

# iSEE\* The Arab World Series

*\*Integrating Society, Economy and the Environment*

## A Leave-No-Location-Behind Production

by

The Geo-Statistical Laboratory, ESCWA

ESCWA serving Member States



Shared Prosperity Dignified Life



# Earth observation and integrated applications for disaster risk management and sustainable development

United Nations Inter-Agency Meeting on Outer Space Activities (UN-Space)  
17-19 October 2023 in Brindisi, Italy

Brindisi (Italy - 19 October 2023)



UNITED NATIONS

الاسواق  
ESCWA

Shared Prosperity **Dignified Life**





# Challenges, limitations, and opportunities on mapping natural and anthropological disaster-related events for integrated socioeconomic and environmental indicators

By

The Geo-Statistical Laboratory - ESCWA Statistics

*From Lab to Policy and Society*

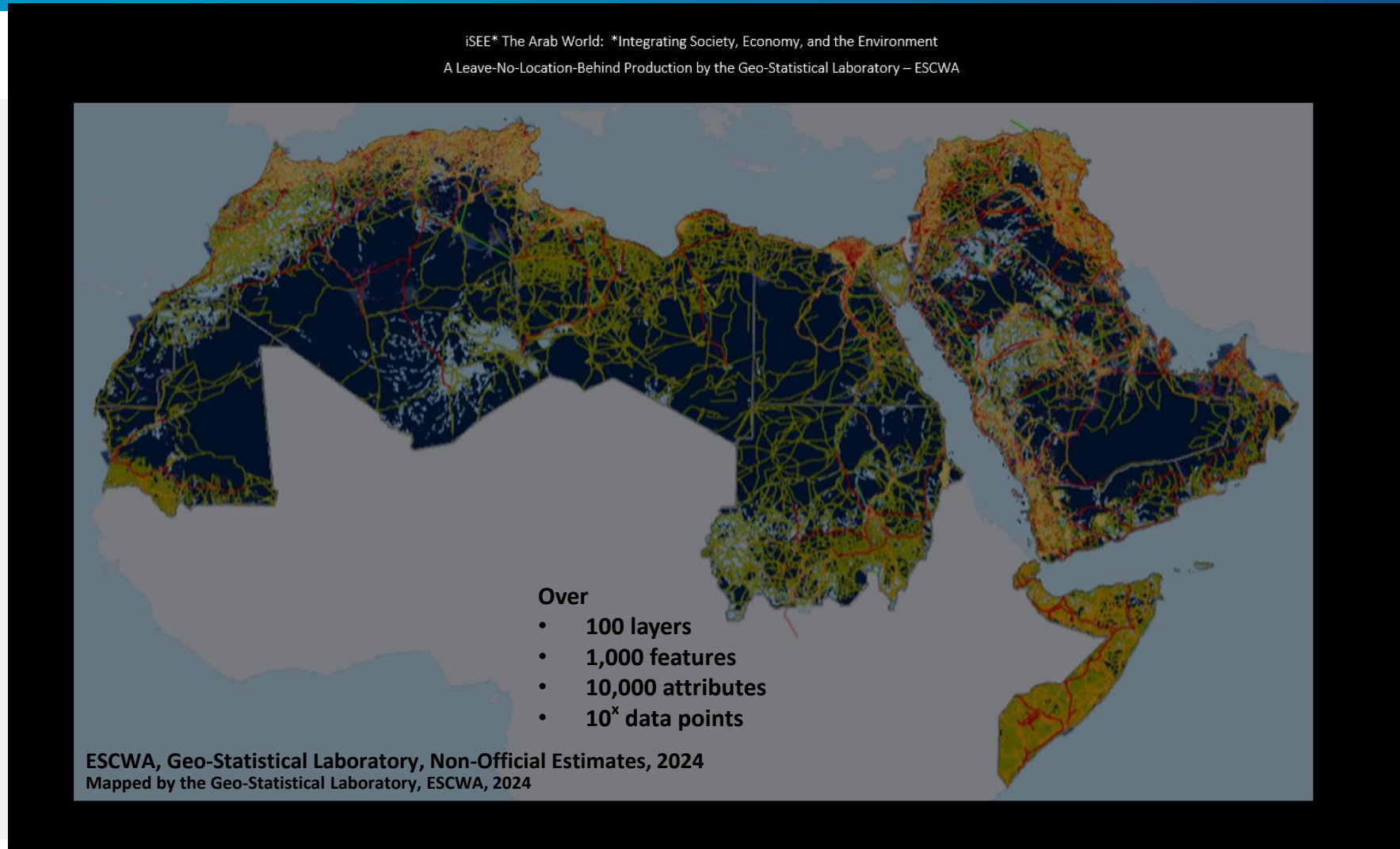
“What we need to change: Measure and value the things that matter in people’s daily lives”

*(UN Emerging Narrative for Our Common Agenda, June 2021).*

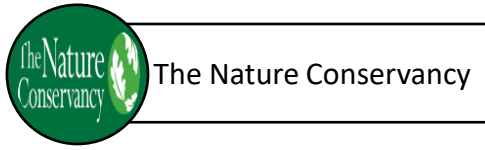
Samah Abdel Rahman, Stephanie Labaki, Amal laaly, Soheil Rastan

[escwa-geostatistics-lab@un.org](mailto:escwa-geostatistics-lab@un.org)

# “Anything-Anywhere” Open-Source Geo-Statistics on ESCWA Member States



# Sample of Lab's Data Sources



The Nature Conservancy



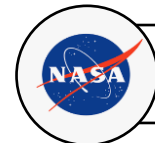
Open Street Maps (OSM)



World Bank Group



Microsoft Bing



National Aeronautics and Space Administration (NASA)



Global Energy Monitor



Hydro SHEDS



Resolve



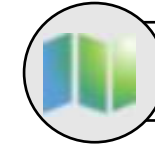
World Pop



Knowledge Network for Biocomplexity (KNB)



Climate Change Knowledge Portal (CCKP) by World Bank



Global Wind Atlas



Socioeconomic Data and Applications Centre (SEDAC)



National Energy Technology Laboratory (NETL)'s Energy Data exchange (EDX)



World Wildlife Fund (WWF)



Deutsches Zentrum für Luft- und Raumfahrt (DLR)



Kontur GIS Solutions



Protected Planet



Humanitarian OpenStreetMap (HOTOSM)



Global Solar Atlas



Moderate Resolution Imaging Spectroradiometer (MODIS) NASA



Humanitarian Data Exchange (HDX)



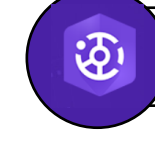
OBIS-SEAMAP



Tele Geography



One Earth



ArcGIS Hub



National Geospatial-Intelligence Agency



National Oceanic and Atmospheric Administration (NOAA)



Visible Infrared Imaging Radiometer Suite (VIIRS) NASA



World-wide Hydrogeological Mapping and Assessment Programme (WHYMAP)




International Groundwater Resources Assessment Centre (IGRAC)




Global Data Lab (GDL)

# Sample of Lab's Data Sources




Lab Oasis Foundation



Federal Institute for Geosciences and Natural Resources (BGR)




Environmental Systems Research Institute inc. (ESRI)



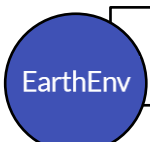
Natural Earth Data




European Space Agency's (ESA)



Armed Conflict Location & Event Data Project (ACLED)  
The Armed Conflict Location & Event Data Project Disaggregated data collection, analysis, and crisis mapping



Earth Env.  
The work is supported by NCEAS, NASA, NSF, and Yale University.





UN Statistics Division (UNSD) & UN Global Geospatial Information Management (UN-GGIM)



International Monetary Fund (IMF)



World Food Program (WFP)



Emergency Events Database (EM-DAT) Centre for Research on the Epidemiology of Disasters (CRED)



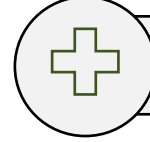

Our Airports




Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) Working Group on Geospatial Information




UNdata  
A world of information


United Nations Regional Collaborative Platform (RCP)




United Nations Human Settlements Program (UN-Habitat)




Food and Agriculture Organization (FAO)




UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)



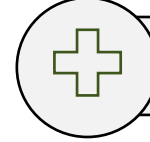

Central Agency for Public Mobilization and Statistics (CAPMAS)




Central Administration of Statistics (CAS)




Department of Statistics (DOS)


Circular Economy Earth by Chatham House




Resource Trade Earth by Chatham House



External Trade Data Platform for the Arab Region




United Nations Office for Outer Space Affairs (UNOOSA)




Google Earth



UN Global Service Centre (UNGSC) for Geospatial, Information, and Telecommunications Technologies (SGITT)  
UN Brindisi - Italy



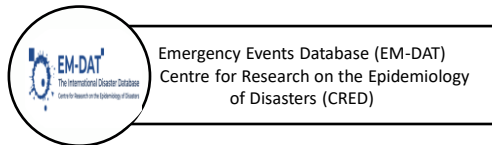
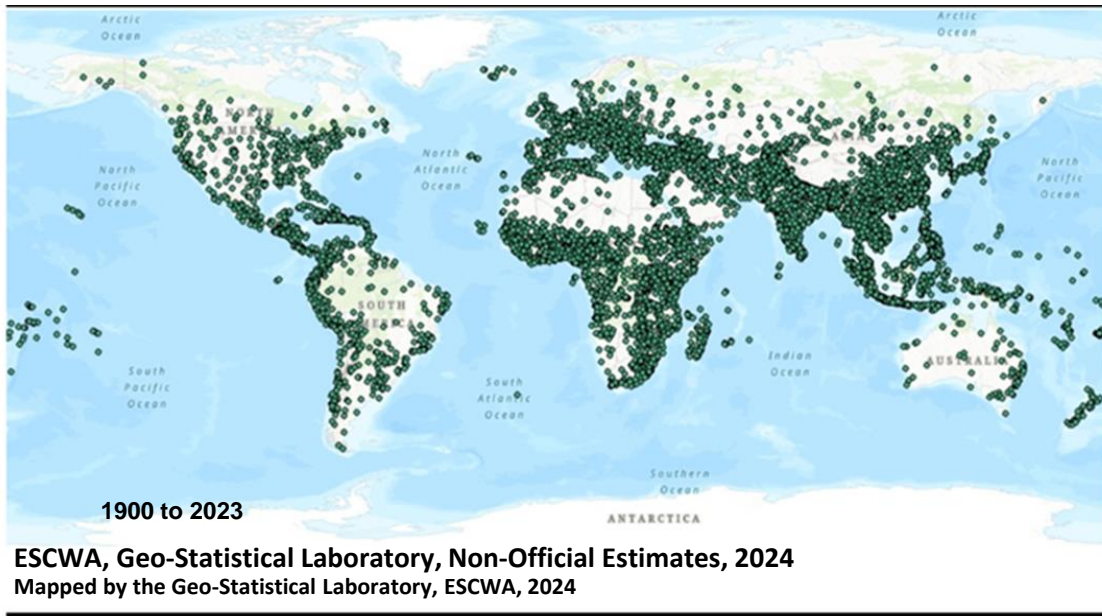
Our World in Data  
OXFORD MARTIN SCHOOL / University of OXFORD Y Combinator



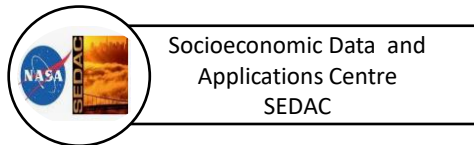
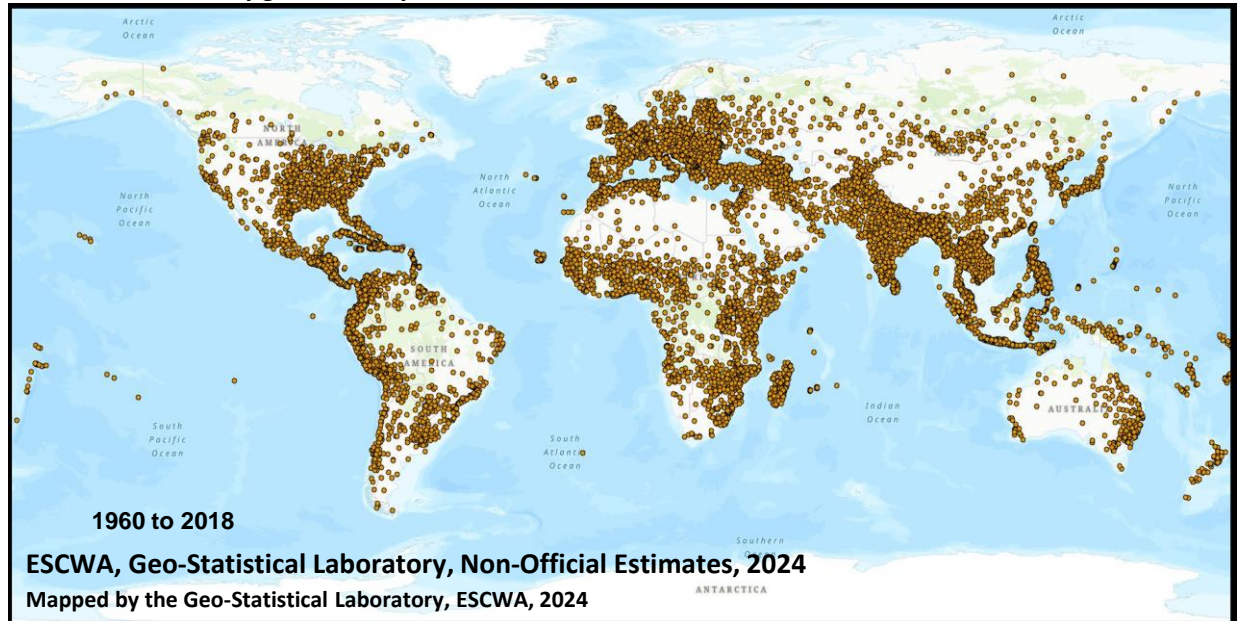


# Examples of open-source Natural Disaster Data

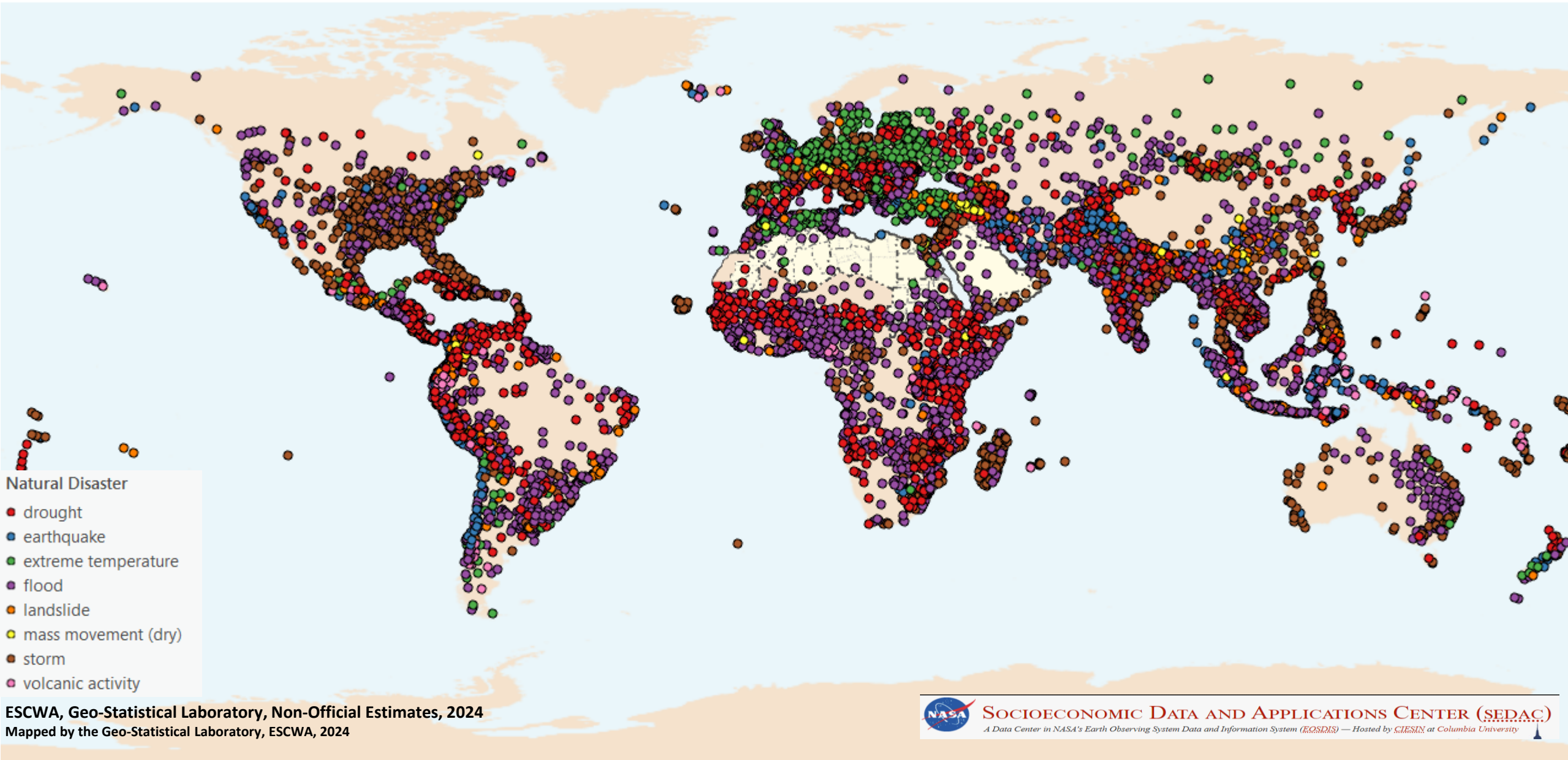
EM-DAT geo-referenced by the Geo-Statistical Laboratory ESCWA (draft, QC/QA to be followed)



