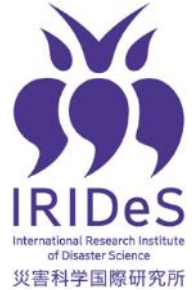




Tohoku University DRR Actions
Contributing to Global Disaster Resilience



APRU

Workshop on Building Disaster Resistant Universities

Case Study 1

Tohoku University, Japan

2018.4.3

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1 Damage of our Univ. by the Great East Japan Earthquake

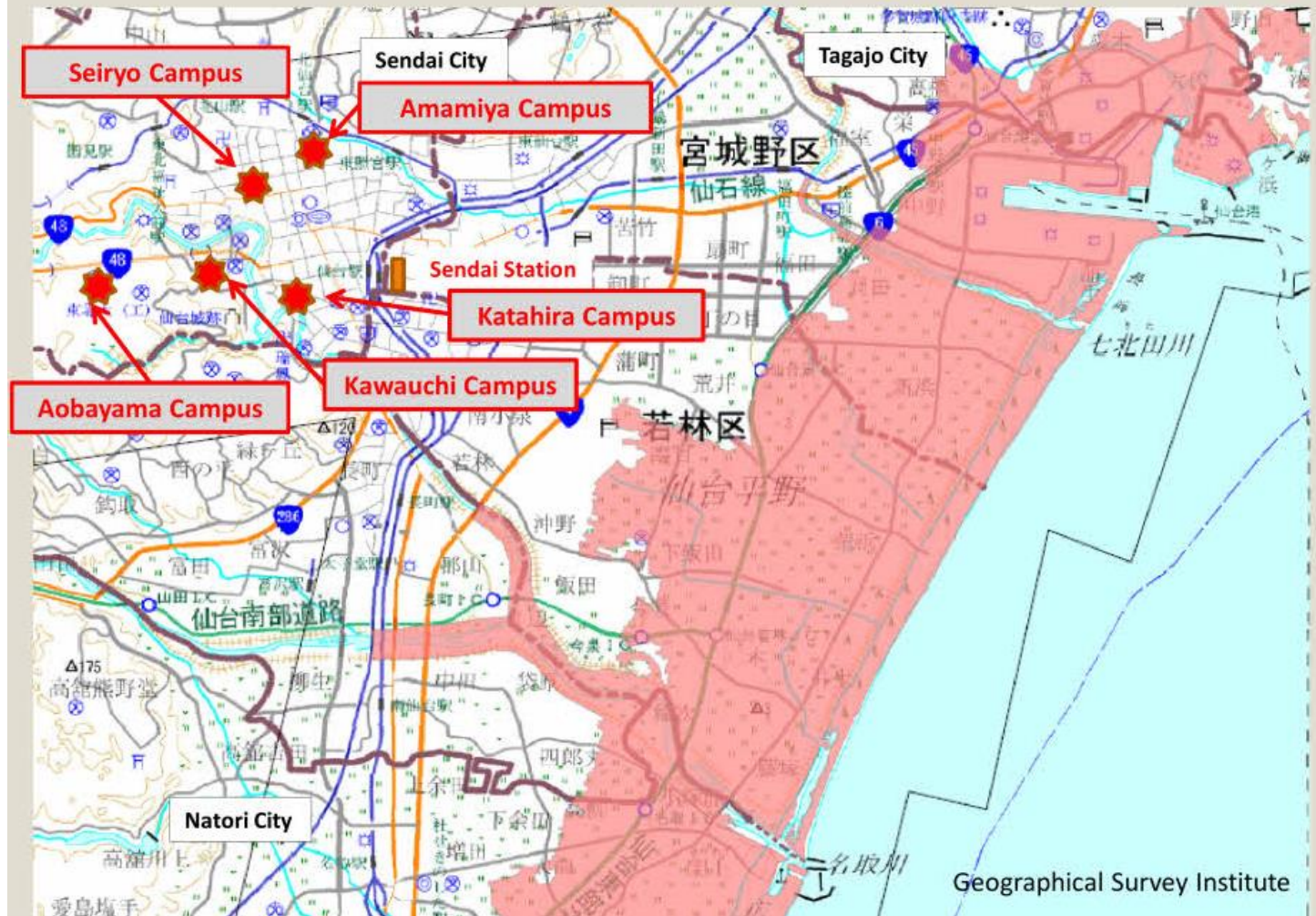
1.1 Tsunami of the Great East Japan Earthquake (GEJE) in Sendai City



Pictures provided by
Sendai City

1.2 Tsunami Damage Area in Sendai City

Area Flooded by Tsunami (Sendai)



Source: Tohoku Univ. “Reconstruction after the Great East Japan Earthquake”

1.3 Damage in Tohoku Univ.

◇ Students and staff safety confirmation (as of March 30, 2011)

Students: 3 dead
(2 undergraduates, 1 new student)
14 injured

Affected at
their homes, etc.

