

# The big picture of environmental computing @ ISGC 2016

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- Starting points
  - EnCompAS network of experts (2014 - )
  - Sendai WCDRR side event
  - Discussions at ISGC 2015
- What’s new since last year?
  - Environmental computing focus day (eScience 2015)
  - Envcomp.eu website
  - Workshops, papers,..
  - Liaisons and collaborations
  - And of course ongoing problem-oriented research activities!
- Community of practice is starting to take shape
  - Regular meetings, contact network
  - Attractiveness as an academic topic?

futureearth  
research for global sustainability

JOIN THE DISCUSSION  
ON OUR BLOG

SEARCH

FOLLOW US    

GET IN TOUCH 

TRANSLATE

- HOME
- WHO WE ARE
- NEWS AND EVENTS
- SCIENCE
- IMPACT
- GET INVOLVED
- MULTIMEDIA



## 9 reasons to put a global fixed price on carbon

Now is the time for a price on carbon, says Sandrine Quéré

### Our activities

RESEARCH AND PROJECTS 

MORE

NEW INITIATIVES 

MORE

OUR VISION 

MORE

- Broad initiative
  - From measuring attitudes of population to modelling challenges
  - Supported by ICSU, UNESCO, UNEP,
- Inter- or trans-disciplinary
  - Already on the subgroup level
  - Example: „Cross community workshop on Extreme Events and Environments from Climate to Society (E3S)“
- Discussions with Integrated Risk Governance project ongoing
  - „Effort in risk research to improve the management of new risks that exceed current coping capacities“

- „Science of information applied to environmental science“
  - Recognised by funding agencies
  - Fairly long history, conference series, journals...
- Very close to what environmental computing is (intuitively)
  - Modelling of environmental phenomena
  - Transdisciplinary approach
- Differences
  - Very broad scope: tools, environmental impact of using the tools
  - Focus on enabling research rather than producing actionable knowledge?





## UNISDR SCIENCE AND TECHNOLOGY CONFERENCE ON THE IMPLEMENTATION OF THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015-2030

27-29 JANUARY 2016 | GENEVA, SWITZERLAND

### ABOUT THE CONFERENCE

The conference aims to bring together the full diversity of the science and technology community, policy makers, practitioners and researchers from all geographical regions, at local, national, regional and international levels to discuss how the science and technology community will best support the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030.

The UNISDR Science and Technology Conference on the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 will be held in Geneva, Switzerland, from 27-29 January 2016.

### PRACTICAL INFORMATION

#### Badges

Distribution will take place from 15:00 to 18:00 on Tue 26 Jan and from 8:30 to 9:45 on Wed 27 Jan. Participants are invited to pick up their badges at their earliest convenience to avoid delays.

- Call for Abstracts**
- List of Abstracts for Poster Sessions
- Practical Information

### CONFERENCE UPDATES

- Summary of Outcomes
- View the conference **video** and **photo** highlights
- Conference Outcome Presentation
- List of Organizations Participated
- Terms of Reference of UNISDR Scientific and Technical Partnership

### BACKGROUND DOCUMENTS

- Application for joining to the Science and Technology Partnership
- Sendai Framework for Disaster Risk Reduction 2015-2030
- Sendai Framework for Disaster Risk Reduction 2015-2030
- Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

- Community-building effort by UNISDR to engage with science and technology
- Terms of reference are set in place, applications being processed
- Considerably broader scope than „just“ computing

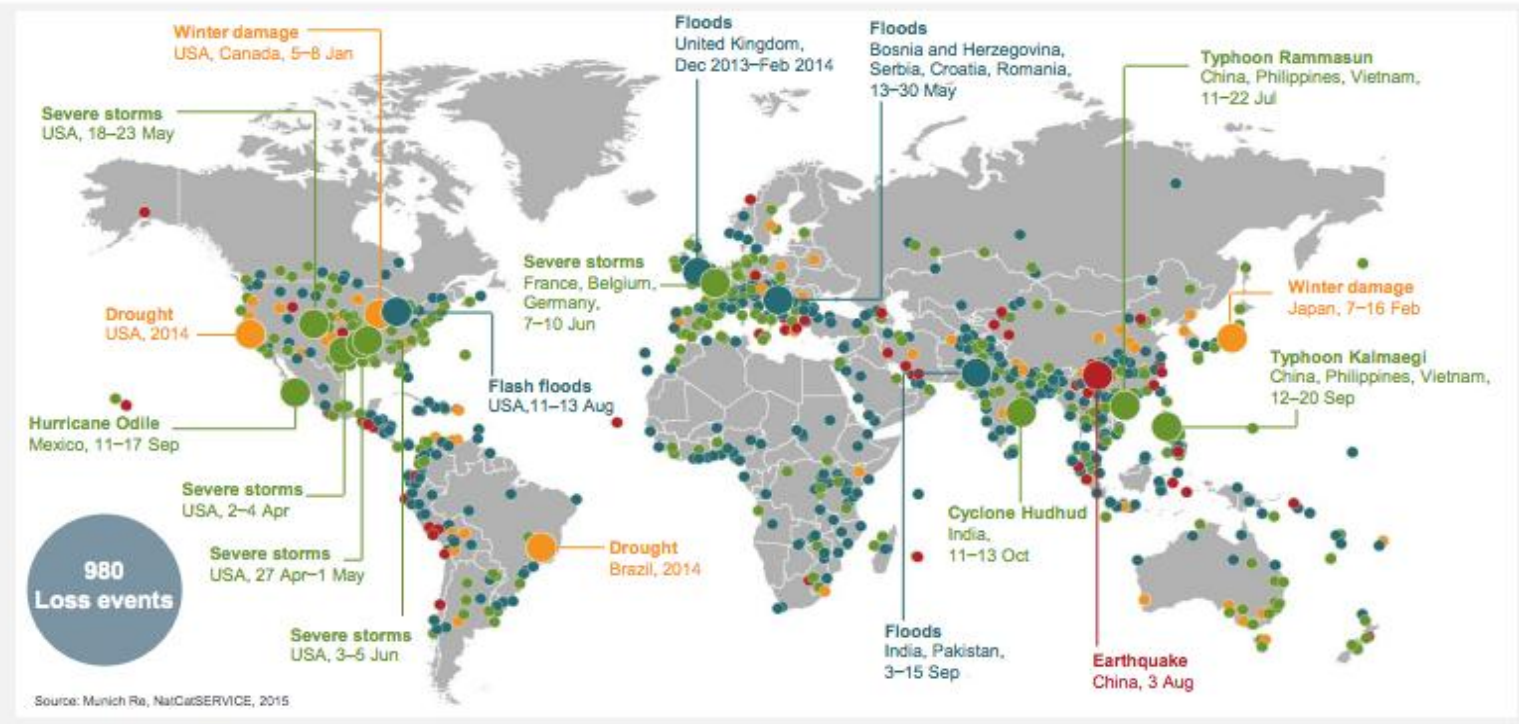
- What about the demand?



