

Impacts of Climate Change: Marine Species Decline

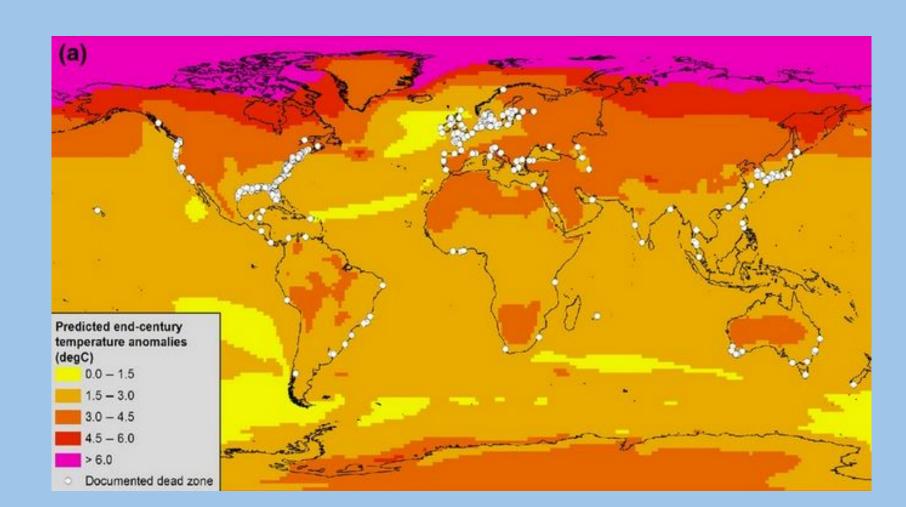
College_Park scholars

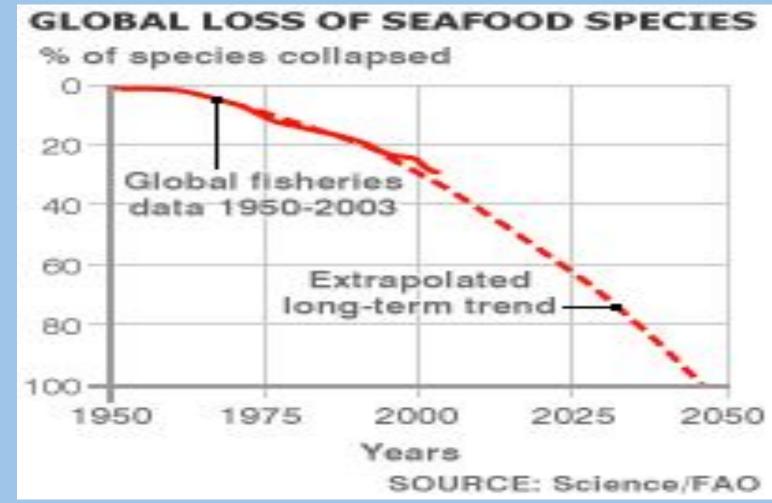
Daniel Li, Dhananjay Narayanan, Justin Argauer, Thea Bliss

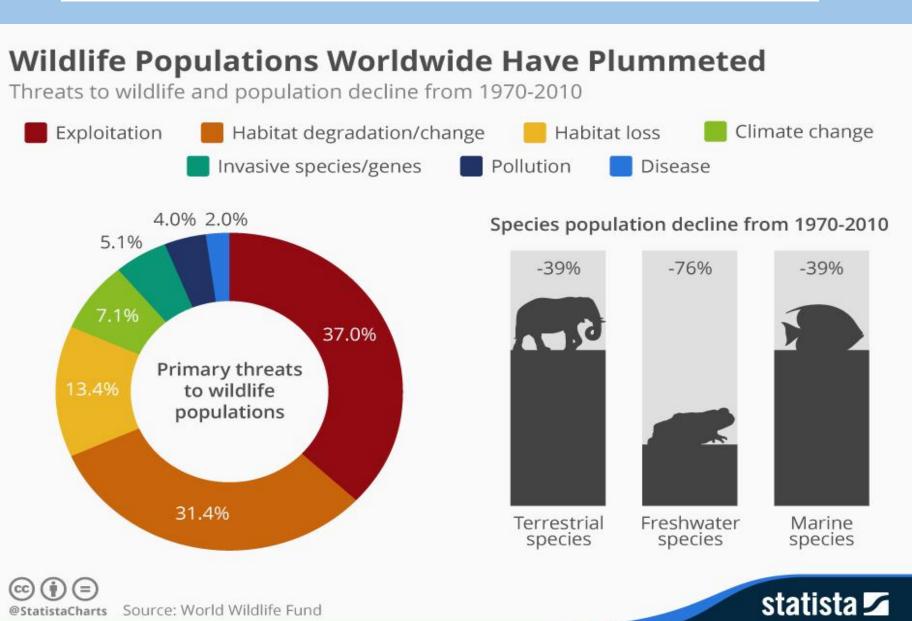
CPSG101 Science & Global Change First Year Colloquium II April 24, 2018

Impacts on Freshwater

- Freshwater will become more scarce as ocean levels rise and habitats will start to disappear
- In areas where freshwater and brackish water mix, such as the Chesapeake Bay, dead zones are starting to pop up. With more dead zones, many marine animals in the bay suffer as a result and may not have a safe living space.

