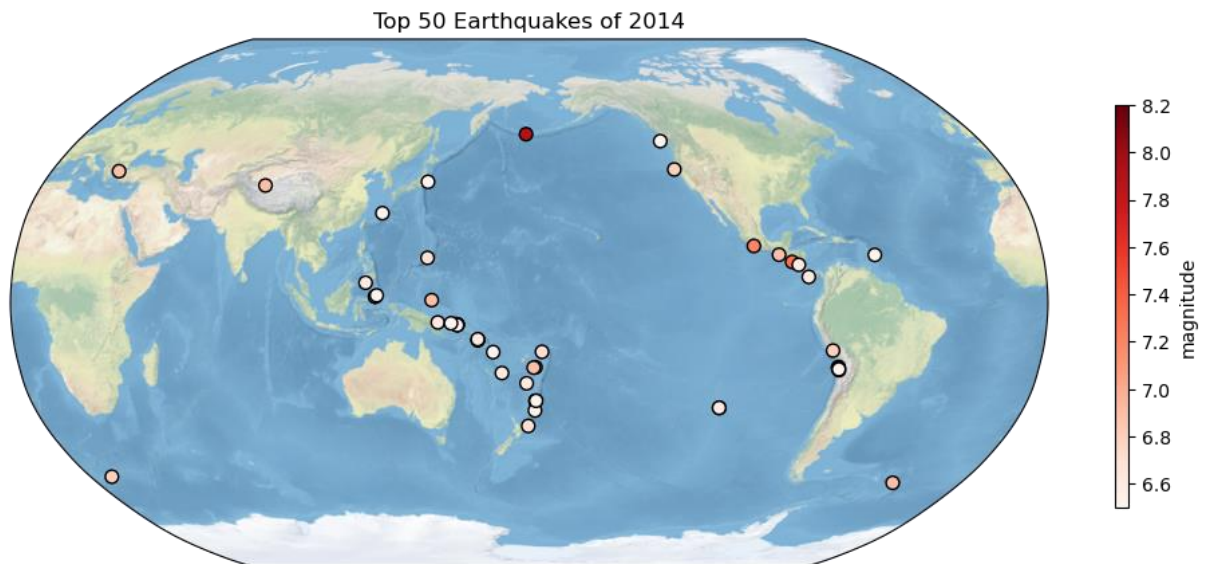


1. At this question, I read the csv file first. After that, I used `sort_values` and `head()` function to get the top 50 magnitude earthquakes in 2014. Then, I plotted the map, points, and colorbar. By discovering, I used Robinson projection. To plot the map with the style in the picture, I found it in Cartopy gallery, shown as global map. For points, I used function `scatter()`, with gradient 'Reds', and then I used `colorbar()` to show the colorbar. The final figure is shown as Figure 1. I was encouraged at the website <https://scitools.org.uk/cartopy/docs/latest/index.html>, and <https://matplotlib.org/stable/tutorials/index.html>.



2. At this question, I used the file which I have used at the last time. The file can be downloaded at (https://pan.baidu.com/s/1cG24X7uvX4F7lksWYGWV_A, code: 51qw). I extracted the latest data as t2m at first.
 - 2.1. At this question, I set a central latitude and longitude of China. Then, I created a 10 * 10 figure, plotting with PlateCarree projection, which is shown as a rectangle. To plot gridlines, label and ticks, I used `gridlines()` and `x/ylocator`. At this time, I used `x/ylabel_style` to adjust the sizes of labels. For features, I added coastlines using `coastlines()` with 10 m resolution, and lakes, rivers were also added. Then I plotted the temperature data with `contour()`. I set the title as "Global 2 meter Temperature in 2021-10". For annotation, I used `annotate()` in matplotlib and I annotated the Antarctica. For text box, I added a point at the central latitude and longitude of China, with a text 'China' beside it. The final figure is shown as Figure 2. I am sorry about that I cannot show any legend at this question.
 - 2.2. At this question, I used a similar method as 2.1. In addition to the similar code, I added an extent near the center of China, and then I used `set_extent()` to plot a zonal map. Besides, I used Orthographic projection at this time. For features, I added an extra borders feature. At this time I faced to a problem that the annotation cannot show successfully, and I found the solution at the website <https://stackoverflow.com/questions/25416600/why-the-annotate-worked-unexpected-here-in-cartopy>. I annotated Hainan Province this time. The final figure is shown as Figure 3.

