



Geohazard Symposium:

Background and the next steps

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Frequently occurred disastrous natural hazards

Sumatra Earthquake and Tsunamis, Dec., 2004



Great East Japan Earthquakes and Tsunamis, March 11, 2011



(Kyodo News)

http://www.boston.com/bigpicture/2011/03/massive_earthquake_hits_japan.html

Volcanic Eruption at Mt. Kiso-Ontake, September 27, 2014



Massive Earthquakes in Nepal, April-May 2015



This year's deadly earthquakes in Nepal killed more than 8,000 people and reduced thousands of buildings to rubble.

Storm Sarge by Typhoon Bopha in Mindanao, Dec., 23, 2012



(Kyodo News)

Pht012-jlp13742674

Heavy rains and debris flow, August 30, 2014



: DR Congo's Mount Nyiragongo erupts, sparking mass evacuation - BBC News

15 peoples dead, 170 children are missing on May 24, 2021 !

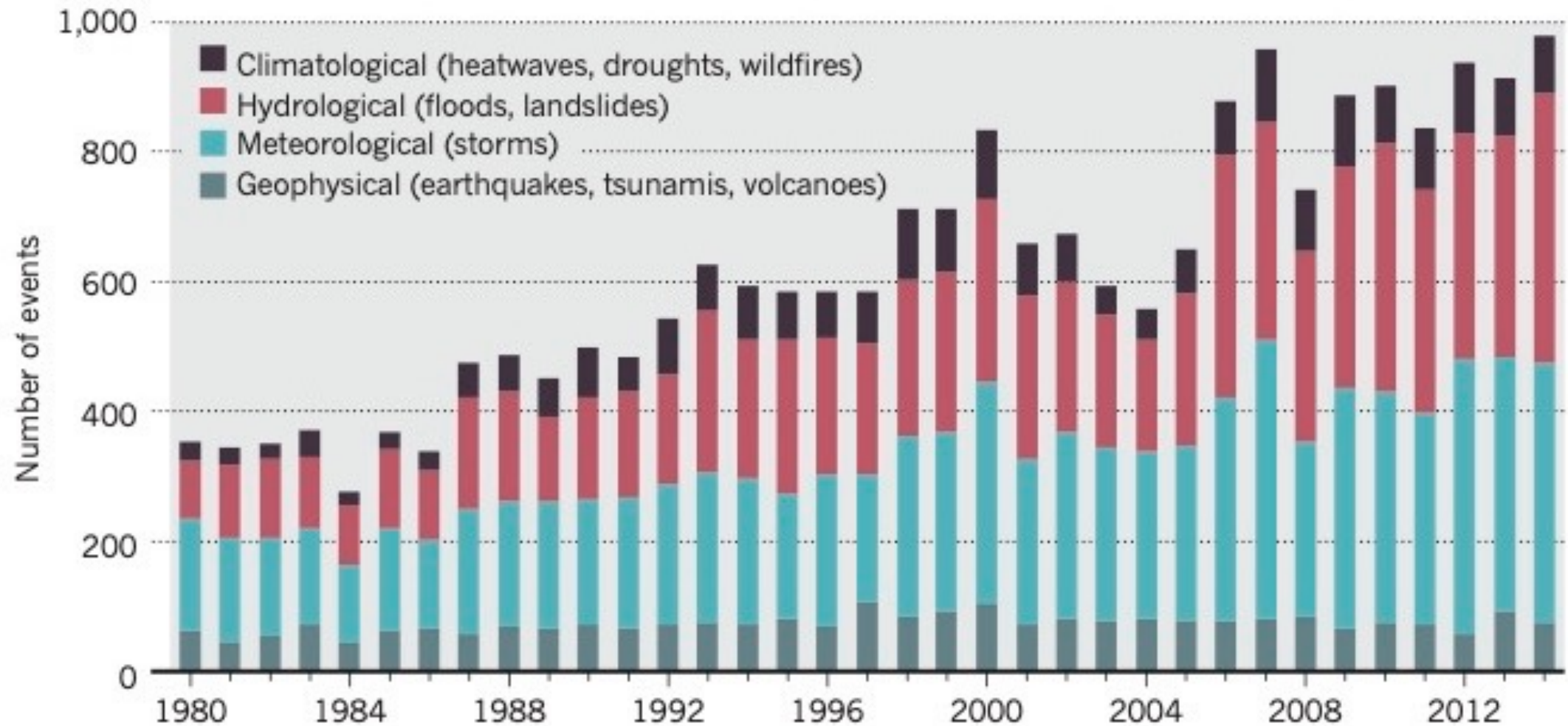


AFP

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CATASTROPHIC RISE

The number of disasters caused by natural events has more than doubled since 1980.



