



# Disaster preparedness of Fukushima University after the Great East Japan Earthquake

---

Fukushima University Library

November 2011

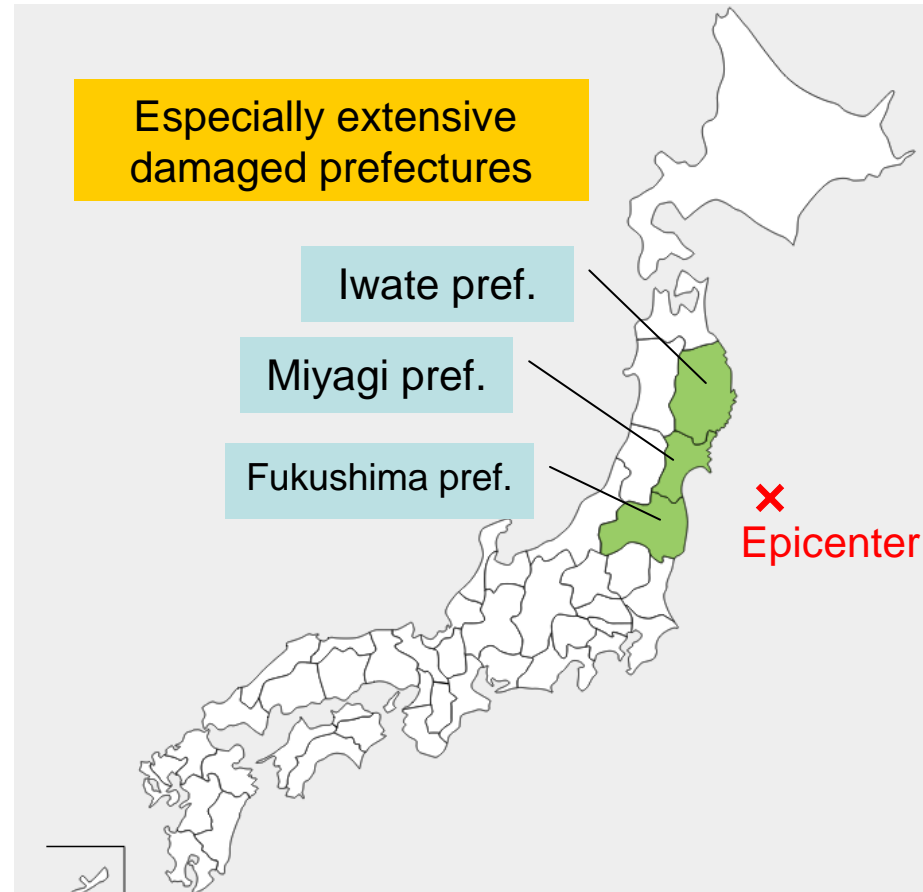
# Outline

1. About the Great East Japan Earthquake
2. Damage circumstances and correspondence of Fukushima University
3. Damage of library
4. Correspondence and restoration of library
5. Supports from other universities, libraries and publishers
6. Acknowledgment

