



Unequal Impacts of Climate Change to the Developing Countries in the World: A Global Perspective

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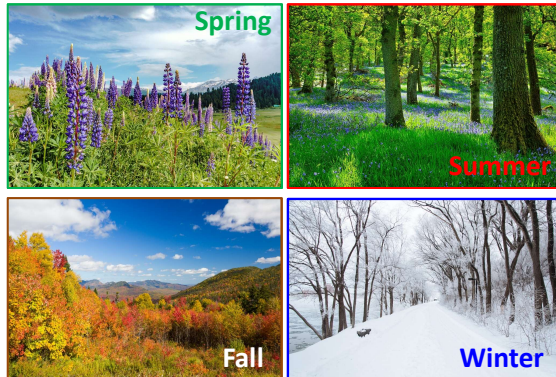


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Climate does Change ! Just like Seasons !



Spring
Summer
Fall
Winter

Is Our Beautiful Earth Getting Sick?




<http://epic.gsfc.nasa.gov/> Earth Polychromatic Imaging Camera (EPIC)


It seems that we are experiencing more natural disasters!



Forest Fire
Drought
Flooding

http://www.noaa.gov/features/04_resources/fire2.html
http://www.noaa.gov/features/monitoring_0209/images/drought.jpg
<http://www.nesdis.noaa.gov/fourbox/04-29-13/>


Stronger Hurricanes




<http://oceanservice.noaa.gov/hazards/hurricanes/>

Arctic sea ice melting

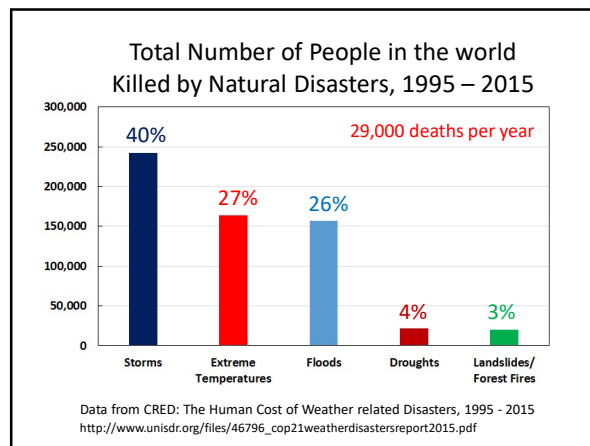
Sep 11, 2017

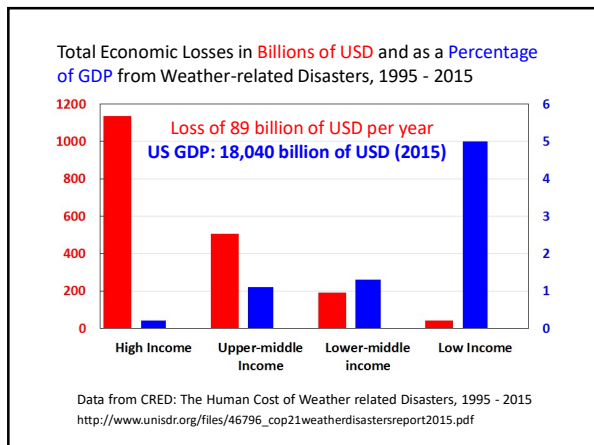
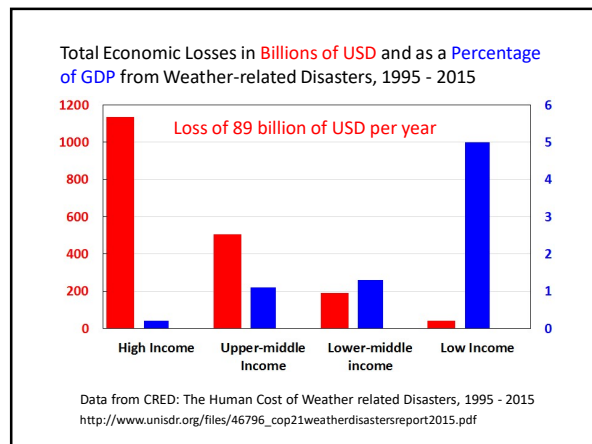
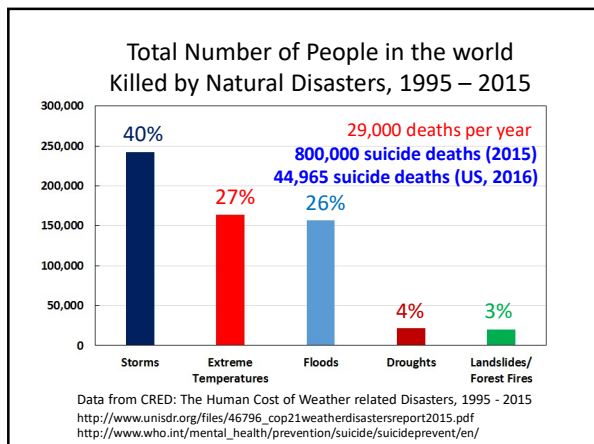


