



TOHOKU  
UNIVERSITY



***Archives of dealing with earthquake disasters  
in Japan: Great East Japan Earthquake***

**Marie KOBAYASHI**

**Tohoku University Library**

**September 18, 2018 - PRRLA Annual Meeting @UNIVERSITY OF CALIFORNIA, BERKELEY**

# Outline

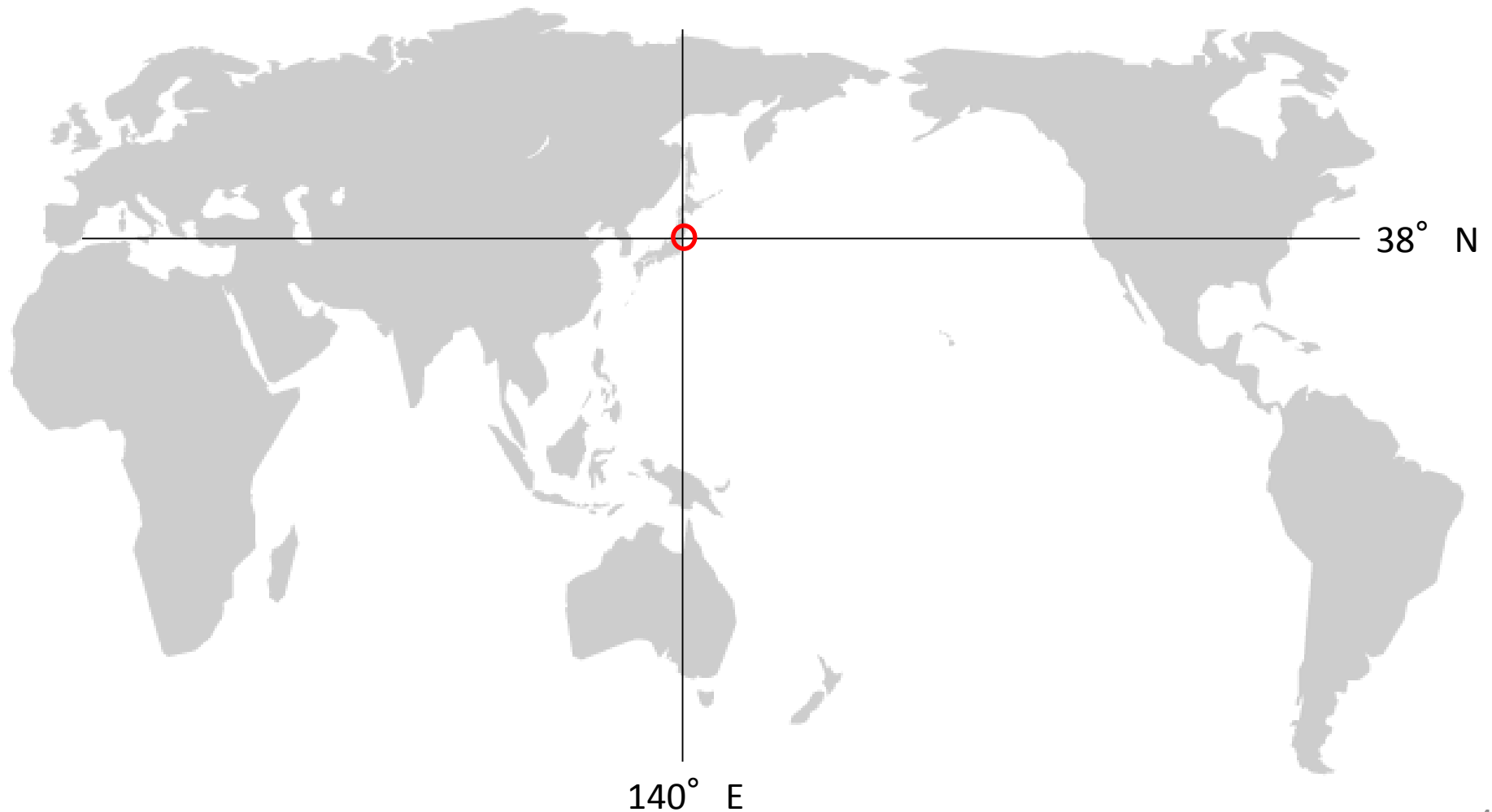
- 1. Introduction of Tohoku University and its Library**
- 2. Great East Japan Earthquake (3.11)**
- 3. Archives of the Great East Japan Earthquake**
  - 1. Tohoku University Library**
  - 2. Tohoku University**
  - 3. Japan**

# 1

## Introduction of Tohoku University and its Library



# Overview of Sendai and Tohoku University



# Overview of Sendai and Tohoku University



Tohoku University is located in Sendai, the largest city in the Tohoku(=northeast) region.

## [City of Sendai]

**Population** **1,088,593**  
As of September 2018

**By bullet train** **350 km**  
**from Tokyo** **1.31 h**

**By local train** **17 km**  
**from Sendai Airport** **20 min**

## Famous people

*Masamune Date* 伊達政宗

*Yuzuru Hanyu* 羽生結弦



# About Tohoku University

- **Founded in 1907** (as Tohoku Imperial University, in 1947 the name was changed to Tohoku University)
- **Enrollment**
  - Undergraduate students: 11,000
  - Graduate students: 7,000
  - Faculty members: 6,500
- **Mission**
  - Research comes first
  - Open door policy
  - Focus on oriented research and education
- **Designated National University**
- <https://www.tohoku.ac.jp/en/>



# About Tohoku University Library

- **Founded in 1911**
- Number of collections  
: **4.1 million**
- **1 Main Library**  
**+ 4 Branch Libraries + Institute Libraries**
- <http://www.library.tohoku.ac.jp/en/>





# Tohoku University Libraries

**Main Library**  
(Kawauchi campus)



**Medical Library**  
(Seiryō Campus)



**Kita-Aobayama Library**  
(Aobayama Campus)



**Engineering Library**  
(Aobayama Campus)



**Agricultural Library**  
(Aobayama Campus)



**Institute Libraries**  
(Katahira Campus etc.)





# Unique collections of Tohoku University Library

## ***Kano* collection**

- A large-scale rare collection consisting of **more than 100,000 Japanese and Chinese pre-modern materials** (17c-19c) (includes **National Treasures**)

## ***Soseki* collection**

- Collection composed of **books** and **handwritten materials** by **Natsume Soseki** (1867-1916), a representative novelist of Japan.

