

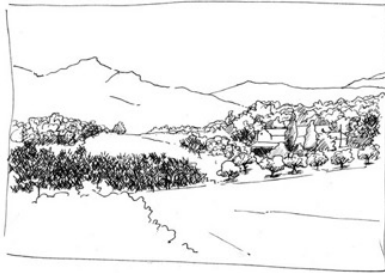
ORGANISATION OF THE ENVIRONMENTAL MONITORING: LESSONS LEARNT FROM FUKUSHIMA

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TERRITORIES Workshop
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GENERAL INTRODUCTION

CEPN



In post-accident situations, the implementation of the **environmental monitoring is essential:**

- ▶ To **characterize** the radiological situation of the environment
- ▶ To help people to **become actors** of their own radiological protection

Feedbacks from Chernobyl: both institutional and non institutional actors come into play



And in Japan? What are the lessons learnt from Fukushima?

OVERALL OBJECTIVE OF THE STUDY

Identify the environmental monitoring strategy implemented in Japan following the Fukushima accident

Highlighting local initiatives developed within the affected territories



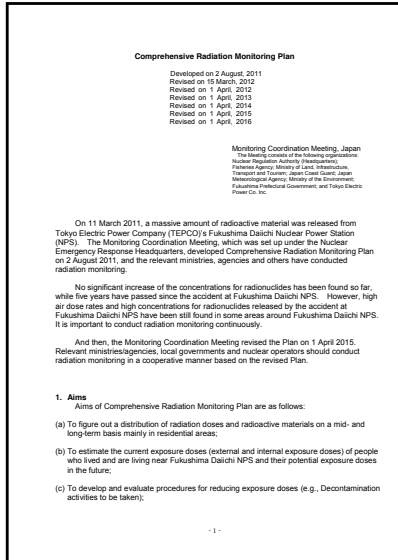
Document reviews, analysis of public environmental data bases, etc



Interviews of both institutional and local actors involved in the environmental monitoring

The official environmental monitoring set up in Japan

Comprehensive Radiation Monitoring Plan (CRMP) : a national environmental monitoring programme