SOURCE: MUNICHRE/NATCATSERVICE

Cutter and others, 2015 Nature

Climate change > geophysical disasters

Disaster risks increase since 1980th

Science Council of Japan has been co-operated with global DRR activities

1990~1999: UN International Decade for Natural Disaster Reduction

1994 May: 1st World Conference on Natural Disaster Reduction (Yokohama)

→ *Yokohama Strategy and Plan of Action for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action*

2004 Dec.: [Sumatra Earthquake and Tsunamis](#)

2005 Jan.: 2nd World Conference on Natural Disaster Reduction (Kobe)

→ *Hyogo Framework for Action 2005-2015 : Building the Resilience of Nations and Communities to Disasters*

2011 Mar.: [Tohoku Earthquake and Tsunamis](#)

2012 Dec.: [Mindanao Typhoon No. 24, storm sarges](#)

2015 Mar.: 3rd World Conference on Natural Disaster Reduction (Sendai)

→ *Sendai Framework for Disaster Risk Reduction 2015-2030 :*

2015 April-May: [Massive Earthquakes in Nepal / Cyclone Pam on the Pacific Island of Vanuatu](#)

2021 Mar.: International Science Council GeoUnions establish Standing Committee on Disaster Risk Reduction

Sendai Framework for Disaster Risk Reduction 2015-2030

Expected Outcome and goals

Outcomes: *The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.*

Goals: *Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.*

Priorities for Action

Priority 1: Understanding disaster risk.

*(Researches, Data, **Standardization** (GIS, methodology), visualization, knowledge transfer)*

Priority 2: Strengthening disaster risk governance to manage disaster risk.

*(**networking** and prepare **platforms** for multiple stakeholders,)*

Priority 3 : Investing in disaster risk reduction for resilience

(Investments in DRR both from public and private levels).

Priority 4: Enhancing disaster **preparedness for effective response and to**

“Build Back Better” in recovery, rehabilitation and reconstruction.

(Come back to the previous life levels, and further to the better levels of Disaster risk literacies for all)

