





# Sendai Framework Hazard Terminology and Classification Review project

Virginia Murray and many others
22nd Science Committee Meeting, Xiamen, China
8 October 2019











# Technical Working Group on Sendai Hazard Terminology Review and Classification Outline programme

### 09.00 - 09.30 INTRODUCTION to project, purpose and status.

 VM short presentation on the hazard project using the slides we have used before but tailored to the IRDR programme 15 minutes and Q&A

### 9.30 - 11.00 **HAZARD LIST & survey**

- VM Brief introduction and sharing of current list
- A-SS presentation of the ISC survey outputs
- Break out groups what is missing and what is not needed? 30 minutes

## 11.20 – 12.30 Suggested PARAMETERS for hazard inclusion and exclusion –

- VM Introduction
- Break out groups are the parameters appropriate and is there any further information that might be useful here? 30 minutes – report back

#### 13.30 - REVIEW of TEMPLATES

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# Sendai Framework for Disaster Risk Reduction 2015-2030

TARGETS

GLOBAL

1 Global Outcome

13 Guiding Principles

4 Priorities for Action at all levels

7 Global Targets

# Reduce

## Mortality/

global population

## Affected people/

global population
2020-2030 Average << 2005-2035 Average

## Economic loss/

global GDP

2030 Rutto << 2015 Rutto

& disruption of basic services 2030 Values << 2015 Values

# Increase

& local DRR strategies
2020 Value >> 2015 Value

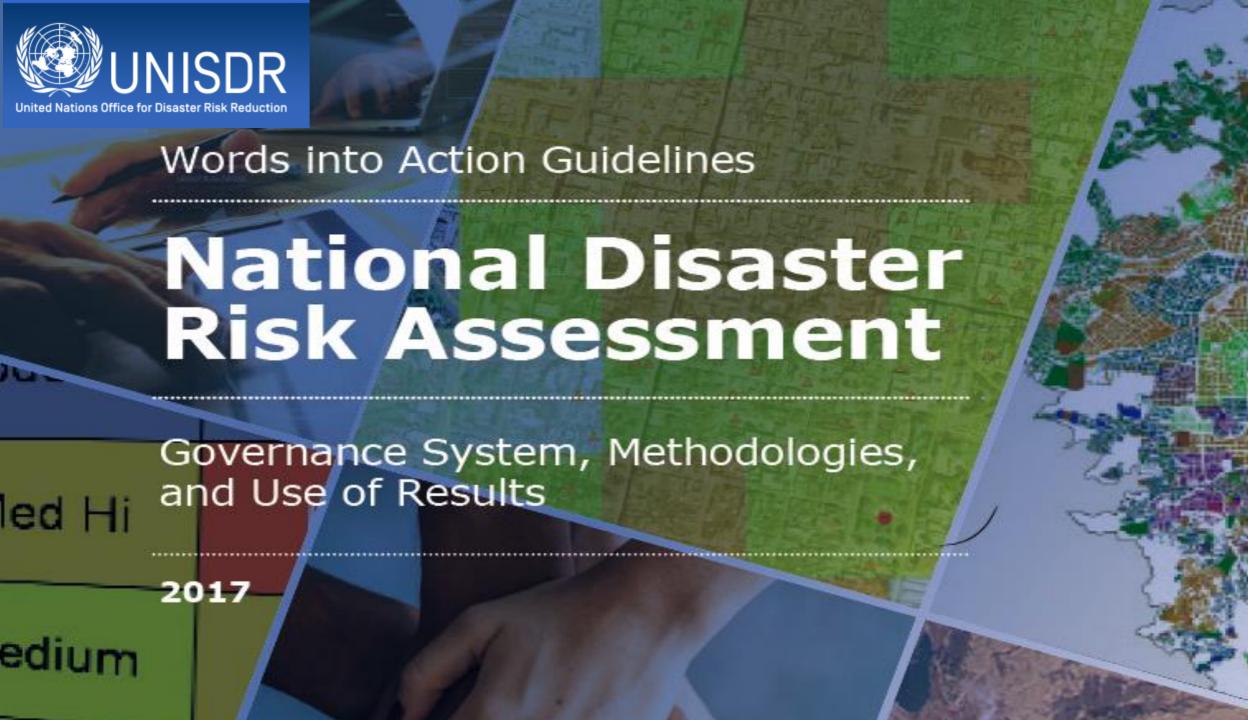
# International cooperation

to developing countries 2030 Value >> 2015 Value

Availability and access
to multi-hazard early warning
systems & disaster risk
information and assessments
2020 Values >> 2015 Values

















# UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification A reason for the project

# UNDRR Sendai Framework Monitor review meeting November 2018

- UN member states invited to report back to SFM
- Reporting was discussed and all hazard approach considered
- At the closing panel the need for review of the all hazard approach was suggested

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

ECE/CES/BUR/2019/OCT/12 27 September 2019

CONFERENCE OF EUROPEAN STATISTICIANS

For decision

Meeting of the 2019/2020 Bureau Geneva (Switzerland), 16-17 October 2019

Item 4 (d) of the Provisional Agenda

#### MEASURING HAZARDOUS EVENTS AND DISASTERS – PROPOSAL FOR FURTHER WORK

Prepared by the Task Force and the Secretariat

#### RECOMMENDATIONS FOR FURTHER WORK

- A. Implementation guidelines
- B. Statistical operationalization of terms, definitions and classifications used in disaster risk management
- develop a single internationally agreed hazard classification, following the principles of a statistical classification;
- C. Set of core statistics and indicators
- D. Establishing a community of practice, exchange of experience and knowledge









