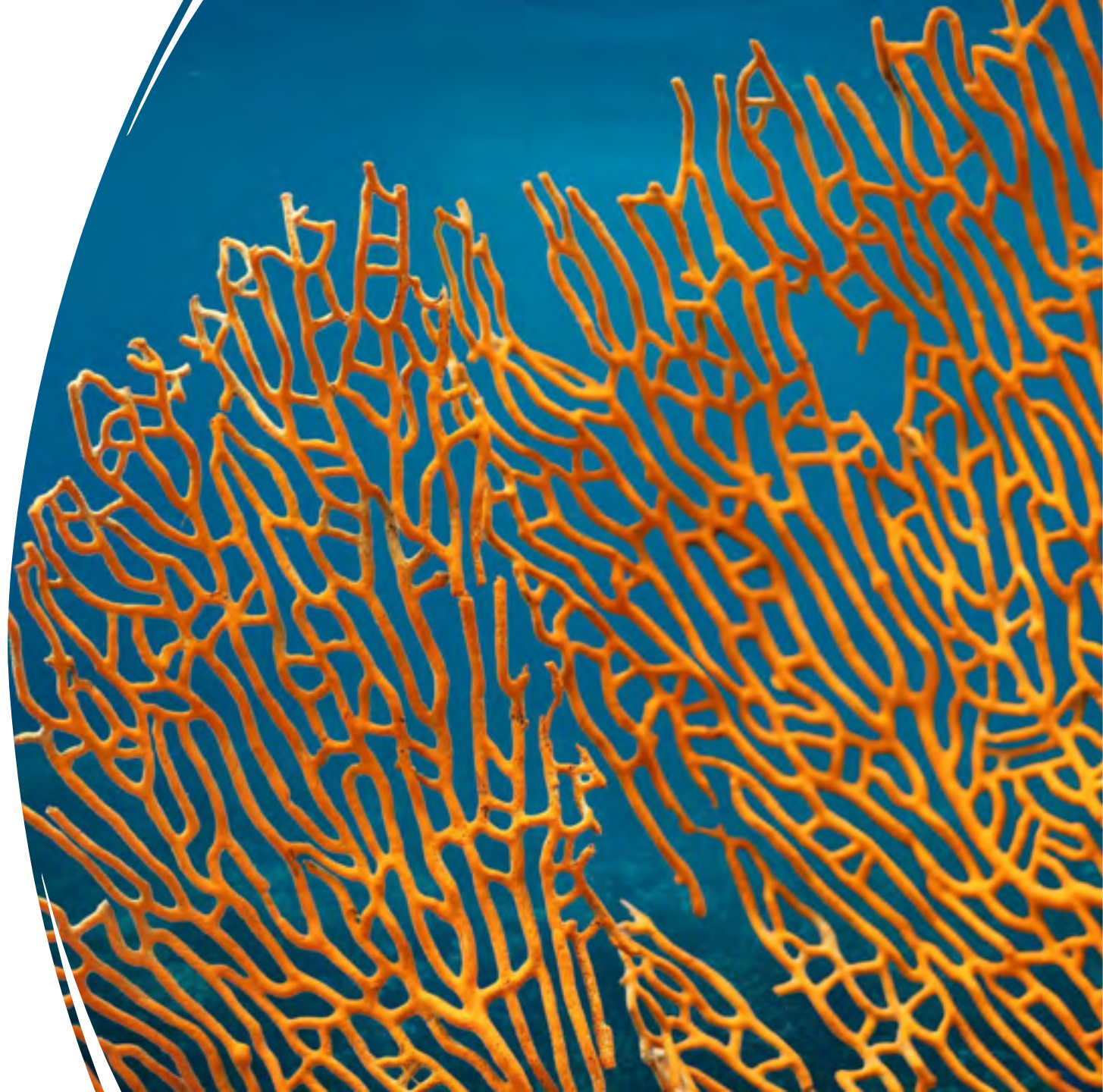


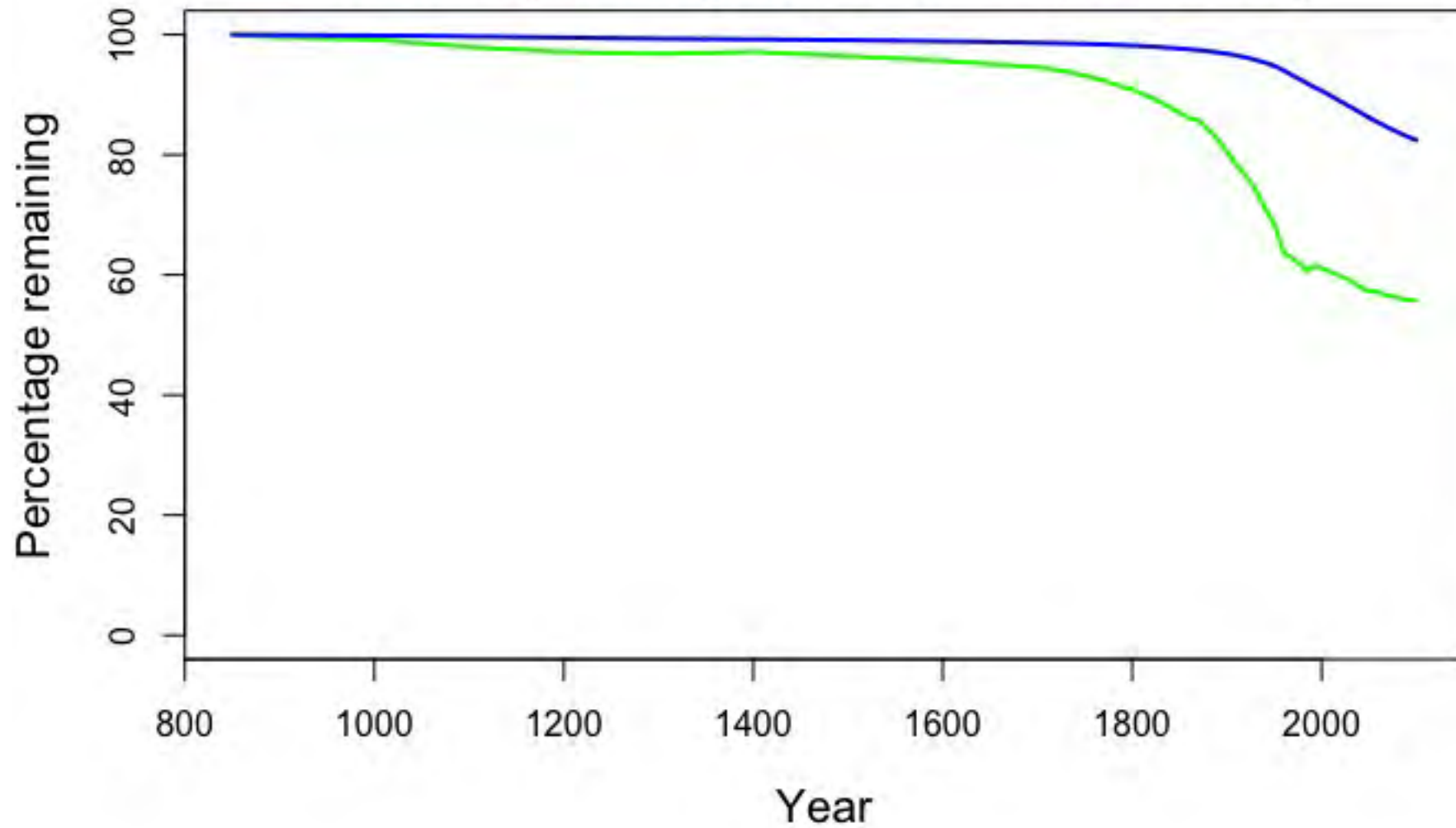
Biodiversity

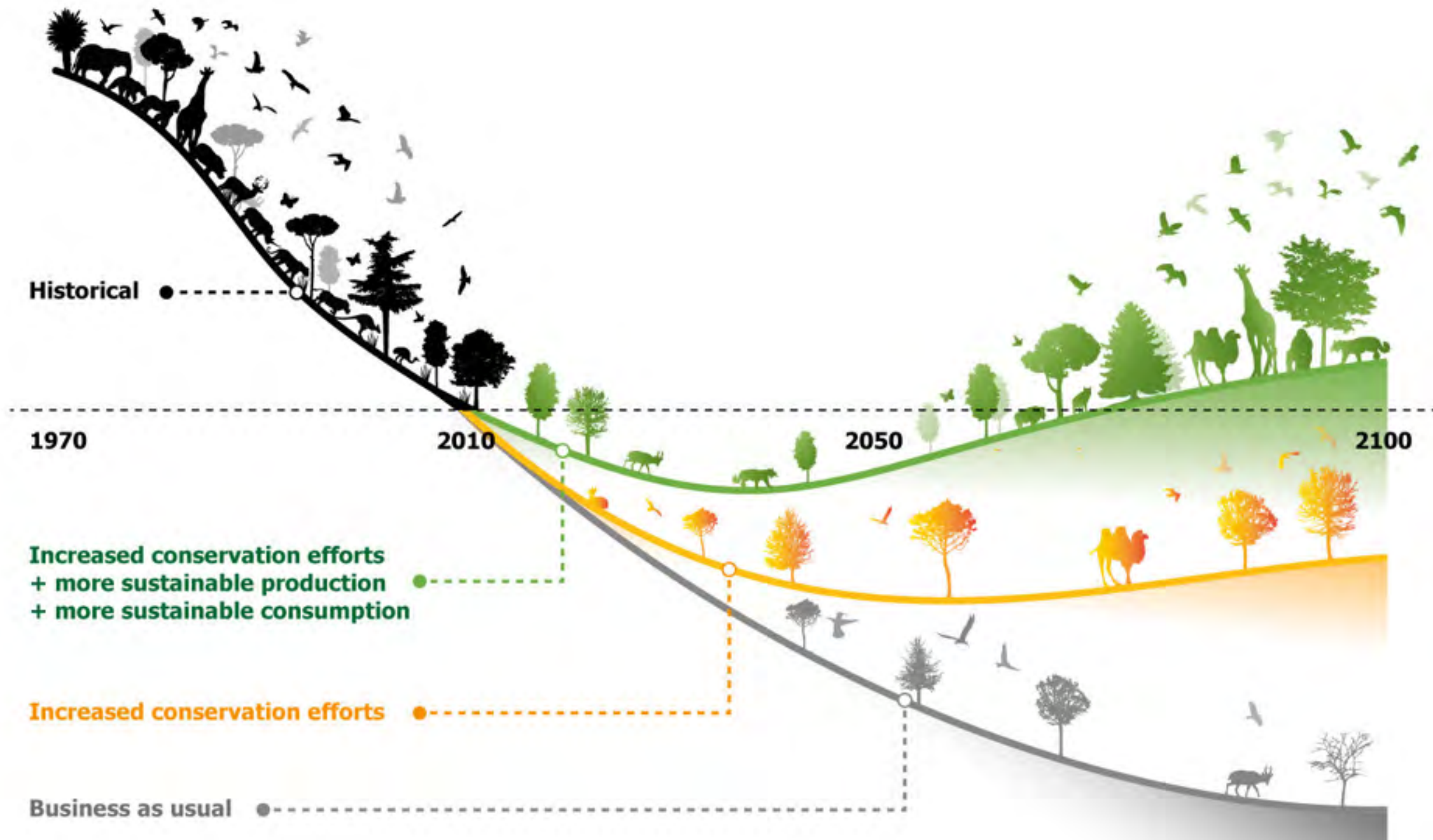
A Masterclass prepared for
the Natural History Museum



