MUNI
SCI

11 Environmental migration

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3. Types of environmental migration and current situation
4. Not only people migrate: An example of the consequences of one introduced species

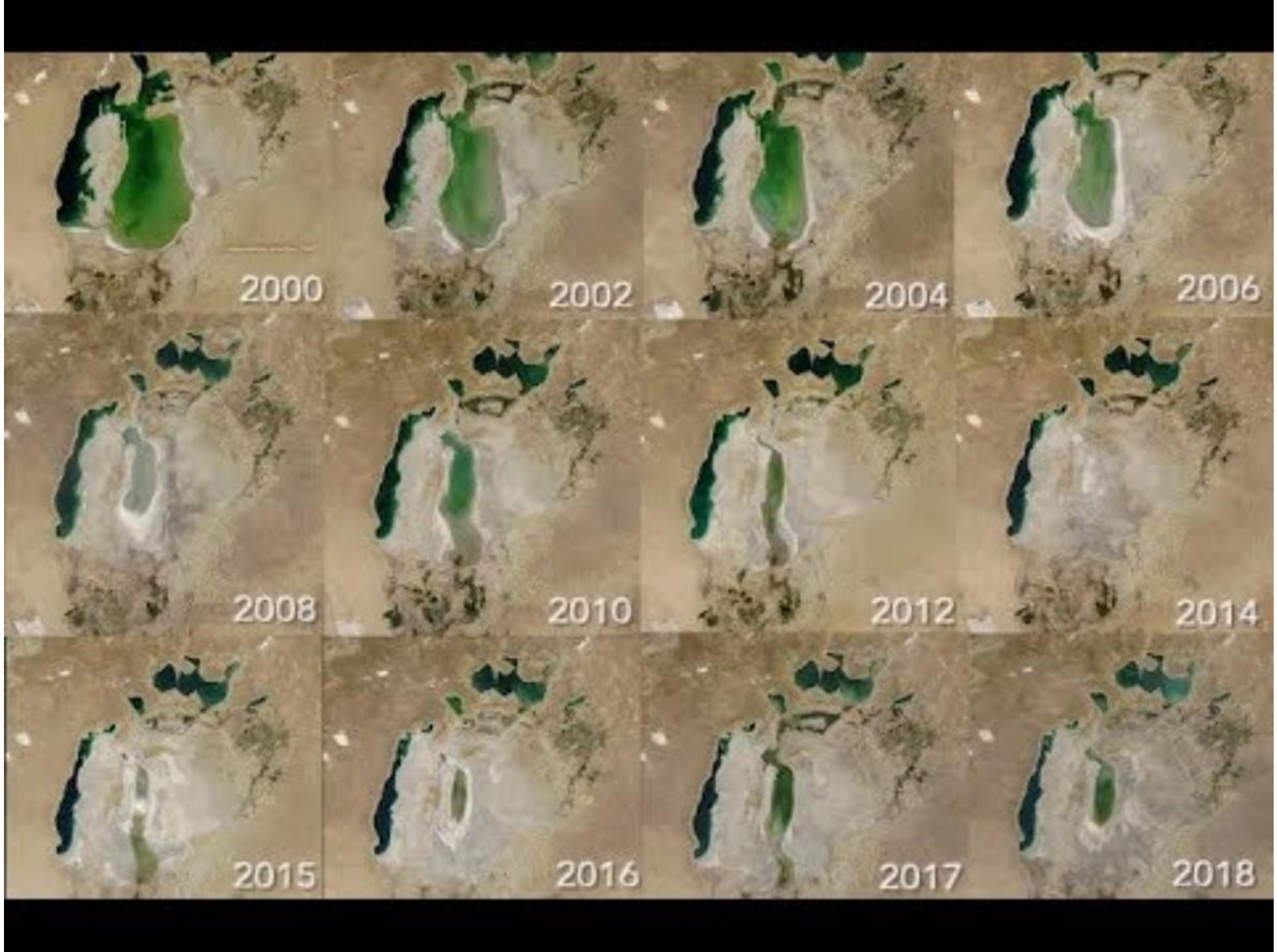
Question of the day

Do you have any experience with (environmental) migration in your countries?

History of environmental migration

History of environmental migration

- **2 million years ago**: the migration of Homo erectus from African forests to Asian savannas
- **3rd–1st century BC**: Egypt, recurrent episodes of drought
- **79 CE**: Italy, eruption of Vesuvius volcano
- **1930's**: USA, Dust Bowl (3 million people)
- **1954–present**: Kazakhstan, Uzbekistan, drying up of the Aral Sea



NASA, 2018

History of environmental migration

- **1986–2000**: Ukraine, Chernobyl explosion (350 000 people)
- **2005**: USA, Hurricane Katrina (1.5 mil. people; 300,000 permanent migration)
- **2012**: China, construction of the Three Gorges Dam Hydro Electric Power Plant (1.3 million people)

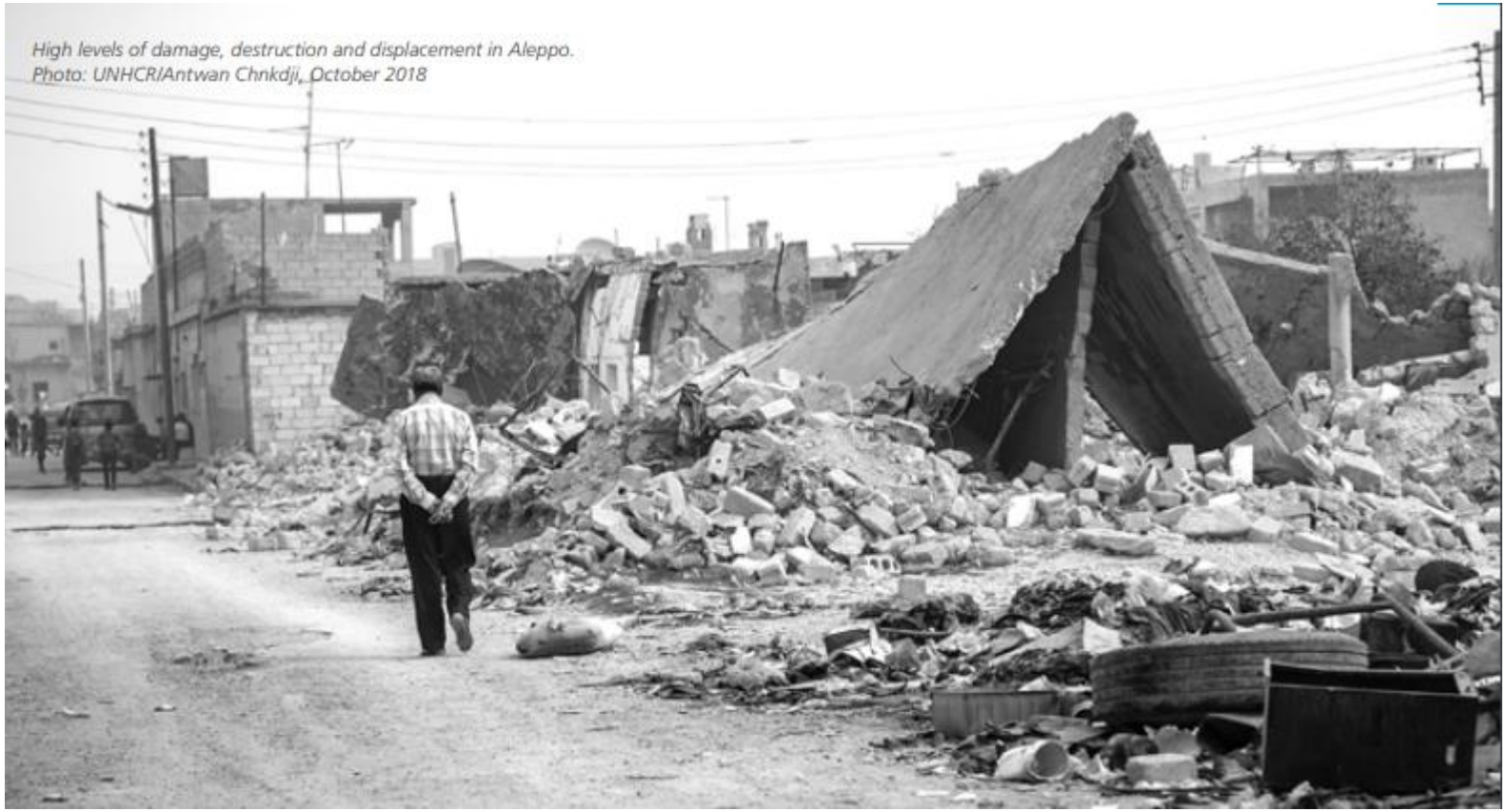
Getty Images 2022

Definition and causes of environmental migration

Definition of environmental migration

- **Persons** who have been **forced to leave their original homes** temporarily, for a long time or permanently as a result of:
  - **significant deterioration** of the **environment** which can no longer provide them with a secure livelihood (e.g. loss of essential natural resources);
  - **environmental processes** that **threaten their existence** or seriously affect their **quality of life** (e.g. sudden natural disasters such as earthquakes, floods or hurricanes) (Stojanov, 2007)

