
Normalized to April 29



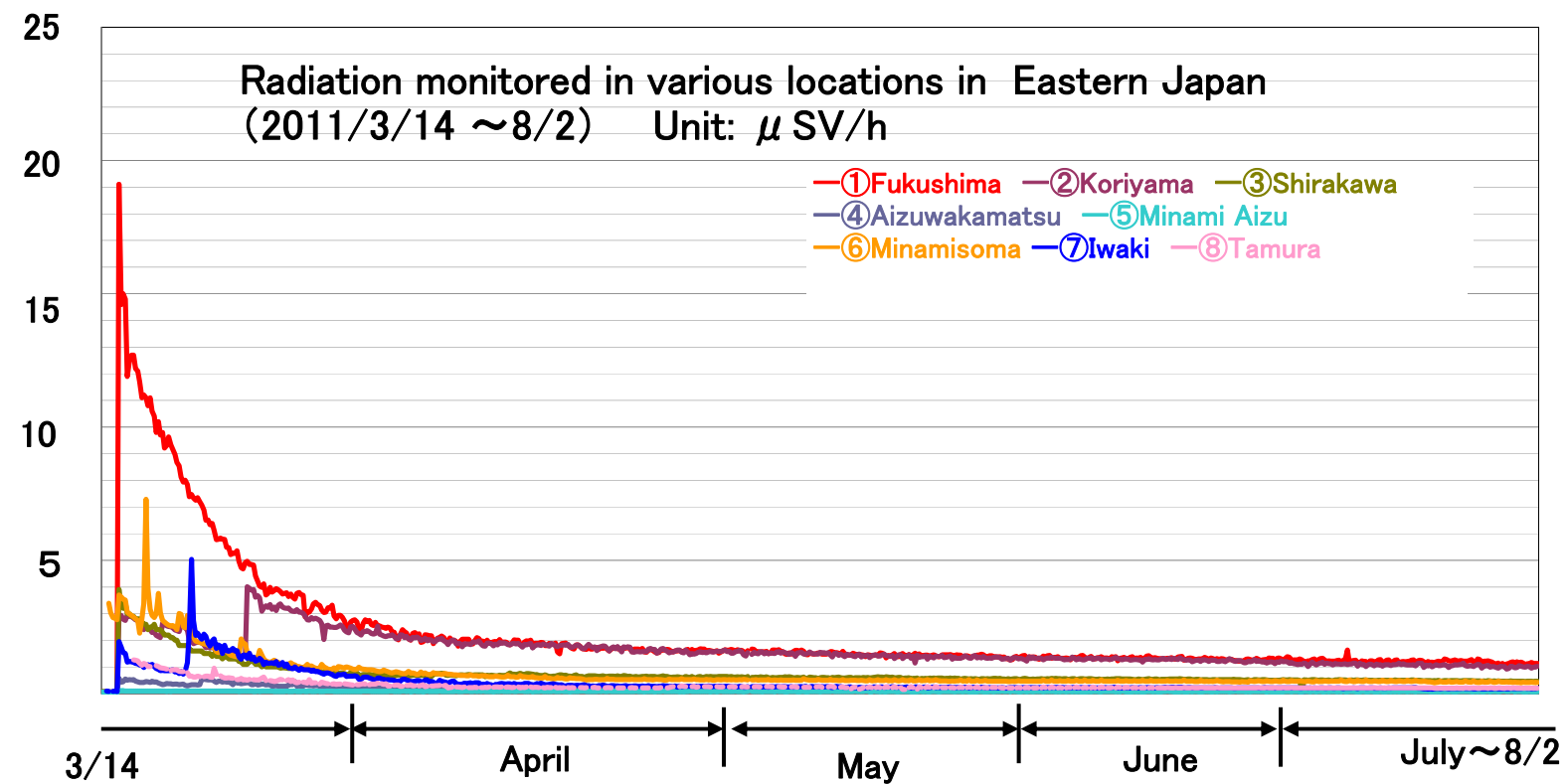
Max. Value (Bq/L) of Cesium 137
Concentration in Seawater (Surface)
up to May 7



Max. and Min. Values (Bq/kg) of Cesium 137
Concentration in Land Soil
up to May 9



Trend of radiation in the environment at various locations



Locations for monitoring