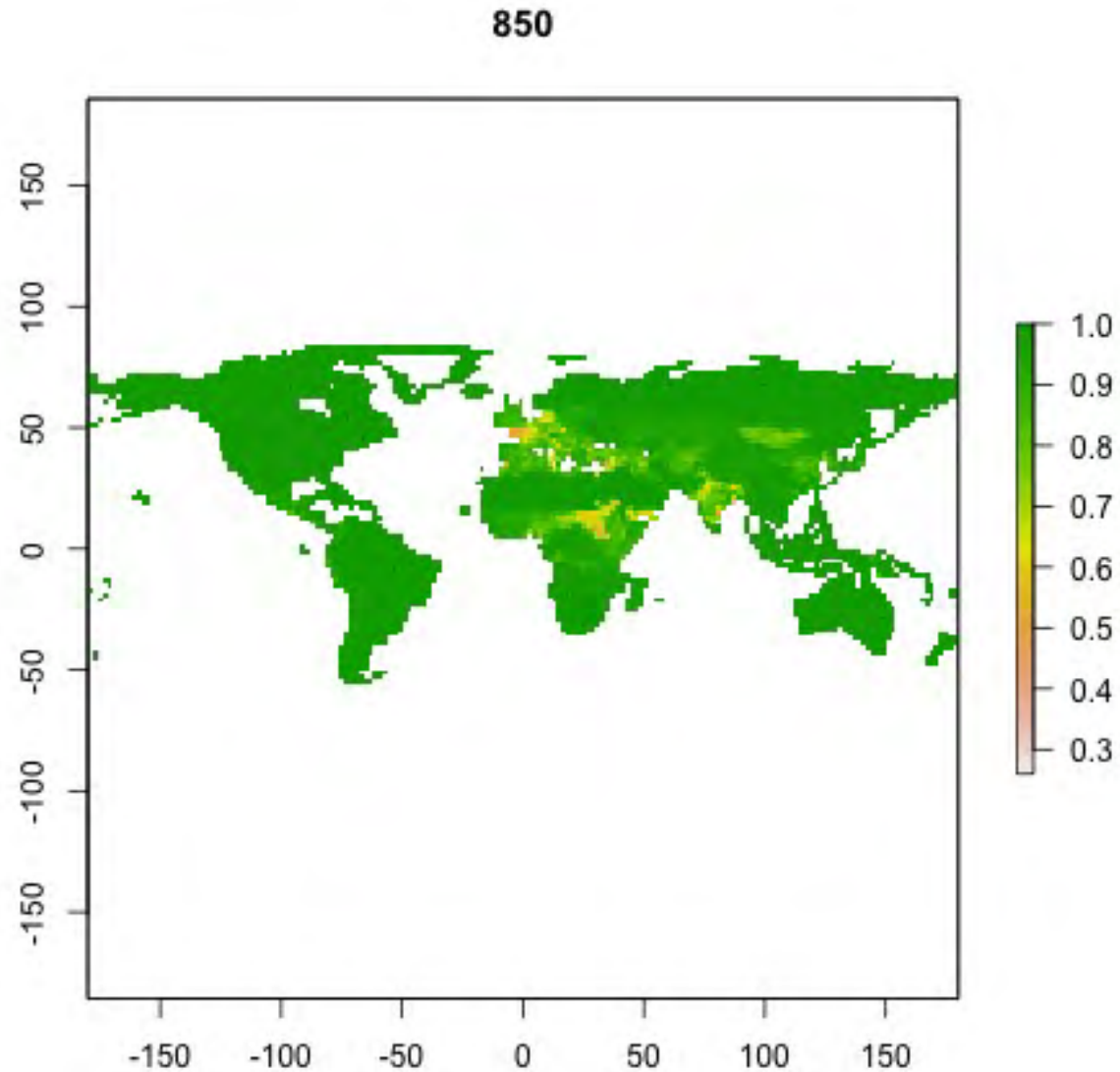


Baseline scenario: **habitat** and **species** remaining

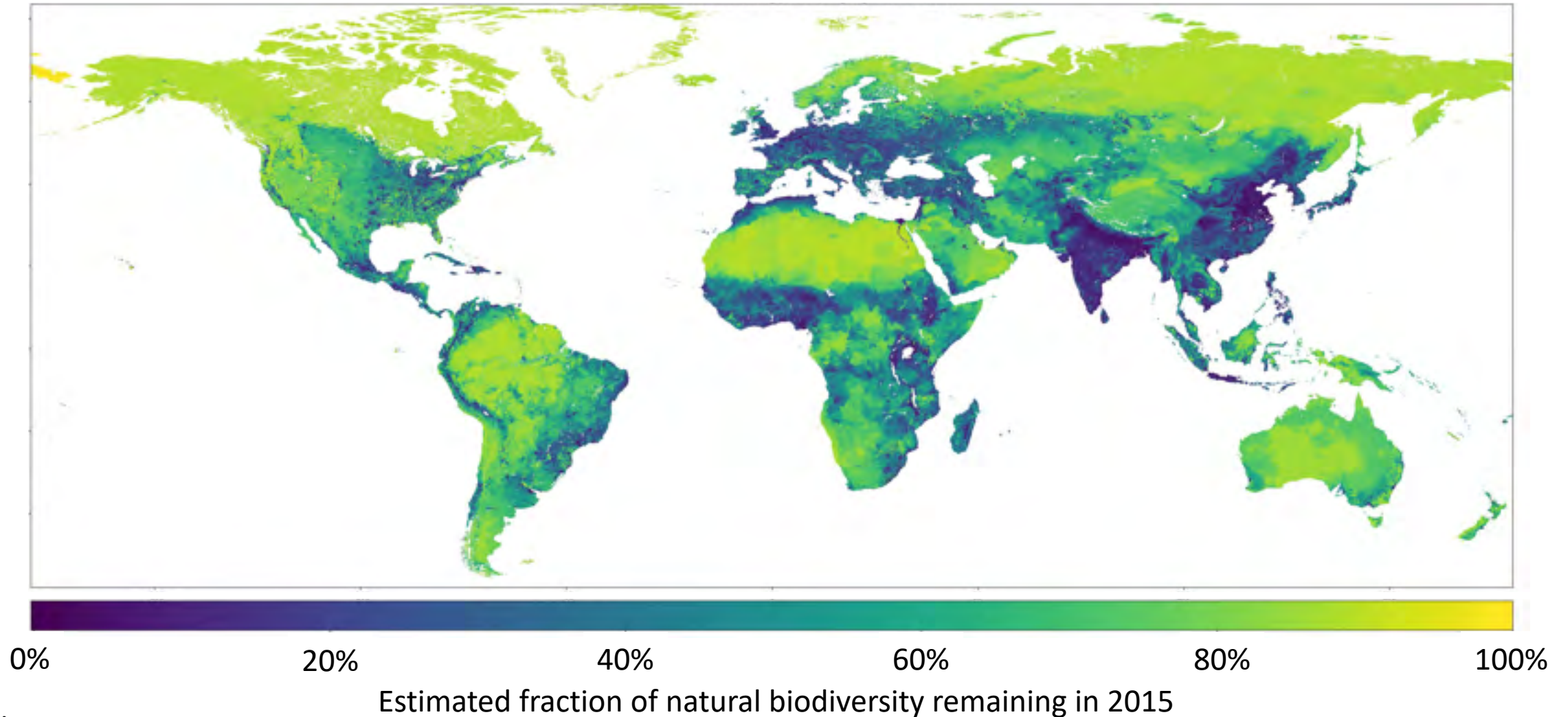




Land-use history, 850-2015, from LUH2



Estimated Biodiversity Intactness Index in 2015





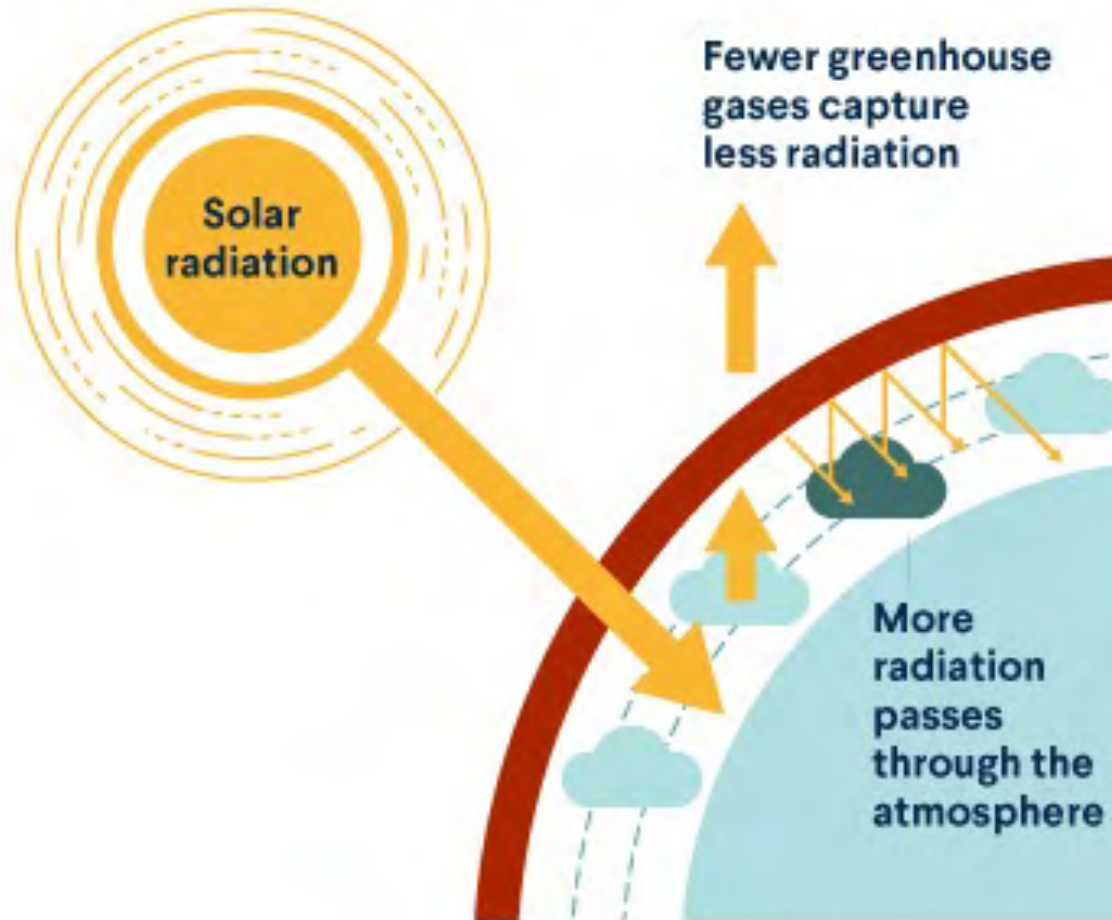
What is being lost?

What is
causing this
Biodiversity
Loss?