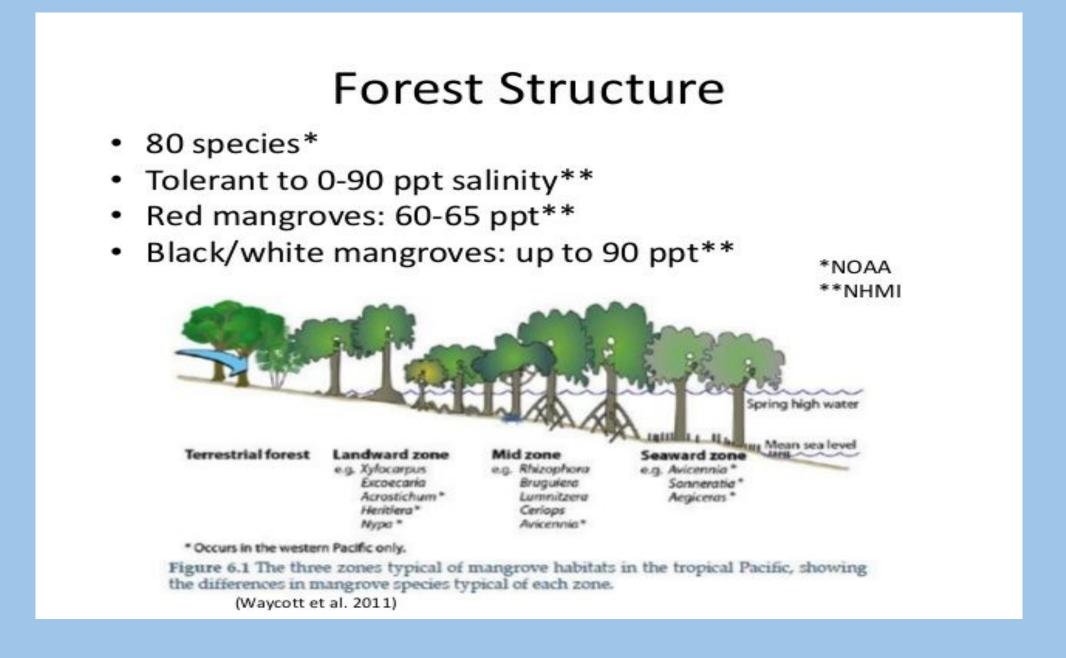






Impacts on the Wetlands

- Increased Severity of Tropical Storms due to climate change threatens mangrove forests, by creating more brackish water.
- More felled trees will also prevent mangroves from filtering pollutants, preventing erosion, serving as habitats for the nearby species, and protecting coastlines from storm damage



Impacts on Coastal Seas

- Number of active fish species have fallen in recent decades as a result of overfishing and changes in water temperature.
- Every species has a range of tolerance for living, and invasive species can take advantage of this
 - If an invasive species has a range of tolerance that included warmer, acidic waters, then an area that was previously too cold or too basic becoming warmer and more acidic allows invasive species to inhabit and throw off the food chain

Impacts on Deep Ocean

- Deep Ocean Fish Eggs are very sensitive, slight raises in water temperature threatens their health.
- Coral Reefs, which are full of biodiversity, are threatened by rising temperatures, and can lead to coral bleaching
- Biodiversity will crash if coral reefs are eliminated due to their function as a habitat for many smaller species



- Altieri, A. H. 2014. Climate Change and Dead Zones (Links to an external site.). Global Change
- Cinar, M., M. Arianoutosu, A. Zenetos, D. Golani. 2014. Impacts of alien marine species on ecosystem services and biodiversity: a pan-European review.
- 3. Predicted effects of climate change on potential sources of non-indigenous marine species (Links to an external site.). Diver ibutions **19**: 257-267. 10.1111/ddi.12048
- K. Brander, C. Brown, J. Bruno, et al. 2013. Global imprint of climate change on marine life.
- Nature Climate Change 3: 919-925. doi: 10.1038/nclimate1958