## ***Wasan* (Mathematics developed in Japan) collection**

- Selection made up of **90% of the *wasan* titles** which were published during the modern era.



## ***Earthquake* collection**

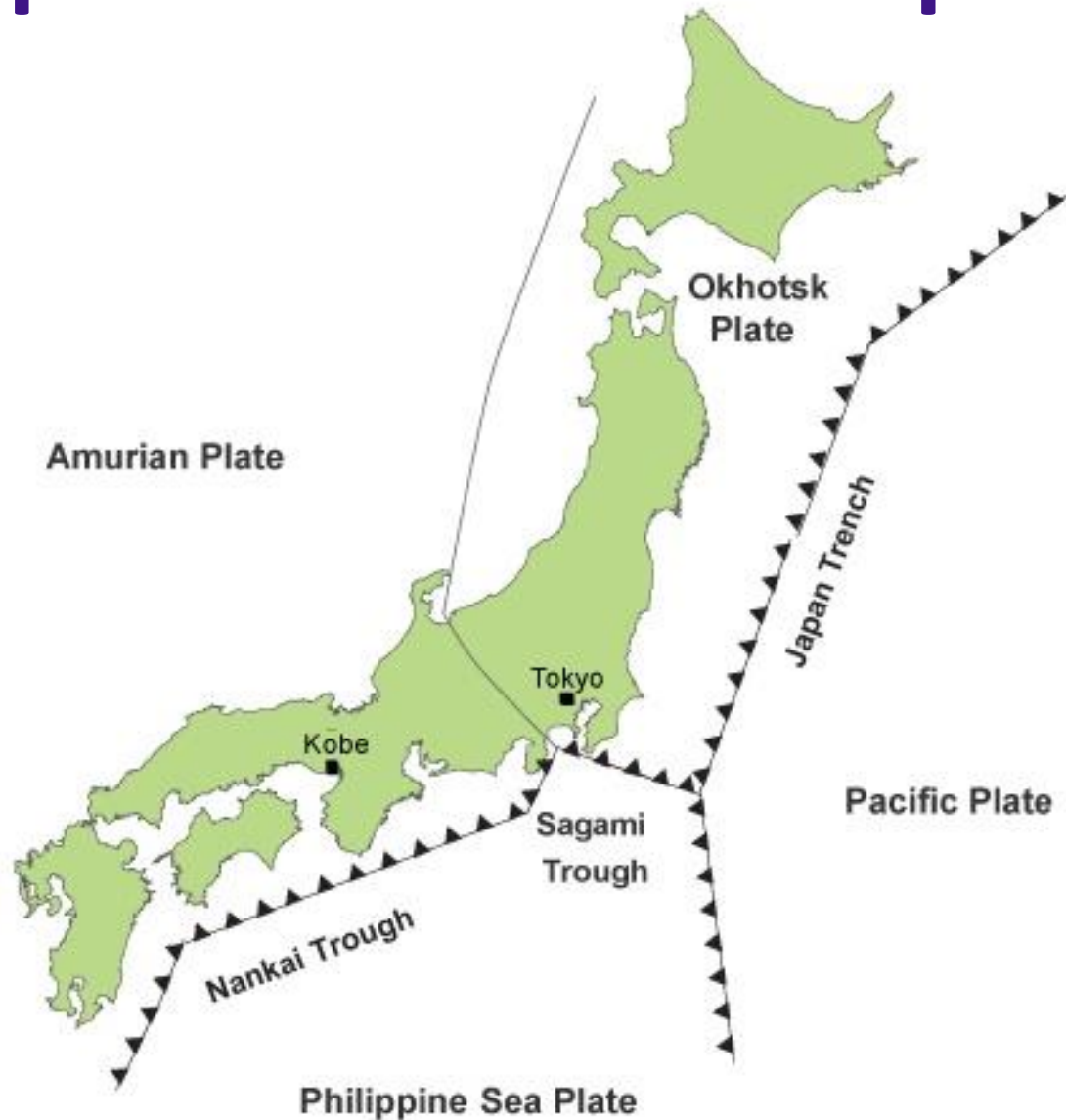
- Great East Japan Earthquake

# 2

## Great East Japan Earthquake

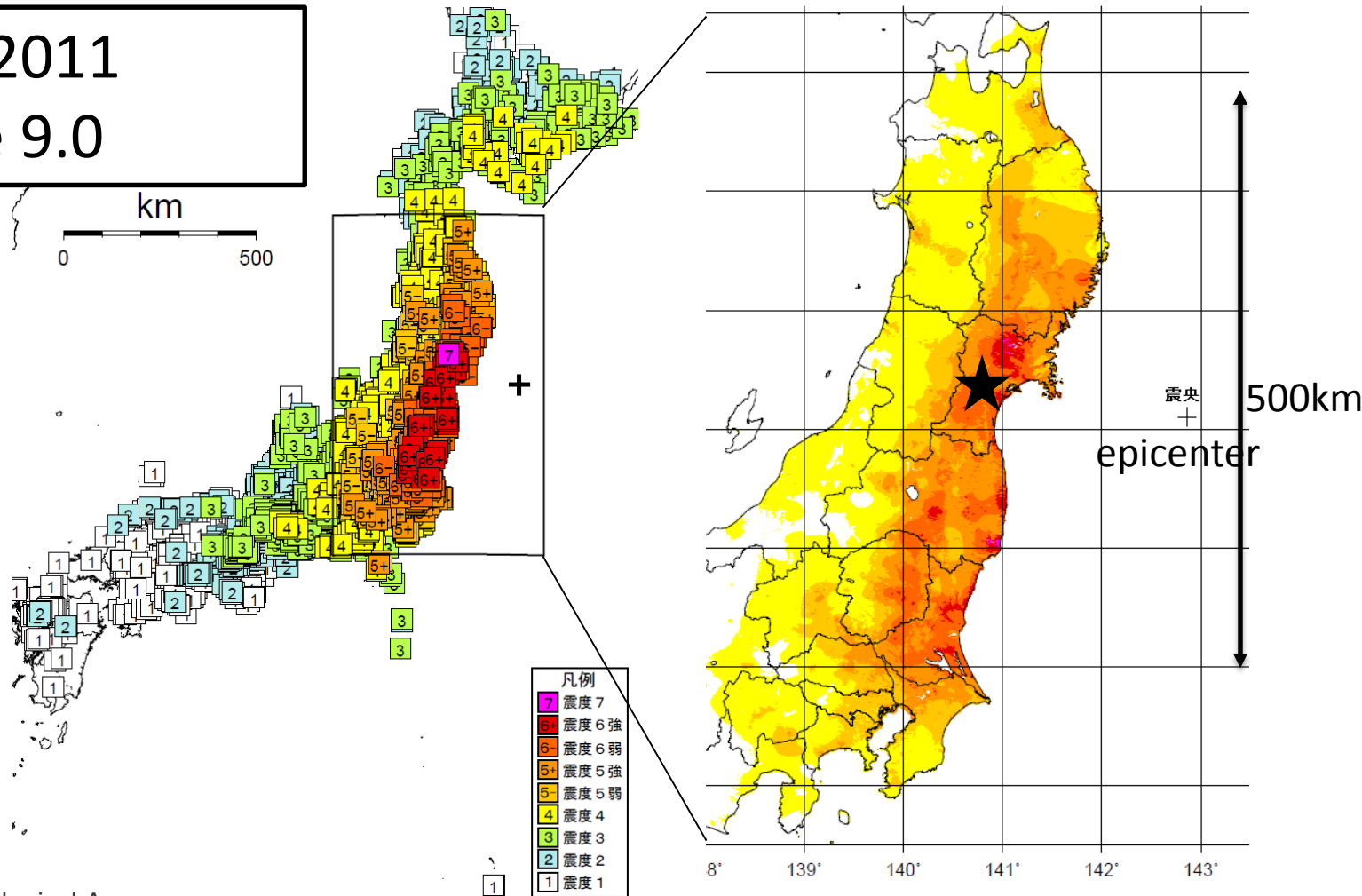


# Japan: Land of earthquake



# Great East Japan Earthquake (3.11)

March 11, 2011  
magnitude 9.0



Authority Japan Meteorological Agency

[http://www.data.jma.go.jp/svd/eqev/data/2011\\_03\\_11\\_tohoku/201103111446\\_smap.png](http://www.data.jma.go.jp/svd/eqev/data/2011_03_11_tohoku/201103111446_smap.png)

[http://www.data.jma.go.jp/svd/eqev/data/2011\\_03\\_11\\_tohoku/201103111446\\_smap\\_ks.png](http://www.data.jma.go.jp/svd/eqev/data/2011_03_11_tohoku/201103111446_smap_ks.png)



# Damages

## Damage due to shaking

- Cracked buildings
- Broken furniture
- Electrical outage

## Damage due to tsunami

- Number of deaths: 18,000
- Buildings washed away
- Uncontrolled nuclear power plant
- Disaster waste

# Damages

## Damage due to shaking

Sendai had already been taking **precautionary measures against earthquake shaking.**

Number of deaths :10 (caused by the vibrations)

## Tohoku University Library's earthquake disaster safety measures

1973:Built

2008:Earthquake proof construction







Bookshelves collapsed while being connected



Books fell (40%:1 million)