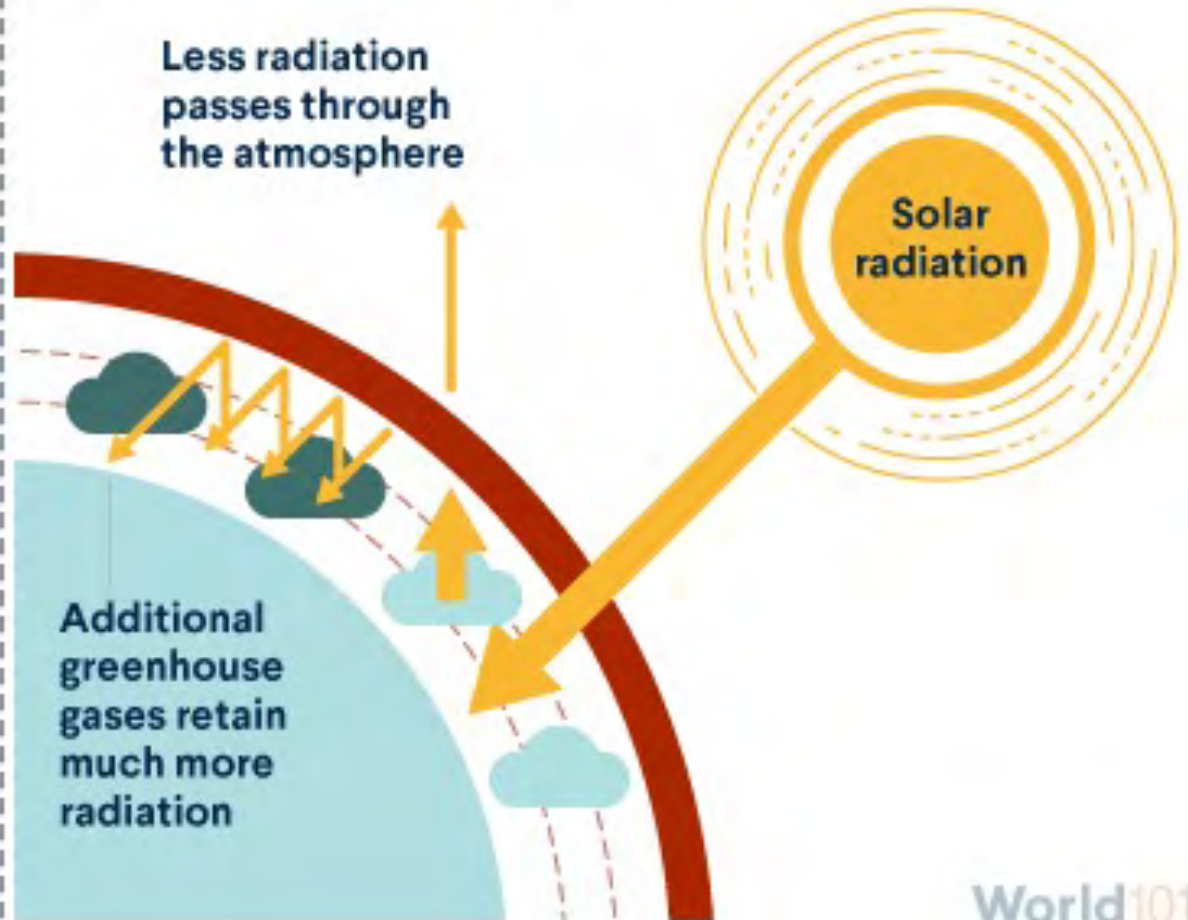


Enhanced Greenhouse Effect

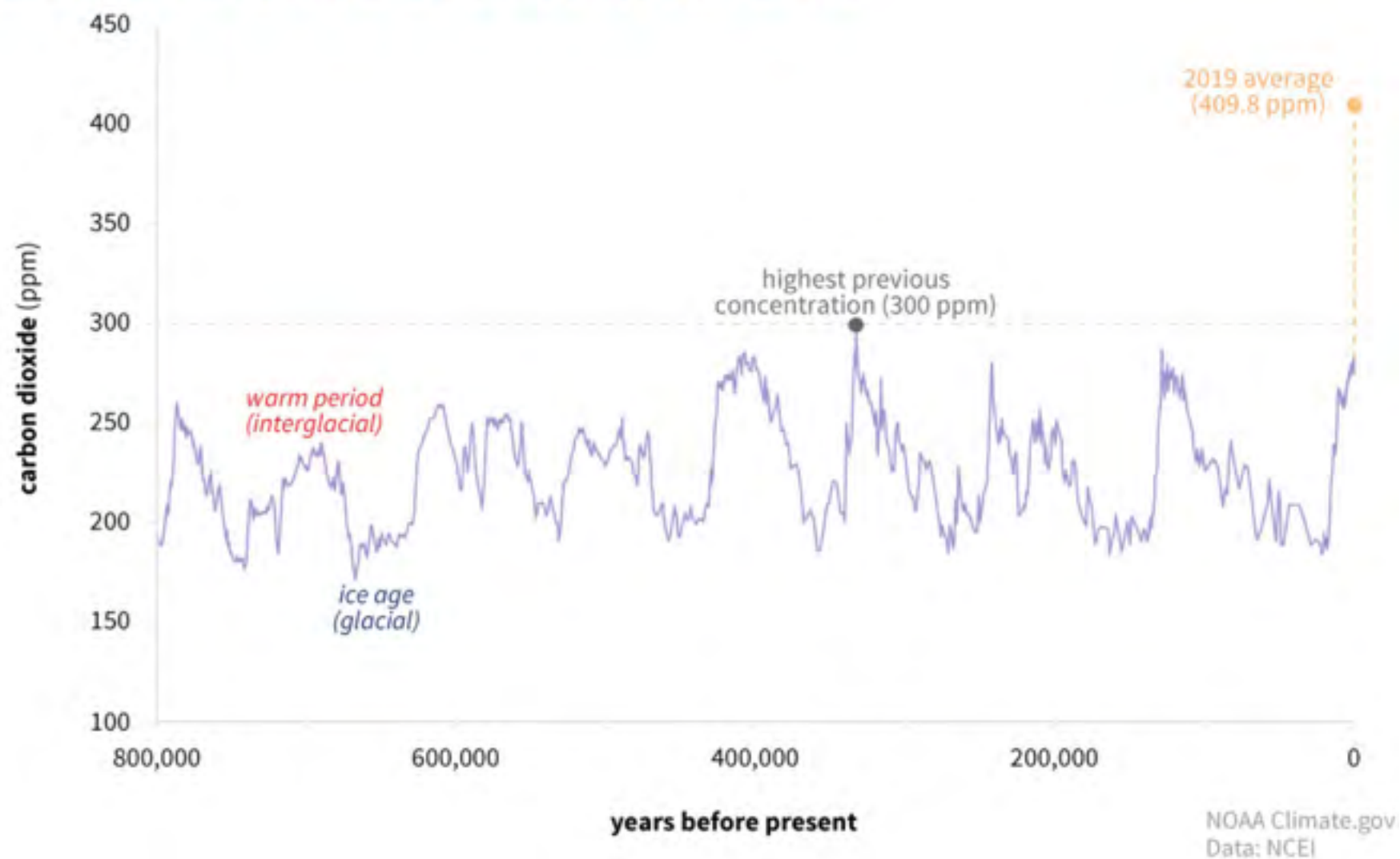
Natural Greenhouse Effect



Enhanced Greenhouse Effect



CARBON DIOXIDE OVER 800,000 YEARS



Enhanced greenhouse effect leads to.....

- global mean temperature increase,
- melting of ice caps,
- sea level rise,
- sea temperature rise,