Allepo, Syria, earthquake in 2018



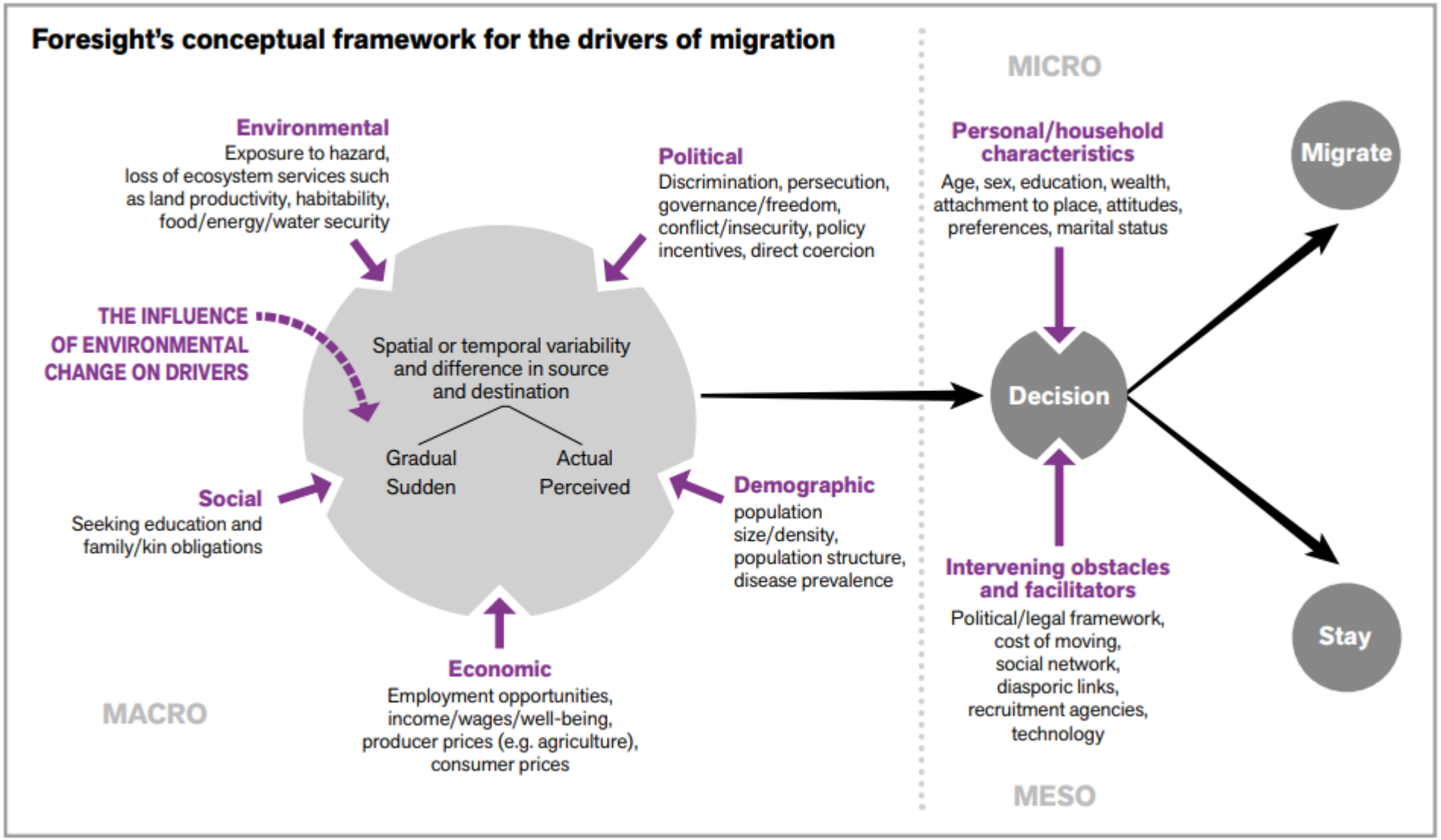
High levels of damage, destruction and displacement in Aleppo.
Photo: UNHCR/Antwan Chnkdji, October 2018

IDMC, 2019

Evolution of the concept of environmental migrantion

- **1970's**: origin of the term "*environmental migrant*“
  - rapid population growth, fear of resource scarcity, environmental crisis, deforestation of Africa
- **1985**: first use of the term "*environmental refugee*“
- **1990's**: widespread use of the term environmental migrant
- **2010s**: term climate refugee

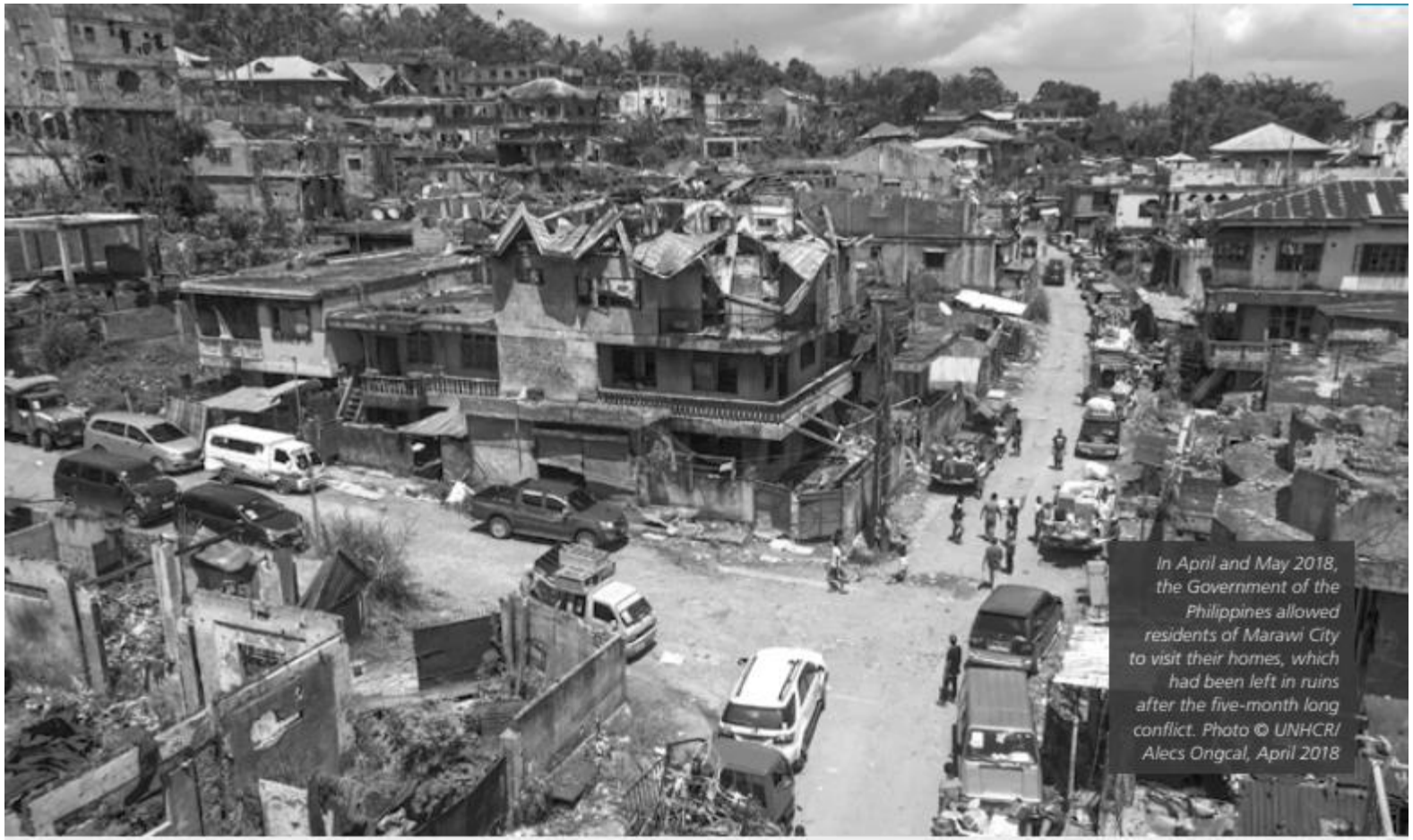
Causes of migration



Ionesco, 2017

Causes of environmental migration (direct)

