

French-Japanese Week on Disaster Risk Reduction

Oct. 2-8, Tokyo and Sendai

# France-Japan cooperation on disaster risk reduction (DRR)

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# Introduction and context to DRR

- International context



UN World Conference on  
Disaster Risk Reduction  
2015 Sendai Japan

- Third UN World Conference on Disaster Risk Reduction held on 18 March 2015 in Sendai
- Implementation of the Sendai Framework for DRR
- Targets and priorities of action for 2030

- Important volume of research in both countries

- France and Japan always in world top 10
- Joint publications volume can be improved

| Number of publications (2011-2017) and world ranking |       |                  |        |                 |                |
|--|-------|------------------|--------|-----------------|----------------|
| Topic  | Japan |                  | France |                 | France & Japan |
| Earthquakes  | 7592  | 3 <sup>rd</sup>  | 1773   | 8 <sup>th</sup> | 105            |
| Tsunamis   | 2422  | 1 <sup>st</sup>  | 374    | 7 <sup>th</sup> | 37             |
| Flood  | 1266  | 10 <sup>th</sup> | 1691   | 6 <sup>th</sup> | 14             |
| Volcanoes  | 860   | 6 <sup>th</sup>  | 1042   | 4 <sup>th</sup> | 40             |
| Typhoons   | 1084  | 4 <sup>th</sup>  | 614    | 9 <sup>th</sup> | 29             |
| Avalanches   | 432   | 5 <sup>th</sup>  | 408    | 7 <sup>th</sup> | 23             |

# National strategies on DRR in Japan and in France

## • In Japan



- Cross-ministerial SIP program
- Enhancement of Societal Resiliency against Natural Disasters
- Funded by the JST and led by Prof. Muneo HORI (The University of Tokyo/ERI)



戦略的イノベーション創造プログラム  
Cross-ministerial Strategic Innovation Promotion Program



Impulsing Paradigm Change through Disruptive Technologies Program  
IMPACT  
革新的研究開発推進プログラム

- CSTI ImPACT programs
- « Control the impact and minimize the damage from hazards and natural disasters that are beyond human knowing »