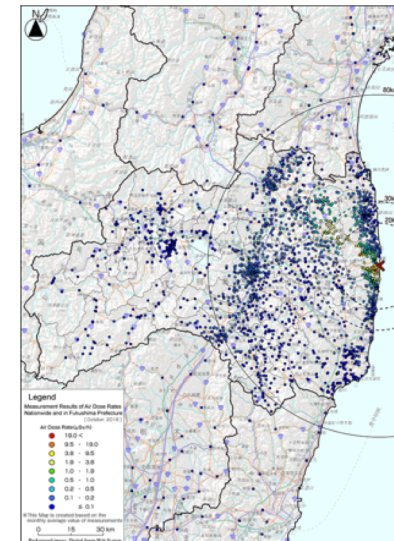


■ Some Generalities

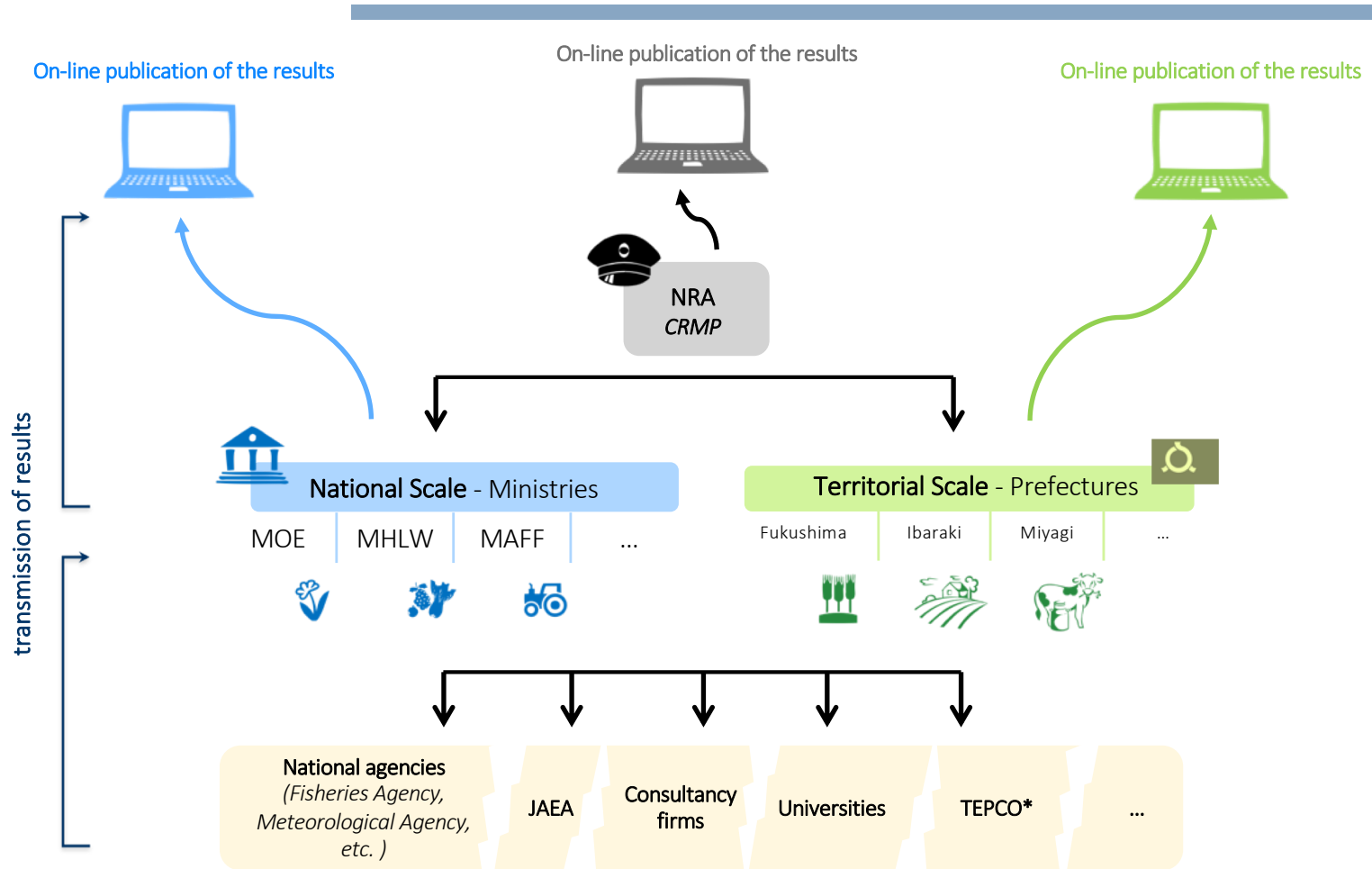
- Created by the Japanese Government in August 2011
- Steered by the NRA since September 2012
- Based on the existing monitoring programme

■ Objectives

- Characterise the radiological situation of the environment throughout Japan
- Gradual intensification of monitoring (*mesh, frequency, etc.*) at 250 km to 20 km from the Fukushima power plant



Comprehensive Radiation Monitoring Plan (CRMP) : various actors involved...

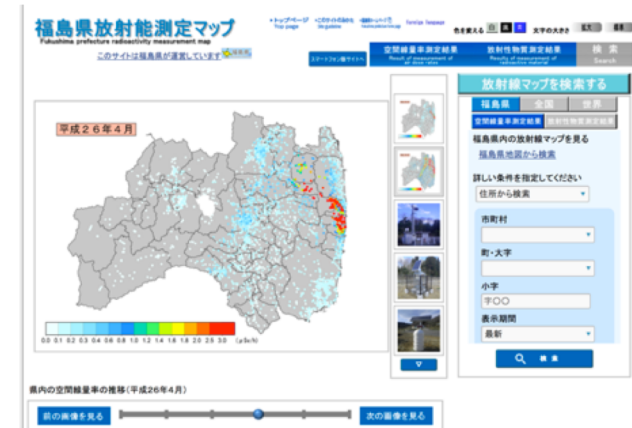


Comprehensive Radiation Monitoring Plan (CRMP) : dissemination of various results...

