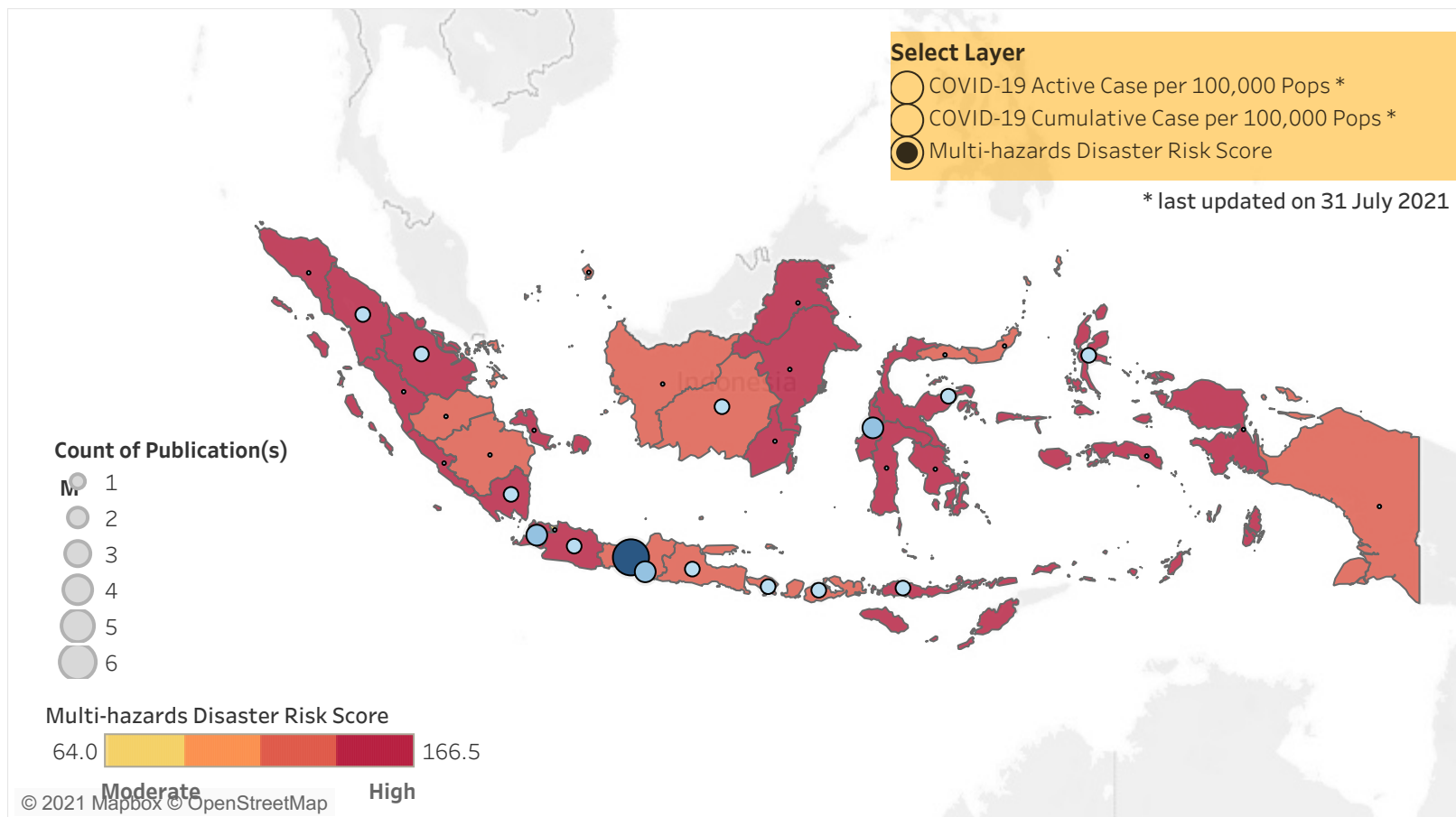


Indonesia Disaster Knowledge Update - August 2021



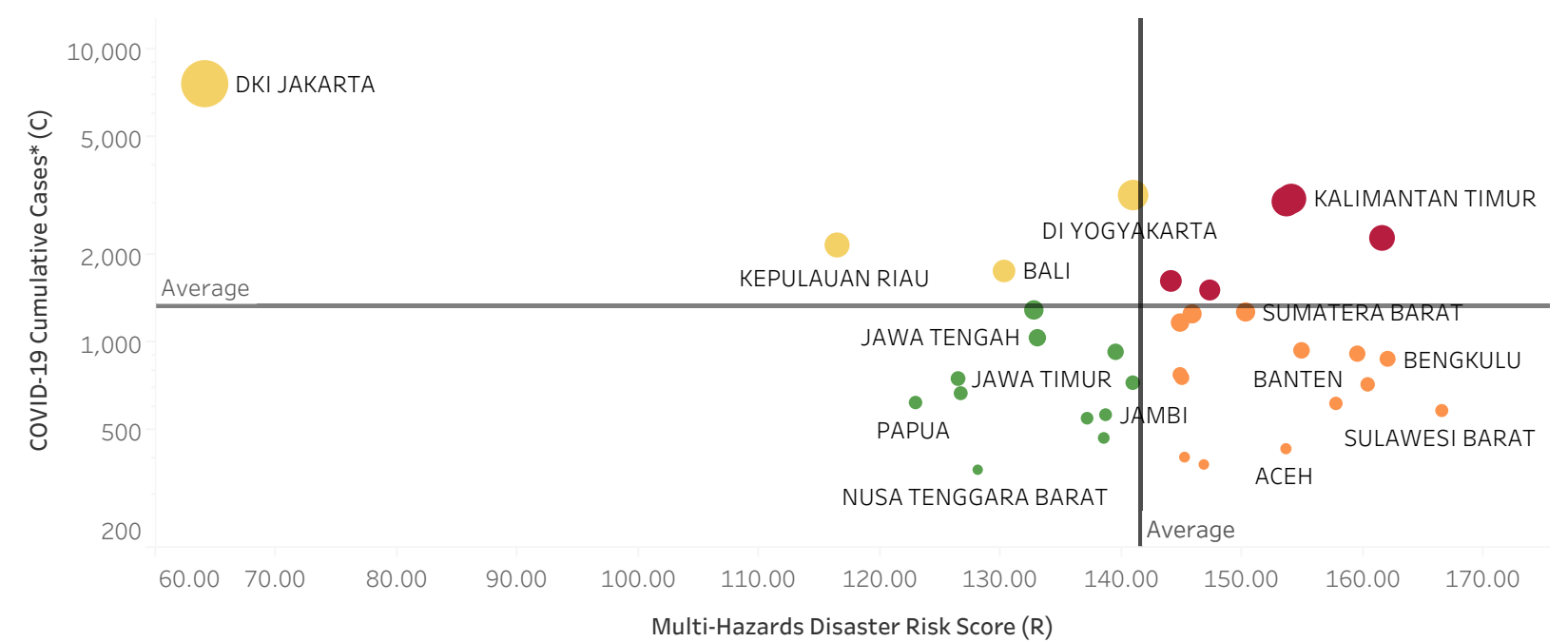
Research publications about co-occurrence of COVID-19 and other hazards



The map shows the distribution of research locations with co-occurrence of COVID-19 and other hazards in its study. The blue dots represent the count of publications in each province. From a total of 30 articles in Indonesia, only 21 articles investigated specific provinces, and 16 articles investigated cities/regencies. Whereas 15 out of 34 provinces in Indonesia have been the subject of various studies, Central Java province was the most studied one with 6 publications. A total of 11 provinces with high multi-hazards disaster risk have not been studied at all, including such as Aceh, West Sumatera, Bengkulu, Bangka Belitung Archipelagic, South Kalimantan, East Kalimantan, North Maluku, West Papua, Maluku, South Sulawesi, and Southeast Sulawesi. The color of the map shows the selected layer of multi-hazards disaster risk class in 2020, a total of COVID-19 confirmed cases per 100,000 population, and a total of COVID-19 active cases per 100,000 population. The research is collated from CARI! repository-of-repositories from April 2020 to July 2021 (sourced from Scopus, DoAJ, Portal Garuda, and university's repositories) and other data from BNPB.

