3. Information Sharing on DRR

ADRC shares DRR information to member countries and the general public primarily through its website https://www.adrc.asia/latest/. Online information includes documented experiences, lessons, tools, practices, and analyses of data that are useful for preparedness, mitigation, response, and recovery activities.

3.1 Information Collection

ADRC collects pertinent DRR information from member countries, partner organizations, and networks, primarily on the following:

- Disaster risk management systems (e.g., legal and institutional frameworks, disaster management plans, and manuals)
- Disaster response and recovery activities (e.g., emergency response activities in affected area/country)
- Disaster events due to natural hazards (e.g., descriptions of natural disasters such as earthquakes, floods, cyclones, and so on, and the damages)

The VRs and the UNOCHA contribute in the information collection efforts of ADRC.

3.1.1 Country Reports on DRR

Member countries submit their respective updated country reports to ADRC on a regular basis. These reports contain information about natural hazards, disaster management systems, DRR strategy/plan, recent disasters, and progress in implementing the Sendai Framework for Disaster Risk Reduction. Table 3.1 shows the updated record for FY2024.

Table 3.1 List of reports from ADRC member countries

Country	Year prepared (Update frequency is different as it is made by VRs of the year.)
Republic of Armenia	2001, 2002, 2003, 2005, 2006, 2010, 2012, 2015, 2016, 2017, 2021, 2022
Republic of Azerbaijan	2011, 2014, 2023
People's Republic of Bangladesh	1998, 1999, 2001, 2003, 2005, 2006, 2010, 2011, 2013, 2020, 2021
Kingdom of Bhutan	2008, 2013, 2014, 2017, 2019
Kingdom of Cambodia	1998, 1999, 2002, 2003, 2005, 2006, 2013
People's Republic of China	1998, 1999, 2005, 2006, 2012
Republic of Fiji	2024
Republic of India	1998, 1999, 2002, 2005, 2006, 2008, 2012, 2015, 2018, 2020, 2022, 2023, 2024
Republic of Indonesia	1998, 1999, 2002, 2003, 2004, 2005, 2006, 2012, 2016
Islamic Republic of Iran	2013
Japan	1998, 1999, 2002, 2005, 2006, 2012, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023

Country	Year prepared (Update frequency is different as it is made by VRs of the year.)
Republic of Kazakhstan	1998, 1999, 2002, 2005, 2006
Republic of Korea	1998, 1999, 2001, 2002, 2005, 2006, 2008, 2024
Kyrgyz Republic	2005, 2006, 2012
Lao People's Democratic Republic	1998, 1999, 2003, 2005, 2006, 2023
Malaysia	1998, 1999, 2003, 2005, 2006, 2008, 2009, 2011, 2018, 2024
Republic of Maldives	2013, 2014, 2015, 2018, 2023, 2024
Mongolia	1998, 1999, 2002, 2005, 2010, 2011, 2013, 2021, 2022
Republic of the Union of Myanmar	2002, 2005, 2006, 2013, 2018, 2020, 2021, 2022
Nepal	1998, 1999, 2005, 2006, 2009, 2010, 2011, 2014, 2019
Islamic Republic of Pakistan	2005, 2006, 2009, 2015, 2016, 2017, 2021, 2022
Independent State of Papua New Guinea	1998, 1999, 2005, 2006
Republic of the Philippines	1998, 1999, 2002, 2003, 2005, 2006, 2009, 2010, 2011, 2012, 2014, 2016, 2017, 2018
Russian Federation	1998, 1999, 2003, 2005, 2006
Republic of Singapore	1998, 1999, 2001, 2002, 2003, 2005, 2006
Democratic Socialist Republic of Sri Lanka	1998, 1999, 2003, 2005, 2006, 2009, 2010, 2011, 2014, 2015, 2016, 2019
Republic of Tajikistan	1998, 1999, 2003, 2005, 2006
Kingdom of Thailand	1998, 1999, 2003, 2004, 2005, 2006, 2008, 2010, 2011, 2012, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023
Republic of Türkiye	2019, 2024
Republic of Uzbekistan	1998, 1999, 2005, 2006, 2013, 2015
Socialist Republic of Viet Nam	1998, 1999, 2005, 2006, 2017, 2021, 2022, 2023
Republic of Yemen	2009, 2012, 2014