Extreme Temperatures



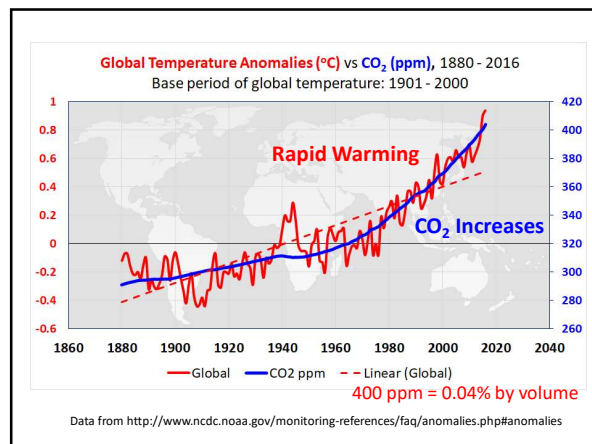
<https://climate.nasa.gov/news/2633/end-of-summer-arctic-sea-ice-extent-is-eighth-lowest-on-record/>

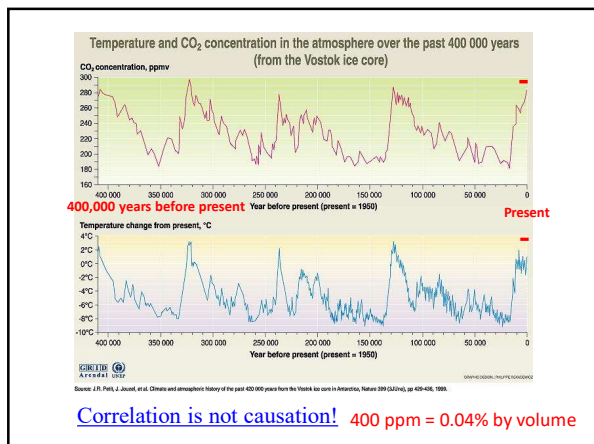




Outline

- Evidences of Climate Change
- Causes for Climate Change
- Carbon Dioxide and Climate Change
- Status of International Economy
- Inequality of Global Economy
- Future Global Economy
- Ready for the Future





Atmospheric Greenhouse Effect

Sunlight passes the atmosphere and warms the earth's surface. Earth's surface then radiates the longwave radiation back to space. Most of the outgoing longwave radiation from the earth's surface is absorbed by the greenhouse gases and re-emitted in all directions, warming the surface of the earth and the lower atmosphere.

Greenhouse Gases

- Water vapor (H₂O)
- Nitrous oxide (N₂O)
- Carbon dioxide (CO₂)
- Methane (CH₄)

Venus
Too much greenhouse effect
T = 462°C

Mars
No greenhouse effect
T = -60°C

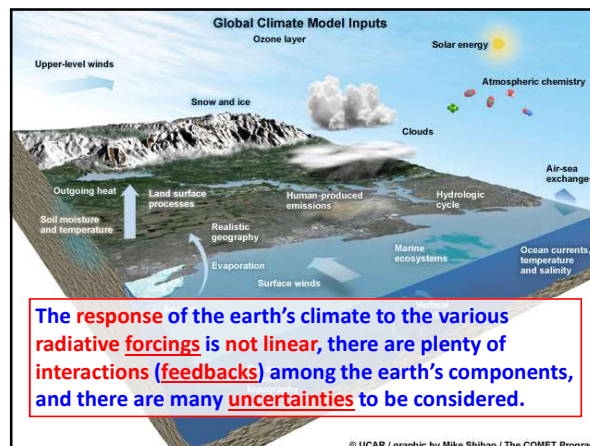
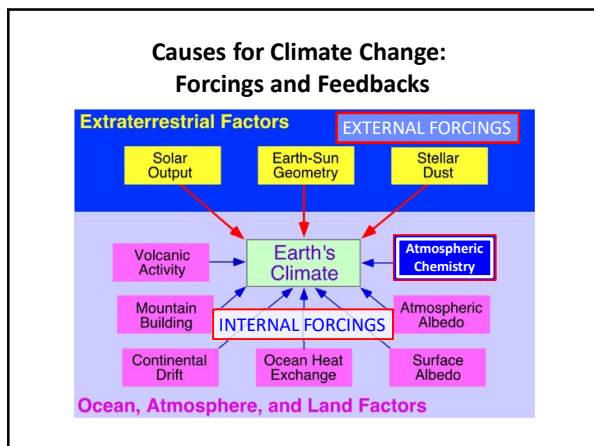
<http://climate.nasa.gov/causes/>

