



R E S E A R C H ■

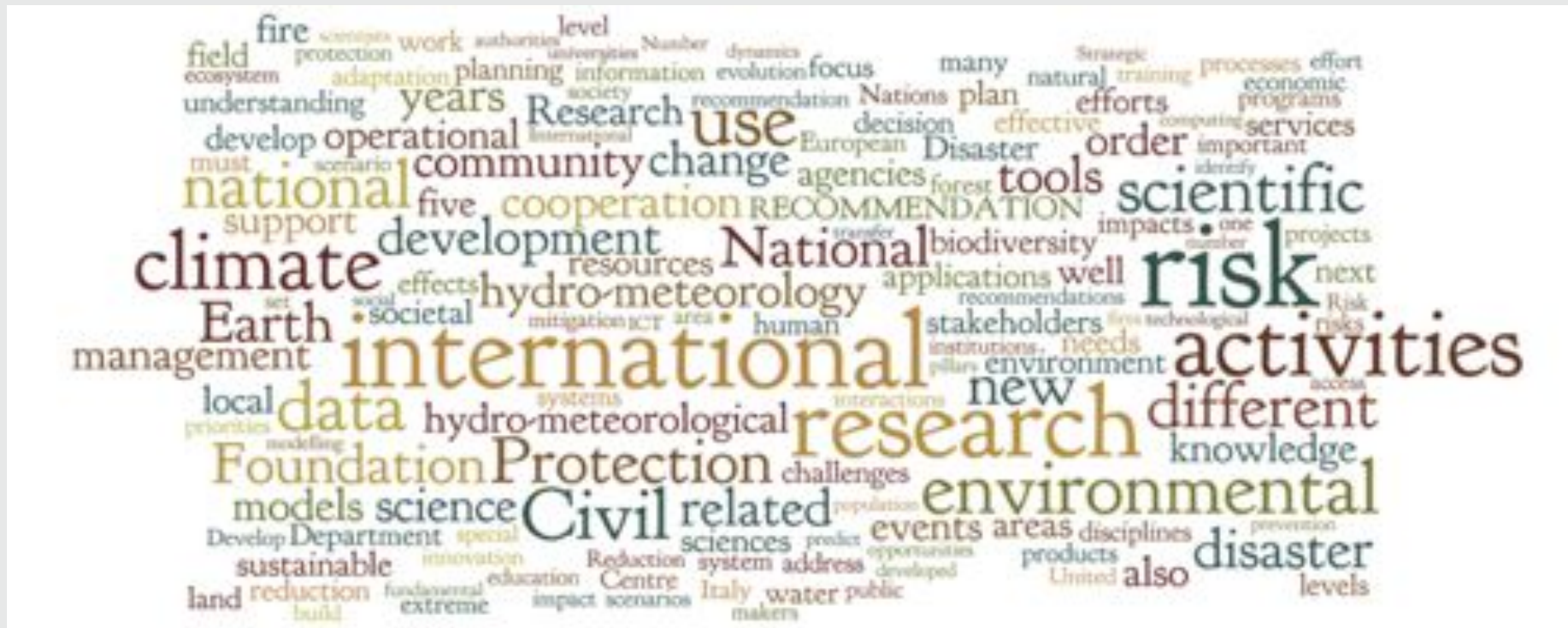


F O U N D A T I O N

OBSERVE TO PREDICT,
PREDICT TO PREVENT.

Roberto Rudari
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What is CIMA Foundation



CIMA Foundation (International Centre on Environmental Monitoring) is a **non-profit private research** institution

CIMA Foundation promotes and supports **education, research and technological advancement** in the field of natural and man-made **disasters** to answer the request of security of the modern society, both in developed and developing countries