Standardizations for global use

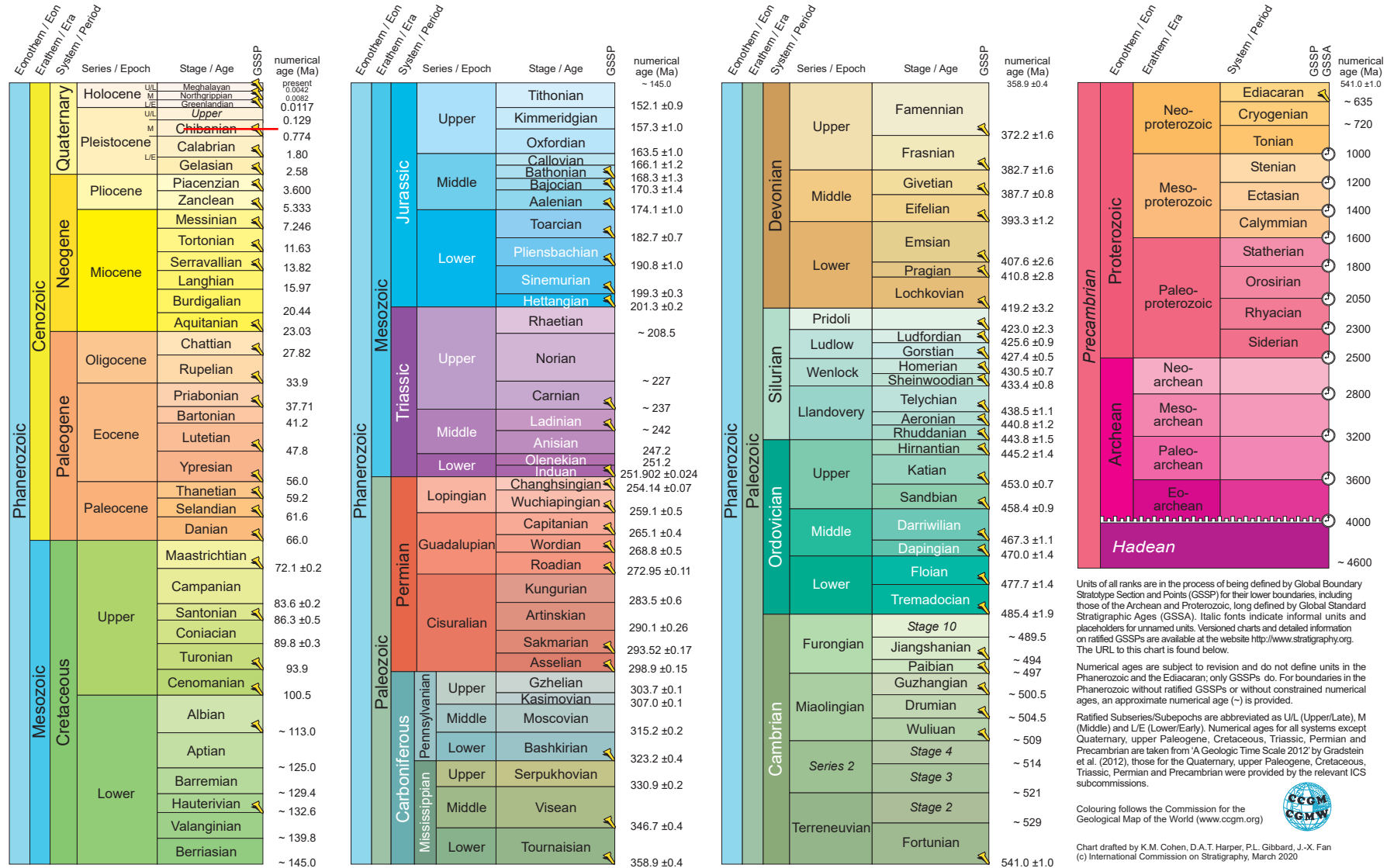


INTERNATIONAL CHRONOSTRATIGRAPHIC CHART

www.stratigraphy.org

International Commission on Stratigraphy

v 2020/03



Units of all ranks are in the process of being defined by Global Boundary Stratotype Section and Points (GSSP) for their lower boundaries, including those of the Archean and Proterozoic, long defined by Global Standard Stratigraphic Ages (GSSA). Italic fonts indicate informal units and placeholders for unnamed units. Versioned charts and detailed information on ratified GSSPs are available at the website <http://www.stratigraphy.org>. The URL to this chart is found below.

Numerical ages are subject to revision and do not define units in the Phanerozoic and the Ediacaran; only GSSPs do. For boundaries in the Phanerozoic without ratified GSSPs or without constrained numerical ages, an approximate numerical age (~) is provided.

Ratified Subseries/Subepochs are abbreviated as U/L (Upper/Late), M (Middle) and L/E (Lower/Early). Numerical ages for all systems except Quaternary, upper Paleogene, Cretaceous, Triassic, Permian and Precambrian are taken from 'A Geologic Time Scale 2012' by Gradstein et al. (2012), those for the Quaternary, upper Paleogene, Cretaceous, Triassic, Permian and Precambrian were provided by the relevant ICS subcommissions.