SEDAC-NASA, already geo-coded by SEDAC/NASA

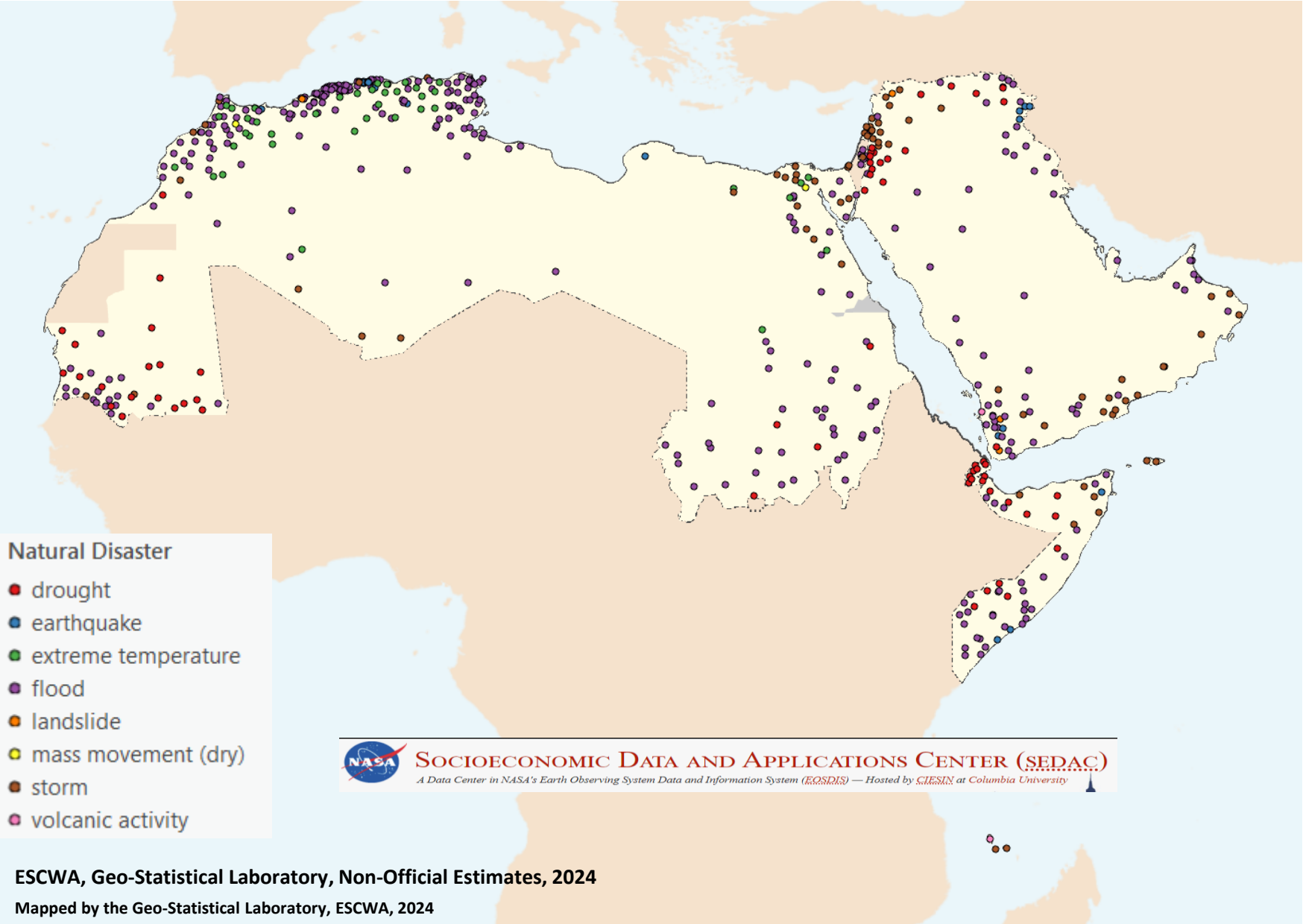


# Natural Disasters – Global, 1960 – 2018, SEDAC-NASA

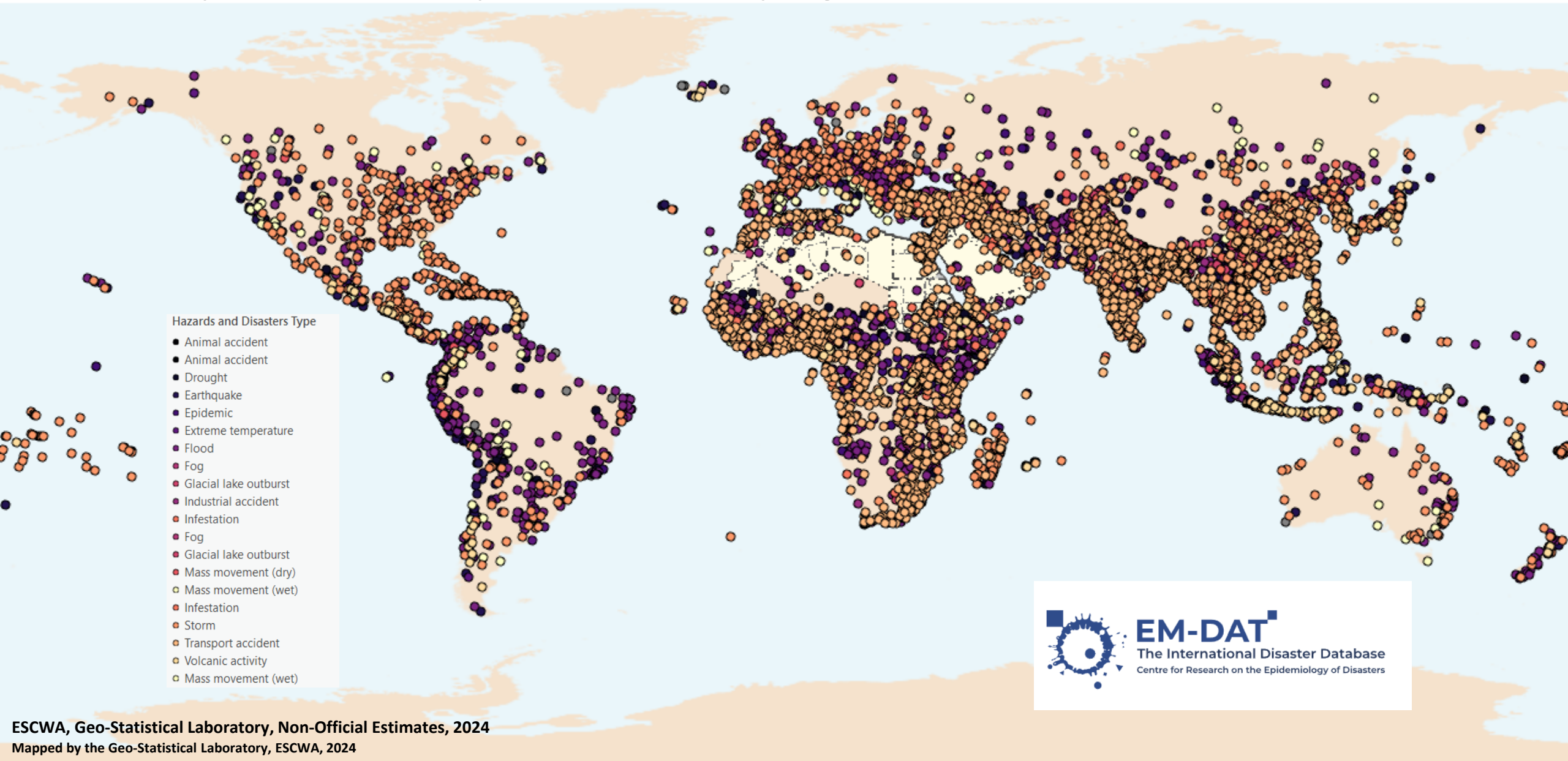




# Sample of Natural Disasters – ESCWA Member States, 1960 – 2018, SEDAC-NASA

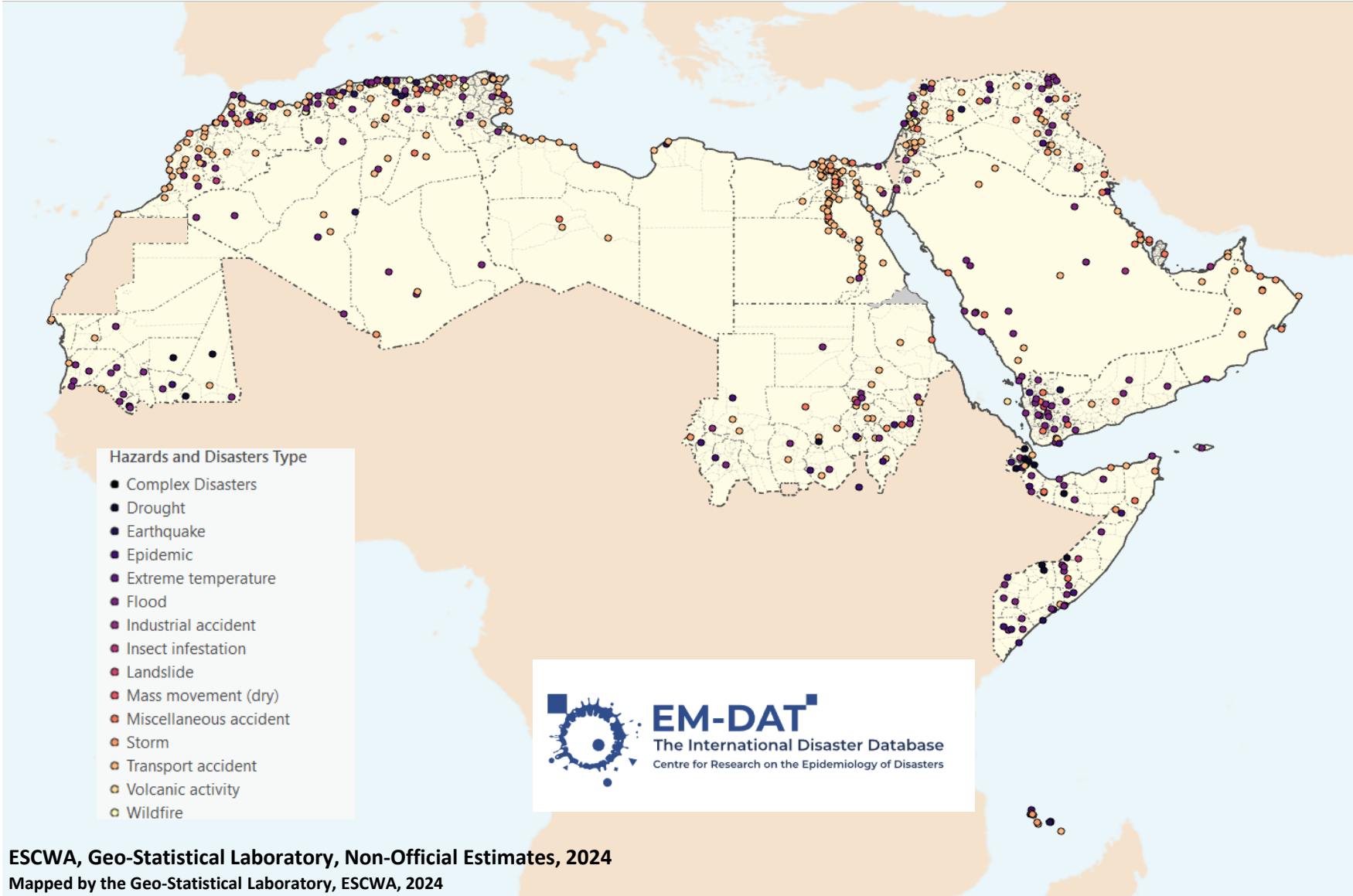


# Sample of Natural and a partial mix of Anthropological disasters, Global, 1900 to 2023, EM-DAT



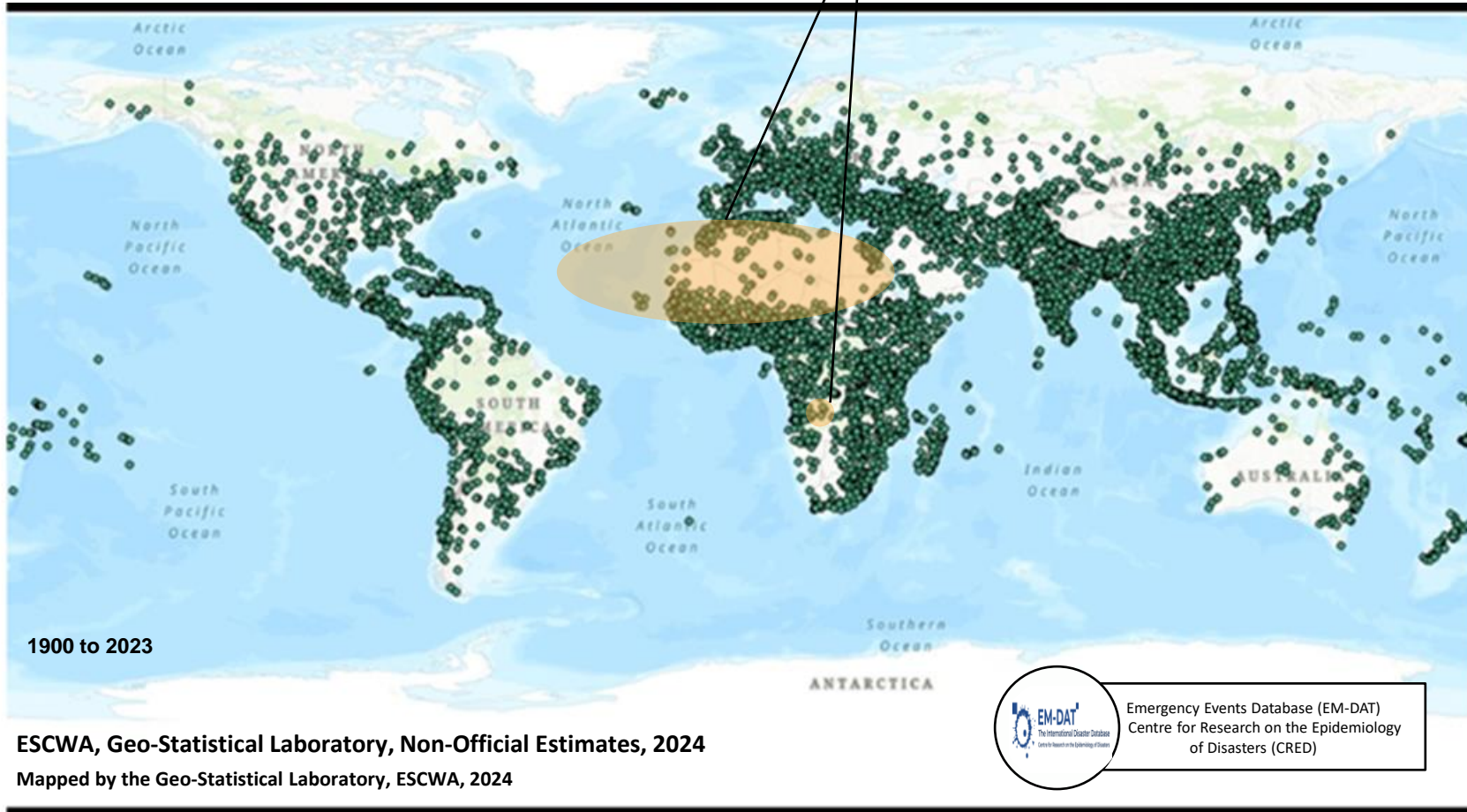
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

# Sample Natural and a partial mix of Anthropological disasters, ESCWA Member States, 1900 to 2023, EM-DAT



# Focus on ESCWA Member States

EM-DAT geo-referenced by the Geo-Statistical Laboratory ESCWA (draft, QC/QA to be followed)





## A summary example, limited coverage, non comprehensive

EM-DAT, 22 Arab States, 1903 - 2023

Figures are Non-Validated, Non-QA/QC

\*\* (Total Injured + Total Affected + Total Homeless = Total Affected) excluding Total Deaths

22 Arab States	Disaster Type	Number of Events	Total Deaths				Total Affected**
				Injured	Affected	Homeless	
	Complex Disasters	3			4,337,214		4,337,214
	Drought	54	189,673		78,150,283		78,150,283
	Earthquake	40	25,631	71,820	4,826,753	883,909	5,782,482
	Epidemic	103	28,104	71,178	329,734		400,912
	Extreme temperature	9	112	117	1,031,700		1,031,817
	Flood	293	14,775	22,079	14,759,553	2,601,387	17,383,019
	Industrial accident	34	1,838	11,341	350	4,000	15,691
	Insect infestation	17					
	Landslide	5	172	80	10,000	2,866	12,946
	Mass movement (dry)	4	183	72	300	625	997
	Miscellaneous accident	113	5,388	5,826	27,156	18,335	51,317
	Storm	46	1,354	6,086	896,713	55,800	958,599
	Transport accident	554	18,508	8,477	2,163		10,640
	Volcanic activity	7	25	15	304,000	5,200	309,215
	Wildfire	9	159	370	147,518		147,888
	Sum*	1,291	285,922	197,461	104,823,437	3,572,122	108,593,020



Emergency Events Database (EM-DAT)  
Centre for Research on the Epidemiology  
of Disasters (CRED)

**\*Available recoded EM-DAT data on ESCWA Member States (limited coverage with great potential towards extending the coverage )**

**ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024**



1900-2023

Database  
(~26,000 records)

2 Groups

Disasters

3 Sub-Groups  
17 Types

4 Impacts

Indicators

3 Impacts

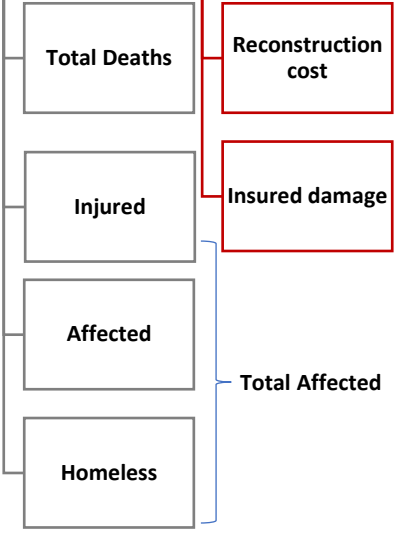
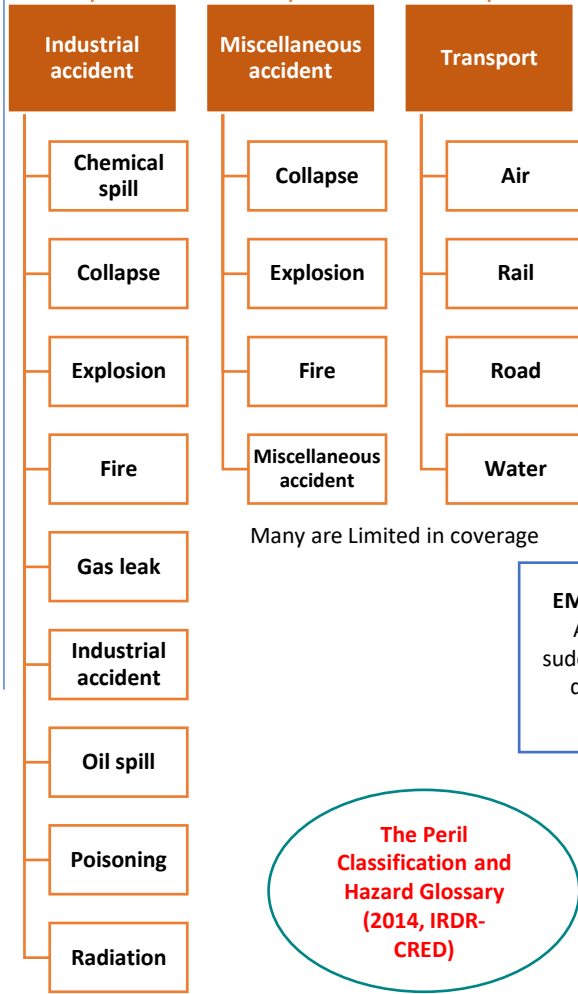
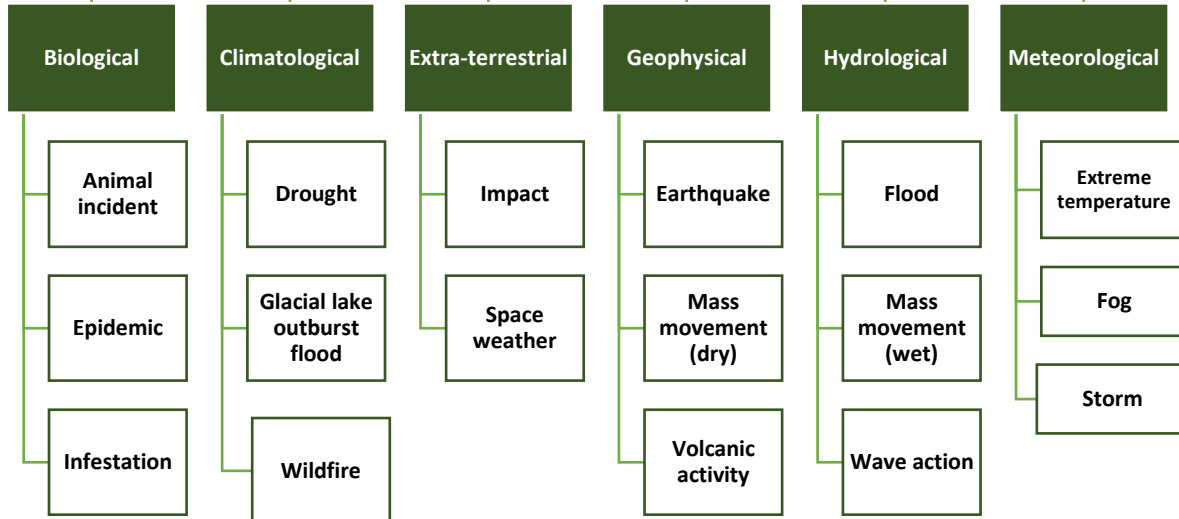
6 Sub-Groups  
17 Types

Natural

Technological

Human

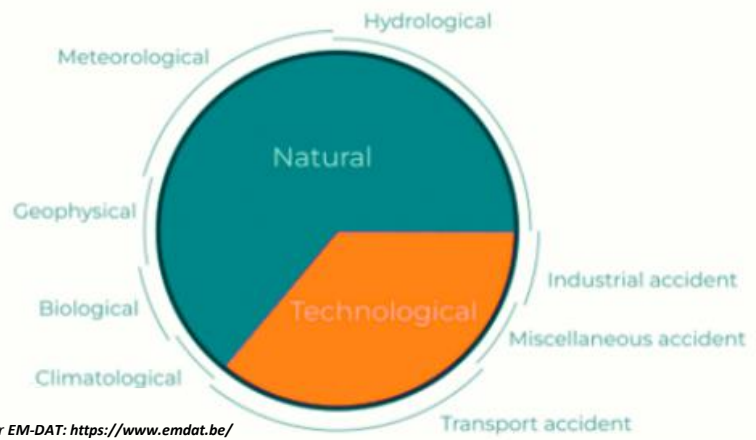
Economic



Many are Limited in coverage

Complex Famine

**EM-DAT's disaster definition**  
An unforeseen and often sudden event that causes great damage, destruction, and human suffering.



After EM-DAT: <https://www.emdat.be/>

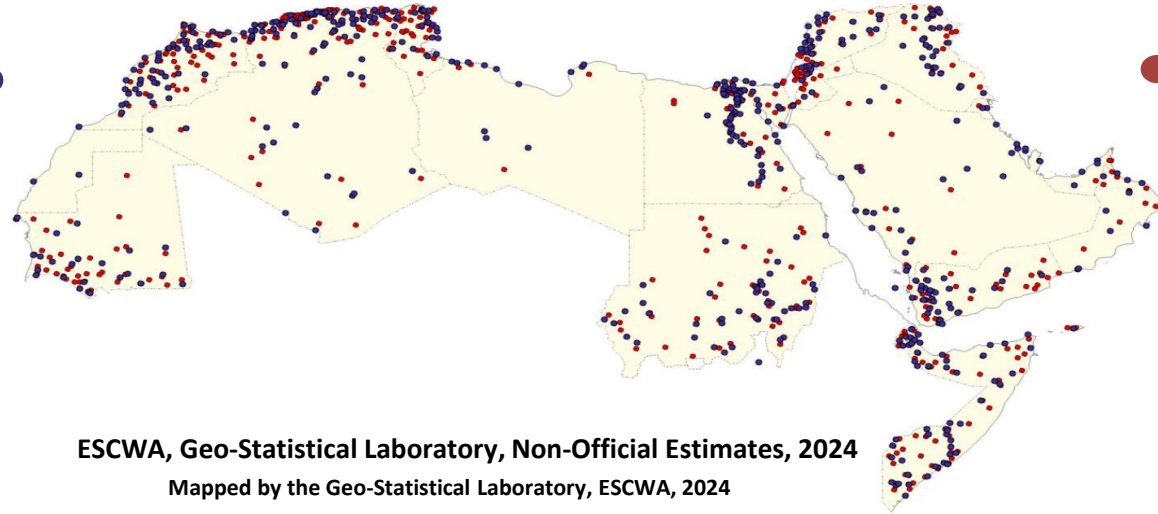
The Peril Classification and Hazard Glossary (2014, IRDR-CRED)



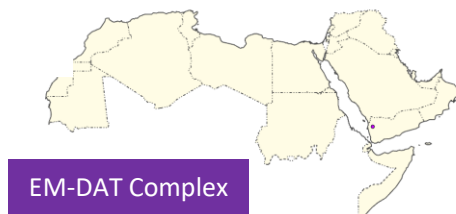
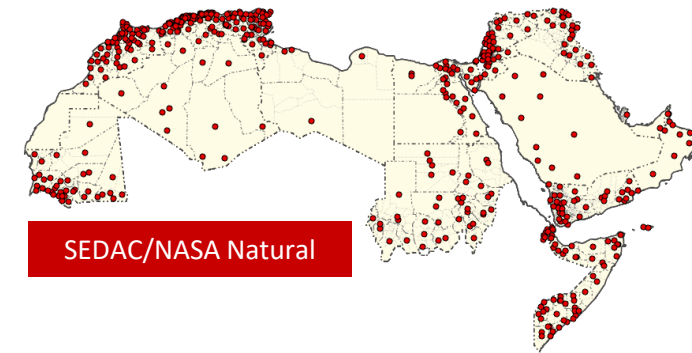
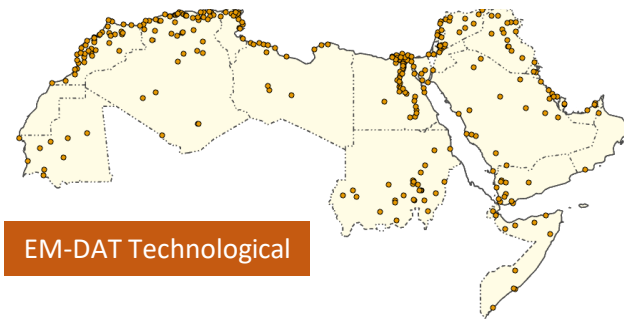
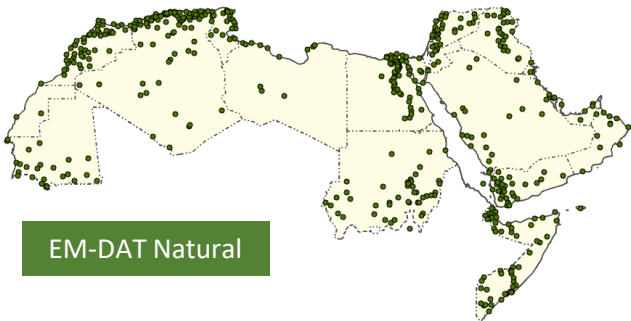
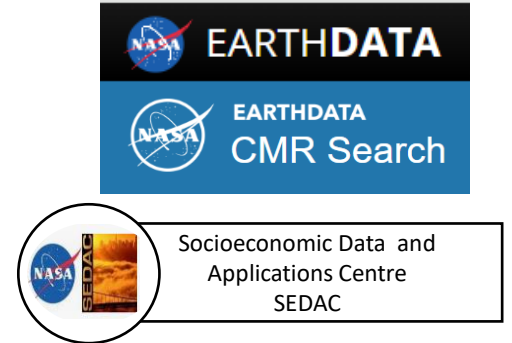
Hazard Information Profiles (2023, HIPs-CRED)  
+300 hazards