Our Earth is at the **right** distance from the sun, and it has the **right** composition of gases in the atmosphere to provide us with the **right** amount of greenhouse effect, so that we can survive comfortably at **15°C!**

Thanks! Atmospheric Greenhouse Effect

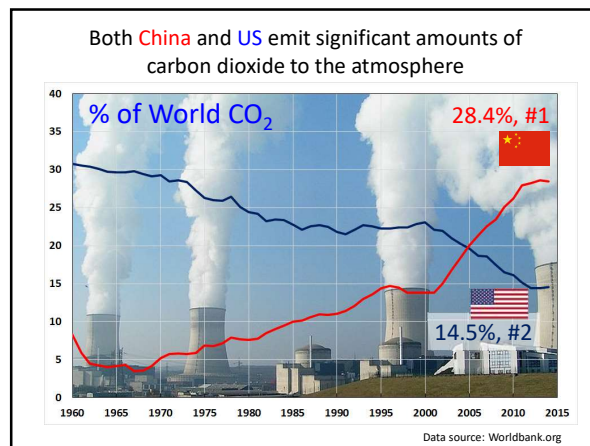
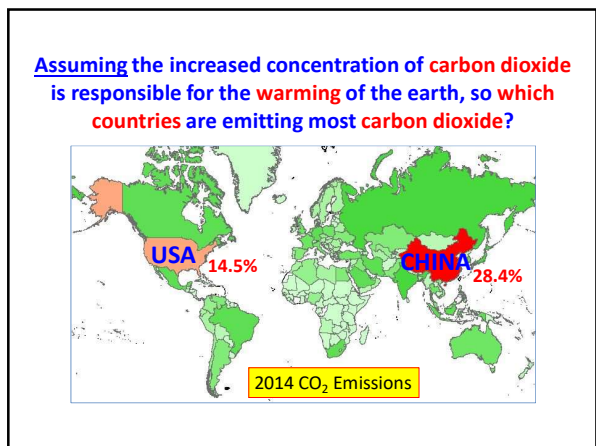