Research Areas



Hydro-
meteorological risk

<http://www.cimafoundation.org/en/>



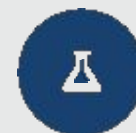
Forest Fire risk



Liability, Responsibility
& Governance in risk



Dispersion



Marine Ecosystems
Impacts

ufoundation.org | CIMA Research Foundation

Observare per prevedere, prevedere per prevenire

FONDAZIONE CIMA
CIMA RESEARCH FOUNDATION

CENTRO INTERNAZIONALE IN MONITORAGGIO AMBIENTALE
INTERNATIONAL CENTRE ON ENVIRONMENTAL MONITORING

HOME WHO WE ARE RESEARCH & DEVELOPMENT TRAINING PROJECTS English

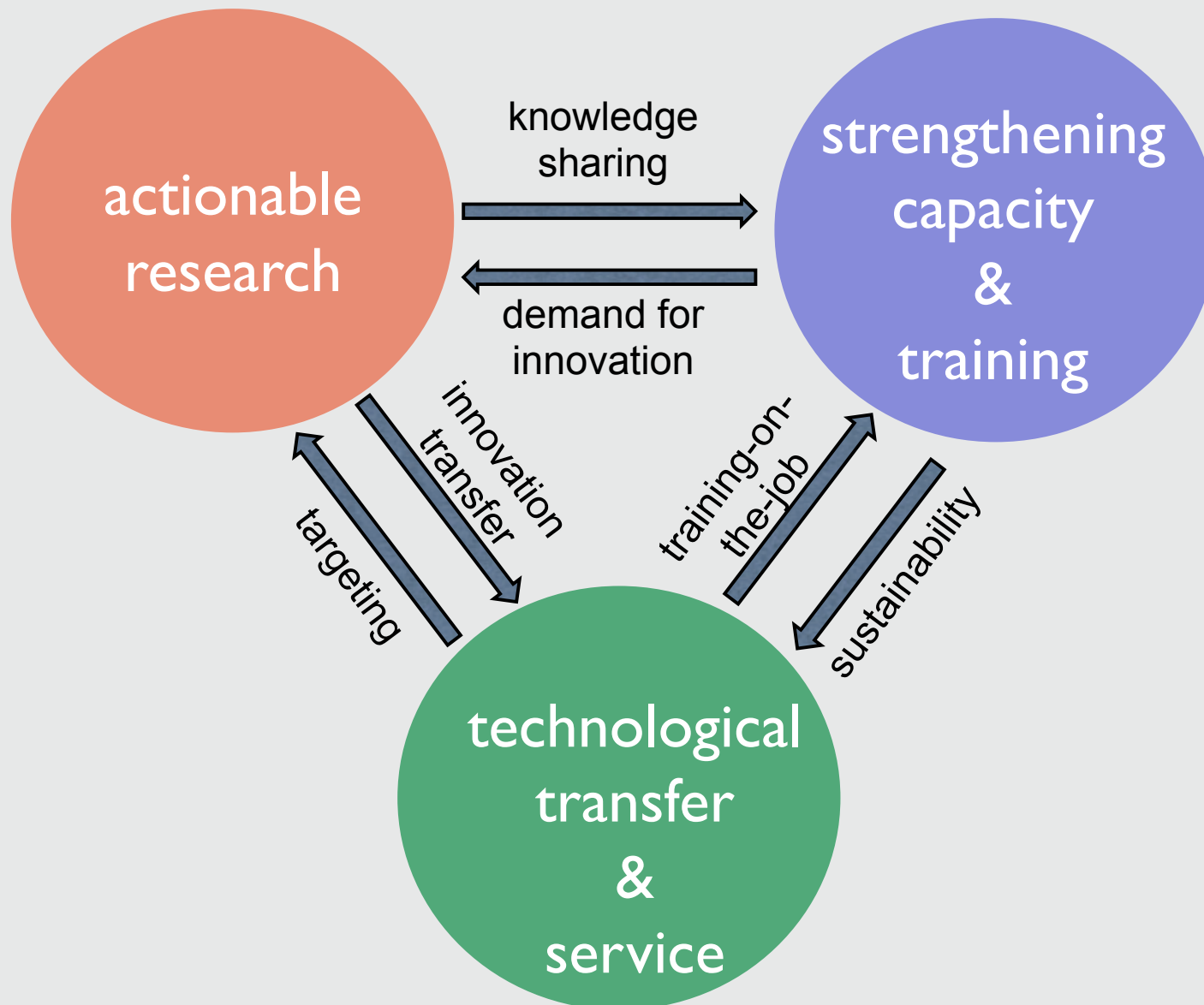
ECHO-FM
EO-based CHange detection
for Operational Flood
Management

