### **IRDR Data Project:**

### Summary of Activities

May-November 2013

### Co-Chairs: Susan L. Cutter, University South Carolina

### Angelika Wirtz, MunichRe

#### Project Members:

Bob Chen, CIESIN (Columbia University) Regina Below, CRED (University of Louvain) Lucia Bevere, Sigma (SwissRe) Daniele Ehrlich, EU Joint Research Centre Jan Eichner, NatCatService (MunichRe) Julio Serje, DesInventar (UNISDR) Carlos Villacis, UNDP Adam Smith, NCDC/NOAA Wei-Sen Li, National S&T Center for Disaster Reduction Maria Patek, Austrian Government Sisi Zlatanova, Delft University Frederic Zanetta, IFRC Ricardo Zapata Marti, Eclac Cepal Francis Ghesquiere, World Bank



Science Committee Meeting, November 12-14, 2013 Sanya, Hainan, China

# **Project Goals**

- Identify quality of existing data and data needs for improving integrated disaster risk management
- Bring together loss data stakeholders to identify common issues and develop synergies
- Develop standards/protocols to minimize data uncertainty
- Define "losses" and create transparent methodologies for assessing them
- Advocate for loss data at sub-national geographies
- Educate users on database biases and data intepretation



# Second Project Meeting

### September 29-October 2, 2013 Columbia, SC USA Hosted by ICoE-VaRM



#### **Attendees:**

Susana Adamo, CIESIN **Regina Below, EM-DAT** Lucia Bevere, SwissRe Daniele Ehrlich, EU JRC Jan Eichner, MunichRe Julio Serje, UNISDR Carlos Villacis, UNDP Adam Smith, NCDC/NOAA Wei-Sen Li, NCDR (Taipei) Melanie Gall, SHELDUS Susan Cutter

# Highlights

- Excursion to Congaree National Park (one of the largest tracts of old growth bottom land hardwood forest sin the U.S.)
- Welcome dinner hosted by Dean of College of Arts and Sciences
- Q&A with 30 students about global and national loss data
- Traditional southern BBQ





## Accomplishments

- 1. Modified peril classification produced (update Oct. 2009 common accord)
- 2. IRDR-DATA concurrence with CRED/UNDP draft Human Impact Indicators document
- 3. GLIDE operator accounts for some IRDR-DATA members; memo expression of interest to ADRC offering assistance to preserve and enhance product
- 4. Established project share site on UNDP's Teamworks for testing of peril classification system



## **Structure – Peril Main Events**

| Family           | M  | Main Event                       |  |  |
|------------------|--|----------------------------------|--|--|
| Geophysical      | Earthquake<br>Mass Movement                | Drought<br>Glacial Lake Outburst |  |  |
| Hydrological     | Volcanic Activity                          | Wildfire                         |  |  |
| Meteorological   | Flood                                      | Animal Incident                  |  |  |
| limatological    | Wave Action                                | Insect Infestation               |  |  |
| Biological       | Convective Storm                           | Airburst                         |  |  |
| Extraterrestrial | Extratropical Storm<br>Extreme Temperature | Impact<br>Space Weather          |  |  |
|                  | Fog  |                                  |  |  |

Tropical Cyclone

#### Peril

Ground Movement Fire following EQ Liquefaction Landslide following EQ Ash Fall Lahar Lava Flow Pyroclastic Flow Tsunami

Coastal Flood Flash Flood Ice Jam Flood Riverine Flood Avalanche: Snow, Debris Debris/Mud Flow/Rockfall Expansive Soil Sinkhole Coastal Erosion Rogue Wave Seiche Derecho Hail Lightning Rain Snow/Ice Tornado Wind Sandstorm/Dust storm Winter Storm/Blizzard Cold Wave Frost/Freeze Heat Wave Storm Surge

Dessication/Subsidence Forest Fire Land fire: Brush, Bush, Pasture Viral Bacterial Parasitic Fungal Prion