# Natural Disasters: Arab Region (reconciliation and disaggregation needed for double counts within/between EM-DAT and SEDAC-NASA)

Data from EM-DAT

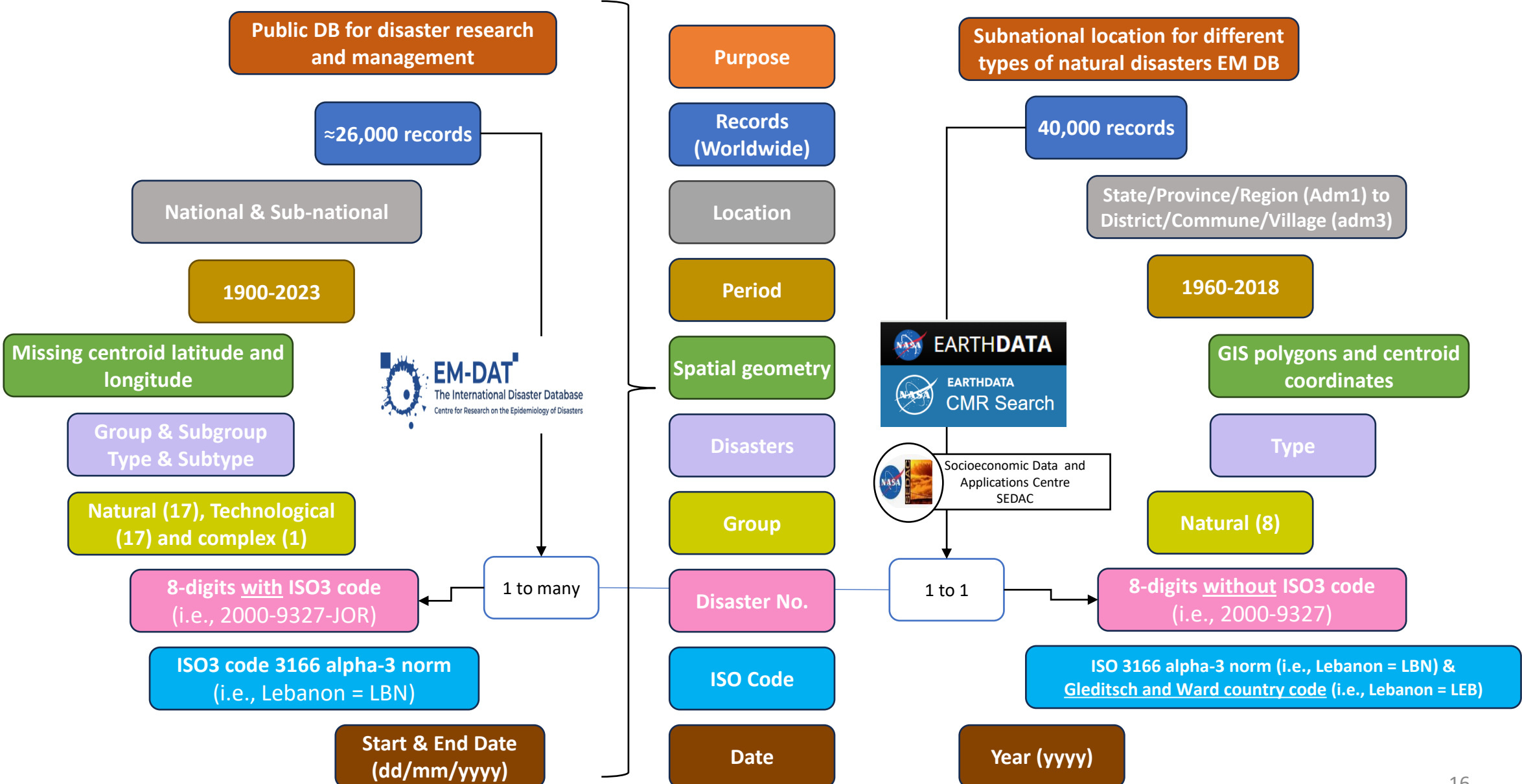


Data from NASA



\* The coverage provided in the natural disaster data, especially in road accidents, are **limited** and **do not provide a comprehensive count** of events.

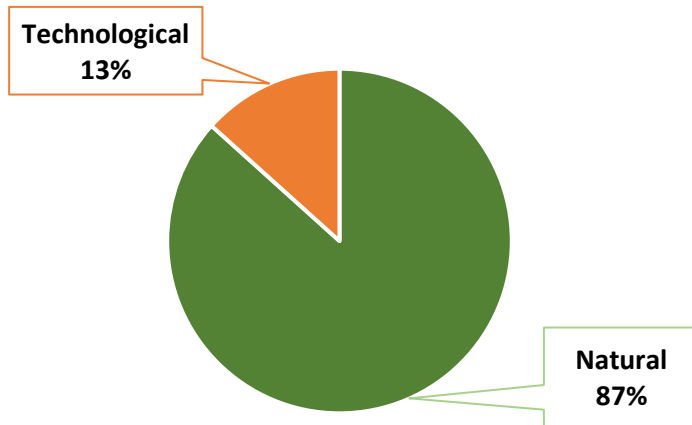
# Comparison between EM-DAT Database & NASA-SEDAC Geocoded Disasters Dataset





# A limited Statistics, Lebanon Example, 1955 – 2023, non comprehensive, non-official

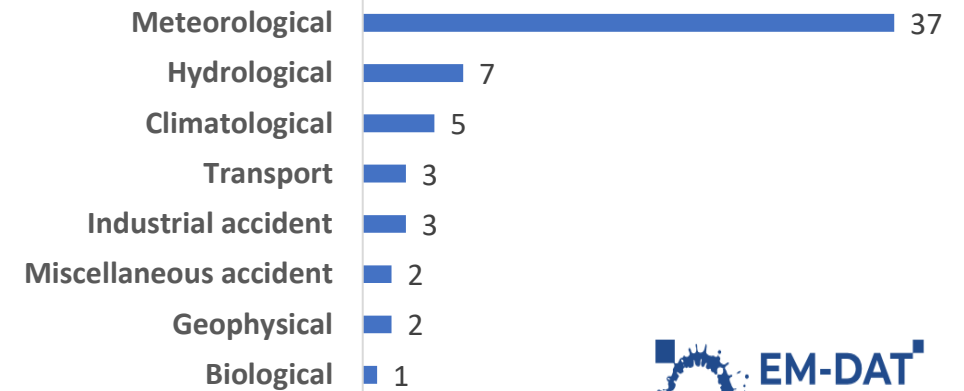
Lebanon Disaster **Group**  
1955-2023



طوفان طرابلس عام 1955 ، زوال جسر السوق التاريخي

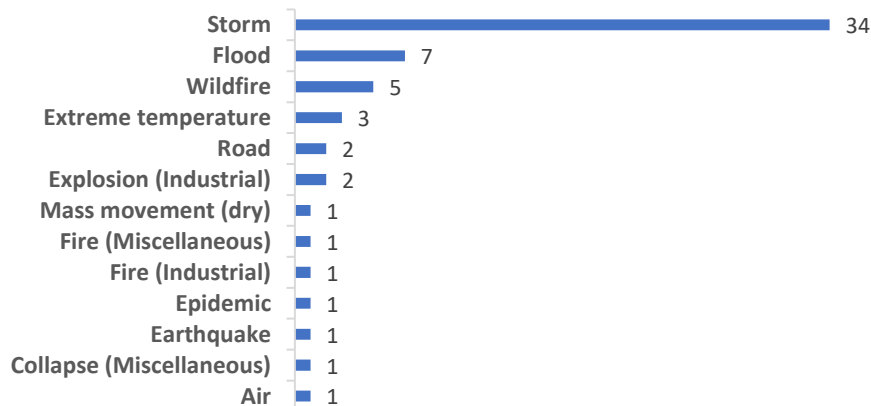
Flood in Tripoli, 1955 (1<sup>st</sup> record)

Lebanon disaster **Sub-Group**  
1955-2023



\* There are a total of only 60 events registered for Lebanon in EM-Dat; further collaboration with Gov agencies are needed.

Lebanon disaster **Type**  
1955-2023



Disaster Type	Total Deaths	Disaster Type	Total Affected
Air	90	Bacterial disease	803
Blizzard/Winter storm	42	Blizzard/Winter storm	1105017
Collapse (Miscellaneous)	10	Cold wave	1024200
Explosion (Industrial)	238	Collapse (Miscellaneous)	27
Fire (Industrial)	14	Explosion (Industrial)	306080
Fire (Miscellaneous)	45	Flood (General)	1500
Flood (General)	440	Forest fire	15
Forest fire	1	Ground movement	200
Ground movement	136	Riverine flood	17000
Landslide (dry)	20	Road	28
Road	24	Sand/Dust storm	750
Sand/Dust storm	3	Severe weather	11009
Severe weather	3	Storm (General)	500

**Total Affected = Injured + Affected + Homeless**

\*Draft estimates, Non-Official Statistics, for review and evaluation by ESCWA member states

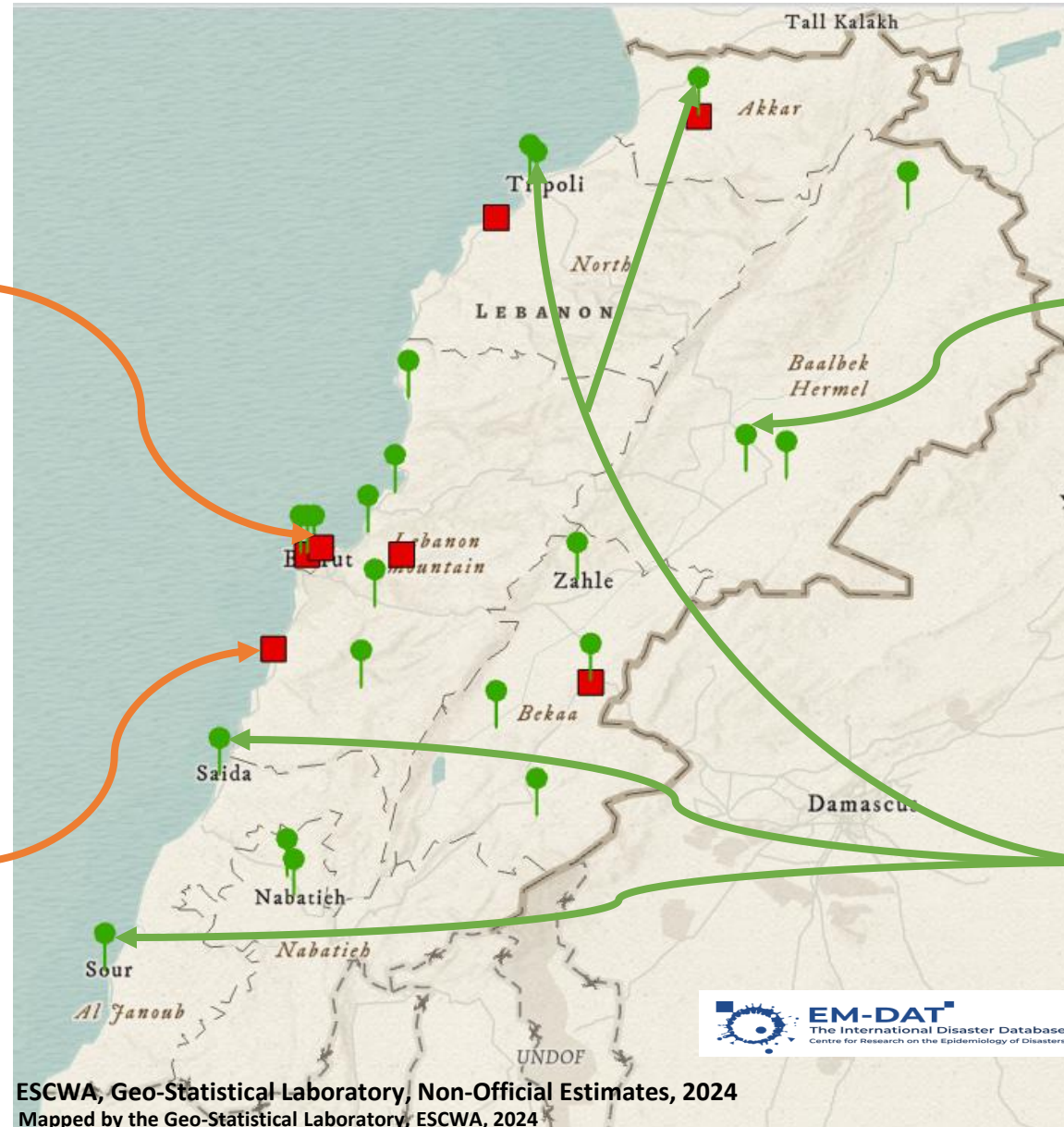
## Technological

# Sample: Mapping Lebanon Disasters\*

## Natural

DisNo.	2020-0313-LBN
Historic	No
Disaster Group	Technological
Disaster Subgroup	Industrial accident
Disaster Type	Explosion (Industrial)
Disaster Subtype	Explosion (Industrial)
External IDs	GLIDE:OT-2020-000177
Event Name	Port warehouse
Location	Port Beirut
Start Year	2020
Start Month	8
Total Deaths	206
No. Injured	6000
No. Homeless	300000
Total Affected	306000

DisNo.	2010-0035-LBN
Historic	No
Disaster Group	Technological
Disaster Subgroup	Transport
Disaster Type	Air
Disaster Subtype	Air
External IDs	GLIDE:OT-2010-000017
Event Name	Being 737-800
Location	Naameh, Lebanon
Start Year	2010
Start Month	1
Total Deaths	90



DisNo.	2015-0427-LBN
Historic	No
Classification Key	nat-met-sto-san
Disaster Group	Natural
Disaster Subgroup	Meteorological
Disaster Type	Storm
Disaster Subtype	Sand/Dust storm
Location	Baalbek, Temnine towns (Baalbeck district, Bekaa province)
Start Year	2015
Start Month	9
Total Deaths	3
No. Injured (Affected)	750
Dis.No.	2015-0002-LBN
Historic	No
Disaster Group	Natural
Disaster Subgroup	Meteorological
Disaster Type	Storm
Disaster Subtype	Blizzard/Winter storm
External IDs	GLIDE:CW-2015-000002
Event Name	Huda
Location	Saida, Sour districts (South province), Tripoli, Akkar districts (North province)
Start Year	2015
Start Month	1
Total Deaths	2
Affected	Approx.; 100k
Total Affected	100K

ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
 Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

\*Draft map, **Non-Official** mapping. This map is currently undergoing a cleaning process led by the Geo-statistics Lab. It is not an official representation and may be subject to further revisions.

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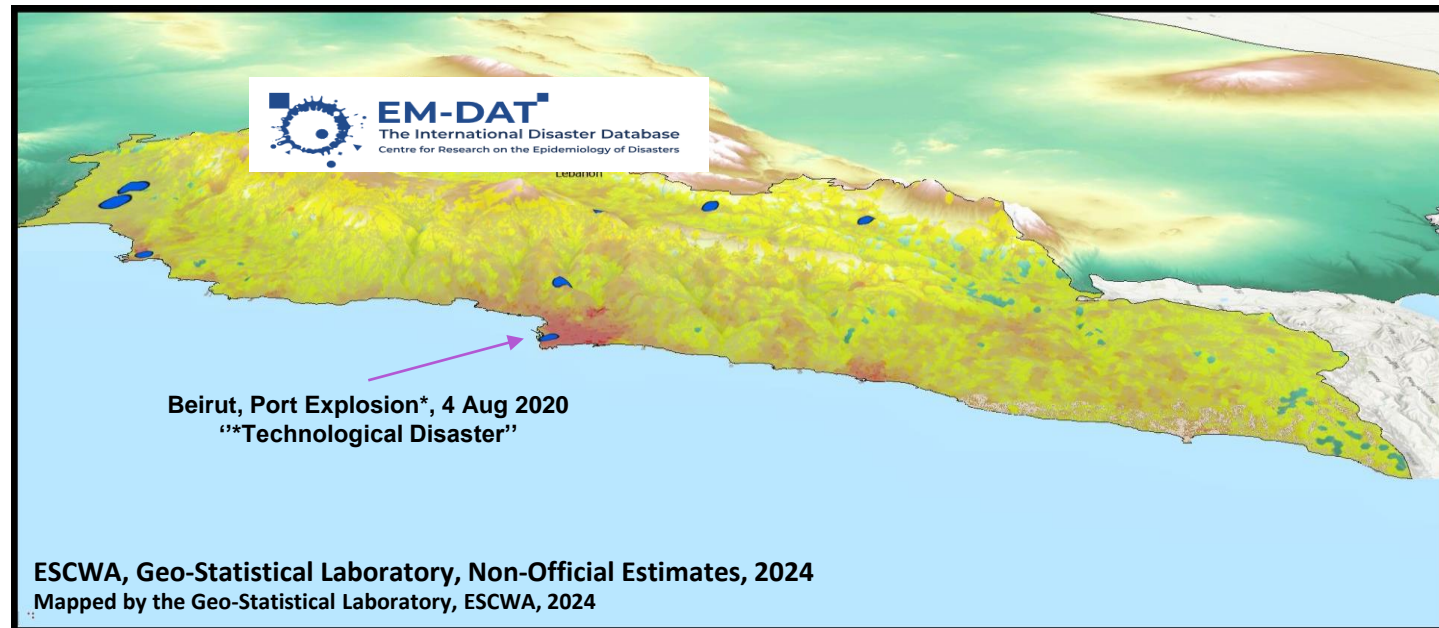


# Example: Lebanon, Natural Disaster Data EM-DAT, 1955 – 2023 Overlaid with Elevation



## Hazards and Disasters Type

- Complex Disasters
- Drought
- Earthquake
- Epidemic
- Extreme temperature
- Flood
- Industrial accident
- Insect infestation
- Landslide
- Mass movement (dry)
- Miscellaneous accident
- Storm
- Transport accident
- Volcanic activity
- Wildfire



Emergency Events Database (EM-DAT)  
Centre for Research on the Epidemiology  
of Disasters (CRED)



# Disaster Location overlaid with Roads

ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



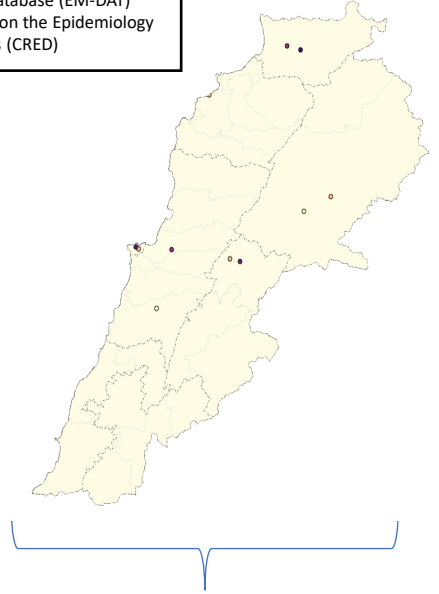
Open Street Maps (OSM)

- Motorway Roads Network (LBN, OSM, 2023)
- Trunk Roads Network (LBN, OSM, 2023)
- Primary Roads Network (LBN, OSM, 2023)
- Secondary Roads Network (LBN, OSM, 2023)
- Tertiary Roads, Tracks, and Paths Network (LBN, OSM, 2023)

Mapped by the Geo-Statistical Laboratory, ESCWA, 2024



Emergency Events Database (EM-DAT)  
Centre for Research on the Epidemiology  
of Disasters (CRED)



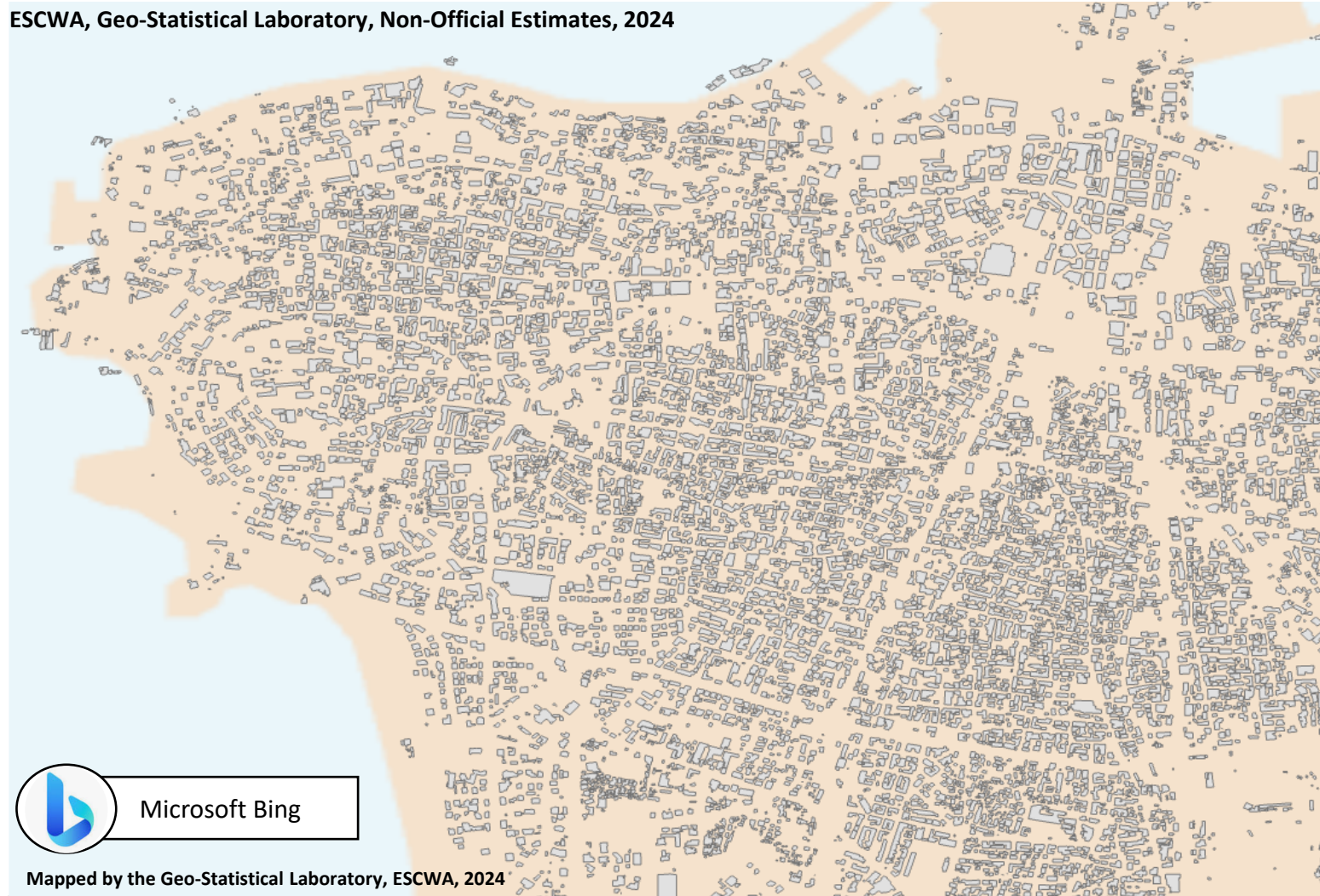
## Hazards and Disasters Type

- Complex Disasters
- Drought
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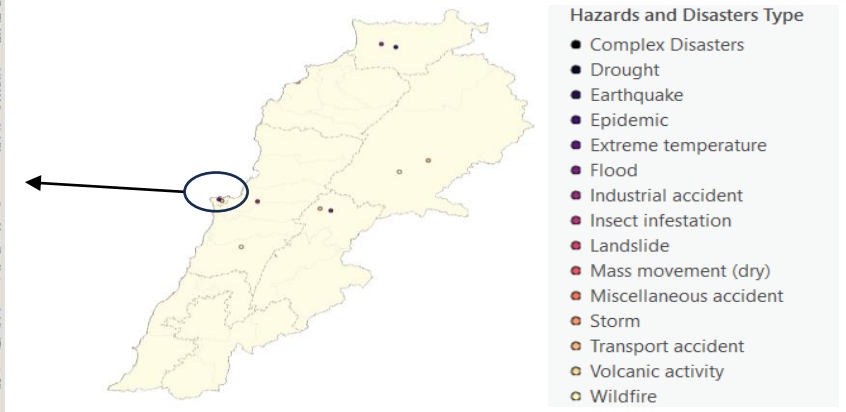