- ocean acidification and coral bleaching,
- salination of inland coastal waters,
- extreme fires, floods, more frequent and severe hurricanes and tornadoes.

Forest Fires Australia 2019-2020



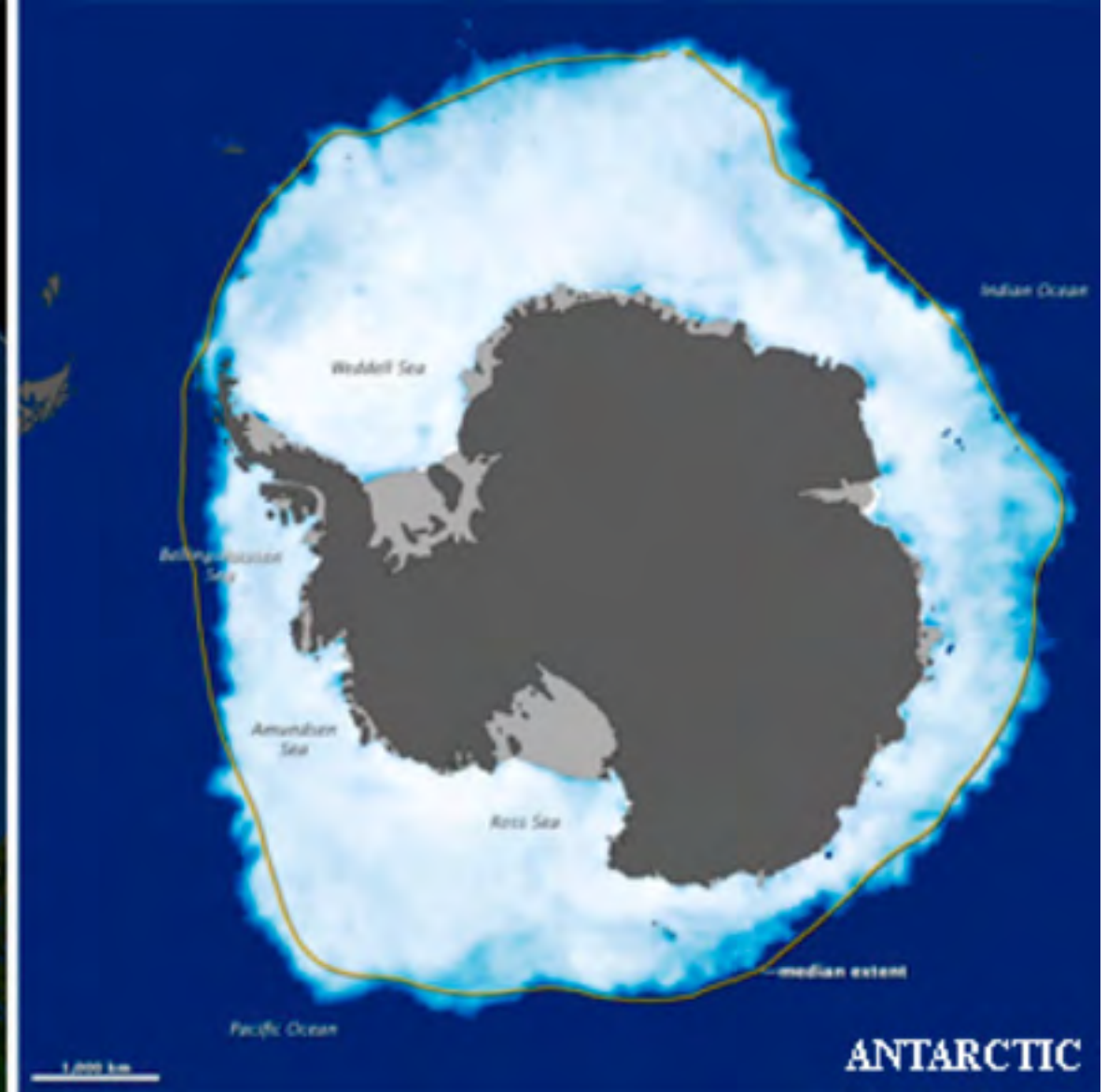
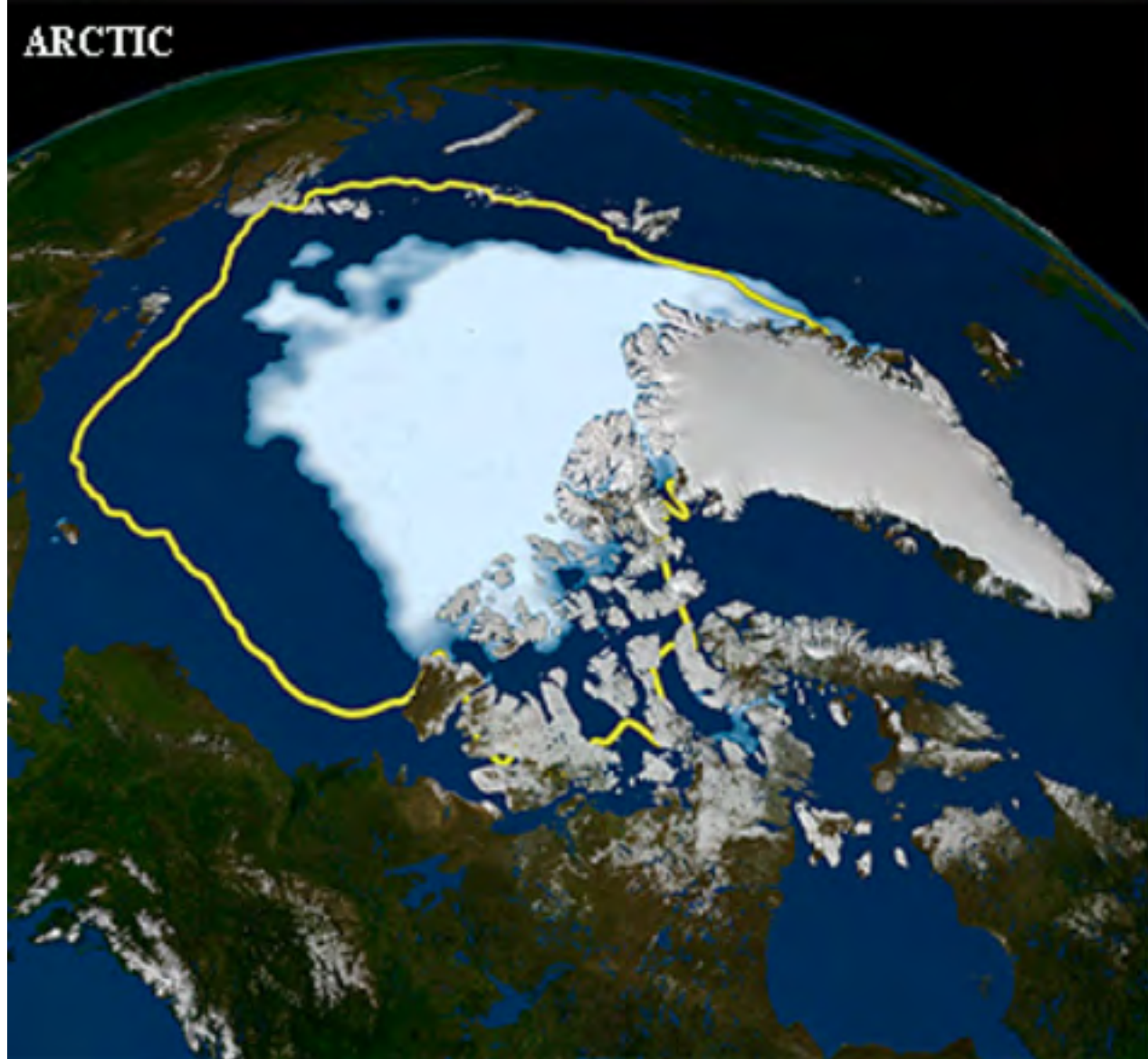
- 1 billion animals killed
- 18 million hectares burnt
- 195 million tones of CO2 released