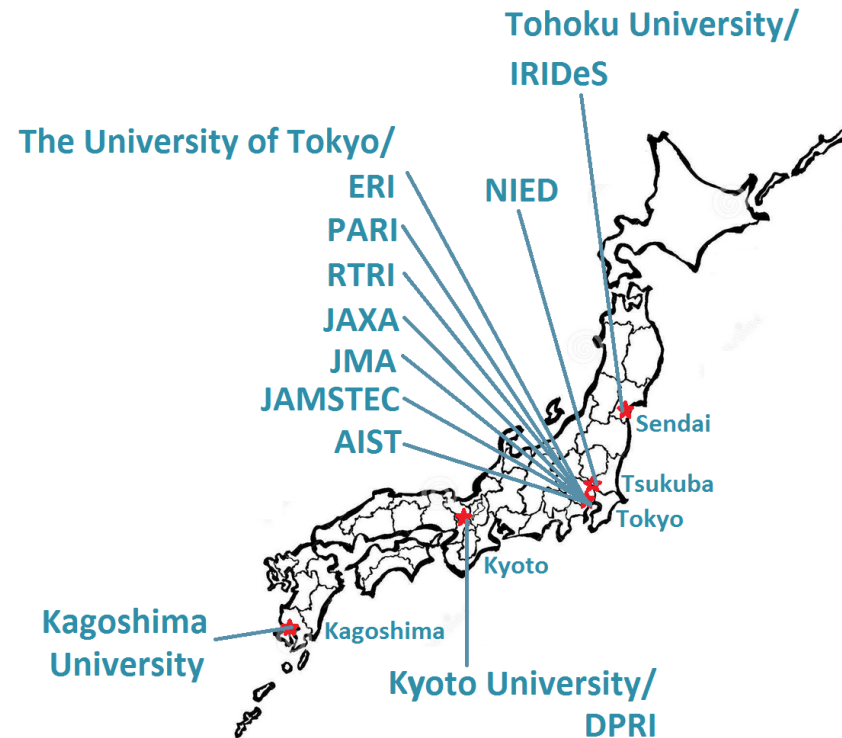
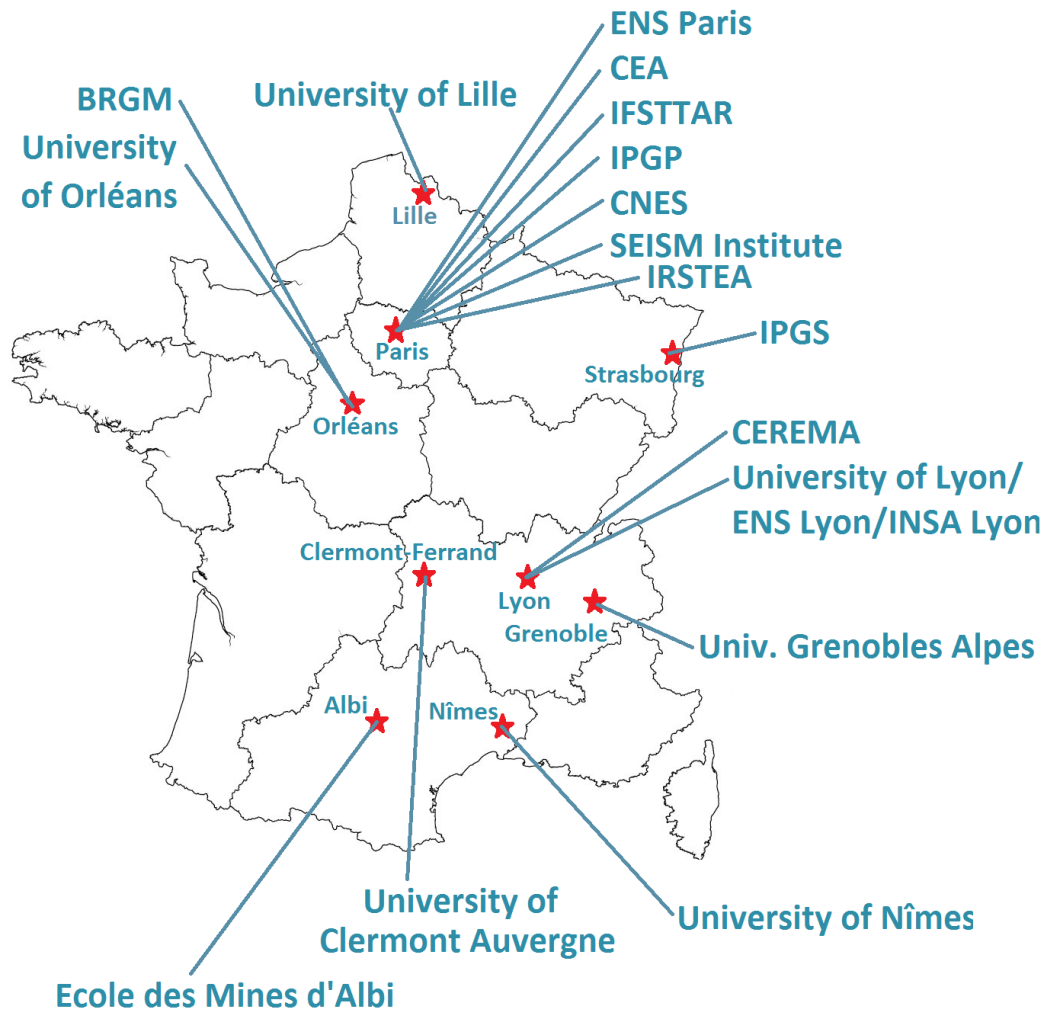
## • In France

- Various initiatives focused on specific regions
- and/or specific risks
- involving research institutes and the National Observatory of Natural Risks (ONRN)

