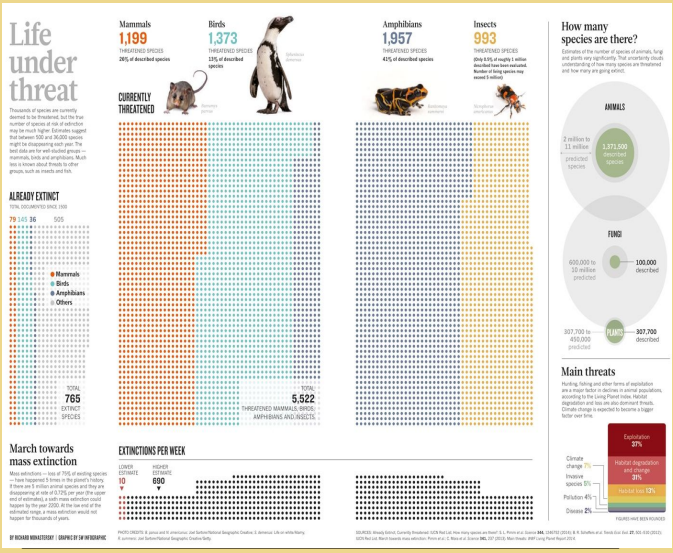
Impacts of Climate Change: Terrestrial Species Loss

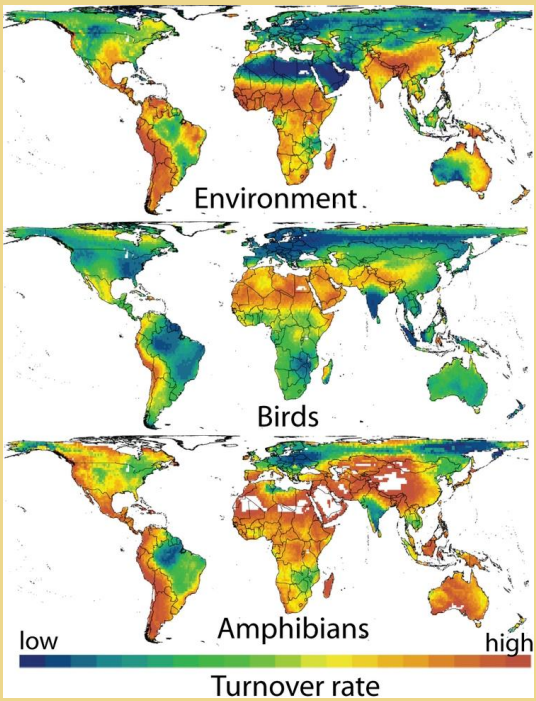
Introduction

At-risk terrestrial species are in jeopardy of extinction. Usually the natural rate of extinction is about 1-5 species a year… it is 1,000 to 10,000 times that rate currently. Some examples of climate change effects:

- heating of Earth's surface affects the species adapted to colder environments
- pollution, disease, competition with invasive species
- Other effects that can occur because of humans include habitat loss and over-exploitation
- This could affect benefits we receive from terrestrial ecosystems because of their loss



Graphic of species that are currently threatened and numbers of species already extinct. To the bottom right of the graphic, listed are the potential threats.[1]



Projected change in amphibian and bird distributions with the environment. Biologists at the University of California studied how change in amphibian distribution can be used to predict change in distribution of other species.[2]

How Current Global Change is Making This Worse

Terrestrial species are feeling the effect of current global change as they are in danger of extinction due to habitat loss. There are a multitude of anthropogenic causes for habitat loss such as deforestation for agriculture or development, disconnection of water ways which changes land formations by separation, pollution, and climate change. Since the 1900's, the UN estimates that the average abundance of native species has decreased around 20%.
They also report that around 75% of land based environments have been altered majorly by human behaviors.

