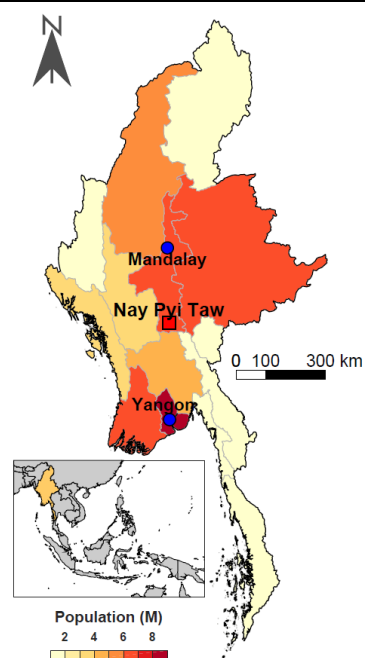


## Social Indicators (2019)

Population (million) <sup>1</sup> :	53.71
Population density (km <sup>-2</sup> ) <sup>2</sup> :	82
Population growth rate (% yr <sup>-1</sup> ) <sup>3</sup> :	0.77
Urban population growth rate (% yr <sup>-1</sup> ) <sup>4</sup> :	1.55
Urban area growth rate (% yr <sup>-1</sup> ) <sup>5</sup> :	2.88
Human Development Index <sup>6</sup> :	0.584
HDI Rank <sup>6</sup> :	145/189
Largest cities by population <sup>7</sup> :	Yangon, Mandalay, Nay Pyi Taw, Mawlamyine

## Geography

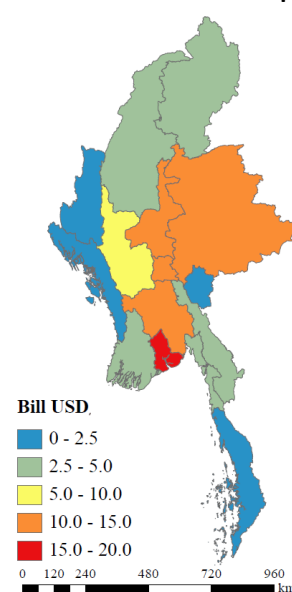
Land area (km <sup>2</sup> ) <sup>8</sup> :	653,540
Land area below 5 m MSL (%) <sup>8</sup> :	3.6
Length of coastline (km) <sup>9</sup> :	1,930
Terrain <sup>9</sup> :	Central lowlands ringed by steep, rugged highlands
Major river systems <sup>10</sup> :	Irrawaddy-Chindwin, Sittaung, Thanlwin



## Economic Indicators (2019)

GDP (million USD) <sup>8</sup> :	71,215
GDP PPP (million USD) <sup>8</sup> :	358,451
GDP per capita, PPP (USD) <sup>8</sup> :	6,674
Agriculture (%)	25
Industry (%)	32
Services (%)	43
Exposure (Billion USD) <sup>11</sup> :	97.76
Primary (%)	14
Public	2
Industry (%)	21
Commercial (%)	21
Residential (%)	42
Gross capital stock (Billion USD) <sup>12</sup> :	147.6
Insurance density (USD) <sup>13</sup> :	1.36
(Non-life premium in USD per capita)	
Insurance penetration (%) <sup>13</sup> :	0.10
(Non-life premium in USD as a percentage of GDP)	

## Province-level Economic Exposure



## Description of a major event

**Cyclone Nargis:** Originated near the centre of the Bay of Bengal on 28 April, Tropical Cyclone Nargis developed sustained winds during the next three days and made landfall in Irrawaddy deltaic region on 2 May 2008 with winds > 210 kph. The effects of extreme winds were compounded heavy rainfall (~500 mm on 3 May), and storm surge of 2-5 m

that led to an inundation up to 50 km inland<sup>15,16</sup>. Nargis flooded about 14,400 km<sup>2</sup> of the delta<sup>17</sup>. It was the worst natural disaster in Myanmar's recorded history and the eighth deadliest cyclone ever recorded worldwide, with death toll exceeding 138,000 and economic loss estimates at over \$4 billion USD<sup>14,16</sup>.

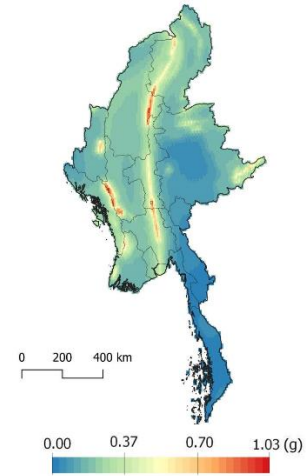
Recent Major Loss Events <sup>14</sup>				
Year	Event	Magnitude or Affected area	Deaths	Total loss (mill. USD)
2019	Flood	NA	115	NA
2018	Flood	46815 km <sup>2</sup>	16	NA
2015	Flood	26424 km <sup>2</sup>	149	0.12
2012	Earthquake	M6.8	38	1.2
2011	Earthquake	M6.9	74	3.6
2008	Cyclone Nargis	215 kph	138366	4000