# 1. About the Great East Japan Earthquake

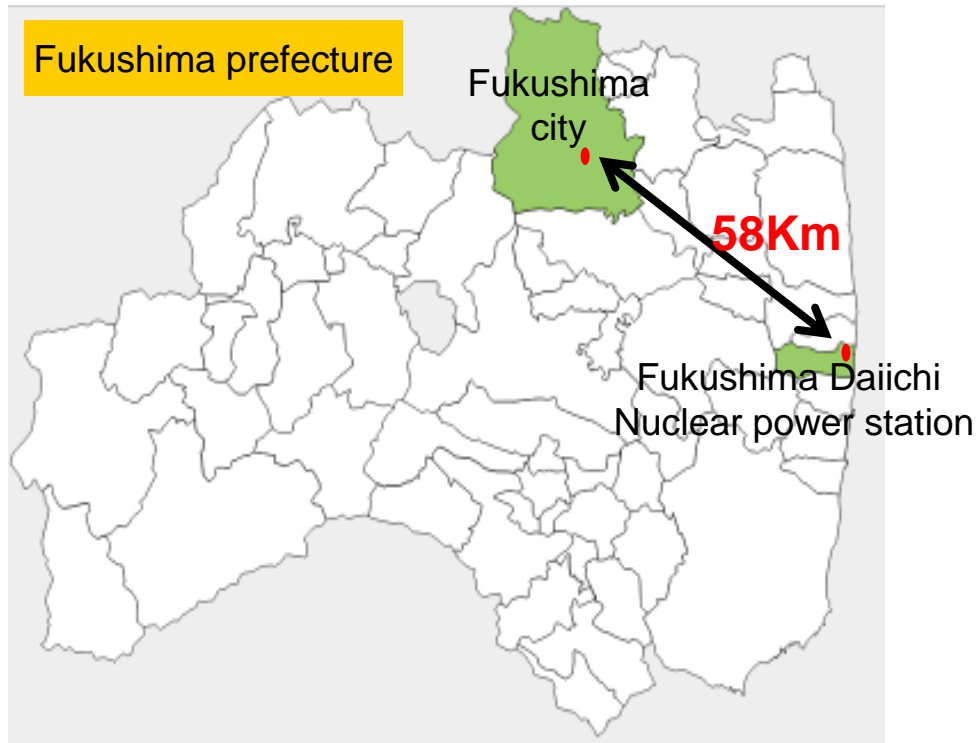
---

# 1(1)地震の規模・被災状況



- On March 11, 2011 at 14:46, a magnitude 9.0 earthquake occurred
- Destructive shaking observed at eastern Japan, and damage expanded by tsunami
- Fukushima Daiichi nuclear disaster

## 1 (2) Damage circumstances of Fukushima City



- Intensity 6 lower
- Lifeline and traffic were affected
- Fukushima University is located about 58km from Fukushima Daiichi nuclear power station, and affected of radiation accident

## 1 (3) Life and restore circumstance in Fukushima City

	Damage circumstances
Lifeline	Gas ... fully restored on March 30 Electricity ... fully restored on March 13 Water ... mostly restored on March 22 (From Fukushima City's web site)
Traffic	JR line stopped until early April. After that it sometimes stopped by after quake. Bus reduced the number of buses running.
Gasoline	Unavailability until at the end of March
Daily commodity	Shortage of water, food and daily commodities. During a few weeks after the earthquake, it is difficult to get them due to close or short operate of supermarkets.
Uneasiness about Fukushima Daiichi nuclear disaster	Continuance
Harmful rumor	Continuance

## 2. Damage circumstances and correspondence of Fukushima University

---

## 2(1) About Fukushima University

### < History >

Since 1949, the number of alumni is over 40,000, and the school produced bureaucracy, education circles, industry, etc. And it has a history of over 130 years as Fukushima teacher's school, Fukushima youth teacher's school, Fukushima higher commercial school and Fukushima technical school of commerce.

### < Faculties & Graduate Schools >

[Faculties] Faculty of Human Development and Culture / Faculty of Administration and Social Sciences / Faculty of Economics and Business Administration / Faculty of Symbiotic Systems Science

[Graduate Schools] Graduate School of Education (M) / Graduate School of Public Policy and Regional Administration (M) / Graduate School of Economics (M) / Graduate School of Symbiotic Systems Science and Technology (M, D)

### < Number of students >

About 4,600 students. Most part of students live near the university. 40% of students are from Fukushima prefecture, and 60% of students are from other prefectures.

(For reference) The population of Fukushima City is 293,080 on March 2011.