Shockwave Energetic Particles Geomagnetic Storm Radio Disturbance

| Earthquake<br>Mass Movement<br>Volcanic Activity<br>Flood<br>Landslide<br>Wave Action<br>Convective Storm<br>Extratropical Storm<br>Extratropical Storm<br>Extreme Temperature | Ground Movement<br>Fire following EQ<br>Liquefaction<br>Landslide following EQ<br>Ash Fall<br>Lahar<br>Lava Flow<br>Pyroclastic Flow<br>Tsurami  | Ground Movement<br>Fire following EQ<br>Liquefaction<br>Landslide following EQ<br>Ash Fall<br>Lahar<br>Lava Flow<br>Pyroclastic Flow   | Earthquake<br>Mass Movement<br>Volcanic Activity<br>Flood<br>Landslide<br>Wave Action<br>Convective Storm   | Geophysical<br>Hydrological<br>Meteorological<br>Climatological  |
|--|--|--|---|--|
| Mass Movement<br>Volcanic Activity<br>Flood<br>Landslide<br>Wave Action<br>Convective Storm<br>Extratropical Storm<br>Extratropical Storm<br>Extreme Temperature               | Fire following EQ<br>Liquefaction<br>LandsTide following EQ<br>Ash Fall<br>Lahar<br>Lava Flow<br>Pyroclastic Flow<br>Tsunastic Flow  | Liquefaction<br>Landslide following EQ<br>Ash Fall<br>Lahar<br>Lava Flow<br>Pyroclastic Flow   | Volcanic Activity<br>Flood<br>Landslide<br>Wave Action<br>Convective Storm  | Hydrological<br>Meteorological<br>Climatological   |
| Flood<br>Landslide<br>Wave Action<br>Convective Storm<br>Extratropical Storm<br>Extreme Temperature  | Landslide following EQ<br>Ash Fall<br>Lahar<br>Lava Flow<br>Pyroclastic Flow<br>Tsunami  | Landslide following EQ<br>Ash Fail<br>Lahar<br>Lava Flow<br>Pyroclastic Flow   | Flood<br>Landslide<br>Wave Action<br>Convective Storm   | Meteorological<br>Climatological   |
| Landslide<br>Wave Action<br>Convective Storm<br>Extratropical Storm<br>Extreme Temperature   | Lahar<br>Lava Flow<br>Pyroclastic Flow<br>Tsunaami   | Lahar<br>Lava Flow<br>Pyroclastic Flow   | Wave Action<br>Convective Storm   | Climatological   |
| Convective Storm<br>Extratropical Storm<br>Extreme Temperature   | Lava Flow<br>Pyroclastic Flow<br>Tsunami   | Pyroclastic Flow   |   |  |
| Extratropical Storm<br>Extreme Temperature   | 151marmi   | Tsunami  | Extratropical Storm   | Biological   |
| Extreme remperature  |  | Coastal Flood  | Fog<br>Teopical Carlons   | Extraterrestrial   |
| Fog<br>Tropical Cyclone  | Coastal Flood<br>Flash Flood<br>Ice Jam Flood  | Coastal Flood Hash Hood Integration Flood Ice Jam Flood Dri<br>Flash Flood Riverine Flood Gill<br>Riverine Flood Avalanche: Snow, Debris Wi<br>Riverine Flood Debris/Mud Flow/Rockfall An<br>Avalanche: Snow, Debris Expansive Soil Ep<br>Debris/Mud Flow/Rockfall Sinkhole Integration Air<br>Sinkhole Rogue Wave Integration Seiche Spe<br>Coastal Erosion Seiche Spe  | Iropical Cyclone<br>Drought<br>Glacial Lake Outburst<br>Wildfire<br>Animal Incident<br>Epidemic<br>Insect Infestation<br>Airburst<br>Impact<br>Space Weather  | Significance:  |
| Drought<br>Glacial Lake Outburst   | Riverine Flood<br>Avalanche: Snow, Debris<br>Debris/Mud Flow/Rockfall  |  |   | All data providers class the peril   |
| Animal Incident<br>Epidemic  | Expansive Soil<br>Sinkhole<br>Coastal Erosion  |  |   | using a standardized scheme  |