Floods Australia 2020-2021



- "Worse flooding in 60 years" - Renju Jose
- 24 inches of rain falling in a 7-day period
- Insurance costs of 500 million Australian dollars.

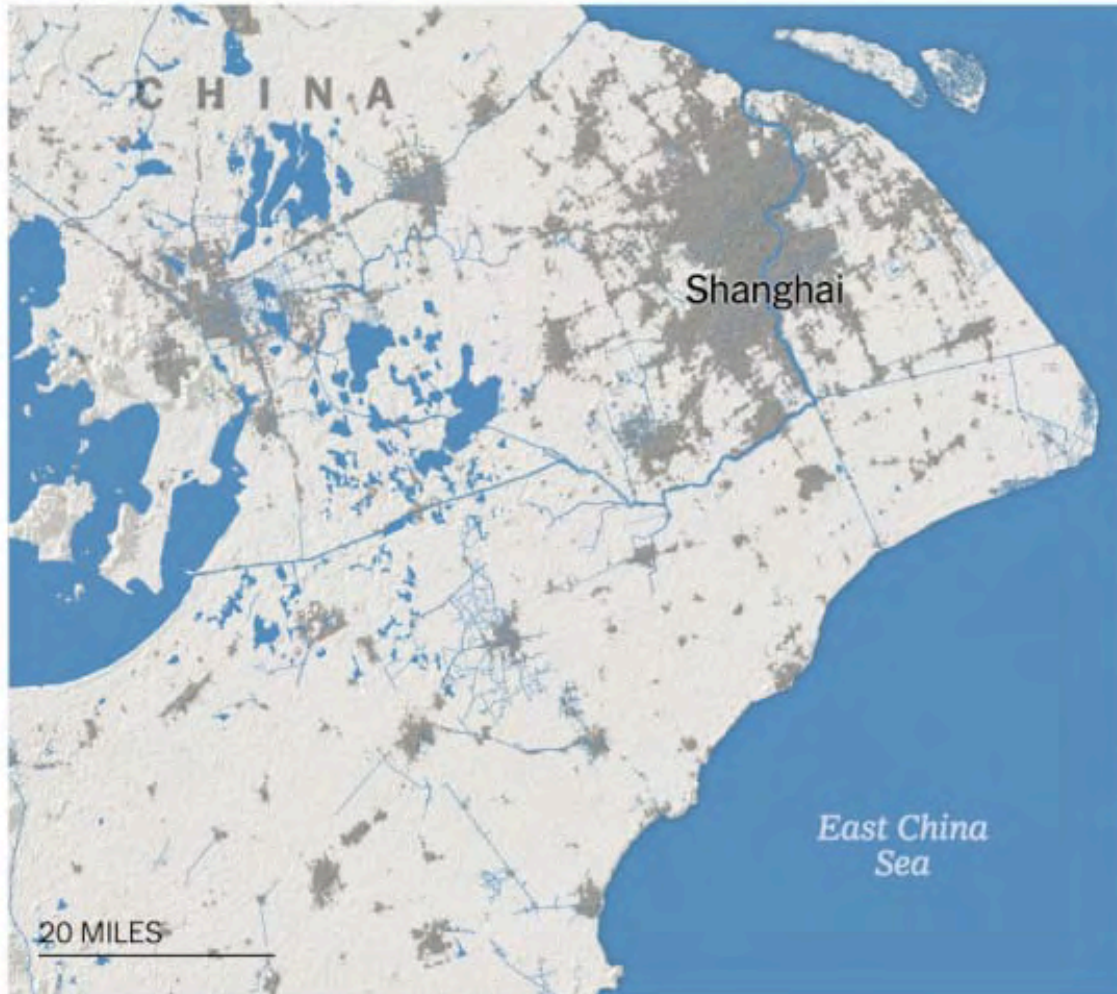
ARCTIC



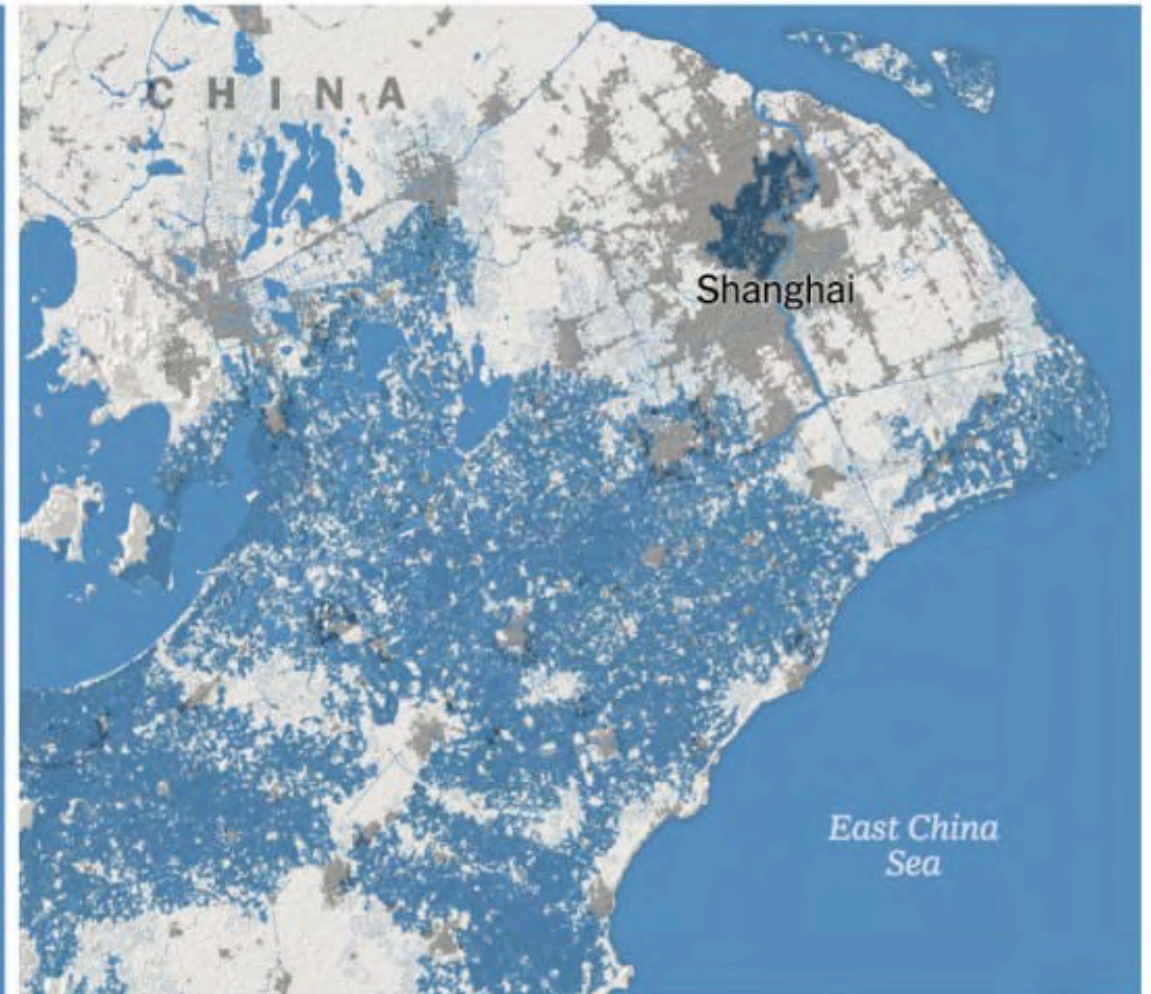
Sea Level Rise in Shanghai

■ Land underwater at high tide ■ Populated area

Old projection for 2050



New projection for 2050





After 4°C of warming

**BY 2050—IF NO ACTION IS TAKEN—THERE WILL
BE MORE THAN 143 MILLION INTERNAL CLIMATE
MIGRANTS ACROSS THESE THREE REGIONS**

