**Japon radioactif**

8 % du territoire du Japon est contaminé par du Césium radioactif, suite à la catastrophe de Fukushima. Soit 30.000 km². L’équivalent de la superficie de la région Bretagne ou de PACA. Selon le ministère japonais des Sciences, 13 préfectures ont ainsi accumulés plus de 10.000 becquerels de césium 134 et 137 par m². Le ministère a publié une carte montrant l’ampleur de cette contamination.

Le Césium radioactif s’est diffusé à plus de 250 kilomètres vers l’Ouest du pays. Des substances radioactives en provenance de Fukushima ont été confirmées jusqu’à la préfecture de Okinawa, à 1700 km de la centrale, selon le ministère [[La présence de Césium 134, à la durée de mi-vie de 2 ans, est la preuve que la source de cette radioactivité est bien l’explosion de la centrale de Fukushima]]. Les résultats de l’étude publiée par le ministère le 25 novembre, qui a mesuré le niveau de radioactivité cumulé à travers les poussières tombés entre mars et juin, montre que la contamination a traversé tout le pays.

{{A Tokyo, rien à signaler ?}}

Le record de radioactivité est atteint à Hitachinaka, dans la préfecture de Ibaraki, avec 40.801 becquerels/m² (« densité cumulée de Césium 134 et 137 »). Un pic qui équivaut à 970.000 fois le niveau de 2009 [[0,042 becquerels/m²]] selon le site du journal [Asahi-> http://ajw.asahi.com/article/0311disaster/fukushima/AJ2011092812395]. A Yamagata, on compte 22.570 becquerels/m², et plus de 17.000 à dans le quartier Shinjuku de Tokyo. Dans les régions montagneuses des villes de Midori et Kiryu, à 180 km de Fukushima, la [radioactivité cumulée-> http://ajw.asahi.com/article/0311disaster/fukushima/AJ2011092812395] se situerait entre 100.000 et 300.000 becquerels/m². Par comparaison, après l’accident de Tchernobyl, les zones considérées comme “contaminées” étaient celles où les niveaux de radioactivité dépassaient 37.000 becquerels. Cette contamination au Césium 137 aura de larges conséquences car sa durée de mi-vie est de 30 ans (the period it takes for materials to be reduced by 50 percent).

Les résultats ne sont pas disponibles pour les régions de Miyagi et Fukushima où les équipements de mesures ont été rendu inopérants par la catastrophe, souligne le quotidien. De grandes quantités de poussières radioactives sont tombées sur Tokyo, mais une autre étude montre une faible accumulation de Césium dans le sol. L’explication ? {« Tokyo a de plus petites surface de sols que les autres préfectures, mais les routes et les surfaces en béton ont moins tendance à fixer le dépôt de césium, qui a probablement été lessivé par le vent et la pluie »}, affirme un membre du ministère à The Asahi Shimbun.

Autre sujet d’inquiétude : l’eau des rivières près de la région de Fukushima contient des [taux- http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111250019] de Césium de plusieurs dizaines de milliards de becquerels/jour, des rivières qui se déversent dans la mer. Une étude des Universités de Tokyo et Tsukuba évalue le niveau de contamination à l’embouchure de l’Abukumagawa à environ 50 milliards de becquerels par jour. L’équivalent, en un jour, du niveau de Césium déversé dans la mer, en un mois, en avril, avec les eaux « faiblement contaminées » relâchées par Tepco. En amont de la rivière, le niveau record est atteint près de la vile Date, avec 92,5 milliards de becquerels par jour de Césium 137 et 83,8 millirads de becquerels par jour de Césium 134.

Les autorités japonaises ont étendu le 29 novembre l’interdiction de la vente de riz contaminé au Césium 137, notamment dans la région de Date. Les dernières mesures effectuées [montraient-> http://www.lemonde.fr/planete/article/2011/11/29/le-japon-etend-l-interdiction-de-la-vente-de-riz-contamine-au-cesium\_1610577\_3244.html] une teneur en césium radioactif supérieure à la limite légale provisoire, fixé par le gouvernement à 500 becquerels par kilogramme.

