

THE STATE OF OPEN HUMANITARIAN DATA 2025

ASSESSING DATA AVAILABILITY ACROSS
HUMANITARIAN CRISES



OCHA

centre for humdata

HDX

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LIST OF ABBREVIATIONS

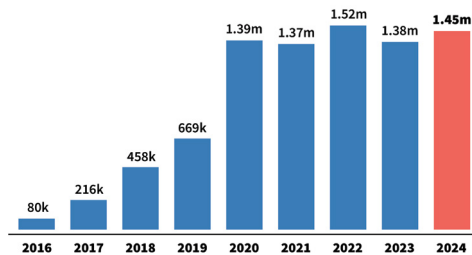
ACLED	Armed Conflict Location & Event Data Project
AER	Atmospheric and Environmental Research
AI	Artificial Intelligence
CERF	Central Emergency Response Fund
CODs	Common Operational Datasets
FSNWG WA	Food Security and Nutrition Working Group West and Central Africa
FTS	Financial Tracking Service
HDX	Humanitarian Data Exchange
HOT	Humanitarian OpenStreetMap Team
HNRP	Humanitarian Needs and Response Plan
IASC	Inter-Agency Standing Committee
IDP	Internally Displaced Person
IOM	International Organization for Migration
IPC	Integrated Food Security Phase Classification
JRC	Joint Research Centre of the European Commission
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OPHI	Oxford Poverty & Human Development Initiative
PCBS	Palestinian Central Bureau of Statistics
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNFPA	United Nations Population Fund
WFP	World Food Programme
WHO	World Health Organization

1. INTRODUCTION

This is our sixth year of producing *The State of Open Humanitarian Data*, our annual assessment of data availability across crises. Despite steady progress with data coverage over this time, funding shortages in 2025 threaten to reverse these gains. As the humanitarian system severely contracts, the data ecosystem that supports it will experience the same pressure. The year ahead promises to be challenging for data availability.

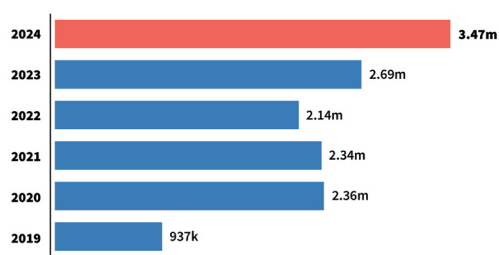
Our insights into data availability and use come from managing the Humanitarian Data Exchange (HDX), an open platform for finding and sharing data across crises and organizations.¹ In 2024, HDX was used by 1.4 million people in 237 countries and territories, maintaining a similar number of users over the past several years. The platform’s almost 20,000 datasets were downloaded 3.5 million times – a 30 percent increase from 2023.

HDX unique users (2016-2024)



millions | Creation date: 08 January 2025

HDX dataset downloads (2019-2024)



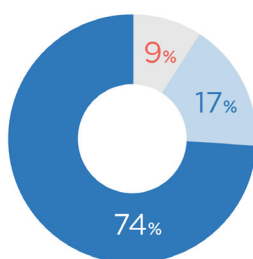
millions | Creation date: 08 January 2025

Throughout the year, 216 active organizations shared around 2,500 new datasets, covering crises ranging from Afghanistan to Gaza and Sudan. The geographic coverage of the organizations sharing data on HDX in 2024 was 75 percent global, 16 percent national and 9 percent regional. Twenty-four new organizations joined the platform during the year.

The HDX Data Grids assess a foundational set of data that is critical to understand a humanitarian context. They provide a comparable way to assess data availability across locations and categories and are the basis for the analysis in this report. Although HDX covers data about all countries, our Data Grids focus on locations with humanitarian needs and response plans (HNRPs).²

The value of data hinges on its timeliness, as outdated information cannot effectively support decision making. At the start of 2025, we estimate that 74 percent of crisis data is available and up-to-date across 22 humanitarian operations, based on the analysis of the HDX Data Grids (see criteria below). A further 17 percent of data is available but not up-to-date, leaving 9 percent of the data unavailable.

The 22 Data Grids include 418 unique datasets, with a range of 15-24 per location. Datasets included in the Data Grids were downloaded six times more than the average dataset on HDX. The top Data Grid locations are Ethiopia, Nigeria and Yemen; baseline population, administrative divisions and conflict events are the most popular datasets across all Data Grids.



TOTAL PERCENTAGE AVAILABLE AND UP-TO-DATE DATA

74%

TOTAL PERCENTAGE AVAILABLE AND NOT UP-TO-DATE DATA

17%

TOTAL PERCENTAGE UNAVAILABLE DATA

9%

Data availability: ■ Available and up-to-date ■ Available and not up-to-date ■ Unavailable

¹ <https://data.humdata.org/>

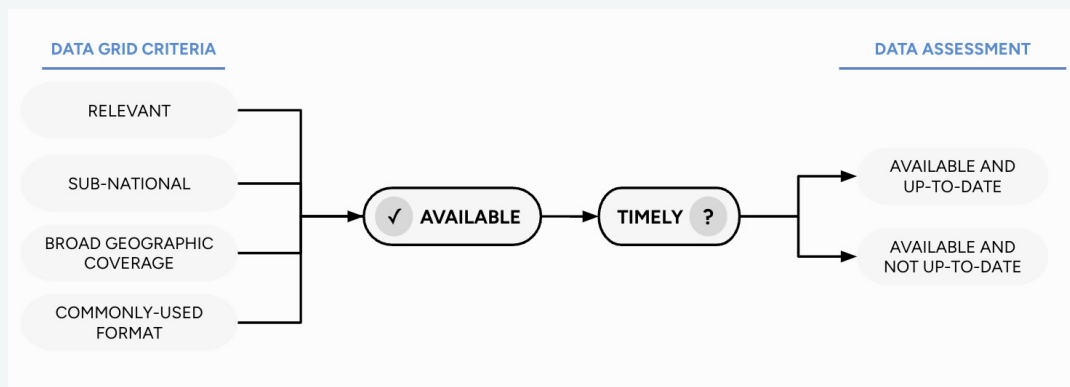
² HNRPs are prepared by UN Humanitarian Country Teams in locations where there is an ongoing humanitarian emergency. HNRPs are generally prepared annually, and outline an overall strategy and specific activities for each humanitarian cluster or sector.

This report contains details on the data available for each location, category and sub-category covered in the Data Grids as of 31 December 2024. In addition, we showcase the contribution of WorldPop and their innovative methods to enhance the accuracy of population estimates, especially in areas where traditional census data are outdated or unavailable. We provide examples of how climate data is being used to inform anticipatory action, with examples from Cameroon and Mozambique. We take a look at the increase in automated data sharing through APIs since HDX was created in 2014. Given the expectation of severe funding shortages in 2025, we have included a brief analysis on what this may mean for the continued availability of data in the Data Grids.

Data Grid Criteria

The Data Grids include six categories: affected people; coordination & context; food security, nutrition & poverty; geography & infrastructure; health & education; and climate. (See Annex A for definitions.)

In 2024, the language and assessment process for the HDX Data Grids was adjusted. The inclusion criteria remains the same. Rather than using the term ‘complete’ or ‘incomplete’, we now use ‘available’ when referring to data in a sub-category. Data may be included in a Data Grid if it is relevant to the sub-category, sub-national, has broad geographic coverage, and is shared in a commonly-used format. If a dataset on HDX meets these criteria, data for the sub-category is considered available.



Once a dataset is considered available, we then assess its timeliness. We make a distinction between whether the data is up-to-date or not up-to-date, based on the update frequency set by the contributing organization. Data is considered unavailable if it does not meet the above criteria or it has not been shared on HDX. (See Annex B for the Data Grid criteria and curation process.)

In 2024, HDX maintained Data Grids for 22 locations and 20 sub-categories. The number of locations decreased by one from 2023 given that Burundi no longer had a humanitarian response plan. A new category was added for climate which includes hazards and impact. The sub-category for airports was removed. The population and socio-economy category was discontinued but the two sub-categories it included (baseline population and poverty) were moved to other categories. (See Annex C for changes to the Data Grids.)