3.1.2 Latest Disaster Information (FY2024)

As of 20 February 2025, a total of 2,738 disaster information items can be accessed on the ADRC website. Once a disaster occurs, the latest disaster information is immediately posted. Each disaster information contains details, e.g., date of occurrence, location, impacts, and links to reports, articles, maps, relief efforts, and satellite images. Aside from the Myanmar Earthquake, the following are descriptions of other notable disasters that occurred during FY2024.

(1) Typhoon Yagi

Typhoon Yagi affected several countries in Asia, including the Philippines (TC-2024-000161-PHL), Lao PDR (TC-2024-000161-LAO), Thailand (TC-2024-000161-THA), Myanmar (TC-2024-000161-MMR), and Viet Nam (TC-2024-000161-VNM)—the most impacted. Yagi was the strongest typhoon to hit Viet Nam in 70 years, causing severe flooding and landslides.

(2) Taiwan earthquake

A Mw 7.4 earthquake (EQ-2024-000040-TWN) struck southwest of Hualien City, Taiwan on 3 April 2024 damaging homes, businesses, schools, and communication and transportation infrastructure. The earthquake reportedly killed 18 people and injured more than 1,100 people. Impacts of the earthquakes were effectively reduced due to Taiwan's investment in early warning systems and earthquake preparedness, including strict building codes and regulations, widespread public education, robust emergency and response measures.

(3) Floods in Malaysia and Thailand

In late November 2024, Thailand (FL-2024-000217-THA) and Malaysia (FL-2024-000218-MYS) were hit by severe flooding, causing millions of dollars in damage to farmers, submerging rice fields and damaging roads, houses and public infrastructure. At least 25 districts in seven Malaysian states (Johor, Kedah, Kelantan, Perak, Perlis, Sarawak and Terengganu) were affected by floods, displacing 52,360 people. Authorities activated 385 evacuation centers to support the displaced population. In Thailand, the Department of Disaster Prevention and Mitigation (DDPM) reported flooding over the Southern Region.

Detailed information of these disasters is accessible on the ADRC database due to the contributions and support from reliable members and partners that provide the data. As shown in Figure 3.1, latest reports consist of three items: disaster information (e.g., date of occurrence, place, and scale); damage information (e.g., casualties, missing, and damages); and geographic information (e.g., maps, aerial imagery, and elevations).