Staff: no deaths or injuries.

* Family members of 7 of the staff died or are missing.

◇ The situation of student homes (as of March 30, 2011)

Homes of 526 students (5.2%) were
fully or partially destroyed

331 students (3.2%) are considering moving

Provided dormitory rooms

1.4 Damage in Tohoku Univ.

**Damaged by
the earthquake**

In Sendai city

○Katahira Campus (Headquarters, Research Institutes)

Entry Restricted : 7

○Kawauchi Campus (General Studies, Liberal Arts)

Unsafe: 2

Entry Restricted: 3

○Seiryō Campus (Medicine, Dentistry)

Entry Restricted: 3

○Amamiya Campus (Agriculture)

Unsafe: 3

Entry Restricted: 3

○Aobayama Campus (Science, Engineering)

Unsafe: 8

Entry Restricted: 24

1.5 Damage in Tohoku Univ.

Aobayama Campus

School of Engineering - Civil Engineering and Architecture Research Building



Research Center for Electron Photon Science (Tomizawa) - Particle accelerator equipment



Micro/Nano-Machining Research and Education Center, School of Engineering



1.6 Damage in Tohoku Univ.

Kawauchi Campus

Lecture Hall Corridor



University Library



1.7 Damage in Tohoku Univ.

Post-quake response

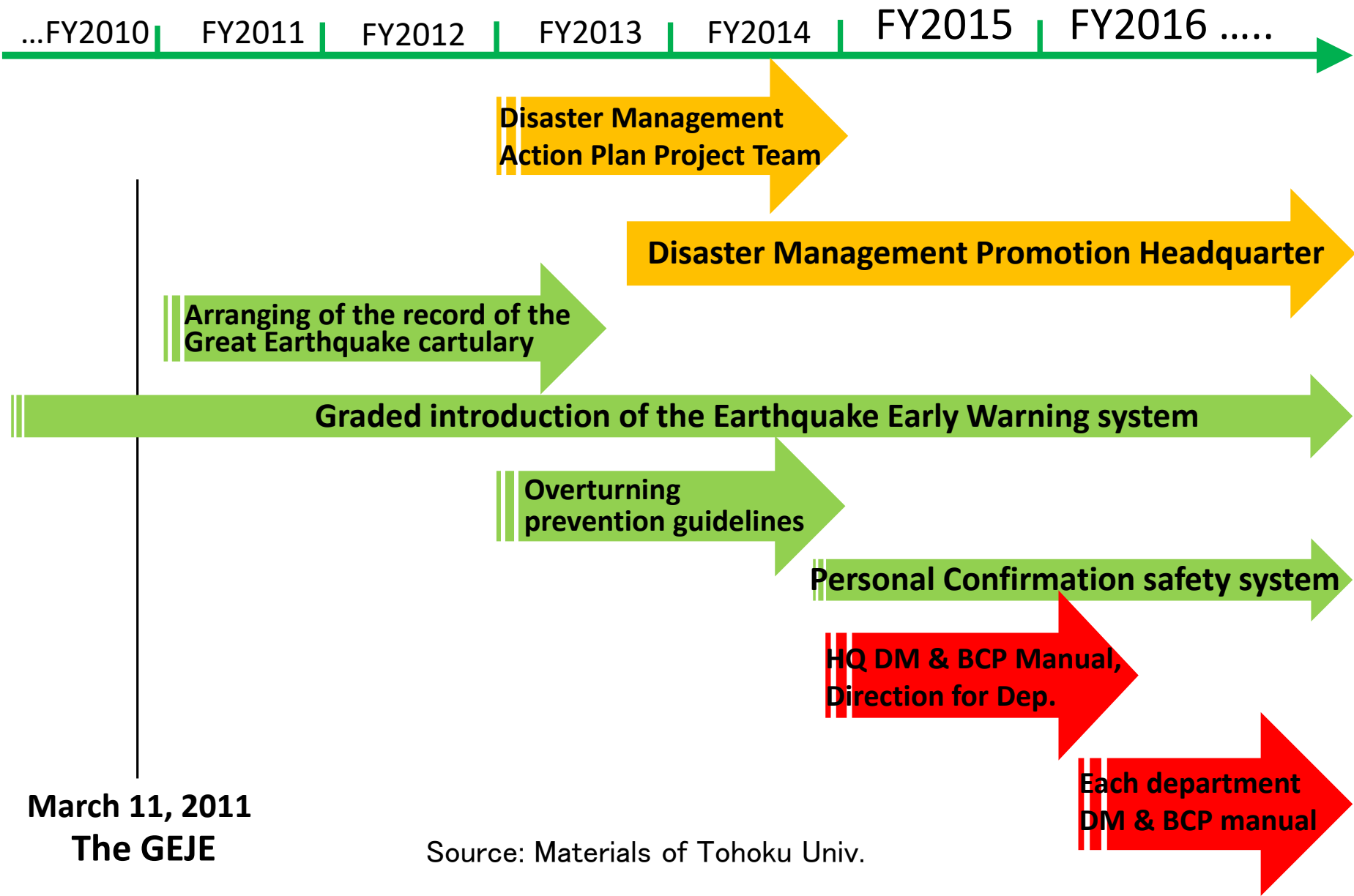
◇ Educational Affairs

- 2010 degree conferment ceremony cancelled
(degree certificates/President's message mailed to graduating students in late April)
- Separate late stage entrance examinations cancelled
- Undergraduate / Graduate entrance ceremonies & Orientation for newly enrolled students rescheduled from April 6 to May 6
(conducted by individual departments)
- Commencement of lectures
Common Education Lectures (undergraduate 1st and 2nd year) - May 9
Specialized undergraduate / graduate lectures - April 25



2 Improvement of Disaster Management Plans (BCP)

2.1 History of Disaster Management of Tohoku Univ.



2.2 Disaster Response and Business Continuity Plan (BCP) of Tohoku Univ.

Disaster response operations

~ Present DM manual partly covers

Necessary only in the time of disaster

→ Chosen from the character and the experience of the GEJE of Tohoku Univ.

Ordinary time operations that should be continue

~ Additional items by BCP

That should be continue even in the time of disasters

→ To consider the effect of stoppage of each operation and to prioritization

To confirm whether the indispensable resources for each critical operation are secured at each timing