2. KEY MESSAGES

- As the humanitarian system severely contracts due to unprecedented funding cuts and threats to principled humanitarian action, the data ecosystem that supports it will experience the same pressure. Despite steady progress with data coverage in recent years, funding shortages in 2025 threaten to reverse these gains. **The year ahead promises to be challenging for data availability.**
- **In these uncertain times, this shock to the system has the potential to be transformed into a moment of reset.** In the same way that humanitarians are looking to focus their response to reach the communities with the most severe needs, and how to be more efficient in doing so, organizations are reflecting on what data is required to achieve the best possible crisis response with the resources available.
- Data about ‘people and how a crisis is affecting them’³ has the highest risk to continued availability in 2025, based on our assessment framework. This data is **central to humanitarian action** and is relied upon by many actors for targeting their response efforts and for secondary analysis. **Organizations will need to prioritize the data that is absolutely critical to the response and consider the minimum level of data that is required to act in a principled manner.**
- In a contracted system, data processes will still move ahead and core datasets will still be produced. However, **the frequency and extent of primary data inputs may be reduced over time**, requiring the humanitarian system to adjust to this new landscape without impacting effective decision making for humanitarian programming.
- We call on governments and partners to **continue investing in the data that underpins crisis response** in what is surely a defining moment for the sector. We will continue to do our part, making critical data easy to find and use for the analysis that informs decision making in humanitarian operations.
- The HDX platform continues to serve as **an anchor in the humanitarian data ecosystem**, with more than **1.4 million visitors** from over 200 countries and territories in 2024. The platform’s almost 20,000 datasets were downloaded 3.5 million times – **a 30 percent increase from 2023.**
- At the start of 2025, we estimate that **74 percent of crisis data is available and up-to-date across 22 humanitarian operations**, based on the analysis of the HDX Data Grids. The locations with the highest percentage of timely data are Colombia, Afghanistan and South Sudan, followed by the Central African Republic, Somalia and Yemen.
- OCHA shared 157 datasets or 38 percent of all datasets in the Data Grids in 2024, evidence of its critical data coordination role in humanitarian operations. **Almost half of the data downloaded across the Data Grids was contributed by OCHA.**
- The scaling of anticipatory action programmes has led to an **increase in demand for comprehensive climate data**. To bring more awareness to the availability of this data, the Data Grids now include a climate category with data on hazards and impact (and forecasts forthcoming in 2025).
- Advances in **statistical methods, satellite imagery and AI** have led to an increase in the range of non-traditional data shared on HDX by private sector sources such as Google (building footprints), Meta (movement distribution) and Microsoft (damage assessments). In contexts with limited data, this information can act as crucial proxies, enhancing our understanding of crises.

³ We define humanitarian data as: data about people and how a crisis is affecting them (crisis), data about the response to the crisis (response) and data about the context in which a humanitarian crisis is occurring (context).

3. DATA HIGHLIGHTS

Although the high-level figures for Data Grid coverage have remained similar from year to year (70 percent complete in 2023 versus 74 percent available and up-to-date in 2024), this masks significant changes to data availability within sub-categories (see table below).

For four sub-categories – education facilities, health facilities, populated places and roads – the improvement is due to a change in the way we assess crowd-sourced data from the Humanitarian OpenStreetMap Team. (See Annex C for an explanation of the methodology.)

OCHA country and regional offices increased the availability of climate impact data by 16 percent over the past year. Flood impact data was maintained for Cameroon, Chad, Mali and South Sudan, and new flood impact data was added for Yemen. A cyclone impact dataset (2017-2024) was available and up-to-date for Mozambique.

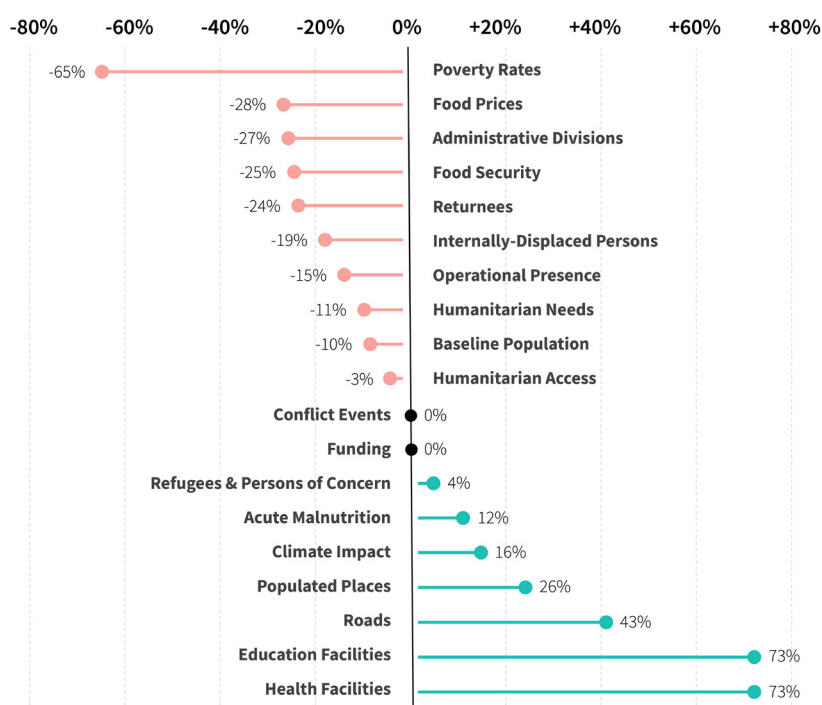
The most significant decline in availability was with the poverty rate data from the Oxford Poverty & Human Development Initiative (OPHI) due to a lack of updated surveys in most locations with humanitarian operations. The OPHI Multi-Dimensional Poverty Index is only available and up-to-date for three countries (Afghanistan, Mozambique and Yemen).

For the internally displaced persons sub-category, data is unavailable in three locations (Myanmar, State of Palestine, and Venezuela), an increase from last year when data was only unavailable for Venezuela. Delays in data processing and external factors have impacted the timeliness of IDP data for seven locations, resulting in a 19 percent decline in availability.

Delays in the publication of the second cycle of food security analyses in November 2024 for countries in West Africa has impacted the food security sub-category. Analysis for Somalia was also delayed at the end of the year. Data for seven of the 22 locations was not updated, resulting in a 25 percent decline in timely data.

New curation efforts by OCHA allowed for the sharing and inclusion of acute malnutrition data from the IPC reports for nine locations in the Data Grids. This led to a 12 percent increase in data availability.

Percentage change in complete/available and up-to-date data by sub-category (2023-2024)

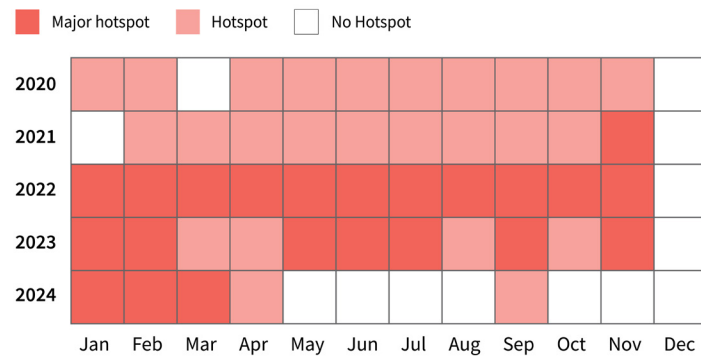


Creation date: 10 March 2025

In addition to these changes in data availability, there were a number of new datasets added to the Data Grids in 2024. The new climate category includes a sub-category for hazards covering current and historical data about droughts, floods and storms. Examples of hazard data in the Data Grids include:

- Anomaly hotspots of agricultural production from the Joint Research Centre of the European Commission.⁴ The dataset is derived from an early warning system that uses Earth observation and weather data to detect agricultural anomalies and provide timely food security alerts for over 80 countries.

Somalia: Hotspot declared in September 2024

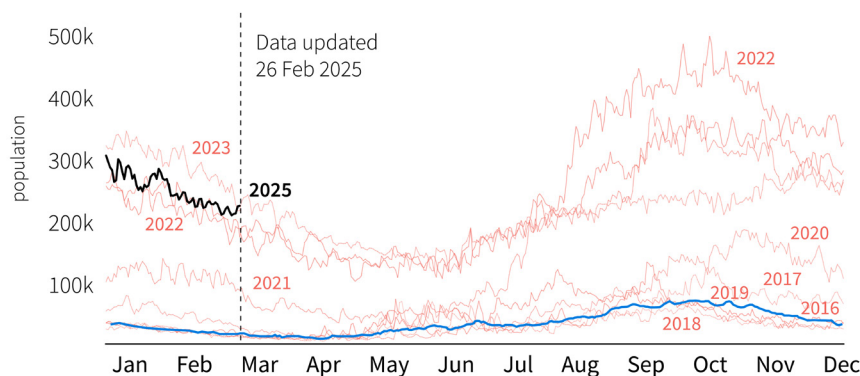


Data source: Agricultural hotspots - JRC ASAP
Creation date: 10 March 2025

Agricultural hotspot analysis for Somalia indicating issues with crop production and concern with high food insecurity, most recently in September 2024.

- Floodscan: Near real-time and historical flood mapping from Atmospheric and Environmental Research.⁵ This includes daily satellite-based flood extent data, identifying whether land areas were flooded or unflooded in Africa for the past 90 days.

South Sudan: Daily population exposed to flooding



Data source: Floodscan for flood extent, WorldPop for population distribution.
Creation date: 10 March 2025

Flood exposure in the South Sudan Sudd wetlands. The blue line indicates the historical average (1998-2024), red lines show flood exposure values since 2016, with the black line representing 2025.

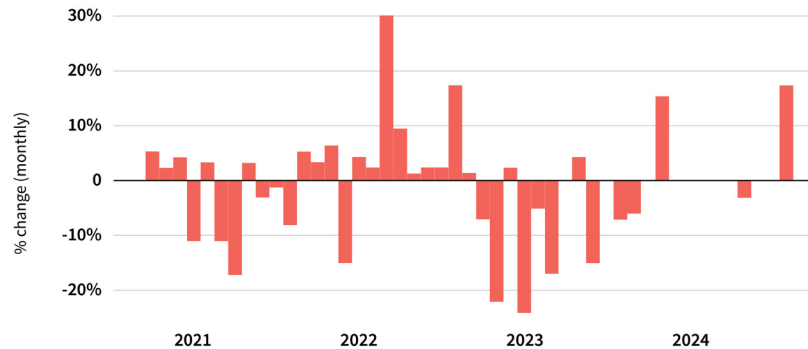
⁴ <https://data.humdata.org/dataset/asap-hotspots-monthly>

⁵ <https://data.humdata.org/dataset/floodscan>

In addition to the new hazard data, the food prices sub-category includes a new complementary dataset:

- Global market monitor from WFP.⁶ This dataset covers the change in food basket prices at the country and sub-national level and is updated every other week. Markets are monitored across 80 countries globally.