The microfilm bookshelf fell and drawers jumped out



Despite being fixed to the floor, the bookshelf jumped and stepped on the book



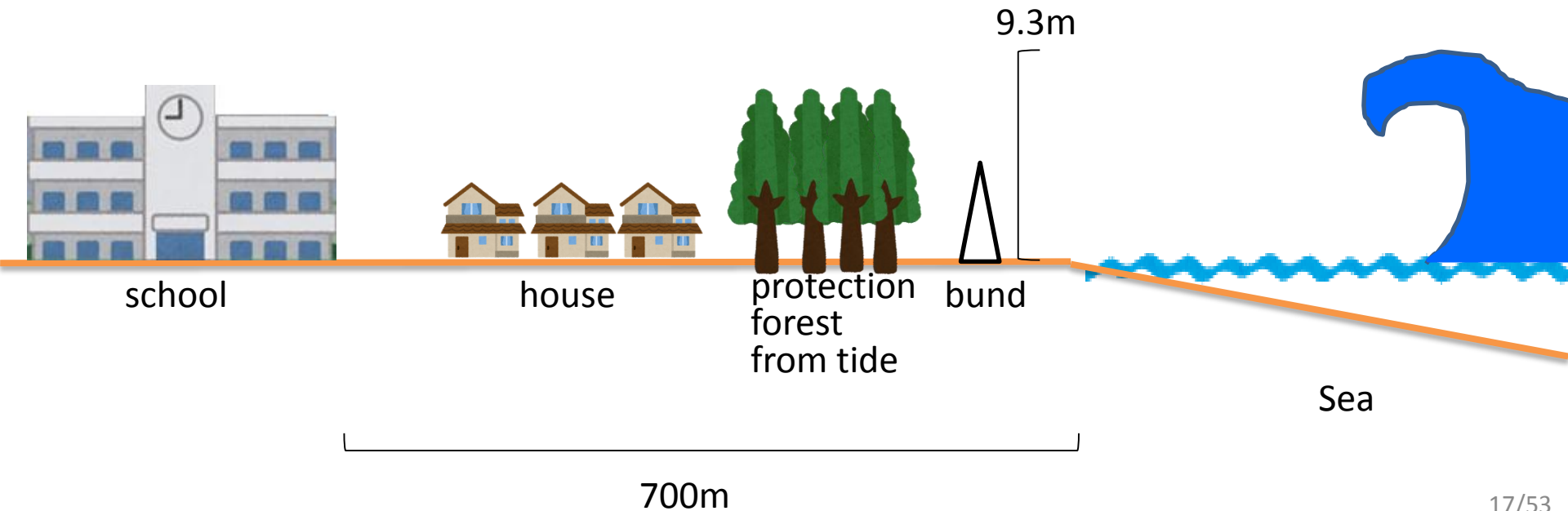
# Damages





# Damages

## Damage due to Tsunami



# 3

## Archives of the Great East Japan Earthquake



## 3.1 Tohoku University Library



# Let's give earthquake materials to the library

## Donation Campaign

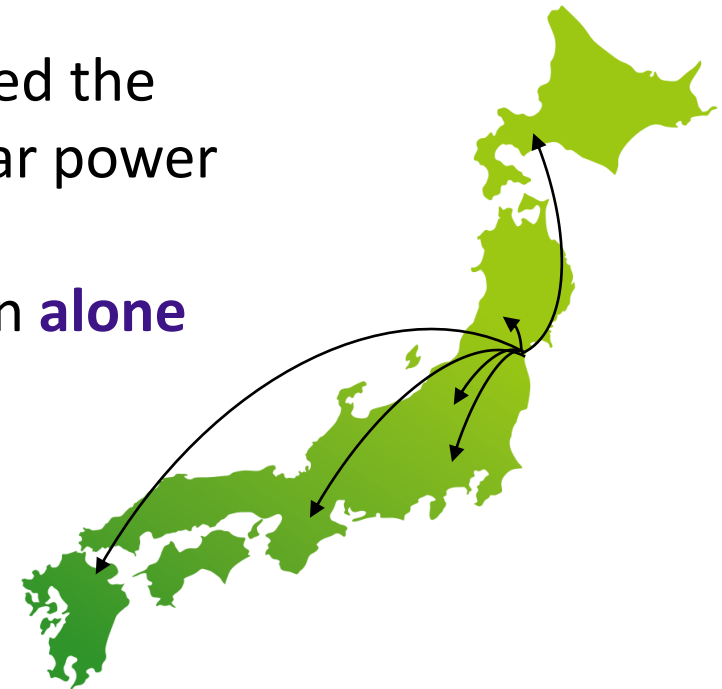
Each Library and each municipality in various places collected earthquake disaster materials

→ There are **a lot of materials** that recorded the impact of the earthquake, tsunami, nuclear power plant.

→ It is difficult to gather all the information **alone**

→ **Cooperate with other libraries**

- **Collection of noncommercial materials**
- **Improve project awareness**



Residents who are in evacuation of nuclear accident



# Let's give earthquake materials to the library

## Donation Campaign Process



Fukushima Pref.



Sendai city



Miyagi Pref.



Iwate Pref.



Fukushima Univ.



Tohoku Univ.



Iwate Univ.





# Great East Japan Earthquake Collection

## Significance of collecting earthquake materials

- **Tell the situation of the disaster to future generations**
- **Learn knowledge in order to avoid repeating a major disaster**
- **Maintain a record of society**