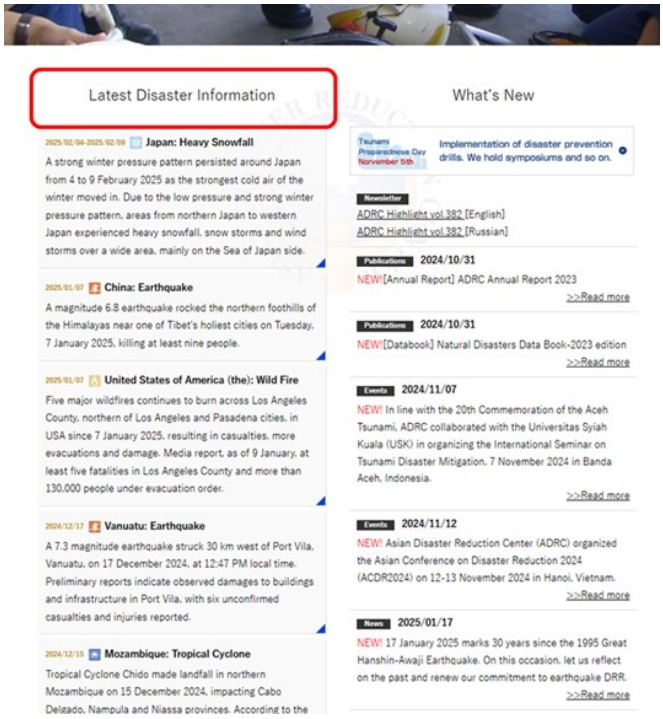

Figure 3.1 Screenshot of ADRC Homepage with latest disaster information

In most cases, ADRC uses information provided by the ReliefWeb operated by UNOCHA, United States Geological Survey (USGS), member countries, media, and other partner organizations.

3.1.3 Natural Disaster Databook 2023

ADRC publishes the Natural Disaster Databook annually to provide statistical and analytical overview of disaster and COVID-19 data. For 2023, datasets from the Emergency Event Database (EM-DAT) and the World Health Organization (WHO) were respectively downloaded on 25 March 2024 and 10 July 2024 for analytical overview. With regard to natural disaster, the analysis covers occurrences of disaster events, deaths, people affected, and economic losses focusing on seven disaster types: drought, earthquake, extreme temperature, flood, storm, wildfire, and volcanic activity. With regard to COVID-19, the analysis shows the trend of confirmed cases and deaths.

The statistical overview in this Databook is focused on:

- Comparing the natural disaster data of 2023 with the annual average of the last 30-year (1993–2022)
- Comparing the climate-related disaster data of 2023 with the annual average of the last 30-year (1993–2022)
- Analysis of COVID-19 data up to 2023 since the WHO declared it as a global pandemic on 11 March 2020 by comparing the global trend with the situations of ADRC member countries

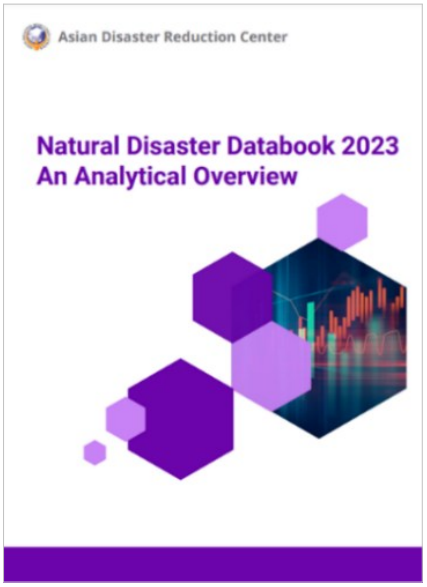

Figure 3.2 Cover photo
of the Natural Disaster Databook 2023

Of the 374 disaster occurrences recorded in 2023, the Türkiye-Syria earthquakes of 6 February was the most notable event due its massive impacts: over 55,000 deaths, more than 23 million people affected, and staggering economic losses of over USD100 billion. While this Databook can show the general data on deaths, people affected, and economic losses, it cannot show the detailed disaggregated data of impacts by gender, location, or sector.

If we look at the disaster occurrences in 2023, the recorded number of events (374 events) is higher by 13% compared to the annual average for the past 30 years (1993–2022), which is 330 events/year. The most frequent occurrences were floods (44% or 163 events), storms (37% or 139 events), and earthquakes (9% or 32 events). As observed, devastating floods were experienced in India, Guatemala, Tanzania, Nigeria, Yemen, Somalia, Philippines, Italy, and Congo. Storms affected Libya (Daniel), Malawi (Freddy), India (Michaung), China (Doksuri), and Mexico (Otis). Earthquakes struck Türkiye, Syria, Morocco, and Afghanistan while droughts lingered in Indonesia and United States of America.