Sudan: 17% increase in the cost of the food basket in August 2024



Data source: WFP Global Market Monitor Sudan

Creation date: 11 March 2025

Monthly changes in the cost of the food basket in Sudan over the past years.

WFP's market monitor and JRC's anomaly hotspots are part of HDX Signals, a new product from the Centre that monitors key datasets and generates automated emails when significant, negative changes are detected. HDX Signals also includes alerts for conflict events (from ACLED), displacement (from the Internal Displacement Monitoring Centre) and food insecurity (from IPC), with more data sources coming in 2025.⁷

⁶ <https://data.humdata.org/dataset/global-market-monitor>

⁷ Learn more and subscribe to HDX Signals here: <https://data.humdata.org/signals>

4. RISK TO DATA AVAILABILITY IN 2025

As we began to reflect on progress with data for this report, it became apparent that extreme funding shortages in 2025 may mean that 2024 will be the high-water mark of data availability across humanitarian operations for years to come. While the impacts will take time to fully materialize, we created a framework to assess the risk to data availability in the coming year, with a primary focus on the data in the Data Grids.

As a starting point, the assessment framework includes the organization and the data it contributes to a specific Data Grid sub-category. We then look at information about the data: the level of availability in the 2024 Data Grids and the update frequency. Finally, we assess the focus of the data, the level of resource required to produce the data, the funding exposure of the organization, and whether there is a complementary dataset that could fill a data gap.

Using these criteria, the data is assessed as being at a low, medium or high risk to continued availability. (See Annex D for the full methodology). The presented risk level is a baseline and does not reflect real-world mitigation measures or resource prioritization. For example, an organization may prioritize data collection efforts despite funding constraints. Furthermore, this is not an evaluation of the value of these datasets or the organizations producing them.

The results of our assessment can be found in the table (see below). Some key takeaways include:

- ‘Data about people and how a crisis is affecting them’ has the highest risk to continued availability. This includes data on acute malnutrition, food security, internally displaced people, returnees and humanitarian needs. Producing this data requires in-person data collection and is resource intensive (e.g., through exercises such as multi-sector needs assessments, displacement tracking, smart surveys and household food security and coping mechanisms surveys). Any funding contraction would be impactful, given there are minimal complementary datasets. This data is central to humanitarian action and is relied upon by many actors for targeting their response efforts and for secondary analysis. Even if this data is prioritized to continue, the frequency and extent of primary data inputs may be reduced over time. Organizations will need to decide what data is absolutely critical to the response and consider the minimum level of data that is required to act in a principled manner.
- Data about the response, namely operational presence, humanitarian access and funding, has a medium risk to continued availability. This data is produced by OCHA through reporting by humanitarian actors. Its comprehensiveness is determined to a large degree by the information management capacity of partners. The impact on this type of data may be slower to manifest and will be dictated by the extent of capacity constraints in the system.
- Contextual data that is derived from crowd-sourcing, satellite imagery or through the application of statistical methods has a low risk to continued availability. Many of these datasets depend on stable reference data or third-party sources, and are therefore less vulnerable to humanitarian funding cuts, e.g., administrative boundaries, climate hazards, roads and populated places. The continued adaptation of these sources for humanitarian purposes will be critical.

For some datasets, the existence of complementary data is an important factor in the risk assessment. For example, the food prices and population statistics benefit from alternative sources for this information, although not always for countries with humanitarian operations. It is important to consider where these alternatives depend on validation and triangulation with ‘ground truth’ data from primary data collection efforts.

Risk to data availability in the Data Grids⁸

HDX Organization	Data Grid Sub-category	Available as of 2024	Update Frequency	Information Focus	Resources to Produce	Funding Exposure	Comp. Data	Level of Risk
IOM	Returnees	50%	Quarterly	Crisis Impact	High	High	No	High
IOM	IDPs	59%	Quarterly	Crisis Impact	High	High	No	High
OCHA	Humanitarian Needs	59%	Annually	Crisis Impact	High	High	No	High
IPC/FSN WG WA	Food Security	53%	Biannually	Crisis Impact	High	High	No	High
IPC	Acute Malnutrition	62%	Annually	Crisis Impact	High	High	No	High
OCHA	Climate Impact	64%	Annually	Crisis Impact	Medium	High	Yes	Medium
OCHA	Funding	100%	Daily	Response	Medium	High	No	Medium
OCHA	Humanitarian Access	45%	Quarterly	Response	Medium	High	No	Medium
OCHA	Operational Presence	68%	Quarterly	Response	Medium	High	No	Medium
UNHCR	Refugees	100%	Biannually	Crisis Impact	Medium	High	Yes	Medium
WFP	Food Prices	50%	Monthly	Context	High	High	Yes	Medium
ACLED	Conflict Events	100%	Weekly	Context	Medium	Low	No	Low
AER	Climate Hazard	95%	Daily	Context	Low	Low	Yes	Low
EC JRC	Climate Hazard	95%	Monthly	Context	Low	Low	Yes	Low
HOT	Education Facilities	100%	Monthly	Context	Medium	Low	Yes	Low
HOT	Health Facilities	100%	Monthly	Context	Medium	Low	Yes	Low
HOT	Populated Places	100%	Monthly	Context	Medium	Low	Yes	Low
HOT	Roads	100%	Monthly	Context	Medium	Low	Yes	Low
OCHA	Admin Boundaries	73%	Annually	Context	Medium	Medium	Yes	Low
OPHI	Poverty Rates	18%	Annually	Context	Medium	Low	Yes	Low
UNFPA	Baseline Population	86%	Annually	Context	Medium	High	Yes	Low
WFP	Climate Hazard	95%	Fortnightly	Context	Low	High	Yes	Low
WORLDPOP	Populated Places	100%	Annually	Context	Medium	Low	Yes	Low

⁸ The following information serves to contextualise specific entries in the table: 1) The update frequency for humanitarian needs is most often set as 'annual' for this data on HDX as its publication aligns with annual HNRPs. Needs data is updated more frequently at a country-level; 2) The majority of data for the food security sub-category is provided by either the IPC (10 locations) or FSNWG WA (6 locations). We have combined these into one entry, as the assessment results are the same; 3) Historically, the US Government has been a major source of funding for the country-specific acute food insecurity and acute malnutrition analysis workshops. As such, the financial exposure of these workshops is significant in many HNRP locations; 4) Three organizations provide data to the climate hazard sub-category; and 5) WorldPop's data on the spatial distribution of population is a complementary dataset in the populated places sub-category.

Impacts Beyond the Data Grids

The Data Grids only cover a subset of humanitarian data, reflecting data available through HDX. For example, some data is too sensitive to share publicly but is nonetheless essential for humanitarians and its continued availability should be considered. Our framework can be applied to such data to give an early indication of risk in light of funding shortages.

Community feedback data provides a clear example of this. The production of this data is heavily dependent on the efforts of specialized organizations and local partners, a part of the humanitarian community that is highly susceptible to funding cuts. Community data captures the experiences of people in crisis and provides important inputs to response efforts without which there can be a mismatch between what people need and the assistance they receive. Given this data is not accessible through open platforms, changes to its availability may be less immediately apparent.

In a contracted system, data processes will still move ahead and core datasets will still be produced. However, the frequency and extent of primary data inputs may be reduced over time, requiring the humanitarian system to adjust to this new landscape without impacting effective decision making for humanitarian programming.

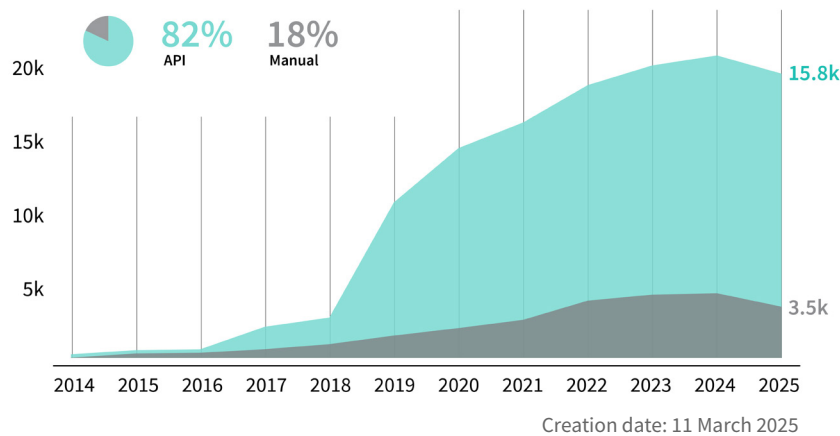
Over the coming months, we will continue to assess the risks to the humanitarian data ecosystem and will be undertaking deeper analysis of impacts and exploring potential futures. Humanitarian data is sustained through a vast interconnected network of actors, resources and infrastructure. Progress depends on continued investment in the capacity, expertise and partnerships that have taken years to establish.

