What are the effects of climate change on marine and land ecosystems?

Wassmann, P., Duarte, C. M., Agustí, S., & Sejr, M. K. (2011). Footprints of climate change in the Arctic marine ecosystem. Global Change Biology, 17(2), 1235–1249. <https://doi.org/10.1111/j.1365-2486.2010.02311.x>

* Question: How will the melting ice exacerbate problems we already have in today's ecosystems?
* Quotation: “We found a total of 51 reports of documented changes in Arctic marine biota in response to climate change”

Bonan, G. B., & Doney, S. C. (2018). Climate, ecosystems, and planetary futures: The challenge to predict life in Earth system models. Science, 359(6375), eaam8328. <https://doi.org/10.1126/science.aam8328>

* Question: Will humans have a future on this earth if climate change keeps getting worse?
* Quotation: “The same global change stresses that affect terrestrial and marine ecosystems are critical processes that determine the magnitude and trajectory of climate change, and many of the interventions that might lessen anthropogenic climate change pertain to the biosphere.”

US EPA, O. (n.d.). Climate impacts on ecosystems [Overviews and Factsheets]. Retrieved July 8, 2019, from /climate-impacts/climate-impacts-ecosystems

* Question: How will migration of species affect ecosystem change? (food chain, environment)
* Quotation: “For instance, warming may force species to migrate to higher latitudes or higher elevations where temperatures are more conducive to their survival.”

Marine problems: Climate change | WWF. (n.d.). Retrieved July 8, 2019, from <https://wwf.panda.org/our_work/oceans/problems/climate_change/>

Question:

Quotation:

* Question: How will the lack of biodiversity due to climate change affect the overall ecosystem? (food chain)
* Quotation:”The Intergovernmental Panel on Climate Change predicts a further rise of between 1.4°C and 5.8°C by the end of the century. Climate change could therefore well be the knock-out punch for many species which are already under stress from overfishing and habitat loss.”

Three ways climate change is harming marine species | the epa blog. (n.d.). Retrieved July 8, 2019, from <https://blog.epa.gov/2016/08/04/three-ways-climate-change-is-harming-marine-species/>

* Question: How will the exponential increase in temperature affect ecosystems?
* Quotation:”Earth’s average temperature has risen by 1.5°F over the past century.”

Media Materials

<https://www.youtube.com/watch?v=btuI6UtllNE> (2:25-3:00)

* Question: How will melting ice affect coastal ecosystems and organisms?

<https://www.youtube.com/watch?v=XFmovUAWQUQ> (7:10-7:40) (7:55-8:25)

* Question: How will increased temperature affect ecosystems and organisms?

<https://www.youtube.com/watch?v=G4H1N_yXBiA> (1:20-1:50)

* Question: What will other factors that come with climate change do to ecosystems?