# Great East Japan Earthquake Collection

## Collection of Materials

Books : 4,471

Serials

Articles

Newspapers

1,904

Flyers

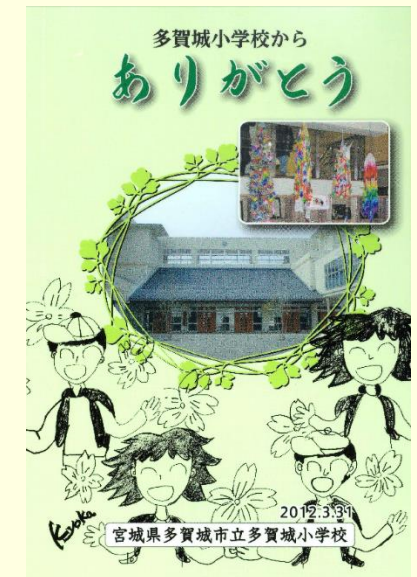
Leaflets

Posters

Municipal publications

Photos : 343

4,102



# Great East Japan Earthquake Collection

## Classification of Materials

**Books and Serials: As usual**

**Others: Unique classification (form & subject)**

form: a to e



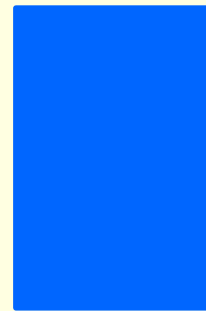
**a:** A4, 1sheet  
Clear pocket



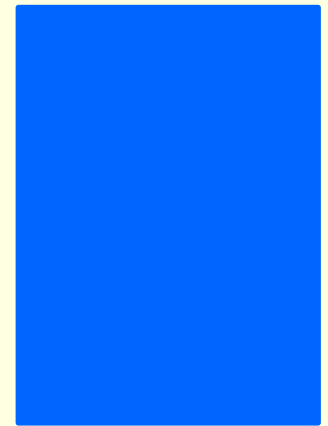
**b:** A4, brochure  
File folder



**c:** A3, 1sheet  
Clear pocket



**d:** A3, brochure  
Punchless file

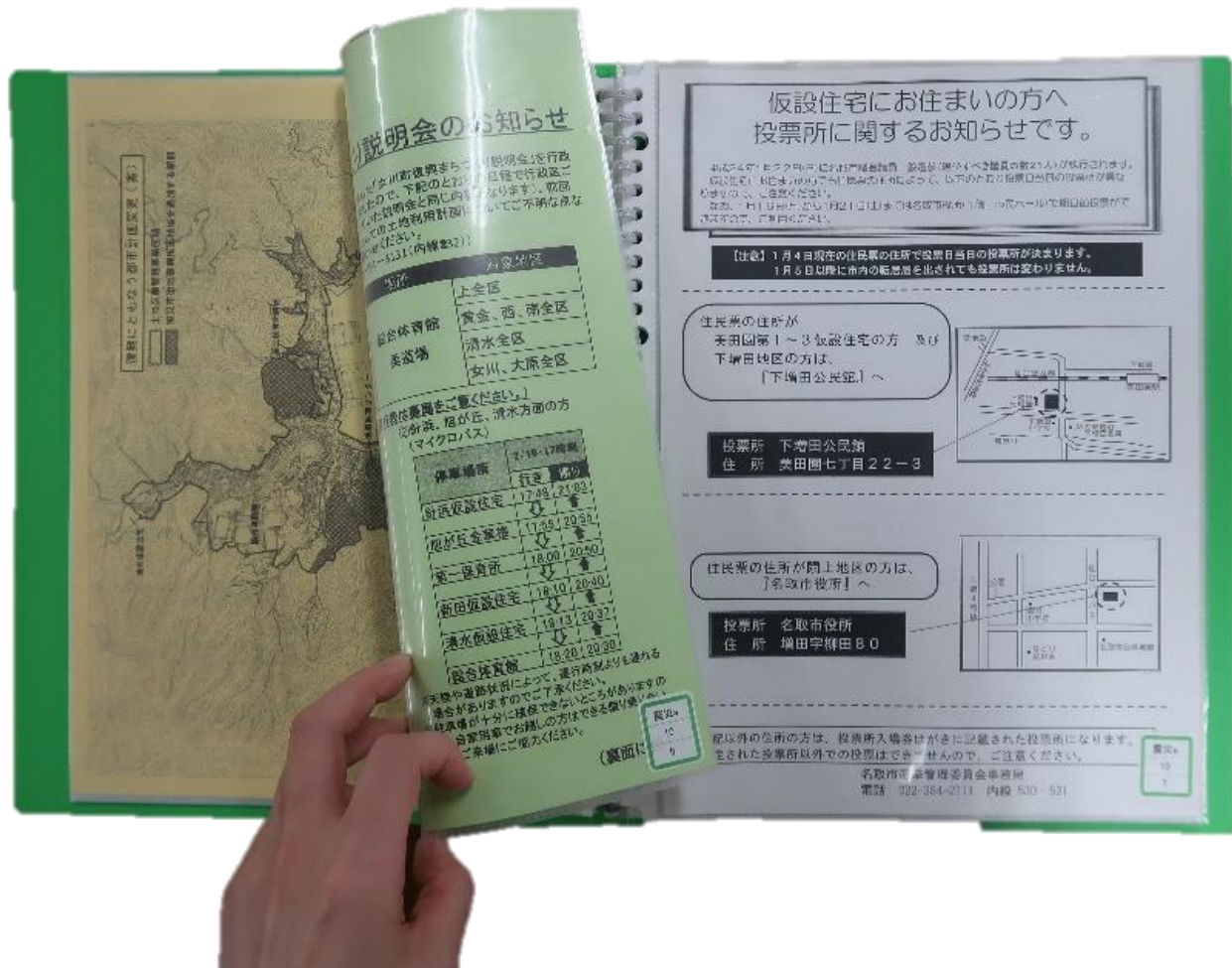


**e:** A2  
Clear pocket

# Great East Japan Earthquake Collection

## Classification of Materials

a: A4, 1sheet  
Clear pocket





# Great East Japan Earthquake Collection

## Classification of Materials

**b:** A4, brochure  
File folder



# Great East Japan Earthquake Collection

## Classification of Materials

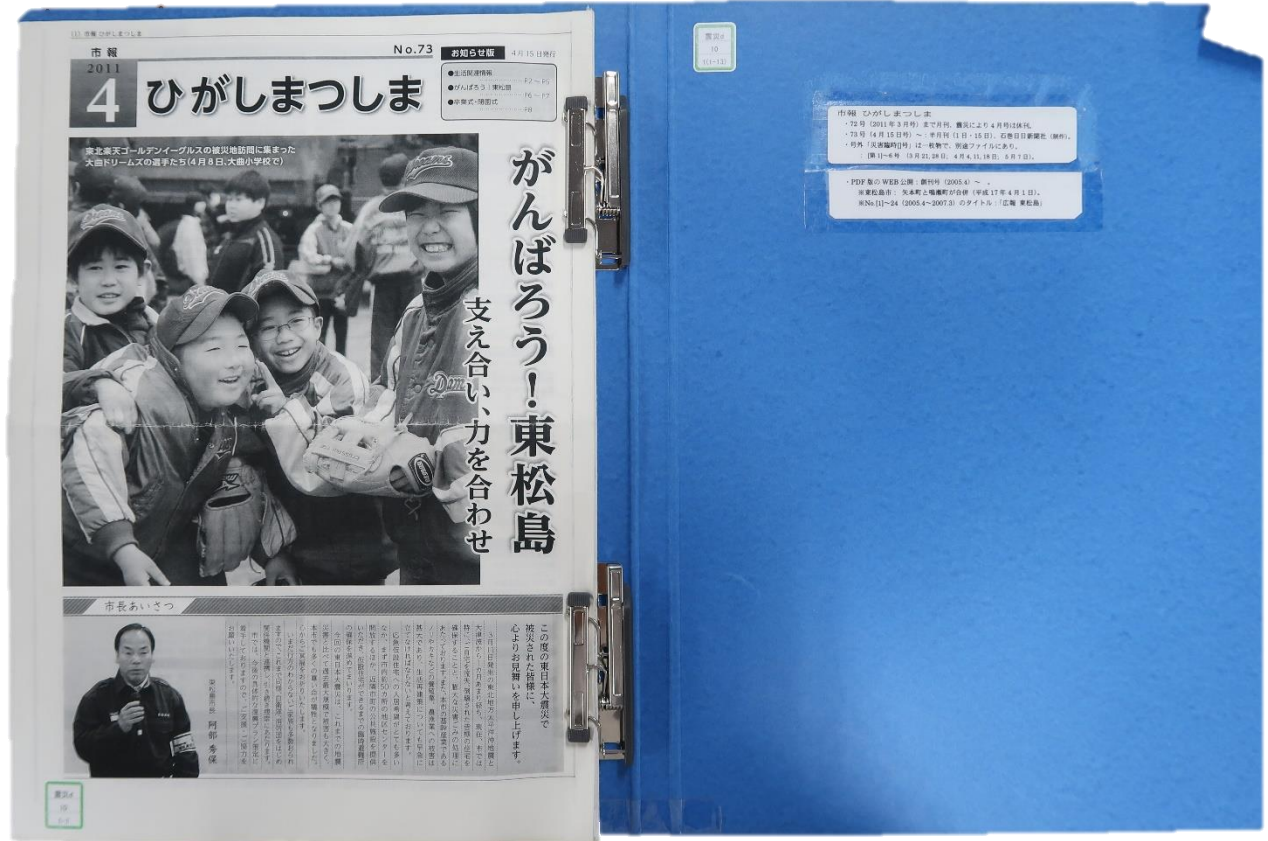
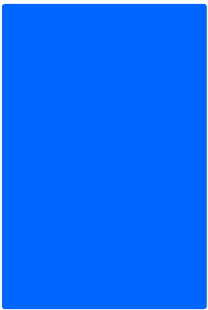
c: A3, 1sheet  
Clear pocket



# Great East Japan Earthquake Collection

## Classification of Materials

d: A3, brochure  
Punchless file





# Great East Japan Earthquake Collection

## Classification of Materials

e: A2  
Clear pocket



# Great East Japan Earthquake Collection

## Classification of Materials

Classification	Contents (example)
00 General theory	Newspapers / photos / maps / journals
10 Law / government	Government publications / reconstruction plans
20 Industrial / economics	Reconstruction events by businesses and commercial organizations Regional development (highly commercial)