- **Sudden natural disasters** (e.g. earthquake, landslide, tropical cyclone)

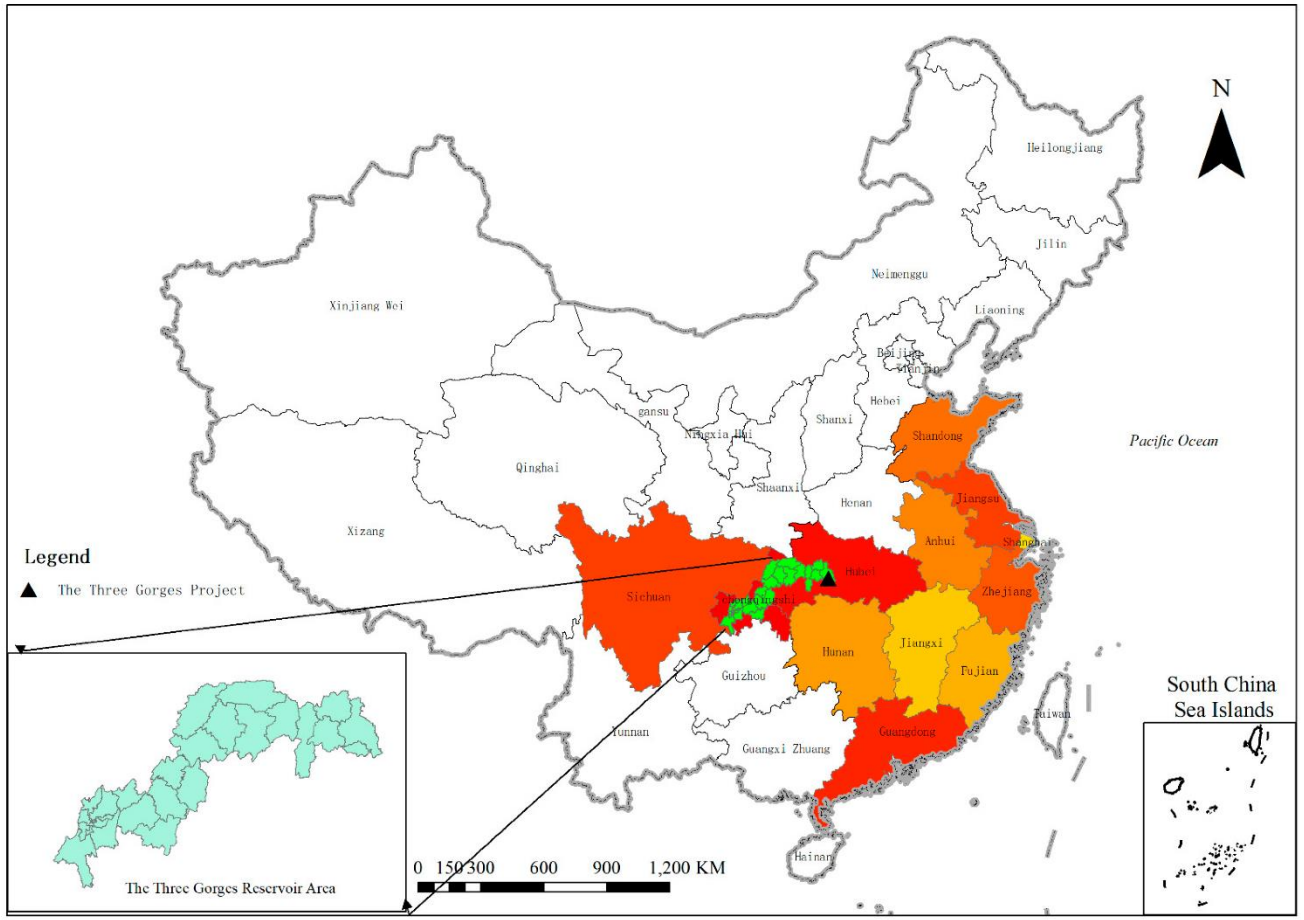


The Philippines, 2018

IDMC, 2019

Causes of environmental migration (direct)

- **Development projects** (e.g. construction of dams, extraction of natural resources)

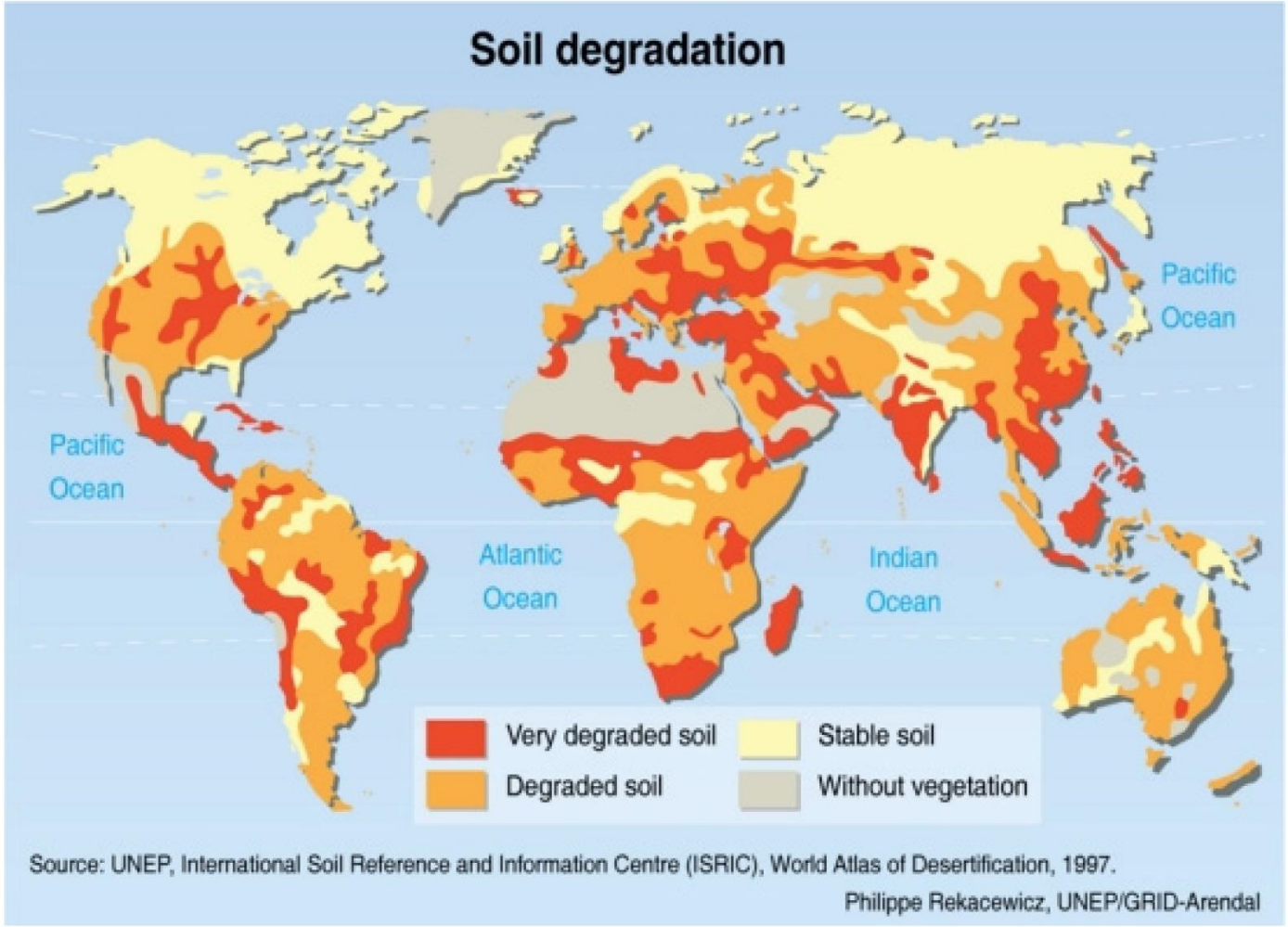


Distribution of out-resettlers due to Three Gorges Project. Note: Shandong, Jiangsu, Shanghai, Zhejiang, Guangdong, and Fujian are coastal cities

Peng 2022

Causes of environmental migration (direct)

- **Slow environmental change** (e.g. climate change, deforestation, desertification, land degradation, global ocean/sea level rise, etc.)