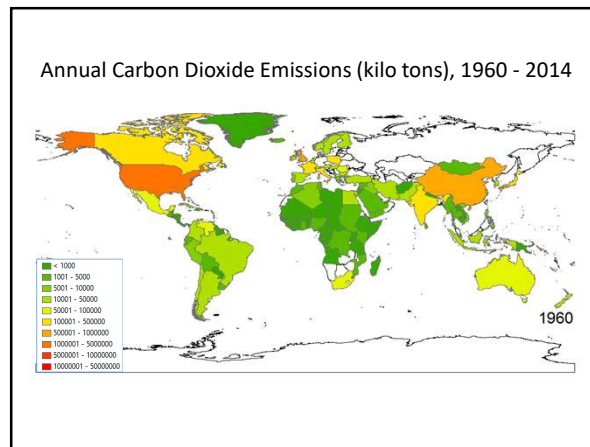
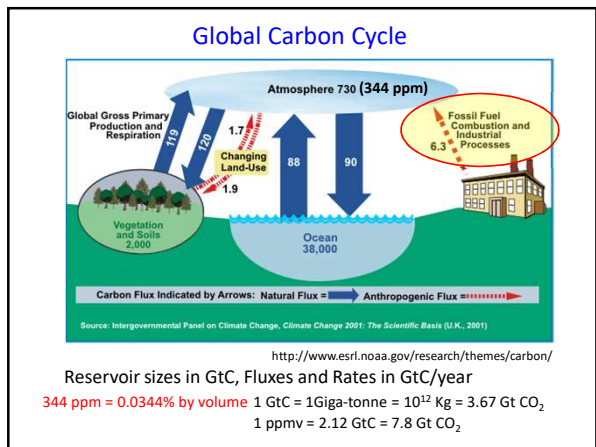
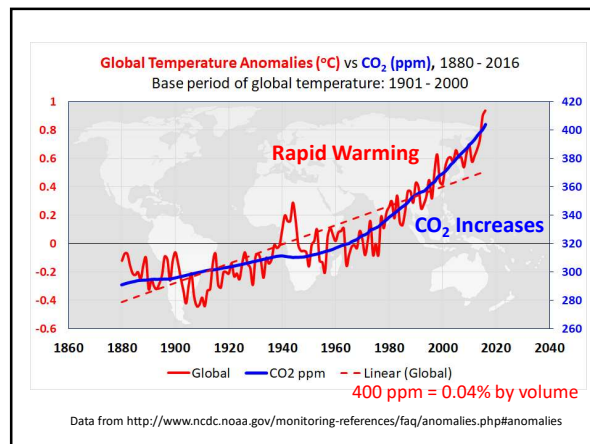
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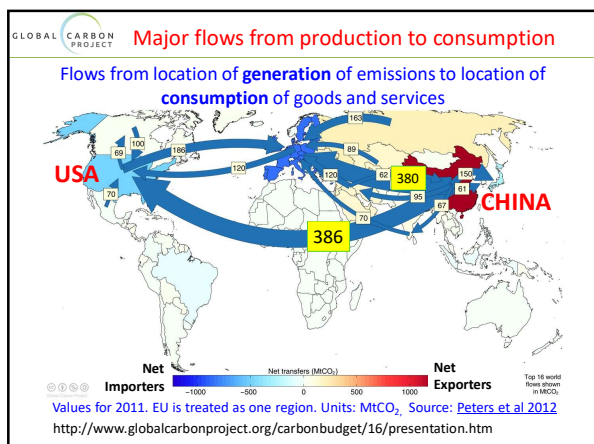
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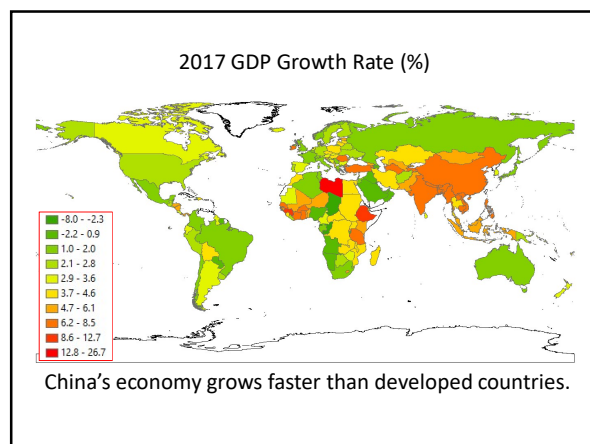
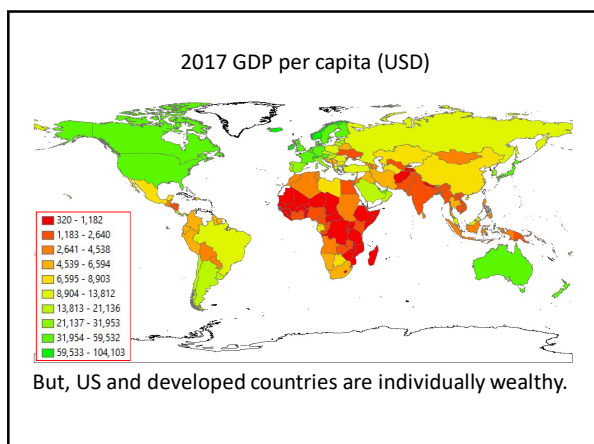
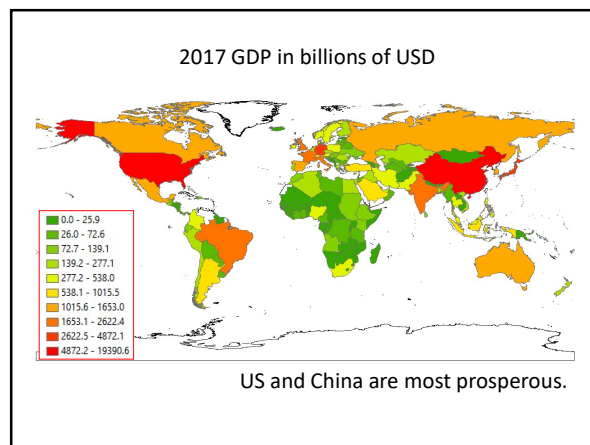