Data in Asia shows an increasing number of disaster occurrences in 2023 with 152 events compared to the annual average for the past 30 years (1993–2022), which is 132 events/year. We observed that in terms of deaths, there is an increasing trend both globally and in Asia. In terms of people affected, there is a decreasing trend both globally and in Asia, which can be attributed to the improvements in DRR measures. In terms of economic losses, the data shows an increasing trend both globally and in Asia. Although economic losses generally show an increasing trend, it is not the case for flood in 2023.

One key observation that can be highlighted in the Databook is that economic losses from disasters in 2023 amounted to USD202.11 billion, which is higher than the annual average for the past 30 years of USD124.33 billion/year (Figure 3.3). About half (USD100.85 billion) of the total economic losses in 2023 is attributed to storm disasters. Similar trend is shown over the last 30 years (1993–2022), where storms accounted for the most economic losses with an average of USD56.86 billion/year. Although we can observe an increasing trend of economic losses in wildfire, storm, earthquake, and drought, the economic losses from flood (USD20.37 billion) shows a decreasing trend in 2023 compared with the annual average of the past 30 years (USD30.06 billion/ year).

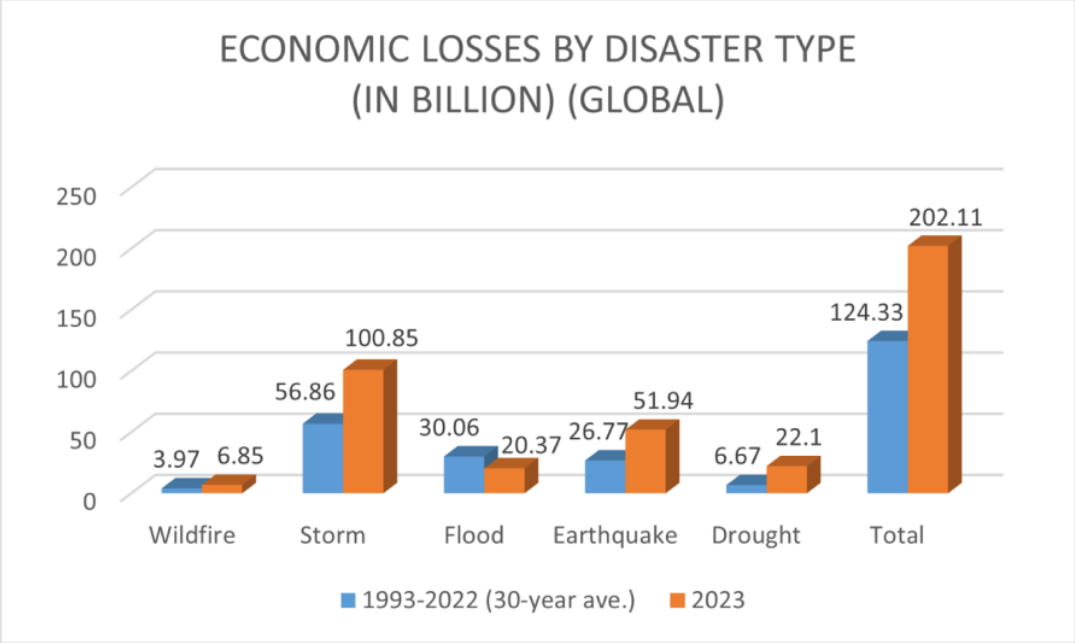

Figure 3.3 Global economic losses by disaster type (in billion) 1993–2022 average vs 2023

Since climate change is attributed as one of the reasons for the increasing disaster trend (i.e., rising temperature increases the moisture the atmosphere can hold, resulting in more storms and heavy rains), this Databook also looks at the trend of climate-related disasters, particularly drought, storm, flood, and extreme temperature. In 2023, global temperature reached exceptionally high, close to 1.5°C limit. Temperatures from June onwards made 2023 the warmest year on record, overtaking by a large margin the 2016 data.