### < Attached Schools >

About 1,300 children

Kindergarden: 90, Elementary School: 720, Junior High School: 480, Special School: 60

### < Number of staffs >

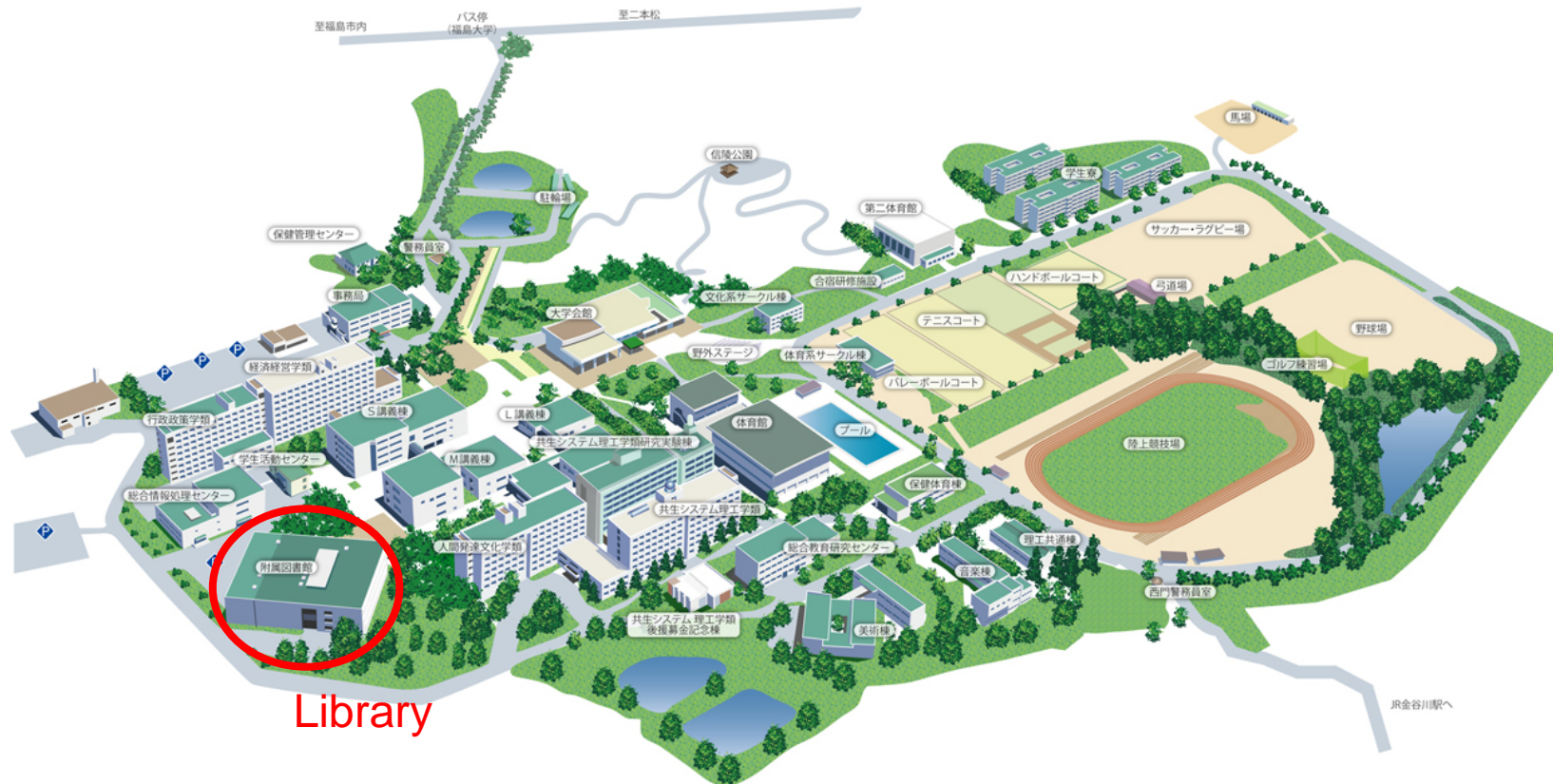
About 590 staffs (include part time staffs): 7 board members, 244 academic staffs, 130 administrative staffs, 84 teachers and other part time staffs



## 2(2) Campus map

A campus converges in one place.

<http://www.fukushima-u.ac.jp/english/map/index.html>



Library

## 2(3) Damage circumstances

### 1. Students

- Safe confirmation of 4,659 all students and 1,357 children on March 23. < March 11 was during spring holiday >
- 200 disaster victim students (completely or partially destroyed houses of support person, death of support person, separated from employment and cautionary area of support person, etc.)