5. THE RISE OF APIs IN THE HUMANITARIAN SECTOR

An Application Programming Interface, or API, is a set of rules and tools that let systems communicate. APIs act as bridges, providing standardized, quick access to data, saving analysts and data scientists time from manually downloading and processing individual spreadsheets.

The use of APIs in the humanitarian sector has grown significantly in recent years. By the end of 2024, around 80 percent of the almost 20,000 datasets on HDX were updated through automated processes. This data is shared by 51 of the 216 organizations on HDX, or just under 25 percent of the total (see table at end of article). Eleven of the 16 organizations that contribute to the Data Grids share their data via API.⁹

Data shared on HDX by APIs (2014-2024)



Although a useful advance, APIs may not always be the best way to share data. For data that does not change over time, an API may introduce unnecessary complexity without significant benefits. Additionally, the urgency of humanitarian crises can limit the time and resources available for organizations to publish their data using APIs, particularly when existing information systems are already meeting local needs.

Nevertheless, there is growing recognition of the value that APIs bring in streamlining data sharing and enabling faster, data-driven decision making for crisis response. Over the past year, organizations such as IOM and OCHA invested in APIs to improve access and analysis of high-value operational data with positive results.

IOM's Displacement Tracking

The Displacement Tracking Matrix (DTM) is IOM's primary data collection programme, providing critical information on internal displacement and human mobility. IOM is a long-time partner of HDX, sharing DTM internal displacement datasets covering 51 countries.¹⁰ Over the past several years, in response to the growing demand for regional and global trend analysis, IOM undertook an effort to standardize its data. It launched the DTM API in 2024.

Before this, large swathes of DTM data varied by country in structure and content, making cross-location and historical analysis time consuming. For example, understanding five years of displacement trends in Mozambique or Ethiopia required downloading and connecting 119 and 62 Excel files respectively, a resource-intensive process.

The DTM API provides standardized data on dates, locations (all P-coded per OCHA's Common Operational Datasets) and the number of internally displaced persons dating back to 2010.¹¹ This enables partners to access and analyze data seamlessly. Since its introduction in July 2024, the DTM API has been accessed over 82,000 times.

⁹ This includes 258 out of 418 datasets (62 percent) in the Data Grids.

¹⁰ <https://data.humdata.org/organization/international-organization-for-migration>

¹¹ The IOM DTM API provides data at the admin 1 level, while the IOM DTM data that is shared manually on HDX is at the admin 2 or admin 3.

“The DTM API has been invaluable for integrating displacement data into our automated pipeline, allowing us to better identify and monitor IDP hotspots within the region. Having direct access to IOM’s data has significantly improved our ability to conduct timely and data-driven risks assessments. We are truly grateful for this resource and the value it has brought to our work.”

Dr. Mohammed A. Yusuf

Epidemiologist, Polio Eradication Program, WHO Africa Regional Office



OCHA’s Humanitarian Programme Cycle Tools

In 2024, OCHA also prioritized automation by further developing its API for the Humanitarian Programme Cycle (HPC) Tools. This data includes information on people in need, targeted and reached through UN-coordinated humanitarian responses. It also includes data on projects and funding requirements.

Previously, data on humanitarian needs was updated manually on HDX by OCHA country offices on an annual or bi-annual basis. However, humanitarian situations are highly dynamic, with numbers constantly changing. This often led to outdated information and inconsistencies as partners relied on differing figures from various sources. The HPC Tools API now includes global coverage of humanitarian needs data across all relevant locations, ensuring that stakeholders, platforms (including HDX) and dashboards have access to consistent, up-to-date figures, minimizing discrepancies.

The HPC Tools API was used during the famine that was declared in Sudan in 2024, where frequent data updates and rapid analysis were critical. OCHA used the API to develop a Sudan dashboard, which provided real-time insights into the evolving crisis, ensuring a coordinated response.

Data from the HPC Tools API is available on HDX for more than 25 countries, with plans to include cluster activities and monitoring data in the coming year.

HDX’s Humanitarian API

Given progress with APIs in the sector, HDX launched the Humanitarian API, known as HAPI¹², in June 2024 to streamline access to multiple partner APIs and other high-value datasets in one place. The initial release of HAPI mirrored coverage of the locations and sub-categories in the HDX Data Grids but this has since been expanded. HAPI consolidates and standardizes critical data on conflict events, food security, humanitarian needs, internal displacement and more.

Additionally, the interoperable HAPI datasets are available for download on the HDX platform, catering to less technical users who may not be familiar with APIs. This dual approach serves a broad range of humanitarian actors by providing flexible access to the data. Over the next year, HAPI will incorporate geospatial data, including administrative boundaries and the location of health and education facilities, as well as additional partner data.

Investing in APIs

The benefits of APIs – faster data sharing, aligned crisis figures and enhanced coordination – make continued investment in their development essential. In humanitarian operations, the process of standardizing data and maintaining an API can be resource intensive. Transitioning to automated data sharing can be especially challenging for smaller organizations.

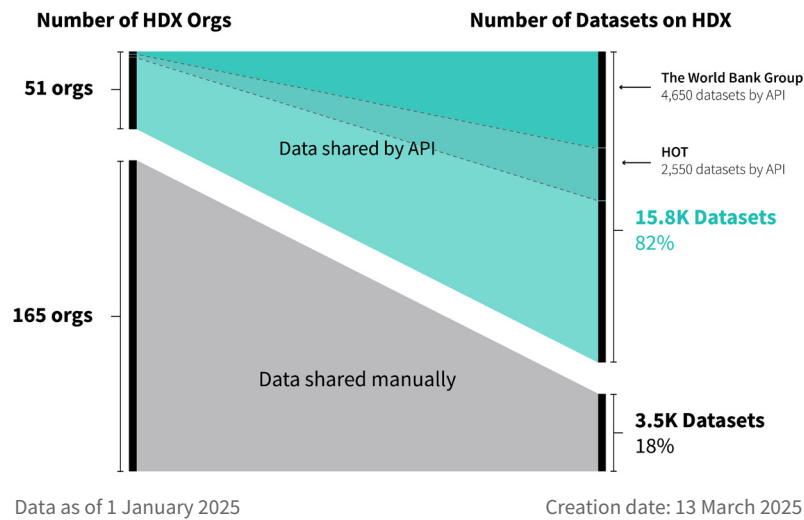
There are also risks. If an API fails, it can disrupt the information systems of the organizations consuming the data. Relying solely on a single entity’s API can be a major point of failure if the data is not stored or backed-up. Additionally, there can be security risks if authentication systems are not properly implemented for API access.

¹²Learn more about HAPI: <https://data.humdata.org/hapi>

Despite these challenges, optimism around the growing use of APIs persists. As Robert Trigwell, Senior DTM Coordination Officer at IOM, sees it: “Sharing data via APIs is the future. The days of transferring data files via USB or downloading and analyzing datasets one by one are behind us. Today’s analytical demands require a different approach. Humanitarian organizations must design data collection with API sharing and data governance in mind from the very beginning and plan accordingly.”

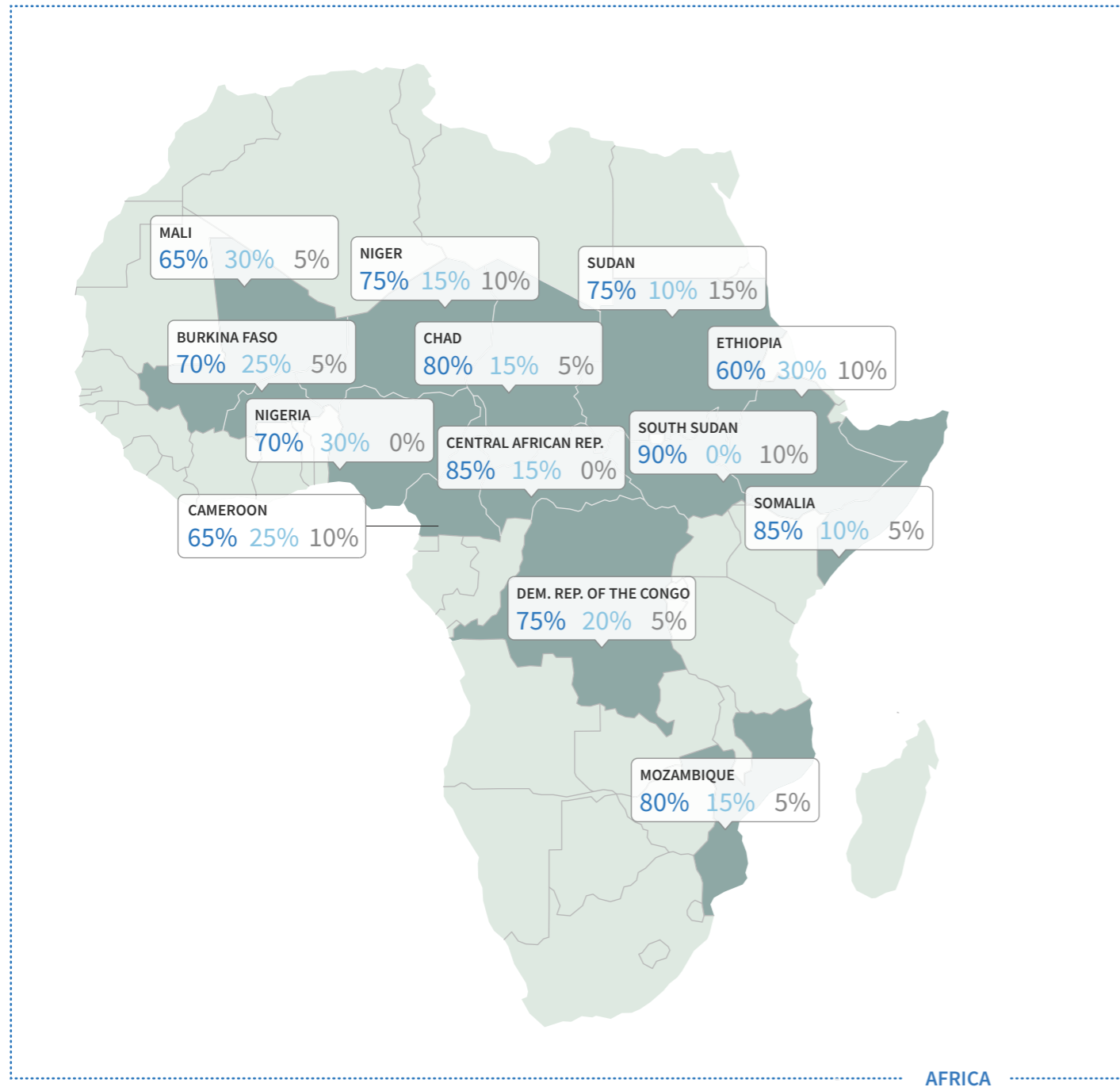
However, APIs are only part of the equation. As OCHA’s Bassil Aleter explains: "APIs enable dynamic and timely analysis, bringing situational awareness closer to real time. For humanitarian organizations to fully leverage APIs, they should also invest in tools that visualize or present connected data, facilitating meaningful insights."