# Sendai Framework for Disaster Risk Reduction 2015-2030

 To strengthen technical and scientific capacity to capitalize on and consolidate existing knowledge and to develop and apply methodologies and models to assess disaster risks, vulnerabilities and exposure to all

hazards; (paragraph 24 j)



## General Assembly

Distr.: General 1 December 2016

Original: English

#### https://www.preventionweb.net/files/50683\_oiewgreportenglish.pdf

Seventy-first session

Agenda item 19 (c)

Sustainable development: disaster risk reduction

#### Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction

#### Note by the Secretary-General

The Secretary-General has the honour to transmit herewith the report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction established by the General Assembly in its resolution 69/284 for the development of a set of possible indicators to measure global progress in the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, coherent with the work of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators, and the update of the publication entitled "2009 UNISDR Terminology on Disaster Risk Reduction".

#### United Nations



## General Assembly

https://www.preventionweb.net/files/5

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WHO WE ARE

WHAT WE DO

WHERE WE WORK

WHO WE WORK WITH

HOME

WHAT WE DO

WE INFORM

TERMINOLOGY

## Terminology



#### TERMINOLOGY ON DISASTER RISK REDUCTION

Basic definitions on disaster risk reduction to promote a common understanding on the subject for use by the public, authorities and practitioners.

### https://www.unisdr.org/we/inform/terminology#letter-h

The open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction was established by the General Assembly in its resolution 69/284 for the development of a set of possible indicators to measure global progress in the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, coherent with the work of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators, and the update of the publication entitled "2009 UNISDR Terminology on Disaster Risk Reduction". The report was adopted by the United Nations General Assembly on February 2nd, 2017.

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General Assembly





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Terminology

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#### Hazard

A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.

Annotations: Hazards may be natural, anthropogenic or socionatural in origin. **Natural hazards** are predominantly associated with natural processes and phenomena. **Anthropogenic hazards**, or human-induced hazards, are induced entirely or predominantly by human activities and choices. This term does not include the occurrence or risk of armed conflicts and other situations of social instability or tension which are subject to international humanitarian law and national legislation. Several hazards are **socionatural**, in that they are associated with a combination of natural and anthropogenic factors, including environmental degradation and climate change.