The Databook noted that the cases and deaths from COVID-19 have remarkably declined in May 2023, as many countries around the world stopped recording and reporting the data to WHO. Corollary to that, governments had lifted all COVID-19 travel restrictions (e.g., proof of vaccination to enter a country) signifying that the pandemic was over. So available data from WHO in 2023, showed a cumulative total of 773,940,523 confirmed cases and 7,015,982 deaths. The data indicates that the last highest number of confirmed cases on a single day was still the reported information on 19 December 2022 with 44.20 million cases. However, in 2023, cases from COVID-19 had drastically declined until the end of the year. Likewise, the number of deaths had also significantly declined in 2023. The explanations for these can be largely attributed to the improvements in treatments, health measures, widespread vaccination, and natural immunity. As far as the ADRC member countries are concerned, the number of deaths from COVID-19 also significantly declined since the beginning of 2023 until the end of that year.

3.2 Information Dissemination

ADRC disseminates DRR information using a range of channels, including: a) regular issuance of ADRC Highlights, a monthly newsletter, b) dissemination via GLIDE, and c) dissemination through Sentinel Asia, a space-based and service providing platform.

3.2.1 ADRC Highlights

ADRC has been using Internet and e-mail to share information with its counterparts in the member countries, and other relevant parties. As one of its important tools for information dissemination, ADRC has been issuing the newsletter “ADRC Highlights” since 1 June 1999. It had been issued twice a month until FY2007, and has been issued once a month since the renewal of its design in FY2008.

Figure 3.4 ADRC Highlights December 2024 Issue in Japanese, English, and Russian edition

The newsletter is made available on the website. Its text version is also e-mailed in English, Russian and Japanese to ADRC counterparts, former VRs, former GLIDE visiting researchers, participants in the past ADRC annual meetings, visitors to ADRC, trainees in JICA’s courses, and participants in international conferences which ADRC took part in. Also, ADRC registers the e-mail addresses of those who wish to subscribe to the newsletter as well as those who joined ADRC webinars in the past. ADRC has been updating its mailing lists regularly, especially for the last few years to deliver the newsletter more effectively and efficiently to readers.

As of 28 February 2025, the numbers of subscribers are recorded as following English (2,807), Russian (226), and Japanese (944). Regular contents of the newsletter include articles on the latest ADRC activities, VR Program, Asian Conference on Disaster Reduction, reports on participation in international conferences, and other events or projects organized or supported by ADRC.

3.2.2 Data Sharing through GLIDE Number System

As of March 2025, over 8,300 GLIDE numbers were issued to support the integration of disaster data and to inform the disaster preparedness, response, and recovery activities of member countries. GLIDE stands for “GLobal unique disaster IDEntifier”. The GLIDE number system assigns a “global ID” to a disaster so that stakeholders can commonly identify it, despite its different name or language. If institutes and organizations use GLIDE number in reporting certain disaster event, all related information of that event can be integrated in the databases. A GLIDE number (e.g., EQ-2024-000001-JPN) comprises the following components: disaster

classification (e.g., EQ for earthquake), year of occurrence, serial number in the given year, and country code. Once a disaster occurs, an operator issues a GLIDE number by inputting disaster information such as location, time, disaster type, and initial damage and then uploaded on the GLIDE website. The number is automatically sent to its over 2,000 subscribers.

Established in 2001, GLIDE aims to promote disaster information sharing among databases developed by DRR organizations, research institutions, and governments to contribute in strengthening disaster resilience. ADRC advocates the use of GLIDE number to further facilitate information integration, such as information on damage and loss that maybe available other reports but could not be found since the organization did not use GLIDE number. Efforts along this line includes linking GLIDE with other disaster data management tools (e.g., ReliefWeb, Sentinel Asia, UNOSAT, ADINet, and ESCAP). In 2021, GLIDE API was adopted to facilitate automatic issuance of GLIDE number by institutions that maintain disaster databases.