### 2. Staffs

- No one was hurt
- 7 property damage, etc. (4 staffs move into lodging house)

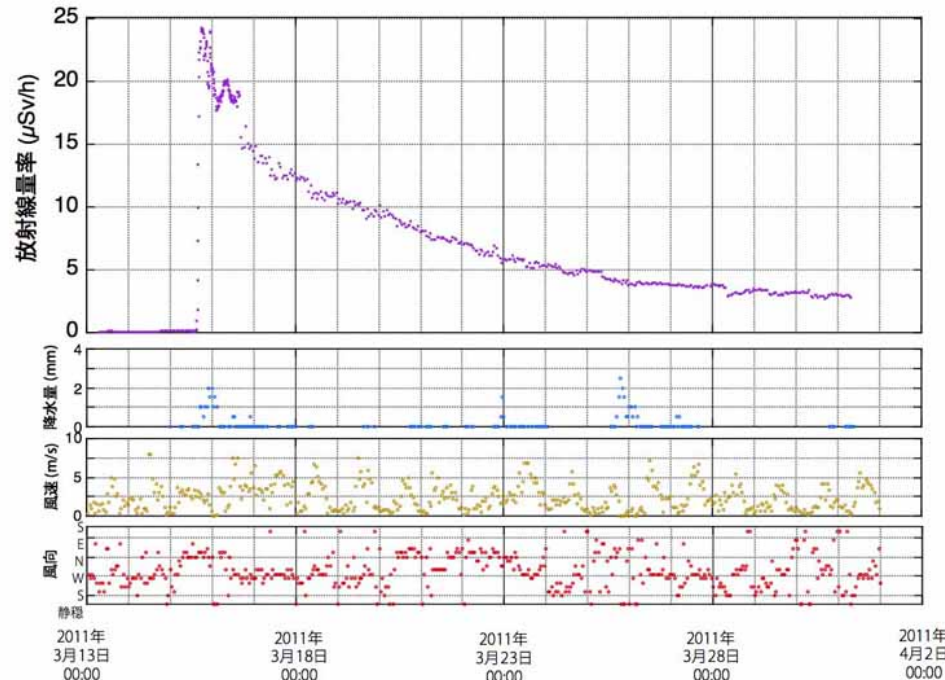
### 3. Lifeline

- Electricity and gas can use after earthquake. (Kanayagawa campus)
- Clean water restored on April 5. (Kanayagawa campus)
- Reuse of waste water restored on April 22. (Kanayagawa campus)
- JR line restart on April 5 as an interim timetable.

## 2(4) Correspondence after the earthquake

- Launch “crisis measures headquarter” on March 11
- Provision of information by web site, TV telop, e-mail, twitter, telephone, etc. And collecting information of students.
- Various supports for victim students and suggesting of volunteer for non-victim students
- Creation of first motion manual when an earthquake occurs
- Cancel of commencement ceremony on March 25 and beginning of new class one month later on May 12.
- Supports of children
- Cooperation with local governments and universities, etc.

## 2(5) The circumstance of Fukushima Daiichi nuclear disaster



### The reason of difficulty of radiation correspondence

- Academic evaluation about health damage of longer-term low dose exposure is not confirmed
- Accident is nowhere in sight

- |          |  |
|----------|--|
| March 12 | The coverage that 8 monitoring posts did not work  |
| 15:36    | Hydrogen detonation at Unit 1. Evacuation directive for inhabitants a radius of less than 20 km. |
| March 14 | Hydrogen detonation at Unit 3.   |
| March 15 | Hydrogen detonation at Unit 2. Detonation at Unit 4.   |
|          | Observance of high-dose rate in Fukushima City on and after the evening                          |
| March 16 | Detection of cesium and iodine from water in Fukushima City. . . .                               |

## 2(6) Correspondence of radiation disaster

1. Fukushima University measuring radiation project  
Measuring radiation of the region by voluntary members of Faculty of Symbolic Systems Science.
2. Measuring radiation and decontamination at Fukushima university and attached schools
3. Creation and distribution of “Radiation correspondence manual” and “Radiation guide book”, etc.
4. Set up of "Fukushima University radiation contact" for students and staffs
5. Deployment of high accuracy survey meter in each departments
6. Holding lecture meetings and learning about health damage by radiation exposure.
7. Training of evacuation into the building to be prepared for leaking radiation.