Hazards may be single, sequential or combined in their origin and effects. Each hazard is characterized by its location, intensity or magnitude, frequency and probability. Biological hazards are also defined by their infectiousness or toxicity, or other characteristics of the pathogen such as dose-response, incubation period, case fatality rate and estimation of the pathogen for transmission.

**Multi-hazard** means (1) the selection of multiple major hazards that the country faces, and (2) the specific contexts where hazardous events may occur simultaneously, cascadingly or cumulatively over time, and taking into account the potential interrelated effects.

Hazards include (as mentioned in the Sendai Framework for Disaster Risk Reduction 2015-2030, and listed in alphabetical order) biological, environmental, geological, hydrometeorological and technological processes and phenomena.

**Biological hazards** are of organic origin or conveyed by biological vectors, including pathogenic microorganisms, toxins and bioactive substances. Examples are bacteria, viruses or parasites, as well as venomous wildlife and insects, poisonous plants and mosquitoes carrying disease-causing agents.



WHO WE WORK WITH

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#### etter-h

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Biological hazards are of organic microorganisms, toxins and bioact venomous wildlife and insects, po **Environmental hazards** may include chemical, natural and biological hazards. They can be created by environmental degradation or physical or chemical pollution in the air, water and soil. However, many of the processes and phenomena that fall into this category may be termed drivers of hazard and risk rather than hazards in themselves, such as soil degradation, deforestation, loss of biodiversity, salinization and sea-level rise.

**Geological or geophysical hazards** originate from internal earth processes. Examples are earthquakes, volcanic activity and emissions, and related geophysical processes such as mass movements, landslides, rockslides, surface collapses and debris or mud flows. Hydrometeorological factors are important contributors to some of these processes. Tsunamis are difficult to categorize: although they are triggered by undersea earthquakes and other geological events, they essentially become an oceanic process that is manifested as a coastal water-related hazard.

**Hydrometeorological hazards** are of atmospheric, hydrological or oceanographic origin. Examples are tropical cyclones (also known as typhoons and hurricanes); floods, including flash floods; drought; heatwaves and cold spells; and coastal storm surges. Hydrometeorological conditions may also be a factor in other hazards such as landslides, wildland fires, locust plagues, epidemics and in the transport and dispersal of toxic substances and volcanic eruption material.

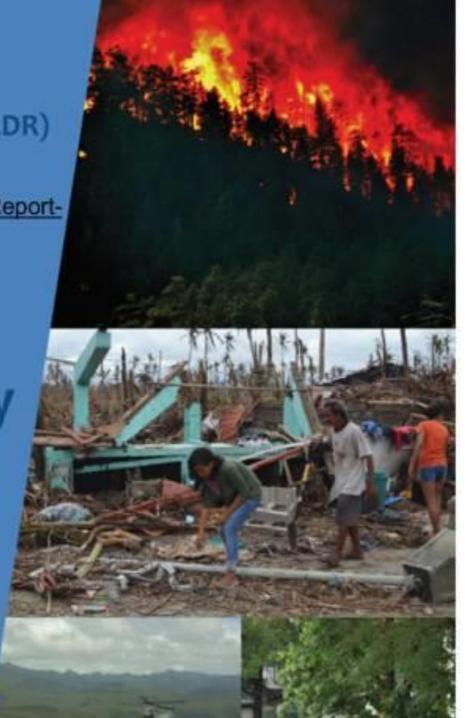
**Technological hazards** originate from technological or industrial conditions, dangerous procedures, infrastructure failures or specific human activities. Examples include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event.