SUB-SAHARAN AFRICA

86 MILLION



SOUTH ASIA

40 MILLION



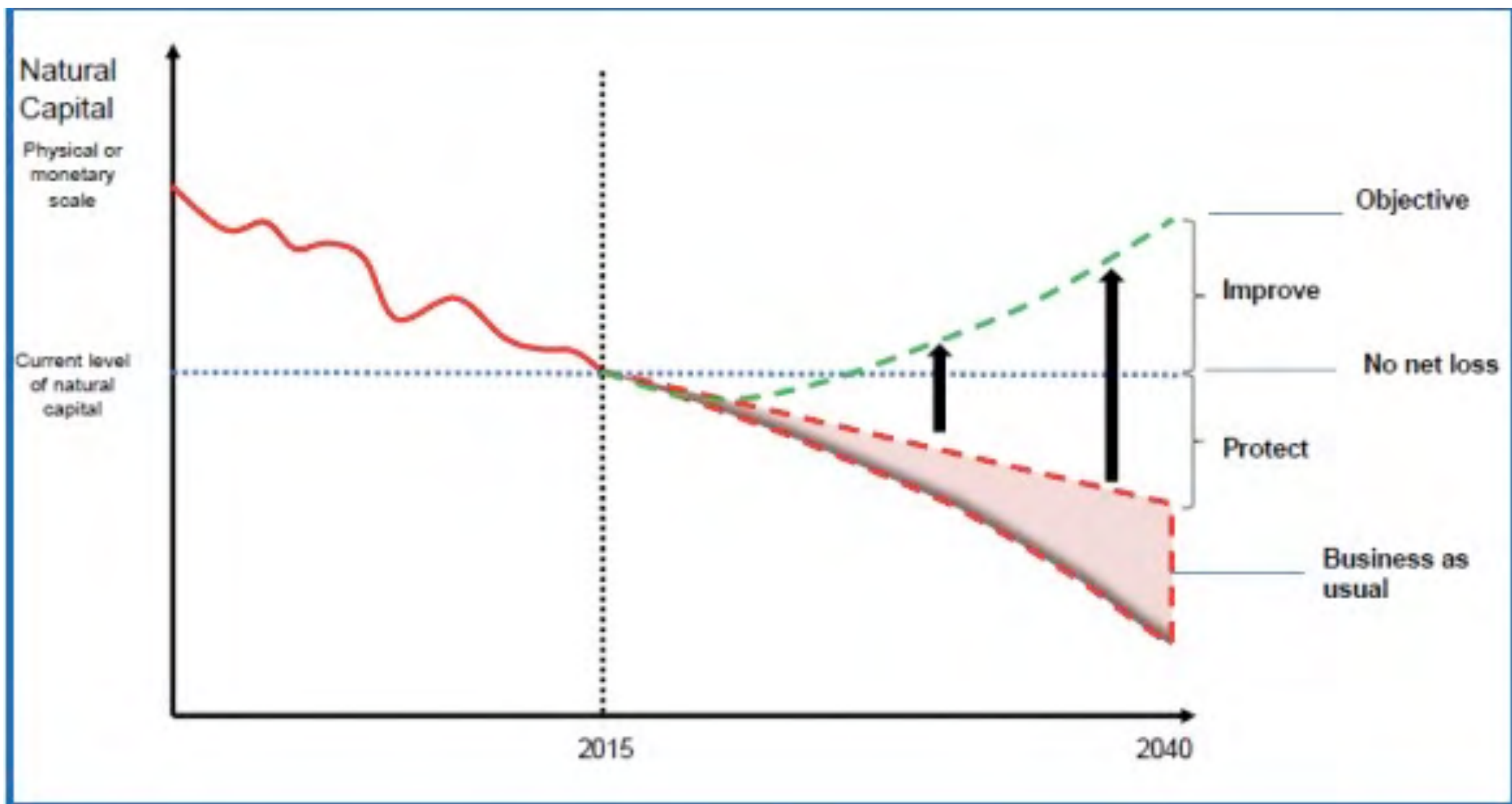
LATIN AMERICA

17 MILLION





- Coral cover across the Great Barrier Reef is as low as 20-30%, a significant drop compared to the 1960s



Over-fishing



- 40% of oceans needs to be protected by a “no take” policy
- Only 2.8% of the world’s oceans are completely protected.
- Over 50 percent of the world’s coral reefs have died in the last 30 years.

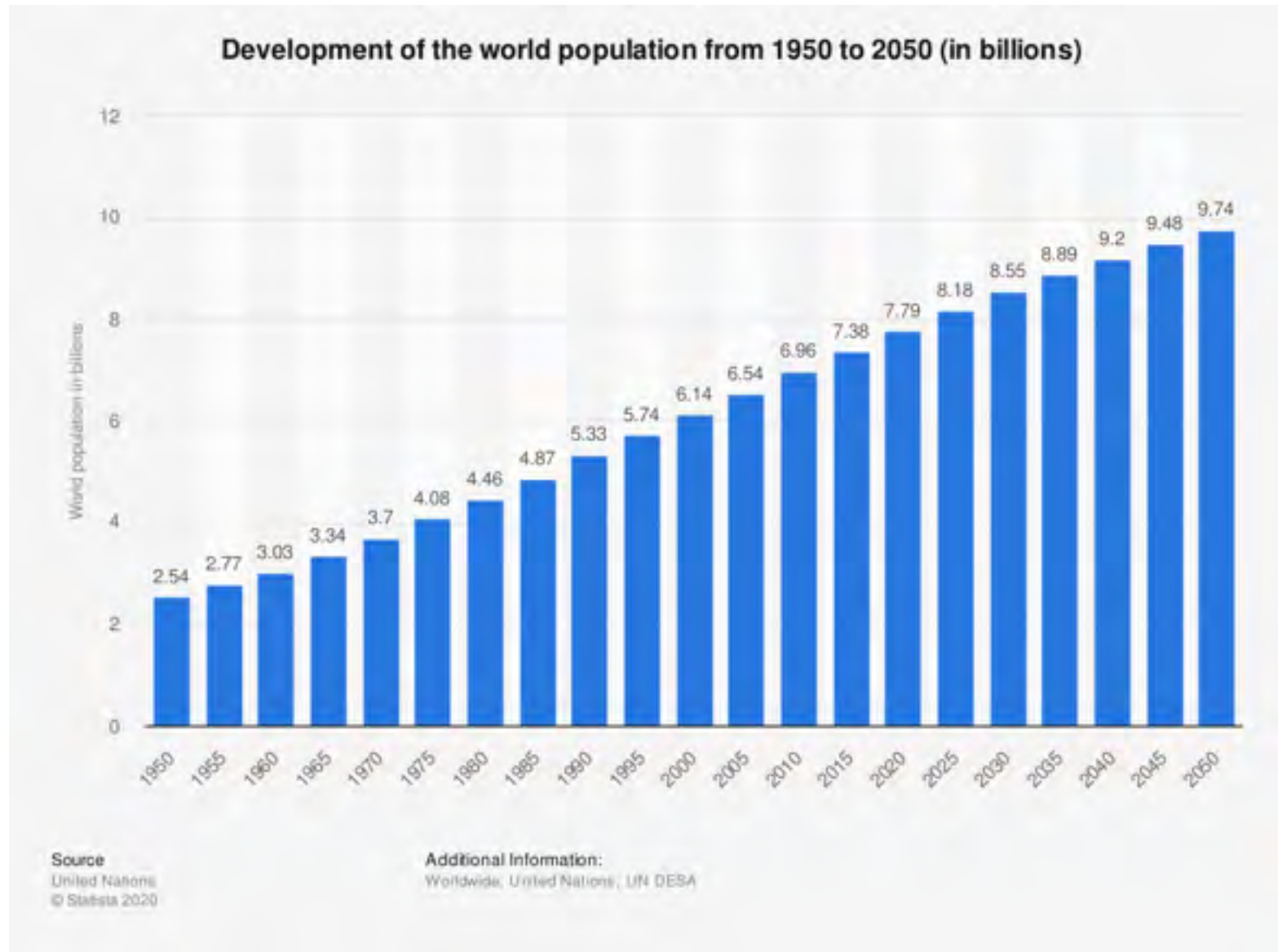
Deforestation



- In 2019, enough rainforests were destroyed every minute to fill 30 football pitches.
- They capture 7.6 billion tons of carbon dioxide which is about 25% of human emissions.

