Six Degrees: Our Future on a Hotter Planet, by Mark Lynas
Earth QUEST Questions
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Introduction
x) What is the IPCC?
x) How does the author define “global warming”?
x) Explain how the author based the temperature scale for this book.

One Degree
x) How can dead trees talk to us?
x) What was the planet like during the Medieval Warm Period? When was this?
x) What happened to the Chaco Canyon Indians? Why?
x) What happened during the Dust Bowl? Do you think it could happen again?
x) What triggered the Younger Dryas?
x) What was the panic with the MOC? What do we believe is going on now?
x) How do ice cores record climate variations? Why study the oxygen and dust?
x) Why should we be concerned about disappearing mountain glaciers?
x) What lines of evidence show the Sahara had a wetter past?
x) How is the Arctic being impacted by warming?
x) Describe the Arctic sea-ice tipping point.
x) What is the importance of Arctic sea ice?
x) In 2003, what caused the rockfalls in the Swiss Mountains?
x) Describe the past, present, and future timeline, in the context of the extent and locations, of coral bleaching.
x) Why are amphibian species going extinct?
x) Why was Hurricane Catarina considered a freak storm?
x) With a one degree increase in temperature, summarize the impact on the anthrosphere.
x) With a one degree increase in temperature, summarize the impact on the atmosphere.
x) With a one degree increase in temperature, summarize the impact on the biosphere.
x) With a one degree increase in temperature, summarize the impact on the cryosphere.
x) With a one degree increase in temperature, summarize the impact on the hydrosphere.

Two Degrees
x) How will a two degree increase impact the already-existing chronic shortage of water in China?
x) What is the connection between phytoplankton and carbon dioxide?
x) What is the likelihood of having another summer like 2003? Explain why.
x) What will the heat waves be like in the Mediterranean?
x) Are the articles and interviews by James Hansen helping or hurting the public in learning about climate change?
x) Should any nation be able to enter the Arctic Circle and claim land?
x) Why can’t the polar bears survive without sea ice?
x) What will the impact be on the Inuit people (especially their culture) due to warming climate?
x) What would be the impacts in India if the mountain glaciers disappeared?
x) What are the struggles faced by SEDAPAL – nature and otherwise?
x) Why do the Colorado and San Joaquin Rivers have difficulty reaching the ocean?
x) What crops will yield more with a two degree temperature increase? Why?
x) Will famine increase with a two degree increase in temperature? Explain.
x) Why will humans survive a two degree increase in temperature but natural biodiversity will face major struggles?
x) Why can this be called the “Age of Loneliness” or “Silent Summer”?
x) With a two degree increase in temperature, summarize the impact on the anthrosphere.
x) With a two degree increase in temperature, summarize the impact on the atmosphere.
x) With a two degree increase in temperature, summarize the impact on the biosphere.
x) With a two degree increase in temperature, summarize the impact on the cryosphere.
x) With a two degree increase in temperature, summarize the impact on the hydrosphere.

Three Degrees
x) Why doesn’t Botswana get rain?
x) What will happen to the dune fields with warming?
x) What are the pluses and minuses of using models to look into our future climate?
x) What evidence can we study to learn about Pliocene climate and CO2 levels?
x) What would be the impact if we stopped increasing atmospheric CO2 tomorrow?
x) What are the causes and effects of El Niño?
x) As we continue to warm, what will happen to El Niño?
x) What is carbon cycle feedback?
x) Why is peat dangerous with a three degree increase in temperature?
x) Is the Amazon rain forest doomed? Explain.
x) Why will Australia burn in a world with the three degree temperature increase?
x) What will the combination of fire, heat, and drought do to the people of Australia?
x) Will hurricanes be stronger or weaker in a warmer future? Why?
x) How will the Arctic differ from what we have today?
x) How do we know what caused the collapse of the Mayan civilization?
x) What impact will drought have on Central America?
x) What are the two problems associated with monsoon intensification?
x) What is the importance of snowmelt?
x) Will cases of malaria increase or decrease in a three degree world? Explain.
x) What will be the crop losses with a three degree increase?
x) With a three degree increase in temperature, summarize the impact on the anthrosphere.
x) With a three degree increase in temperature, summarize the impact on the atmosphere.
x) With a three degree increase in temperature, summarize the impact on the biosphere.
x) With a three degree increase in temperature, summarize the impact on the cryosphere.
x) With a three degree increase in temperature, summarize the impact on the hydrosphere.

Four Degrees
x) What will be the pressures placed on inland cities with coastal flooding?
x) Are scientists keeping a close eye on West or East Antarctica? Why?
x) Why is China “on a collision course with the planet”?
x) With a four degree increase in temperature, summarize the impact on the anthrosphere.
x) With a four degree increase in temperature, summarize the impact on the atmosphere.
x) With a four degree increase in temperature, summarize the impact on the biosphere.
x) With a four degree increase in temperature, summarize the impact on the cryosphere.
x) With a four degree increase in temperature, summarize the impact on the hydrosphere.

**Five Degrees**
x) What will happen to deserts in a world with a five degree increase in temperature? Why?
x) What will be the role of underground aquifers?
x) How can one explain the presence of new animals in North America at the Paleocene/Eocene boundary?
x) What triggered a deep-sea extinction at the Paleocene-Eocene transition? What died out and why?
x) What triggered the 55 million year old gas blast? Could volcanism have played a role?
x) How might one go about planning to survive?
x) With a five degree increase in temperature, summarize the impact on the anthrosphere.
x) With a five degree increase in temperature, summarize the impact on the atmosphere.
x) With a five degree increase in temperature, summarize the impact on the biosphere.
x) With a five degree increase in temperature, summarize the impact on the cryosphere.
x) With a five degree increase in temperature, summarize the impact on the hydrosphere.

**Six Degrees**
x) Describe the Cretaceous world.
x) Where did carbon get trapped during the Cretaceous?
x) What caused the ocean anoxic event?
x) What went extinct at the end of the Permian Period? What are the possible causes?
x) How is our current world different from the Permian world?
x) What is the lesson of the end Permian, as stated by the author?
x) With a six degree increase in temperature, summarize the impact on the anthroposphere.
x) With a six degree increase in temperature, summarize the impact on the atmosphere.
x) With a six degree increase in temperature, summarize the impact on the biosphere.
x) With a six degree increase in temperature, summarize the impact on the cryosphere.
x) With a six degree increase in temperature, summarize the impact on the hydrosphere.

**Choosing Our Future**
x) Why does the IPCC use the term “scenarios” rather than “predictions”?
x) What are the unknowns in these scenarios?
x) What are various forms of denial by people in attitudes towards climate change?
x) How does an oil field form?
x) What is the good and bad of wind turbines?
x) What do you think… should be invest in wind turbines on the continental shelf?
x) What do you think of biofuels?
x) What is carbon rationing? Would it work?