Multi-Hazards Disaster Risk amidst COVID-19 Pandemic in Indonesia

Quadrant: COVID-19 Cumulative Cases per 100,000 Population VS Multi-Hazards Disaster Risk Score



Category

- High Number of COVID-19 Cumulative Cases*, Higher Risk
- High Number of COVID-19 Cumulative Cases*, Moderate Risk
- Low Number of COVID-19 Cumulative Cases*, Higher Risk
- Low Number of COVID-19 Cumulative Cases*, Moderate Risk

Number of Covid-19 Cases*

- 370
- 2,000
- 4,000
- 6,000
- 7,713

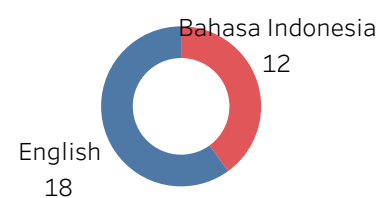
* per 100,000 population

The quadrant shows 4 categories of Indonesian provinces based on COVID-19 cumulative cases per 100,000 population per July 31st, 2021 (source: Kawalcovid19) and multi-hazards disaster risk score of IRBI (BNPB, 2020). The average number of COVID-19 cumulative cases (C) is 1,345, while the average risk score (R) is 141.57. The upper-right group includes West Papua, Riau, East Kalimantan, and Bangka Belitung Archipelago which have higher-than-average COVID-19 cumulative cases and risk scores. The upcoming dry months will increase the probability of wildfire in those provinces, especially Riau and East Kalimantan provinces. The co-occurrence of hazards in the time of COVID-19 surge will increase the burden on health facilities and personnel, hence needs to be addressed. DKI Jakarta is an outlier since it has the highest number of cumulative COVID-19 cases and the lowest risk score.

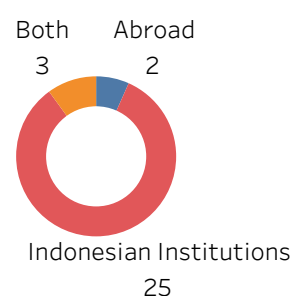
Publication Statistics

30 Publications 29 Publishers 96 Authors 40 Affiliations

Language of Publications

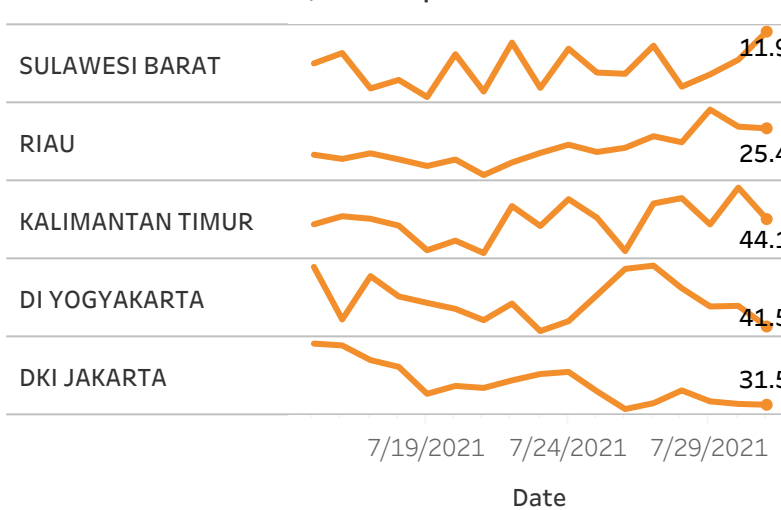


Author's Affiliation



Statistics show research publications about the co-occurrence of COVID-19 and the risk of other hazards in Indonesia published between April 2020 and July 2021. These publications are compiled in CARI! repository-of-repositories data, curated from Scopus, DOAJ, Portal Garuda, and universities repositories. These include publications written in Bahasa Indonesia and English.

Trend of COVID-19 Daily New Confirmed Cases per 100,000 Population



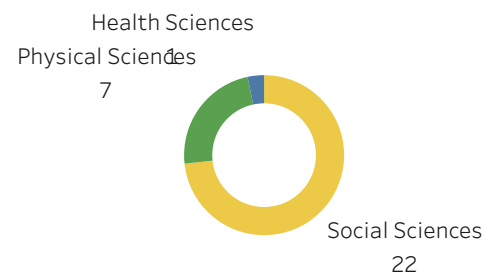
The time-series graph shows the number of COVID-19 daily new confirmed cases per 100,000 population in 5 provinces (source: Kawalcovid-19). These 5 provinces were selected based on the representation of 4 different categories of COVID-19 cases and risk scores. Despite having the highest number of cumulative cases, DKI Jakarta and DI Yogyakarta show some downtrends in the number of new confirmed cases per 100,000 population in the past 14 days. This decrease pertains to the implementation of partial lockdown (PPKM Darurat) in Java and Bali island. However, other provinces, including East Kalimantan and Riau, must anticipate the slight uptrend in the number of confirmed cases during the past 4 to 10 days as well as prepare for the dry months. These situations must call for an **integrated, multi-hazard, approach to disaster management** in these provinces.

