What are disasters and how do we count them?

Jake Rom D. Cadag
Geographer, Senior Lecturer
Department of Geography, University of the Philippines Diliman
jdcadag@up.edu.ph

Some of the slides in this presentation are derived from the outputs of Service-Learning course of Geography 255 AY 17-18

Typhoon/Flood Ondoy (2009)

Typhoon/Storm Surge Yolanda (2013)

Small-scale flood
2-hr thunderstorm (2015)

WHAT IS A DISASTER

Academic definition

Disaster is a state of event (or a "situation") associated with **natural hazards** characterized by **negative impacts to society** in the forms of human and environmental damages

- Cadag, J.R.D. (in press). Disasters. International Encyclopedia of Human Geography. Elsevier.

The United Nations' definition (2017)

A serious disruption of the functioning of a community or a society **at any scale** due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: **human, material, economic and environmental losses and impacts.**

*DRRM Act of the Philippines of 2010 (RA 10121)

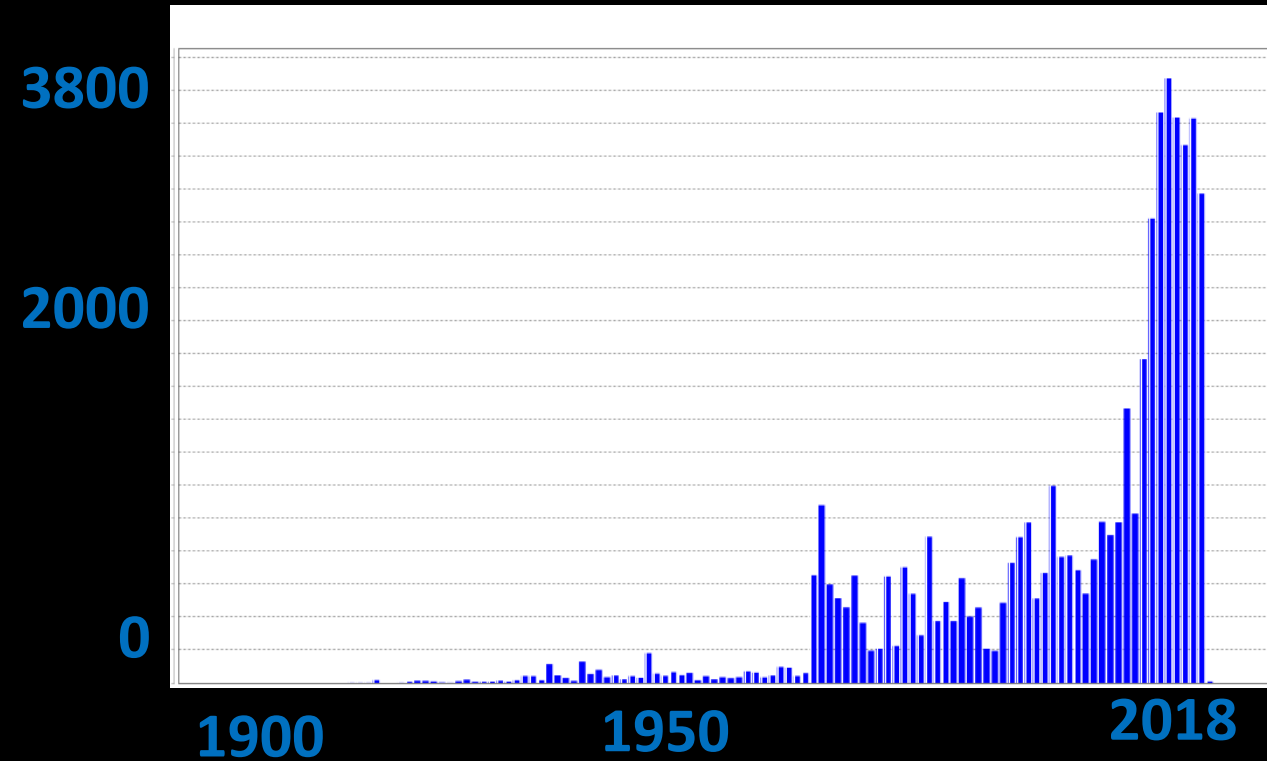| Criteria	Munich Re.	University of Colorado	Centre for Research on the Epidemiology of Disasters (CRED)	USAID-OFDA	UNDHA
Number of people killed	> or = 20	> or = 100	> or = 10	25 (earthquakes and volcanic eruptions) 50 (climate hazards)	> or = 100
Number of people injured		> or = 100			
Number of people affected			> or = 100	1000	> or = 1% of the population
Economic damage	~ 7 million US$ (transportation) ~ 13 million US$ (aviation) ~ 16 million US$ (others)	1 million US$		1 million US$	> or = 1% of GDP
Others			Call for international assistance		Call for international assistance

