

Recently, the Emergency Events Database (EM-DAT) team from the University of Louvain (UCLouvain) Centre for Research on the Epidemiology of Disasters (CRED), in collaboration with the Asian Disaster Reduction Center (ADRC), conducted a systematic review of GLIDE numbers within the EM-DAT database. This effort led to an approximate 74% increase in disaster events referenced by GLIDE within the database.

What Are GLIDE Numbers?

The GLObal Unique Disaster IDentifier Number (GLIDE) is a service maintained by ADRC that provides unique identifiers for disaster events (Figure 1). GLIDE identifiers facilitate effective disaster information sharing and management, enabling the unambiguous identification of disaster events in emergency response and management, early warning systems, and disaster archives. Beyond clear identification, the GLIDE identifiers facilitate data interoperability and linkage between systems.

GLIDE was a collaborative initiative created in 2003, involving CRED, multiple United Nations (UN) institutions such as the UN Office for the Coordination of Humanitarian Affairs (OCHA), the International Strategy for Disaster Reduction (ISDR)—currently known as the UN Office for Disaster Risk Reduction (UNDRR)—, the UN Development Programme (UNDP), the World Meteorological Organization (WMO), and other international organizations, including the International Federation of Red Cross and Red Crescent Societies (IFRC), and the Network for Social Studies on Disaster Prevention in Latin America (LA RED).¹ It is now used by many other services, such as the United States Geological Survey (USGS) Earthquake Catalog, the Global Disaster Alert and Coordination System (GDACS), or the International Charter Space and Major Disasters.

How Have GLIDE Numbers Been Typically Processed in EM-DAT?

At the start of the project, the GLIDE number service was aligned and synchronized with the EM-DAT database records for events prior to 2004. However, EM-DAT records are not published in real time, which prevents their use for



Figure 1. Screen Capture of the GLIDE Number Web-site <https://www.glidenumber.net/>

emergency response and relief coordination, and many relate to minor disasters that do not always require coordinated efforts, making GLIDE numbers less valuable in those cases. Additionally, GLIDE may issue a number at the early warning stage, i.e., before a hypothetical disaster.

Consequently, this systematic link between GLIDE and EM-DAT was not maintained after the GLIDE service deployment, transforming GLIDE into a unique identifier-on-demand request tool for international emergency management. From that point, GLIDE identifiers were only logged in EM-DAT if they appeared in disaster information sources such as OCHA ReliefWeb and IFRC reports.

Since then, EM-DAT and GLIDE have documented disaster events that remain unlinked, even though they refer to interconnected emergencies, because the GLIDE number was not apparent in the EM-DAT sources used to record the disaster. Over the years, the number of unmatched events has increased, necessitating a systematic review

¹ Nishikawa, M. S. (2003, December). Global Unique Disaster IDentifier Number (GLIDE): For effective disaster information sharing and management. In Proceedings of the International Conference on Total Disaster Risk Management. Last accessed 2025-07-07 from https://www.adrc.asia/publications/TDRM2003Dec/19_MR.%20SATORU%20NISHIKAWA.pdf

and more proactive data reconciliation to ensure optimal interoperability among EM-DAT, GLIDE, and the GLIDE-user disaster data ecosystem.

How Has the Systematic Review Improved GLIDE Coverage in EM-DAT?

The GLIDE Number database contains over 8,000 unique identifiers (GLIDE IDs). To facilitate systematic review and identify missing GLIDE IDs for matches between EM-DAT and GLIDE events, CRED relied on Artificial Intelligence (AI) and developed a Machine Learning (ML) pipeline. The ML model was trained to recognize patterns within existing matches and propose potential matches that may be absent. The model generated 2,040 suggestions for potential matches, all of which were subjected to manual validation by the CRED team. A straightforward dashboard application was subsequently created to distribute suggestion batches among team members and to enhance the efficiency of comparing and validating matches