Organizations sharing data by API (2024)

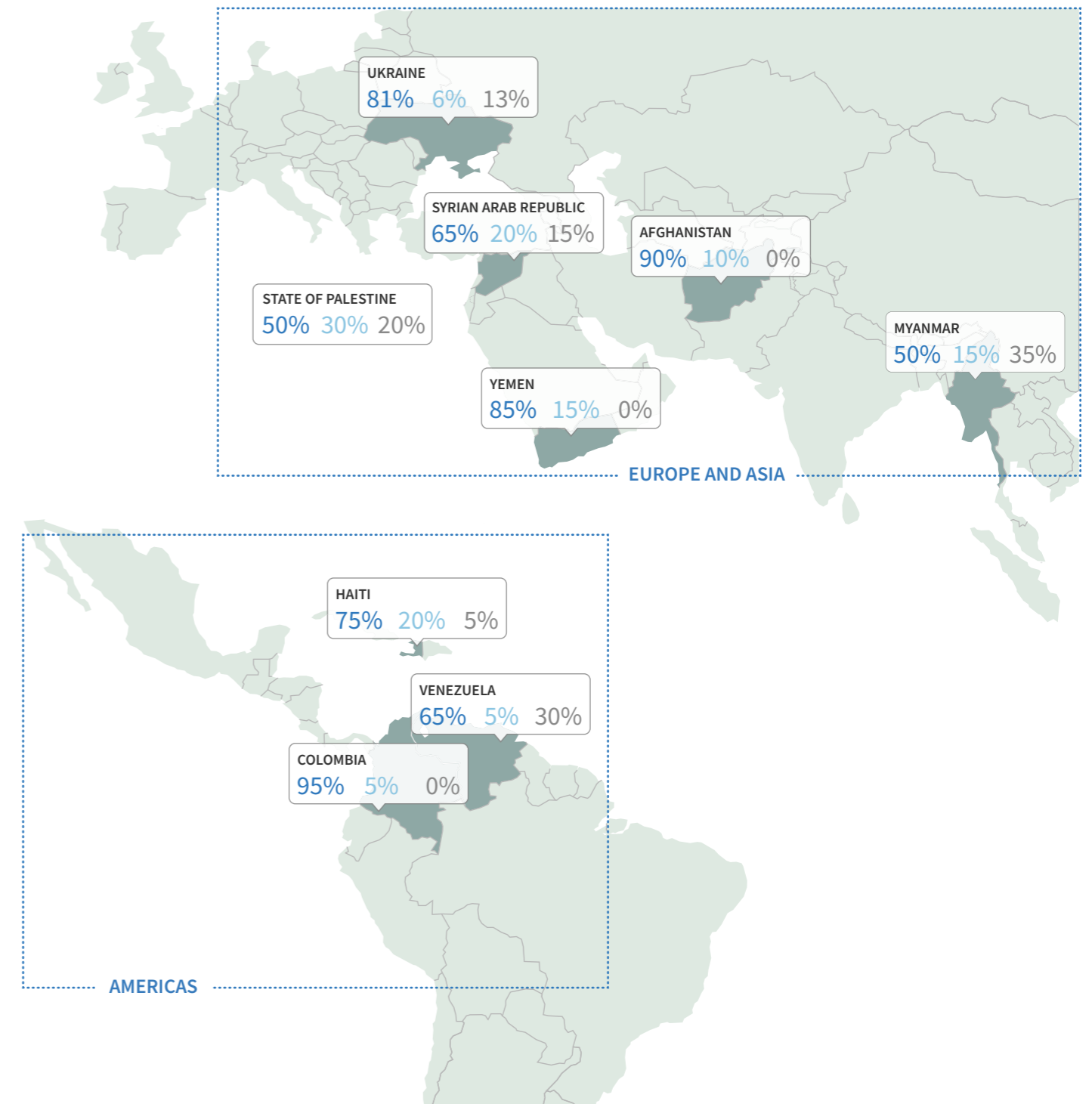


6. GLOBAL OVERVIEW

Data availability:
Available and up-to-date Available and not up-to-date Unavailable



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.



NUMBER OF LOCATIONS	NUMBER OF CATEGORIES	NUMBER OF SUB-CATEGORIES	NUMBER OF CONTRIBUTING ORGANIZATIONS
22	6	20	16

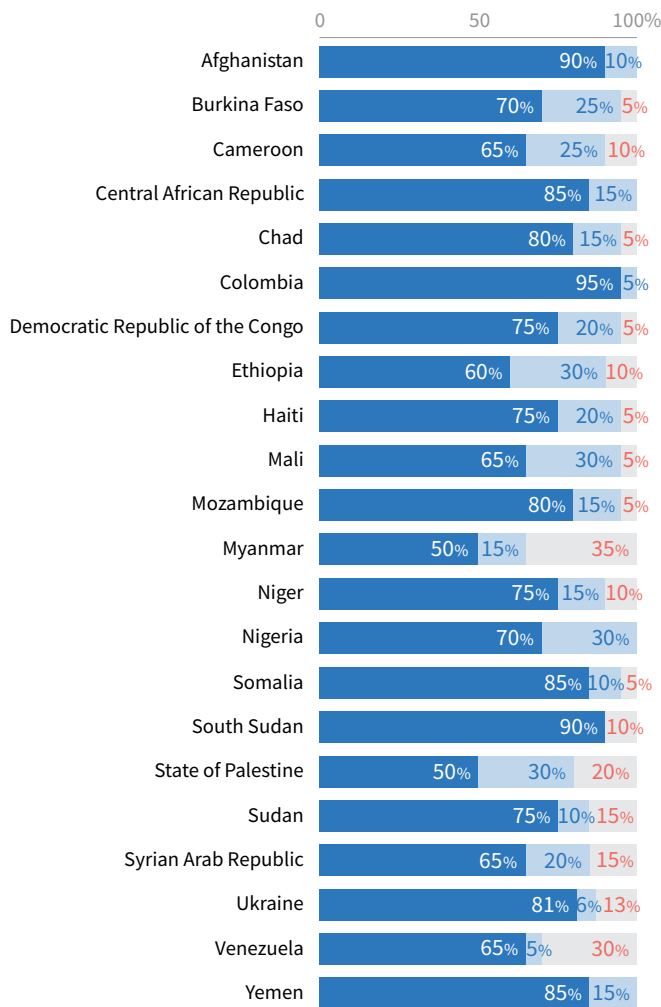
TOTAL PERCENTAGE AVAILABLE AND UP-TO-DATE DATA	TOTAL PERCENTAGE AVAILABLE AND NOT UP-TO-DATE DATA	TOTAL PERCENTAGE UNAVAILABLE DATA
74%	17%	9%

