European Commission

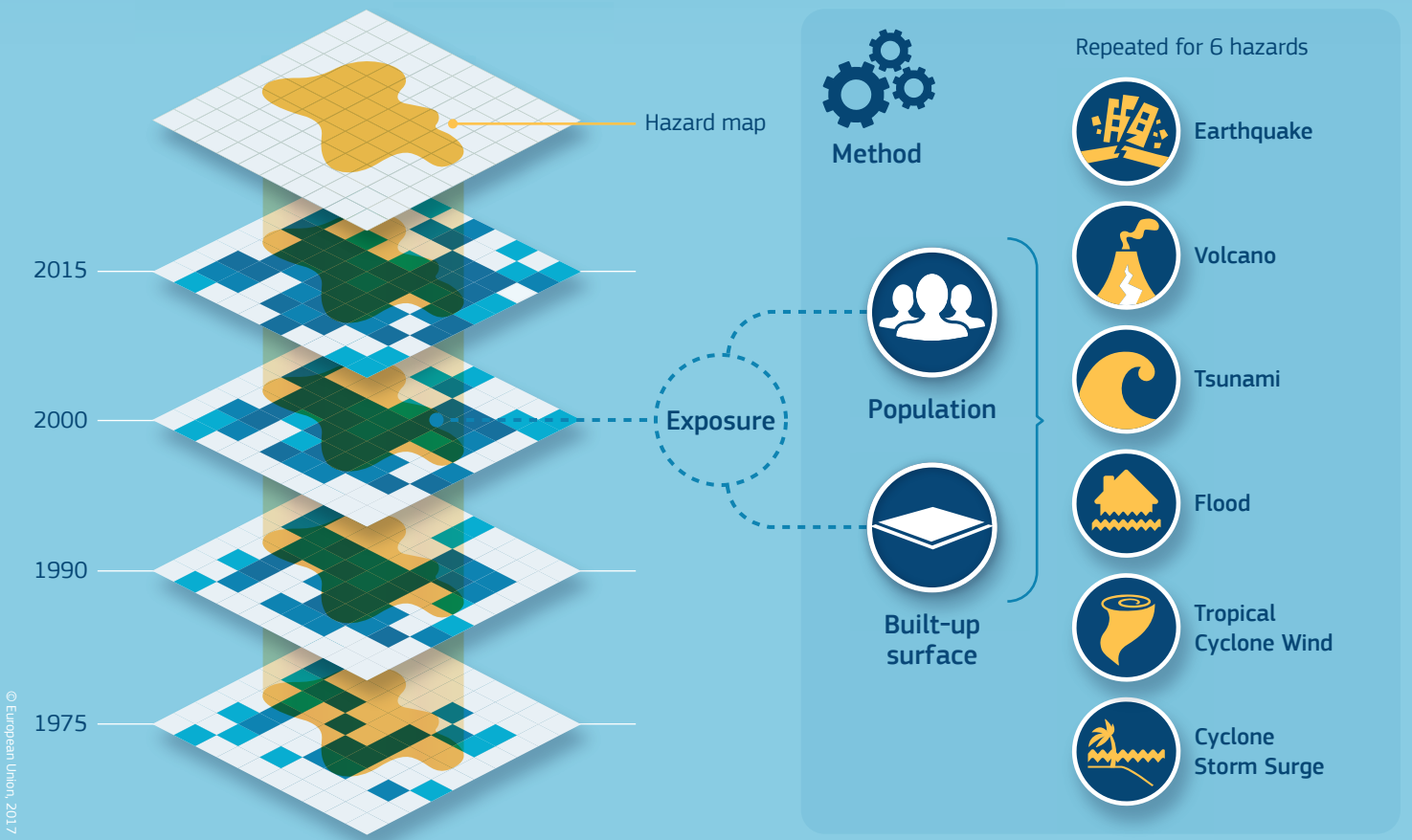# Global Exposure to Natural Hazards
Global open data for monitoring the Sendai targets

