Understanding flood risk

Role of global scientific community
Understanding flood risk

1 billion people = x2
exposed to 100-year floods in 2015, doubled since 1975 (source: JRC, 2017)

80 000 km² built-up = x3
exposed to 100-year floods in 2015, tripled since 1975 (source: JRC, 2017)

104 billion US$ per year
Average Annual Losses (source: GAR2015)

Image: www.actionaid.org
Understanding flood risk

4 to 71 billion US$ per year

potential avoided flood losses globally (source: World Bank 2012)

Image: www.actionaid.org
Understanding flood risk

4 to 71 billion US$ per year

potential avoided flood losses globally (source: World Bank 2012)
Role of global scientific community

Global

Data, tools
Knowledge
Understanding
Action

Local
Role of global scientific community

Global → Local

- Open Data
- Knowledge management
- Partnerships

Science, Data, tools, Knowledge, Understanding, Action
Open Data: built-up and population

Global Human Settlement Layer
ghsl.jrc.ec.europa.eu

Open Data: built-up and population

Exposure data
We’re building new risk...

Open Data: satellite observations

Global Surface Water Explorer
1984 – 2015

global-surface-water.appspot.com

Open Data: satellite observations

Hazard data

*We can observe globally in near real time*

Open Data: flood models

6 global flood risk models

Open Data: flood models

Hazard data

We can forecast globally with increasing accuracy

Bridging the knowledge gap

Global tools for local actions

Interoperable data and models

Science for policy makers and practitioners
Bridging the knowledge gap

Ensuring the uptake of science in DRM policy formulation and implementation.
Knowledge management

Risk Data Hub

Summary of science

Knowledge is available

It needs to be made accessible

Knowledge management

- 272 authors, 500 pages
- Risk: understanding, communicating, managing
- Practitioners, Policy makers, Scientists

Partnerships

G F P

global flood partnership

... a multi-disciplinary group of stakeholders interested in improving flood risk management including scientists, operational authorities, flood risk managers, NGO’s, private entities
Partnerships

Science

Data

Analysis

gfp.jrc.ec.europa.eu

Conference 2017, June 27-29, NOAA National Water Center, USA
Understanding flood risk
Role of global scientific community

Open Data
Knowledge management
Partnerships

drmkc.jrc.ec.europa.eu
Global Flood Partnership

**gdacs**.jrc.ec.europa.eu
**ghsl**.jrc.ec.europa.eu
**edo**.jrc.ec.europa.eu
**effis**.jrc.ec.europa.eu

GFP Conference 2017, June 27-29
NOAA National Water Center, Tuscaloosa, USA

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Data and systems

**globalfloods**.jrc.ec.europa.eu
www.inform-index.org