Causes of environmental migration (direct)

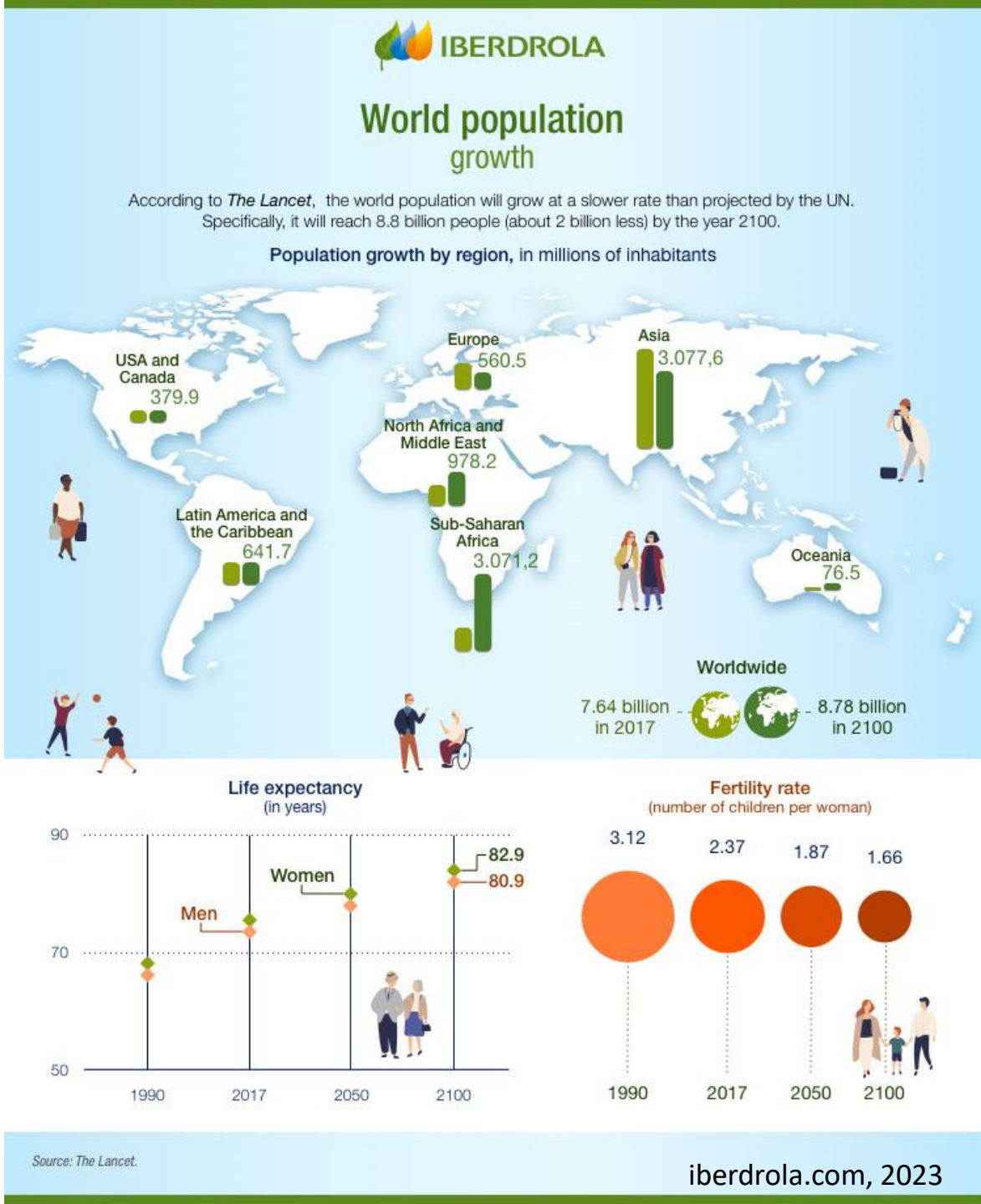
- **Accidents** and **industrial disasters** (e.g. Chernobyl, Fukushima)
- **Conflicts and wars leading to environmental degradation** (e.g. destruction of drinking water sources)

Afghanistan, 2018

IDMC, 2019

Causes of environmental migration (indirect)

- Population growth, population poverty, malnutrition, crop failure, unemployment, pandemic diseases, rapid urbanisation, unstable political situation…



iberdrola.com, 2023

The issue of determining the causes of environmental migration

- Environmental migration as a **combination** of **multiple causes** (e.g. hurricane Katrina)
- **Not realizing** the **primary cause** of **migration** (e.g., earthquakes and government failure to provide for the recovery, land degradation leading to poverty and economic loss)