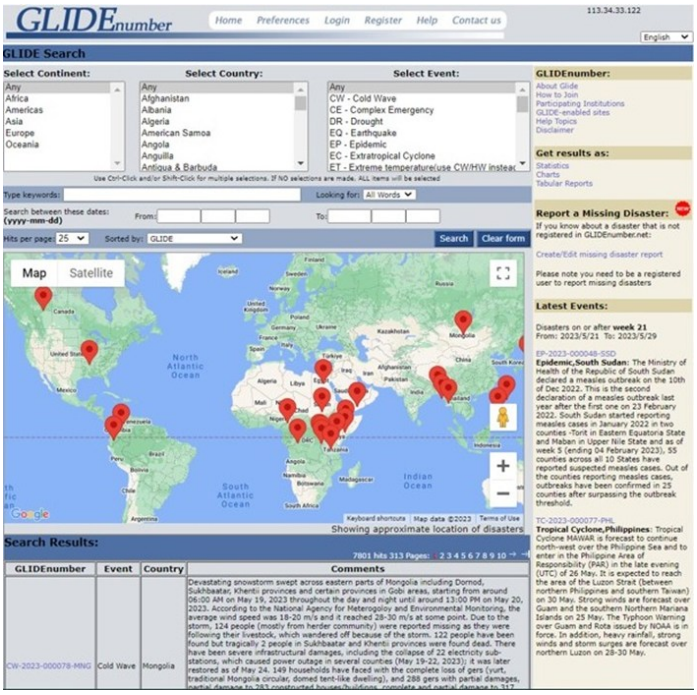

Figure 3.5 Screenshot of GLIDE Homepage

3.2.3 Data Sharing through Sentinel Asia

Upon request from member countries, ADRC facilitates the sharing of satellite images of emergency observations through Sentinel Asia to help provide information for their disaster response and recovery plans. In FY2024, Sentinel Asia received a total of 68 requests from the Joint Project Team (JPT) members and 64 requests were activated (Figure 3.6).