Who We Are
Non-profit research organization fostering training, scientific research and technological development within the fields of Civil Protection, Disaster Risk Reduction and Biodiversity.
[Read more >](#)

Research & Development
Our research areas aim at finding solutions to today's global environmental challenges through predictive models for the reduction and prevention of natural and anthropic hazards.
[Read more >](#)

Training
We offer specific training and capacity building programs within the fields of Civil Protection, Disaster Risk Reduction and Biodiversity.
[Read more >](#)

The pillars of CIMA



Different typologies of project

- Scientific research
- International cooperation
- Policies consultancy on DRR
- Technical and institutional building for Civil Protection

LOSS DATA Related Activities

HISTORICAL COLLECTION OF DISASTER LOSS DATA IN ALBANIA



Area: Albania, Serbia
Client: UNISDR, WORLD BANK
Partners: Ministry of Internal Affairs (Albania),
(Serbia)
Date: Mar – Dec 2013



LOSS DATA Related Activities



Capacity building
for Loss Data
Collection and
Actual DB
implementation
(Desinventar)

Area: Kosovo, Belarus

Client: UNISDR

Partners: Ministry of Emergency situation of Belarus

Date: Jul – Dec 2014



LOSS DATA Related Activities

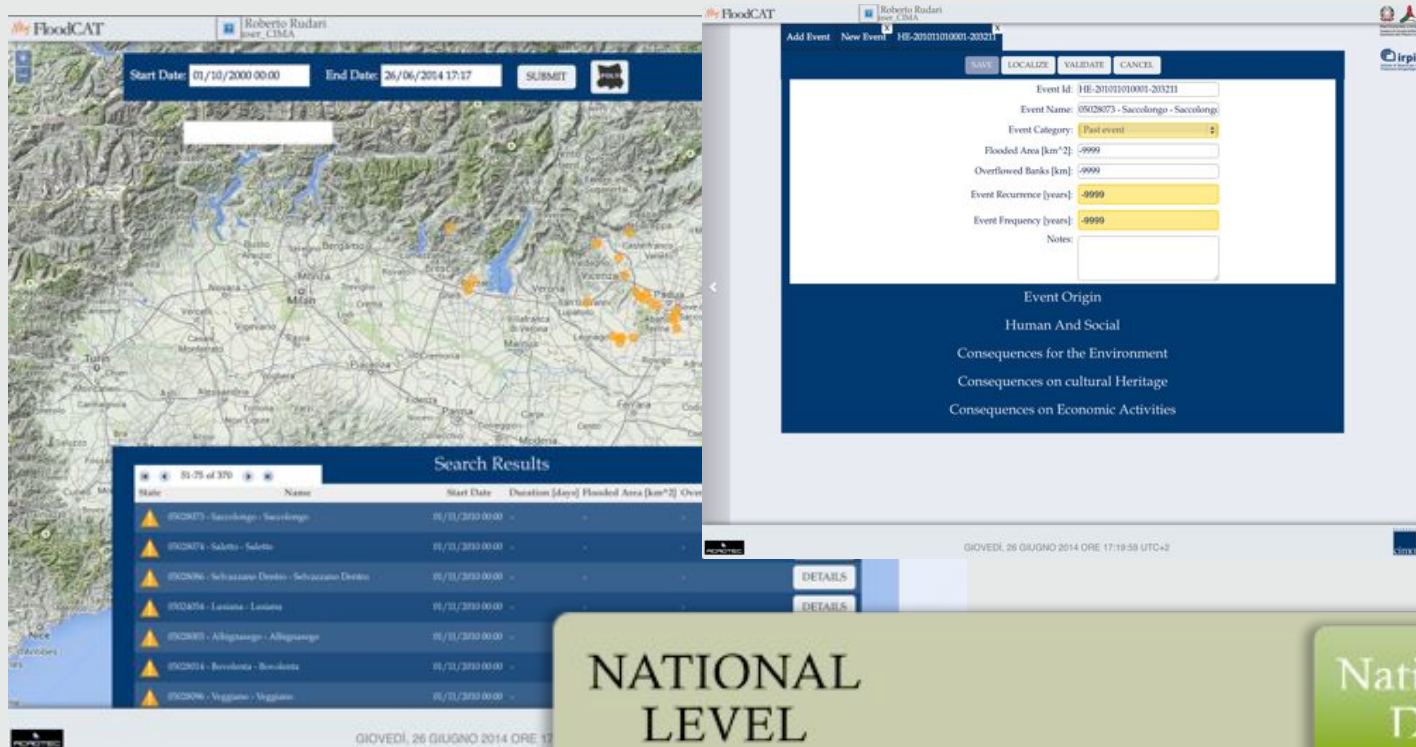


Capacity building for Loss Data Collection

Area: CARICOM
Client: UNDP
Partners: UNISDR
