

THE HUMAN COST OF NATURAL DISASTERS

Additional Technical Notes

Chapter | 1

Classification used for Figure 2

“The classification used to realize the map (Figure 2) is the Jenks natural breaks method. It is a data clustering method designed to determine the best arrangement of values into different classes. This is done by seeking to minimize each class’s average deviation from the class mean, while maximizing each class’s deviation from the means of the other groups. In other words, the method seeks to reduce the variance within classes and maximize the variance between classes.” (Jenks, 1967)

EM-DAT classification of natural disasters

Disaster Subgroup	Definition	Disaster Main Type
<u>Geophysical</u>	A hazard originating from solid earth. This term is used interchangeably with the term geological hazard.	Earthquake
		Mass Movement
		Volcanic activity
<u>Meteorological</u>	A hazard caused by short-lived, micro- to meso-scale extreme weather and atmospheric conditions that last from minutes to days.	Extreme Temperature
		Fog
		Storm
<u>Hydrological</u>	A hazard caused by the occurrence, movement, and distribution of surface and subsurface freshwater and saltwater.	Flood
		Landslide
		Wave action
<u>Climatological</u>	A hazard caused by long-lived, meso- to macro-scale atmospheric processes ranging from intra-seasonal to multi-decadal climate variability.	Drought
		Extreme Temperature
		Glacial Lake Outburst
		Wildfire
<u>Biological</u>	A hazard caused by the exposure to living organisms and their toxic substances (e.g. venom, mold) or vector-borne diseases that they may carry. Examples are venomous wildlife and insects, poisonous plants, and mosquitoes carrying disease-causing agents such as parasites, bacteria, or viruses (e.g. malaria).	Epidemic
		Insect infestation
		Animal Accident
<u>Extraterrestrial</u>	A hazard caused by asteroids, meteoroids, and comets as they pass near-earth, enter the Earth’s atmosphere, and/or strike the Earth, and by changes in interplanetary conditions that effect the Earth’s magnetosphere, ionosphere, and thermosphere.	Impact
		Space weather

Disaster Sub-Group	Disaster Main Type	Disaster Sub-Type	Disaster Sub-sub Type	
Geophysical	Earthquake	Ground Shaking		
		Tsunami		
	Mass Movement			
	Volcanic activity	Ash fall		
		Lahar		
		Pyroclastic flow		
		Lawa flow		
Liquefaction				
Meteorological	Storm	Extra-tropical storm		
		Tropical storm		
		Convective Storm		Derecho
				Hail
				Lightning/thunderstorm
				Rain
				Tornado
				Sand/dust storm
				Winter storm/blizzard
				Storm/surge
	Wind			
	Extreme temperature	Cold wave		
		Heat wave		
		Severe winter conditions		
Fog	Snow/ice			
	Frost/freeze			
Hydrological	Flood	Coastal flood		
		Riverine flood		
		Flash flood		
		Ice jam flood		
	Landslide	Avalanche (snow, debris, mudflow, rockfall)		
Wave action	Rogue wave Seiche			
Climatological	Drought			
	Glacial Lake Outburst			
	Wildfire		Forest Fire	
			Land fire: Brush, bush, Pasture	

Disaster Sub-Group	Disaster Main Type	Disaster Sub-Type	Disaster Sub-sub Type
Biological	Epidemic	Viral Disease Bacterial Disease Parasitic Disease Fungal Disease Prion Disease	
	Insect infestation	Grasshoper Locust	
	Animal Accident		
Extraterrestrial	Impact	Airburst	
	Space weather	Energetic particles Geomagnetic storm Shockwave	

Chapter | 5

List of small states.

<u>Small states in this report (population <1.5 million inhabitants)</u>		<u>SIDS not included as Small States in this report</u>
<i>Countries marked with a star = small states that are not part of the SIDS network</i>		
American Samoa	Martinique★	Aruba
Anguilla	Mauritius	Cuba
Antigua and Barbuda	Micronesia Federal States	Dominican Republic
Azores★	Montenegro★	Haiti
Bahamas	Montserrat	Jamaica
Barbados	Netherlands Antilles	Puerto Rico
Belize	New Caledonia	Nauru
Bermuda★	Niue	Papua New Guinea
Bhutan★	Northern Mariana Islands	Bahrain
Brunei Darussalam★	Palau	Guinea Bissau
Cape Verde Islands	Reunion★	Sao Tome
Cayman Islands★	Samoa	Singapore
Comoros	Seychelles	
Cook Islands	Solomon Islands	
Cyprus★		

Djibouti★	St Helena★	
Dominica	St Kitts and Nevis	
Estonia★	St Lucia	
Fiji	St Vincent and the Grenadines	
French Guiana★	Suriname	
French Polynesia	Swaziland★	
Grenada	Timor-Leste	
Guadeloupe★	Tokelau★	
Guam	Tonga	
Guyana	Trinidad and Tobago	
Iceland★	Turks and Caicos Islands★	
Kiribati	Tuvalu	
Luxembourg★	Vanuatu	
Maldives	Virgin Islands (UK)	
Marshall Islands	Virgin Islands (US)	
	Wallis and Futuna Islands★	

Other sources used in the report

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