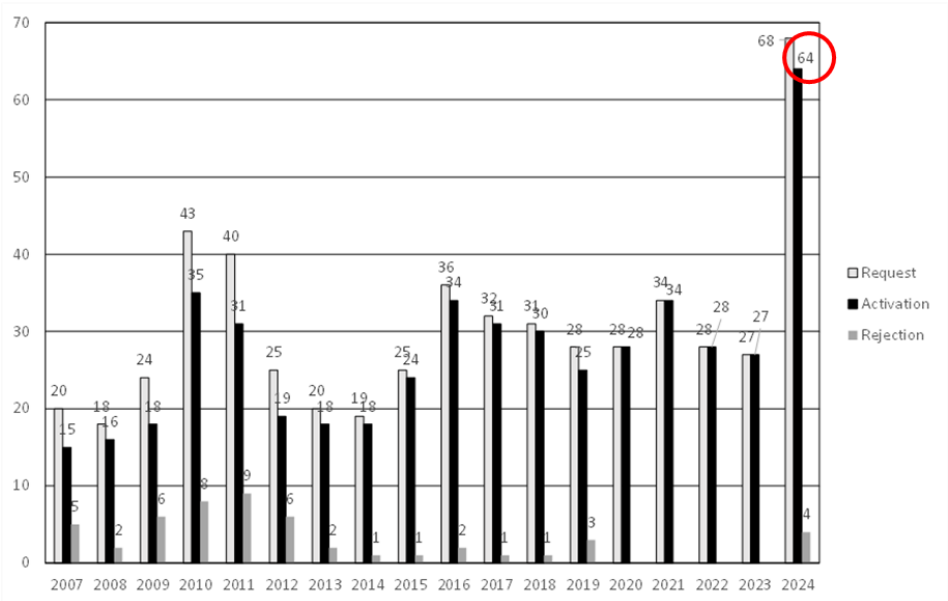

Figure 3.6 Emergency observation requests record 2007–2024

Sentinel Asia is a network with a wide-range of memberships. As of August 2025, the JPT membership comprises 127 organizations from 30 countries/regions. It supports disaster management activity in the Asia-Pacific region by applying space-based technology (i.e., earth observation satellites data) and Web-GIS technology. When a member country sends an emergency observation request, ADRC forwards it to the eight space agencies under Sentinel Asia: ISRO (India), JAXA (Japan), MBRSC (United Arab Emirates), STI/VAST (Viet Nam), GISTDA (Thailand), TASA (Taiwan), CRISP (Singapore), and PhilSA (Philippines). While the number of requests for emergency observation has been changing from year to year, the ratio of activation remains stable at around 90%.

Using earth observation satellites is effective in analyzing the disaster impacts of affected areas, as it provides actionable data to responders and local communities. Under the International Disaster Charter (IDC) framework, which was adopted in 2000, data provision in times of disaster has been advocated. Within this framework, ADRC functions as the focal point to receive emergency observation request of the Sentinel Asia. Additionally, ADRC also serves as UN-SPIDER Regional Support Office (RSO) to ensure access and development of capacity to use space-based information for disaster management in Asia.

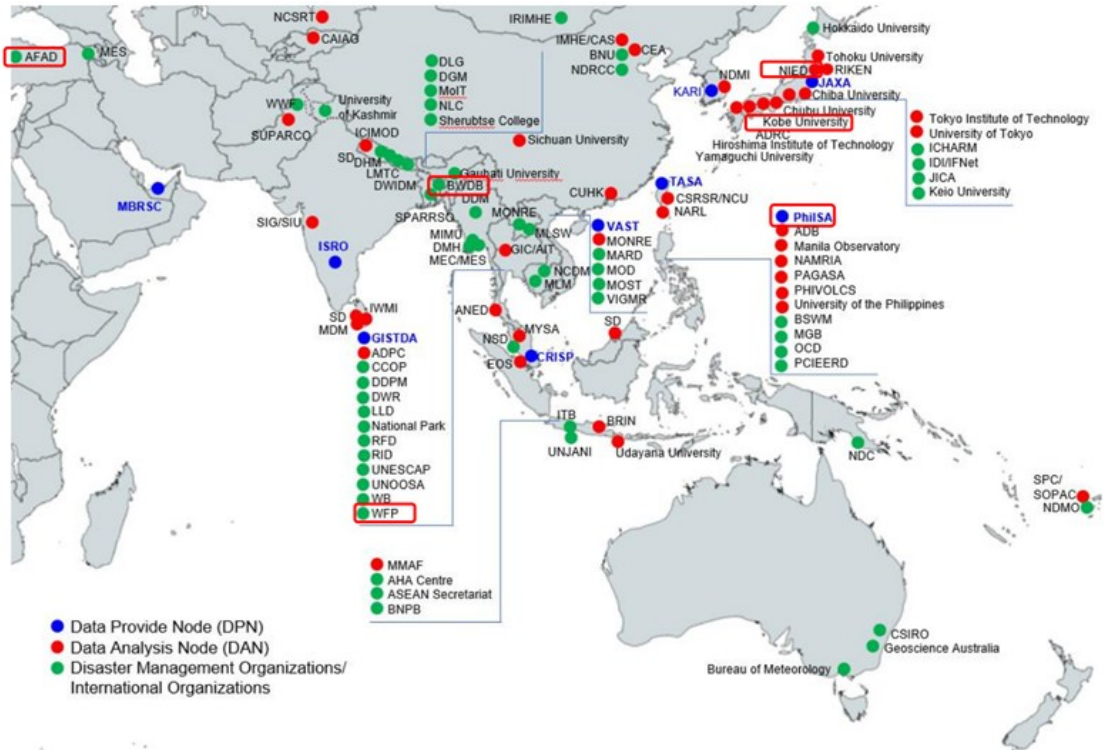

Figure 3.7 Sentinel Asia Network