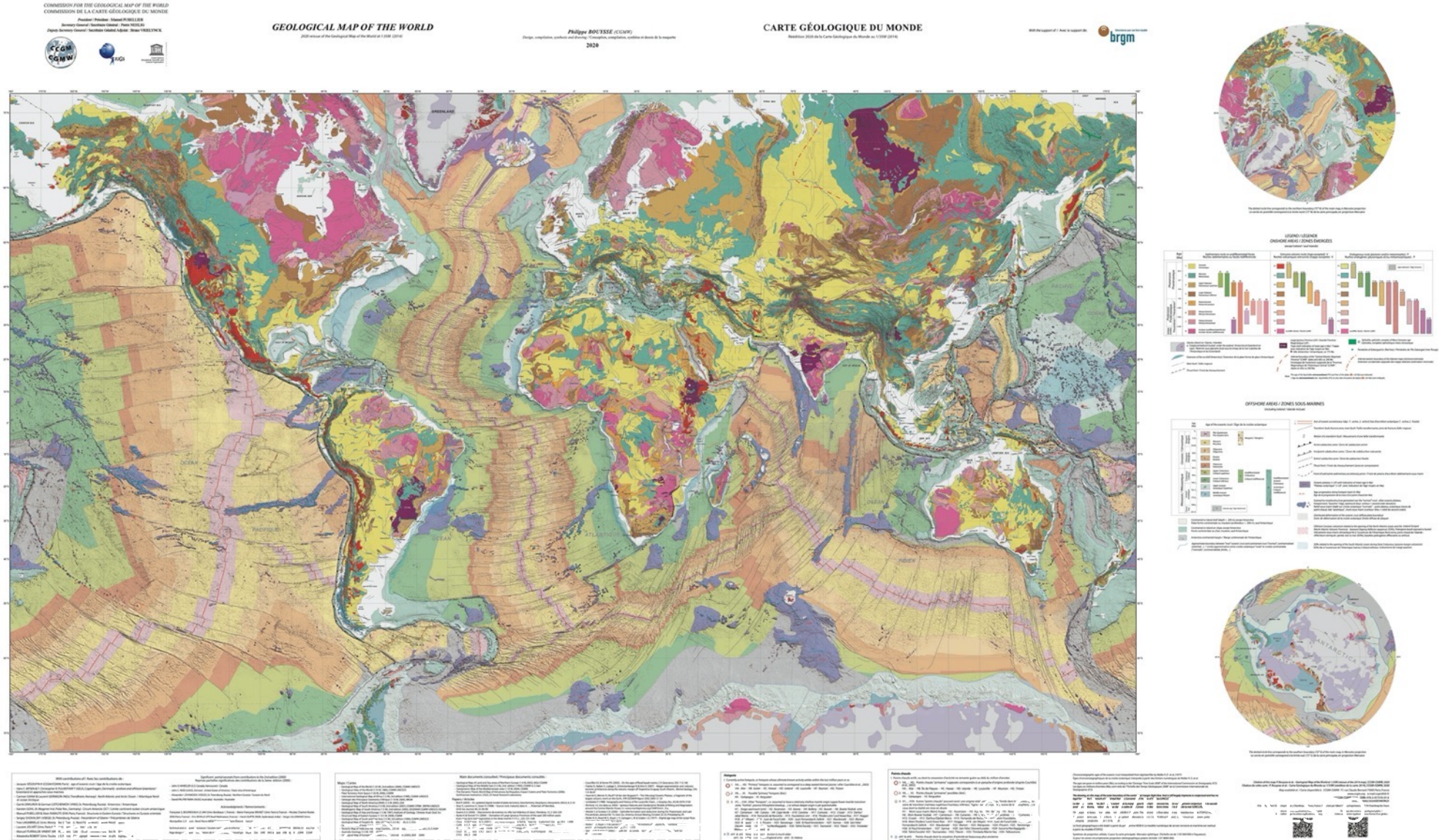
Colouring follows the Commission for the Geological Map of the World (www.ccgw.org)

Chart drafted by K.M. Cohen, D.A.T. Harper, P.L. Gibbard, J.-X. Fan (c) International Commission on Stratigraphy, March 2020

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URL: <http://www.stratigraphy.org/ICSchart/ChronostratChart2020-03.pdf>