Integrated Research on Disaster Risk (IRDR)

http://www.irdrinternational.org/wpcontent/uploads/2014/04/IRDR\_DATA-Project-Report-No.-1.pdf

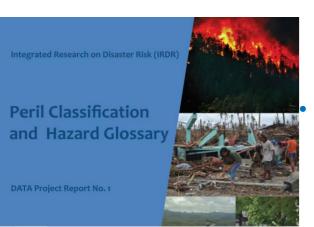
Peril Classification and Hazard Glossary

DATA Project Report No. 1



# IRDR Perils Classification and Hazard Glossary 2014

- Geophysical: a hazard originating from solid earth. This term is used interchangeably with the term geological hazard.
- **Hydrological:** a hazard caused by the occurrence, movement, and distribution of surface and subsurface freshwater and saltwater.
- Meteorological: a hazard caused by short-lived, micro- to meso-scale extreme weather and atmospheric conditions that last from minutes to days.
- Climatological: a hazard caused by long-lived, meso- to macro-scale atmospheric processes ranging from intra-seasonal to multi-decadal climate variability.
  - **Biological:** a hazard caused by the exposure to living organisms and/or their toxic substances (e.g. venom, mold) or vector-borne diseases that they may carry. Examples are venomous wildlife and insects, poisonous plants, algae blooms, and mosquitoes carrying disease-causing agents such as parasites, bacteria, or viruses (e.g., malaria).
    - **Extraterrestrial:** a hazard caused by asteroids, meteoroids, and comets as they pass near earth, enter the Earth's atmosphere, and/or strike the Earth, or changes in inter planetary conditions that effect the Earth's magnetosphere, ionosphere, and thermosphere.





## ANNEX 1. WHO CLASSIFICATION OF HAZARDS

https://www.who.int/hac/techguidance/preparedness/health-emergency-and-disaster-risk-management-framework-eng.pdf?ua=1

GENERIC GROUPS <sup>1</sup>	1. NATURAL  1.2 HYDRO-METEOROLOGICAL						2. HUMAN-INDUCED <sup>2,8</sup>		3. ENVIRONMENTAL 3.1 ENVIRONMENTAL DEGRADATION <sup>17</sup>
GROUPS							2.1 2.2 TECHNOLOGICAL SOCIETAL		
SUBGROUPS	1.1 GEOPHYSICAL <sup>4</sup>	1.2.1 HYDROLOGICAL <sup>4</sup>	1.2.2 MTEOROLOGICAL <sup>4</sup>	1.2.3 CLIMATOLOGICAL <sup>4</sup>	1.3 BIOLOGICAL <sup>5</sup>	1.4 EXTRATERRESTRIAL <sup>4</sup>	- chemical spill - gas leak - radiation [radiological, nuclear] Structural collapse: - building collapse: - building collapse - dam/bridge failures Occupational hazards - mining Transportation 811 - air, road, rail, water, space Explosions Fire8 Air pollution:9 - haze 10 Infrastructure disruption: - power outage 11 - water supply - solid waste, waste water - telecommunication Cybersecurity Hazardows materials	Acts of violence  Armed conflicts: 14  - international  - non-inter-	Erosion Deforestation
MAIN TYPES	Earthquake: - ground-shak- ing	Flood: - riverine flood - flash flood - coastal flood	Storm: - extratropical storm - tropical cy-	Wild fire: - land fire [e.g. brush, bush pasture] - forest fire  Glacial lake out- burst (flood)	Airborne diseases Waterborne diseases	Impact: - airburst - meteorite			Salinization Sea level rise
-SUBTYPES	Mass movement (geophysical trigger): - landslide - rock fall - subsidence Liquefaction  Volcanic activity: - ash fall - lahar - pyroclastic flow - lava flow	- ice jam flood  Mass movement (hydro-meteoro- logical trigger): - landslide - avalanche (snow) - mudflow - debris flow  Wave action: - rogue wave - seiche	clone [cyclonic wind, cyclonic rain, cyclone (storm) surge] - convective storm [tornado, wind, rain, winter storm, blizzard, derecho, lightning, thunderstorm, hail, sand/dust storm]  Extreme temperature: - heatwave - coldwave - severe winter condition [e.g. snow/ice, frost/freeze, dzud] <sup>6</sup>		Vector-borne diseases Foodborne outbreaks <sup>7</sup> Insect infestation: <sup>A</sup> - grasshopper - locust Animal diseases Plant diseases Aeroallergens Antimicrobial resistant microorganisms Animal-human contact - venomous animals [snakes, spiders]	Space weather energetic particles - geomagnetic storms - shockwave		national  Civil unrest  Stampede  Terrorism: - chemical, biological, radiological, nuclear, and explo- sives 15,35  Financial crises: - hyper-infla- tion - currency crisis	Desertification  Wetland loss/ degradation  Glacier retreat/ melting  Sand encroach- ment