Date: Feb– July 2014



LOSS DATA Related Activities

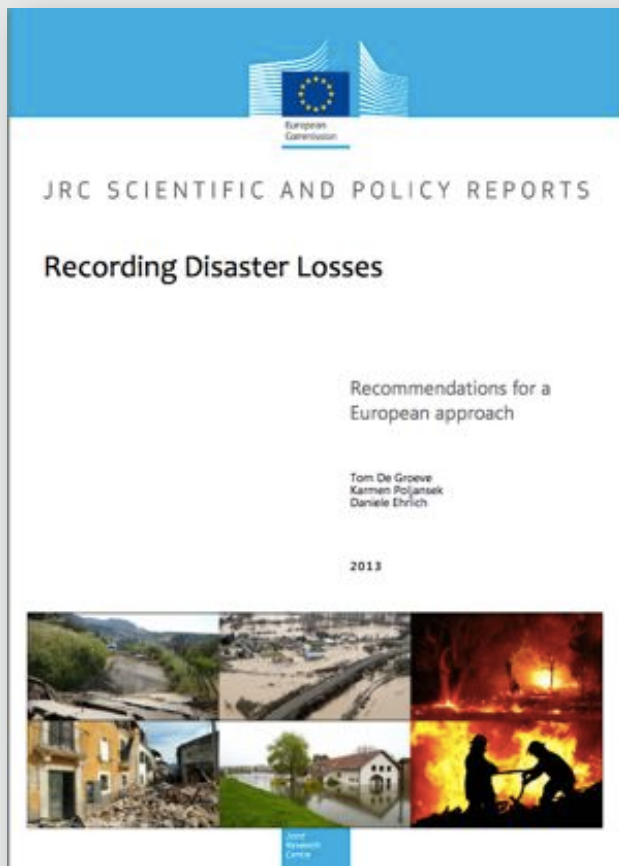


Implementation of a Flood Loss DB in support of the EU Flood Directive

Area: ITALY
 Client: DPC
 Partners: ISPRA
 Date: Sep 2013 – Dec 2014



LOSS DATA Related Activities



EU Loss Data WG:
Definition of EU Standards
on Data collection

Area: EU MS

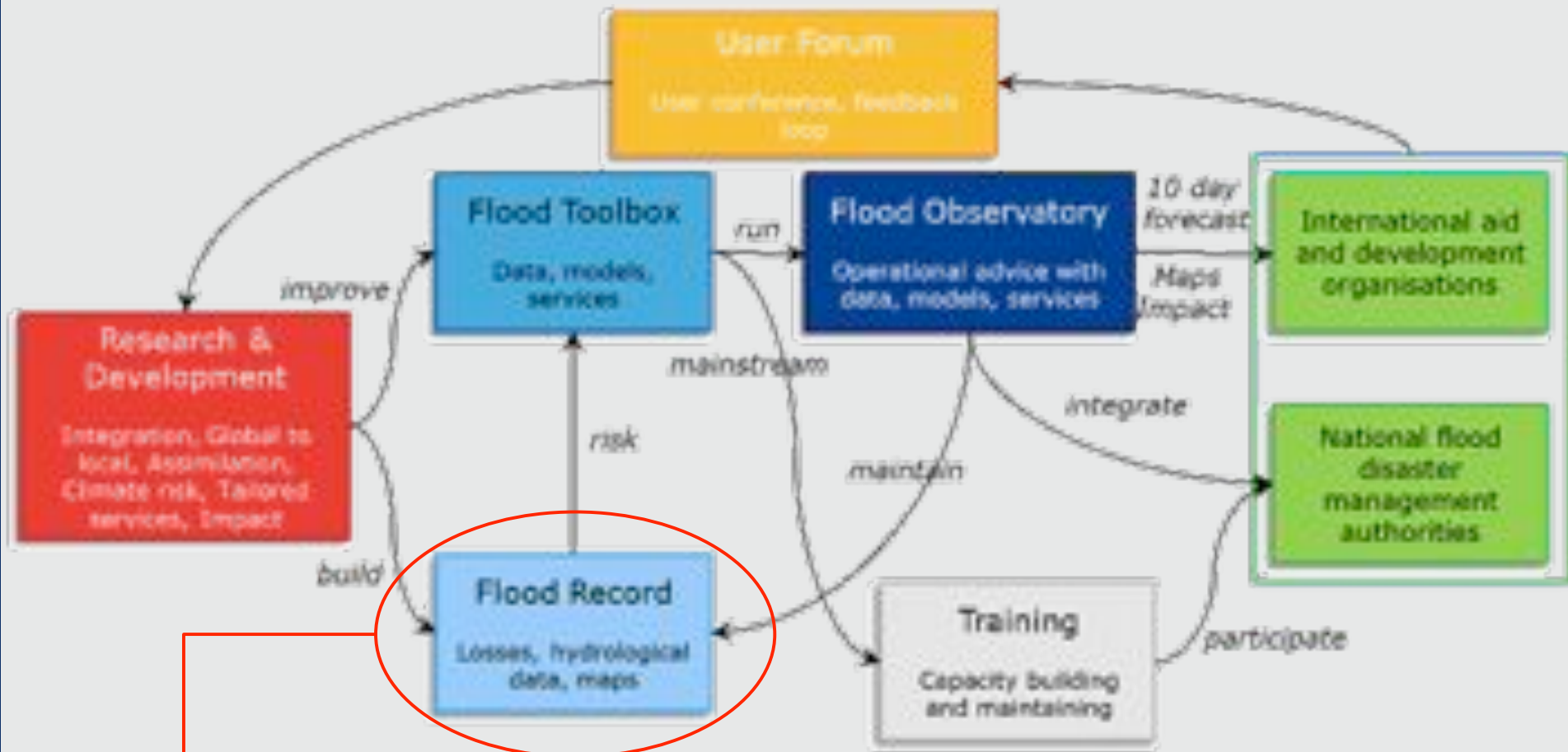
Client: DG ECHO

Partners: JRC, and many others

Date: Sep 2013 – Dec 2014

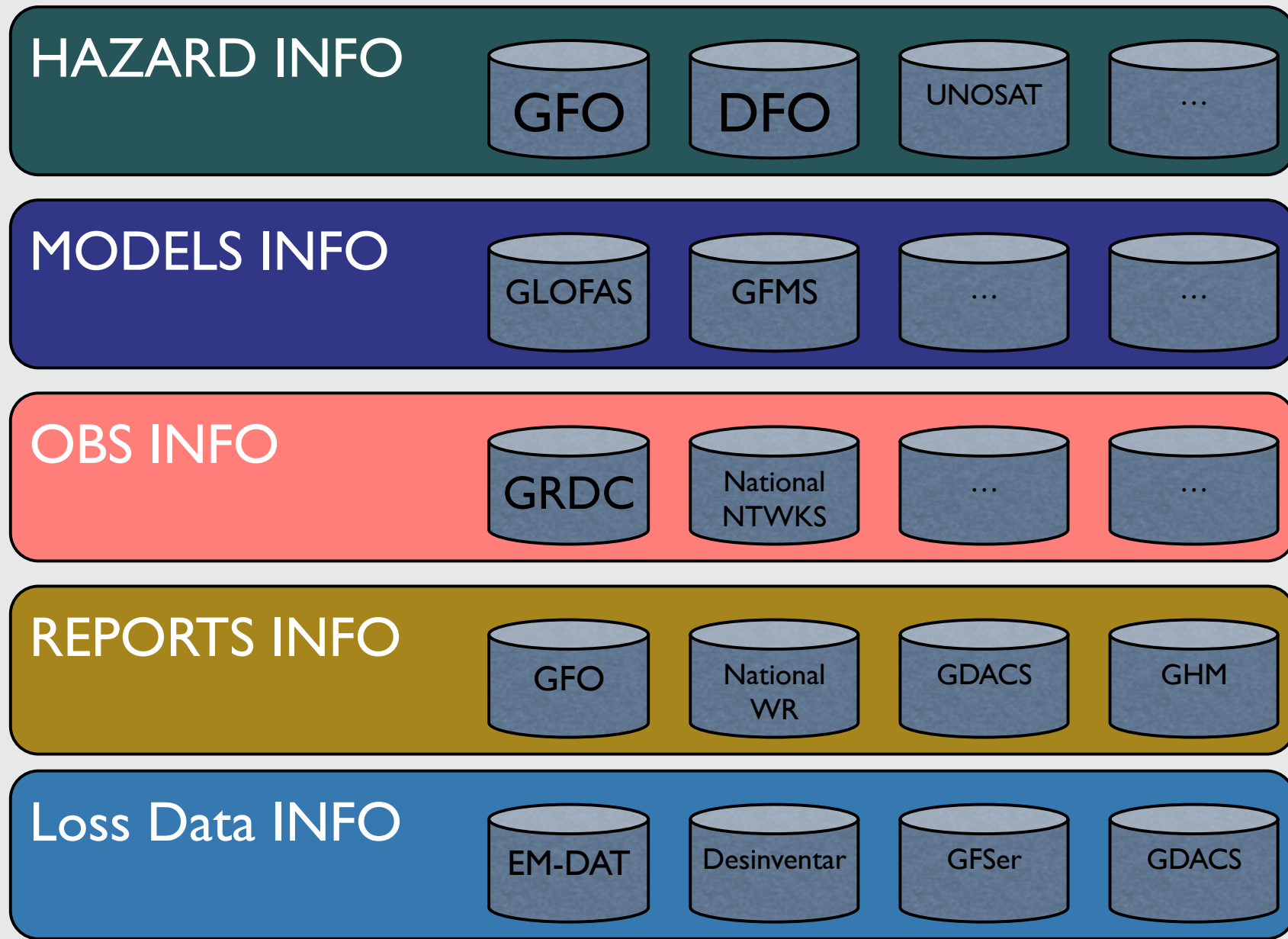
Global flood partnership

A flood observational and modelling infrastructure, leveraging on existing initiatives for better predicting and managing flood disaster impacts and flood risk globally.