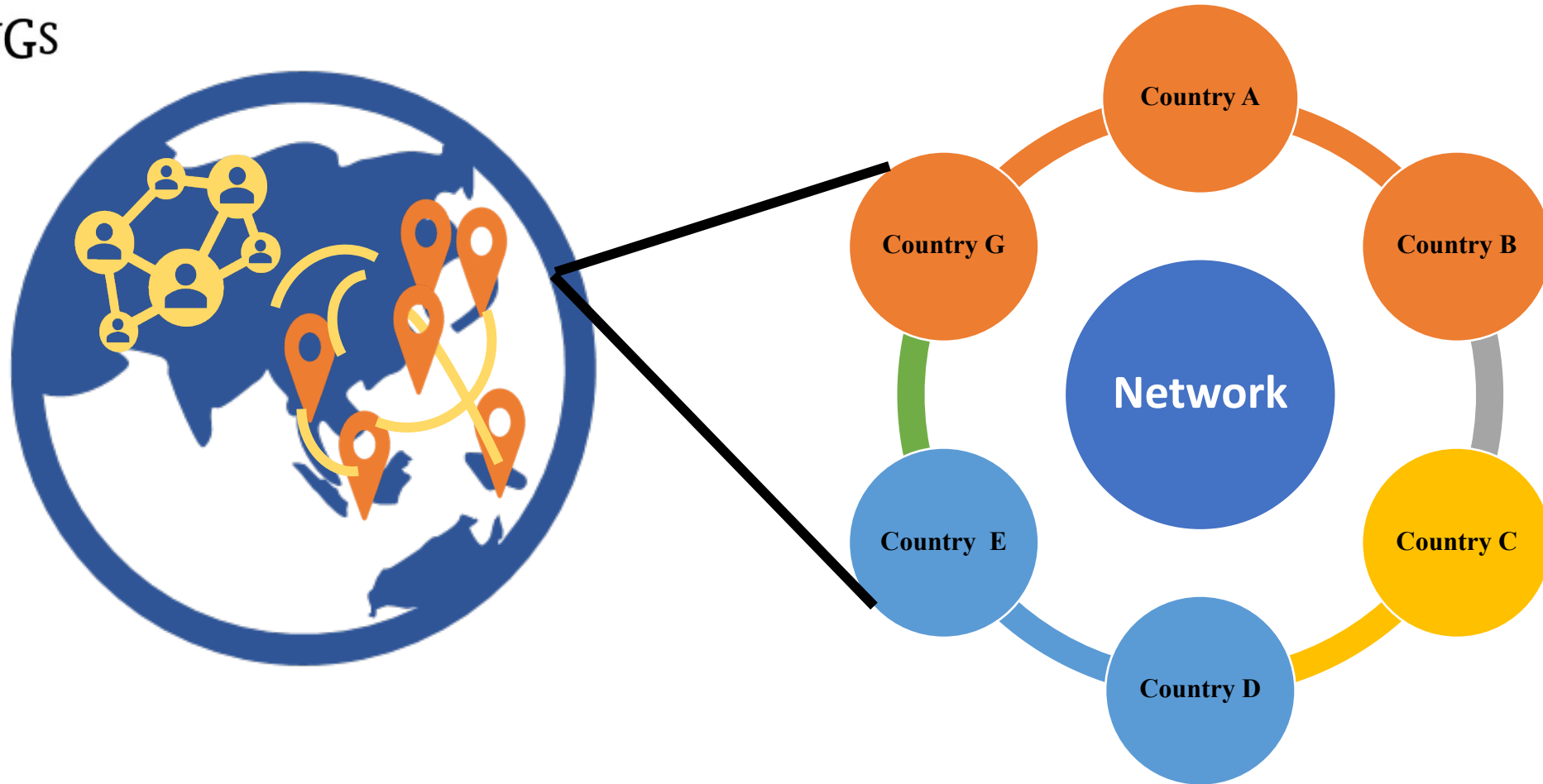
Geological Map of the World



***Networking for data integrations
and
Making platforms for multiple
stakeholders (Science, Technology,
Politics and Society)***



Networks should strengthen disaster risk resilience among Asian countries, and also among countries in global scales



Each country has own characters, geography, size, and different professions.

The pros of establishing research networks is that **it can cover weak points of other countries.** Connections between governments, research institutions, universities, various stakeholders, and even citizens can bring new advantageous characters and complement its function, such as regional scale collections and information, multiple field dynamics, etc.

I hope that this symposium crops a lot of fruits for the progress of disaster risk reduction research !

Thank you for kind attention