## 2(7) Actions as research institute

### Fukushima Future Center for Regional Revitalization (FURE)

The purpose is building of new safety society by investigation of facts.

### Fukushima University supports project of earthquake disaster

### Establishment of "Laboratory of rebuilding after a disaster"

Organization of research, education and regional contribution for contributing to rebuilding after a disaster of Fukushima prefecture.

(on April 13: 13th regular news conference)



## 2(8) Actions of supports to disaster victims

Acceptance Facilities	Maximum head count	Head count	Period
University (Kanayagawa campus)	126	2,828	Until April 30
Junior High School	62	333	Until April 25
Elementary School	3		Until April 25

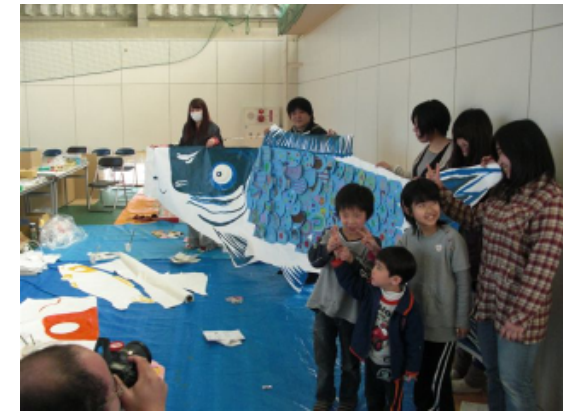
Make of booths



Soup-run



Various events



### 3 . Damage of library

---



## 3(1) About Fukushima University Library



<Outline of library>

<http://www.lib.fukushima-u.ac.jp/gaiyo.pdf>

### Library holdings

- 860,000 books
- 13,000 periodicals, etc.

### Facilities

- Open shelf reading room < 1F,2F>
- Stack room <B1F,1-4F>
- Group study room, PC room, etc.

### Users

- Number of visitors : 270,000/year (830/day) <FY2010>
- Students, academic and administrated staffs and outside visitors

## 3(2) Human damage

- Fortunately, no one was hurt, because library closed for arrangement on March 11
- we could confirm all staffs' safety immediately

## 3(3) facility damage

Chaps on ceilings and walls, fall of tiles and access boles, trouble of an electric shelf, etc.

fall of tiles



Chaps on walls



## 3(4) Material damage

Fall of 143,000 books, 8,000 periodicals and 900 others.

[http://lib.fukushima-u.ac.jp/oshirase/201103shinsai\\_higai.htm](http://lib.fukushima-u.ac.jp/oshirase/201103shinsai_higai.htm)



Stack room



Periodicals Room



Rare Books Room



Open Shelf

### 3(5) Library closed

We had to close library for the sake of those damages, aftershocks and radiation disaster.



- Cancel lectures until April 23
- Restoration toward library opening on April 25

Provide information about damage circumstances and opening schedule by web site, etc.

## 4 . Correspondence and restoration of library

---



## 4 (1) Correspondence after the earthquake

To supply the learning and researching environment in peace

### 1 . Facility and operation

- Safety check of facilities by department of facilities
- Review of risk management
- Review of library operation

### 2 . Restoration of materials

- Library staffs
- Volunteers on campus

## 4(2) Review of risk management and operation

- Review of risk management manual

Recreate the effective manual and review periodically

- Reaffirm of an evacuation passage

Set of automatic safety catchers of books, etc.

