An Innovative Disaster Digital Archive System

Global Risk Forum, Davos

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### Category of Major disaster digital archive

**IT Group**
- Yahoo! JAPAN
- Google

**Media Group**
- NHK (Japan Broadcasting Corporation)
- FNN (Fuji News Network)
- Kahoku Shimpo Publishing Co.

**Education and research Group**
- Tohoku University
- Iwaki Meisei University
- Keio University
- Tohoku Gakuin
- Fukushima Medical University
- Japan Atomic Energy Agency

**Others Group**
- Norinchukin Research Institute Co., Ltd.
- Japanese Red Cross Society

**Administrative organization group**
- National Diet Library, Iwate prefecture, Miyagi Prefectural Library
- Tagajo city in Miyagi prefecture
- Hachinohe City, Misawa City, Oirase Town and Hashikami Town in Aomori Prefecture
- Kuji City, Noda Village and Fudai Village in Iwate Prefecture
- Koriyama City, Tomioka Town, Futaba Town and Kawauchi Village in Fukushima Prefecture
- Urayasu City in Chiba Prefecture
- Sendai mediatheque
Digital Archives of
the Great East Japan Earthquake
Our Missions

Collection → Sharing → DRR

Digital records and knowledge from various sources

Tohoku University IRIDeS

Recovery support
Tokai-Tonankai-Nanai Earthquake countermeasure
LPHC solution
Lessons tradition

Collaboration

Cooperation

Movie
Text
Photo
Voice

Victims, Local Gov’t, NPO, etc..

industry–government–academia
Over 120 institutions
# Over 120 Comprehensive Agreement with between the Government-Academia-Private Sector

| University | Tohoku University’s Archives, Disaster Prevention Research points, libraries and Disaster Experience Recording Projects as well as the Sendai School ? Design and the Reischauer Institute at Harvard University, US. |
| NPO | Japan Image and Information Management, Japan Federation of Bar Association, National Institute for Earth Science and Disaster Prevention, Prop Station (Association for Disability), Tohoku Image and Information Association and the NPO for the design of digital heritage. |
| Media | Local Newspapers and the Media Technology branch of Japan’s national television, NHK. |
Data collection and technology
Dispatching surveyors みちのく・いまをたたえ隊

Aim
- A feature of the Great East Japan Earthquake: A wide range of affected area
- Solution: carrying out comprehensive and continuous fieldwork.

Characteristics
- Collecting information among 15 coastal areas and local governments, Miyagi Prefecture
- Job creation in affected area
Organizing and Sharing Earthquake-Related Records

- Michinoku Shinrokuden and its partners have collected and store hundreds of thousands of earthquake-related records.
- However, photographs and video footages, images can only be searched after creating metadata has been assigned to them. It represents the most significant challenges.
- Data can inform recovery and reconstruction.
- Disaster prevention written format, such as testimonies education, earthquake sightseeing tours, and storytelling.
Contents collection

3.11

Photograph by the researchers

One Year

Season 1

Season 2

Two Year

Season 3

Season 4

30,000 photographs

25,000 photographs

40,000 photographs
Computer modeling and simulations
Private videos (March 11, 2011)
Laser Measurement （June 2011）
Street view camera

Record period
First time Jun. 2011, Second time Nov. 2011
Disaster Recovery & Reconstruction
Monitoring
360 Street View

3 month after

7 month after

15 month after
Miyagi Prefecture

2011年

2018年

https://bosaikanko.jp/
Land elevation in Rikuzentakata City

2015年7月

2015年10月

2015年12月
Disaster Risk Reduction
Utilization of earthquake record at workshop

Workshop at NHK (2012)

Workshop at Harvard University (2015-)

Workshop at Tagajo city (2014)
Storytelling Symposium

This is the third time in Tohoku after the 2011 Tohoku Earthquake, Mrs. Takeshita is performing public readings in order to hand down the memories and resilient, living hopes of the disasters.