*All of COVID-19 Data are last update on 31 July 2021.

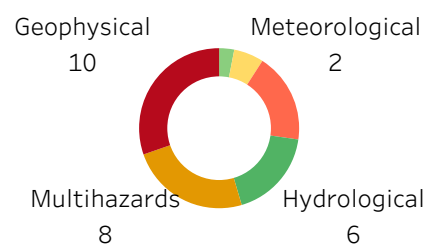
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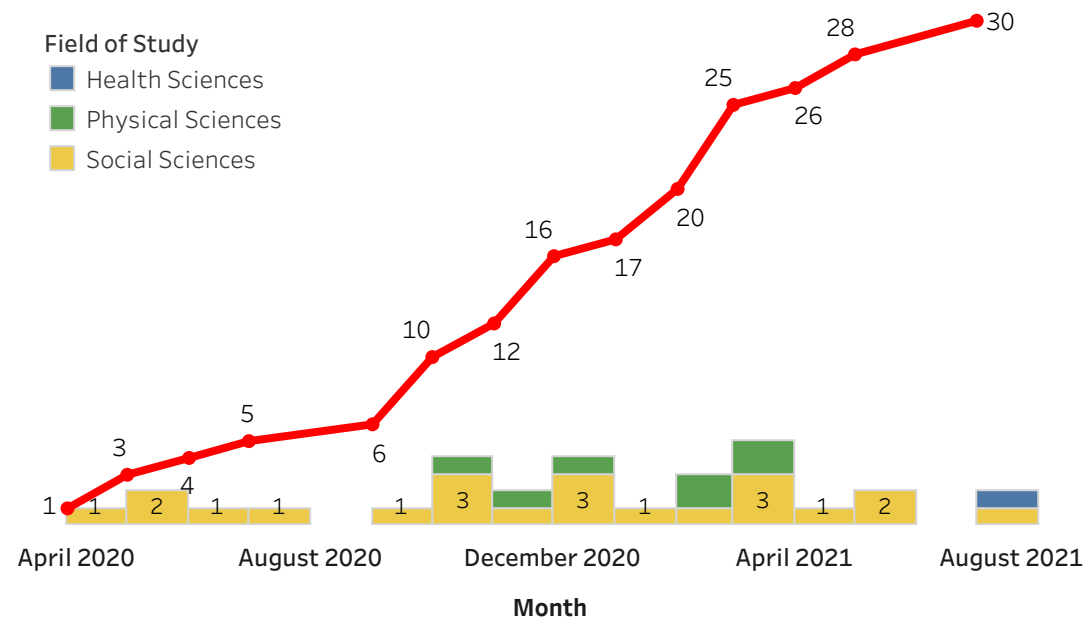
Field of Study



Co-occurring Natural Hazards Risk



Co-occurrence of COVID-19 and Other Hazards Research Publications



Since the first confirmed COVID-19 case in Indonesia (March 2nd, 2020), there have been 30 articles on co-occurrence of natural hazard and COVID-19 pandemic published in Indonesia. Among them, 22 are published in social sciences journals such as communication, management, and policy. The geophysical hazard were discussed in 10 articles, multihazard in 8 articles and so on. The number of publications per month varied from 1 to 5, with steady addition each month.