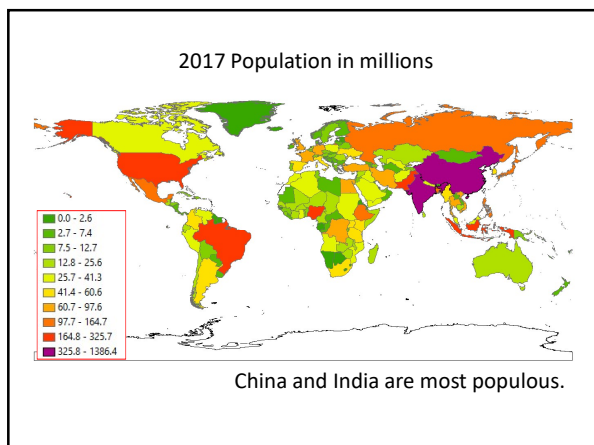
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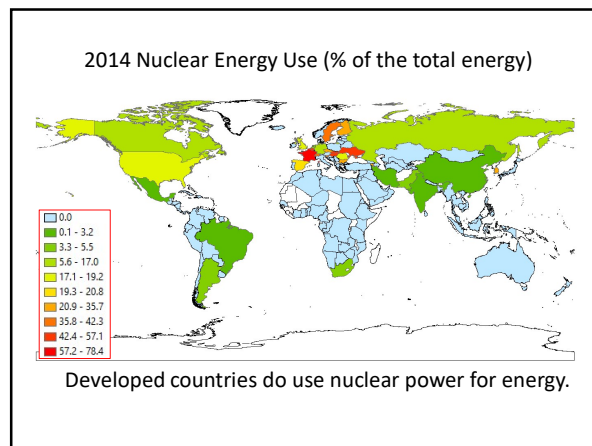
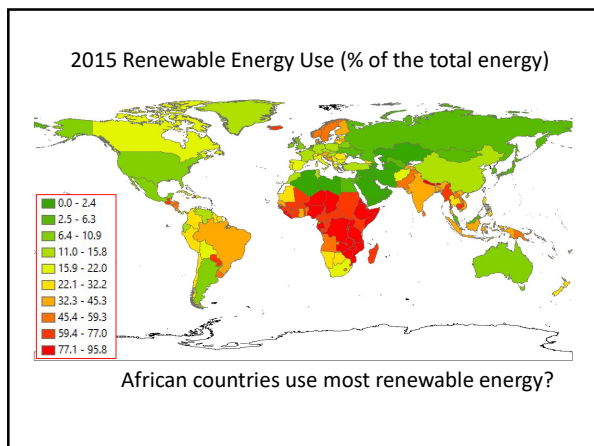
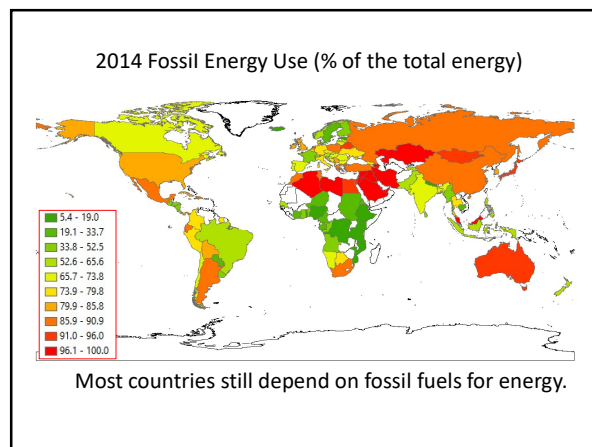
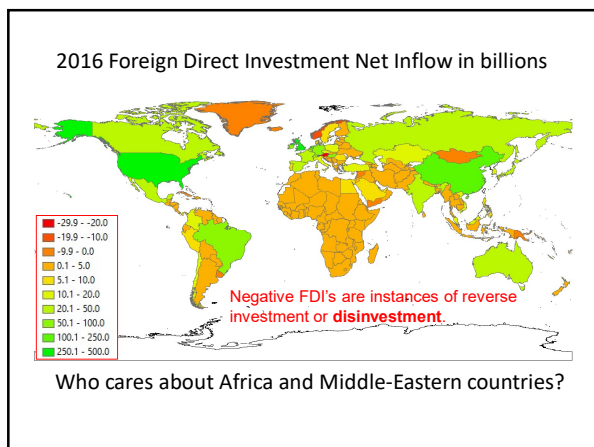
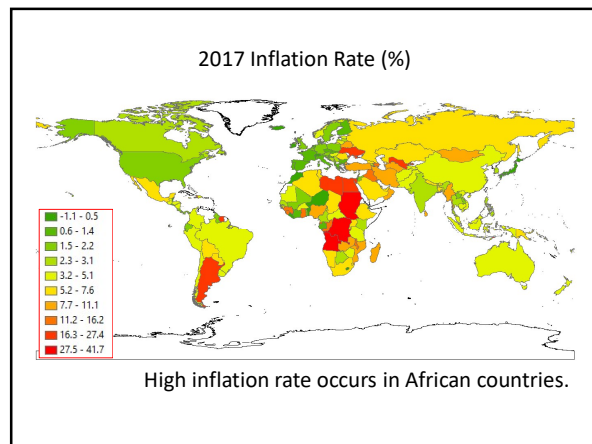
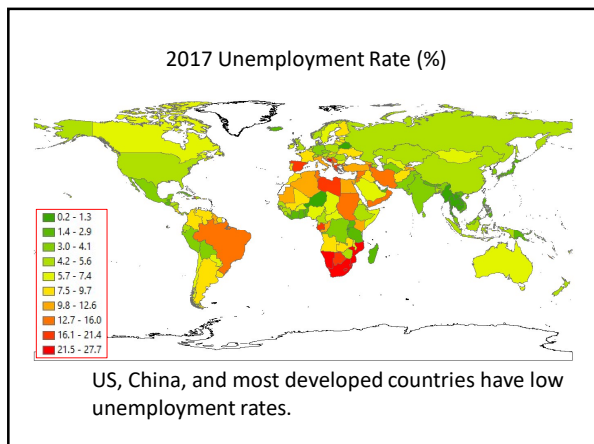




