



Figure 1. Population and the land area used for crops and pasture plotted against latitude. Most land and people live in the northern hemisphere. Population density falls at high latitudes because agricultural production falls at high latitudes. The population data used to plot this is from [14]. Also shown are the areas where rising temperature will force a large number of people to migrate.

Eun-Soon Im et al. [3] write, 'The most intense hazard from extreme future heat waves is concentrated around densely populated agricultural regions of the Ganges and Indus river basins. Climate change, without mitigation, presents a serious and unique risk in South Asia, a region inhabited by about one-fifth of the global human population, due to an unprecedented combination of severe natural hazard and acute vulnerability.' This region spans latitude 10 to 35° N. Though the highest risk areas are distributed patchily in regions where humidity and temperature will combine to exceed a wet bulb temperature of 35° C. At that point humans can only live for a few hours. ^[5]

A fifth of the population [in late 2018] is 1.534 billion. If I guess that a quarter of these people will be forced to migrate, then we may need to provide shelter and food for 383 million climate refugees. For comparison the population of the USA is 325.7 million, and the population living north of Lisboa (38° 42' N) is 1.235 billion. This number does not include those who may be forced to migrate by rising sea level e.g. from much of Bangladesh and Florida, or by drought.