NatCatSERVICE

## Loss events worldwide 2014 Geographical overview

Munich RE 



Source: Munich Re, NatCatSERVICE, 2015

- **Loss events**
- **Selection of catastrophes**  
Overall losses  $\geq$  US\$ 1,500m
- **Geophysical events**  
(Earthquake, tsunami, volcanic activity)
- **Hydrological events**  
(Flood, mass movement)
- **Meteorological events**  
(Tropical storm, extratropical storm, convective storm, local storm)
- **Climatological events**  
(Extreme temperature, drought, wildfire)

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[http://www.preventionweb.net/files/41773\\_munichreworldmapnaturalcatastrophes.pdf](http://www.preventionweb.net/files/41773_munichreworldmapnaturalcatastrophes.pdf)

- **Priorities**
  - Understanding disaster risk
  - Strengthening disaster risk governance to manage disaster risk
  - Investing in disaster risk reduction for resilience
  - Enhancing disaster preparedness for effective response and to “Build Back Better”
- **Environmental computing relevant for all of them**
  - Require presenting the simulation results in different ways
- **“Words to Action” campaign**
  - Tracks commitments
  - Cross-cutting issues, stakeholders
    - From accountability to tourism
    - From academia to volunteer organisations

VISION  
CREATE  
RISK-RESILIENT  
SOCIETIES



OBJECTIVE  
MAKING  
INVESTMENTS  
RISK-SENSITIVE

What is R!SE Why R!SE The Activity Streams The Alliance Timeline Contribute to R!SE Media Contact

## Latest news

The what, why, how and who about R!SE



R!SE launched in Tokyo, Japan, on 11-12 March 2015



Concentrated growth, increased risk. Coastal areas, especially heavily populated megadelta regions, will be at greatest risk due to increased flooding. Photo credit: Brigitte Leoni, UNISDR.

The R!SE Initiative is an ambitious global response to a daunting global challenge, a new way of collaborating, to unlock the potential for public and private sector actors who are ready and willing to make a step forward and take leadership on disaster risk reduction.

The overall goal of the initiative is to make all investments risk-sensitive. R!SE will facilitate the exchange of experience and knowledge to implement tangible disaster risk reduction projects

## Events archives

View all events

## Publications & Downloads

View all publications



Global Assessment Report



R!SE Program Summary



UNISDR and PwC Working together to reduce disaster risk

- Ongoing interest in securing and optimising supply chains
  - Already cases of using “environmental computing” (e.g. sales forecasting based on weather information: 7-11, McDonalds,...)
- Streamlining of processes -> more and more minor events become visible
  - Global process – WTO TFA extending supply chain optimisation also to least developed countries
- Potential interest not limited to disaster situations

## ■ Strengthen the community

- Exchange, record and promote success stories, best practices, tools and standards
  - Today's workshop goal!
- We need more regular meetings
  - Find situations where there's a great fit between supply and demand
  - The breaks between today's sessions
- Maintaining and growing the community requires efforts
  - Especially true in case of an interdisciplinary one
  - Find “low hanging fruits” to make investments in interdisciplinary work pay off (perhaps joint efforts in SW configuration, packaging, building common vocabularies?)
  - Critical mass?

- Network
  - Build links outside the core team
  - Increase group of related initiatives, create links to them
- Eventually formalise the discipline
  - Crucial for career development of environmental scientists, funding
  - Easier to approach the related initiatives
  - Position the discipline within conceptual frameworks used by funding agencies
  - Communicate vision of what we could do in 10 years time
- Pitfalls to avoid
  - Do not get too fixed on the term “environmental computing”
  - Avoid becoming another “silo discipline”

- Find ways to continue today's discussions
  - Share contact details
  - Remind us at [info@envomp.eu](mailto:info@envomp.eu) if things seem quiet!