

Investigation of Floods (EDAV Proj.2)

Team - Awesome

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Project Description

In this project, we will analysis the global floods records from 1985 to 2008. Specifically, we will investigate the floods patterns over time, floods distribution across continent, causes of floods and relation between floods and air pressure.

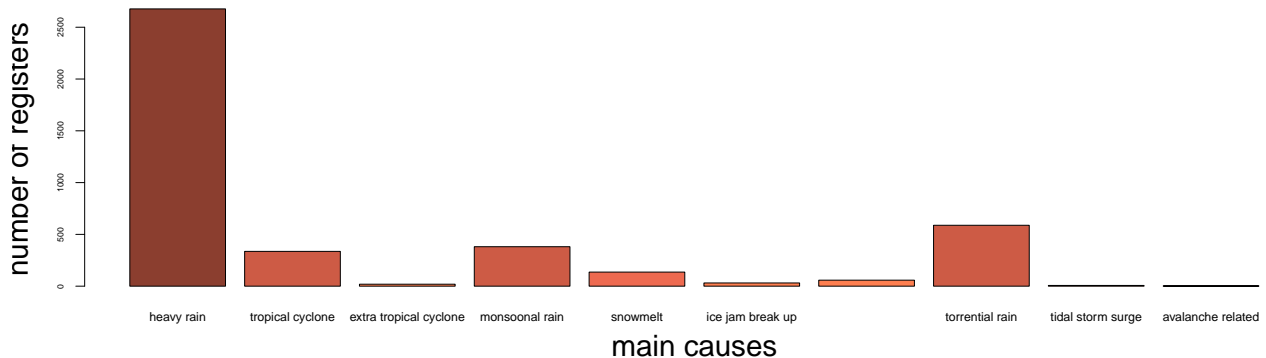
Floods over time – scatterplot, interactive plot

Floods by continent

Distribution by main cause / death : top floods causes , different from cause of deaths

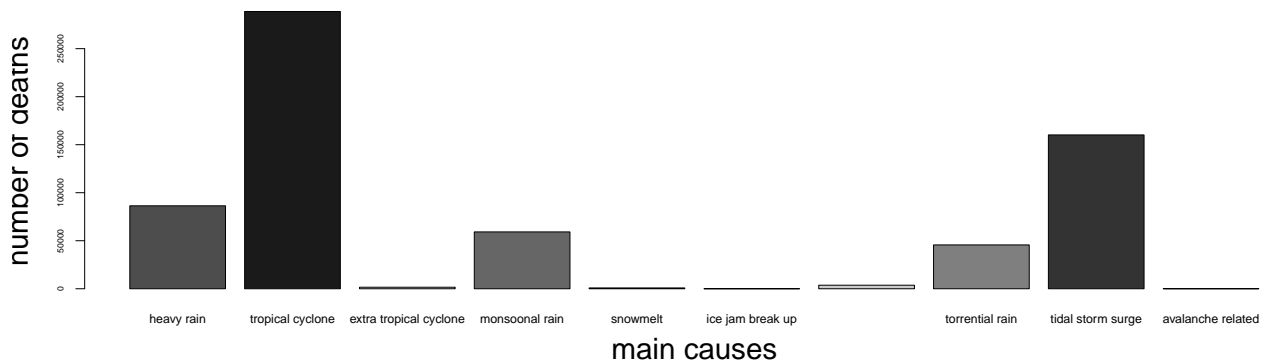
Warning: NAs introduced by coercion

Distribution of main causes



Next, we did some analysis of main causes and death. From the distribution of main causes, we found “heavy rain” is the primary main cause of floods, over 2500 registers of floods are caused by heavy rain, which is much higher than any other causes.