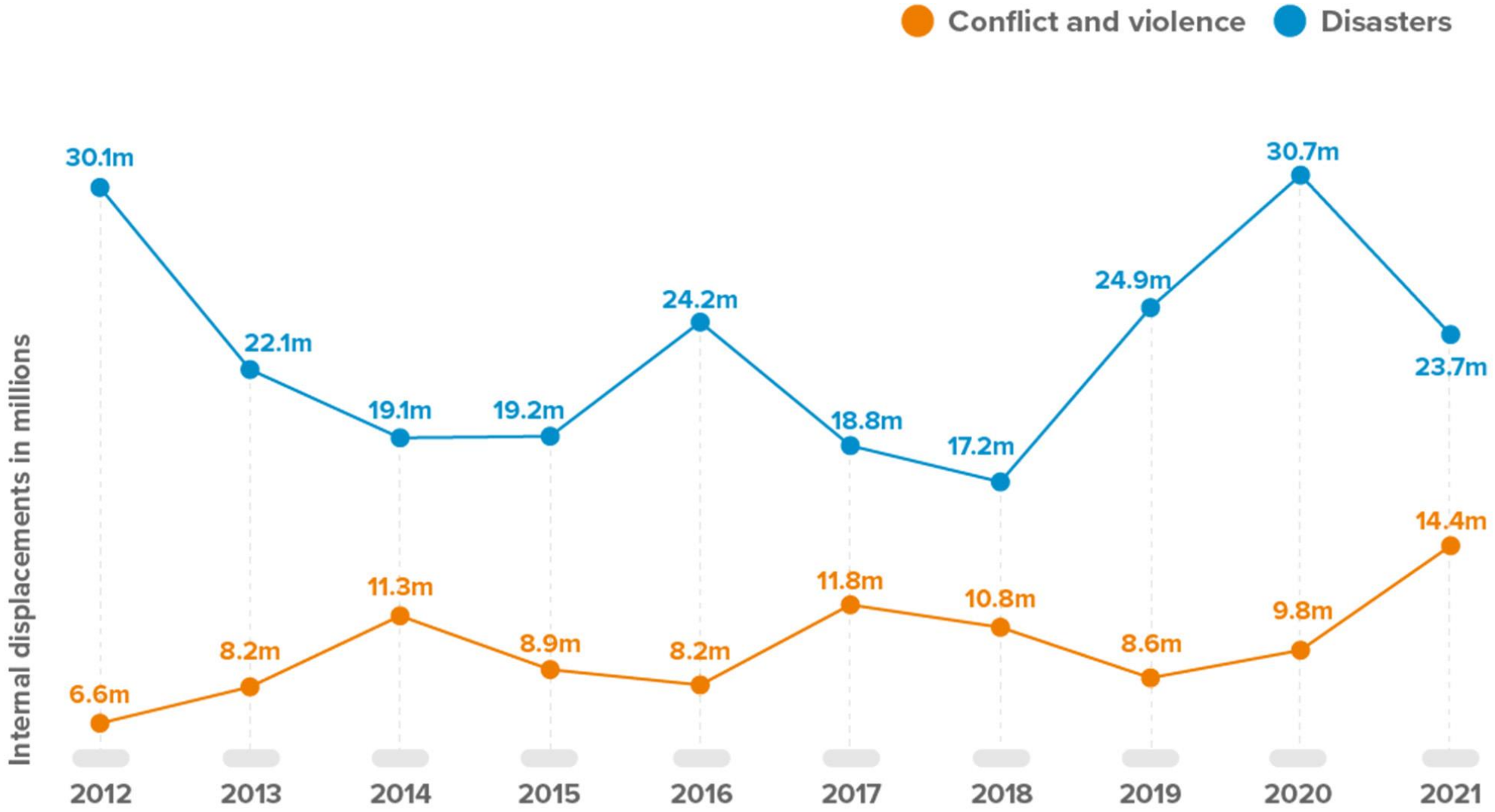
disasterdisplacement.org, 2019

Types of environmental migration and current situation

Types of environmental migration and migrants

- **Migration**
  - internal/domestic (predominant – 61%)
  - external/international (boom with increasing impact of climate change)
- **Migrants**
  - environmental refugees
  - environmentally forced migrants
  - „motivated“ environmental migrants

Internal displacements

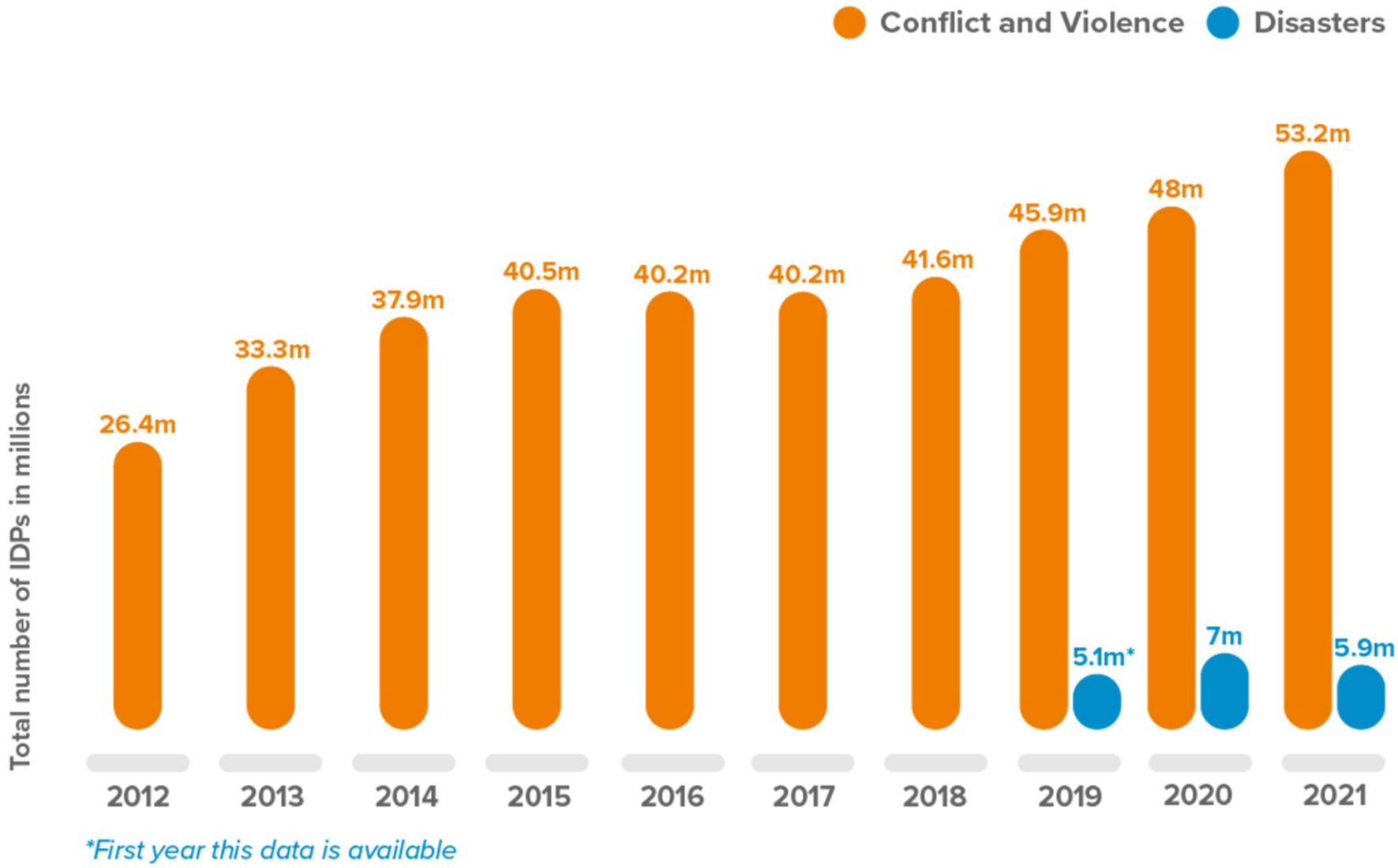


IDMC, 2022

Types of environmental migrants

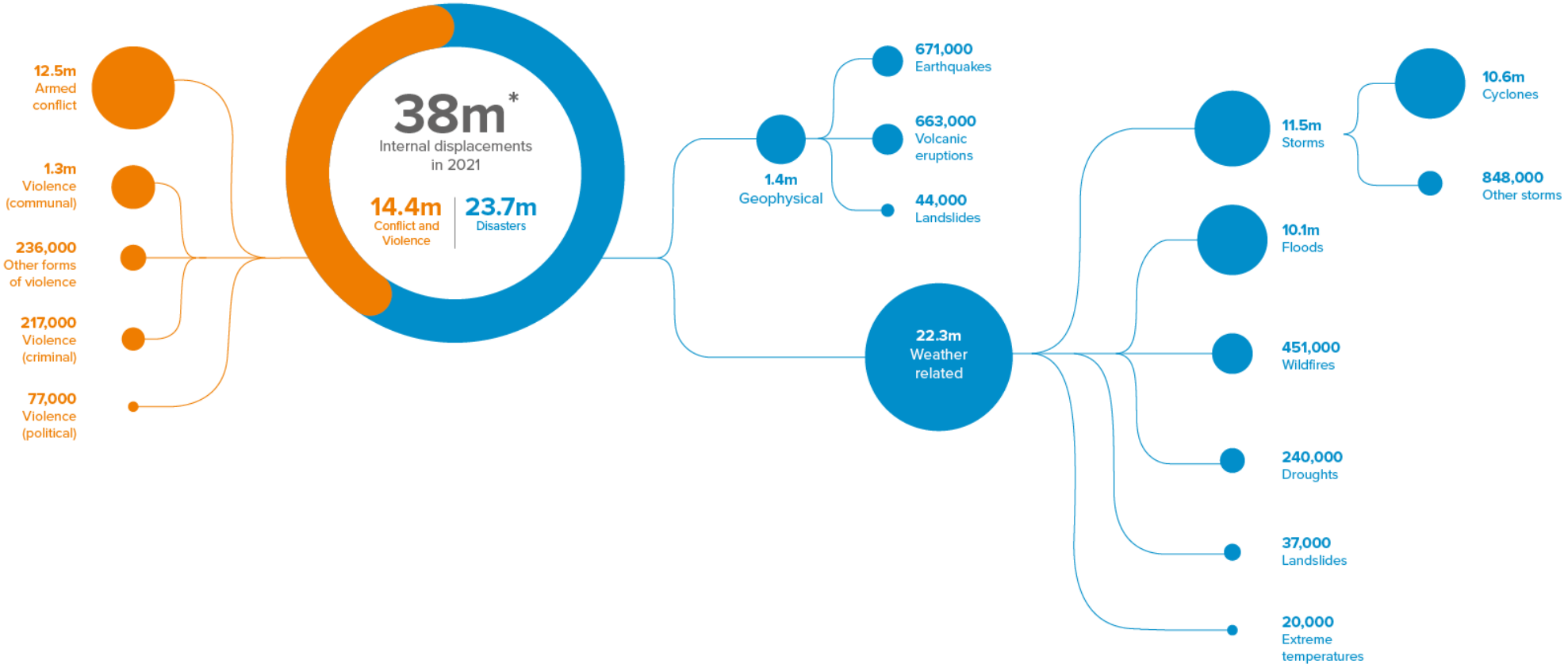
- **Environmental refugees**
  - individuals temporarily escaping to avoid negative effects of natural disasters
- **Environmentally forced migrants**
  - people leaving home to avoid significant environmental degradation
  - lower urgency to escape
  - possibility of return if the affected area is accessible again (drought)
- **"Motivated" environmental migrants**
  - people considering emigration for socio-economic and environmental degradation reasons
  - areas of gradual degradation of agricultural land