7. AVAILABILITY BY LOCATION, CATEGORY AND SUB-CATEGORY

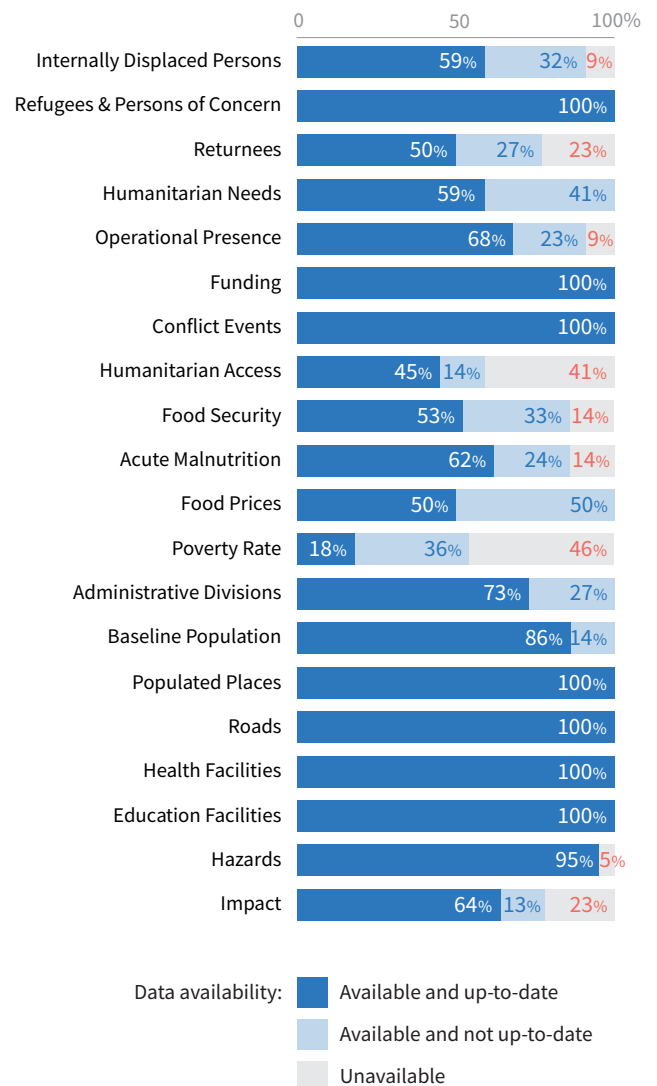
Colombia (95 percent), Afghanistan (90 percent) and South Sudan (90 percent) are the locations with the highest levels of data availability, followed by Central African Republic (85 percent), Somalia (85 percent) and Yemen (85 percent). The locations with the lowest levels of timely data are the State of Palestine (50 percent) and Myanmar (50 percent), which also has the highest percentage of sub-categories with no data (35 percent).

The categories with the most available and up-to-date data are health and education (100 percent), geography and infrastructure (90 percent), and climate (79 percent). The food security, nutrition and poverty category has the least up-to-date data.

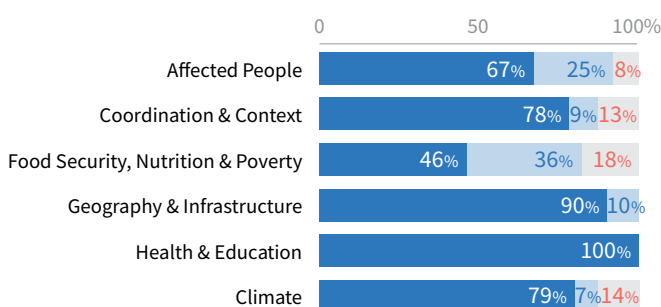
BY LOCATION



BY SUB-CATEGORY



BY CATEGORY



9. CONTRIBUTING ORGANIZATIONS

Of the 216 active organizations¹³ sharing data on HDX, 16 contribute data that is included in the Data Grids, with reference to more than 100 sources. Four organizations – Atmospheric and Environmental Research, Joint Research Centre of the European Commission, White Helmets, and Worldpop – were added to the list of contributing organizations in 2024. Three organizations were dropped from last year’s list: Myanmar Information Management Unit, Our Airports and UNICEF.¹⁴ OCHA is counted as one organization even though 29 entities¹⁵ shared 157 datasets or 38 percent of all datasets in the Data Grids.

Armed Conflict Location & Event Data Project

[Atmospheric and Environmental Research](#)

Food Security and Nutrition Working Group, West and Central Africa

[Humanitarian OpenStreetMap Team](#)

Integrated Food Security Phase Classification

[International Organization for Migration](#)

Joint Research Centre of the European Commission

[Oxford Poverty & Human Development Initiative](#)

Palestinian Central Bureau of Statistics

[United Nations Office for the Coordination of Humanitarian Affairs](#)

United Nations Population Fund

[United Nations High Commissioner for Refugees](#)¹⁶

World Food Programme

[World Health Organization](#)

White Helmets

[WorldPop](#)

¹³ An organization on HDX can be a legal entity or an informal group. The organization may be the direct source of the data or may contribute the data on behalf of multiple sources.

¹⁴ The Myanmar Information Management Unit previously provided datasets for several sub-categories in the Myanmar Data Grid but these datasets stopped being maintained in 2024. Malnutrition data from UNICEF South Sudan and UNICEF DRC was no longer maintained. Our Airports shared data for the airports sub-category which was discontinued.

¹⁵ OCHA counts as one organization but includes contributions from 22 country offices, 3 regional offices and 4 HQ units.

¹⁶ UNHCR includes UNHCR HQ and UNHCR Afghanistan, which shares a dataset on returning refugees for the returnees sub-category for the Afghanistan Data Grid.

10. ORGANIZATION DEEP-DIVE: WORLDPOP

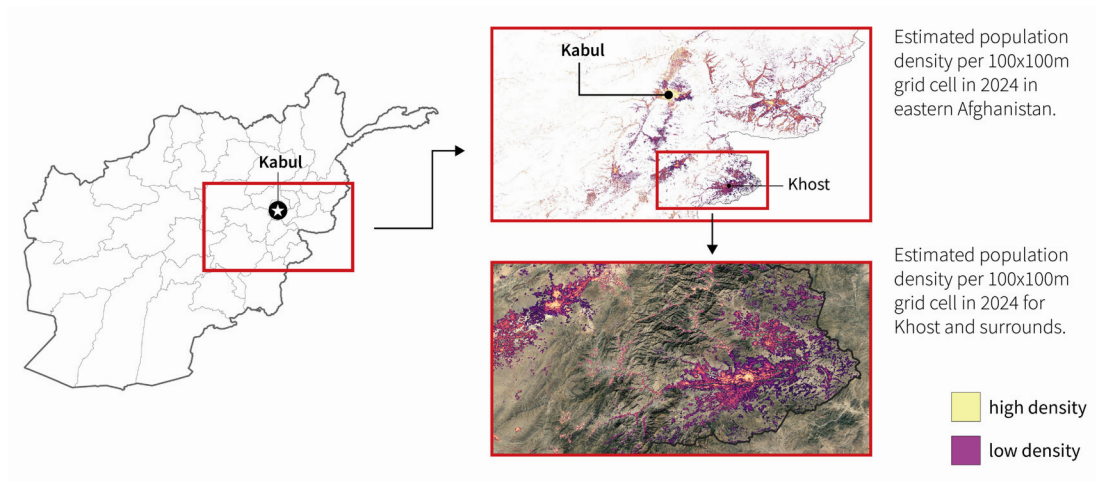
Understanding population dynamics before, during and after sudden-onset and protracted crises is critical for effective humanitarian response. Rapid assessments of people and their movements after a crisis aids the prioritization of response efforts. In this context, WorldPop works to ensure that every person is mapped and counted in decision-making. Their innovative approach to population estimation has been impactful across all stages of response and recovery.

WorldPop is based at the University of Southampton and maps populations across the globe. Since 2013, they have partnered with governments and UN agencies to produce more than 45,000 datasets, complementing traditional population sources with dynamic, high-resolution data for mapping human population distributions.

“At WorldPop, we believe that high-quality population data is essential for effective humanitarian decision-making. Advances in statistical methods, satellite imagery and AI have enabled us to enhance the accuracy and detail of population estimates, especially in areas where traditional census data are outdated or unavailable. By sharing our latest global population estimates on HDX, we hope to provide data that can support humanitarian organizations to respond quickly and effectively to crises.”

Professor Andrew Tatem
Director, WorldPop

Afghanistan: Population density



Estimated population density per 100x100m grid cell in 2024 for different geographic areas in Afghanistan.

WorldPop has been a valuable partner of HDX since 2016, sharing over 1,000 datasets covering population counts, age and sex structures, births, and population density for 248 countries and territories. In 2024, these datasets were downloaded over 76,000 times on HDX with over 381,000 unique users visiting the WorldPop page.¹⁷ WorldPop was the first organization to feature in our HDX Dataset Deep Dive webinar in 2020, where the team shared their high-resolution population estimate methodology.¹⁸

¹⁷ <https://data.humdata.org/organization/worldpop>

¹⁸ You can watch the recording here <https://youtu.be/A1AvguSj41Q&t=8s>

In late 2024, WorldPop began the process of updating its data on HDX with the latest collection of new global population estimates. This includes two new datasets for all countries in the world: spatial distribution of population, and age and sex structures. These datasets represent estimates of residential population from 2015 to 2030 for each 100x100m grid.

Population data matched to sub-national boundaries was collected from the 2010 and 2020 census rounds. In countries without census data, estimates and projections were used. A key advantage of small-area gridded population datasets is their ability to be summarized and aggregated at various scales, to facilitate interoperability with other datasets on HDX.

The spatial distribution of population (2015-2030) data is a complementary dataset under the populated places sub-category of the Data Grids.

WorldPop data is built through partnerships with institutions, spanning Jade University of Applied Sciences and Columbia University for boundary-linked population data, tech companies and satellite imagery providers for geospatial libraries, and UN agencies and governments to develop and disaggregate small-area population estimates. This also includes Meta, where WorldPop is partnering on its training data to create high-resolution maps, and ESRI, where WorldPop provides the population data in its Living Atlas.