CIMA is the coordinator of the Flood Record

Global flood RECORD



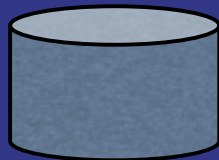
GFR

Global flood RECORD

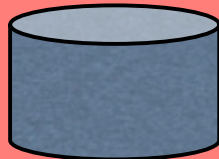
HAZARD INFO
eID



MODELS INFO
eID



OBS INFO
eID



REPORTS INFO
eID



Loss Data INFO
eID

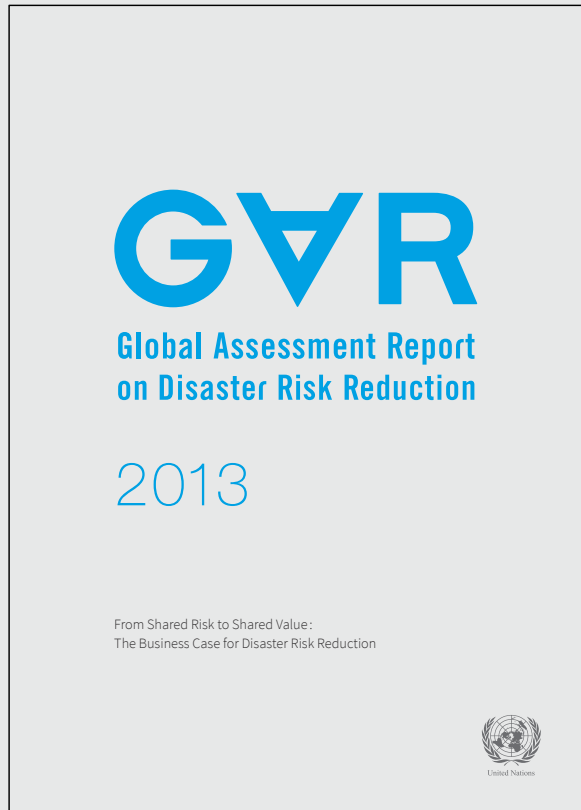


GeoNetwork
OpenSource



UNIQUE EVENT eID:
GLIDE Number
DFO Serial Number

Risk Assessment for policy briefs



2013: global flood map methodology present scenario

2015: global flood map in present and climate change scenario

Global Flood Modelling for the Global Assessment Report