between EM-DAT and GLIDE entries. These matches were categorized as high, medium, or low confidence levels. Matches with high and medium confidence levels were forwarded to the database manager, with medium confidence matches undergoing a secondary review. Figure 2 depicts the annual increase in GLIDE numbers referenced in EM-DAT, following the systematic review. Between 2004 and 2023, the number of GLIDE IDs increased from 1,832 to 3,182, reflecting an addition of 1,350 referenced IDs and a total growth of +74%. The update included new IDs for the period 2004-2006 that were previously missing from the EM-DAT database. For other years, coverage has significantly improved, although less so for 2020 due to the issuance of GLIDE IDs for the COVID-19 pandemic, which is not documented in EM-DAT. This update markedly improves interoperability among EM-DAT, GLIDE, and other disaster datasets referencing GLIDE numbers, thereby facilitating more effective linkage and data comparison to support disaster risk management.

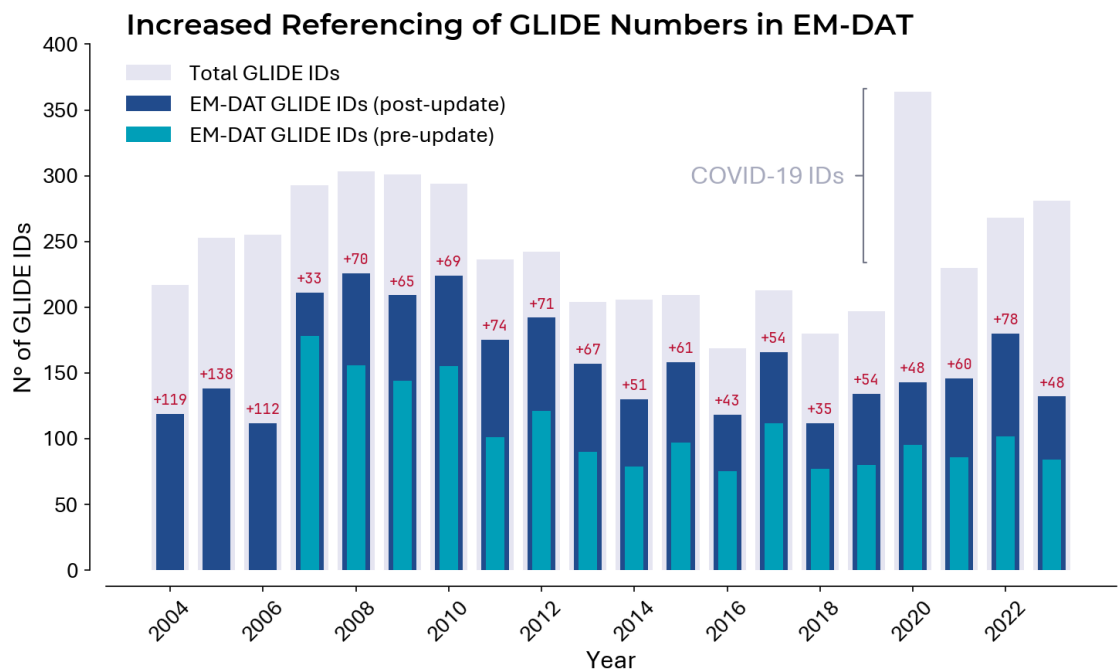


Figure 2. Increase in EM-DAT Entries with GLIDE IDs by Year (2004–2023)

CRED Updates & Recent Publications

- We acknowledge the conclusion of USAID funding for EM-DAT. We express our sincere gratitude to USAID for more than 20 years of generous, consistent, and meaningful support for the global public good that EM-DAT represents.
- Accordingly, as we are prioritizing data collection and EM-DAT maintenance, the CRED Crunch newsletter will be released less frequently, potentially limited to two issues per year, for an indefinite period.

Credits

Supervision: D. Delforge, N. Speybroeck.
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EM-DAT: The CRED/UCLouvain International Disaster Database. Email: contact@emdat.be
Centre for Research on the Epidemiology of Disasters (CRED), Institute of Health and Society (IRSS), UCLouvain.



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