\*\* Nombre de tera becquerel rejeté + comparaison Tchernobyl

\*\* Maladies

\*\* Nourriture

\*\* Indemnisation + tepco qui se dédouane du remboursement

## La majorité des 160.000 Japonais évacués des environs de la centrale nucléaire après le tsunami attend toujours les indemnités promises par la compagnie Tepco, de plus en plus critiquée.

# TEPCO: Radioactive substances belong to landowners, not us

 <http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111240030>

\*\*Experts have estimated Japan's decontamination efforts could cost as much as 10 trillion yen ($130 billion).(Reuters)

\*\* A rajouter : couts sanitaires + environnementaux

NOUrriture

Radioactive material has been detected in a range of produce, including spinach, tea leaves, milk, fish and beef, up to 200 miles from the nuclear plant.

Nine kilograms of rice exceeding safety standards for radiation were sold to consumers, the Fukushima prefectural government said, as shipments of rice from two more districts in the prefecture were suspended.

It was the first confirmation that rice containing radioactive cesium above the safety standards has been sold to the public.

"We apologize for the inconvenience we caused to people who bought rice that exceeded government standards," Yoshihito Suzuki, who heads the prefectural government's agriculture, forestry and fishery department, told a news conference.

<http://idsc.nih.go.jp/idwr/kanja/weeklygraph/index-e.html>

<http://fukushima.over-blog.fr/>

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111290034>

Il y a dix jours, les autorités japonaises ont ordonné le retrait de la vente de riz récolté dans la région de Fukushima : des tests avaient révélé une radioactivité hors normes (630 bq par kg au lieu des 500 admis) dans un échantillon cultivé à 50 km du lieu de l'accident.

Depuis, de nouveaux échantillons ont révélé une radioactivité encore supérieure (jusqu'à 1050 bq par kilo) et de nouvelles interdictions ont été prononcées. Ce qui n'a pas empêché du riz contaminé de se retrouver bel et bien dans les paniers à provisions, comme l'écrit l' **>**[Asahi Shimbun](http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111290034).

FUKUSHIMA--Nine kilograms of rice exceeding safety standards for radiation were sold to consumers, the Fukushima prefectural government said, as shipments of rice from two more districts in the prefecture were suspended.

It was the first confirmation that rice containing radioactive cesium above the safety standards has been sold to the public.

The prefectural government on Nov. 28 asked the former Oguni village district and the former Tsukidate town district of Date, Fukushima Prefecture, to refrain from shipping rice after cesium exceeding government standards was detected.

The government on Nov. 29 told the prefectural governor to suspend shipments of rice harvested in the two districts this year, Chief Cabinet Secretary Osamu Fujimura said.

Samples from three farms in the two districts contained up to 1,050 becquerels of cesium per kilogram, above the government standard of 500 becquerels.

Nine kilograms of glutinous rice from the former Oguni village district were sold at a produce stand, according to prefectural government officials.

"We apologize for the inconvenience we caused to people who bought rice that exceeded government standards," Yoshihito Suzuki, who heads the prefectural government's agriculture, forestry and fishery department, told a news conference.

The government ordered a suspension of rice shipments from the Onami district of Fukushima city on Nov. 17 after 630 becquerels of cesium was found per kilogram.

The two districts of Date are located just east of the Onami district, which formerly belonged to Oguni village.

The prefectural government has begun inspecting samples from all farms in areas where high radiation levels were detected. The survey covers nine districts of Date and one district each in the cities of Fukushima, Soma and Iwaki.

In the former Oguni village district, 119 samples from 101 farms were inspected, and two samples contained 580 becquerels and 780 becquerels per kilogram each.

In the former Tsukidate town district, eight samples from six farms were inspected, and one sample contained 1,050 becquerels.

The prefectural government will add seven districts of Nihonmatsu and two districts of Motomiya to the survey.

"We will conduct surveys of rice in municipalities with high radiation levels and judge its safety based on the results," Suzuki said.