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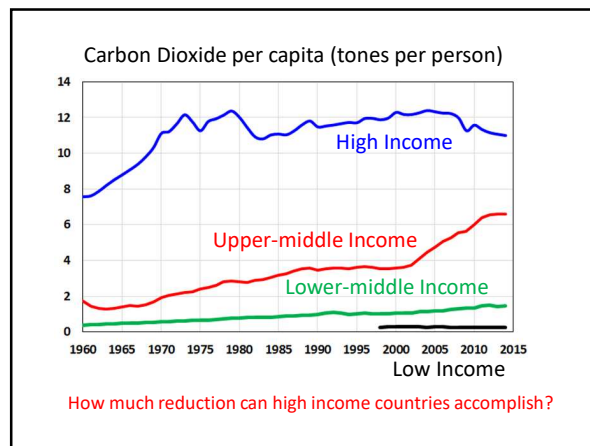
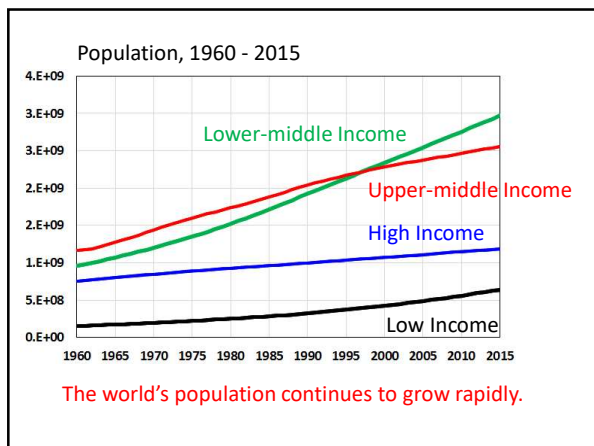
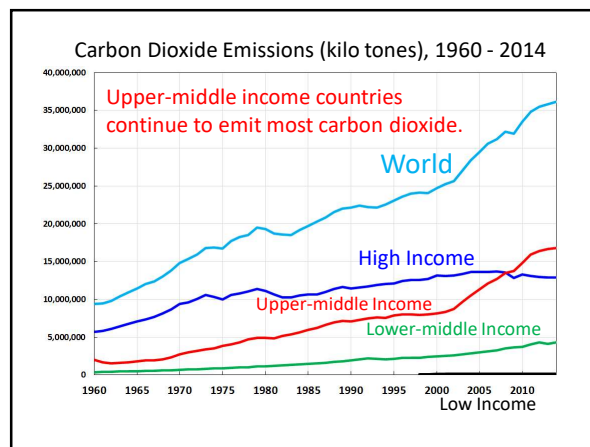
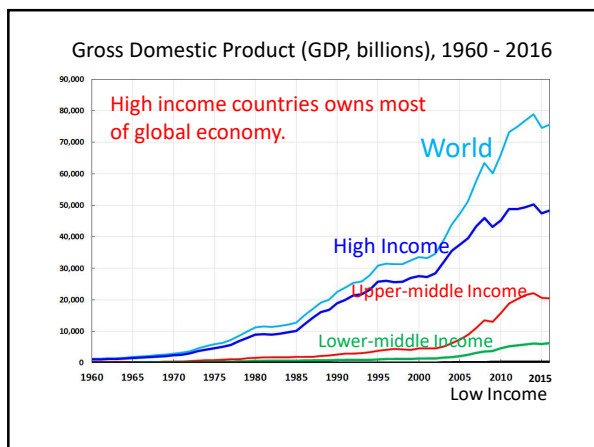
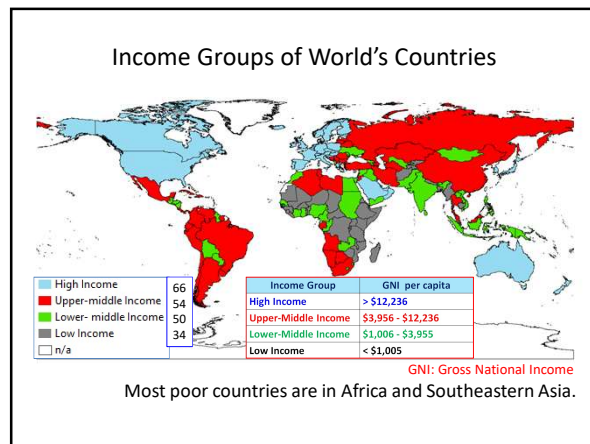
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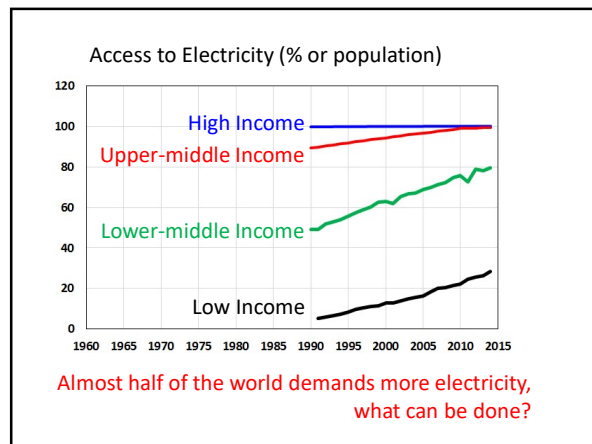
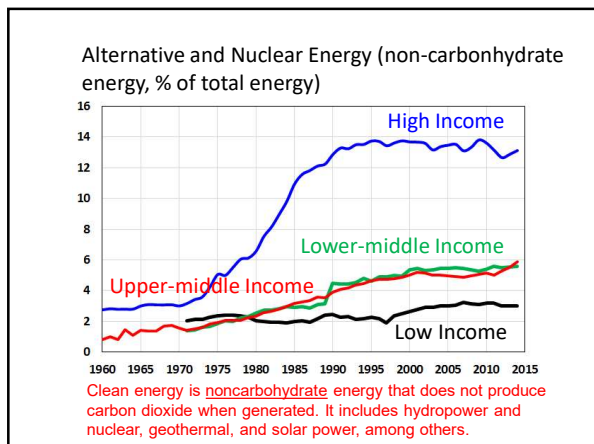