# Buildings, Unclassified, MS-Bing 2022. Example: Mapping Beirut port explosion.

ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024

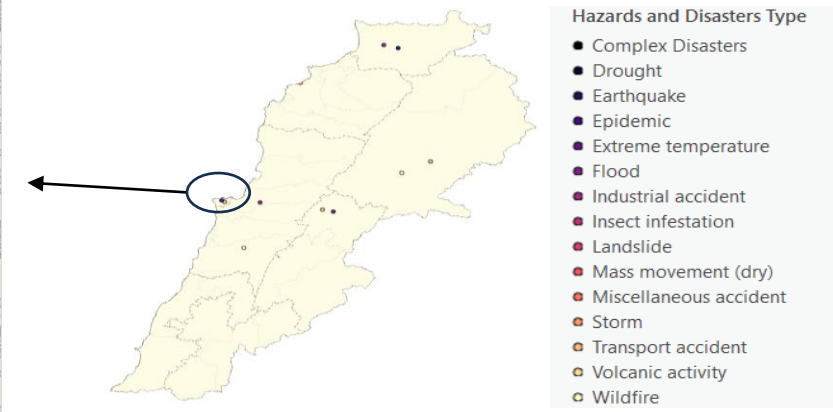
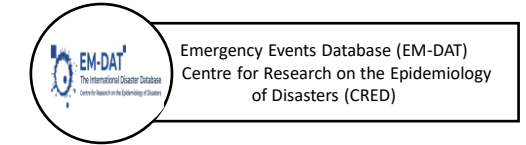
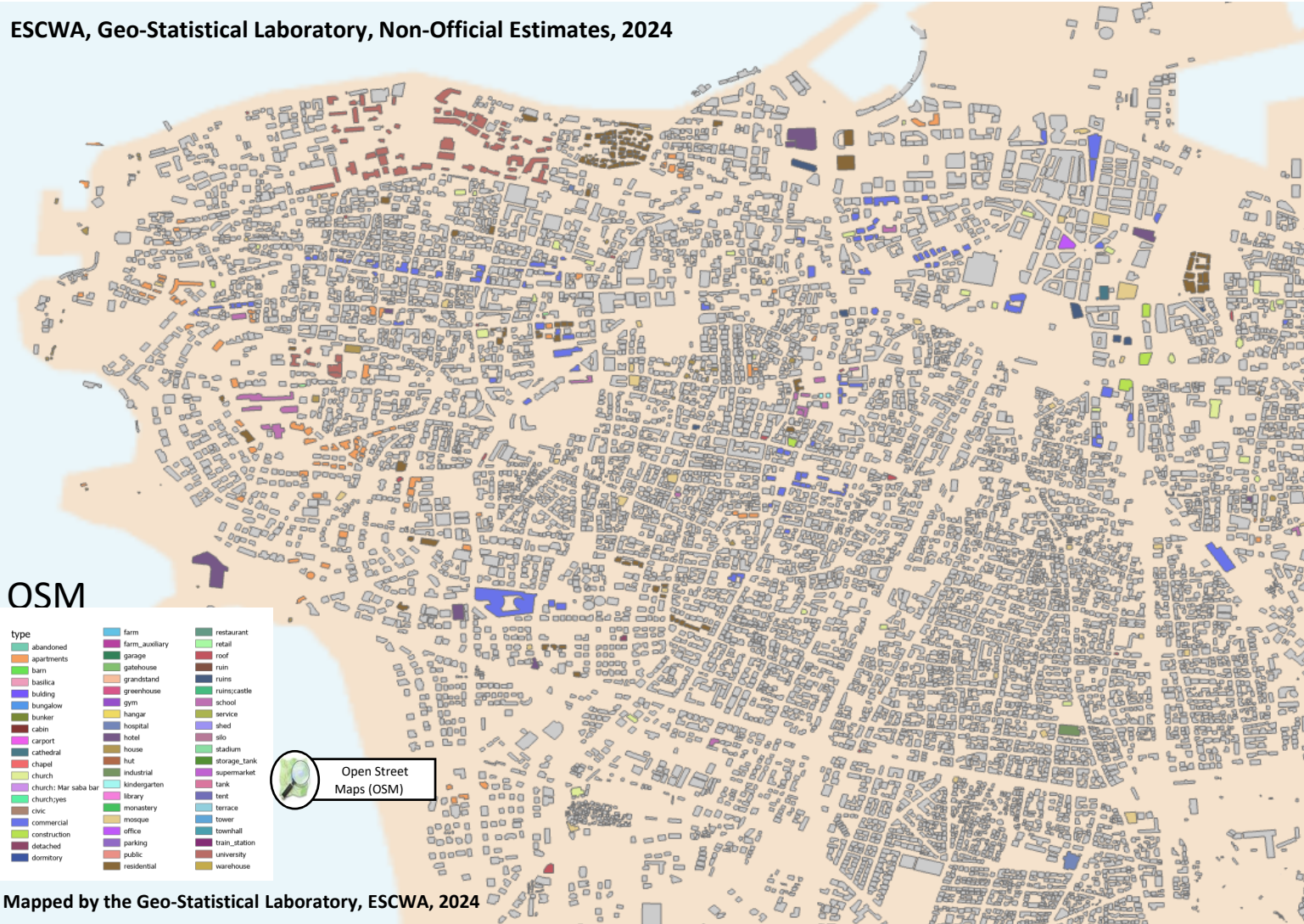


Mapped by the Geo-Statistical Laboratory, ESCWA, 2024



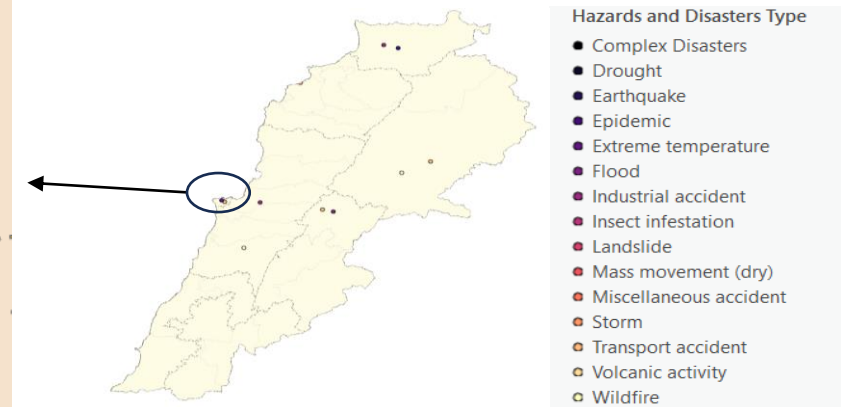
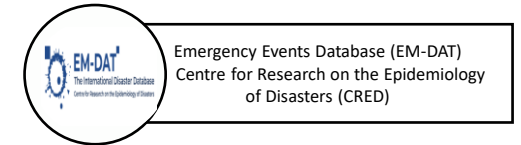
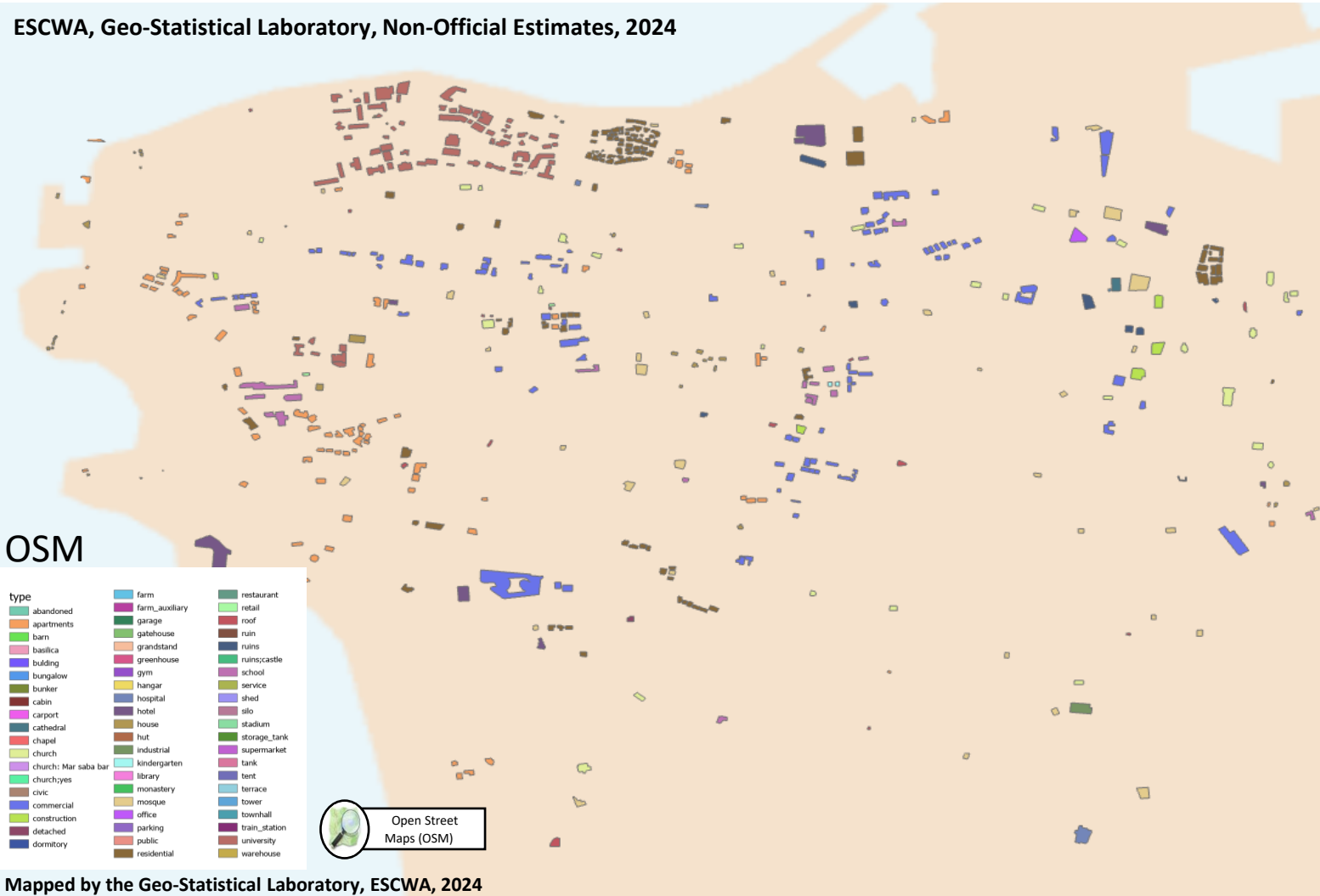
# OSM Buildings are Classified but limited. Validation with member states is critical.

ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



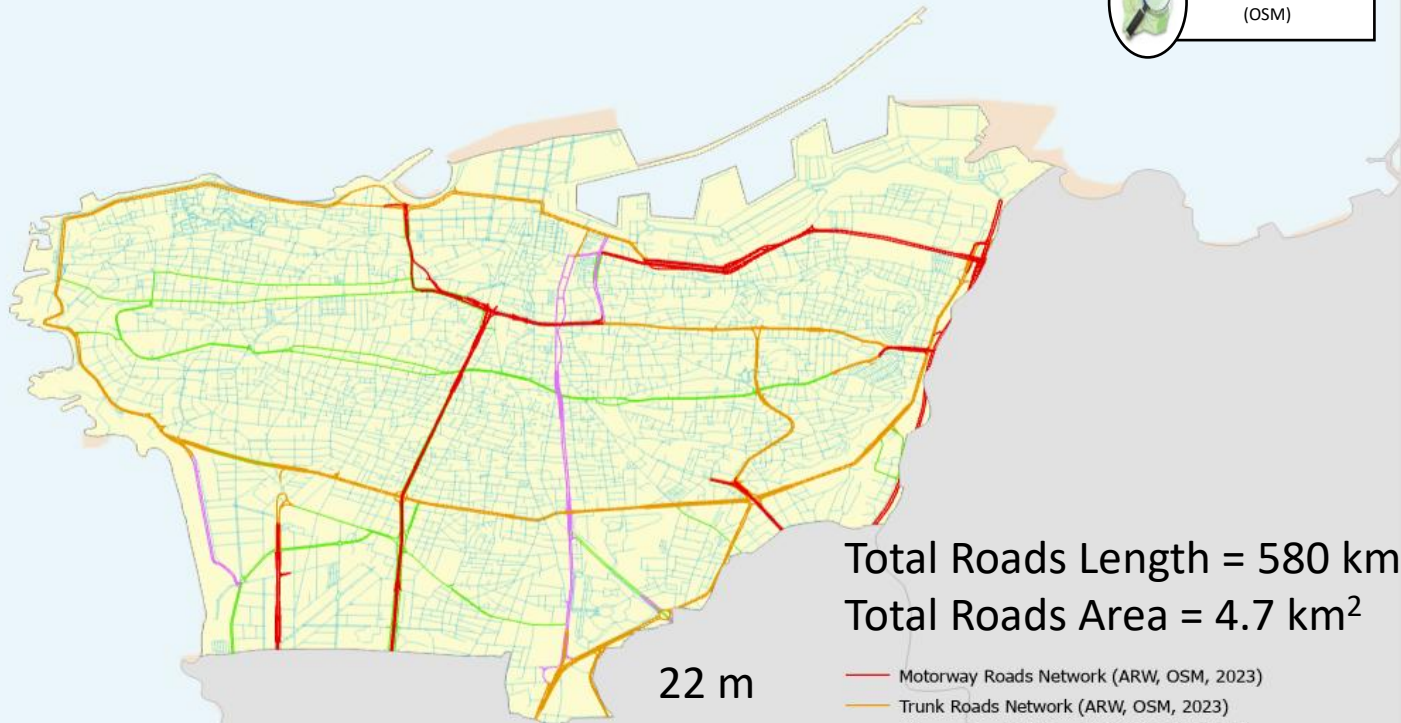


# OSM identifies limited number of building types. Validation with Member States is critical.



# Disaster location with roads

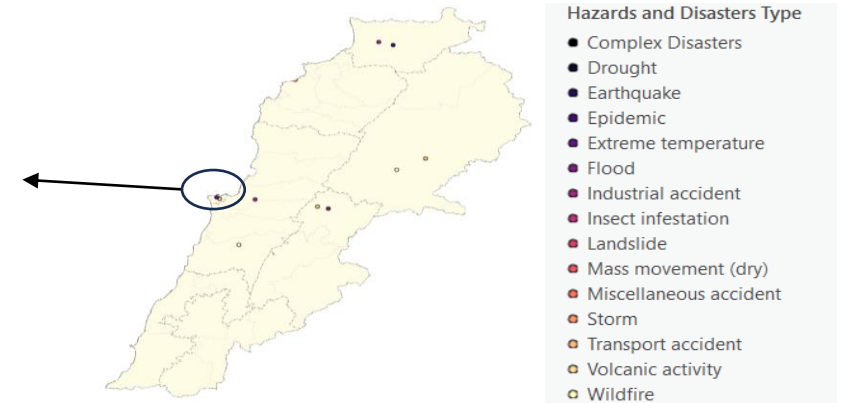
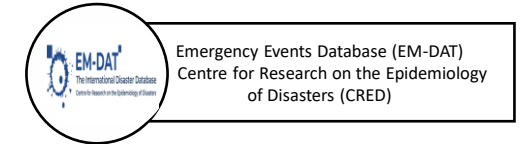
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



Total Roads Length = 580 km  
Total Roads Area = 4.7 km<sup>2</sup>

- 22 m
  - 18 m
  - 12 m
  - 8 m
  - 6 m
- Motorway Roads Network (ARW, OSM, 2023)
  - Trunk Roads Network (ARW, OSM, 2023)
  - Primary Roads Network (ARW, OSM, 2023)
  - Secondary Roads Network (ARW, OSM, 2023)
  - Tertiary Roads, Tracks, and Paths Network (ARW, OSM, 2023)
  - Beirut\_District

Mapped by the Geo-Statistical Laboratory, ESCWA, 2024



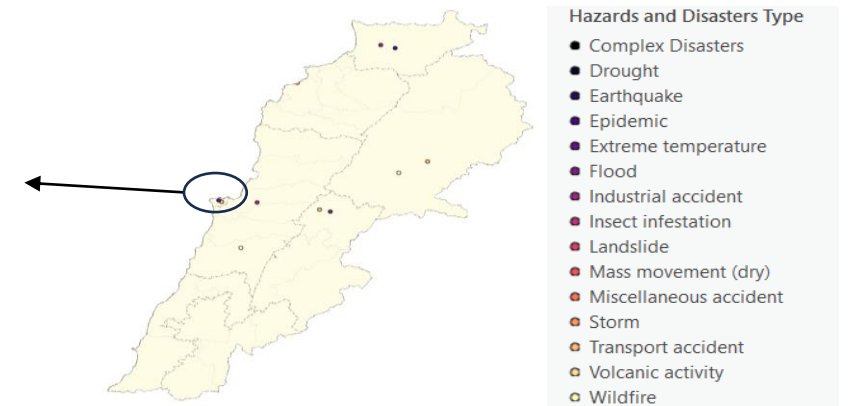
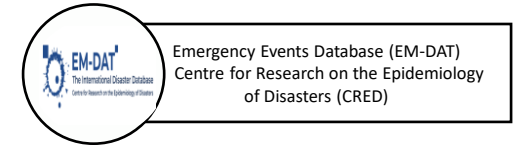
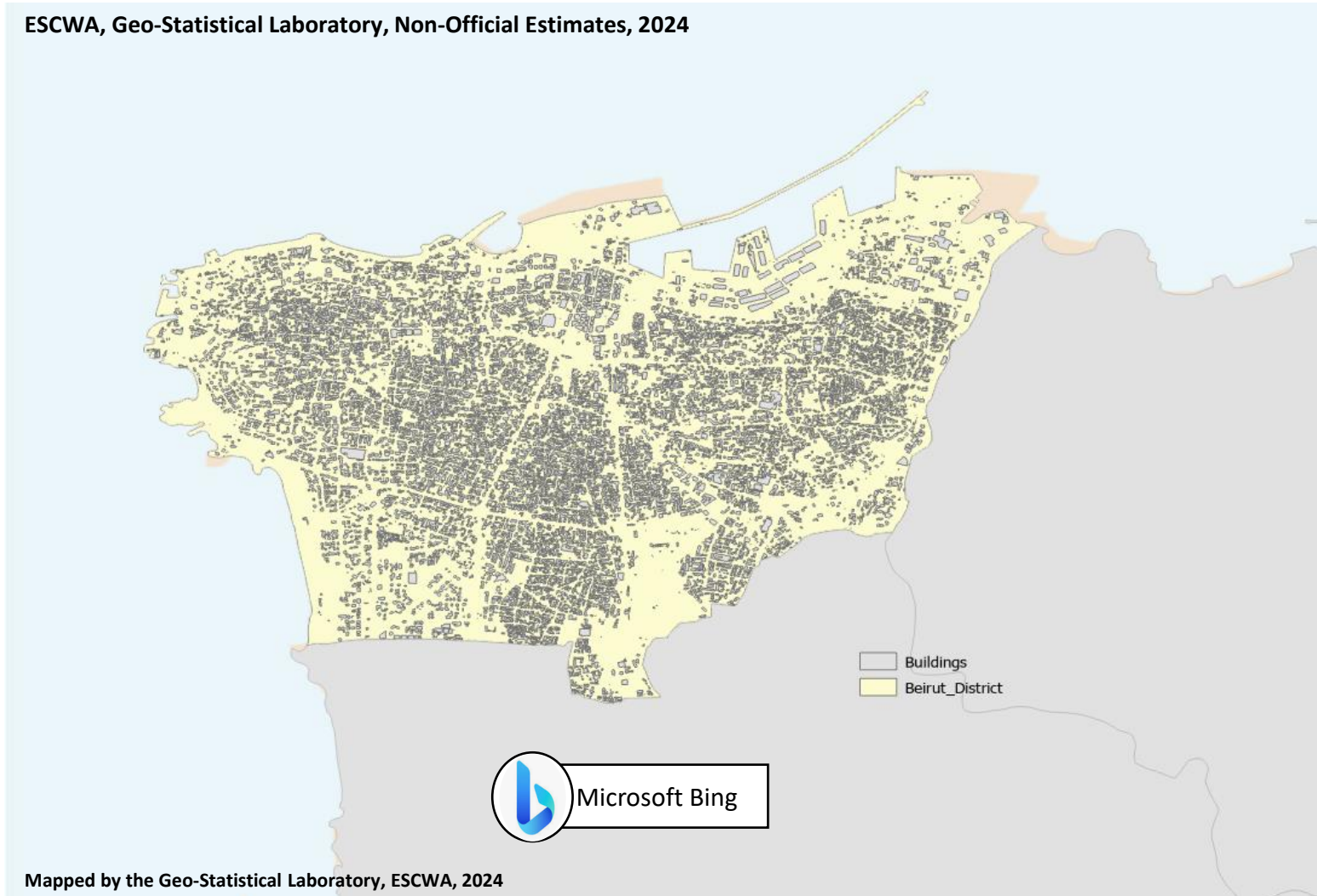
### Hazards and Disasters Type