- To secure the indispensable resources by countermeasures in presence
- To educate and train the professors and staff to be able to act in the time of disasters
- Periodically check and improve when any changes occur including personnel change

2.3 Contents of “Disaster Response and Business Continuity Plan” of Tohoku Univ.

1. General Provisions Basic Policy, etc.
2. Architecture of Plans and Documents
3. Crisis Events to be assumed
4. Correspondence System against Crisis Events 4.1 Disaster management headquarters 4.2 List of critical operations and apportionment
5. First Response 5.1 Gathering of disaster response members 5.2 Information gathering of the damage 5.3 Confirmation of the safety of the students and employees
6. Action Files 6.1 What is the Action Files 6.2 How to use ?
7. Implementation Plans for Countermeasures
8. Maintenance and Improvement

3 Disaster Response and Business Continuity Exercise

3.1 Disaster Response & BC Exercise on Oct. 2017

- Date: 27.Oct.2017. The third exercise since 2015.
- Venue: Administrative Headquarter of Tohoku Univ.
- Participant: President and board directors, managers and persons in charge in each team of DM Headquarters
- Controllers gave the situation/conditions. Players collected information, executed decision making and ordered actions.
- Focus of this year's exercise:
 - 1) Quick report on serious damages (human, facilities),
 - 2) Thorough safety confirmation of members
 - 3) Positive/Active information gathering

3.2.1 Disaster Management Headquarters



Source: Materials of Tohoku Univ.

3.2.2 Disaster Management Operating Room



Source: Materials of Tohoku Univ.

3.2.3 Another Campus's Operation Room



Source: Materials of Tohoku Univ.

3.2.4 Controllers of the Exercise



Source: Materials of Tohoku Univ.

3.3 Quick Report of Serious Damages (human, facilities)

- We introduced new additional form for quick report of serious damages from all departments and institutes to the headquarters.
- This form includes only deaths, persons seriously injured, shut in or crashed, large-scale fire, serious building damage and leak of harmful substances.
- Previous report form included number of each items, and not strictly limited to serious items. Therefore timing of report was rather late.