30 Civic life / social welfare / healthcare	Living support Clinical psychology / counseling / caregiving
40 Volunteer	Support activities by organizations whose main purpose is to recover from the disaster
50 Education / research	Publications by universities and research institutes
60 Art / history / thought	Volunteer activities on arts, history, cultural properties, etc. Archaeological documents, regional research, history related archive project
70 Food / agriculture / forestry / fishery	Materials related to agriculture, fisheries, food industry, or food problems caused by the earthquake
80 Energy	Nuclear power / Radioactivity / Power saving / Power problem / Planned blackout
90 Disaster prevention	Disaster Prevention Manual

# Great East Japan Earthquake Collection

## Classification of Materials



a,b ; Shelving on a bookshelf



c,d,e ; Large size separates



# Great East Japan Earthquake Collection

## How to use

Audiovisual booth



In-library use only

# Great East Japan Earthquake Collection

## Exhibition

- Located at the entrance of the library
- Student choose the theme and write captions
- The theme changes every month



# Great East Japan Earthquake Collection Online

## Digital Archive

[http://www.i-repository.net/il/meta\\_pub/dsearch](http://www.i-repository.net/il/meta_pub/dsearch)



更新日: 2017/12/26 件数: 3,603件 TOP Language

より詳細な条件で探す  
カテゴリ

分類  
資料の種類

震災ライブラリーオンライン版 東北大学附属図書館

### 震災ライブラリー オンライン版

震災ライブラリーオンライン版では、東日本大震災関連資料の検索と電子的な閲覧ができます。  
東北大学附属図書館震災ライブラリーで公開している資料のうち、図書や雑誌以外の資料（チラシ、パンフレット、ミニコミ紙、広報誌等）の検索が可能なほか、約1,300件の資料について、電子画像（PDFファイル）をご覧いただけます。  
図書や雑誌、視聴覚資料等の検索には、[東北大学附属図書館OPAC](http://www.library.tohoku.ac.jp/shinsaikitoku/kizo/kizo.html)をご利用ください。（詳細検索画面で、右下の「記架場所」を「本館震災ライブラリ」に指定して検索してください。）

