Impacts of Climate Change: Communicable Disease

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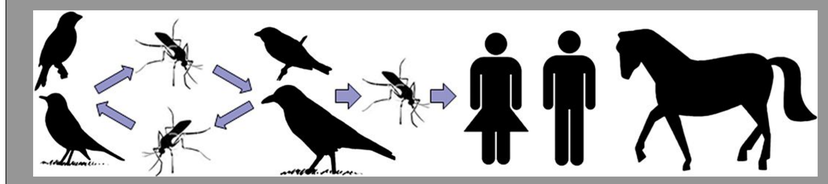
Introduction

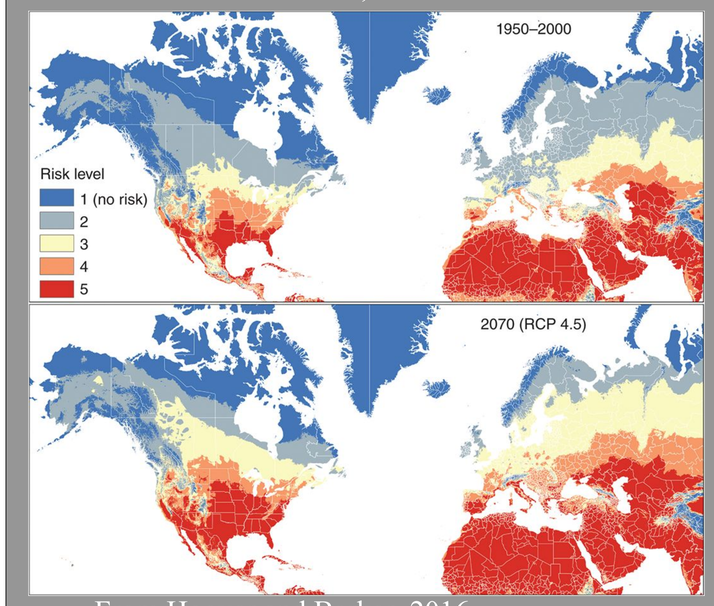
What is a communicable disease?

- Disease easily transmitted through a variety of modes, i.e. air, water, insects, people
- In other words does not include lifestyle diseases. i.e. cancer, Alzheimer's, diabetes, etc.
- Examples include Ebola, HIV, STDs, flu, etc.

(2) The West Nile Virus is a common (yet sometimes lethal) vector-spread disease. Below is a simple diagram of the vector relationsips in regards to the spread of the virus.



From Hoover and Barker, 2016.



From Hoover and Barker, 2016.

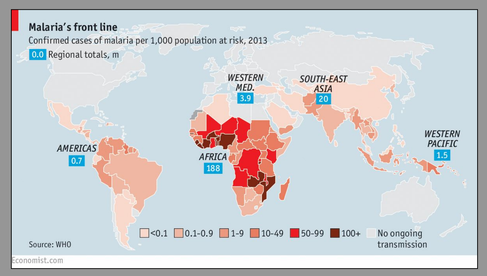


Image Source: The Economist

The risk of malaria has spread vastly, and more frequently among the tropical regions of the world. With no surprise the global temperature has increased since then by 1.03 degree Celsius according to NASA(1)

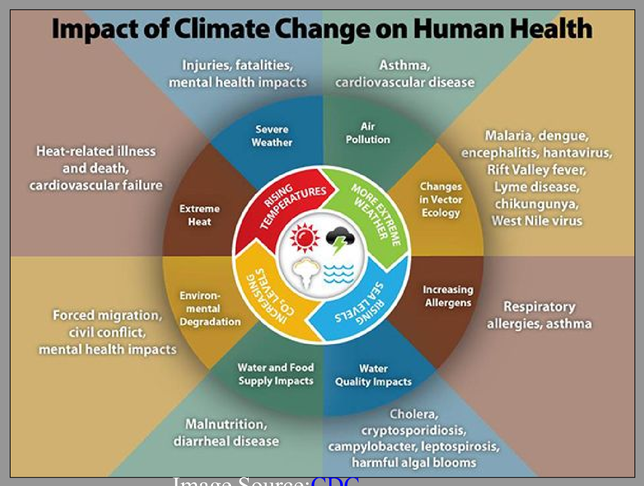


Image Source:CDC

(2) Due to the WNV's spread by mosquitoes, climate heavily affects the regions which it can affect. This image depicts the predicted risk of transmission in the northern parts of the world. As the temperature of the planet increases, the ability of WNV (along with other similar diseases) increases.

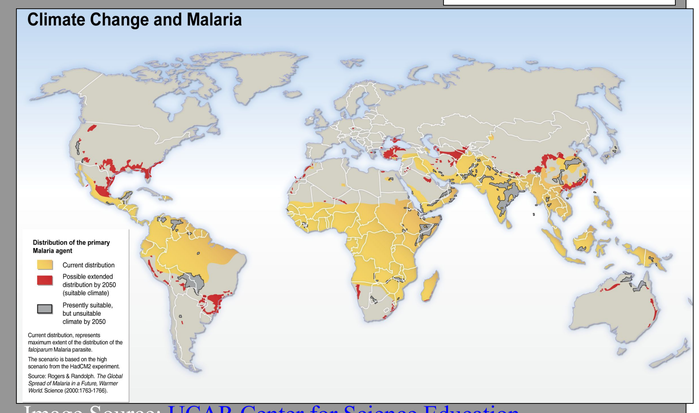
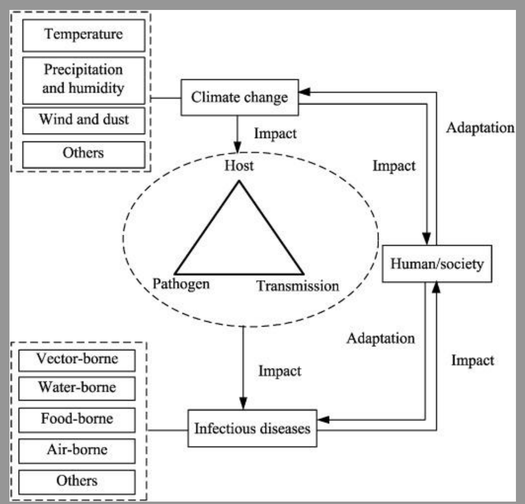


Image Source: UCAR Center for Science Education

According to UCAR, the area inhabitable to mosquitos will increase by 2060 into the Southern US, Argentina, Western Turkey, etc.

Climate changes (e.g rising sea levels) expose people to wet housing conditions, making them more susceptible to respiratory diseases. Increased atmospheric CO_2/rising temperatures also increase the production of pollen, making those with such allergies more vulnerable.

From Wu, et al



The relationship between human society and infectious diseases is governed by a complex web of factors, such as the adaptaion of each side to the other, as well as environmental conditions.

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