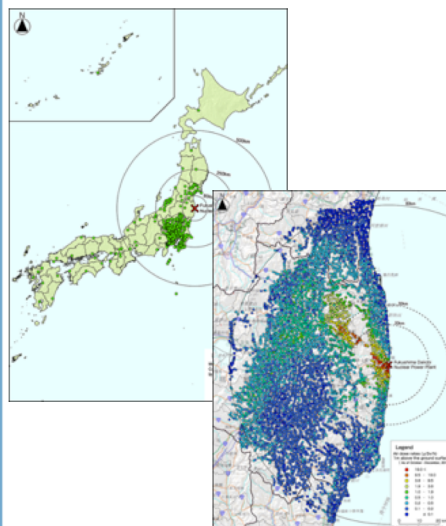
Tables of raw data

The image shows a screenshot of a large data table with multiple columns and rows. The columns include various identifiers, dates, and numerical values, representing raw radiation monitoring data. The table is organized into several sections, with headers in Japanese and English.

Interactive maps



Integrated maps



Monitoring information of environmental radioactivity level

Japanese

NRA, Japan Nuclear Regulation Authority

Home | Monitoring plans | Monitoring results | Report | Database / Distribution map | Others

Home > Monitoring results

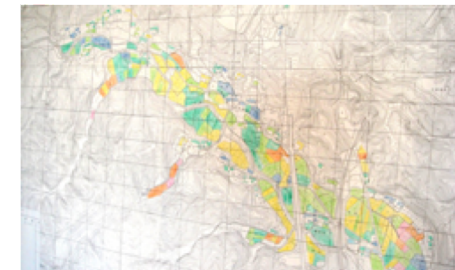
Monitoring results



Local initiatives to measure the environmental quality

A multiplication of local initiatives

- Mistrust towards authorities, official institutions
- Various local initiatives implemented since 2011...
 - By municipalities and local communities:
 - Coordination of additional studies to check the results of the official environmental monitoring
 - Provision of monitoring devices to local populations, with support of RP experts
 - By NGOS, citizen networks:
 - Campaigns to characterize the radiological situation of their own territory
 - Proposing paid measurements of environmental samples, WBC, etc.



Contamination map – Suetsugi village



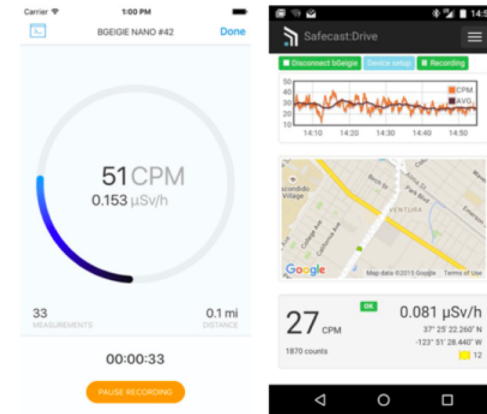
Website NGO « Sokutei Minamisoma »



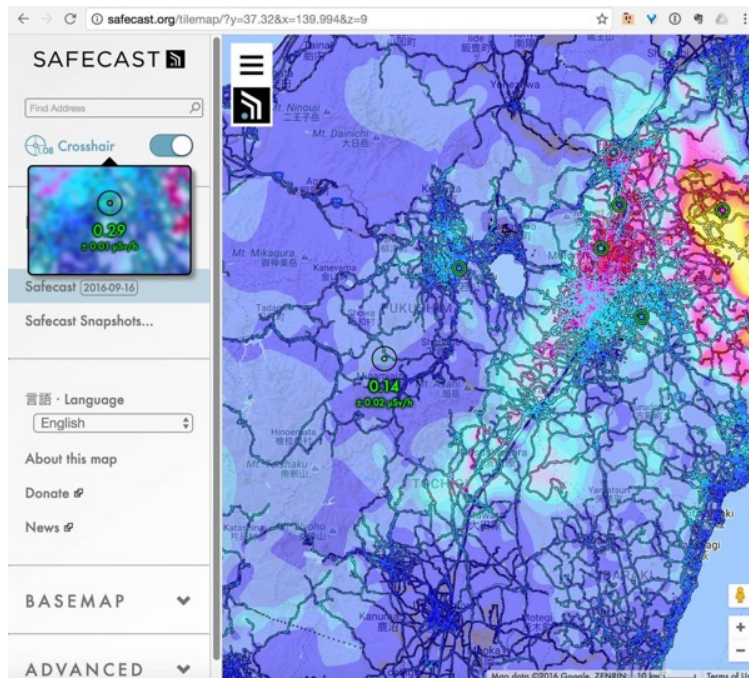
Journal of NGO « Asamigawa Yume Kaigi »

Some examples of local initiatives (1/3)