1 thousand participants every year

“Kataritsugi” = Lessons tradition
Rubble is no garbage  Ms.E from Ishinomaki city
She makes a living by writing. All of her family was alive somehow but her home got washed away by the tsunami after the earthquake.
Disaster Tourism
Disaster Tourism

Bosai Kanko

Built with Sendai and Miyagi Prefecture

https://bosaikanko.jp/
津波からの避難の方法について考える。各小学校での避難方法の違いについて学び、地域や地形の特徴に合わせた津波避難の方法を考えるプログラム。

バス移動を想定してのコースの総所要時間 8時間

震災遺構 仙台市立荒浜小学校
一面平野部で逃げる場所がほとんど無い場所

石巻市旧門脇小学校
小学校の裏には山があり、津波によって火災が発生した場所

石巻市旧大川小学校
内陸に4kmに位置し、河川遡上などもあった場所
Interview with Participants and

California University

Taipei University

Thailand University

Harvard University
Disaster Global Collaborations
Expositions at the United Nations, New York (9-10.07.2014)

As mayor of the City of Rikuzentakata, it is our great honor to be part of the Third United Nations World Conference on Disaster Risk Reduction in March 2015.

On March 11, 2011, a M9.0 earthquake and a giant tsunami hit the City of Rikuzentakata. Our town is essentially gone. Among 34,346 people living in our city, we lost 1,759 lives and 203 people still missing. Over 3,900 buildings were either completely or partially destroyed including all public buildings and facilities. We created 51 evacuation shelters and held over 10,000 displaced people. However, it does not end here. We are committed and dedicated to recover and rebuild our city. Your generous donations of time, goods, money, and personnel, along with your letters, cards, prayers, and support have kept us going. For this and more, we are truly grateful.

The City of Rikuzentakata has now committed to create and develop the Town of Social Innovation (ソーシャリティーシティ) which we will share with you. As our reconstruction plan. We would like to share our plan and direction of the city with people of the world as the token of our appreciation for your supports. Please come and visit to our town, City of Rikuzentakata. In March 2015.

Thank you again for your support.

Takashi Toba
Mayor, City of Rikuzentakata

The miracle pine tree that stood as a symbol of hope in Japan after surviving the huge tsunami over 15 meters that swept away a forest of 70,000

Host City Fee
UN World Conference on Disaster Risk Reduction 1996 Sendai Japan

We are looking forward to your visit!

It is a great honor for Sendai City to hold the Third United Nations World Conference on Disaster Risk Reduction (WCDRR) and, as a mayor of the host city, I hope that many participants will come to Sendai from all over the world. We hope that our experiences and the lessons we have learned will help other cities around the world in their own disaster reduction. We sincerely hope that our efforts will help to reduce the impact of disasters around the world, even if only a little bit. We look forward to seeing you in Sendai.

Emiko Okuyama
Mayor, City of Sendai

2015.3.14(sat)- 18(wed)
in Sendai, JAPAN
UN-World Conference on Disaster Risk Reduction

2015 Sendai, JAPAN
Products and outputs

- Tsunami data
- Maps with photos
- Reconstruction photos
- Digital picture book
- Tsunami simulation
- LVSquare michinoku
- 3D movies
- Tsunami AR
Collaboration

Technical collaboration

Provision of Record

Newspaper company

Harvard University JDArchive

Japan National Diet Library
Beyond Tohoku: Kumamoto Earthquake 2016

Digital Archives of the Kumamoto Earthquake (2016)
23 November 2016 Memorandum of Agreement signed with the Aceh Tsunami Museum.

DATA Project
Digital Archives of Tsunami in Aceh
Construction and Necessity of Kumamoto Earthquake Digital Archives
Prof. Toshitaka Yamao
Digital Archive, Kumamoto University
Conclusion

Disaster records can be used the construction and the promotion of search systems that encourage the exploitation of these earthquake records for disaster mitigation, risk reduction and sustainable development within lay, professional and academic communities.

In the future, along with the development of this natural disaster archive initiative, our ambition is to utilize the knowledge accumulated over the years to support the development of international standards and disaster archives such as the Digital Archives of Tsunami in Aceh (DATA) with Syiah Kuala U. and the Japan Disaster Archives at Harvard U.
Thank you very much