3.3.2 Form of Serious Damages

「重大被害 至急報告票」	
事業場等名／班名	(第 報)
報告項目	注・各事業場を構成する連隔地の組織の被害も、分かり次第盛り込むこと。 ・統報の場合は、既に報告した被害に加えた全被害の報告とすること。
報告年月日	年 月 日 () 時 分 現在
報告者氏名・所属	氏名 所属
死 亡	(内容を記述。不明、未確認の部分があればその旨も記述。) 無・有
重 傷	(内容を記述。不明、未確認の部分があればその旨も記述。) 無・有
人の 閉じ込め・下敷き	(内容を記述。不明、未確認の部分があればその旨も記述。) 無・有
火 災	(内容を記述。不明、未確認の部分があればその旨も記述。) 無・有
建物の重大被害 (建物の立ち入り 制限等を含む)	(内容を記述。不明、未確認の部分があればその旨も記述。) 無・有
有害物質の漏洩等	(内容を記述。不明、未確認の部分があればその旨も記述。) 無・有
その他特記事項	

「重大被害至急報告票」は、各事業場で重大被害を確認できた時点ですぐに提出してください。
また、本部災害対策本部の指示があれば、重大被害がなくても提出願います。
(10/27総合防災訓練時においては、13:30までにFAX(91-4854)にて回答願います。)

「重大被害至急報告票」提出後、被害の全体的概要は「被害状況連絡(記録)票」を用いて報告してください。

【災害対策本部・情報整理係連絡先】
TEL: 022-217-(91)5123, 5579, 6064, 6074 (←10/27総合防災訓練用として使用) FAX: 022-217 (91) 4854
衛星携帯電話: 080-8201-8132 災害時優先電話: 022-226-1336 MAIL: houbu@grp.tohoku.ac.jp

受信者サイン欄
(災害対策本部記入)

—受付年月日—
年 月 日

Source: Materials of
Tohoku Univ.

3.4 Confirmation of Safety of Members

- Tohoku Univ. recognizes that safety confirmation of students and employees is most important, based on the experience of the Great East Japan Earthquake in 2011.
- Tohoku Univ. introduced a safety confirmation system (trade name: Emergency Call) using e-mail to the smartphones or PC. The system is provided by a specialized company.
- Additionally, we ask all the department or institutes to execute “direct safety confirmation” in all the laboratories and classrooms by face to face manner.
- University headquarters orders all the departments and institutes to report intermediate results of the safety confirmation by several hours based on the both method.

PLEASE REGISTER WITH THE SAFETY CONFIRMATION SYSTEM

Tohoku University uses the Safety Confirmation System to ascertain the safety of students and staff in the event of major disasters. If a disaster occurs, you will be able to easily report your safety status to the university with a mobile phone etc. Your fast response after a disaster will assist the university's recovery efforts greatly, so please be sure to register!

Check 1

Safety confirmation messages will be sent to the e-mail address you have registered on the Student Affairs Information System (students), or Integrated Electronic Authentication System (staff). We ask that you register a mobile address so that we can contact you promptly in the event of an emergency.

Check 2

If you receive a notification by e-mail, access the system via the URL provided in the message. Simply select your responses to report your safety status.

Check 3

For instructions on registering your e-mail address and information about the system, please see the below website! It can also be accessed by scanning the QR code instead of entering the URL.

<http://www.bureau.tohoku.ac.jp/somu/saigaitaisaku/index3.html>



Check 4

The free “エマージェンシーコール” (Emergency Call) smartphone app makes responding simpler and more reliable. Please be sure to register. See the website for details!



Icon

There will be a university-wide safety confirmation drill on April 24 (Mon.), October 27 (Fri.) 12:00!

*The 2017 drill will be held even in the event of real small/moderate earthquakes (the test message will be sent as long as any actual earthquakes are less than 6-lower on the JMA shindo scale). Thank you for your cooperation!

Mobile app



Response screen accessed from e-mail



Contact: Disaster Management Promotion Office (General Affairs Department, General Affairs Section)
Mail: gen-som@grp.tohoku.ac.jp WEB: <http://www.bureau.tohoku.ac.jp/somu/saigaitaisaku/>



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Thank you.

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IRIDeS, Tohoku University