- To measure the radiological situation of their environment –
 Exemple of the citizen network SAFecast



Safecast Drive apps-- Left: iOS, Right: Android

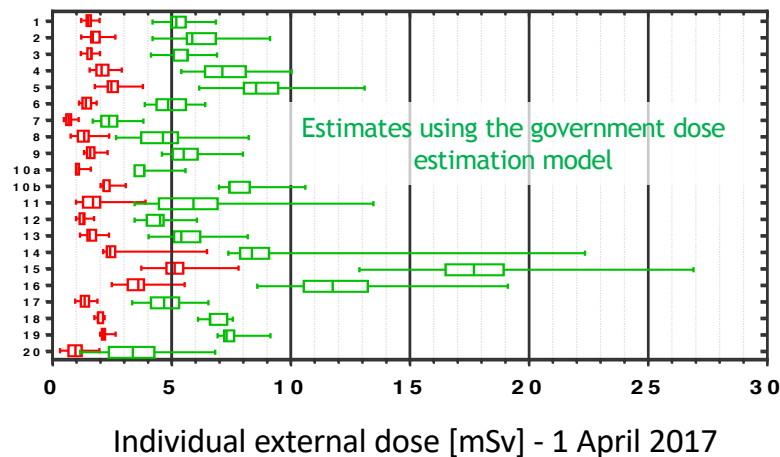
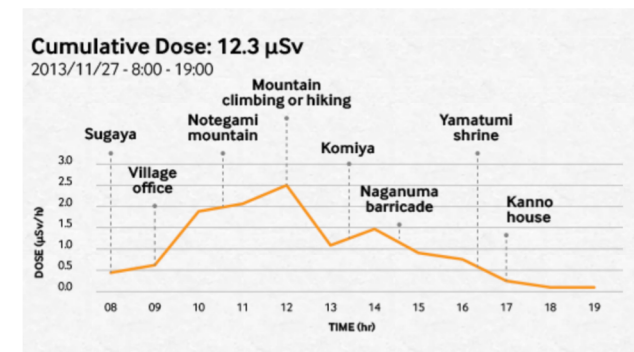


Safecast's dataset now has over 43,000,000 data points from over 70 countries

<https://blog.safecast.org/>

Some examples of local initiatives (2/3)

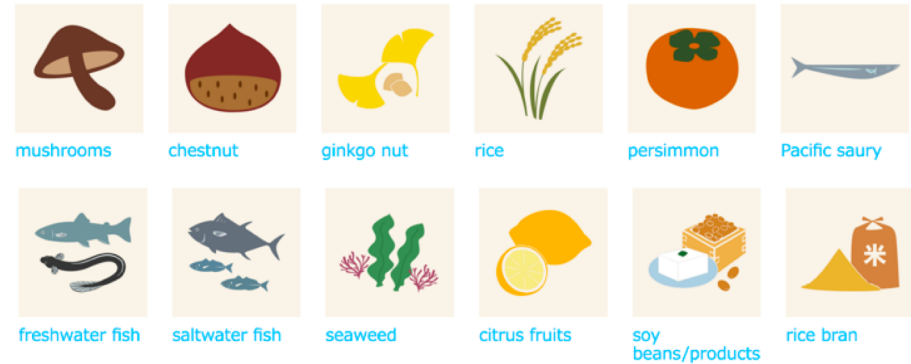
- To measure their own external exposure – Exemple of the D-Shuttle personal dosimeter
 - Develop by Japanese experts from AIST.
 - To support local populations (schools, local communities, *etc*) with help and counselling from experts



Source: W. Naito et al., (2017)

Some examples of local initiatives (3/3)