Programmes d'action  
de prévention des inondations (PAPI)  
De la stratégie aux programmes d'action  
Cahier des charges



# Main players of DRR in France and in Japan



# Remarkable French-Japanese cooperations

- **Tsunami**
  - Tohoku University and Lyon University (incl. avalanches and floods)
  - JMA/MRI and CEA/LDG
- **Earthquakes**
  - Tohoku University/IRIDeS and IPGS
  - The University of Tokyo/ERI and IPGP (incl. volcanoes)
  - Kyoto University/DPRI and BRGM
- **Measuring and Monitoring**
  - The University of Tokyo/ERI and BRGM
  - Tohoku University/IRIDeS and IPGS
- **Avalanches**
  - NIED and IRSTEA
- **Resilience**
  - International Joint Laboratory on Human Protection and Response to Disasters (2013-2016)
- **Many more...**

# Key topics of the France-Japan cooperation on Disaster Risk Reduction

- **Ongoing key collaboration topics**
  - Critical infrastructure disaster risk reduction
  - Energy dissipation during floods, avalanches, tsunamis
- **Key collaboration topics to be developed**
  - Sociological approach of ecological risks and disasters
  - Muography
  - Observation of fossile structures on land
  - Groud-Penetrative Radar (GPR) measurement

# French-Japanese week on Disaster Risk Reduction 2017

## French-Japanese Week on Disaster Risk Reduction

日仏防災イベント週間



Tokyo & Sendai, October 2-8, 2017

- A follow-up of the **Third UN World Conference on Disaster Risk Reduction** (18 March 2015, Sendai)
- Bring together the French and Japanese players of DRR
- A **one-day symposium** featuring keynote speeches on 2 axis among those defined by the UN:
  - Risk identification and assessment
  - Urban risk and social impact
- Around 15 **bilateral workshops**
- Visits