Criteria
in defining a disaster event by different institutions (extracted from the compilation by Dr. JC Gaillard, University of Auckland, 2013)

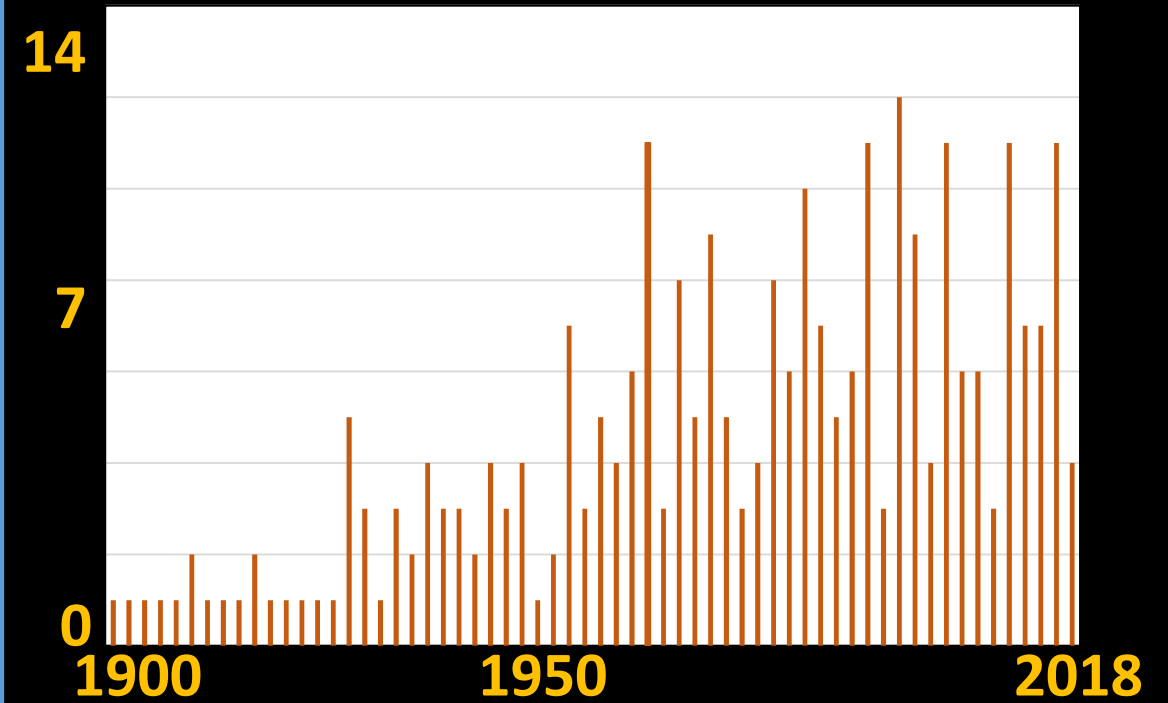[We do not know what disasters are being counted… and what are being excluded…]

PROBLEM?

Desinventar

3800

2000

0

1900   1950   2018

Events – 53,605
Deaths - 45,726 people
Affected – 33,567,642

EM-DAT

14

7

0

1900   1950   2018

Events - 182
Deaths - 39,945 people
Affected – 18,195,042

Number of disasters associated with natural hazards in Colombia between 1900 and 2018 according to *DesInventar* (top-left) and *EM-DAT* (bottom-right)

1900 to 2018
609 disasters in the Philippines
69,738 people dead since 1900s

(*CRED-EMDAT, 2018*)

Number of disasters associated with natural hazards in the Philippines between 1900 and 2018 (*CRED-EMDAT*)

Based on the data of OCD and some historical disasters

EMDAT (1900s to 2017)

609 disasters in the Philippines

69,738 people dead since 1900s

899 disasters reported from **1970 to 2017**

199,646 people dead (including 156,526 who died in epidemic in 1900s)

Source: Geography 255 Service-Learning Course (2017)

Spatial Distribution of Disaster Events (1970-2017)

Region	Frequency
1	66
2	75
3	130
4A	71
4B	66
5	71
6	83
7	48
8	59
9	25
10	32
11	29
12	34
13	26
CAR	48
ARMM	33
NCR	96