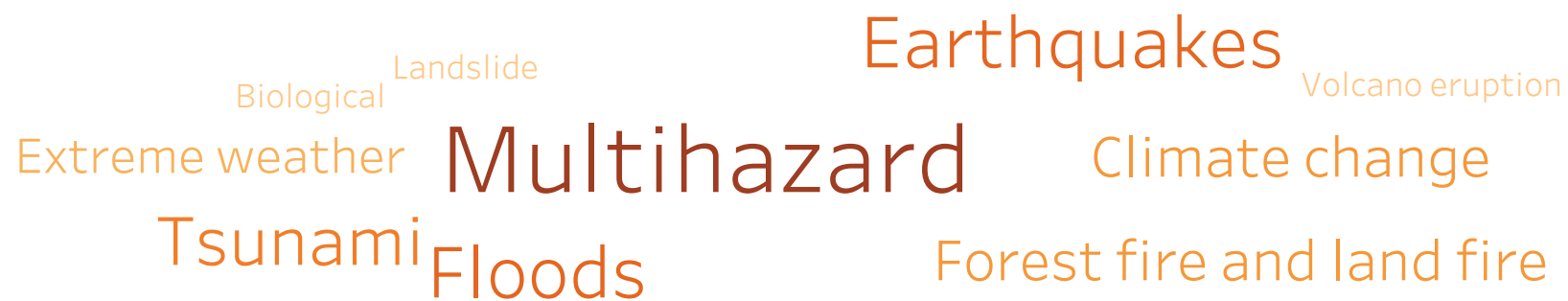
Top Articles

Cited By

- 144 **Building resilience against biological hazards and pandemics: COVID-19 and its implications for the Sendai Framework**
Djalante, Riyanti; Shaw, Rajib; DeWit, Andrew | Progress in Disaster Science
Published on April 1, 2020
- 7 **The COVID-19 pandemic and organisational learning for disaster planning and management: A perspective of tourism businesses from a destination prone to consecutive disasters**
Bhaskara G.I. | Journal of Hospitality and Tourism Management
Published on March 1, 2021
- 6 **Disaster Communications for Handling Coronavirus Disease 2019 (COVID-19) in Indonesia**
Noor, Firdaus; Ayuningtyas, Fitria; Prihatiningsih, Witanti | International Journal of Multicultural and Multireligious Understanding
Published on May 1, 2020

The top-three publications on the co-occurrence of COVID-19 and natural hazards in Indonesia are shown. The selection criteria are based on the number of citations within April 2020 to July 2021 in CARI! repository-of-repositories. These papers have a common key message that the handling of COVID-19 could leverage from the management of other emergencies. They imply that adequate knowledge on disaster management and emergency response could help countries in responding to the COVID-19 pandemic, including in Indonesia. This knowledge is already reflected in the Sendai Framework for Action on Disaster Risk Reduction, as well as cross-cutting with other fields. However, there is a need for the political will to utilize **science and knowledge in policy-making** throughout this pandemic crisis.