- 請求記号の見方については、[分類表のページ](#)をご参照ください。
- 資料は記録として公開しております。最新の情報でない場合があることをご了承の上ご利用ください。
- 二次利用を行う場合は、各自著作権者の了承を得てください。
- 公開にあたり資料の作成者の方を始め、多くの方に協力頂きました。どうもありがとうございました。
- 現在も資料を収集しています。ぜひご協力をお願いいたします。 <http://www.library.tohoku.ac.jp/shinsaikitoku/kizo/kizo.html>

メンテナンスのお知らせ  
定期メンテナンスのため、毎月第3木曜日の18:00-21:00はデータベースが利用できません。ご理解とご協力のほど、どうぞよろしくお願いいたします。

検索キーワードを入力して「検索」ボタンをクリックしてください

キーワードを入力

表示中のカテゴリ: 分類

00 総論(36)	10 法律・行政(344)
20 産業・経済(246)	30 市民生活・社会福祉・医療(794)
40 支援活動・ボランティア(658)	50 教育・学習・学術的探究(660)

Images (PDF): 1,243

Photo : 343

Metadata Only : 2,516



# Great East Japan Earthquake Collection Online

## Metadata

<b>Title</b>	<b>Totalpages</b>	<b>Articletitle</b>
<b>Volissue</b>	<b>Height</b>	<b>Journal</b>
<b>Publisher</b>	<b>Event</b>	<b>Journalvolissue</b>
<b>Date</b>	<b>Sponsor</b>	<b>Page</b>
<b>Classification</b>	<b><u>Eventdate</u></b>	<b>Keyword</b>
<b>Materialtype</b>	<b><u>Eventplace</u></b>	<b>Note</b>
<b>Callno</b>	<b>Edition</b>	<b>Range</b>
<b>Primeid</b>	<b>Author</b>	
<b>Dataid</b>	<b>Language</b>	
<b>Place</b>	<b>Table of contents</b>	



# Great East Japan Earthquake Collection Online

## Issues with Digitization

**Get Permission from the copyright owner**

- Copyright holder disbanded / unknown
- Unknown place where photograph was taken

**Portrait rights and individual data**

# Great East Japan Earthquake Collection

## Plans

### Focus on

- Collection of academic papers
- Distinction from other libraries

## Future Assignments

Translate to other languages

## 3.2 Outreaching Activities of Tohoku University



# みちのく震録伝

## Michinoku Shin Roku Den

### Background

<http://shinrokuden.irides.tohoku.ac.jp/>

Cross-cutting research about earthquakes disaster

- Michinoku: <sup>northeast</sup>陸奥=東北 : Refers to the Tohoku region
- Shin: 震 : Refers to the Great East Japan Earthquake
- Roku: 録(录) : Means to **record**; in this case, to record the memories, knowledge, etc. from the disaster.
- Den: 傳(传) : Means to **transmit**; in this case to spread the information locally and abroad.

Industry-academia-government collaboration



# みちのく震録伝

## Michinoku Shin Roku Den

### Objective

- **To collect all memories, records, cases, and knowledge concerning the Great East Japan Earthquake**
  - **To develop cross-cutting research based on the data above, in order to provide knowledge that will contribute to the explanation of the actual circumstances of the Great East Japan Earthquake and its reconstruction**
- **To make progress on measures and management of cataclysms.**

# みちのく震録伝

## Michinoku Shin Roku Den

### Contents

<http://search.shinrokuden.irides.tohoku.ac.jp/shinrokuden/?21>



みちのく震録伝

### 東日本大震災アーカイブ β1.0

東日本大震災に関するあらゆる記憶、記録、事例、知見を収集し、国内外や未来に共有します  
東北大学災害科学国際研究所

検索

建物 道路 たがじょう見聞憶 復旧復興 人 瓦礫 津波被害 車 樹木 看板 イベント 地面  
公助 浸水域 木 山 電柱 工事 自助 自動車



### 東日本大震災アーカイブ β1.0

東日本大震災に関するあらゆる記憶、記録、事例、知見を収集し、国内外や未来に共有します

(小)(中)(大)

図書館 震災関係 大代分室震災関係 大代分室撤去作業



作成日(撮影日): 2011年04月02日 13時32分00秒

作成者: 多賀城市

場所: 大代

提出日: 2014年03月18日 12時55分22秒

分類(タグ): がれき 公助 堆積物 多賀城市立図書館大代分室 撤去作業 本 被害状況 被害調査 たがじょう見聞憶

説明:

お問い合わせ番号: 16ae1be0-ae51-11e3-82e2-000c29b81227

# みちのく震録伝

## Michinoku Shin Roku Den

### Contents

It also functions as a **portal site**.

Databases (outside of Tohoku univ.):

- Reconstruction picture map
- A changing landscape of Michinoku's restoration efforts
- Field and aerial photographs of the disaster area immediately after the disaster with a 360° view

# みちのく震録伝

## Michinoku Shin Roku Den

To Restoration : A Changing Landscape of Michinoku

災害科学国際研究所 IRIDeS みちのく震録伝 「復興へ カワルみちのく風景」  
東北大学 International Research Institute of Disaster Science 東北大学アーカイブプロジェクト

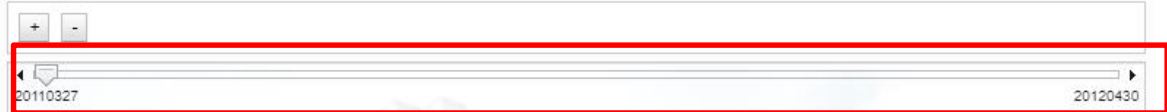
東日本大震災の被災地域の定点撮影写真公開サイト

本サイトの詳細についてはこちらをご覧ください。

📍 みちのく震録伝:みちのく・いまをつたえ隊 📍 道路技術者有志 📍 20世紀アーカイブ仙台



フェリー埠頭  
藤正実) がれきが寄せられた仙台港フェリー埠頭ターミナル 2012年



# みちのく震録伝

## Michinoku Shin Roku Den

To Restoration : A Changing Landscape of Michinoku

 災害科学国際研究所  
International Research Institute of Disaster Science  
みちのく震録伝 「復興へ カワルみちのく風景」  
東北大学アーカイブプロジェクト