# Sendai Framework for Disaster Risk Reduction 2015-2030

 The present Framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological and biological hazards and risks. It aims to guide the multihazard management of disaster risk in development at all levels as well as within and across all sectors. (Paragraph 15)







## Intensive disaster risk

The risk of high-severity, mid-to low-frequency disasters, mainly associated with major hazards.

Annotation: Intensive disaster risk is mainly a characteristic of large cities or densely populated areas that are not only exposed to intense hazards such as strong earthquakes, active volcanoes, heavy floods, tsunamis or major storms but also have high levels of vulnerability to these hazards.

## **Extensive disaster risk**

The risk of low-severity, high-frequency hazardous events and disasters, mainly but not exclusively associated with highly localized hazards.

Annotation: Extensive disaster risk is usually high where communities are exposed to, and vulnerable to, recurring localized floods, landslides, storms or drought. Extensive disaster risk is often exacerbated by poverty, urbanization and environmental degradation.

Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction; UN General Assembly February 2017





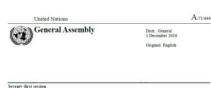


# RISK = f(HAZARD), Vulnerability, Exposure, Capacity)



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- Birkmann J. (2013) Measuring vulnerability to natural hazards: Towards disaster resilient societies (second edition). United Nations University, Japan, p 46.
- Bollin, C., C. Cárdenas, H. Hahn and K.S. Vatsa (2003) Natural Disaster Network; Disaster Risk Management by Communities and Local Governments, Washington, DC: Inter-American Development Bank, available at http://www.iadb.org/sds/doc/GTZ%2DStudyFinal.pdf
- Davidson, R. (1997) An Urban Earthquake Disaster Risk Index, The John A. Blume Earthquake Engineering Center, Department of Civil Engineering, Report No. 121, Stanford: Stanford University.
- Economic and Social Commission for Asia and the Pacific Committee on Statistics (2019). Disaster-related Statistics
   Framework. ESCAP/CST/2018/CRP.2. Available at
   <a href="https://www.unescap.org/sites/default/files/ESCAP.CST\_.2018.CRP\_.2\_Disaster-related\_Statistics\_Framework.pdf">https://www.unescap.org/sites/default/files/ESCAP.CST\_.2018.CRP\_.2\_Disaster-related\_Statistics\_Framework.pdf</a>



Report of the open-ended intergovernmental expert working group on indicators and terminology relating to





## Disaster

A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

Annotations: The effect of the disaster can be immediate and localized, but is often widespread and could last for a long period of time. The effect may test or exceed the capacity of a community or society to cope using its own resources, and therefore may require assistance from external sources, which could include neighbouring jurisdictions, or those at the national or international levels.

**Small-scale disaster:** a type of disaster only affecting local communities which require assistance beyond the affected community.

**Large-scale disaster:** a type of disaster affecting a society which requires national or international assistance.

Frequent and infrequent disasters: depend on the probability of occurrence and the return period of a given hazard and its impacts. The impact of frequent disasters could be cumulative, or become chronic for a community or a society.

A slow-onset disaster is defined as one that emerges gradually over time. Slow-onset disasters could be associated with, e.g., drought, desertification, sea-level rise, epidemic disease.

A sudden-onset disaster is one triggered by a hazardous event that emerges quickly or unexpectedly. Sudden-onset disasters could be associated with, e.g., earthquake, volcanic eruption, flash flood, chemical explosion, critical infrastructure failure, transport accident.

Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction; UN General Assembly February 2017











# UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification

# **Global Platform 2019 Co-Chairs Summary**

 A critical, fundamental and urgent re-examination of how we deal with risk is needed, The past is not a sufficient indicator for the future. An interconnected approach is required to address systemic risks supported by multi-hazard and multidisciplinary risk assessment. The Global Risk Assessment Framework will facilitate this approach. Experts from science, the United Nations, and the private sector launched a new technical working group to develop a definitions' list of the Sendai Framework Hazards. These, amongst others, will contribute to enhancing understanding of risk, inform decision making, and transform behaviour. (paragraph 14)











# UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification Aim of project

 To provide a review of Sendai Framework hazard terminology and classification for partners addressing the all hazards paradigm











# UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification

# Proposed project end users include

- National disaster management agencies, multisectoral emergency/disaster management committees or equivalents
- National statistical offices or equivalents
- Academia, universities, education and training bodies, research institutes
- Private sector such as the insurance industry
- International organizations including NGOs such as the IFRC
- Communities including community groups, civil society organizations and networks











# UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification Summary of process

- Launched at the Science and Policy Forum of Global Platform May 2019
- Task Team consisting of UN agencies (including WMO and WHO) and scientific community representatives, and input from the insurance industry and international humanitarian organisations
- Report for UN Disaster Risk Reduction and International Science Council by early 2020

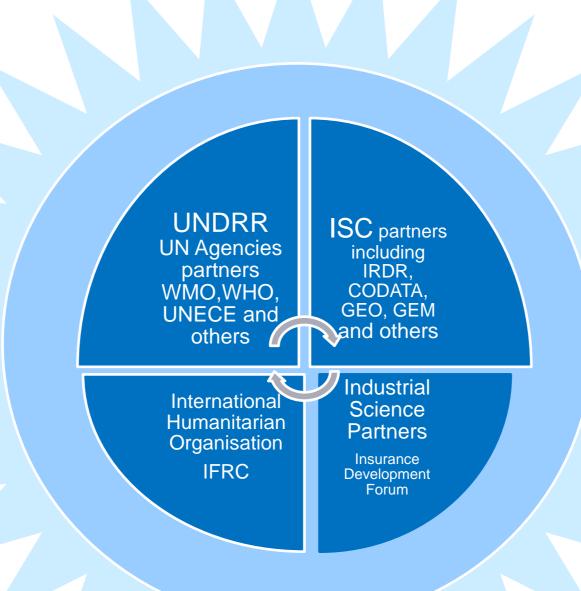






















# UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification

## **Task Team**

Virginia Murray IRDR and PHE Jonathan Abrahams, WHO Michael Nagy, UNECE Pascale Peduzzi, UNEP Jack Radisch, OECD Peter Kearns, OECD Wirya Khim, FAO Lucille Angles, UNESCO Katie Peters, ODI Aslam Perwaiz, APSTAAG Osvaldo Moraes, ROLAC Chadi Abdallah, MENA STAG Urbano Fra Paleo, E-STAG

John Handmer, IRDR Chang Hun Choe, IFRC Simon Cox, CODATA Simon Hodson, CODATA Markus Reichstein, Risk KAN James Norris, GEO Alonso Brenes Torres, IRDR John Schneider, GEM Adam Smith, North American STAG Djillali Benouar, STAG Afro Qunli Han, IRDR Claire Souch, IDF Nick Moody, IDF James Douris, WMO



Distr.: G 1 Decem

Seventy-first session Agenda item 19 (c) Sustainable development: disaster risk reduct

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# Tests whether to include a hazard

- Does it fulfill the definition of a hazard as per the UN General Assembly adopted Open Ended Intergovernmental Working Group?
- Is there internationally agreed UN agency definition? if no is there a generally accepted scientific definition from an authoritative source?.
- (Is the hazard measurable? Are there internationally agreed standards?)