- Complex Disasters
- Drought
- Earthquake
- Epidemic
- Extreme temperature
- Flood
- Industrial accident
- Insect infestation
- Landslide
- Mass movement (dry)
- Miscellaneous accident
- Storm
- Transport accident
- Volcanic activity
- Wildfire



# Disaster location with buildings

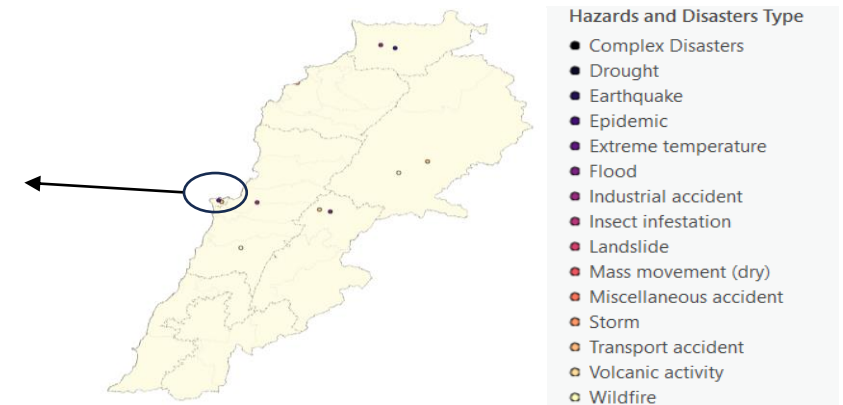
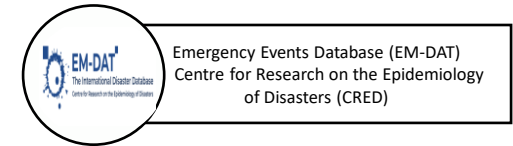
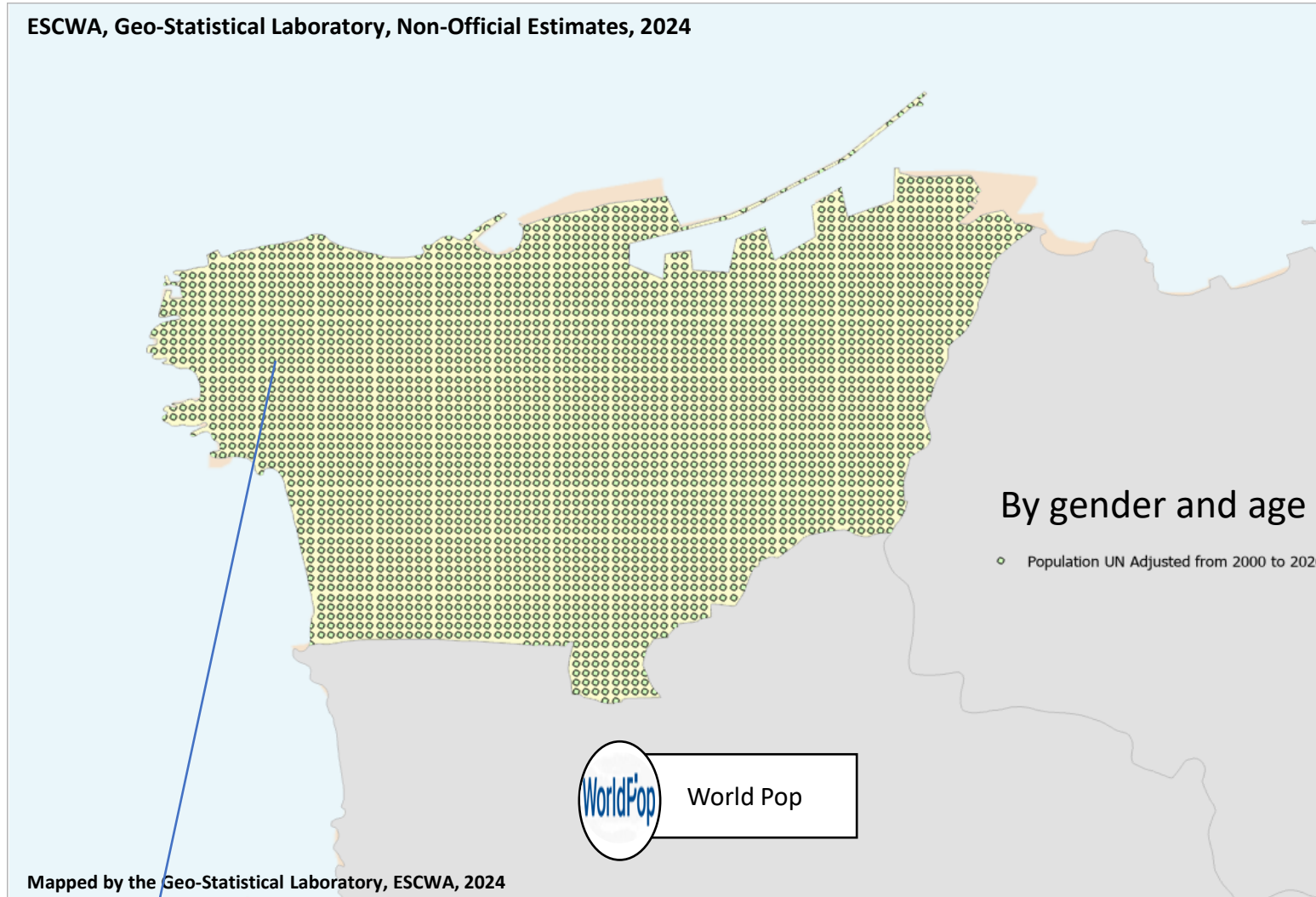
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



Total Number of Buildings = 13,750  
Total Surface Area of Buildings = 4.8 km<sup>2</sup>

# Disaster location with population

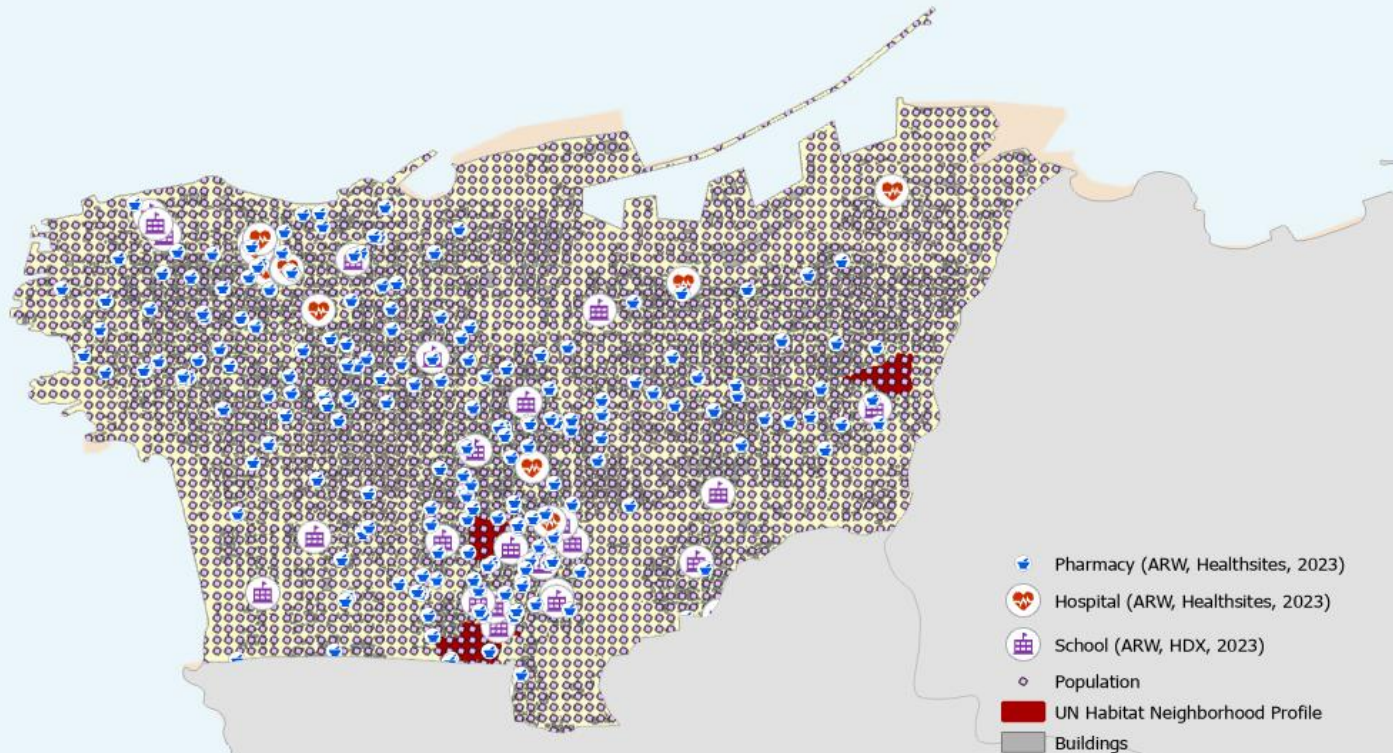
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



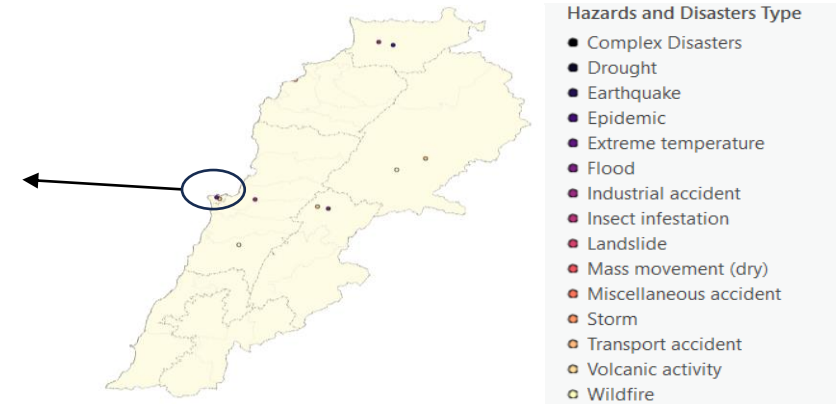
Each dot represents a 100 m x 100 m grid where population is estimated by gender and age

# Disaster location with health care facilities, schools, population, and some disadvantaged neighborhoods

ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



EM-DAT  
The International Disaster Database  
Centre for Research on the Epidemiology  
of Disasters (CRED)



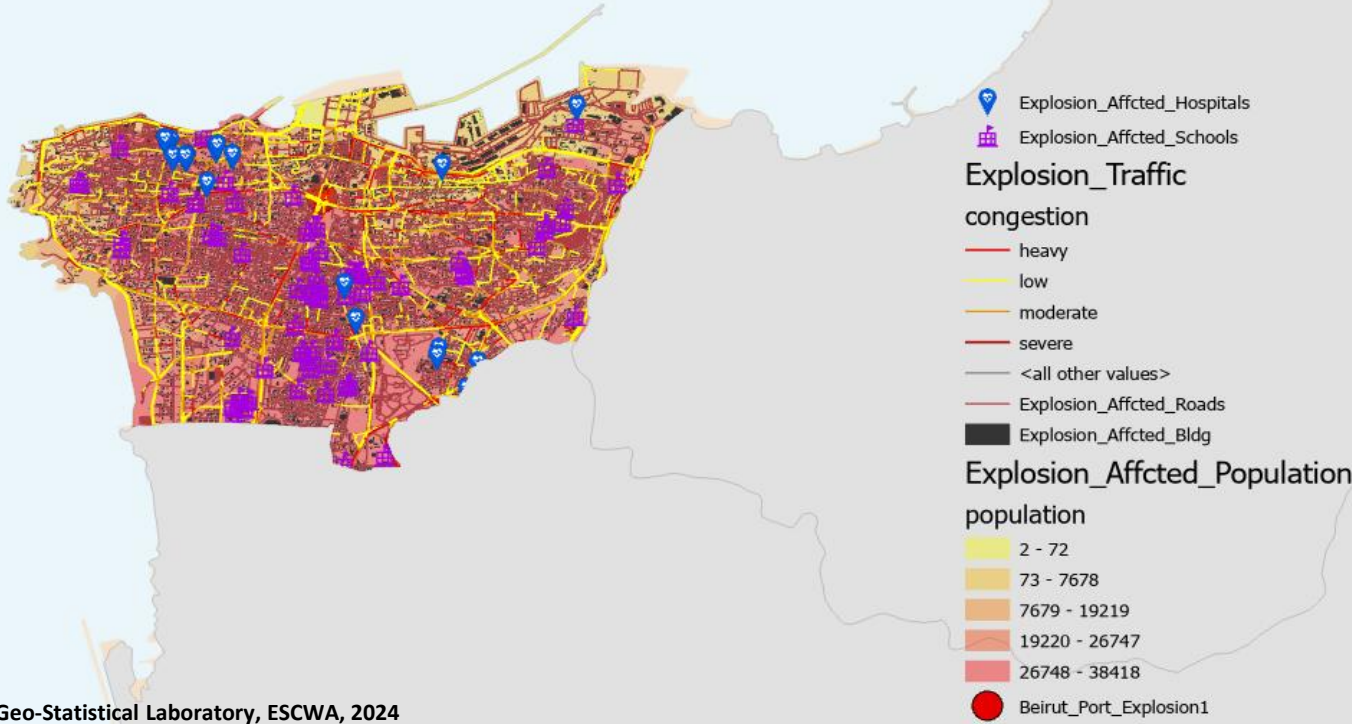
Open Street Maps (OSM) | WorldPop | Microsoft Bing | United Nations Human Settlements Program (UN-Habitat) | HDX Humanitarian Data Exchange (HDX)

Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

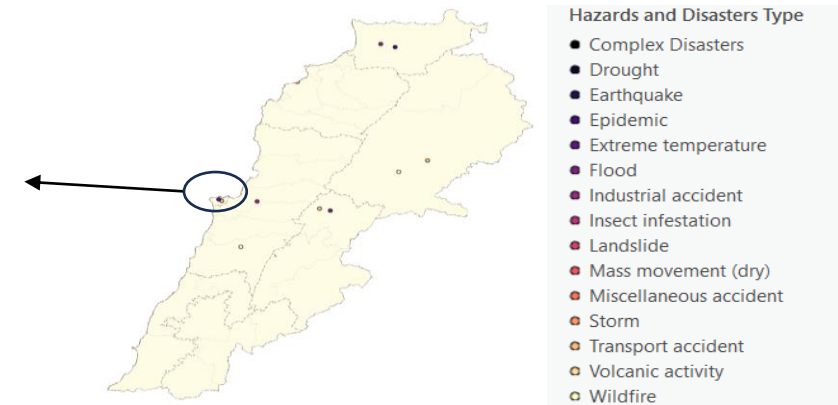
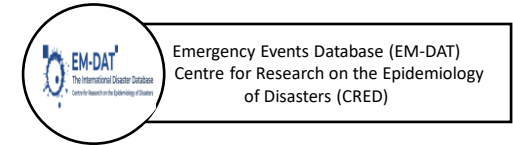


# Beirut port explosion mapped over many other open-source geo-data

ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024



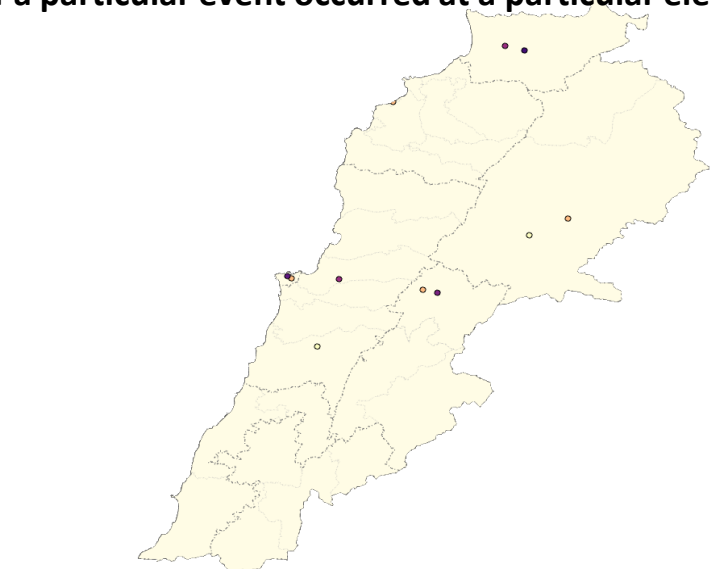
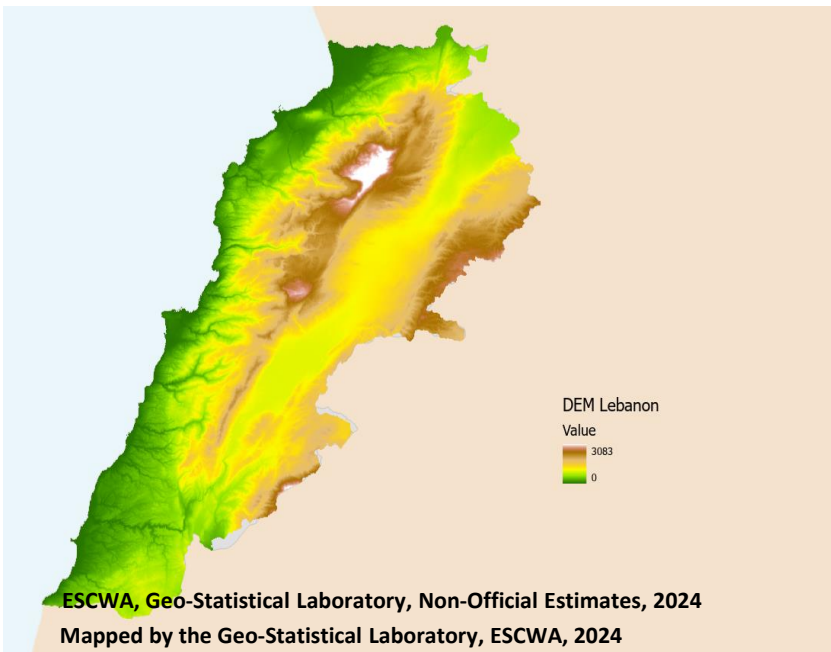
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024





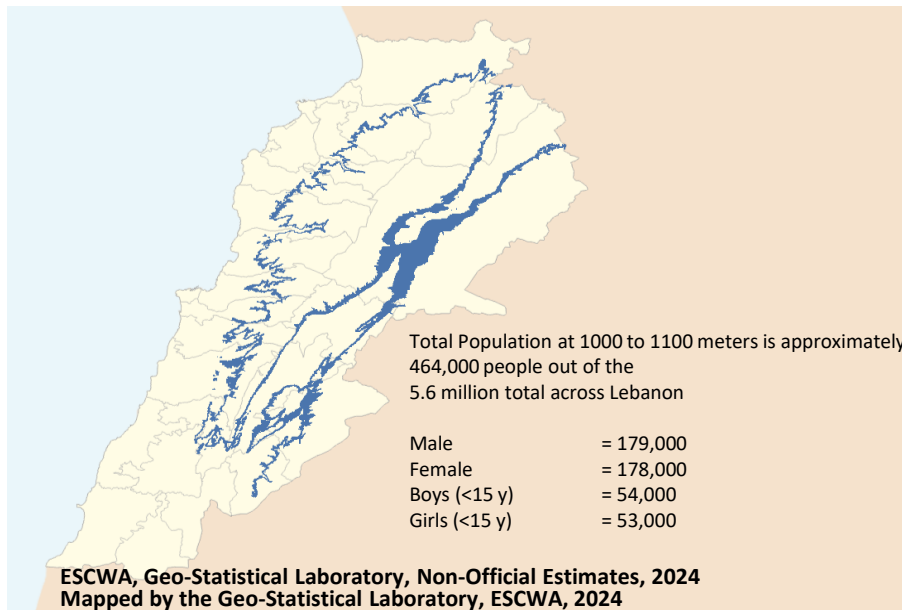
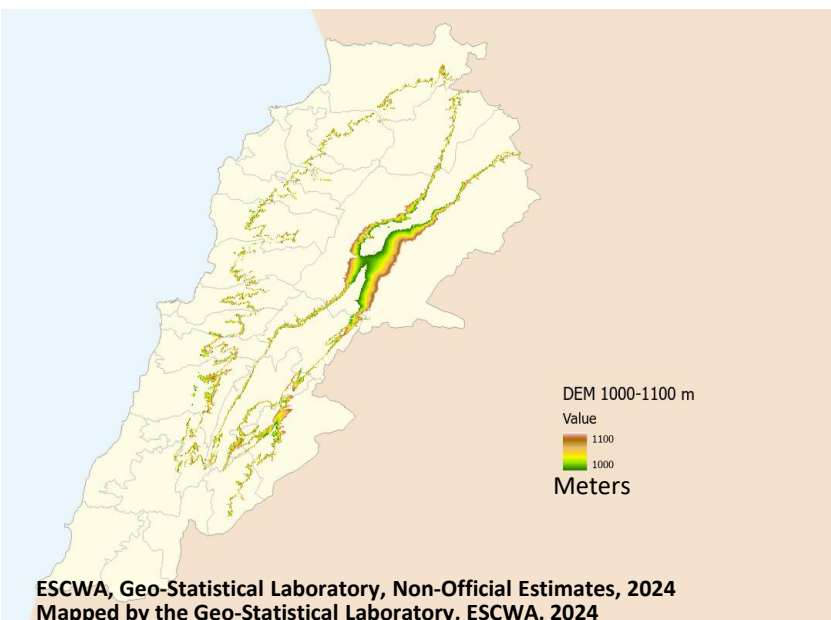
Integrating multiple sources of geo-layers helps answer policy questions.

For example: how many people would be impacted if a particular event occurred at a particular elevation.