Top Co-occurring Hazards



Top Research Topics



Top Investigated Provinces



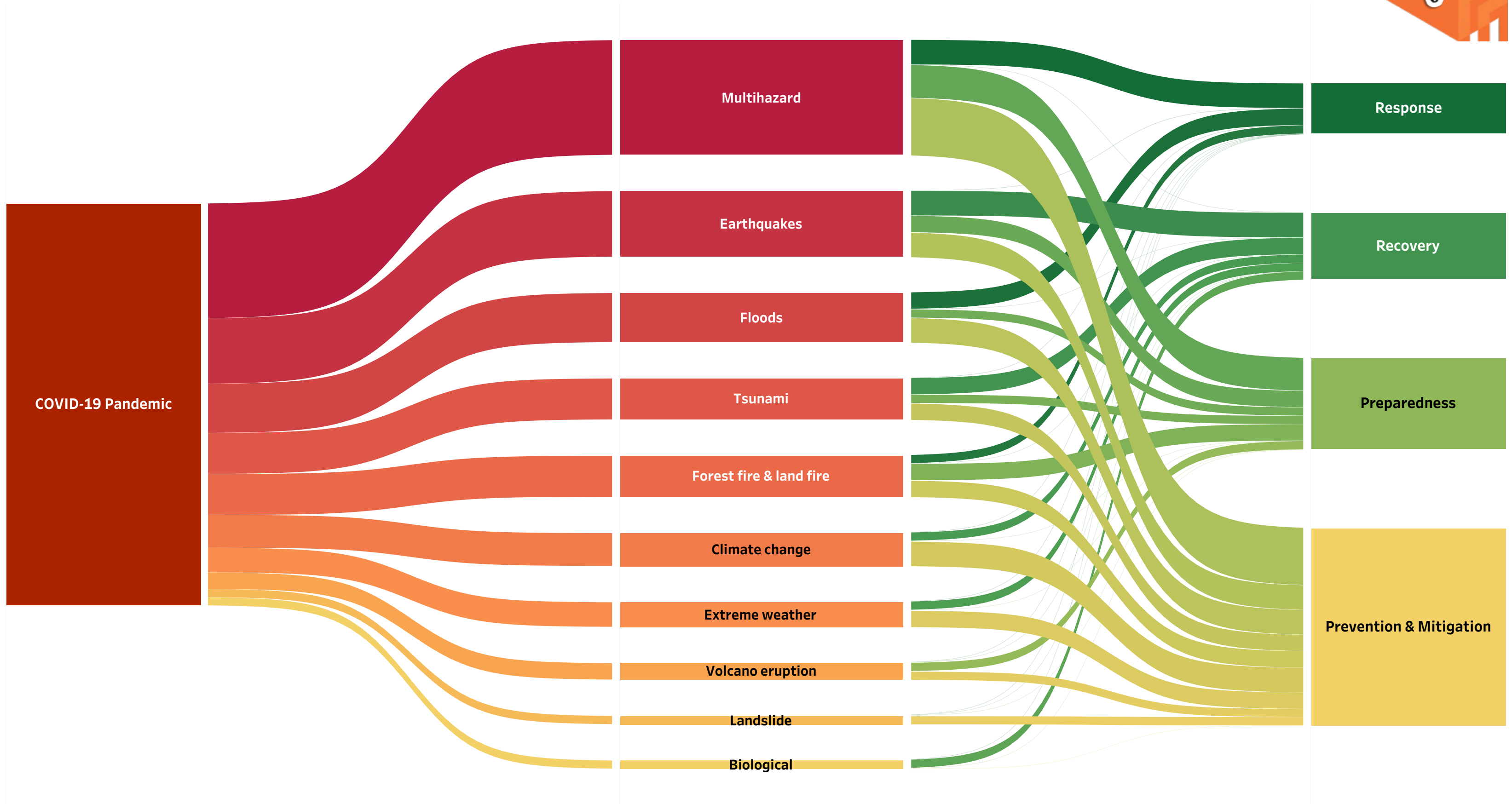
Top Affiliations

- STIKES YARSI Mataram
- Universiti Sains Malaysia
- Universitas Negeri Medan
- Universitas Sebelas Maret
- Universitas Padjadjaran
- Keio University
- Ministry of National Development Planning
- Global Earthquake Model Foundation
- STIKES Ngudia Husada
- Madura Rikkyo University
- Universitas Palangka Raya
- Institut Teknologi Bandung
- Syarif Hidayatullah State Islamic University (UIN) Jakarta
- Akademi Komunitas Kelautan and Perikanan Wakatobi
- United Nations University-Institute for the Advances Study of Sustainability
- STIKES Hang Tuah Surabaya
- Universitas Pembangunan Nasional Veteran Jakarta
- Universitas Negeri Jakarta
- University of Dhaka
- Universitas Internasional Batam Kepulauan Riau
- Universitas Pertahanan
- STIKES Grya Husada Sumbawa
- iko University
- Integrated Research on Disaster Risk (IRDR)
- Universitas Airlangga
- Universitas Negeri Semarang
- University of Dhaka
- Alagappa University
- Universitas Muhammadiyah Prof. Dr. Hamka
- Resilience Development Initiative
- Universitas Muhammadiyah Magelang
- Universitas Pendidikan Indonesia
- Universitas Indraprasta PGRI

WordCloud diagram was produced from the titles, abstracts, and keywords of the 30 curated publications. Most paper are discussing multihazard, earthquakes, and flood hazards. Meanwhile, climate change, tsunami, and forest fires and land fires are also moderately discussed. Most paper brings discussion on disaster Impact Assessment and Mitigation. Meanwhile, Coordination is also deemed important in the topic and are repeatedly used. Most authors are affiliated to local universities in Indonesia.

*The all above of Top Category-based are selected only from 30 articles that study about co-occurrence of COVID-19 and other hazards.

This Month's Sankey Diagram: COVID-19 to Other Hazards to Disaster Risk Management Phase



The current research publications that explore the co-occurrence between COVID-19 and other hazards are not complete. Other hazards that have not been studied in terms of their co-occurrence with COVID-19 are drought, mudflow, abrasion. A total of 28.57% of research articles were studied with co-occurrence of COVID-19 and with multi-hazards disaster types, and none of them has linkage to the recovery management phase. Other articles examined have co-occurrence between COVID-19 and earthquake hazards and followed by flood, tsunami, and forest fire or land fire. Only 8.16% of articles discussed the co-occurrence of COVID-19 and climate change, extreme weather, and volcano eruption. Lastly, only 2% of articles discussed linkages with landslides and biological hazards. The prevention & mitigation disaster management phase is largely discussed in 48% of all articles of all-natural hazards except biological. The other distribution of disaster management phase on preparedness at 22.45%, recovery at 16%, and emergency response at 12% of all articles.