There is still considerable uncertainty regarding how much radiation the plant released. A study[3](http://www.nature.com/news/fukushima-maps-identify-radiation-hot-spots-1.9355#b3) led by one of Yasunari’s colleagues, Andreas Stohl of the Norwegian Institute for Air Research in Kjeller, estimated total caesium-137 emissions at 36 × 1015 Bq. This is much higher than the lower bound contained within the Yasunari report of 5.6 × 1015 Bq, and is also larger than the government’s most recent estimate, published in June, of 15 × 1015 Bq. <http://www.nature.com/news/fukushima-maps-identify-radiation-hot-spots-1.9355>

### Tchernobyl L'IRSN - [Institut de Radioprotection et de Sûreté Nucléaire](http://www.irsn.fr/)

 estime que 80 000 terabecquerels de césium-137 ont été rejetés dans l'environnement, soit 30 à 40 % de la quantité présente dans le cœur du réacteur accidenté. 80 000 terabecquerels de césium-137 relâchés dans l'environnement au moment de l'accident de 1986 représentent un tiers de la quantité qui était présente dans le réacteur. Sur ce tiers a peu prés la moitié a été déposée dans l'ex-URSS et surtout a proximité de Tchernobyl.

Près de Tchernobyl, l'interception des aérosols et poussières radioactives par le feuillage, puis la chute des feuilles, ont amené une contamination localisée de la litière des forêts sur une surface d'environ 40 000 km2.

<http://www.laradioactivite.com/fr/site/pages/lecesiumdetchernobyl.htm>

<http://fukushimaupdate.com/new-scientific-study-on-cesium-137-contamination/>

In a leaked TEPCO-report dated June 2011, was revealed, that Plutonium-238, -239, -240, and -241 were released “to the air” from the site during the first 100 hours after the earthquake, the total amount of plutonium was said to be 120 billion Becquerels. The same paper mentioned a release of 7.6 trillion Becquerels of Neptunium-239. As neptunium-239 decays, it becomes plutonium-239. TEPCO

A 12 April report prepared by NISA estimated the total air release of iodine-131 and caesium-137 at between 370 [PBq](http://en.wikipedia.org/wiki/Becquerel) and 630 PBq, combining iodine and caesium with IAEA methodology.[[64]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-nisa.meti.go.jp-63) On 23 April the NSC updated its release estimates, but it did not reestimate the total release, instead giving indicating that 154 TBq of air release were occurring daily as on 5 April.[[69]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-translate.google.com-68)[[70]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-yomiuri.co.jp-69)

On 24 August 2011, the Nuclear Safety Commission (NSC) of Japan published the results of the recalculation of the total amount of radioactive materials released into the air during the incident at the Fukushima Daiichi Nuclear Power Station. The total amounts released between 11 March and 5 April were revised downwards to 1.3 x 10^17 Bq for iodine-131 (I-131) and 1.1 x 10^16 Bq for caesium-137 (Cs-137). Earlier estimations were 1.5 x 10^17 Bq and 1.2 x 10^16 Bq.[[71]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-70)

On 24 March, the [Austrian Meteorological Service](http://en.wikipedia.org/wiki/Central_Institute_for_Meteorology_and_Geodynamics) report estimated the total amount of caesium-137 radiation released into the air as of 19 March based on extrapolating data from several days of ideal observation at a handful of worldwide [CTBTO](http://en.wikipedia.org/wiki/Comprehensive_Nuclear-Test-Ban_Treaty_Organization) radionuclide measuring facilities. The agency estimated an average being 5,000 TBq daily.[[11]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-newscientist1-10)[[73]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-autogenerated17-72) Over the course of the disaster, Chernobyl put out a total of 85,000 TBq of caesium-137.[[11]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-newscientist1-10) However, later reporting on 12 April estimated total caesium releases at 6,100 TBq to 12,000 TBq, respectively by NISA and NSC.[[64]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-nisa.meti.go.jp-63) On 23 April, NSC updated this number to 0.14 TBq per hour of caesium-137 on 5 April, but did not recalculate the entire release estimate.[[69]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-translate.google.com-68)[[70]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-yomiuri.co.jp-69)

### Water releases

On 21 April, TEPCO estimated that 520 tons radioactive water leaked into the sea before leaks in a pit in unit 2 were plugged, releasing 4,700 TBq of total water release (calculated by simple sum, which is inconsistent with the IAEA methodology for mixed nuclide releases[[63]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-tepco.co.jp-62)) (20,000 times facility's annual limit).[[63]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-tepco.co.jp-62)[[81]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-NHK520t-80) TEPCO's detailed estimates were 2,800 TBq of I-131, 940 TBq of Cs-134, 940 TBq of Cs-137.[[63]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-tepco.co.jp-62)