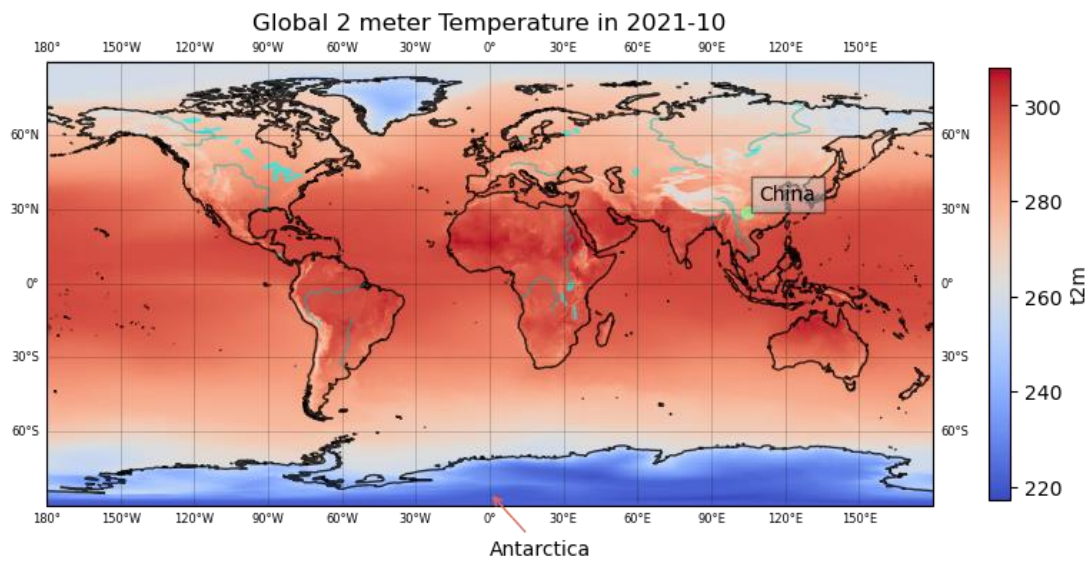


Figure 2. Global 2 meter Temperature in 2021-10 (global, PlateCarree projection)

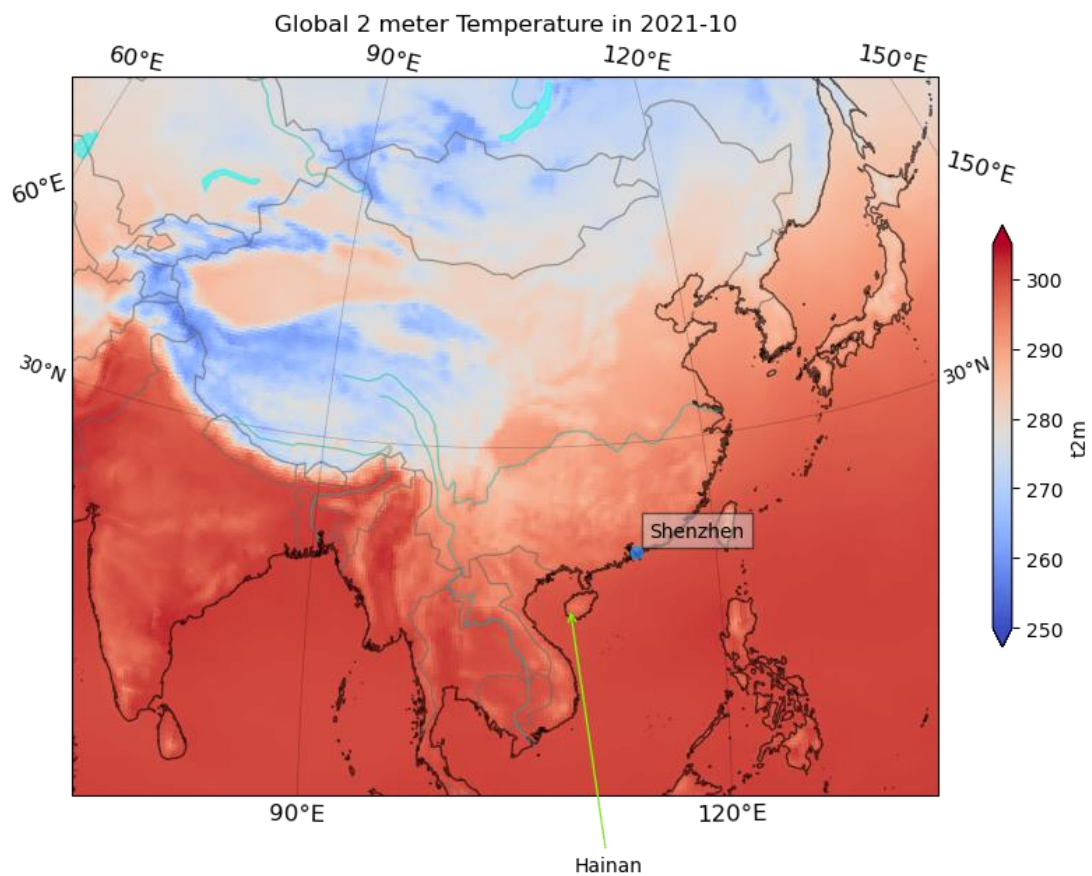


Figure 2. Global 2 meter Temperature in 2021-10 (zonal, Orthographic projection)