| Airburst<br>Impact   | Rogue Wave Derecho   Seiche Hall   Derecho Hall   Lightning Rain   Hall Snow/Ice   Tornado Wind   Sandstorm/Dust storm Winter Storm/Blizzard   Cold Wave Frost/Freeze   Frost/Freeze Heat Wave   Storm Surge Dessectation/Subsidence   Forest Fire Land fire: Brush, Bush, Pasture   Viral Bacterial   Bacterial Evidemics   Parasitic Shockwave   Finegetic Particles Geomagnetic Storm |  | Permits comparability across  |  |
| Space Weather  |  |  | goals and objects of individual   |  |
|  |  |  | databases   |  |
|  |  |  | Enables top-down or bottom-up   |  |
|  |  |  | structure which meets needs of  |  |
|  |  |  | global to local databases   |  |
|  |  |  |   |  |
|  | Glocal Like Outburgt<br>Wildfire<br>Animal Incident<br>Epidemic<br>Insect Infestation<br>Airburst<br>Impact<br>Space Weather   | Glacal Law Outbant   Avalanche: Snow, Debris     Midline   Debris/Mud Flow/Rockfall     Animal Incident   Epidemic     Epidemic   Coastal Erosion     Insect Infestation   Rogue Wave     Airburst   Derecho.     Hail   Lightning     Space Weather   Derecho.     Hail   Lightning     Rain   Snow/Ice     Tornado   Wind     Sandstorm/Dust storm   Winter Storm/Blizzard     Cold Wave   Storm Surge     Oesscatton/Subsidience   Rorest File     Land file:   Bacterial     Perasitic   Viral | Glacial Lawe Dutburst.   Avalanche: Snow, Debris   Expansive Soil     Animal Incident.   Epidemic   Coastal Erosion     Epidemic   Sinkhole   Rogue Wave     Insect Infestation   Seiche   Bail     Arburst   Derecho   Hail     Impact   Space Weather   Derecho     Bain   Snow/Ice   Tornado     Vind   Sandstorm/Duist storm   Wind     Sandstorm/Duist storm   Wind   Sandstorm/Duist storm     Wind   Sandstorm/Duist storm   Heat Wave     Storm Surge   Dessication/Subsidence   Forest Fire     Endemics   Forest Fire   Land fire: Brush, Bush, Pusture     Viral   Bacterial   Epidemics     Parasitic   Shockwave   Enegretic Particles | Stactal Lawe Dutbuog<br>Wildfire   Avalanche: Snow, Deebris<br>Debris/Mud Flow/Rockfall<br>Expansive Soil   Expansive Soil   Epidemic<br>Insect Infestation     Animal Incident<br>Epidemic<br>Insect Infestation   Sinkhole   Coastal Erosion   Airburst     Impact<br>Space Weather   Derecho   Hail   Sinkhole   Space Weather     Derecho   Hail   Snow/Ice   Tornado   Wind     Sonow/Ice   Tornado   Wind   Sandstorm/Dust storm     Wind   Sandstorm/Dust storm   Heat Wave   Dessication/Subsidence     Frost/Freeze   Heat Wave   Dessication/Subsidence   Forest Fire     Land Wind   Sandstorm/Dust storm   Heat Wave   Dessication/Subsidence   Forest Fire     Land Wave   Dessication/Subsidence   Forest Fire   Land fire Epidemics   Parasitic Epidemics     Perset Fire   Tarnade   Bacterial   Bacterial   Bistic Storm   Bistic Storm |

Y'all come back to Columbia, South Carolina



Next meeting: May 2014 in Ispra, Italy hosted by EU Joint Research Center

- Measuring economic losses (methodologies)
- Measuring impacts
- Mechanisms for encouraging development of national and subnational loss data bases as part of 2015 Hyogo Framework meeting