We are grateful to WorldPop for their close partnership with HDX. We hope that other organizations will be inspired by their commitment to making data openly available and easy to use for analysis.

11. CLIMATE DATA FOR ANTICIPATORY ACTION

Since 2020, over \$100 million has been allocated by the UN Central Emergency Response Fund (CERF) for anticipatory action in eight countries reaching 4 million people with assistance before the worst impacts of a crisis. In 2024, there were 20 active anticipatory action frameworks with an additional 17 frameworks under development for droughts, floods, storms and cholera.

The scaling of anticipatory action programmes has led to an increase in the demand for comprehensive climate data. To bring more awareness to the availability of this data, the HDX Data Grids now include a climate category. It features two sub-categories, with a third to be added in 2025. These are:

- **Hazards:** Current and historical data about climate hazards such as droughts, floods and storms. This includes observed rainfall, flood extent, vegetation indices, and agricultural hotspots. Storm tracks data was added in early 2025.
- **Impact:** Current and historical impacts of climate events relating to droughts, floods and storms. This includes indicators such as the number of people affected or displaced, disruptions to populations, destroyed infrastructure, and other impacts such as on agricultural production.
- **Forecasts** (forthcoming in 2025): Forecast data with projections for riverine floods, seasonal rainfall, and major storms.

These three types of data are essential for anticipatory action analysis, including trigger definition and more general preparedness analysis. We provide two examples below from Cameroon and Mozambique.

Cameroon Floods

In 2024, the Centre worked with the OCHA Cameroon office to estimate flood exposure ahead of the rainy season and track it in near-real time for river basins in the Far North Region. This region experiences seasonal flooding, with the peak rainy season occurring in July, August and September each year.

In the months leading up to the season, the Centre's analysis predicted that around 350,000 people would be exposed to flooding. As the season progressed, over 356,000 people were affected, and the Centre's updated projections for the rest of the season indicated further flooding, with the severity of a 1-in-20 year event. This analysis supported a timely allocation of \$4 million from CERF to help 176,500 affected people in the most vulnerable areas.¹⁹

The Centre made predictions by combining seasonal rainfall forecasts with historical flood extents and population distributions, and used historical flood impact to calibrate the predictions.

Data from each of the climate sub-categories played an important role in the analysis:

- **Hazards:** Flood extent from FloodScan,²⁰ overlaid with the population distribution, was used to calculate historical daily flood exposure.
- **Impact:** Historical flood impact data²¹ was used to calibrate the predictions.
- **Forecasts:** Seasonal forecasts from the European Centre for Medium-Range Weather Forecasts²² were used to estimate the severity of the upcoming rainy season, which was then used to estimate the number of people likely to be affected by floods for the upcoming season.

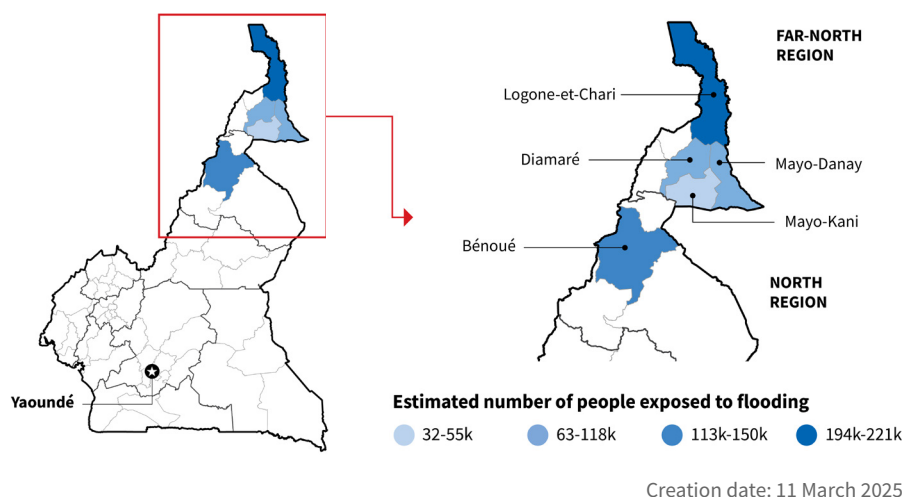
¹⁹ <https://cerf.un.org/what-we-do/allocation/all/summary/CERF-CMR-24-RR-1427>

²⁰ <https://data.humdata.org/dataset/floodscan>. The Floodscan data on HDX only covers the most recent 90 days. For this analysis, we used the full historical record since 1998.

²¹ <https://data.humdata.org/dataset/cameroun-situations-des-inondations>

²² https://charts.ecmwf.int/products/seasonal_system5_standard_rain

Cameroon: People predicted to be exposed to flooding by department in 2024



Flood extent data from Floodscan overlaid with the population distribution in the Far-North Region of Cameroon, with severity adjusted by ECMWF SEAS5 seasonal forecast.

Mozambique Cyclones

The Centre worked in Mozambique with the OCHA Country Office, the Government and WFP to develop a robust trigger system for the national anticipatory action plan, which is also supported by CERF. Mozambique is regularly impacted by cyclones, especially in the low-lying coastal areas that are home to a majority of the population. Since 2017, some 5 million people have been affected, mostly in the provinces of Zambezia, Nampula and Sofala.

Data from each of the climate sub-categories again played a vital role in the system:

- **Hazards:** Historical cyclone tracks from the International Best Track Archive for Climate Stewardship (IB-Tracks)²³ provided critical insights into the frequency and intensity of cyclones in Mozambique.
- **Impact:** Indicators such as the number of people affected (sourced from the Emergency Events Database, published by the Centre for Research on the Epidemiology of Disasters²⁴) and historical CERF cyclone allocations²⁵ were used to evaluate the scale of needs and expected impacts. By combining hazard and impact data, a comprehensive database was developed to link cyclone intensity and frequency with human and financial impacts.
- **Forecasts:** Historical forecasts from Météo-France La Réunion²⁶ enabled the simulation and evaluation of trigger performance across different lead times, ensuring the system could respond effectively to future events.

This analysis supported the endorsement of the Mozambique anticipatory action framework in January 2025 by the Humanitarian Country Team and the Emergency Relief Coordinator with a commitment of \$6 million pre-arranged funding from CERF. In early March, the trigger for activation was reached and CERF allocated the funds to support over 290,000 people across six coastal provinces with critical supplies.

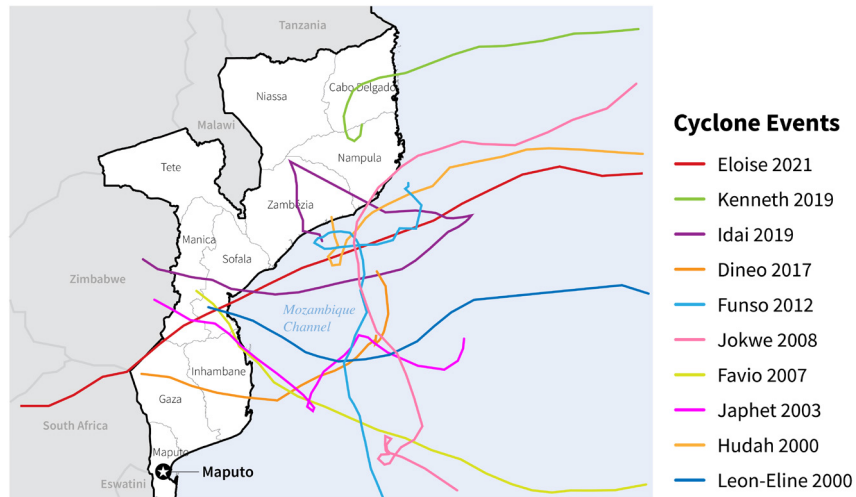
²³ <https://data.humdata.org/dataset/ibtracs-global-tropical-storm-tracks>

²⁴ <https://data.humdata.org/dataset/emdat-country-profiles>

²⁵ <https://data.humdata.org/dataset/cerf-allocations>

²⁶ <https://meteofrance.re/fr/cyclone>

Mozambique: Historical cyclone tracks (2000-2024)



Data source: International Best Track Archive for Climate Stewardship (IBTrACS)

Creation date: 5 March 2025

IB-Tracks data indicated that on average Mozambique has been impacted by a tropical cyclone (wind speed intensity above 64 knots or 119 km/h) on average every 2.3 years since 2000.

The year ahead will be particularly challenging due to shrinking funding and a likely decline in the technical capacity of humanitarian organizations to analyze climate data. We will work with partners to bring high-value data on hazards, impacts and forecasts onto HDX, making it more accessible to humanitarians.

12. CONCLUSION

We will continue to update the Data Grids throughout the year as organizations share new, relevant data. The current status for each location is always available on HDX, both on the relevant location page and on the Overview of Data Grids page.²⁷ As part of our internal Data Grid Governance Group, we will regularly review the categories and sub-categories to see if they should be removed or expanded.

We are committed to making critical data easy to find and use for analysis, informing decision making in humanitarian operations. We recognize the valuable and long-standing contributions of data-sharing organizations and welcome new actors to join the platform.

Please be in touch with questions or feedback on ways to improve this report and the HDX Data Grids at centrehumdata@un.org.