東日本大震災の被災地域の定点撮影写真公開サイト

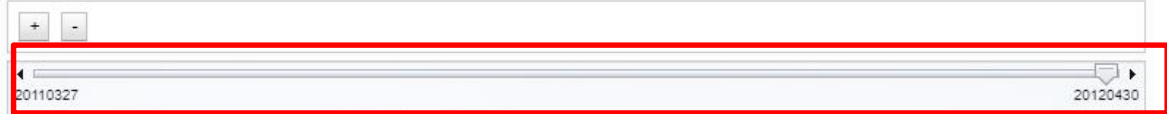
本サイトの詳細については[こちら](#)をご覧ください。

 みちのく震録伝:みちのくいまをつたえ隊  道路技術者有志  20世紀アーカイブ仙台

Time axis



フェリー埠頭  
(藤正実) がれきが寄せられた仙台港フェリー埠頭ターミナル 2012年





## 3.3 Efforts of Japan's Libraries



# Activities of the National Diet Library

## Hinagiku = Daisy

- **Comprehensive search** for audio/video materials, photos, web information, etc. related to 3.11
- **61 archives** as of March 2018
- **Main idea : to transmit all the records and lessons on 3.11 to the next generation.**
- **Target:** To use such records for **restoration and reconstruction projects** of disaster areas, for **prevention and reduction measures** of future disaster, and for **academic research/education** etc.

# Activities of the National Diet Library


## East Japan Great Earthquake Archive

### Photos/Movies/Web sites

河北新報 震災アーカイブ

 niconico

はまどありのきあく  
— 未来へ伝える震災アーカイブ —

未来へのキオク 

東日本大震災  
写真保存プロジェクト



あの日、東北のあの場所で。  
東北思い出写真館

 東日本大震災アーカイブ  
Fukushima  
The Great East Japan Earthquake Archives Fukushima

# Activities of the National Diet Library

## Internet Archive

**WARP: Internet data collection preservation project**  
**From 2002: selective**  
**From 2010: comprehensive public institutions**



The screenshot shows the WARP website interface. At the top left is the WARP logo (Web Archiving Project) and the text "国立国会図書館 インターネット資料収集保存事業". To the right are navigation links: "よくあるご質問", "ヘルプ", "English", and "サイトマップ".

The main content area features two search sections:

- キーワード検索 (Keyword Search):** A search bar with the text "東日本大震災" (Great East Japan Earthquake) and a green "検索" (Search) button. A link for "詳細検索" (Detailed Search) is also present.
- コレクション検索 (Collection Search):** A search bar with the text "コレクション検索".

Below the search sections is a row of eight icons representing different categories:

- 国の機関 (National Institutions)
- 自治体 (Local Governments)
- 法人・機構 (Corporations/Organizations)
- 大学 (Universities)
- 政党 (Political Parties)
- イベント (Events)
- 電子雑誌 (Electronic Magazines)
- その他 (Others)

On the right side of the page, there is a "新着情報" (New Information) section with a RSS icon. It lists two items:

- 2018年9月3日: 2018年9月の特集「被災自治体ウェブサイト」を掲載しました。
- 2018年8月10日: 2018年7月の月間アクセスランキングを掲載しました。

Below this is a "もっと見る" (View More) button. Further down is an "おすすめコンテンツ" (Recommended Content) section with a "ウェブアーカイブのしくみ" (How Web Archiving Works) link.



# Librarian: Private Actor

## Save MLAK

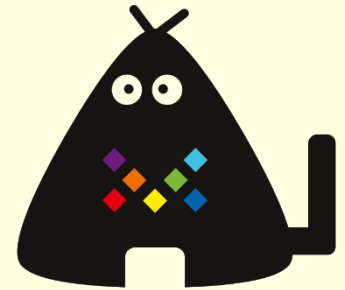
SaveMLAK <https://savemlak.jp/>

M : Museum

L : Library

A : Archives

K : Kominkan (community center)



**saveMLAK**

- Summarizes the damage situation of library etc.
- Supports restoration

# To the next disaster ...

## Inheritance of Lessons

**April 2017: Kumamoto earthquake**

**Preserving records at the time of occurrence**

**Goals of archive**

- People can learn knowledges
- Researchers can utilize data
- Damage can be reduced

# Tohoku University Library

## future prospects

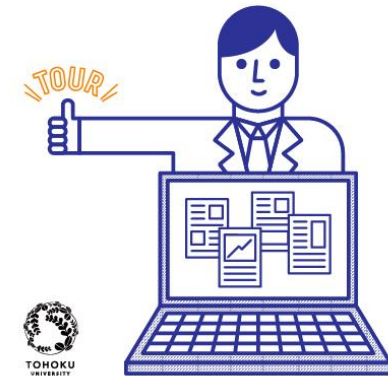
### Open Access and Open Science

- 2017: open access policy
- Enrich institutional repositories

### Digitization of classical materials

- Wasan, Medical science, Literature, . . .

研究成果の  
オープンアクセス化は  
東北大学の使命です。



# Thank You!!



## Contact

[marie.kobayashi.c7@tohoku.ac.jp](mailto:marie.kobayashi.c7@tohoku.ac.jp)