Area: **World**
 Client: UNISDR
 Date: GAR 2013 – GAR 2015



Risk Assessment for policy briefs

Statistical Analysis

Meteorological Input preparation

Hydrological modelling

Hazard mapping

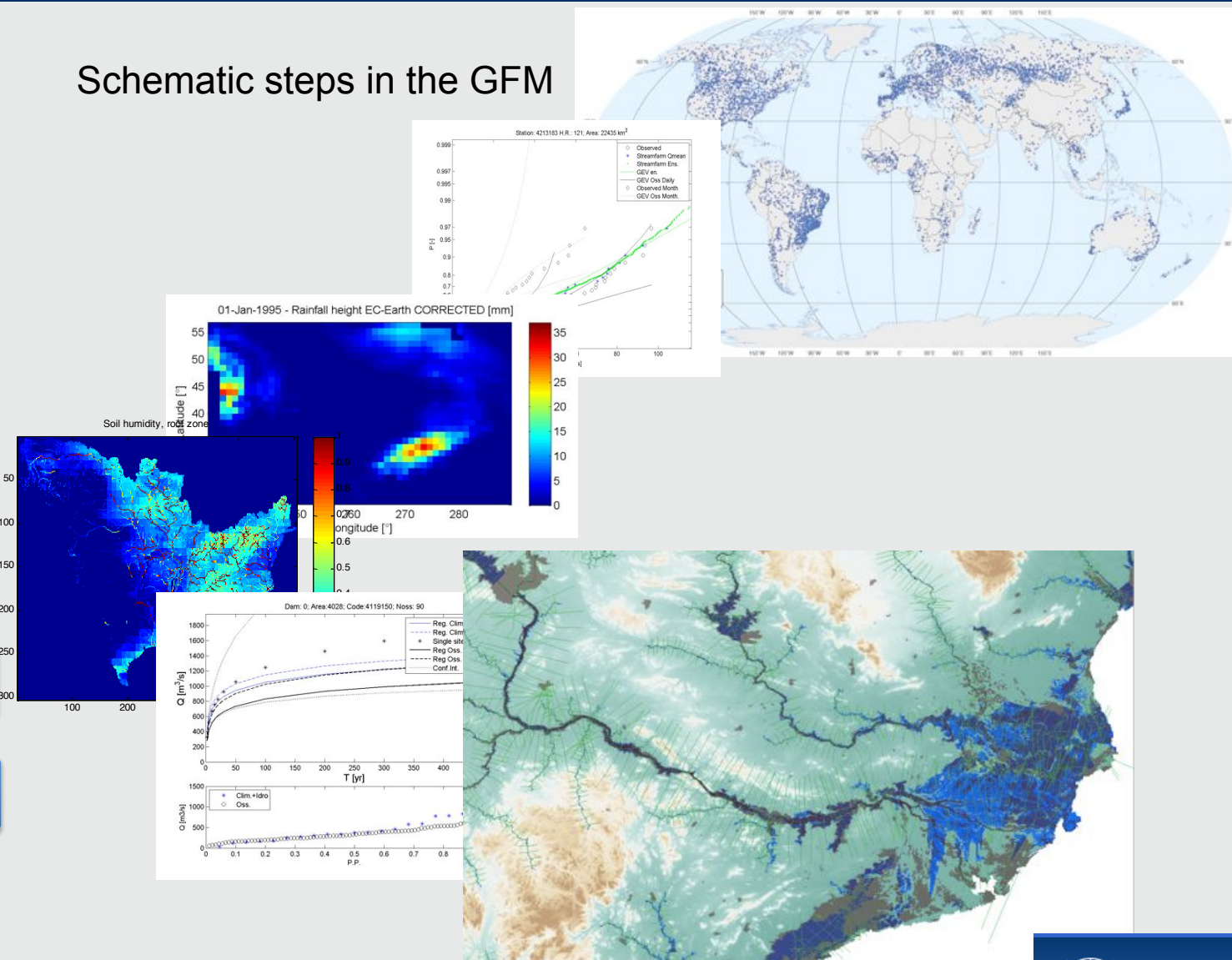
Scenarios building

Statistical Analysis in CC

Hazard Mapping in CC

Scenarios building in CC

Schematic steps in the GFM



GAR2015: global flood map in present and climate change scenario

International Cooperation



"Implementation of a real-time integrated system for risk forecasting, monitoring and early-warning of natural disasters in Bolivia"