# Program of the French-Japanese week on Disaster Risk Reduction 2017

| Session  | Time  | Presentation | Organism/Project   | Speaker  |
|--|-------|--------------|--|--|
| <i>Chair:</i><br>Sébastien<br>CODINA<br>Scientific Attaché,<br>Embassy of<br>France in Japan | 10:00 | 10:10        | Welcome address  | Bureau français de<br>la MFJ – UMIFRE 19<br>Cécile SAKAI                               |
|  | 10:10 | 10:15        | Overview on French-Japanese<br>cooperation on DRR  | Embassy of France<br>Pierre FEUARDANT  |
|  | 10:15 | 10:35        | Sendai Framework for Disaster Risk<br>Reduction  | UNISDR Office in<br>Japan<br>Yuki MATSUOKA   |
| Risk<br>identification<br>and<br>assessment  | 10:35 | 10:55        | Observatories and monitoring systems   | IPGP<br>Anne LE FRIANT   |
|  | 10:55 | 11:15        | Fluid circulations along the seismogenic<br>zone: insights from natural examples and<br>relationship with earthquake cycle | Universities of<br>Kagoshima and<br>Orléans<br>Yujin KITAMURA /<br>Hugues<br>RAIMBOURG |
|  | 11:15 | 11:35        | Monitoring of slow earthquakes –<br>Possible connection to huge earthquakes  | ERI<br>Kazuhige OBARA  |
|  | 11:35 | 11:55        | Imaging, sampling and monitoring<br>subduction seismogenic zone  | JAMSTEC<br>Shuichi KODAIRA   |
|  | 11:55 | 12:15        | Effect of a weak periodic modulation on<br>earthquakes   | ENS Paris/ERI<br>Takahiro HATANO   |
|  | 12:15 | 12:35        | Ground Penetrating Radar (GPR) and its<br>applications   | Tohoku University /<br>IPGS<br>Maksim BANO /<br>Motoyuki SATO                          |
| <i>Chair:</i><br>Jean-Paul<br>MONTAGNER<br>Professor at IPGP                                 | 12:35 | 12:55        | Tsunamis in the Atlantic and the English<br>Channel - Definition of the effects through<br>numerical modeling              | TANDEM<br>Hélène HEBERT  |
|  | 12:55 | 13:10        | Panel discussion and questions   |  |
|  | 13:10 | 14:20        | Lunch  |  |
|  | 14:20 | 14:40        | Landslides in urban residential slopes<br>induced by strong earthquakes in Japan   | BRGM / DPRI<br>Toshitaka KAMAI   |
|  | 14:40 | 15:00        | Can large cities be designed as<br>earthquake shields?   | IFSTTAR<br>Jean-François<br>SEMBLAT  |
|  | 15:00 | 15:20        | Improving the seismic risk analysis for<br>nuclear facilities safety   | SINAPS@<br>Catherine BERGE-<br>THIERRY   |
|  | 15:20 | 15:40        | A cross-disciplinary approach to risk<br>assessment and management in Univ<br>Grenoble-Alpes                               | Univ. Grenoble Alpes<br>Sandrine CAROLY /<br>Céline CHOLEZ                             |
|  | 15:40 | 16:00        | Mediation Information system to support<br>agility of crisis management  | GéNéPi<br>Frédéric<br>BENABEN  |
|  | 16:00 | 16:20        | Coffee break   |  |
|  | 16:20 | 16:40        | Protection from nuclear disaster and<br>production of knowledge: the Fukushima<br>case                                     | CNRS-Clerse-<br>University Lille 1<br>Thierry RIBAUT                                   |
| Urban risk<br>and social<br>impact   | 16:40 | 17:00        | Disaster management and health<br>emergencies  | Mines Alès /<br>University of Nîmes<br>Gilles DUSSERRE                                 |
|  | 17:00 | 17:20        | Lyon Urban School: new approaches to<br>the urban vulnerability  | University of Lyon<br>Michel LUSSAULT  |
|  | 17:20 | 17:40        | Universities role for Sendai Framework on<br>DRR: actions of IRIDeS, Tohoku University                                     | Tohoku<br>University/IRIDeS<br>Fumihiko<br>IMAMURA                                     |
|  | 17:40 | 17:55        | Panel discussion and questions   |  |
|  | 17:55 | 18:00        | Closing remarks  | Embassy of France<br>Sébastien CODINA  |