- Review of entering stock rooms



Take along emergency goods  
(a small flashlight, whistle and name holder  
with the emergency telephone number)

- Prepare to helmets and emergency bags



## 4(3) Review of operation

Night, Saturday, Sunday and holiday <safety first!>

	Before the earthquake		After the earthquake	
Night	2 graduate students	17:15 ~ 21:45	2 graduate Students and 1 library staff	17:15 ~ 20:00
Saturday	2 graduate students	10:00 ~ 21:00	2 graduate Students and 1 library staff	12:30 ~ 17:00
Sunday and holiday	2 graduate students	10:00 ~ 17:00	-	Closed

Man the staff (12 person) for emergency

Transition of library open

	~ 4/24	4/25 ~ 5/8	5/9 ~ 5/11	5/12 ~ 6/30 <5/12- class begin>	7/1 ~ 8/7	8/8 ~ 9/30 <Summer holiday>	10/1 ~ <class begin>
Weekday	Closed	13:00 ~ 16:00	9:00 ~ 17:00	9:00 ~ 20:00	9:00 ~ 21:00	11:00 ~ 17:00	9:00 ~ 21:00
Saturday	Closed	Closed	-	12:30 ~ 17:00<5月> 10:00 ~ 17:00<6月>	10:00 ~ 17:00	11:00 ~ 17:00	10:00 ~ 17:00
Sunday & holiday	Closed	Closed	-	Closed	Closed	Closed	Closed

Due to restoration of fallen materials and decrease of aftershocks, we extend opening hours.  
But it has never returned.

Confirm and airing of the manual for emergency

## 4 (4) Restoration of fallen materials

- **fallen materials**

143,000 books, 8,000 periodicals and other 900 items.  
Over 220,000 in total

- **Volunteers**

From March 25 to April 15, total 281 volunteers.  
(16 days except Saturday and Sunday)

Academic staffs	Disaster victims	Students and Graduate students	Total
231	48	2	281



Mostly materials restored not later than April 15,  
then library reopened **April 25**.

## 4(5) Restoration

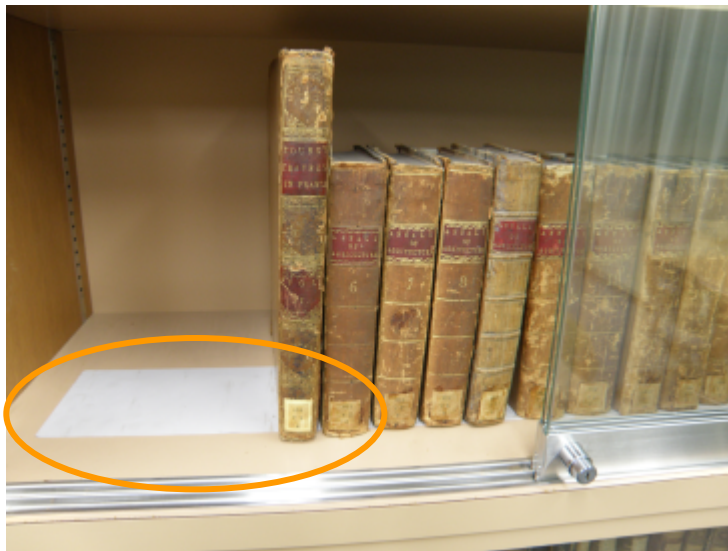
Restoration by volunteers (disaster victims and academic staffs) and library staffs.



## 4(6) After restoration

Earthquake disaster preparedness  
after restoration

Automatic safety catcher of books



Anti-drop sheets for books

Measure of anti-drop from strings





## 4(7) Supplies for emergency

Prepare to helmets and emergency bags near the staff room and at stack rooms



Emergency bags

## 4(8) Display the books



Display and circulation over 200 books about earthquake disaster, nuclear power generation and a volunteer.



## 5 . Supports from other universities, libraries and publishers

---

# Supports from other universities, libraries and publishers

## Universities

Supports of supplies, lending the indicators of radiation and dispatch of technical staffs

## Libraries

- Library use at members of JANUL (Japan Association of National University Libraries) and JASPUL (Japan Association of Private University Libraries)
- Supports of reference at public libraries


## Publishers, etc.

- Open access to articles and books about disaster and radiation
- Free access to electric resources on a temporary basis



## 6 . Acknowledgments

---



The Great East Japan earthquake on March 11  
was massive disaster we experienced first, but  
we were encouraged very much by a lot of  
supports from domestic and overseas.

We really appreciate it.