### Major Fault Systems

Myanmar represents an evolving continent of two crustal formation histories consisting of Burma plate and Indochina plate. The Sagaing Fault is a major fault in Burma, a continental transform fault between the Indian plate and Sunda Plate. The Sagaing fault is one of the great strike-slip faults of Southeast Asia, bisecting Myanmar from north to south<sup>18</sup>. Sagaing Fault passes through populated cities of Mandalay, Yamethin, Pyinmana, the capital Naypyidaw, Toungoo and Pegu before dropping off into the Gulf of Martaban, over 1200 km<sup>19</sup>. The recent slip rate of the Sagaing fault from GPS measurements, is about 20 mm/yr<sup>20</sup>. Different segments of the fault ruptured in May-1930, Dec-1930, 1931 and 1946. The fault ruptured in 1930, causing a Magnitude 7.3 quake and likely a local tsunami at Bago, causing over 500 deaths<sup>21</sup>.

### PGA Map

(Source: ICRM)



### Meteorology

The annual percentage of rainy days in Southeast Asia varies from 30% in Central Thailand and Cambodia to 75% in Central Borneo. The rainfall variability is mainly determined by the large-scale monsoon systems, intra-seasonal oscillations, and the complex terrain. Southeast Asia experiences two monsoons: the southwest monsoon from June to September and the northeast monsoon from November to March. June-August months form the main rainy season in continental Southeast Asia, while December-February months are the rainy months south of 5°N.

Wet season in Myanmar is during the southwest monsoon months of May-October, where abundant rainfall is observed in the country. Many parts of the country receive about 95% of annual rainfall during the wet season.

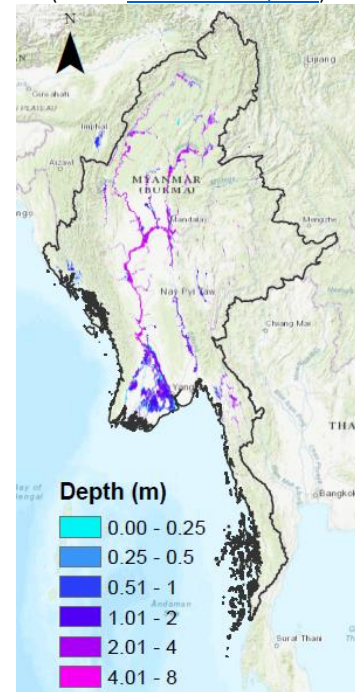
Climate classification<sup>22</sup>: Tropical monsoon climate along the west coast; central arid zone surrounded by tropical savannah & temperate climates  
 Average annual rainfall<sup>23,24</sup>: 2091 mm; ~760 mm in central dry zone to ~3300 mm in the Irrawaddy delta to ~5000 mm in Rakhine and Tanintharyi regions  
 Average monthly rainfall<sup>25</sup>: 10 mm (January) – 450 mm (August) – 10 mm (December)

Average annual number of rainy days<sup>25</sup>: 128; 66 days in central dry zone to 152 days in the south

Average annual number of heavy rainfall (>20 mm/day) days<sup>25</sup>: 40; ~12 days in the central dry zone to ~68 days in the south

### 100-yr fluvial flood map

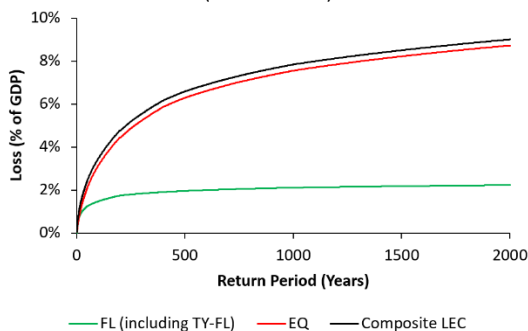
(Source: MUDRA Data Explorer)



### 2019 Loss Values

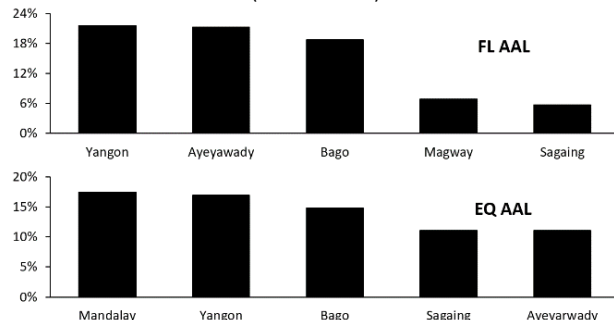
#### Loss Exceedance Curves

(Source: ICRM)



#### % of Country's AAL (Top 5 Provinces)

(Source: ICRM)



## Data sources

1. Mid-2019 value derived from File POP/1-1 of United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1.
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