Legend

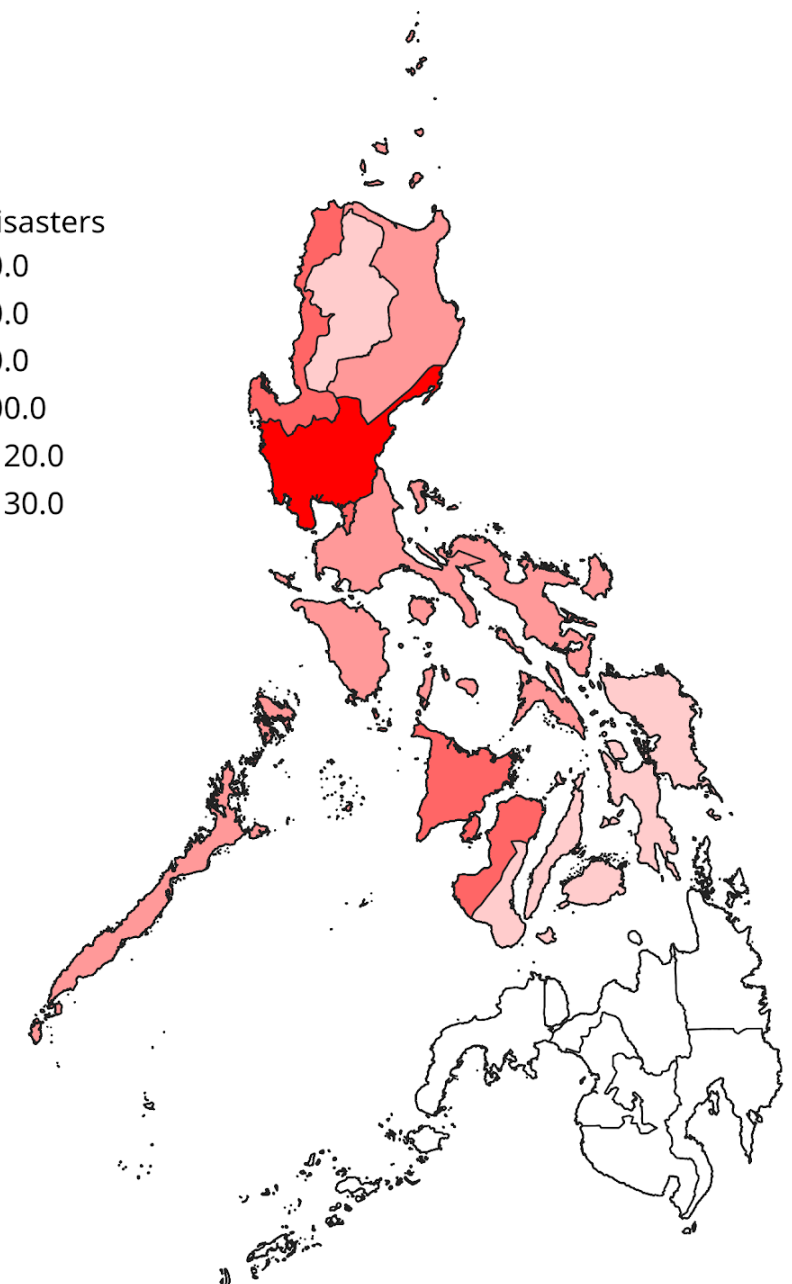Number of Disasters

- 25.0 - 40.0
- 40.0 - 60.0
- 60.0 - 80.0
- 80.0 - 100.0
- 100.0 - 120.0
- 120.0 - 130.0

Source: Geography 255 Service-Learning Course (2017)

REFLECTIONS

Definition

o **Objective, comprehensive and inclusive**

Disaster statistics

o **Count all disaster events regardless of scale**

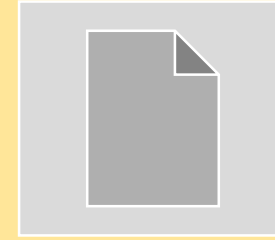o **Let the users decide what to include and exclude**

WHAT IS NEXT

Collect data from the provinces and municipalities to include small scale disasters

Engage physical and social scientists to gather data on historical disasters (1500s to 1970s)

Retrieve lost information 1970s to present

Standardize data collection process for disaster reports

Develop an online platform

Source: Geography 255 Service-Learning Course (2017)

CLASS:
GEOGRAPHY 255, AY 17-18
DEPARTMENT OF GEOGRAPHY, UP DILIMAN

INSTRUCTOR:
JAKE ROM D. CADAG, PHD

STUDENTS:
BULONG, CHARLENE VERONIQUE MARIE
GALINDO, ANGELO CARLO
GODIO, JENNIFER
JACOBO, CID LEANDRO
LIT, CATHERINE
PASCUAL, ANGELO MARI
PINTO, BEN HUR
SALVADOR, ELAINE BENNET
SAURE, DIANA TANYA
TUBOG, MICHAEL VINCENT
VILLANUEVA, SIDNIE BEATRICE

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- Image on Ondoy Flood (slide 2, cropped). https://commons.wikimedia.org/wiki/File:Flooding_from_Typhoon_Ondoy_(Ketsana),_Philippines_2009._Photo-AusAID_(10695613325).jpg
- Image on Typhoon Yolanda (slide 3, cropped). https://commons.wikimedia.org/wiki/File:Tacloban_Typhoon_Haiyan_2013-11-14.jpg