²⁷ <https://data.humdata.org/dashboards/overview-of-data-grids>

ANNEX A: DATA GRID SUB-CATEGORY DEFINITIONS

CATEGORY

SUB-CATEGORY/DEFINITION

Affected People



Internally Displaced Persons

Tabular data of the number of displaced people by location. Locations can be administrative divisions or other locations (such as camps) if an additional dataset defining those locations is also available.

Refugees and Persons of Concern

Tabular data of the number of refugees and persons of concern either in the country or originating from the country disaggregated by their current location. Locations can be administrative divisions or other locations (such as camps) if an additional dataset defining those locations is also available or if the locations' coordinates are defined in the tabular data.

Returnees

Tabular data of the number of displaced people who have returned.

Humanitarian Needs

Tabular data of the number of people in need of humanitarian assistance by location and humanitarian cluster/sector.

Coordination & Context



Operational Presence

List of organizations working on humanitarian issues, by humanitarian cluster/sector and disaggregated by administrative division.

Funding

Tabular data listing the amount of funding provided by a humanitarian cluster/sector.

Conflict Events

Vector data or tabular data with coordinates describing the location, date and type of conflict event.

Humanitarian Access

Tabular or vector data describing the location of natural hazards, permissions, active fighting or other access constraints that impact the delivery of humanitarian interventions.

Food Security, Nutrition & Poverty



Food Security

Vector data representing the IPC/CH acute food insecurity phase classification or tabular data representing population or percentage of population by IPC/CH phase and administrative division.

Acute Malnutrition

Tabular data specifying the global acute malnutrition (GAM) or severe acute malnutrition (SAM) rate by administrative division.

Food Prices

Time series for common food commodities prices at sub-national locations and for change in food basket prices at the country level.

Poverty Rate

Population living under a defined poverty threshold, aggregated by administrative division and represented as a percentage of total population or as an absolute number.

Geography & Infrastructure



Administrative Divisions

Vector geographic data describing the sub-national administrative divisions of a location, usually a country, including the names and unique identifiers, usually p-codes, of each administrative division.

Baseline Population

Total population disaggregated by age and sex categories, aggregated by administrative division.

Populated Places

Vector data or tabular data with coordinates representing the location of populated places (cities, towns, villages).

Roads

Geographic data describing the location of roads with some indication of the importance of each road segment in the transportation network. The data should exclude or indicate roads that are not usable by typical four-wheel-drive vehicles (footpaths, etc.).

Health & Education



Health Facilities

Vector data or tabular data with coordinates representing health facilities with some indication of the type of facility (clinic, hospital, etc.).

Education Facilities

Vector data or tabular data with coordinates representing education facilities with some indication of the type of facility (school, university, etc.).

Climate



Hazard

Current and historical data about climate hazards such as droughts, floods and storms.

Impact

Tabular or vector data containing current and historical impacts of climate events relating to droughts, floods and storms. The data should specify the location of the event, date of the event, and contain at least one indicator of impact such as spatial extent of event, disruption to affected

ANNEX B: INCLUSION OF DATA IN THE DATA GRIDS

Data Grid curation involves the careful evaluation of datasets on HDX for inclusion in one or more of the sub-categories in line with our criteria. The HDX team does this evaluation when a dataset is newly added or updated on HDX. It also conducts targeted outreach with organizations to find relevant datasets.

Data may be included in the Data Grid if it is relevant to the sub-category, sub-national, has broad geographic coverage, and is shared in a commonly used format. The criteria for evaluating this includes:

- **Relevant to the sub-category:** The data must meet the definition of the sub-category.
- **Sub-national:** The data must be disaggregated to at least the first administrative division. If the data is only available at the national level, it is typically excluded with some exceptions (see more below).
- **Broad geographic coverage:** The data should be as comprehensive as possible. It should contain geographic data (i.e., Shapefile, GeoJSON, Geopackage, tabular data with latitude and longitude fields or P-codes). If not, the dataset should at least be joinable to an available dataset that defines those locations.
- **Commonly-used format:** The data should be in any of the following formats: tabular data (CSV, XLSX, XLS) or vector geographic data (SHP, GPKG, GeoJSON, KML). Field names and data rows should be easy to determine. The data should be tidy, e.g., there should not be totals or sub-total rows within the data.

If a dataset on HDX meets these criteria, data for the sub-category is considered ‘available’. We then assess its timeliness. We make a distinction between whether the data is up-to-date or not up-to-date, according to the update frequency set by the contributing organization on HDX.

Data is considered ‘unavailable’ if it does not meet the above criteria or it has not been shared on HDX. In cases where data has been collected but is too sensitive to share publicly, organizations can use the HDX feature ‘HDX Connect’ to share only the metadata and make the underlying data available by request. HDX Connect datasets are counted as available and their timeliness is assessed based on the expected update frequency.

Two Data Grid sub-categories include complementary datasets: populated places and food prices. A complementary dataset is one that adds unique or useful information to the sub-category. Wordpop’s spatial distribution of population dataset is complementary to the populated places dataset. WFP’s market monitor dataset is complementary to the food prices dataset.

Exceptions to the Data Grid inclusion criteria are made in the following instances:

- The sub-national requirement has been partially or completely waived for two datasets: the Anomaly Hotspots of Agricultural Production from the Joint Research Centre of the European Commission and requirements and funding data from OCHA FTS.

ANNEX C: CHANGES TO THE DATA GRIDS

The following methodology was used to assess the risk to data availability for each Data Grid sub-category in 2025 given expected funding shortages in the humanitarian sector. Our analysis focused on 13 organizations that contribute data with global coverage.²⁸

The assessment framework includes the following information fields:

1. **Organization:** The organization that contributes the majority of the data that is included in the Data Grid sub-category. The organization may be the direct source of the data or may contribute the data on behalf of multiple sources.
2. **Sub-category:** The designated Data Grid sub-category for the assessed dataset.
3. **Percentage of Data Available and Up-to-Date in 2024:** The percentage of data that was available and up-to-date in the 2024 Data Grid analysis.
4. **Update Frequency:** The average expected update frequency of the data on HDX, as defined by the contributing organization.
5. **Information Focus:** The focus of the dataset based on the definition of humanitarian data used by the Humanitarian Data Exchange.
6. **Resources to Produce:** The level of resources (i.e., personnel, financial and infrastructure) required to produce the data, as determined by assessing the dataset methodology on HDX and in conversation with the contributing organization.
7. **Percentage of US Funding to Organization in 2024:** US Government funding as a percentage of the organization's total funding in 2024, as reported by the organization during the assessment process or derived from FTS where available.
8. **Complementary Datasets:** The existence of other datasets that may serve as alternatives to the data included in the sub-category.

The final categorization of high, medium and low risk to data availability is based on categorizing each information field according to the following assessments:

1. Percentage of US Funding to Organization in 2024
 - a. Low: <10%
 - b. Medium: 11-24%
 - c. High: >25%
2. Information Focus
 - a. Crisis: Data about the people affected by the crisis and their needs
 - b. Response: Data about the response to the crisis
 - c. Context: Data about the context in which a humanitarian crisis is occurring
3. Resource to Produce
 - a. High: Primary data collection requiring in-person enumeration, or datasets that depend on these processes.
 - b. Medium: Either the aggregation and validation of secondary data sources, or the direct consolidation of data from humanitarian actors about the response.
 - c. Low: Modeling and validation of global reference datasets.
4. Complementary Dataset
 - a. Yes: A complementary dataset exists.
 - b. No: A complementary dataset does not exist.

By assessing each dataset against these categories, and aggregating the scores, we developed our high, medium and low risk evaluations.

²⁸ The exceptions are: 1) The White Helmets, which provides a complementary dataset in the health facilities sub-category for the Syria Data Grid; 2) the Palestinian Central Bureau of Statistics, which contributes two complementary datasets for the State of Palestine Data Grid; and 3) the World Health Organization, which contributes data for the health facilities sub-category for the Mozambique Data Grid.

ANNEX D: METHODOLOGY FOR ASSESSING RISK TO DATA AVAILABILITY IN THE DATA GRIDS

We continually assess the Data Grids to ensure they include the core data needed for humanitarian operations. Our Data Grid Governance Group discusses possible changes and makes decisions based on HDX usage stats and feedback from OCHA offices and partners.

In 2024, HDX maintained Data Grids for 22 locations and 20 sub-categories. The number of locations decreased by one from 2023 given that Burundi no longer had a humanitarian response plan.

Other changes to the Data Grids included:

- We created a new category for climate, which includes two sub-categories for hazards and impact. Climate impact used to be a sub-category under coordination and context.
- The sub-category for airports was removed.
- The population and socio-economy category was discontinued but the two sub-categories it included were moved to other categories. Baseline population is now under the geography and infrastructure category. Poverty rate is now under the food security, nutrition and poverty category.

In addition, we changed how we assess data from the Humanitarian OpenStreetMap Team. In the past, HOT datasets were considered 'incomplete' by default due to the crowd-sourced nature of their data collection process. The data was only considered 'complete' if it was verified by the in-country information management working group as the best available. HOT has improved its validation and quality assurance process, clearing the way for their data to be more systematically included in the Data Grids. HOT data is now the main source for four sub-categories: education facilities, health facilities, populated places and roads. This data is assessed in the same way that all data is assessed.