The Future

by Sophia

WHAT'S COVERED

In this lesson, we will cover the topic of the future of resources. We will discuss future predictions about seven major areas: deforestation, fossil fuels, climate change, water, air, living resources, and technology. Specifically, this lesson will cover the following:

1. Projections

When scientists approach environmental issues, they often try to understand long-term impacts and potential outcomes. While useful, predicting the future within this context is quite challenging because there are so many unknown and unforeseeable factors to manage. The results of such predictions depend heavily on the assumptions we make about human population growth.

In the past, technology has played a large role in mitigating and overcoming challenges. However, the future role of technology in environmental issues is unknown because the technologies that might be of use have not been invented yet. In spite of these challenges, scientific predictions can help us develop strategies and initiatives to move forward.

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2. Deforestation

At the time of making this tutorial, 30% of Earth's surface is covered in forest canopy. As a result of deforestation, this number decreases by about 30,000 square miles every year.

DID YOU KNOW

30,000 square miles is an area about the size of Panama!

At this rate, in 100 years, all our forests will be gone. If 70% of all land animals and plants live in forests, then millions of species could be without habitat, which may result in large-scale species extinction.

Deforestation also increases desertification because as forests disappear, they are commonly replaced by deserts, which causes eventual climate change in the area. With fewer forests, climate change accelerates because there is less biomass available to absorb greenhouse gases through photosynthesis. Trees also play an important role in driving the water cycle, maintaining soil moisture, protecting the ground from too much sunlight, and preventing heat loss at night. Without trees, there will be hotter days and colder nights.

3. Fossil Fuels and Climate Change

While coal, oil, and natural gas supplies still exist, as time progresses, the quantity, quality, and accessibility will decline until they run out sometime. This is estimated to happen 30–130 years from now.

Scientists predict that over the next 100 years, the average global temperature will increase by 2.5–10 °F. This will result in extreme storms and weather patterns.

DID YOU KNOW

It is even expected that the Arctic Circle will eventually become ice-free during summers.

4. Water and Air

By 2050, global demand for water is expected to increase by 55%. In addition, 3.9 billion people (almost half of the world's population) are expected to face severe water shortages caused by environmental degradation and overuse.

HINT

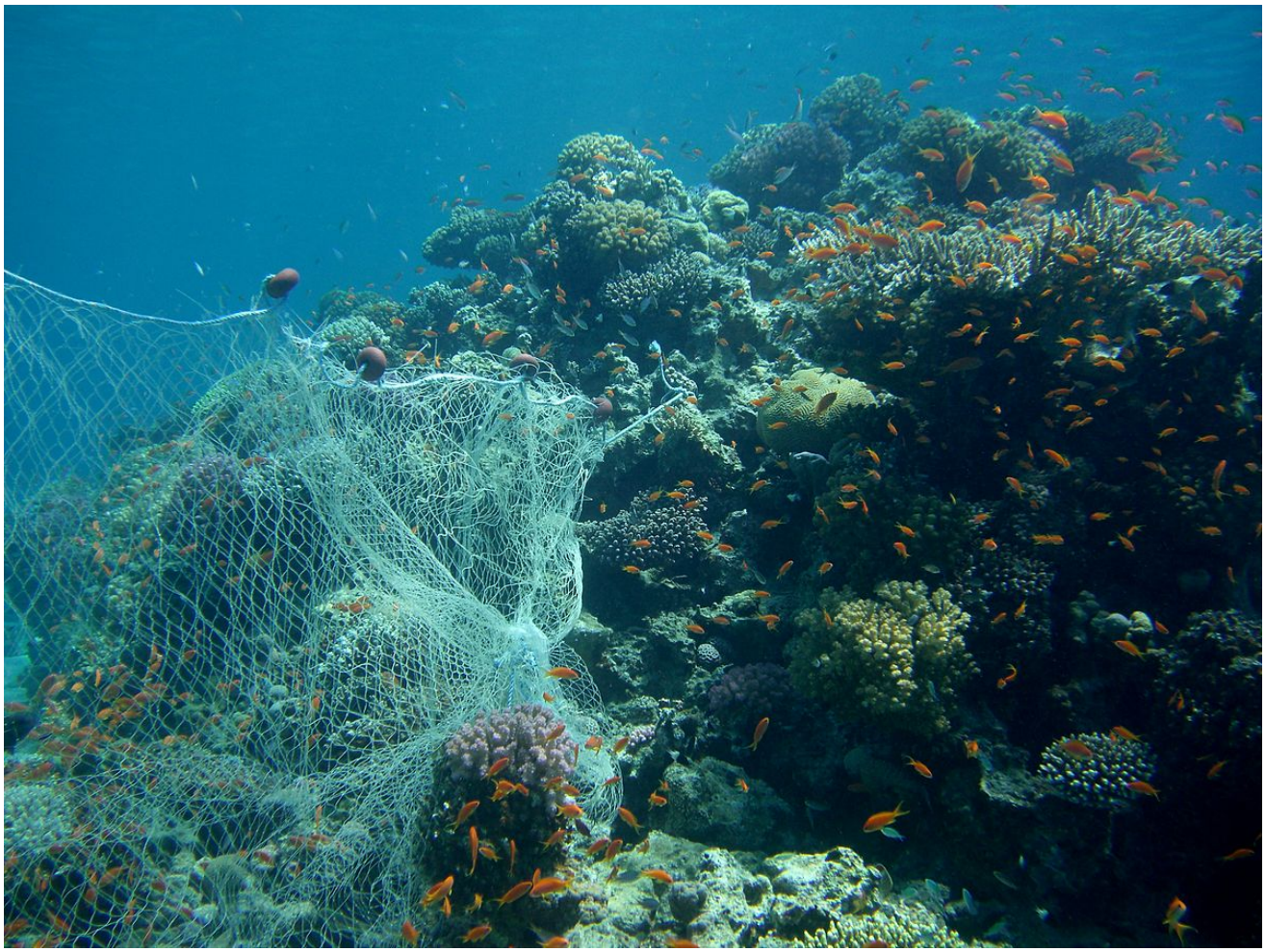
Water pollution levels are also expected to continue to increase, resulting in the deterioration of both salt and freshwater bodies.

It is projected that the summer ground-level ozone levels will be enough to harm humans and vegetation.

5. Living Resources

If current extinction rates continue, they could lead to the collapse of ecosystems and inevitably have drastic effects on humans. In order to supply market demands, 30% of Earth's species, including birds, large mammals, amphibians, and reptiles, will face the threat of overexploitation.

Overexploitation is difficult to manage. The rarer a species, the higher the economic gain from harvesting it. The result is often endangerment and extinction. Overexploitation and environmental degradation are also impacting aquatic ecosystems filled with salt and freshwater fish, marine invertebrates, like oysters, crabs, and octopuses, as well as shells and corals.



Overharvesting plants for food and medicine can also have drastic effects on ecosystem functioning.

6. Technology

The current social paradigm in countries like the United States relies on technology and science to solve problems. This could lead to solutions, but avoiding utilizing behavior-change methodologies could result in unwanted long-term effects on our planet and human lifestyles.

SUMMARY

In this lesson, we learned about **projections** for the demand for, and availability of, resources in the near future. We learned about future predictions in seven major areas: **deforestation**, **fossil fuels**, **climate change**, **water**, **air**, **living resources**, and **technology**.

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