The Global Human Settlements Layer (GHSL)

The most **complete**, consistent, **global**, **free** and **open** dataset on human settlements – from the village to the megacity

GHSL for Disaster Risk Reduction

Hazard map

2015

2000

1990

1975

Method

Exposure

Population

Built-up surface

Repeated for 6 hazards

Earthquake

Volcano

Tsunami

Flood

Tropical Cyclone Wind

Cyclone Storm Surge

For further information and to explore the GHSL:
http://ghsl.jrc.ec.europa.eu

GHSL is one the core datasets for the GEO Human Planet Initiative

GEO GROUP ON EARTH OBSERVATIONS
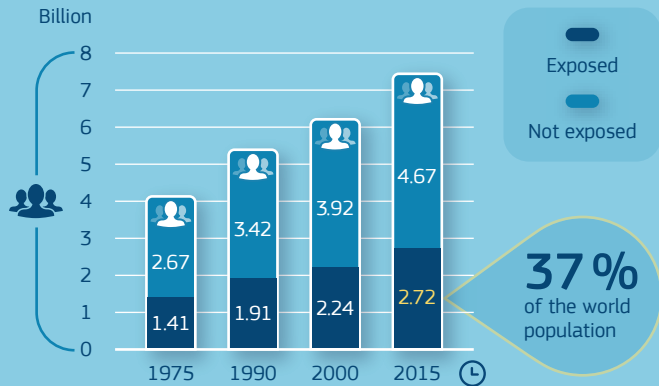
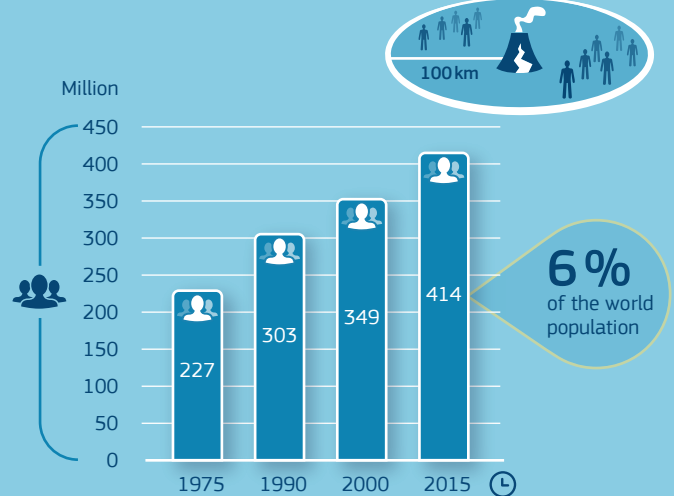*Joint Research Centre*

Key messages from the Atlas of the Human Planet 2017

EARTHQUAKE

Population potentially exposed to earthquakes on the planet increased from **1.4 to 2.7 billion** between 1975 and 2015

Billion

- Exposed
- Not exposed

	1975	1990	2000	2015
Not exposed	2.67	3.42	3.92	4.67
Exposed	1.41	1.91	2.24	2.72

37 % of the world population

TSUNAMI

The built-up surface potentially exposed to tsunami in Japan is **2 times** the sum of built-up in the other 9 most exposed countries

Country	Built-up surface
Japan	4085
China	773
United States	481
Indonesia	430
Peru	90
Chile	65
India	62
Italy	50
Taiwan	46
Greece	43

TOP 10 built-up

Built-up surface in Thousands of km²

TROPICAL CYCLONE WIND

China and Japan are by far the countries with the largest built-up surface exposed to strong cyclone winds (**> 178 km/h**)

Country	Built-up surface
China	28.35
Japan	26.50
Mexico	4.45
United States	3.42
South Korea	2.86
Philippines	2.46
Taiwan	2.40
Puerto Rico	1.10
Cuba	0.70
Dominican Republic	0.61