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

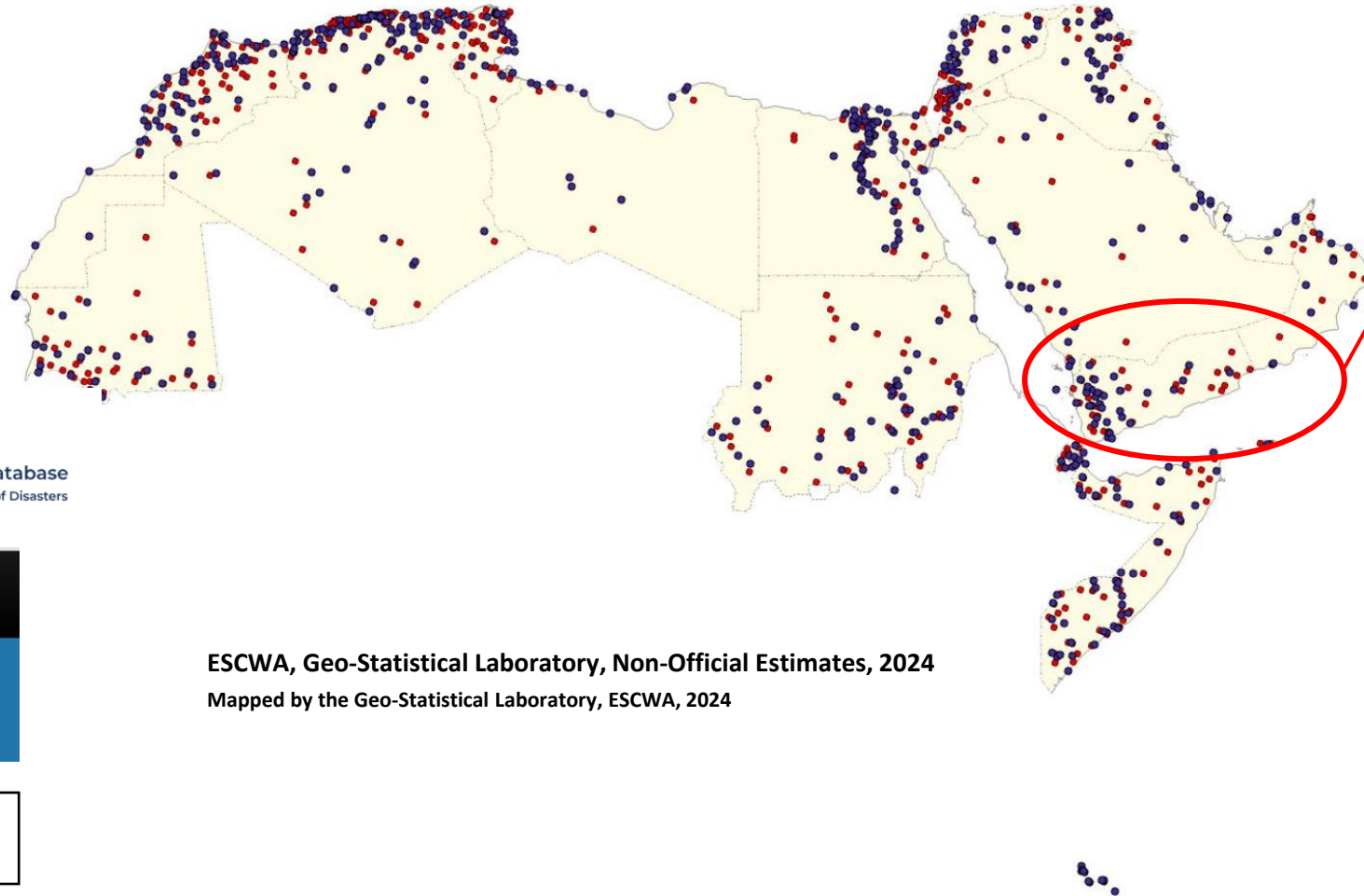
- Hazards and Disasters Type
- Complex Disasters
  - Drought
  - Earthquake
  - Epidemic
  - Extreme temperature
  - Flood
  - Industrial accident
  - Insect infestation
  - Landslide
  - Mass movement (dry)
  - Miscellaneous accident
  - Storm
  - Transport accident
  - Volcanic activity
  - Wildfire



+

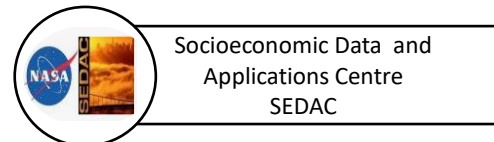


# A limited Statistics, Yemen Example, 1991 – 2023, non comprehensive, non-official



In Yemen, between 1991 and 2023, there were some 59 recorded natural disasters (based on the list below), as available in open data sources.\*

- Earthquake
- Epidemic
- Flood
- Landslide
- Storm
- Volcanic activity



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

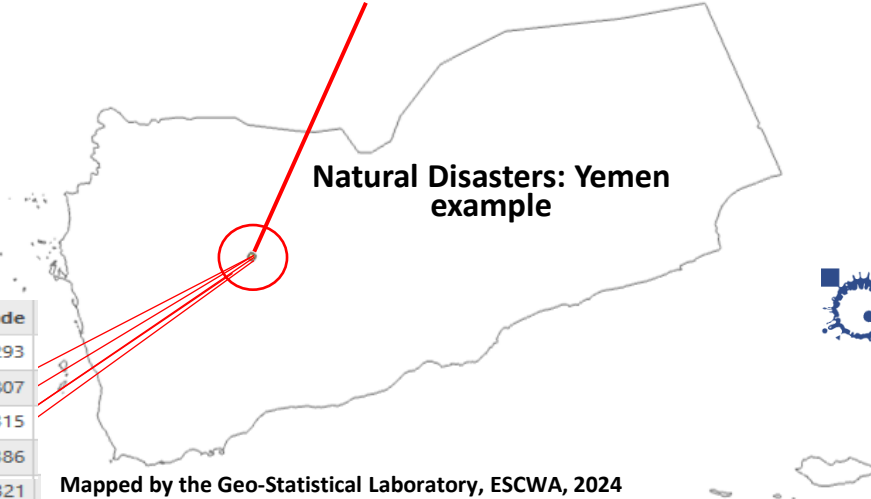
Example : one of the largest and most costly natural disasters in Yemen (1996) is mapped and disaggregated from one location to many.

Such a map is presented below by the Geo-Statistical Laboratory.

Total estimated flood damage by EM-DAT is over 2 billion USD.

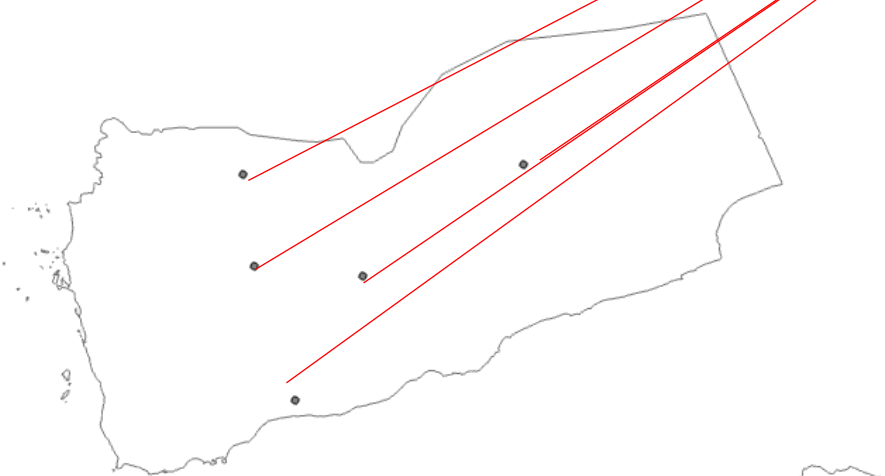
ESCWA’s Geo-Statistical Laboratory disaggregates the central location to the areas listed in the EM-DAT.

The EM-DAT data shows one central location for many events



Full Address	Latitude	Longitude
Yemen Shabwa	15.369026	47.027293
Yemen Mareb	15.515888	45.449807
Yemen Hadhramout	16.930414	49.365315
Yemen Al jawf	16.790182	45.299386
Yemen Abyan	13.634341	46.056321

Mapped by the Geo-Statistical Laboratory, ESCWA, 2024



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

Dis No	1996-0134-YEM
Year	1996
Disaster Group	Natural
Disaster Subgroup	Hydrological
Disaster Type	Flood
Disaster Subtype	Riverine flood
Country	Yemen
ISO	YEM
Region	Western Asia
Continent	Asia
Location	Shabwa, Mareb, Hadhramout, Aljawf, El Jouf, Abin Governorates
Latitude	15.515888
Longitude	45.449807
Origin	Heavy rain
AID Contribution ('000 US\$)	10381
Dis Mag Value	191000
Dis Mag Scale	Km2
Start Year	1996
Start Month	6
Start Day	13
End Year	1996
End Month	6
End Day	25
Total Deaths	338
No Affected	124000
No Homeless	114210
Total Affected	238210
Total Damages ('000 US\$)	1200000
Total Damages, Adjusted ('000 US\$)	2238991
CPI	53.595561

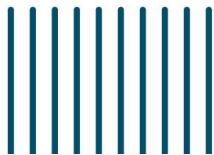


The Armed Conflict Location & Event Data  
Project (ACLED) as a component of  
**Anthropological disasters**



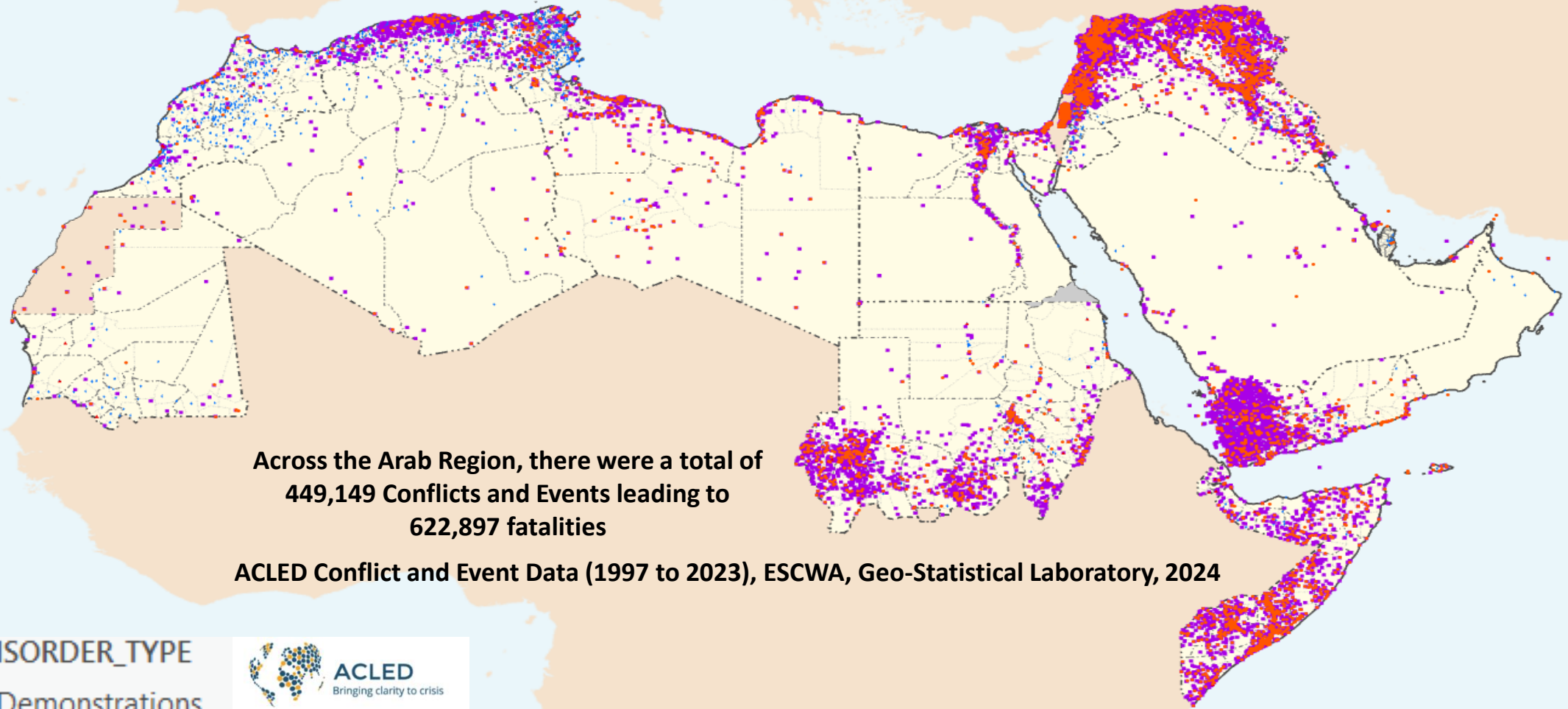


Armed Conflict Location & Event Data Project  
**CODEBOOK**



Event type	Sub-event type	Disorder type
<b>Battles</b>	<i>Government regains territory</i>	<b>Political violence</b>
	<i>Non-state actor overtakes territory</i>	
	<i>Armed clash</i>	
<b>Protests</b>	<i>Excessive force against protesters</i>	<b>Political violence; Demonstrations</b>
	<i>Protest with intervention</i>	<b>Demonstrations</b>
	<i>Peaceful protest</i>	
<b>Riots</b>	<i>Violent demonstration</i>	<b>Political violence</b>
	<i>Mob violence</i>	
<b>Explosions/ Remote violence</b>	<i>Chemical weapon</i>	
	<i>Air/drone strike</i>	
	<i>Suicide bomb</i>	
	<i>Shelling/artillery/missile attack</i>	
	<i>Remote explosive/landmine/IED</i>	
<b>Violence against civilians</b>	<i>Grenade</i>	
	<i>Sexual violence</i>	
	<i>Attack</i>	
<b>Strategic developments</b>	<i>Abduction/forced disappearance</i>	
	<i>Agreement</i>	<b>Strategic developments</b>
	<i>Arrests</i>	
	<i>Change to group/activity</i>	
	<i>Disrupted weapons use</i>	
	<i>Headquarters or base established</i>	
	<i>Looting/property destruction</i>	
	<i>Non-violent transfer of territory</i>	
<i>Other</i>		

# Visualizing Fatalities, Violence, Battles, Protests and Explosions, ESCWA Member States



**Across the Arab Region, there were a total of  
449,149 Conflicts and Events leading to  
622,897 fatalities**

**ACLED Conflict and Event Data (1997 to 2023), ESCWA, Geo-Statistical Laboratory, 2024**

## DISORDER\_TYPE

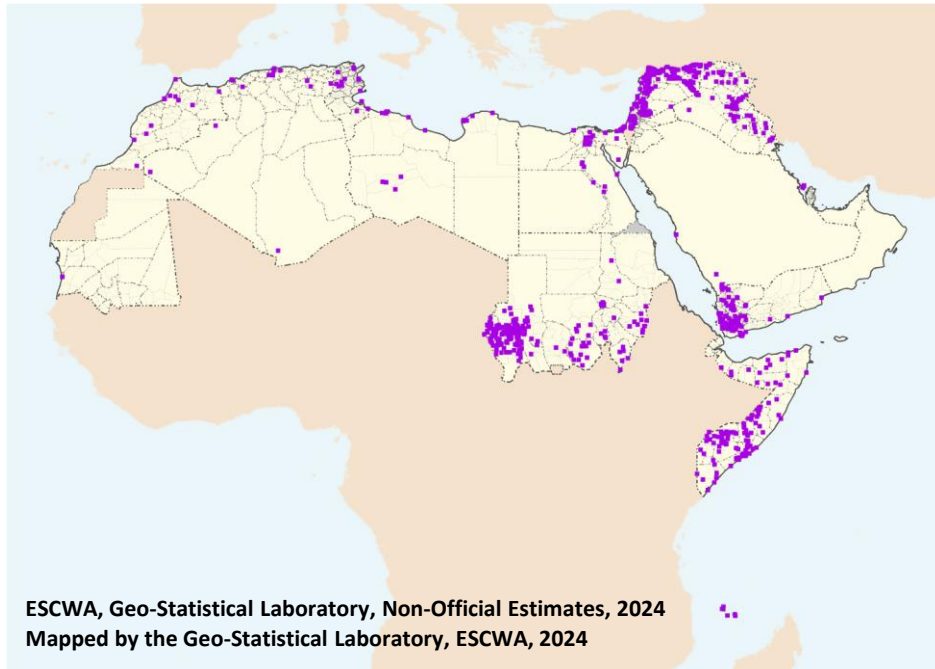
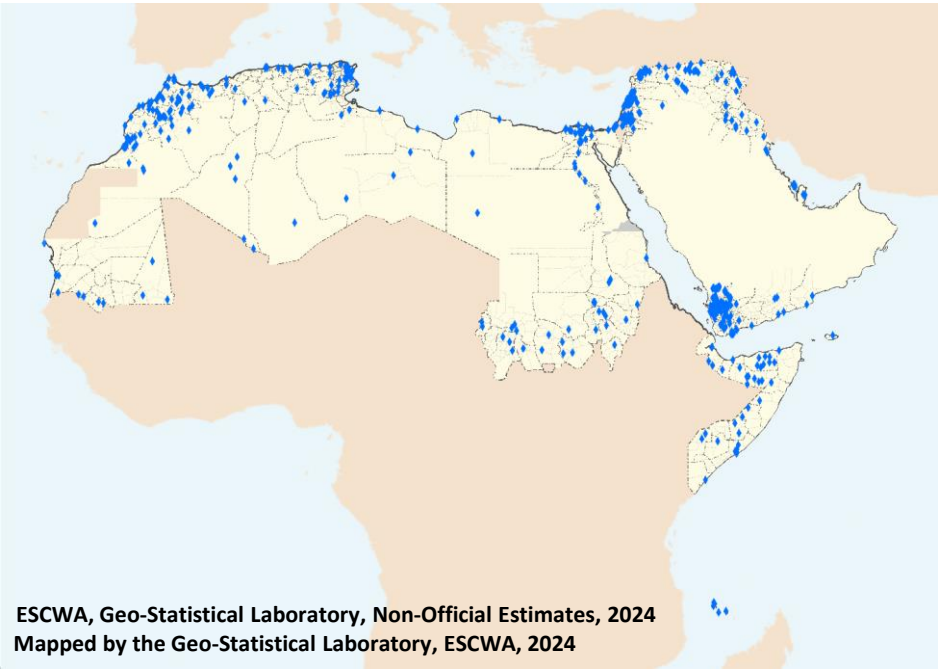
- Demonstrations
- Political violence
- Political violence; Demonstrations
- Strategic developments



Definitions

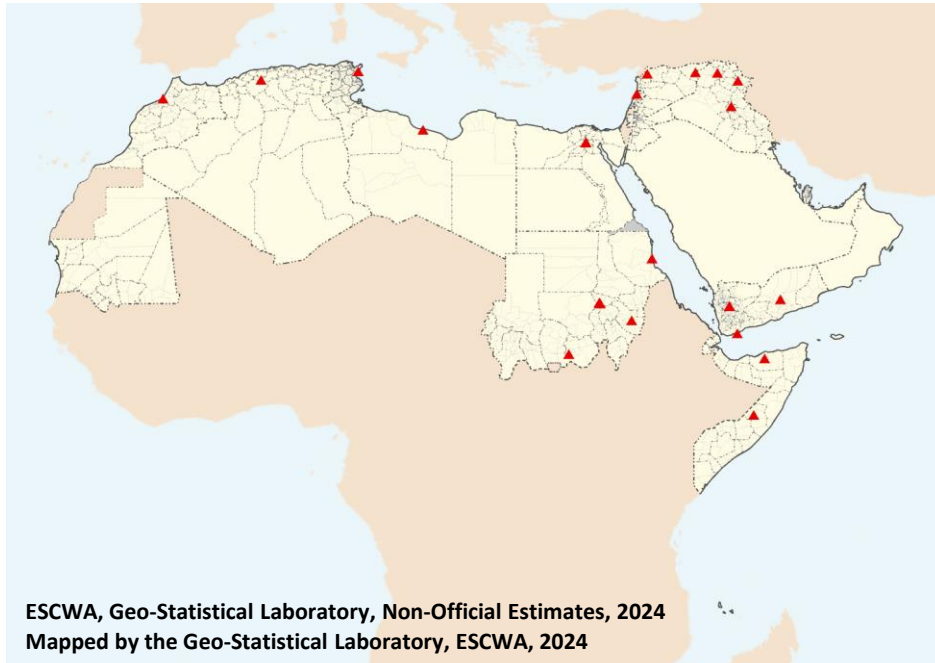
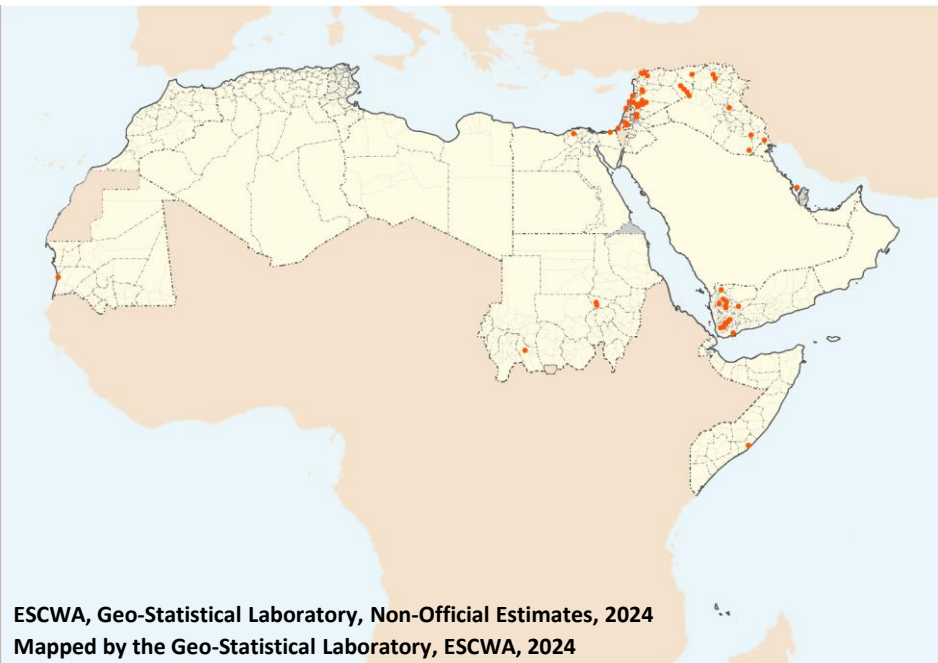
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

The Armed Conflict Location & Event Data Project (ACLED)



**ACLED Conflict and Event Data, 1997 to 2023, ESCWA Member States, Geo-Statistical Laboratory, 2024**

- DISORDER\_TYPE**
- Demonstrations
  - Political violence
  - Political violence; Demonstrations
  - Strategic developments



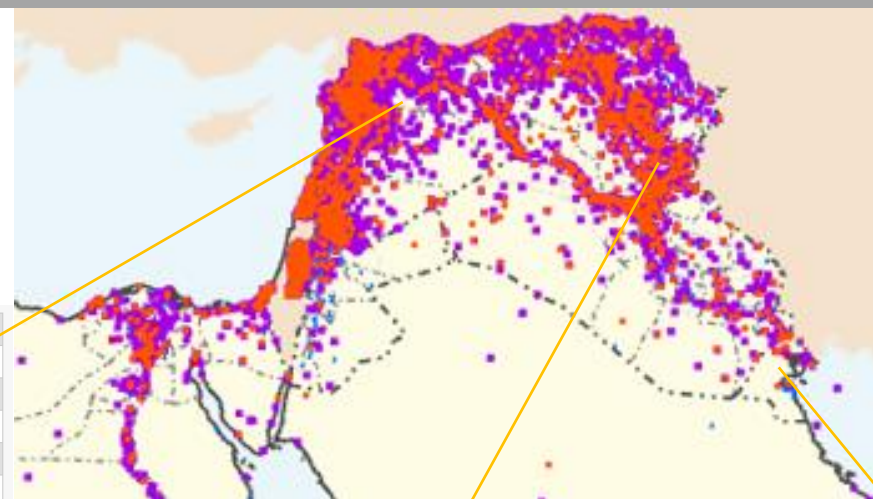


# Attributes of the Geo-Data on Fatalities, Violence, Battles, Protests and Explosions



## DISORDER\_TYPE

- Demonstrations
- Political violence
- Political violence; Demonstrations
- Strategic developments