## Hazard

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- Is there internationally agreed UN agency definition?
   if no is there a generally accepted scientific definition from an authoritative source?.
- (Is the hazard measurable? Are there internationally agreed standards?)
- What else should be used as inclusion/exclusion criteria?





# **HAZARD**

# **Primary definition**

Brief Definition of hazard: this should be no more than 3 lines/2 sentences.

This should be sourced from the highest possible authority and be applicable to all parties and is preferably a simple UN definition but also recognised as the highest level that UN member states can use and apply.

## REFERENCE/ hyperlink/Web site

## Scientific definition

Expanded scientific definition that is preferably measurable, modellable and statistically relevant REFERENCE/ hyperlink/Web site

## Metrics, numerical limits or defined guidelines

Any globally agreed metrics, numerical limits or guidelines defined

Should be globally agreed as a recognised standard, if it is only at a regional level than state this as a reference.

#### REFERENCE/ hyperlink/Web site

## Any essential annotations

Such as 'drivers' to cause the hazard and any secondary hazards which may be caused by this hazard (if applicable)

REFERENCE/ hyperlink/Web site

## **Ownership of Definition(s)**

UN or Scientific Agency or Organisation who holds the updating responsibility for the Primary Definition

Name of Contributor/s to hazard definition and dates, updating using version control





# UNDRR/International Science Council Sendai Hazards Terminology and Classification project



 Hazard terminology is a scientific contribution to assist possible end users such as UN member states NDMA and NOS to enhance completeness of reporting for the Sendai Framework Monitor and implementing the Sendai Global Targets



 The Sendai Framework provides an agreed method to enhance capabilities to plan and prepare for, respond to, and recover from emergencies and disasters in partnership



 Offers an opportunity to engage at a global level with stakeholders on guidance and policy issues that could impact national to local community preparedness











## UNDRR/ISC Technical Working Group on the Hazard Terminology Review and Classification

# **Acknowledgements include**

- UNDRR: Ricardo Mena, Irina Zodrow, Marc Gordon and others
- ISC: Heide Hackman, Anne-Sophie Stevance, Alison Merton and others
- STAG: Rajib Shaw and others
- IRDR: John Handmer, Qunli Han and Fang Lian and others
- Public Health England: Lucy Fagan, Natalie Wright, Sarah Wallace, Robert Verrecchia, Callum Chapman, Kiran Attridge, Sonny Greenley, Victoria Hollertz, Helen Wallace, Neil Squires, Duncan Selby, Tina Endricks, Mark Salter, Fernando Gouvaeres, and many others
- Flinders University, Australia: Lidia Mayner
- Consultants: Olga Shashkina-Pescaroli, Rajinder Sagoo,







# UNDRR/International Science Council Sendai Hazards Terminology and Classification project

# **Discussion**















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# Technical Working Group on Sendai Hazard Terminology Review and Classification

## **Current Hazard List**

## Methods

- Review IRDR Perils Classification and Hazard Glossary 2014 and other hazard glossaries such as national risk registers where available and results of SFM
- Review Scientific Glossaries and develop table of those identified
- Review UN Agency glossaries and develop table of those identified
- Collated on an excel spread sheet and refine via collaboration and review including task team review
- Link hazards to those agencies most likely to lead on definitions by checking with science partners and a wide range of agencies











# Technical Working Group on Sendai Hazard Terminology Review and Classification

## **Current Hazard List**

## Methods

- All hazards agreed to be part of a 'flat' list in 1-2 July arranged alphabetically
- Complexity drove the need for clustering not a classification yet
- Current survey list starts with those hazards UN member states are most likely to report on by natural, biological, technological, societal and environmental degradation











