The Great Barrier Reef, located on the east coast of Australia, is the largest coral reef in the world and a critical component of the planet's marine ecosystem. A devastating **91%** of reefs surveyed in 2022 were impacted by coral bleaching, largely due to the effects of climate change.

Biodiversity

The effects of a changing climate are not limited to human populations, as the **entire living ecosystem** is being impacted. The acidification and warming of the world's oceans, along with increasingly **harsh climates** in the form of extreme weather events and a scarcity of drinking water, are transforming the way animals live and interact with their habitats. For some species, these changes are so drastic that they are struggling to survive and may even **face extinction**.

Annual Ocean acidity levels worldwide from 2005 to 2015

Measured in pH level

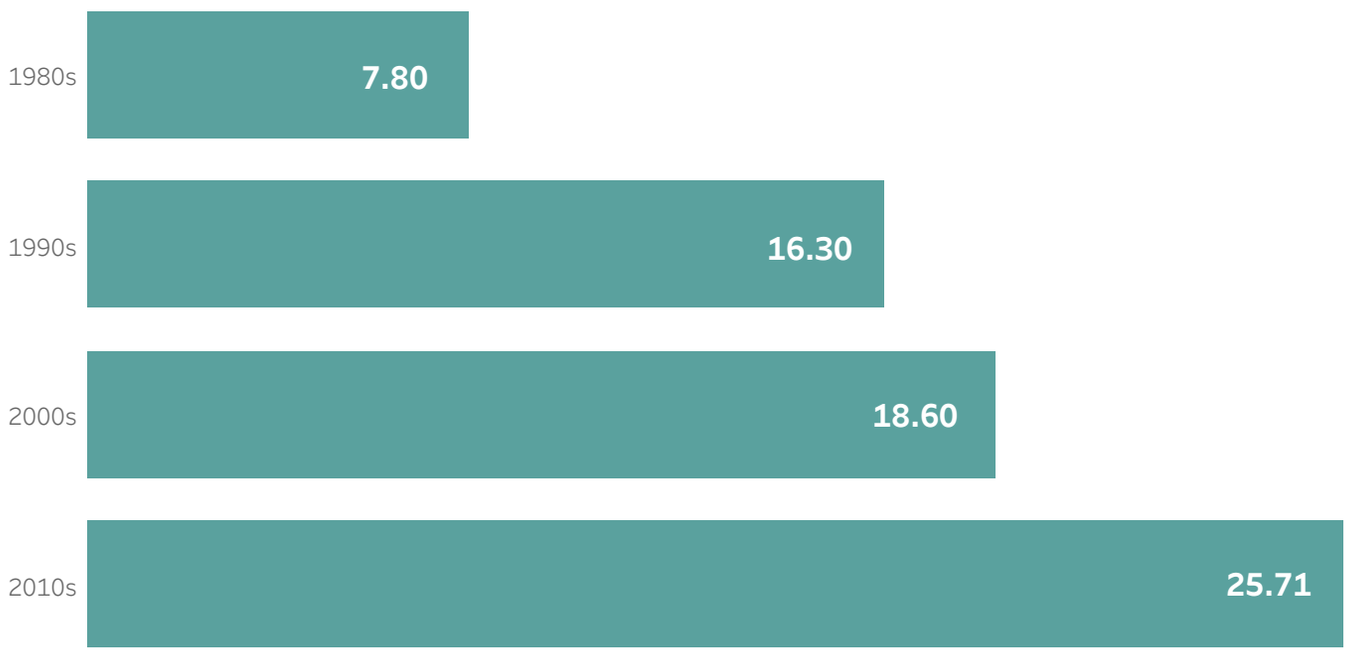
As carbon dioxide emissions continue to rise, a significant portion of these emissions end up dissolving into the ocean. This process leads to chemical reactions that increase the concentration of hydrogen ions and decrease the concentration of carbonate ions, resulting in an overall rise in ocean acidity.

Even small changes in pH levels can have far-reaching impacts, disrupting chemical reactions and negatively affecting entire species and ecosystems.