Distribution of death

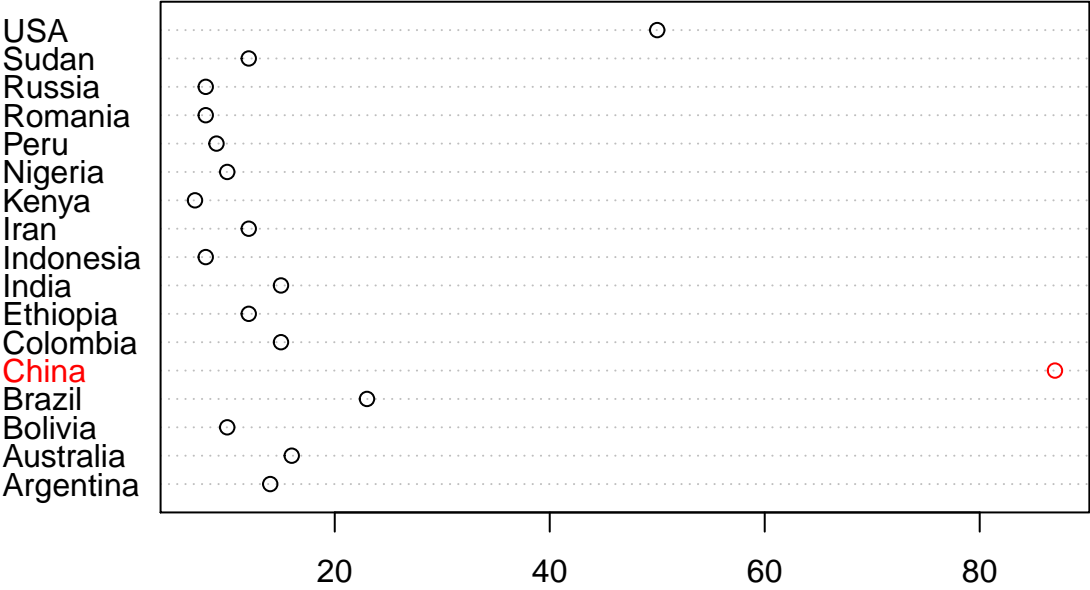


However, although “tropical cyclone” and “tidal storm surge” have only around 500 registers, respectively, they were the main causes of death. After ordering the top 10 registers which have the most number of death, 5 of the top 10 registers are caused by these two natural disasters. Compared to the death caused by “heavy rain”, less than 100000 people died in floods caused by “heavy rain”, although it’s the primary main cause of floods.

Displacement

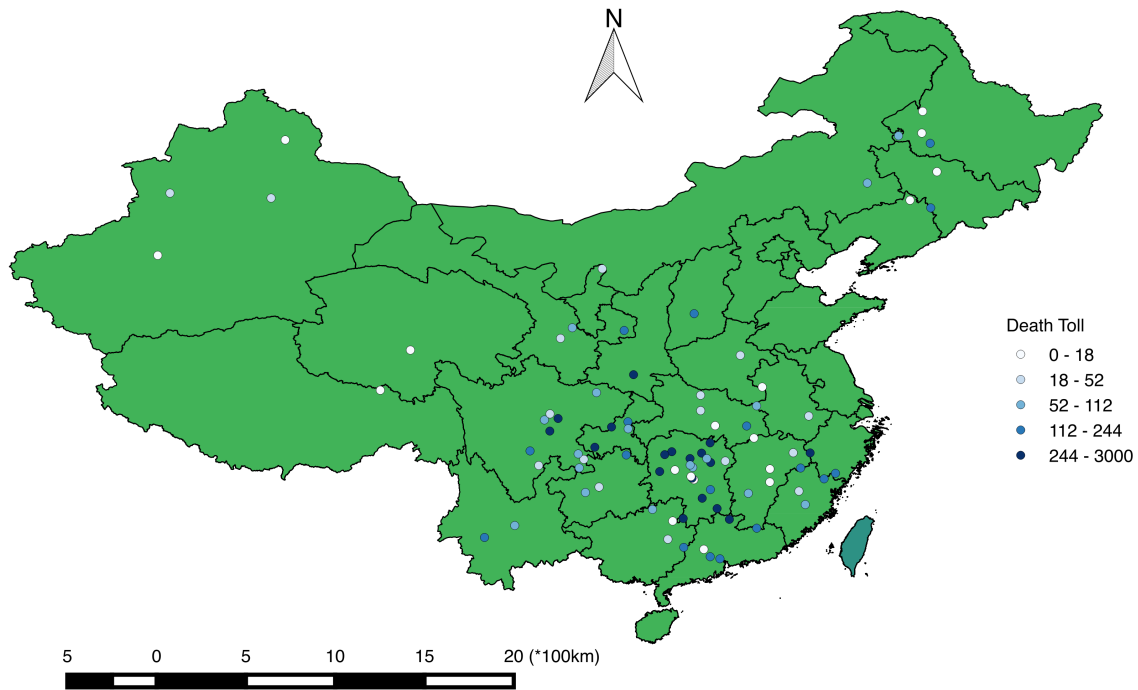
M6 floods caused by heavy rain

From previous analysis, we found that heavy rain is the reason which caused the largest number of floods. Here, we researched on the floods caused by heavy rain that had a level of M6. We count the occurrence of M6 level floods at each countries from 1985 to 2008. The countries with the largest 20 occurrence are displayed in the following dotchart. From the plot, we can see that in the time period 1985 to 2008 China and USA have much more M6 floods than other countries. We then analysed the M6 floods in China.



plot (1) number of M6 floods 1985~2008

1985~2008 M6 Floods Location and Death Toll in China Caused by High rain



In this plot, we plotted all the floods locations with a level at least M6 happened in China from 1985 to 2015 with the death toll. As we can the most deadly floods happened in Hunan province.

How phi data related to floods