Zoonotic Diseases





H. Plecher, 2021





- 100 million tonnes of plastic in the oceans
- 1 million marine animals killed each year
- 450- 2,000 years to decompose

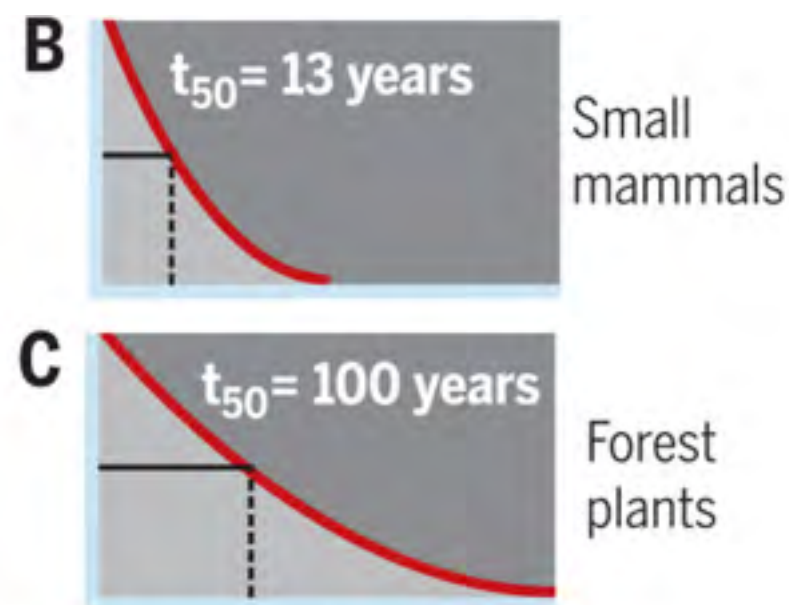
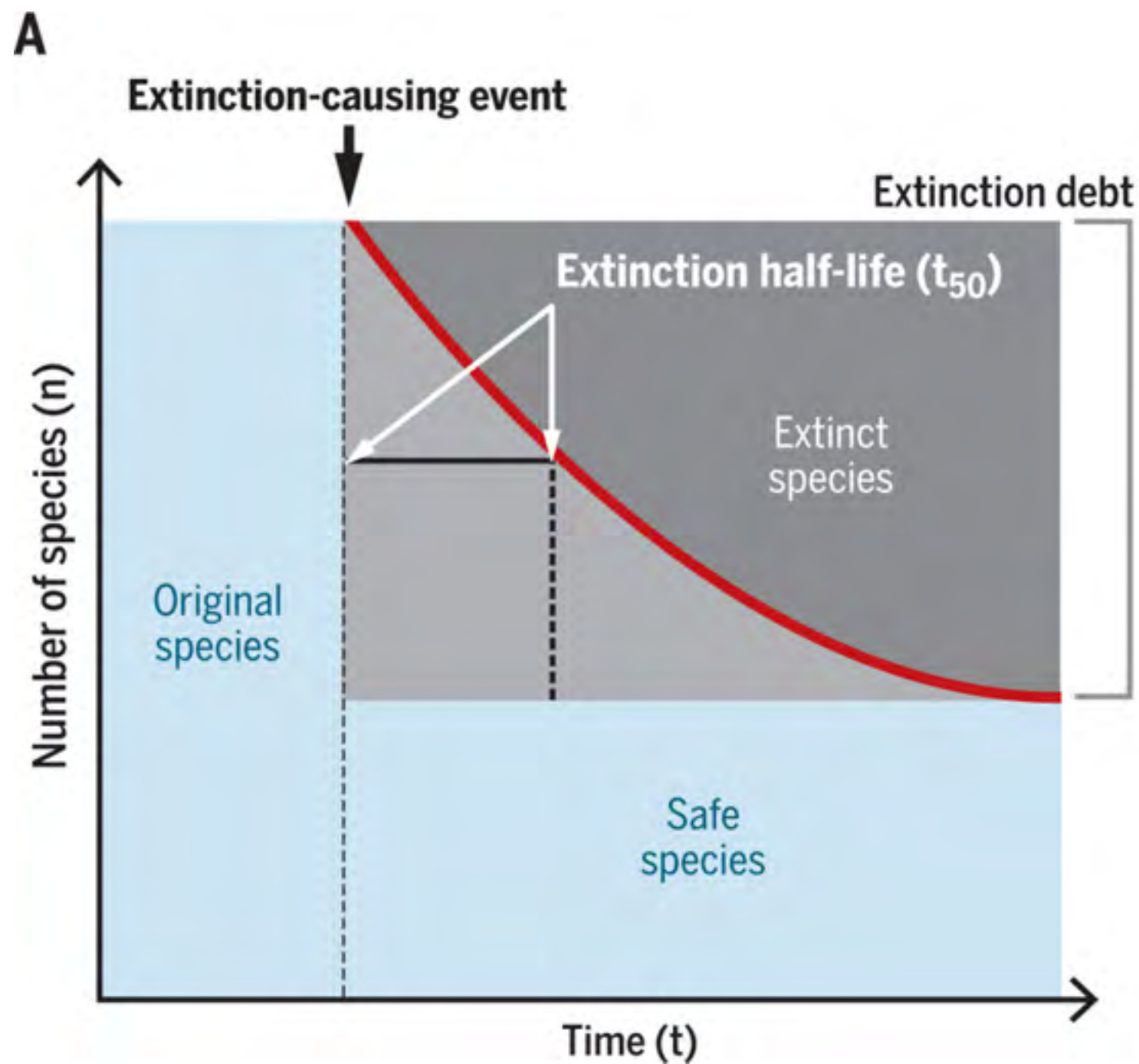
Why is it urgent we take action?

- The rights to nature
- The extinction of species
- Our dependency on biodiversity and nature

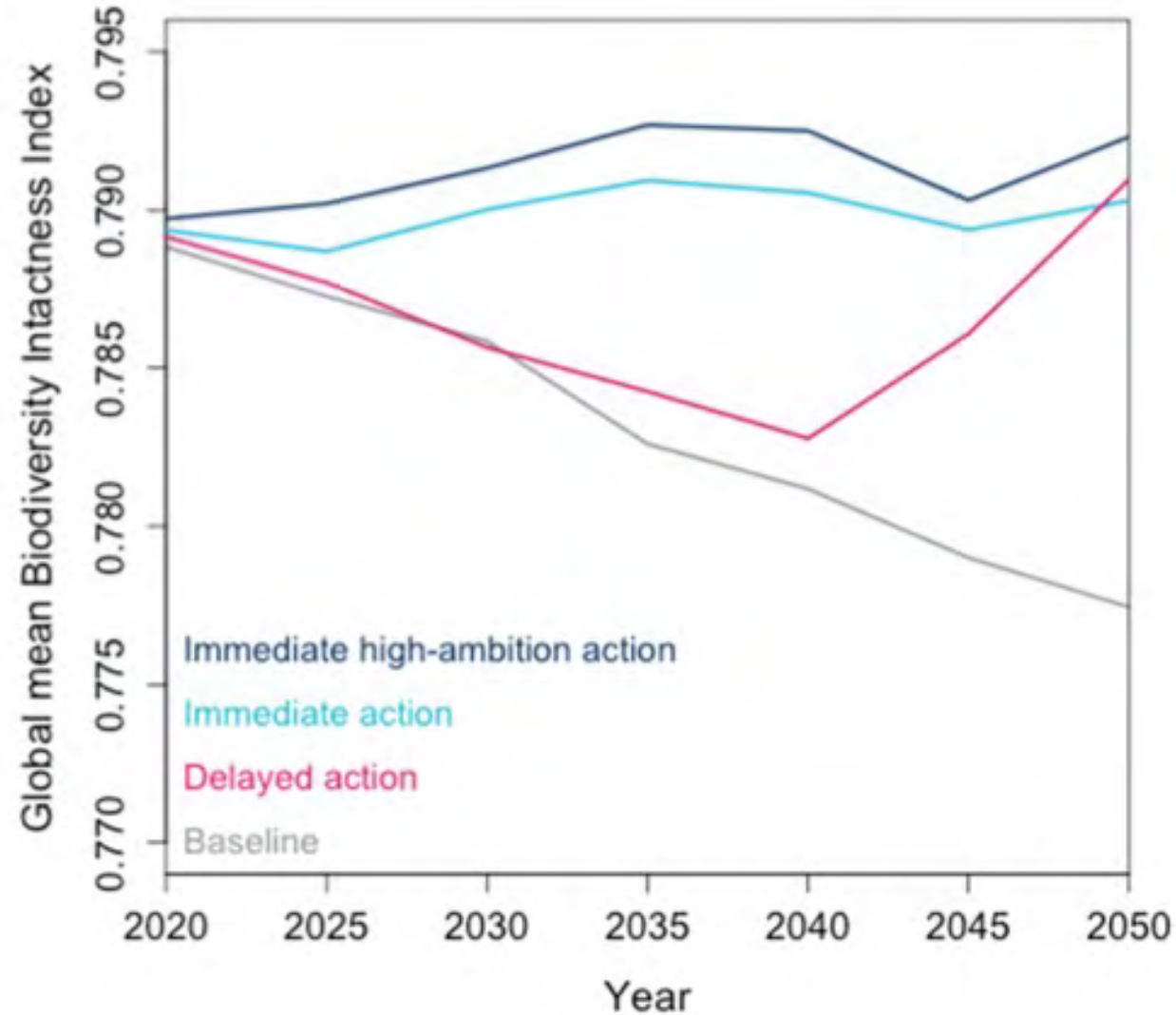




**NATURE DOESN'T NEED PEOPLE.
PEOPLE NEED NATURE**



Purvis's Three Scenarios



Increasing Cost of Land Conversions



What Kinds
of Actions
can we
take?