Coral bleaching is a devastating process where corals, unable to tolerate increased ocean temperatures, are forced to expel the algae they rely on for nourishment, causing them to lose their vibrant colors and turn a ghostly white. These events not only rob the oceans of their natural beauty but also have serious consequences for the delicate ecosystem they support.

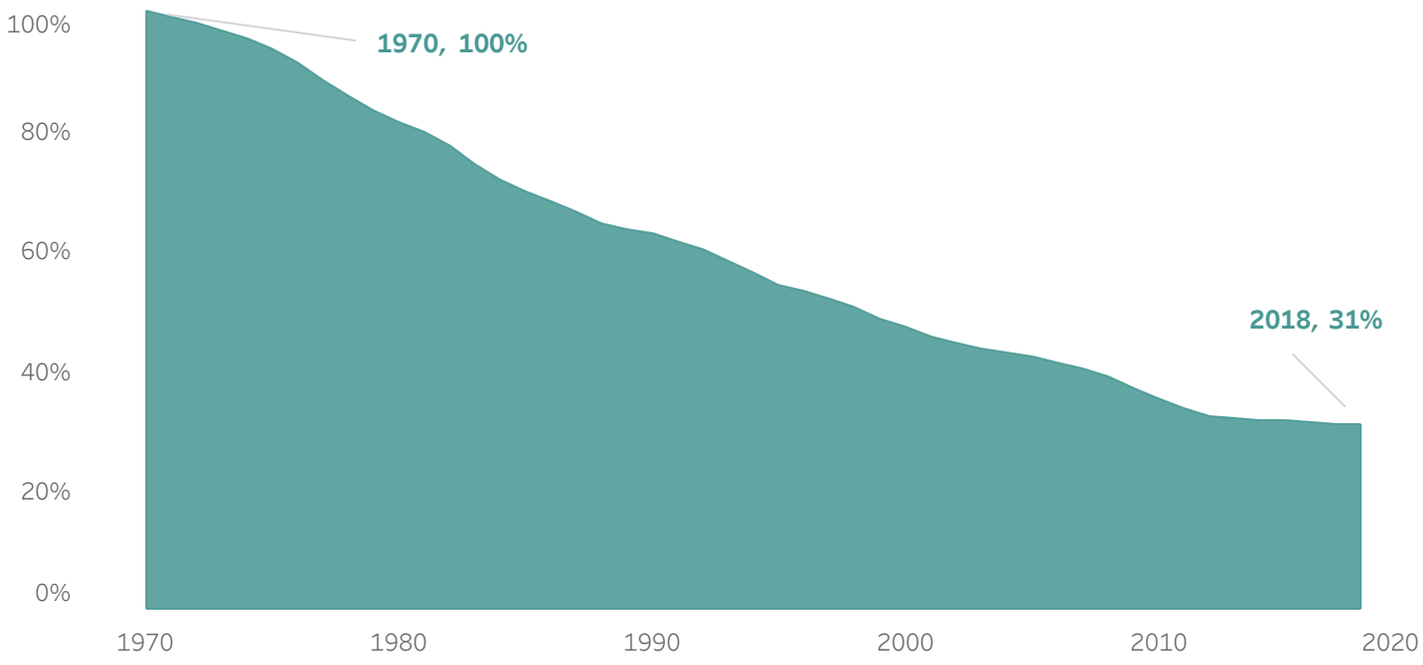
The alarming frequency of these events has risen considerably over the years, There were 26 bleaching events recorded on average annually in the 2010s, a significant increase from the average of just 8 events in the 1980s.

Annual frequency of coral bleaching events worldwide between 1980 and 2016, by decade average



Annual living planet index from 1970 to 2018

Measured in percentage of 1970 wildlife population abundance



The Living Planet Index serves as a comprehensive indicator of the overall health of the planet's biodiversity. It monitors the abundance of over 30,000 species across the globe. The report highlights a concerning trend of decreasing wild animal populations, primarily driven by human activities such as hunting, habitat destruction, and climate change.

In 2018, the report revealed a marked decline in wildlife, with populations reaching only 30% of the levels recorded in 1970.