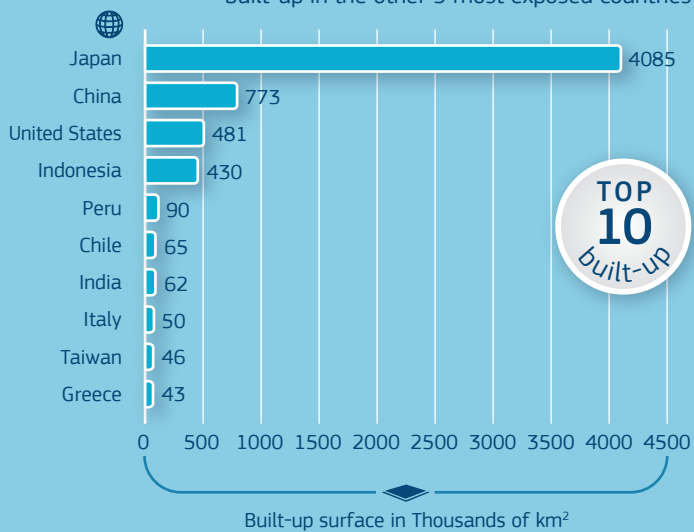**TOP 10** built-up

Built-up surface in Thousands of sqKm

VOLCANO

In 2015, **414 million people lived near one of the 220 most dangerous volcanoes** and could be affected by the consequences of eruptions
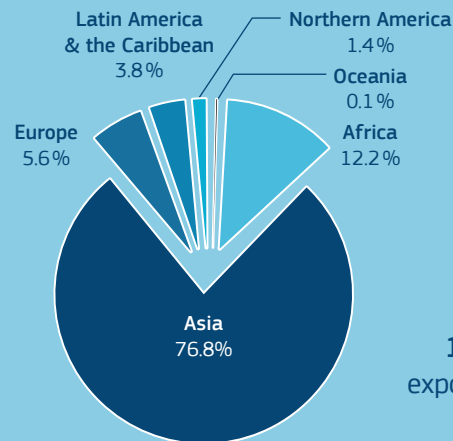
100 km

Million

	1975	1990	2000	2015
	227	303	349	414

6 % of the world population

FLOOD

Flood, the most frequent natural hazard, potentially affects people in Asia and Africa more than in other regions

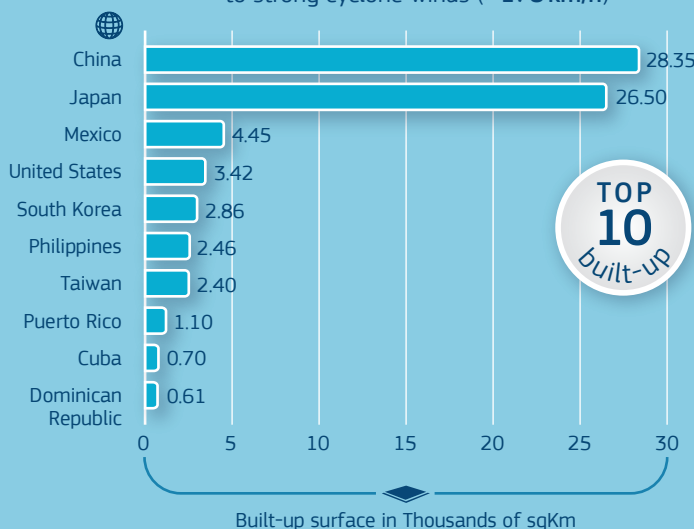- Latin America & the Caribbean 3.8 %
- Northern America 1.4 %
- Oceania 0.1 %
- Europe 5.6 %
- Africa 12.2 %
- Asia 76.8 %

1 billion people exposed on the planet

CYCLONE STORM SURGE

Population exposed to sea level surge due to cyclones in **China** approximates the sum of the exposed population of **India + Japan + the Philippines**

1st per exposed population

China

India + Japan + the Philippines

50 million people exposed to this hazard