Total number of internal displacements



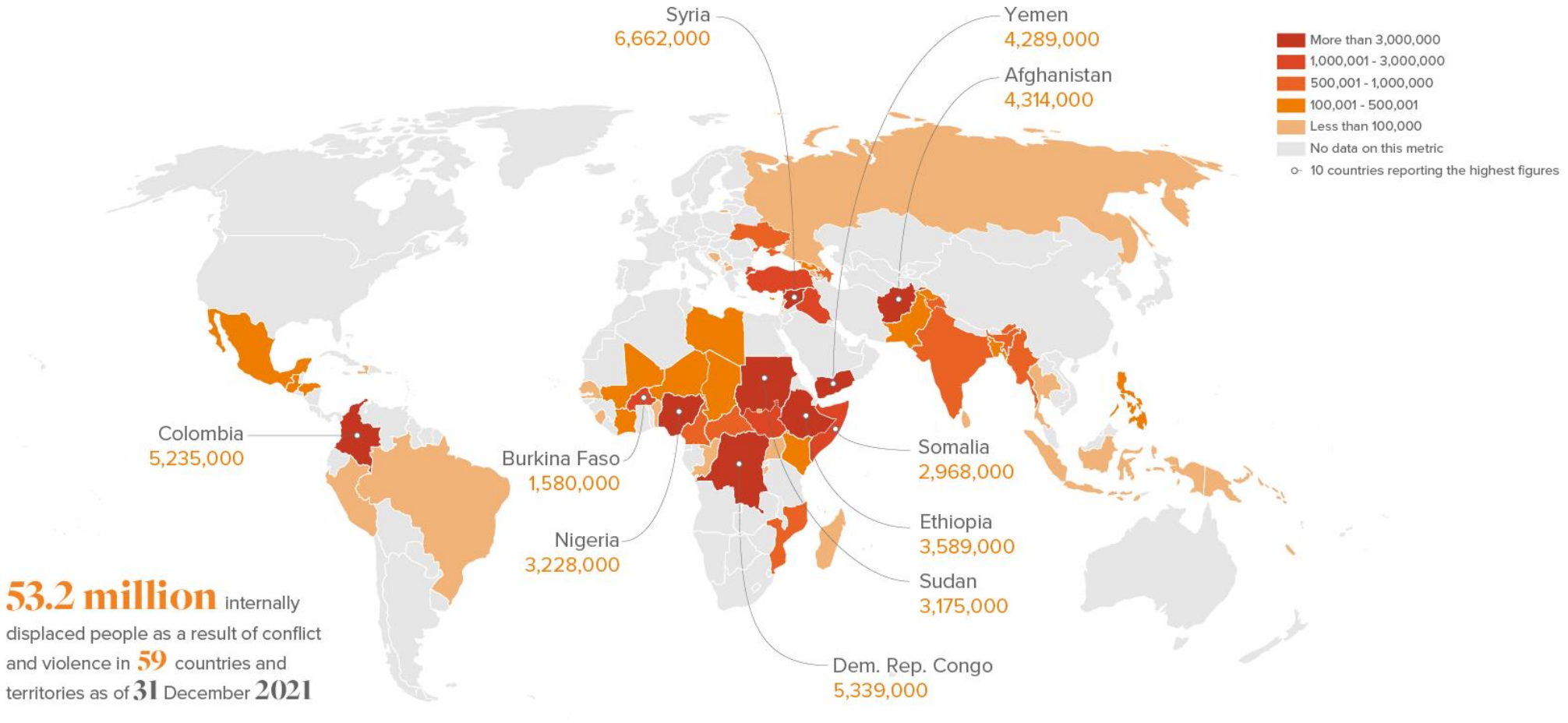
IDMC, 2022

Internal displacements breakdown by conflict, violence and disasters in 2021



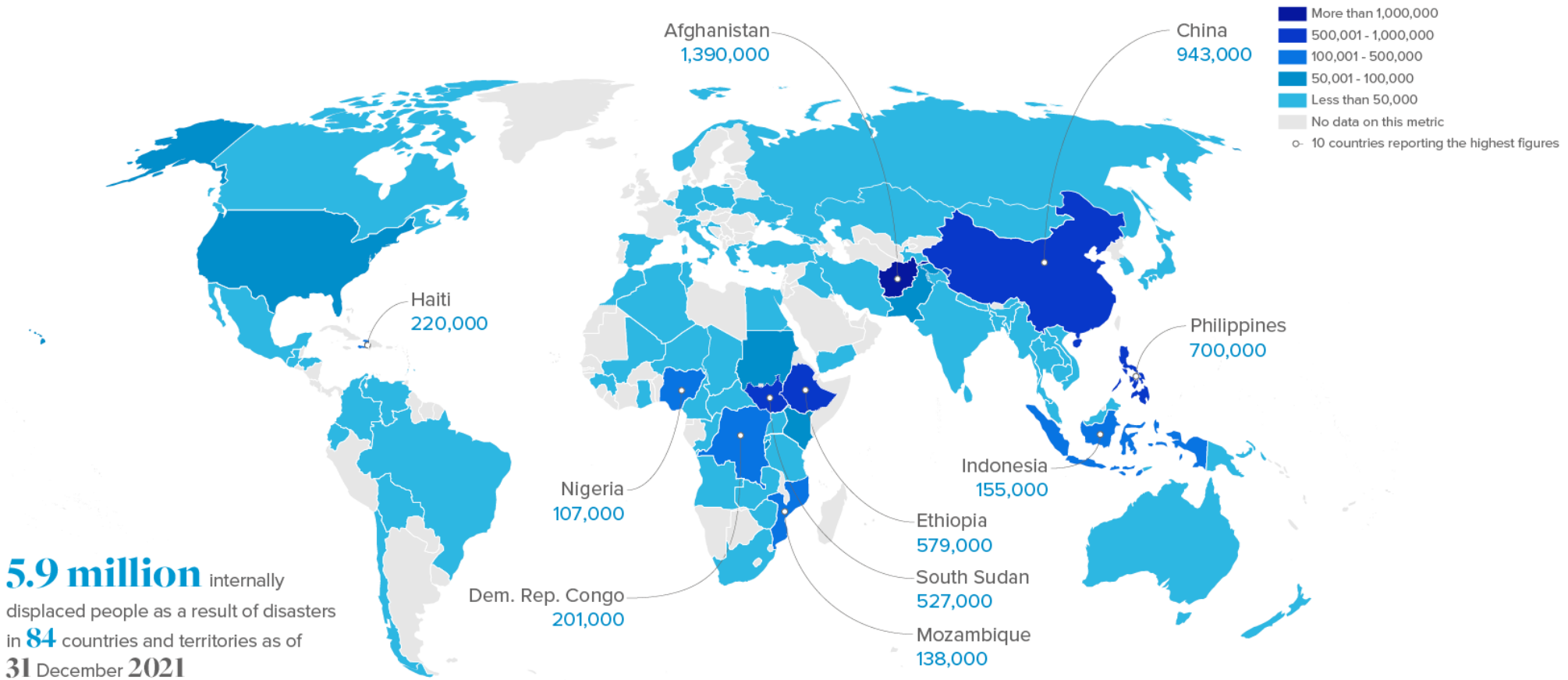
IDMC, 2022

People living in displacement: conflict and violence (2021)