| Date                    | Venue                  | Event  | Organizers  |
|-------------------------|------------------------|--|---|
| Monday,<br>October 2    | MFJ<br>Auditorium      | Symposium on French-Japanese cooperation on<br>disaster risk reduction   | Embassy of France in Japan, Bureau<br>français de la MFJ – UMIFRE 19  |
|                         | Embassy of<br>France   | MUOGRAPHERS 2017 General assembly ( <i>by<br/>invitation only</i> )  | The University of Tokyo, ERI, BRGM,<br>INFN, INGV, INAF, Wigner RCP, Sheffield<br>University, CNRS, Kansai University |
|                         | Residence<br>of France | Reception at 18:45 ( <i>by invitation only</i> )   | Embassy of France in Japan  |
| Tuesday,<br>October 3   | MFJ<br>Auditorium      | Sedimentary signature of tsunamis  | Université Clermont Auvergne,<br>IRIDeS, IPGP   |
|                         | MFJ 601                | Workshop on earthquakes and triggered hazards  | BRGM, DPRI  |
|                         | MFJ 501                | Disaster management and health emergencies   | Mines Alès, University of Nîmes,<br>CHU Grenoble Alpes  |
|                         | AORI                   | Mega-earthquakes in subduction zones: insights<br>from fossil examples exhumed onland  | University of Orléans, Universities<br>of Kagoshima and Tokyo, AIST   |
|                         | ERI                    | Monitoring of active processes in seismic and<br>volcanic zones  | IPGP, ERI   |
| Wednesday,<br>October 4 | MFJ<br>Auditorium      | France-Japan Tsunami and Disaster Risk Reduction<br>Workshop   | University of Lyon, Tohoku<br>University  |
|                         | MFJ 509                | Tsunami in the Atlantic and the English Channel:<br>Definition of the effects through numerical<br>modelling (TANDEM) Workshop | CEA with TANDEM project<br>partners and JMA   |
|                         | MFJ 601                | GéNéPi project workshop – mediation information<br>system to support crisis management   | GéNéPi project partners   |
|                         | MFJ 501                | Workshop on GPR measurement of active faults<br>and tsunami sediments (PM)   | IPGS, Tohoku University   |
|                         | RTRI                   | Earthquake engineering: soils, structures and Soil-<br>Structure Interaction ( <i>by invitation only</i> )                     | IFSTTAR, RTRI (internal meeting)  |
|                         | ERI                    | Monitoring of active processes in seismic and<br>volcanic zones  | IPGP, ERI   |
| Thursday,<br>October 5  | MFJ<br>Auditorium      | Workshop on the prediction of non-linear soil<br>behavior  | SEISM, IFSTTAR, CEREMA, DPRI  |
|                         | MFJ 601                | Knowledge and vulnerability in the Fukushima<br>nuclear disaster (AM)  | CNRS, Université de Lille   |
|                         |                        | Crisis, Breaks and new Dynamics in post 3.11<br>Japan (CBD311), UMIFRE 19 (MFJ) (PM)   | Bureau français de la MFJ –<br>UMIFRE 19  |
|                         | MFJ 501                | Workshop on subsurface electromagnetic<br>measurement  | Tohoku University   |
|                         | MFJ 509                | Tsunami in the Atlantic and the English Channel:<br>Definition of the effects through numerical<br>modelling (TANDEM) Workshop | CEA with TANDEM project<br>partners and JMA   |
|                         | ERI                    | Monitoring of active processes in seismic and<br>volcanic zones  | IPGP, ERI   |
|                         | IRIDeS                 | France-Japan Tsunami and Disaster Risk Reduction<br>Workshop (PM)  | University of Lyon, Tohoku<br>University  |
|                         | IRIDeS                 | Reception at 18:30 ( <i>by invitation only</i> )   | IRIDeS  |
| Friday,<br>October 6    | Sendai,<br>Tagajo      | IRIDeS tour, field trip ( <i>by invitation only</i> )  | Tohoku University   |
| October 7-8             | Sendai                 | Tohoku University open campus  | Tohoku University   |





Thank you for  
your attention

# Annex : detail of remarkable French-Japanese collaborations

- **Tohoku University and Lyon University**
  - 20 years cooperation in materials sciences, fluid mechanics, thermal exchanges, tribology...
  - A joint laboratory, ELyT Lab
  - Yearly workshops on tsunami, snow avalanche and flash flood energy dissipation
- **Tohoku University/IRIDeS and IPGS**
- **International Joint Laboratory on Human Protection and Response to Disasters**
  - Created in 2013 following the Fukushima nuclear accident, active until end of 2016
  - Studied vulnerability and various modalities of responses to it, as well as ways to administrate it, in terms of protection or absence of protection
- **Kyoto University/DPRI and BRGM**
  - French-Japanese symposium on earthquakes and triggered hazards in September 2015 in Orléans
- **The University of Tokyo/ERI and IPGP**
  - Workshop on geodynamics, earthquakes and volcanic eruptions in September 2015 in Paris
- **The University of Tokyo/ERI and BRGM**
  - MoU on muography
- **The University of Tokyo/ERI and ENS Paris**
- **NIED and IRSTEA**
  - Collaboration on airborne particle transport with application on snow avalanches
- **AIST/Geological Survey of Japan and BRGM**
  - 5 years agreement signed in 2014 for cooperation on geosciences
- **RTRI and IFSTTAR**
- **PARI and CEREMA**
- **JMA/MRI and CEA/LDG**
- ...