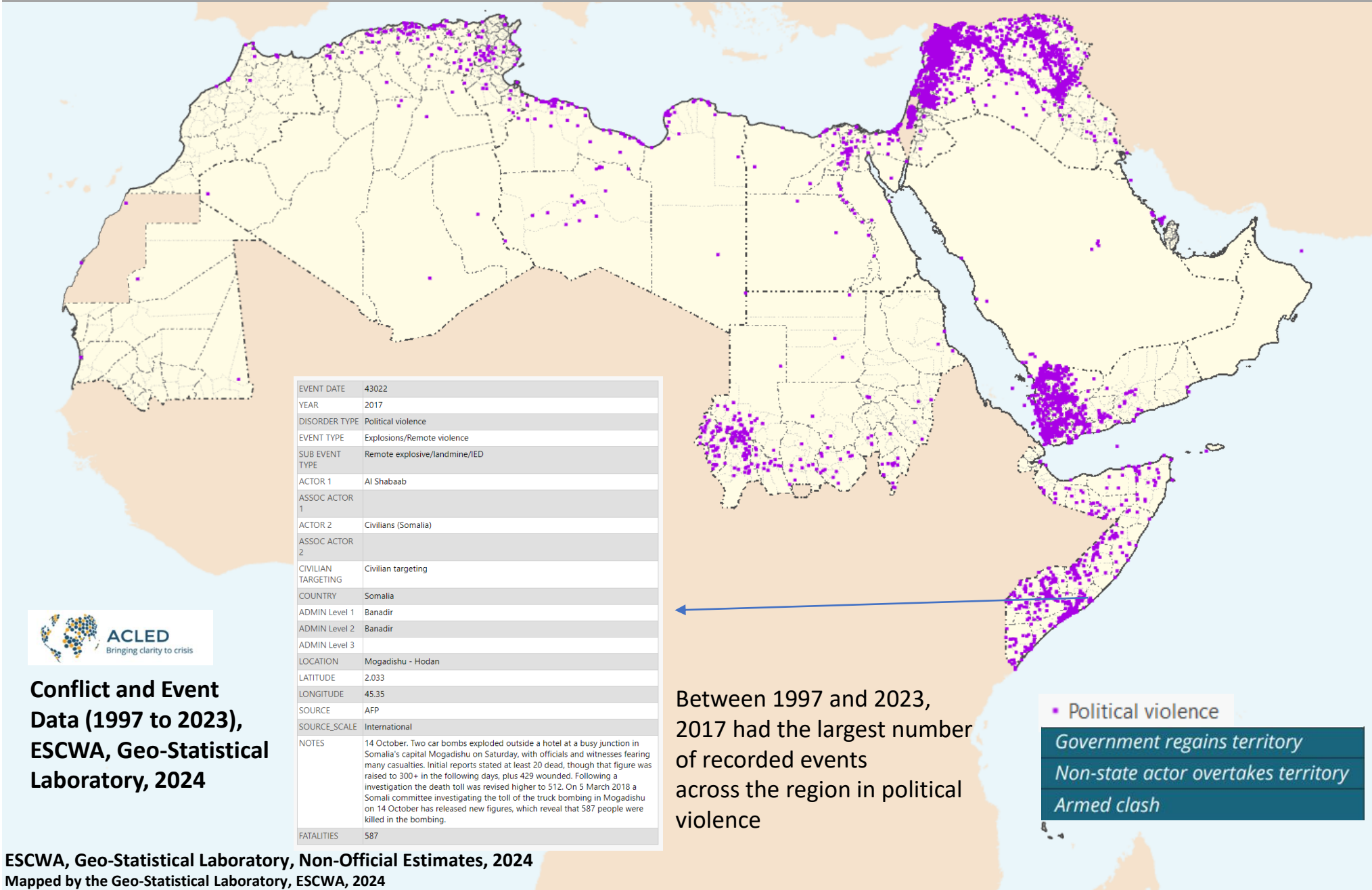
**ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024**

Date	15/11/2022
YEAR	2022
DISORDER TYPE	Political violence
EVENT TYPE	Violence against civilians
SUB EVENT TYPE	Attack
ACTOR 1	Unidentified Armed Group (Syria)
ASSOC ACTOR 1	
ACTOR 2	Civilians (Egypt)
ASSOC ACTOR 2	Women (Egypt); Refugees/IDPs (Egypt)
CIVILIAN TARGETING	Civilian targeting
COUNTRY	Syria
ADMIN Level 1	Al Hasakeh
ADMIN Level 2	Al Hasakeh
ADMIN level 3	Hole
LOCATION	Hole Camp
LATITUDE	36.377
LONGITUDE	41.133
SOURCE	Facebook; SHAAM; SNHR; SOHR
SOURCE_SCALE	Local partner-Other
NOTES	Around 15 November 2022 (as reported), 2 Egyptian girls' bodies were found in the sewage in Hole Camp in Al Hasakeh countryside, killed by an unknown armed group with a sharp object. 2 fatalities.
FATALITIES	2

Date	21/04/2016
YEAR	2016
DISORDER TYPE	Political violence
EVENT TYPE	Violence against civilians
SUB EVENT TYPE	Attack
ACTOR 1	Islamic State (Iraq)
ASSOC ACTOR 1	
ACTOR 2	Civilians (Iraq)
ASSOC ACTOR 2	Prisoners (Iraq); Women (Iraq)
CIVILIAN TARGETING	Civilian targeting
COUNTRY	Iraq
ADMIN Level 1	Ninewa
ADMIN Level 2	Al Mosul
ADMIN level 3	Al Muhamadath
LOCATION	Mosul
LATITUDE	36.335
LONGITUDE	43.119
SOURCE	Al Bawaba
SOURCE_SCALE	International
NOTES	On 21 April 2016, IS militants executed 200 women in Mosul. 200 civilian fatalities.
FATALITIES	200

Date	18/10/2021
YEAR	2021
DISORDER TYPE	Demonstrations
EVENT TYPE	Protests
SUB EVENT TYPE	Peaceful protest
ACTOR 1	Protesters (Kuwait)
ASSOC ACTOR 1	Women (Kuwait); Labor Group (Kuwait)
ACTOR 2	
ASSOC ACTOR 2	
CIVILIAN TARGETING	
COUNTRY	Kuwait
ADMIN Level 1	Al Ahmadi
ADMIN Level 2	
ADMIN level 3	
LOCATION	As Sabahiyah
LATITUDE	29.106
LONGITUDE	48.108
SOURCE	Arab Times
SOURCE_SCALE	National
NOTES	On 18 October 2021, female workers of the Ministry of Social Affairs and Community Development demonstrated in front of the Family Welfare Department in As Sabahiyah (Al Ahmadi) demanding reduced working hours and the end of weekend work. The protest lasted for 2 hours.
FATALITIES	0





EVENT DATE	43022
YEAR	2017
DISORDER TYPE	Political violence
EVENT TYPE	Explosions/Remote violence
SUB EVENT TYPE	Remote explosive/landmine/IED
ACTOR 1	Al Shabaab
ASSOC ACTOR 1	
ACTOR 2	Civilians (Somalia)
ASSOC ACTOR 2	
CIVILIAN TARGETING	Civilian targeting
COUNTRY	Somalia
ADMIN Level 1	Banadir
ADMIN Level 2	Banadir
ADMIN Level 3	
LOCATION	Mogadishu - Hodan
LATITUDE	2.033
LONGITUDE	45.35
SOURCE	AFP
SOURCE_SCALE	International
NOTES	14 October. Two car bombs exploded outside a hotel at a busy junction in Somalia's capital Mogadishu on Saturday, with officials and witnesses fearing many casualties. Initial reports stated at least 20 dead, though that figure was raised to 300+ in the following days, plus 429 wounded. Following a investigation the death toll was revised higher to 512. On 5 March 2018 a Somali committee investigating the toll of the truck bombing in Mogadishu on 14 October has released new figures, which reveal that 587 people were killed in the bombing.
FATALITIES	587



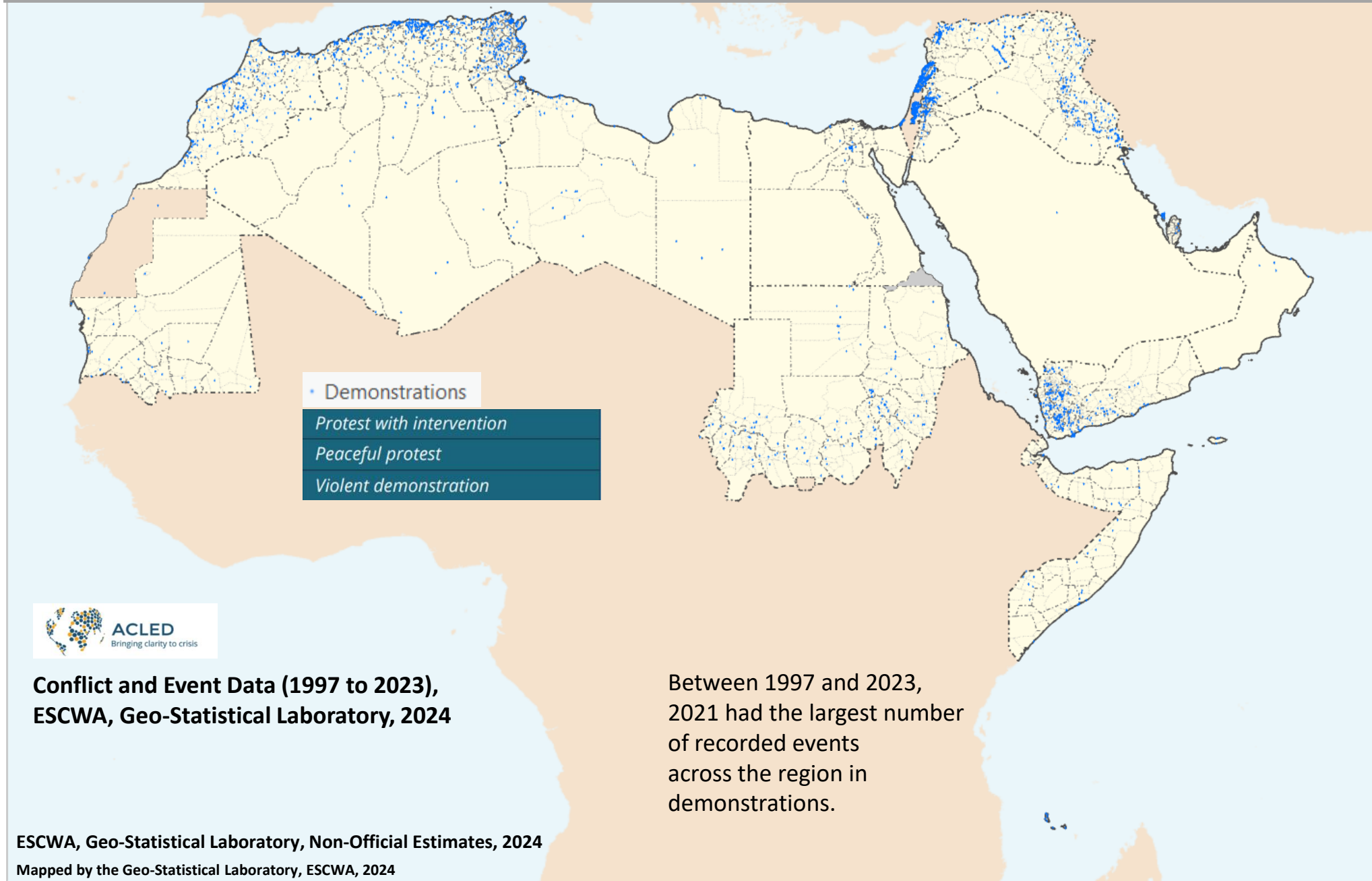
**Conflict and Event Data (1997 to 2023), ESCWA, Geo-Statistical Laboratory, 2024**

Between 1997 and 2023, 2017 had the largest number of recorded events across the region in political violence

- Political violence
- Government regains territory
- Non-state actor overtakes territory
- Armed clash

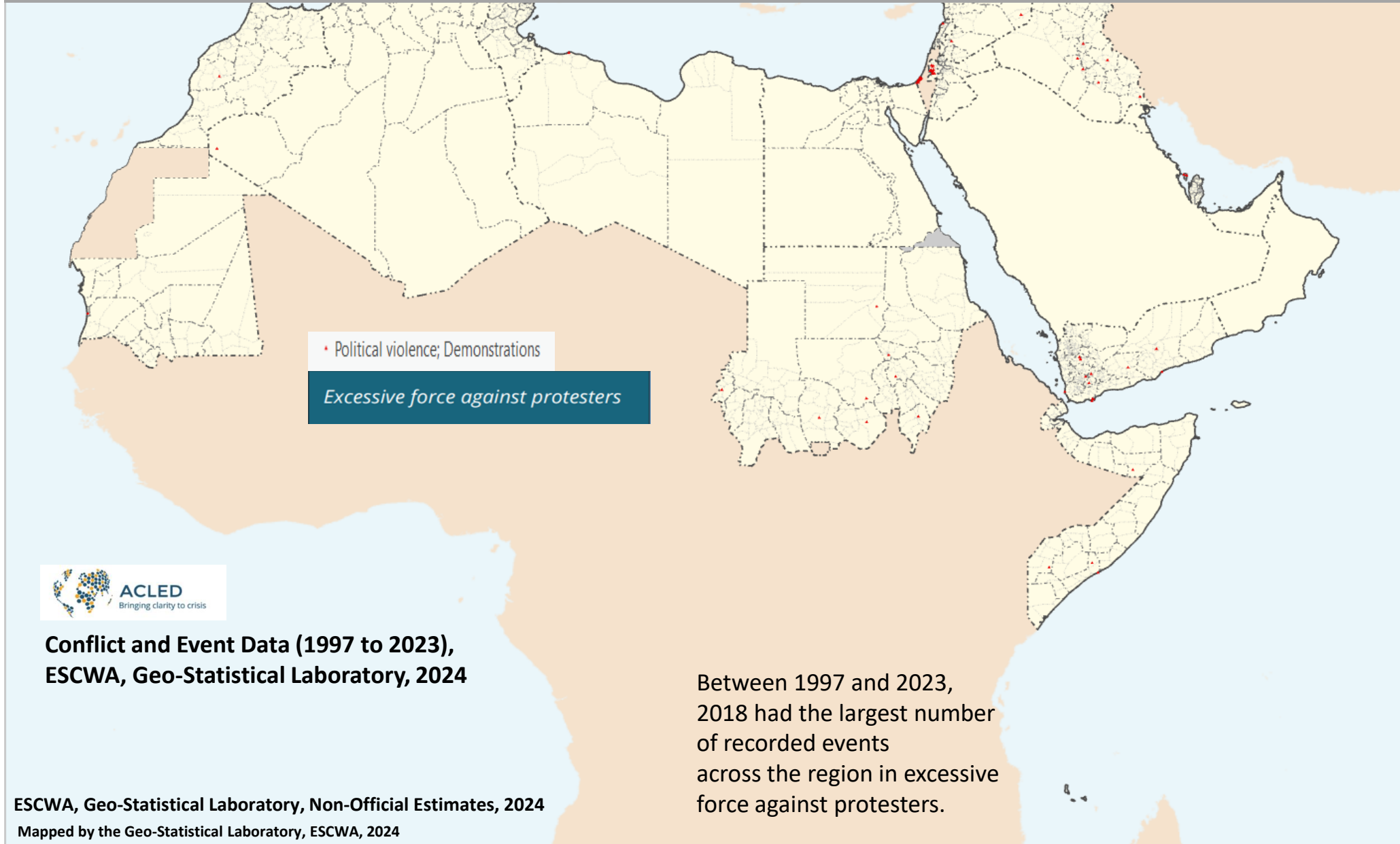
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
 Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

In 2021 there were 14,581 demonstrations across ESCWA member States with a total of 91 fatalities



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

In 2018 there were 506 political demonstration across ESCWA member States with a total of 54 fatalities

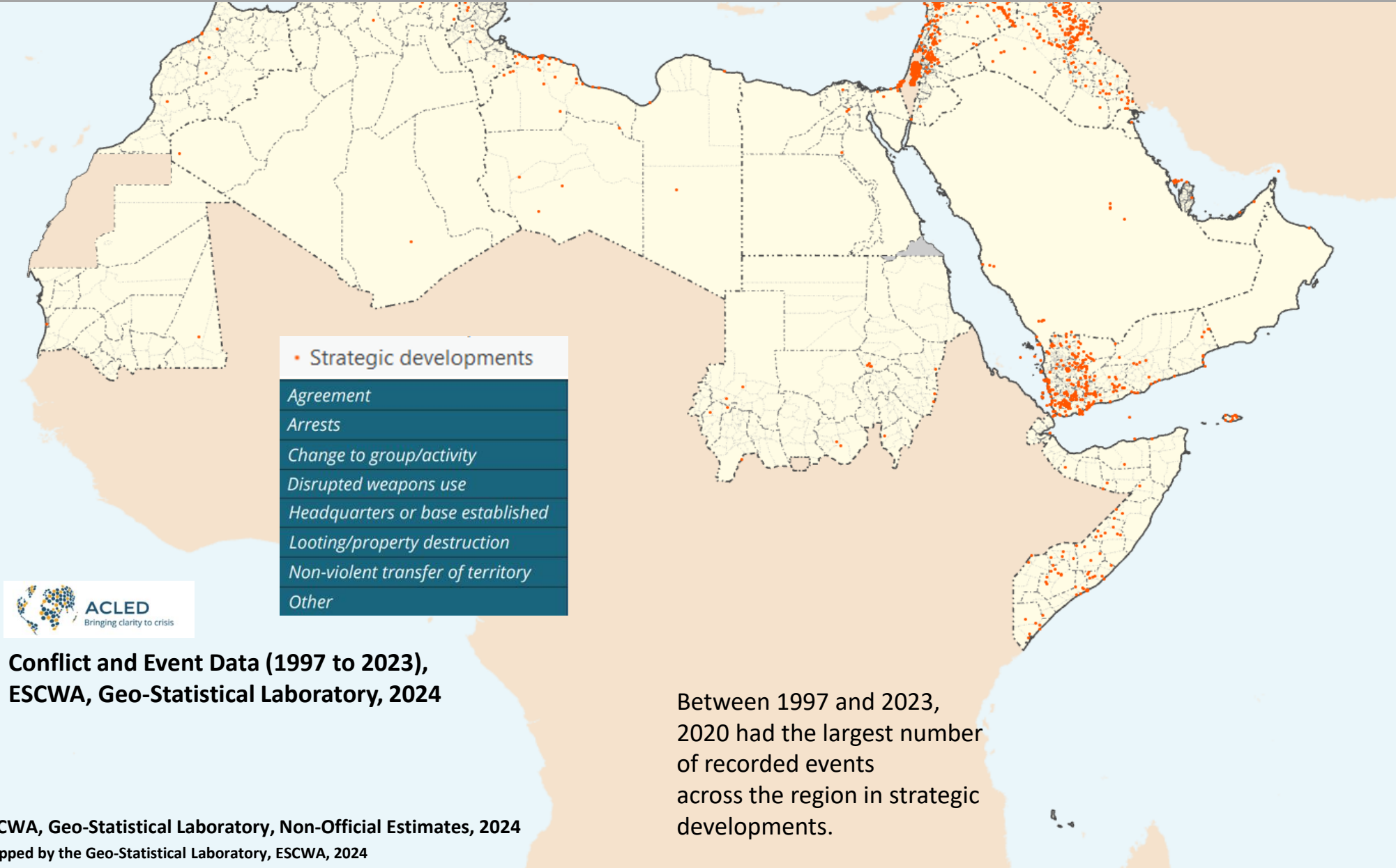


**Conflict and Event Data (1997 to 2023),  
ESCWA, Geo-Statistical Laboratory, 2024**

Between 1997 and 2023,  
2018 had the largest number  
of recorded events  
across the region in excessive  
force against protesters.