- To measure their foodstuff –
 Exemple of the ‘Mina No Data Site’ database

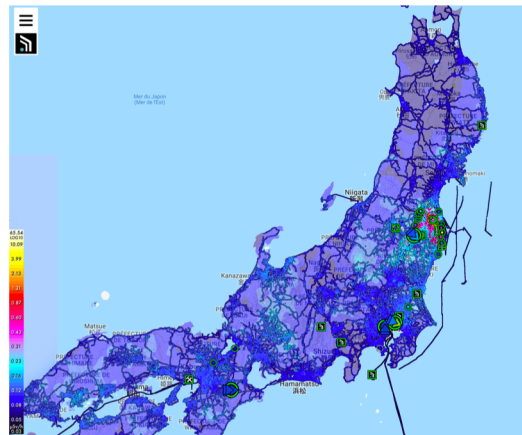


<http://en.minnanods.net>

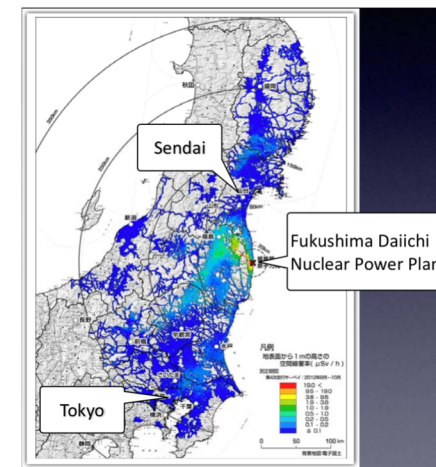
Name	Place	Cs-134 (MDA)	Cs-137 (MDA)	Date	Time	Instrument	misc.
1 キャベツ	北海道	ND (1.70)	ND (1.70)	2015-10-10	3600	CSK3i	Show related page
2 有機ミニキャベツ	北海道 千歳市	ND (1.40)	ND (1.52)	2015-06-25	10800	AT1320A	Show
3 有機キャベツ	北海道 新得町	ND (1.60)	ND (1.80)	2014-09-06	10800	AT1320A	Show
4 キャベツ 0.5h	青森県	ND (2.80)	ND (1.60)	2012-10-26	1800	CSK3i	Show
5 キャベツ	岩手県	ND (1.30)	ND (1.37)	2014-07-11	10800	AT1320A	Show
6 キャベツ	岩手県 二戸市	ND (4.07)	ND (3.59)	2012-09-18	1800	FNF-401 (旧ソフトVer.)	Show
7 キャベツ	岩手県	ND (4.13)	ND (4.62)	2012-06-19	3600	AT1320A	Show

Conclusion

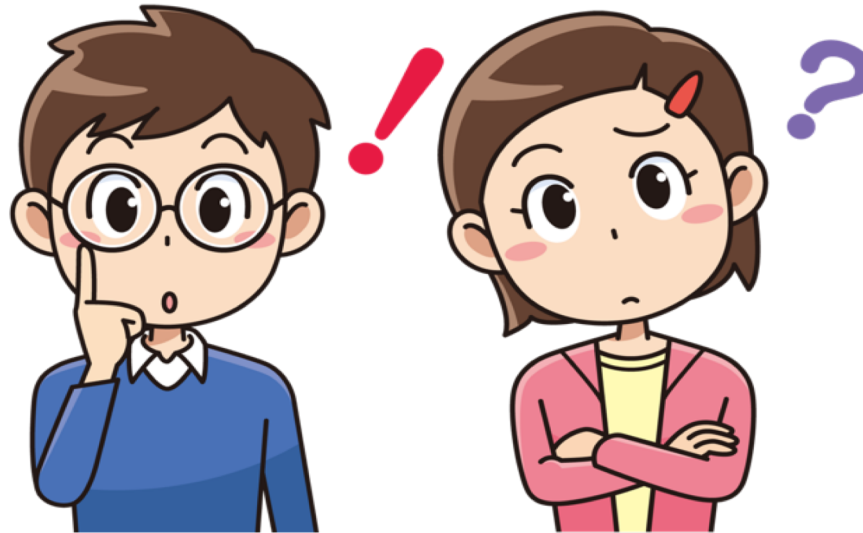
- A national plan (CRMP) bringing together many actors
 - Various public platforms with heterogeneous data → Confusion for the users
- Various local initiatives in parallel
 - Results which have all the confidence of local populations
 - A real opportunity to regain control of their daily life
- A multiplication of measurements and actors...
 - Environmental monitoring which seems redundant
 - Lack of sharing and analysis between local or even local and national initiatives



Map made by the citizen network
SAFECAS



Map made by the Fukushima prefecture
thanks to the Gamma-Ray Survey KURAMA II



■ Role of the RP experts...

- How to help local population to legitimate their actions?
- How to coordinate institutional and non institutional initiatives to a common approach?
- Be aware and respect ethical values:
 - Ensure the autonomy of people – Stakeholder participation and empowerment
 - How to serve some local communities or the entire population with limited means
 - Try to promote a sustainable vigilance
 - ...

Thank you for your attention