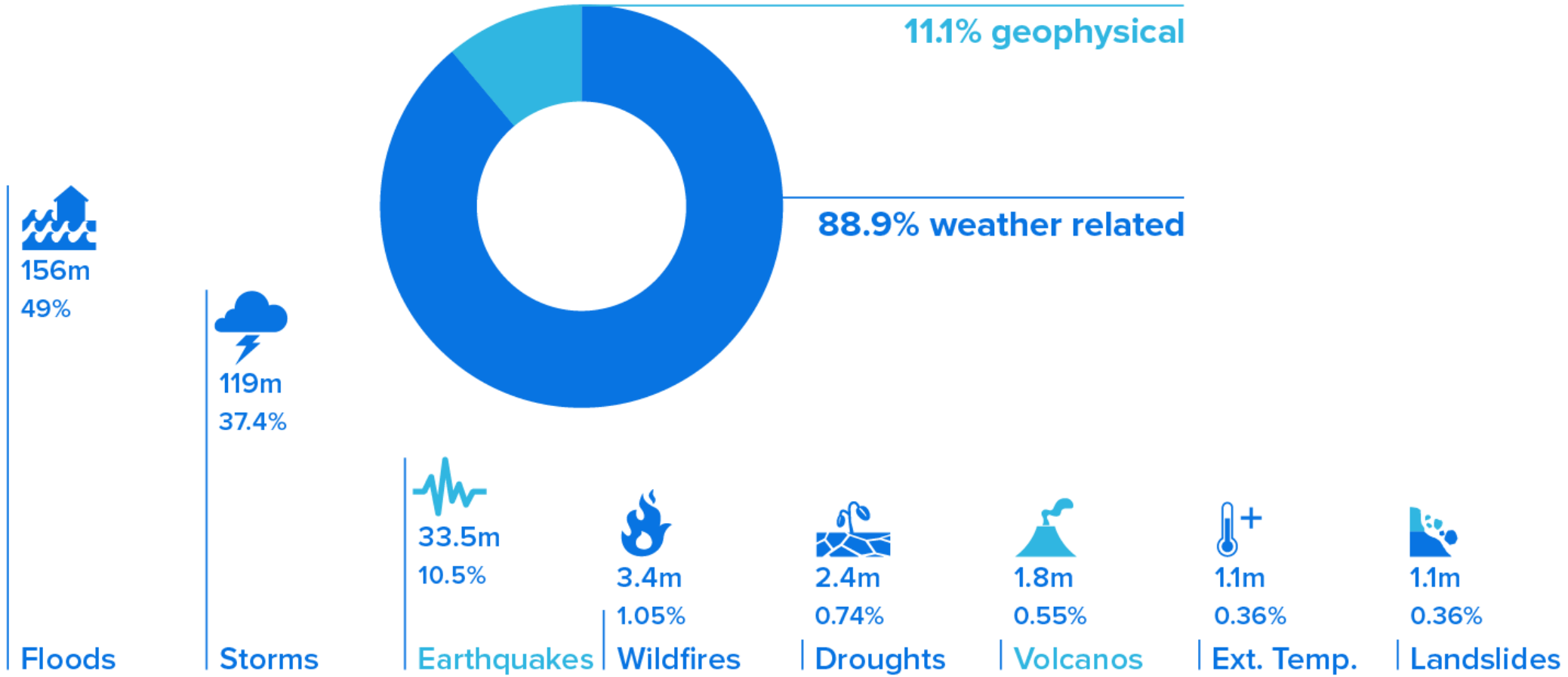
IDMC, 2022

People living in displacement: disasters (2021)



IDMC, 2022

People living in displacement: disasters (2008–2020)



IDMC, 2021

People living in displacement (2021)

38 million* Internal displacements

14.4m by conflict and violence

23.7m by disasters

East Asia and Pacific
626,000 | 13,696,000
(37.6% of the global total)

Sub-Saharan Africa
11,558,000 | 2,554,000
(37.1%)

South Asia
736,000 | 5,250,000
(15.7%)

The Americas
381,000 | 1,659,000
(5.4%)

Middle East and North Africa
1,011,000 | 233,000
(3.3%)

Europe and Central Asia
61,000 | 276,000
(0.9%)

IDMC, 2022

People living in displacement (2021)

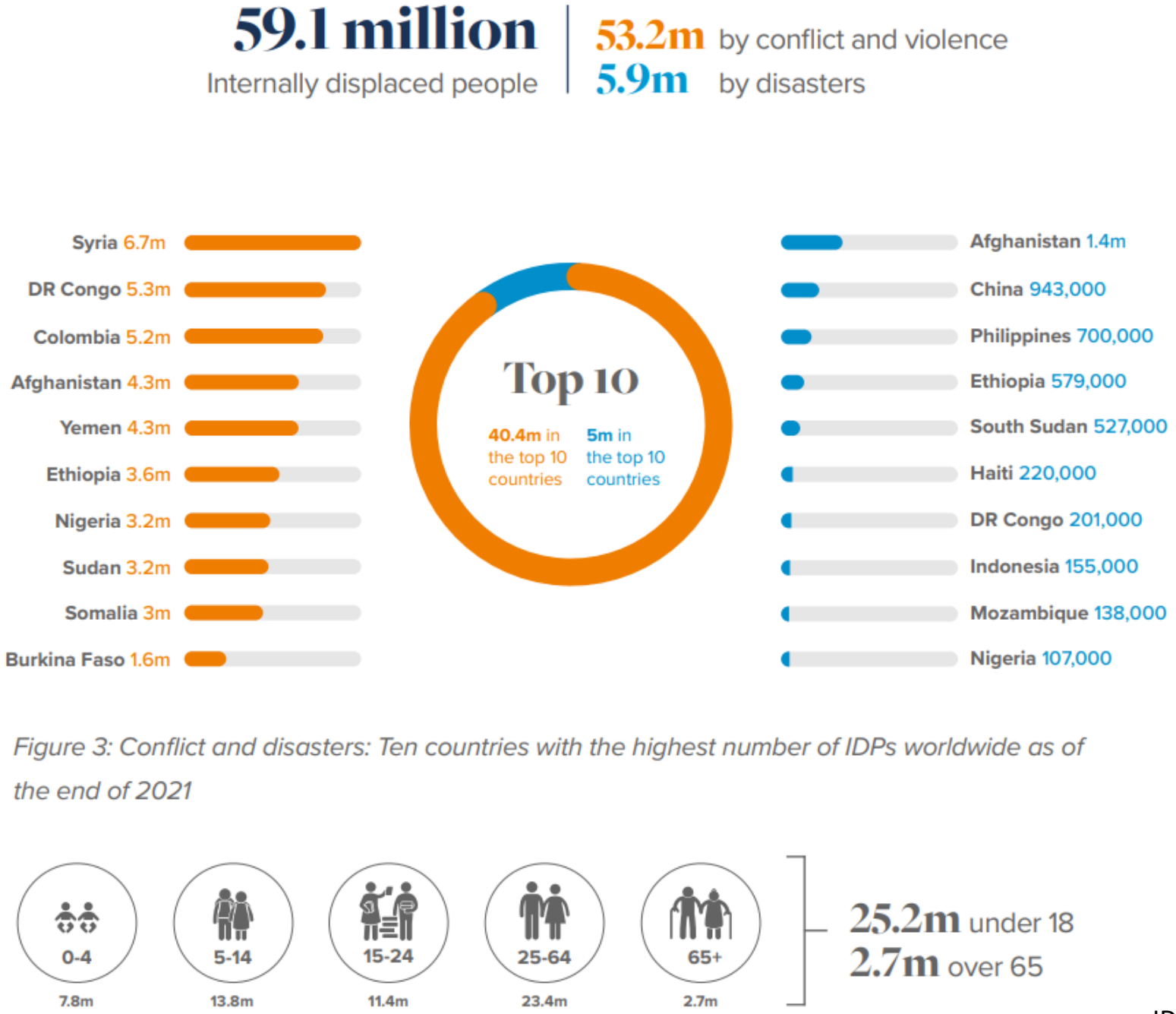


Figure 3: Conflict and disasters: Ten countries with the highest number of IDPs worldwide as of the end of 2021

IDMC, 2022

Impacts of environmental migration

- **Migrants**:
  - loss of home, national identity, cultural traditions
  - direct impacts: contamination of drinking water, food shortages, disease, poor sanitation, reduced quality of life
  - (non-)selectivity of environmental migration
- **Target countries**:
  - environmental degradation, uncontrolled urbanisation, pressure on natural resources, energy, waste issues

Current issues of environmental migration

- Non-existence of a **unified definition** of an **environmental migrantion**
- **Failure** to **frame environmental migration** in international **law**
- **Lack of entitlement** of environmental migrants to refugee status
- Creation of definitions and international laws according to the **policy of the "North“**

Current issues of environmental migration

- **Outdated legislation** (Convention Relating to the Status of Refugees, 1951)
- **Overloaded** current **refugee regime**
- **Unwillingness** of some states to comply with accepted conventions concerning migrants and refugees
- **Non-existent monitoring**
  - lack of accurate statistics on environmental migration

Future trends?