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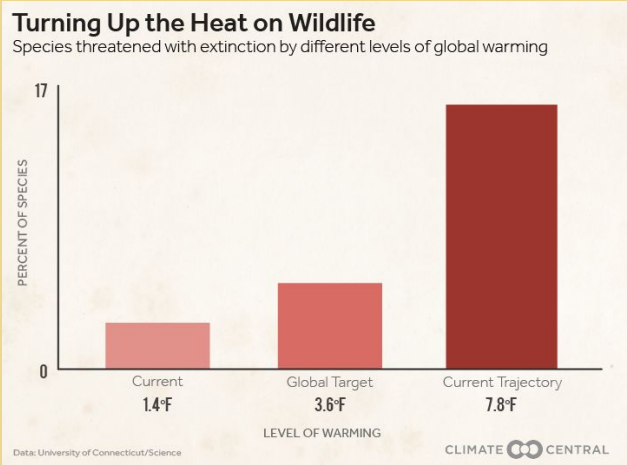
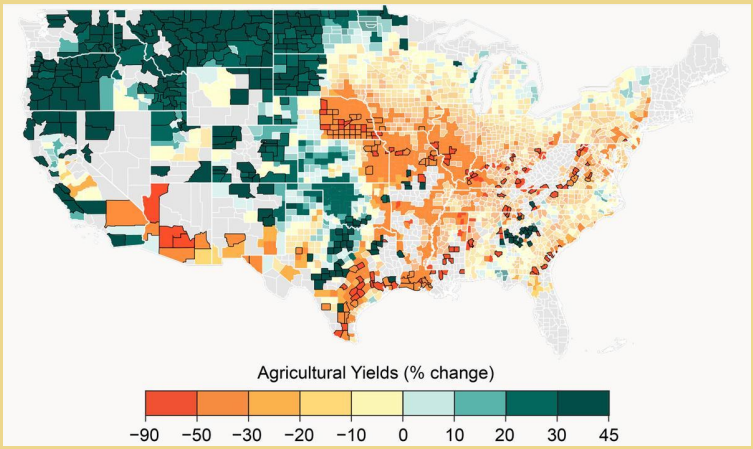
Amoni Hawkins, Nicole Park, Stacy Revesz, AJ Sarama



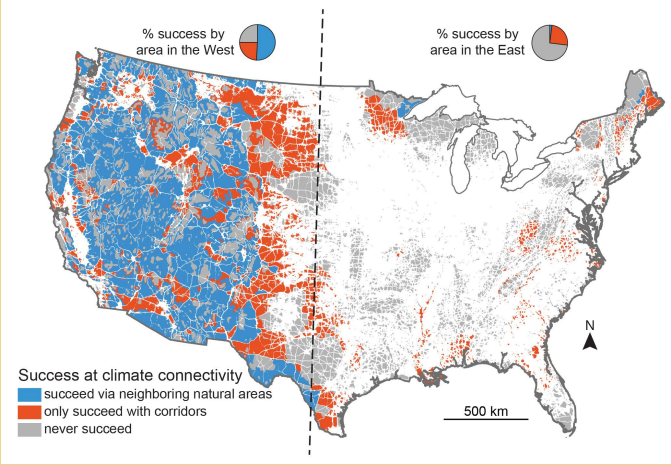
The number of species that have gone or will go extinct with the current, target, and trajectory increase in global temperature.[3]



Predicted change in corn, wheat, soybeans, and cotton yields by 2100. [5]

How will this change impact humans &/or wildlife in the near future

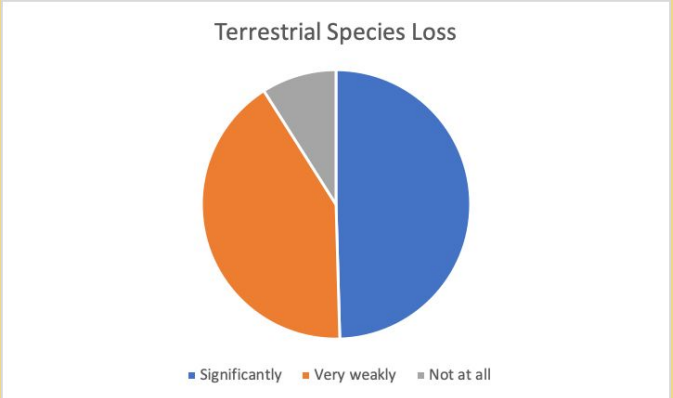
Limited freshwater availability, different spreads of diseases and pathogens, land degradation, and natural disasters may destroy ecosystems and result in extinction and loss of biodiversity. Humans will lose food security and pay higher prices as crops and livestock are expected to decrease in productivity and harm economics. Different atmospheric conditions may alter the biology and therefore nutritional value of plants, like reduced zinc and iron content.



Migration patterns of wildlife and plant species with projected climate change in the next 100 years.[4]

Migration Affects Farmers, Too

Insects that used to inhabit northern Texas 10 years ago might now find states like Iowa more suitable, and farmers will need to take preventative measures as a result. The same goes for weeds and crops: as the environment changes, certain crops won't be able to be grown in their current locations.



Results of 333 respondents conducted in Spring 2020 to the query "Please indicate if in your opinion the degree to which this phenomenon is affected or intensified now or in the near future (within the next 30 years) by global climate change.

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