Another 300,000 tons of relatively less radioactive water had already been reported to have leaked or purposefully pumped into the sea to free room for storage of highly radioactively contaminated water.[[82]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-ReferenceB-81) TEPCO had attempted to contain contaminated water in the harbor near the plant by installing "curtains" to prevent outflow, but now believes this effort was unsuccessful.[[82]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-ReferenceB-81)

According to a report (published 29 October 2011) of the Institute for Radiological Protection and Nuclear Safety in France the pollution of the Pacific Ocean was probably 30 times bigger than TEPCO admitted in May 2011. The French institute calculated, that between 21 March 21 and 15 July around 27.1 quadrillion becquerels (= 27.100.000.000.000.000) entered the ocean, on 8 April 2011 already 82 percent of this unprecedented quantity had flown into the sea. The location of the plant on the coast with very strong currants contributed to the very fast pollution of a large part of the Pacific ocean, the contamination on marine life in remote waters would likely wane from autumn, but the radioactive pollution in the waters on the coastal area of the prefecture Fukushima, northeast of Tokyo will remain significant for a long time, regarding the 30 years [half-time](http://en.wikipedia.org/wiki/Half-time) of this Ce-137 [isotope](http://en.wikipedia.org/wiki/Isotope). [[83]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-82) [[84]](http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_note-83)

<http://en.wikipedia.org/wiki/Radiation_effects_from_Fukushima_Daiichi_nuclear_disaster#cite_ref-edition.cnn.com_56-0>

<http://www.pnas.org/content/early/2011/11/11/1112058108>

n a meeting with local officials on Saturday, the government estimated it could take more than 20 years before residents could safely return to areas with current radiation readings of 200 millisieverts per year, and a decade for areas at 100 millisieverts per year.

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ2011092812395>

The Asahi Shimbun AJW (Asahi Japan Watch) is the new English-language website of The Asahi Shimbun, Japan's leading daily newspaper.

La radiation de l’air dans cette région (Ibaraki) est de 0.14 microsievert par heure environ, ce qui équivaut pour les gens qui y vivent à une dose annuel de 1 millisievert, la dose limite d’exposition « normale » selon les standards internationaux. In Fukushima and seven other prefectures, 11,600 square kilometers, or 3 percent of Japan's land area, have annual additional radiation levels of at least 1 millisievert, according to Environment Ministry estimates.

In mountainous areas of Gunma Prefecture, where accumulated cesium amounts were quite large, the radiation levels were 0.5 to 1.0 microsieverts per hour. In other areas of the prefecture, the radiation levels were less than 0.5 microsieverts.

The criterion that requires removal of radioactive materials from schoolyards is more than 1.0 microsieverts.

It passed through northern Chiba Prefecture but largely skirted central Tokyo due to a pressure pattern, limiting contamination in Tokyo and Kanagawa Prefecture.

It was detected even before the Fukushima accident, apparently as a result of nuclear testing conducted by other nations. Still, the maximum amount found in nationwide surveys since fiscal 1999 was 4,700 becquerels in Nagano Prefecture.

More cesium could contaminate the river during decontamination operations and tilling of rice paddies in preparation for transplanting young rice plants, they added.

Le Premier ministre japonais, Yoshihiko Noda, a déclaré vendredi en Indonésie que son pays s'était largement relevé du séisme du 11 mars et que la situation de la centrale nucléaire de Fukushima n'était plus "un obstacle" pour l'économie nippone.

During the peak of Chernobyl, the Black Sea was registering **1,000 becquerels per cubic meter** of water – at Fukushima’s peak, it was **100,000 becquerels**.

http://aipri.blogspot.com/

http://fukushima-diary.com/2011/11/good-bye-sea-food/#.TtYltNM43nc.facebook

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111210014>

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111250019>

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111260001>

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201111290034>

<http://ajw.asahi.com/article/0311disaster/fukushima/AJ2011092812395>

http://www.lemonde.fr/planete/article/2011/11/30/fukushima-l-hospitalisation-du-directeur-de-la-centrale-reste-inexpliquee\_1611038\_3244.html