# Technical Working Group on Sendai Hazard Terminology Review and Classification

## **Current Hazard List**

## **Methods**

Meteorological and hydrological Infectious Disease

**Extraterrestrial** Radiation

Geophysical Technological

Environmental Transportation

Chemical Societal

Biological Other







# UNDRR/International Science Council Sendai Hazards Terminology and Classification project

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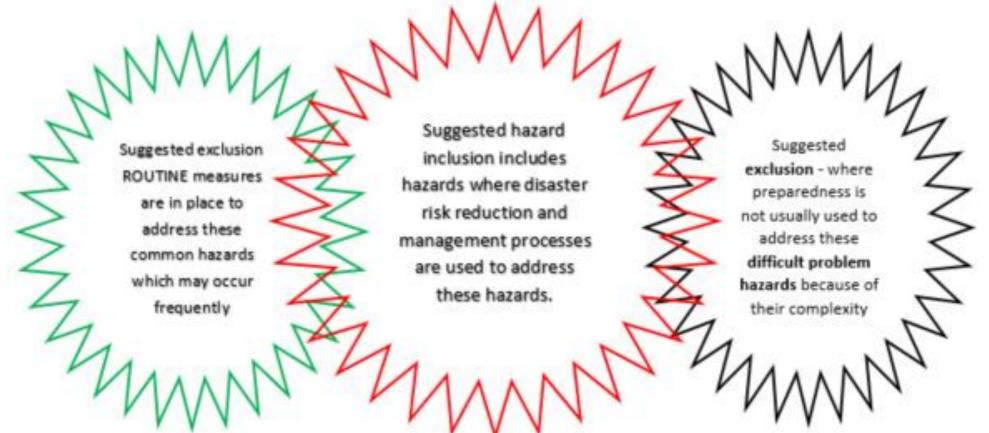






version 18 - 6 October 2019











# UNDRR/International Science Council Sendai Hazards Terminology and Classification project

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11.20 – 12.30 Suggested PARAMETERS for hazard inclusion and exclusion –

- VM Introduction
- Break out groups are the parameters appropriate and is there any further information that might be useful here? 30 minutes – report back

#### 13.30 - REVIEW of TEMPLATES

- JH Introduction to templates and review process
- Break out groups review of templates

15.00 Revisit the hazards list; outline project report, agree actions

# **HAZARD**

# **Primary definition**

Brief Definition of hazard: this should be no more than 3 lines/2 sentences.

This should be sourced from the highest possible authority and be applicable to all parties and is preferably a simple UN definition but also recognised as the highest level that UN member states can use and apply.

## REFERENCE/ hyperlink/Web site

## Scientific definition

Expanded scientific definition that is preferably measurable, modellable and statistically relevant REFERENCE/ hyperlink/Web site

## Metrics, numerical limits or defined guidelines

Any globally agreed metrics, numerical limits or guidelines defined

Should be globally agreed as a recognised standard, if it is only at a regional level than state this as a reference.

#### REFERENCE/ hyperlink/Web site

## Any essential annotations

Such as 'drivers' to cause the hazard and any secondary hazards which may be caused by this hazard (if applicable)

REFERENCE/ hyperlink/Web site

## **Ownership of Definition(s)**

UN or Scientific Agency or Organisation who holds the updating responsibility for the Primary Definition

Name of Contributor/s to hazard definition and dates, updating using version control







# UNDRR/International Science Council Sendai Hazards Terminology and Classification project

# **Discussion**















# Technical Working Group on Sendai Hazard Terminology Review and Classification Outline programme

09.00 – 09.30 INTRODUCTION to project, purpose and status.

 VM short presentation on the hazard project using the slides we have used before but tailored to the IRDR programme 15 minutes and Q&A

9.30 - 11.00 HAZARD LIST & survey

- VM Brief introduction and sharing of current list
- A-SS presentation of the ISC survey outputs
- Break out groups what is missing and what is not needed? 30 minutes

11.20 – 12.30 Suggested PARAMETERS for hazard inclusion and exclusion –

- VM Introduction
- Break out groups are the parameters appropriate and is there any further information that might be useful here? 30 minutes – report back

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- JH Introduction to templates and review process
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