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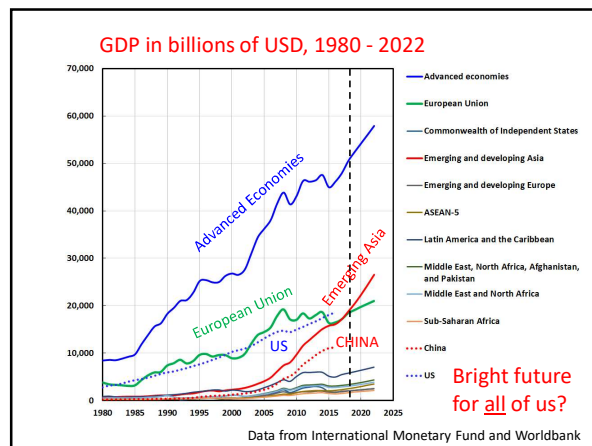
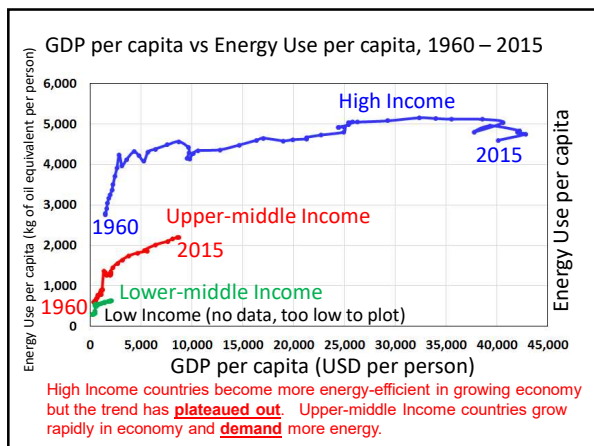
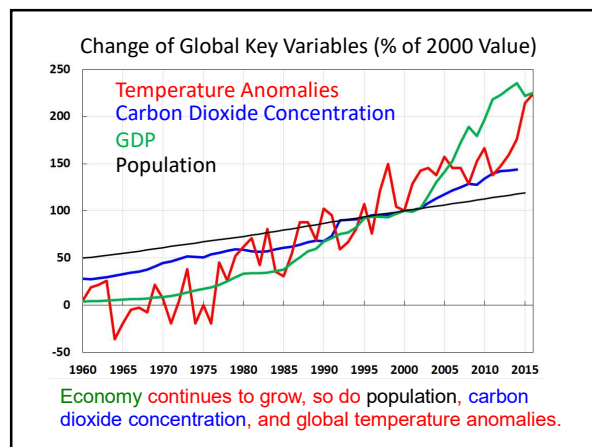
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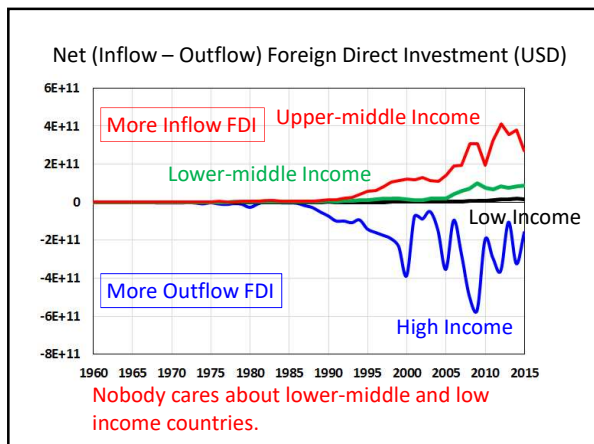