Country: **Bolivia**

Client: Food and Agriculture Organization of the UN

Partners: SENAMHI, DEFENSA CIVIL

Date: Jun 2012 – Apr 2013



International Cooperation



"Enhancing Resilience to Reduce Vulnerability in the Caribbean (ERC)"

Area: **Caribbean**

Client: United Nations Development Programme

Partners: CIMH, CDEMA

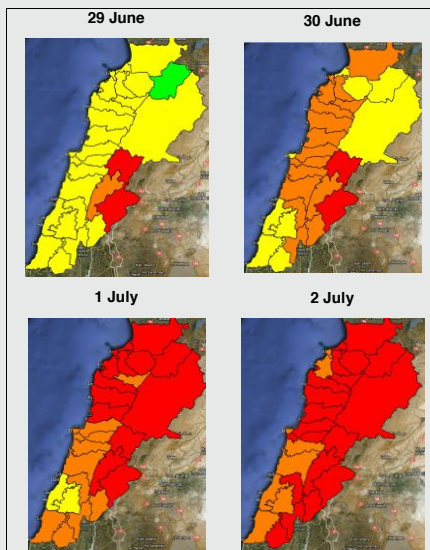
Date: Oct 2010 – Dec 2013



International Cooperation

PREDICTION

FIRE RISK INDEX



Dewetra-RISICO
System

EARLY WARNING ISSUING

Bulletins (email, fax)

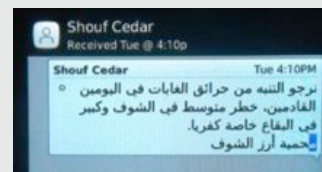
Lebanon Fire Risk Bulletin

Attention in the next two days (2-2/07/2012) of high fire danger in all regions.
Refer to cadast condition.

| Region | Fire Risk Index |
|------------|-----------------|
| North | High |
| North West | High |
| West | High |
| South West | High |
| South | High |
| East | High |
| North East | High |

Beirut, 30 June 2012

SMS



RAPID RESPONSE



Monitoring and patrolling:
small fire quickly estinguished

"Strengthening the National Framework to mitigate Rural-Forest Fire Risk"

Area: **Lebanon**
Client: Italian Ministry of Foreign Affairs
Partners: Civil
Date: Oct 2010 – Dec 2011



Ministero degli Affari Esteri

Actionable Research

RASOR

RAPID ANALYSIS AND SPATIALISATION OF RISK



A platform for satellite based multi-hazard risk assessment to support the full cycle of disaster management



Test Areas: Northern Italy, Haiti,
Rotterdam, Indonesia, Santorini
Client: European Commission (DG Space)
Partners: Deltares, DLR, INGV, EUCENTRE, Athena Global,
Altamira, Acrotec, NOA, Sertit
Date: Dec 2013 – 2016



Actionable Research



A distributed infrastructure for hydro-meteorological data and models, with the purpose to facilitate the collaboration between worldwide experts and speed up scientific advances in hydro-meteorological research (HMR).



Client: European Commission (DG Infrastructure)

Partners: Ludwig Maximilians Universitaet Muenchen (LMU-MNM), Germany, Institute for Atmospheric Physics (DLR), Germany, Consiglio Nazionale delle ricerche – Istituto di Matematica Applicata e Tecnologie Informatiche (CNR-IMATI), Genova, Italy, Technical University of Madrid (UPM), Spain, Centre national de la recherche scientifique (CNRS), France, Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique (CERFACS), France, Republicki Hidrometeoroloski Zavodsrbiye (RHMS), Serbia, Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI), USA, Stichting DELTARES, Netherlands, HR Wallingford, UK

Date: Sept 2011 – March 2015