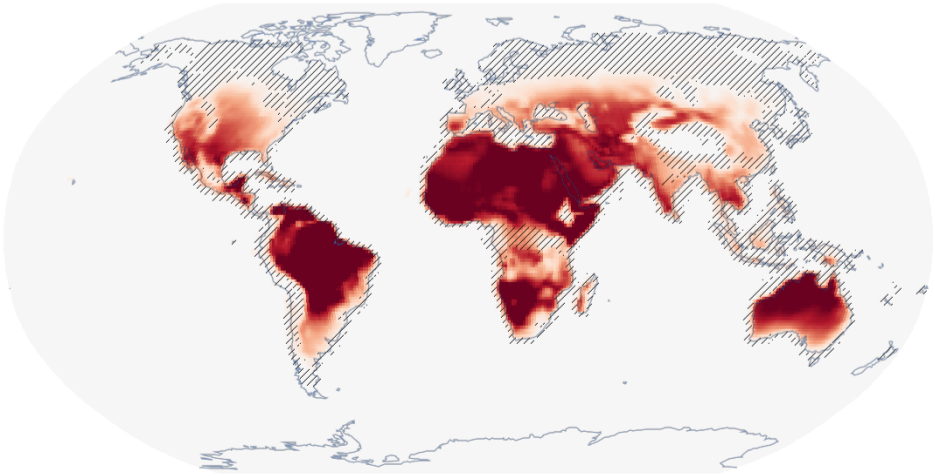
Royal Holloway Geography for Schools Lecture Series

Climate Change and Natural Hazards Classroom Computer Activity/Homework



Outline

The IPCC (Intergovernmental Panel on Climate Change) use computer models tested with real data, to make projections (like that above showing heatwave frequency), of the climate up to the year 2100. You can generate maps of these projections using the Interactive Atlas. You can watch the introductory video here: https://youtu.be/37LqAwX91sg

In the online lecture we discussed how earthquakes and volcanoes can be affected by climate change on long timescales through melting ice sheets and rising sea levels. However, other natural hazards such as heatwaves, landslides, coastal erosion or extreme snowfall are likely to be affected by climate change on more immediate timescales (within our lifetimes). These are the hazards which will be explored in this activity.

Task:
Split the class into groups of about 6 or 7 students. Each group can then choose a country to represent. Suggestions which work well (and are easy to find on the IPCCs map) for this activity are:

- UK
- USA
- China
- Australia
- Spain
- Madagascar

Using the Regional Synthesis platform of the IPCCs Interactive Atlas each student will make projections of one or two of the following hazards in 2050, under a global 2°C warming scenario.

1. Extreme Heat (Heatwaves)
2. River Flooding and Heavy Precipitation and Pluvial Flood (flash flooding)
3. Landslides
4. Agricultural Drought
5. Wind hazards (either Severe Wind Storm, Tropical Cyclone/Hurricane or Sand and Dust storm) 6. Snow, Glacier and Ice Sheet cover
7. Coastal Erosion

Each student should then answer the following questions about their effect of climate change on their chosen hazard in their assigned country. They could present this to the class afterwards as if they were at one of the COP climate meetings.

1. What is the projected change (increase, decrease, no change or not relevant) in the frequency of the hazard in 2050?
2. How confident is the IPCC in that projection?
3. What could be the implications of that change for human health?
4. What could be the implications of that change for the country's economy?
5. What could be the implications of that change for nature?

The IPCCs helpful impacts, adaptation and vulnerability factsheets will be particularly useful for this part of the activity.