- Estimated number of environmental migrants by 2050: **200 mil.**
- Population of cities with significant water scarcity by 2050: **150 mil.**
- **Increase in population living in floodplains**:
  - Africa: 2000: 2 mil., 2060: 26–36 mil.
  - South-West Asia: 2000: 4 mil., 2060: 35–59 mil.
  - SE Asia: 2000: 7 mil., 2060: 30–49 mil.
  - E Asia: 2000: 18 mil., 2060: 45–67 mil.

Not only people migrate:

An example of the consequences of one introduced species

Do you like rabbits?

depositphotos.com, 2023

Expansion of the wild rabbit

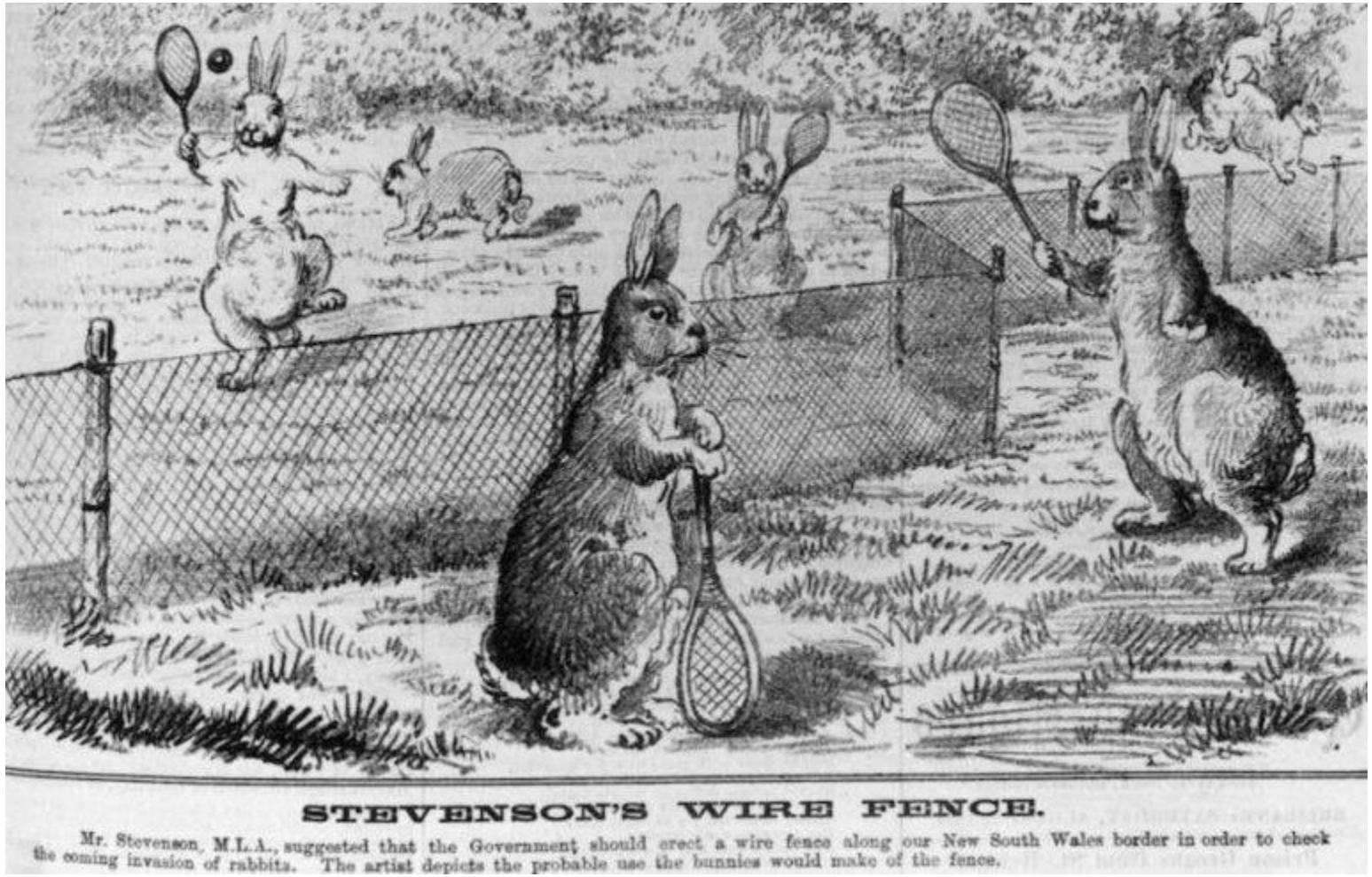
- **Wild rabbit** (origin at Iberian Peninsula – Andalusia)
  - **2nd century BC–476 CE**: Roman Empire (delicatessen meat)
  - **Middle Ages**: Europe, breeding in monasteries (meat, fur, fasting food)
  - **13th century**: Czech lands, monastic colonization
  - **late 18th century**: Australia (population explosion: 50 years – 600 mil.)

Jiří Bohdal

Expansion of the wild rabbit

- **Wild rabbit** (example Australia – reduction efforts)
  - introduction of **foxes** imported from Europe - hunting of local mammals - borderline extinction - extreme overpopulation of foxes
  - proposal to import **wolves** to eat foxes (ban by conservationists)
  - construction of **anti-rabbit fence**: 3,256 km, 7 years

Expansion of the wild rabbit



STEVENSON'S WIRE FENCE.

Mr. Stevenson, M.L.A., suggested that the Government should erect a wire fence along our New South Wales border in order to check the coming invasion of rabbits. The artist depicts the probable use the bunnies would make of the fence.

ANU, National Museum of Australia

Expansion of the wild rabbit

- **Wild rabbit** (example Australia – reduction efforts)
  - **1950s**: biological regulation - **myxomatosis** (99.9% of rabbits reduced)
    - subsequent mutation of the virus, weakening and immunity for 0.1% of rabbits (about 10 million individuals)
    - further spread of viruses, extinction of about 80–90% of the population followed by gain of immunity
  - introduction of **fleas** from Europe - high temperatures and die-off
  - currently developed **chemtrails** for infertility (target of spraying substances from airplanes)
  - now over **200 million rabbits**
    - costs units of billions of dollars/year (compensation to farmers, fighting rabbits)

Expansion of the wild rabbit

- **Wild rabbit** (world)
  - **1950**: vaccination with myxomatosis virus also in France and Chile (overpopulation x worldwide spread of the disease, 90% mortality)
  - **ca. 1990–present**: population decline (plague, disease, landscape changes), pest of park greenery (Paris)
  - **artificial** introduction of **raptors** (eagle, France) x dependence of raptors on rabbits x increase in new population of rabbits due to the threat of predators

Profimedia, 2009

References

- Global Report on Internal Displacement 2022. Available online: https://www.internal-displacement.org/global-report/grid2022/#download
- International Organization for Migration and United Nations Convention to Combat Desertification (2019): Addressing the Land Degradation – Migration Nexus: The Role of the United Nations Convention to Combat Desertification. IOM, Geneva.
- Venc, J. (2018): Environmentální migrace. In. Pražský studentský summit. AMO, 18 s.

Thank you for your attention