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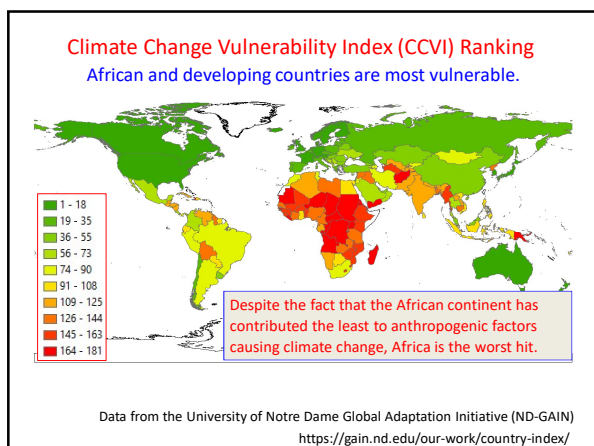
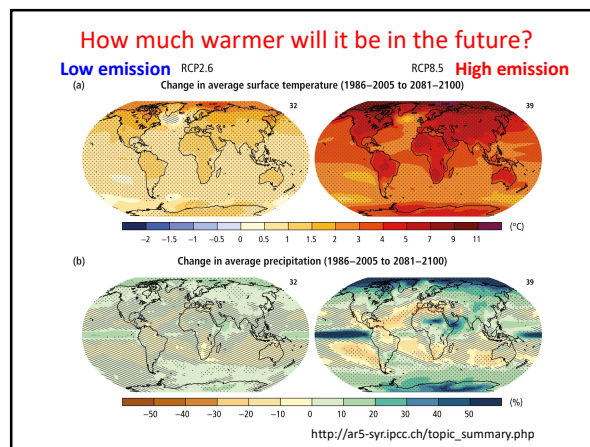
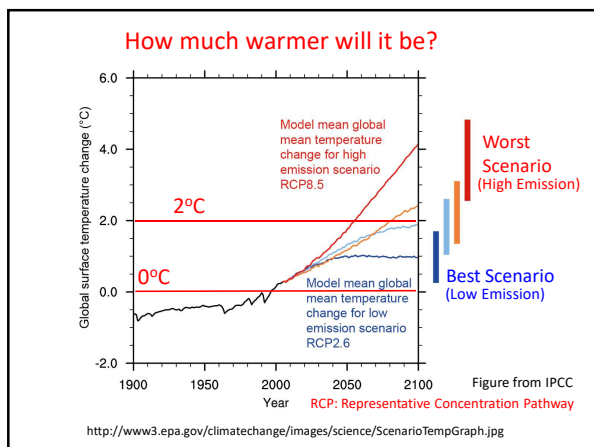
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Summary

- Climate Change is happening
- Climate Change is natural and human-made
- Advancing technology helps
- Green energy is expanded but inadequate
- Personal responsibilities are good but limited
- Impacts of Climate Change differ between countries
- Global economy will continue to grow
- Inequality of economy needs to be addressed

What can we DO about climate change?

- Develop renewable energy
- Advance green technology
- Strengthen international cooperation
- Accelerate balanced economic progress
- Do your share of protecting the environment



<http://epa.gov/climatestudents/impacts/effects/index.html>



The unequal scenes of the informal settlement of Kya Sands and the leafy trees and swimming pools of the middle-class suburb of Bloubostrand, in Johannesburg, South Africa.
Photo: Jonny Miller/ Millefoto

<http://www.worldbank.org/en/news/feature/2018/04/03/access-to-education-skilled-jobs-creation-can-accelerate-poverty-reduction-and-inequality-in-south-africa>