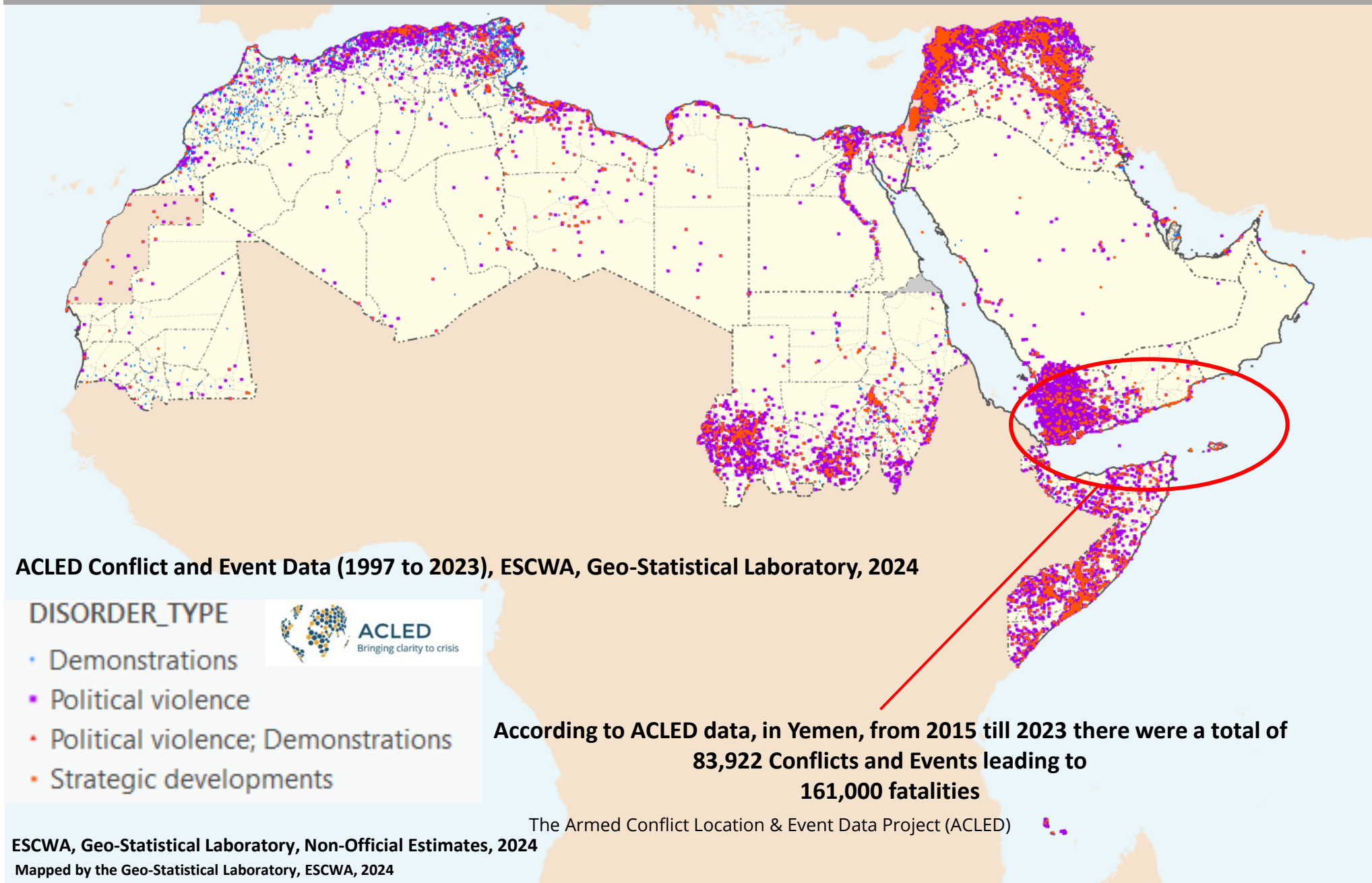
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

In 2020 there were 5,353 strategic developments across the ESCWA member States with a total of 110 fatalities



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024





**ACLED Conflict and Event Data (1997 to 2023), ESCWA, Geo-Statistical Laboratory, 2024**

**DISORDER\_TYPE**

- Demonstrations
- Political violence
- Political violence; Demonstrations
- Strategic developments

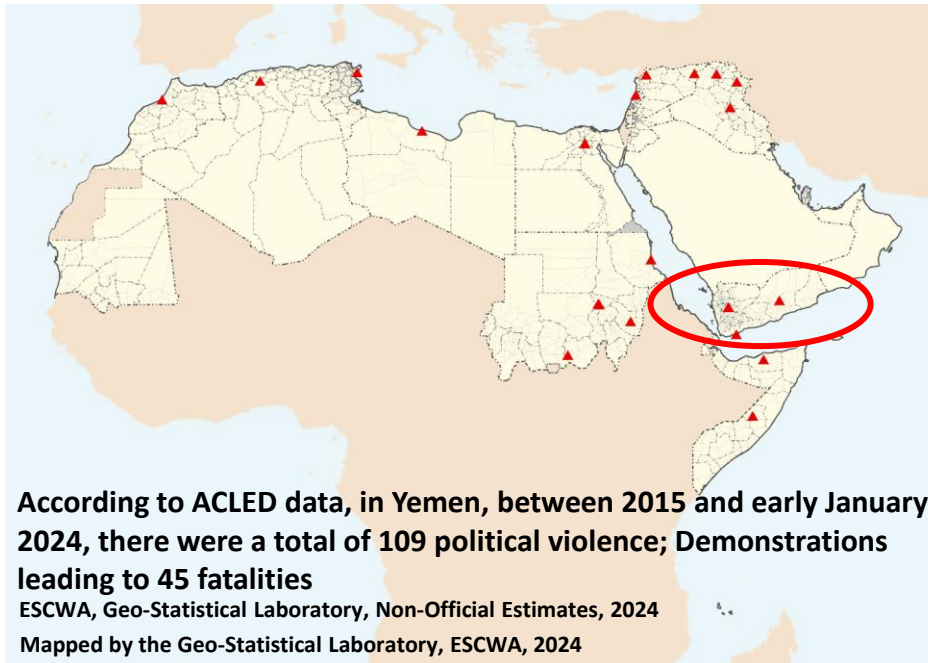
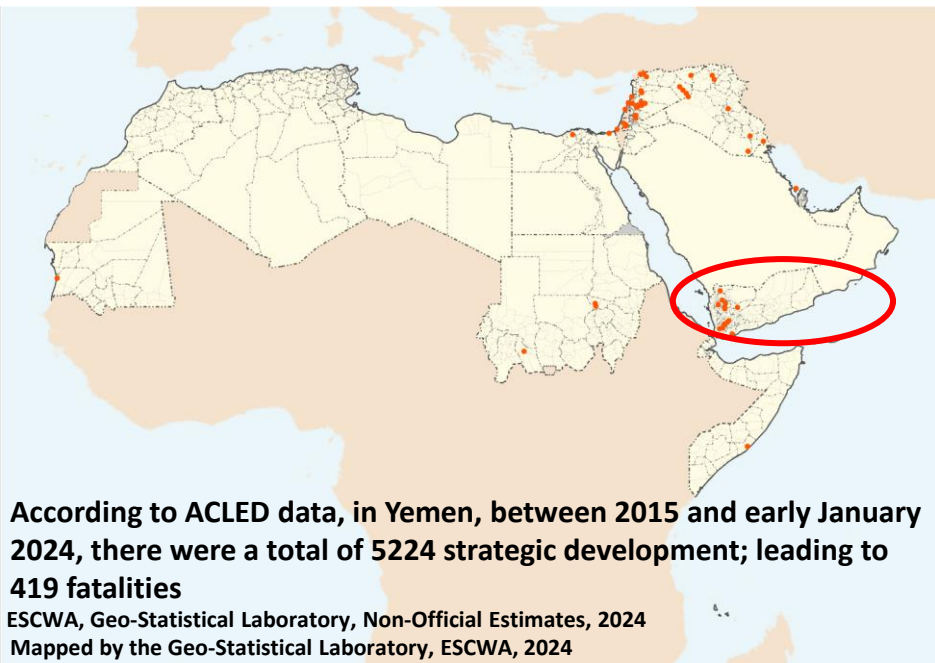
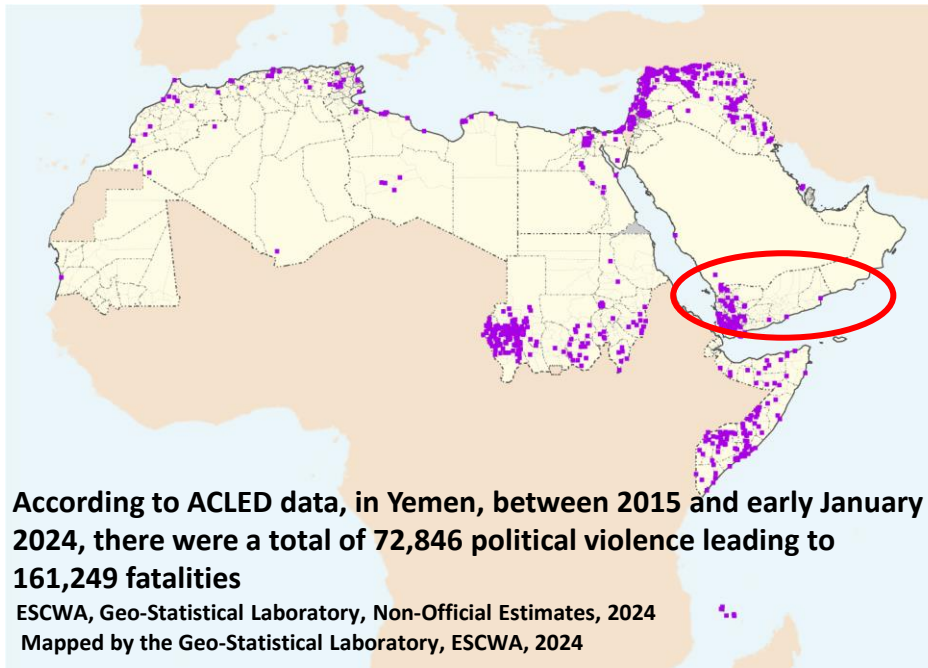
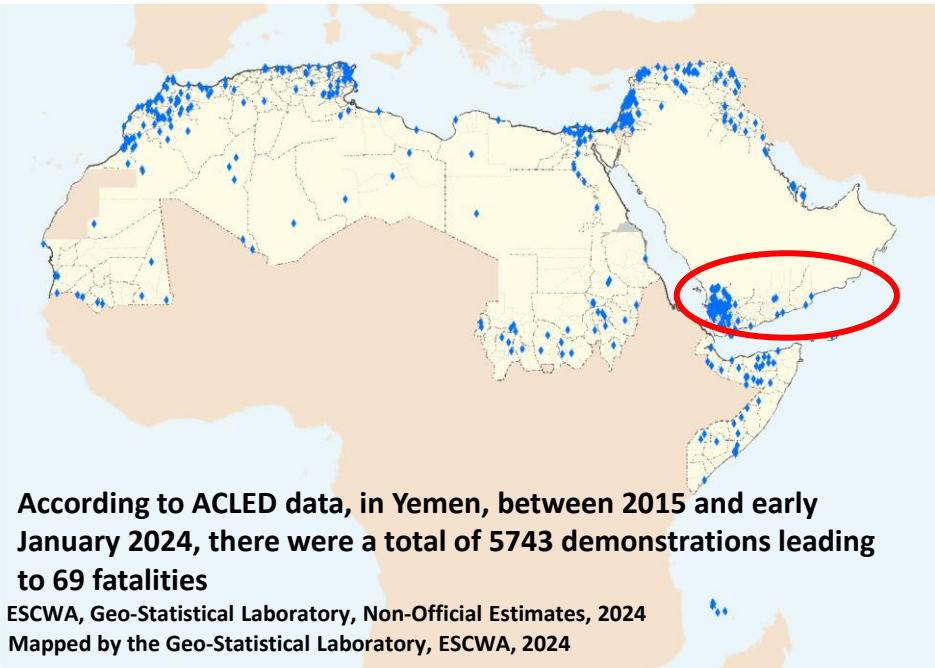


**According to ACLED data, in Yemen, from 2015 till 2023 there were a total of 83,922 Conflicts and Events leading to 161,000 fatalities**

The Armed Conflict Location & Event Data Project (ACLED)

**ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024**

Mapped by the Geo-Statistical Laboratory, ESCWA, 2024



**DISORDER\_TYPE**

- Demonstrations
- Political violence
- Political violence; Demonstrations
- Strategic developments



**ACLED Conflict and Event Data, 1997 to 2023, Yemen, ESCWA, Geo-Statistical Laboratory, 2024**

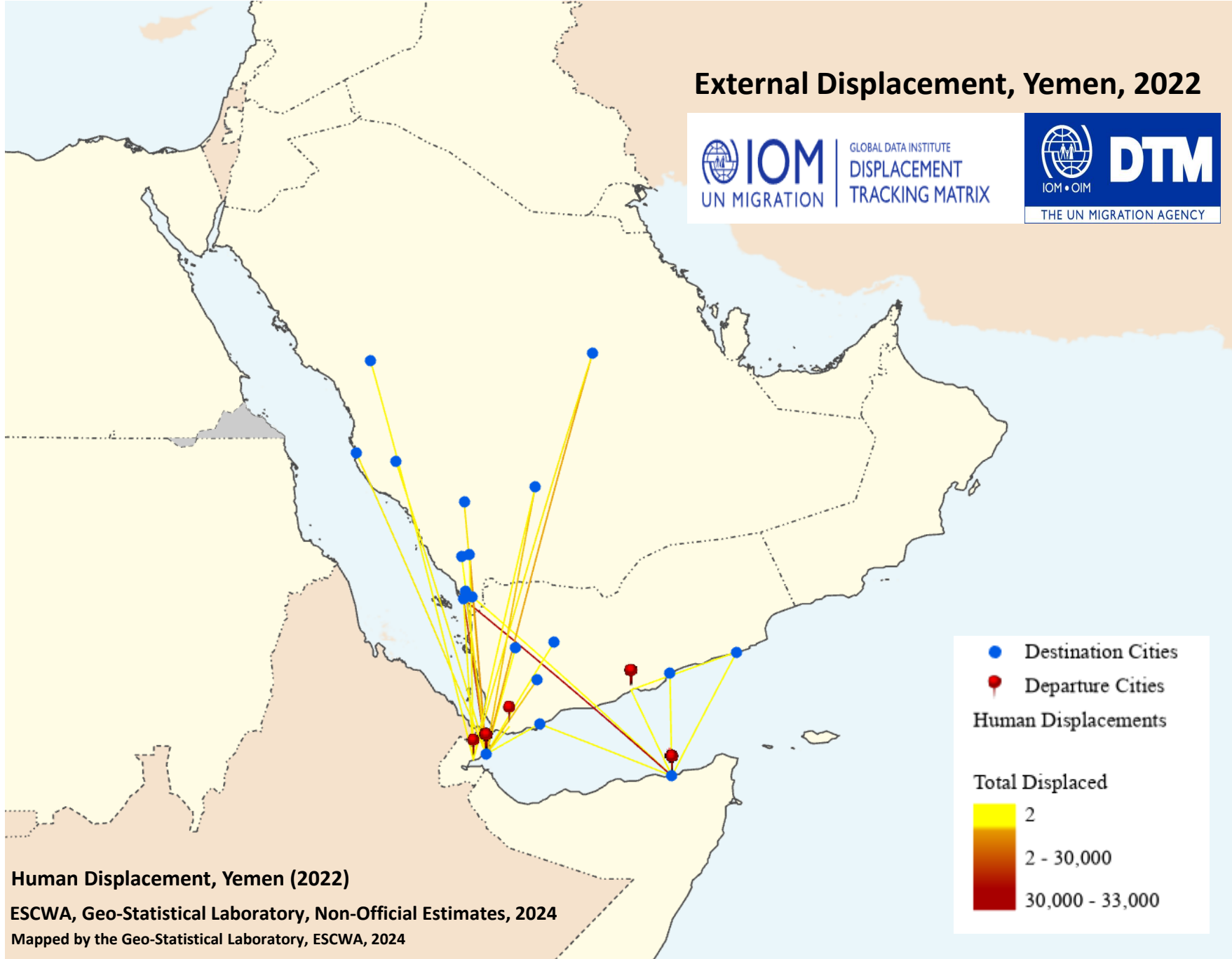


## Displacement Event Data as a component of **Anthropological disasters**

# External Displacement, Yemen, 2022



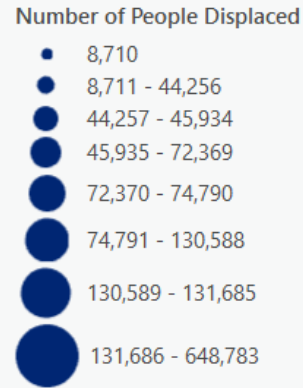
- conflict
- deportation\_after\_irregular\_entry
- deportation\_after\_legal\_entry
- economic\_more\_than\_six\_months
- final\_exit\_stamp
- NA
- unable\_to\_reach\_destination
  
- Migrants\_Entering\_Yemen
- Migrants\_Exiting\_Yemen
- Migrants\_Transiting\_Yemen
- Yemeni\_Returnees



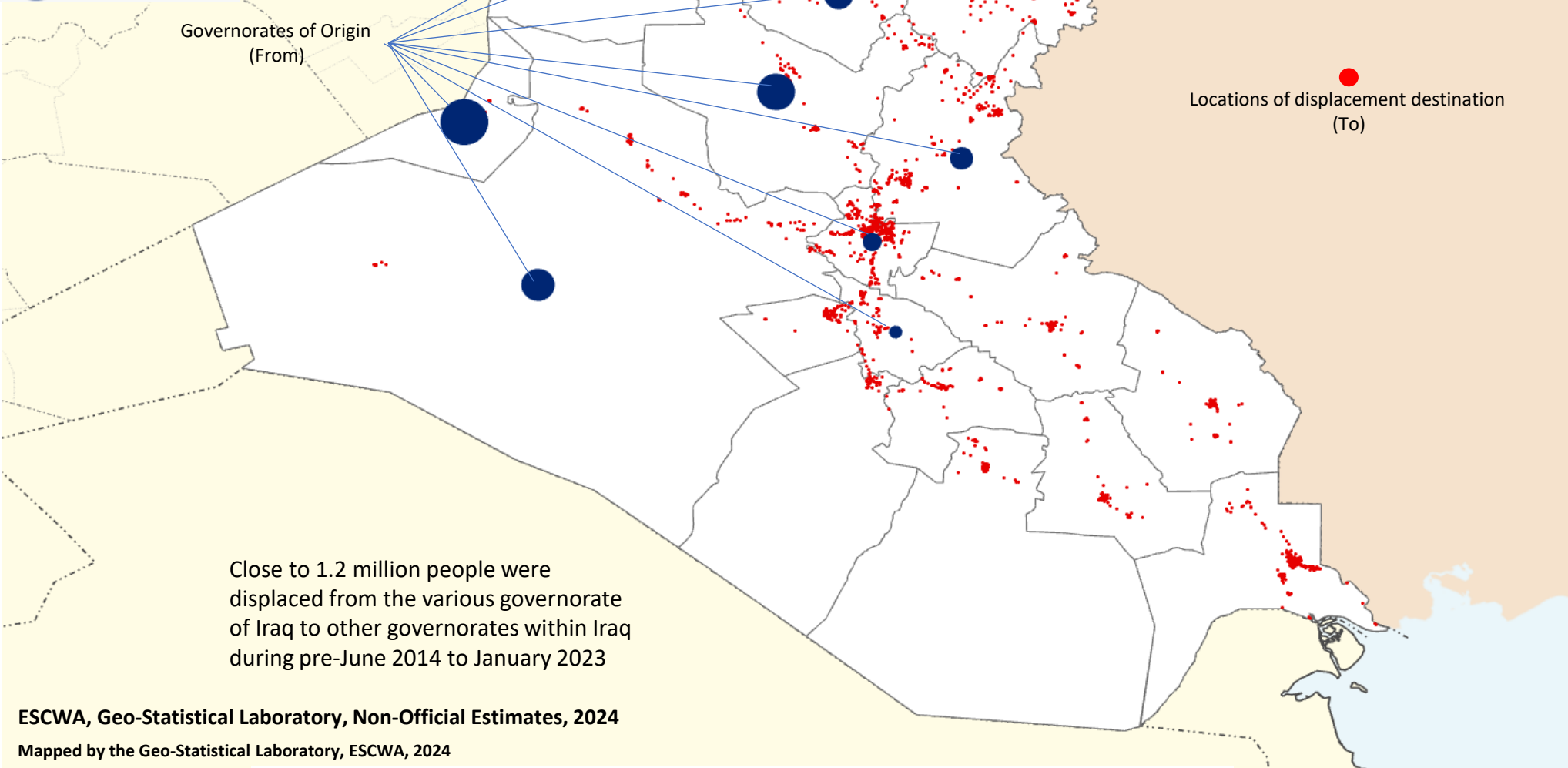
**Human Displacement, Yemen (2022)**  
ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024  
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

<https://dtm.iom.int/datasets/dtm-yemen-flow-monitoring-datasets-december-2022>





## Internal Displacements, Iraq, Pre-June 2014 to January 2023



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024

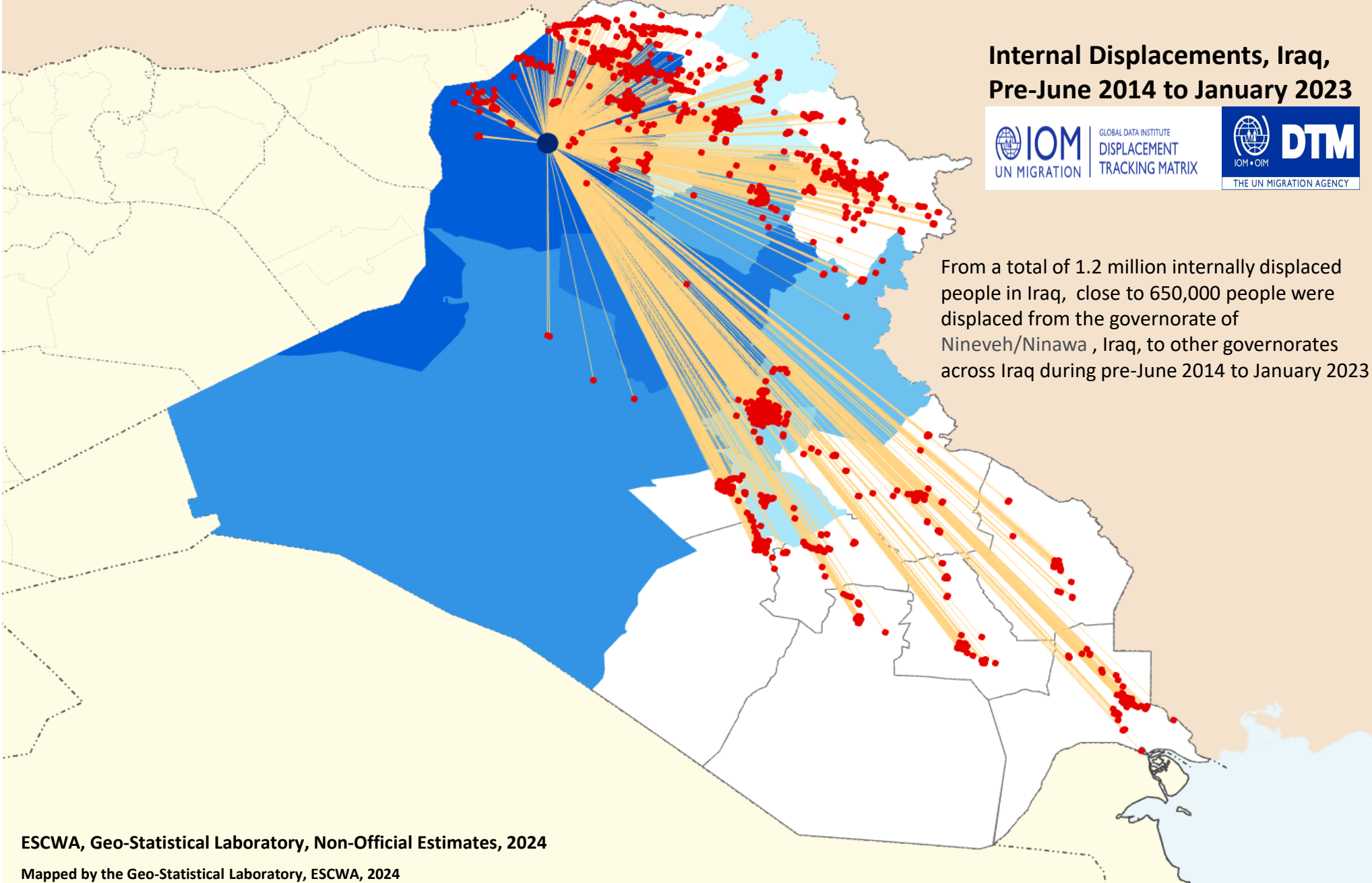
Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

# Internal Displacements, Iraq: from the Nineveh/Ninawa governate to other governorates, Pre-June 2014 to January 2023

## Internal Displacements, Iraq, Pre-June 2014 to January 2023



From a total of 1.2 million internally displaced people in Iraq, close to 650,000 people were displaced from the governorate of Nineveh/Ninawa, Iraq, to other governorates across Iraq during pre-June 2014 to January 2023



ESCWA, Geo-Statistical Laboratory, Non-Official Estimates, 2024

Mapped by the Geo-Statistical Laboratory, ESCWA, 2024

For more information, please contact  
[escwa-geostatistics-lab@un.org](mailto:escwa-geostatistics-lab@un.org)



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