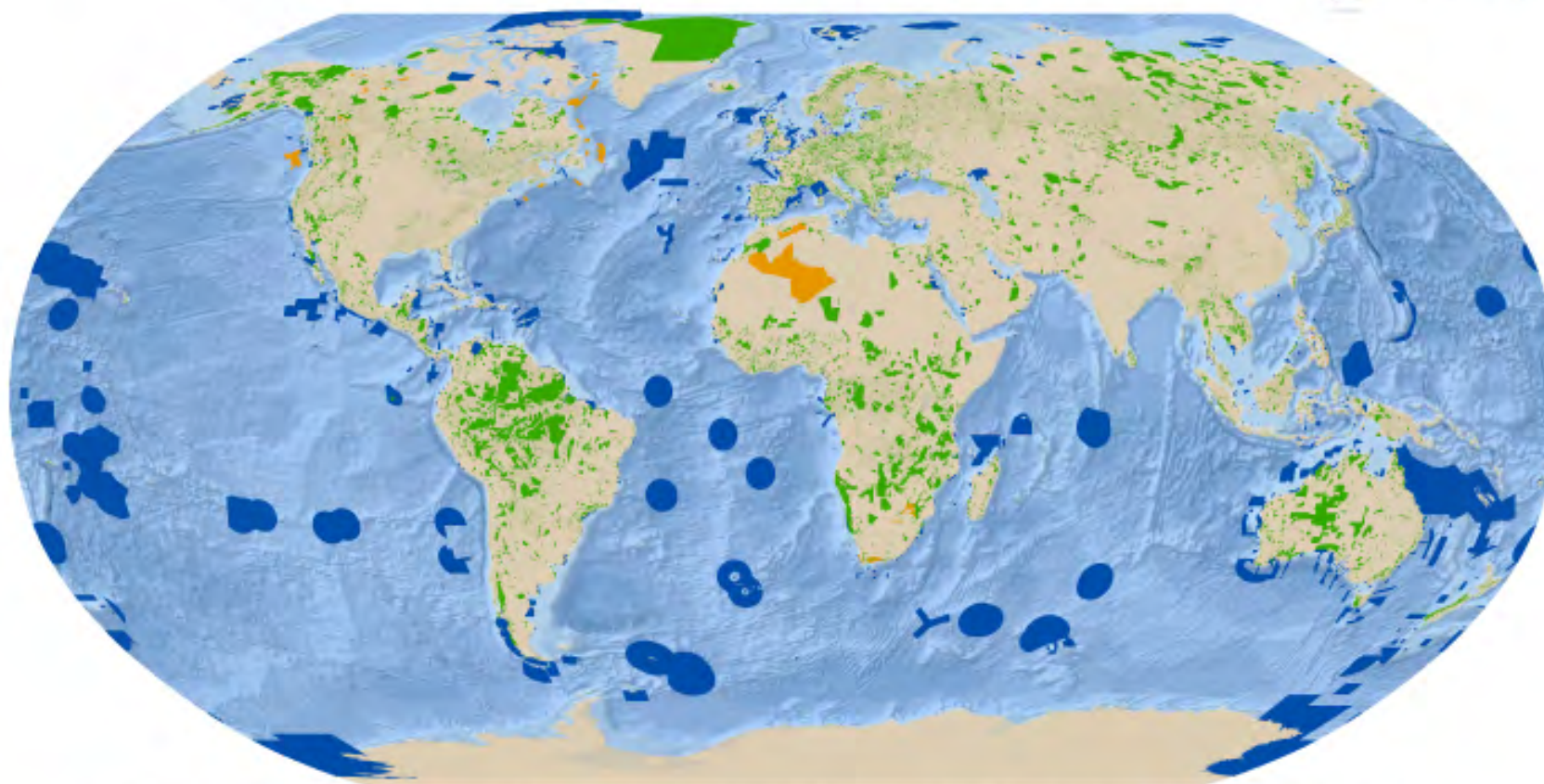
**REUSE
REDUCE
RECYCLE**



DONATE



Protected areas and OECMs of the world

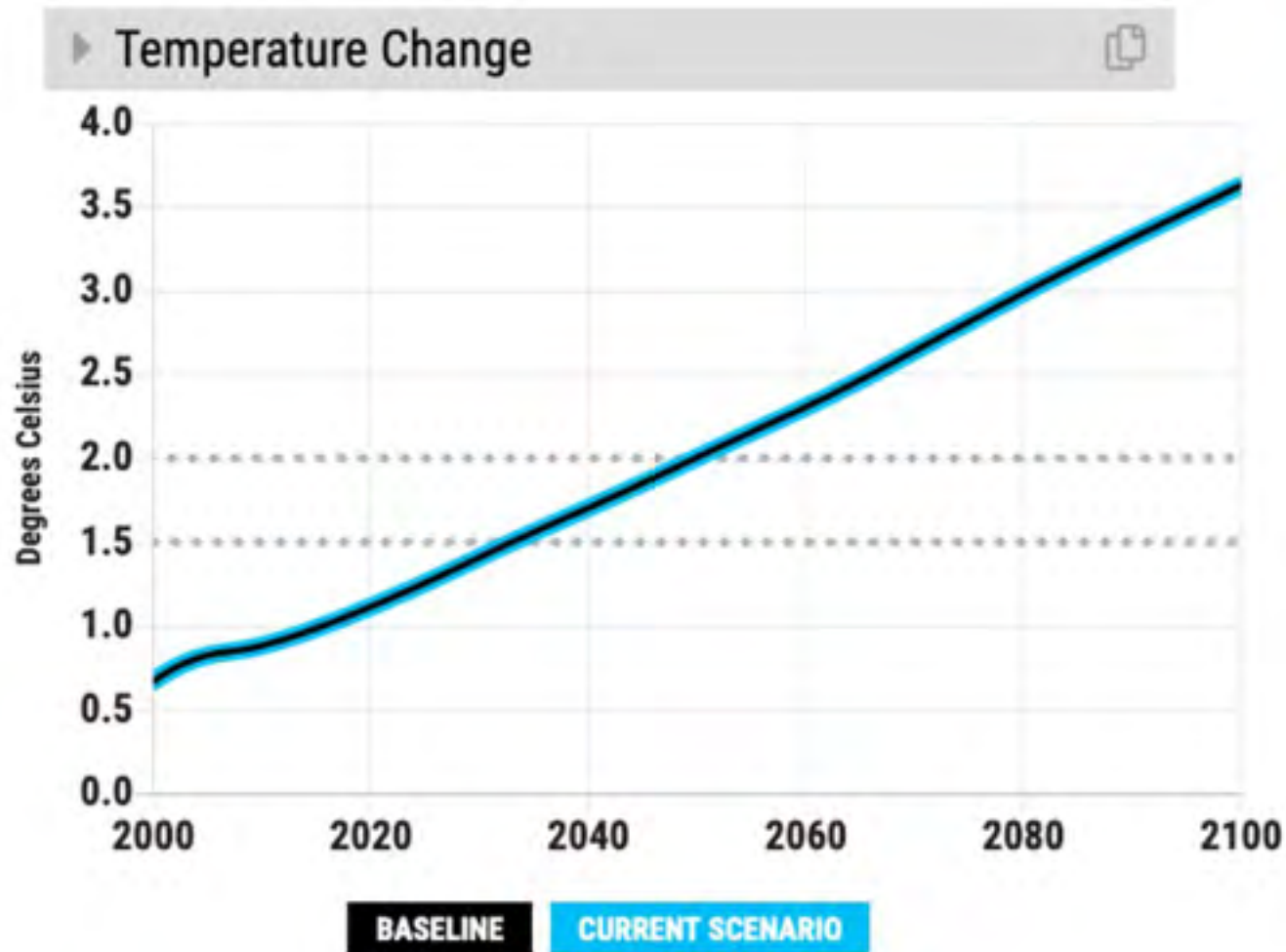


Source: UNEP-WCMC and IUCN (2021). Protected Planet: The World Database on Protected Areas (WDPA) and World Database on Other Effective Area-Based Conservation Measures (WD-OECM) [On-line]. June 2021. Cambridge, UK: UNEP-WCMC. Available at www.protectedplanet.net



■ Terrestrial protected areas ■ Marine and coastal protected areas ■ OECMs





+3.6°C

+6.5°F

**Temperature
Increase by
2100**

Source: En-ROADS

Why is Natural Capital Important?

Natural capital and economic activity are highly linked. . .



. . . if we extract too much from nature or cause environmental damage, we degrade our natural capital and put our economy at risk



Worldwide Pollinators: US\$217bn
Asset Value: At least \$9 trillion

Worldwide Forests: US\$250bn
Asset Value: At least \$10 trillion





All species shown here are protected by CITES