Where are our coral reefs going?

So, what is a coral reef? A coral reef is a living creature that is part of the group Animalia; this means that coral is considered a living animal. Coral reefs are made up of “skeletons” of coral, or marine invertebrate animals (livescience.com, web). There is a specific type of coral that makes up coral reefs, named hematypic or “hard” coral. This species of coral has the ability to pull calcium carbonate out of the seawater and build a hard, durable exoskeleton to protect their inner organs. Unfortunately, the ocean’s coral reefs are beginning to die, due to changes that are occurring globally.

Coral reefs are an essential part of, both, marine and terrestrial ecosystems. Ecologically, coral reefs provide a barrier for the coastlines by buffering waves during hefty tropical storms and provide almost half of the world’s oxygen, while disposing of approximately 30% of the man-made carbon in the atmosphere (Global Green, web). They also house a vast quantity of marine life, often housing a larger variety than the the rest of the ocean can sustain. Coral reefs are also very economically important as well; according to thegreatbarrierreef.org, coral reefs are estimated to be worth hundreds of billions of dollars. Due to the fact that they house such a large number of fish, the fishing industries thrive in this area and provide seafood nation-wide. There are also natural resources, like lime and cement, that are made from the minerals that are excreted from coral reefs when they are building their exoskeletons; these substances are sometimes converted to mineral oils or mineral gases, as well.

There are many reasons that coral reefs are being threatened: ocean temperatures rising, ocean acidification, etc. According to thegreatbarrierreef.org, it is estimated that 90% of coral reefs will be threatened by 2030 and all of them by 2050. The reason that ocean is...
growing warmer can be blamed on increasing temperatures outside of the water. Due to high levels of carbon dioxide in the atmosphere, heat is being “trapped” on Earth. The ocean, with a very high specific heat, absorbs a massive amount of this trapped heat: resulting in an increase in ocean temperatures (Valez, 2017).

When ocean temperatures rise, it causes a phenomenon known as coral bleaching. According to Jason Bucheim, Director of Odyssey Expeditions (a tropical marine biology voyage group), “when water is too warm, they expel the zooxanthellae [or bacteria] that are in their tissues” (Odyssey Expeditions, web). When the zooxanthellae are expelled from the coral, the tissues within the coral begin to die. Coral reefs are also affected by an increase in sediment when ocean levels rise; this sediment smothers the coral and they die. Ocean acidification also acts very negatively on coral by increasing the pH of water, which reduces the amount of aragonite (crystalline calcium carbonate) in the water, that is needed to maintain their exoskeletons (Valez, 2017). When this ocean acidification occurs, it leads to low rates of skeletal growth or a weak skeletal structure of surviving corals.

The world needs to be very wary of the results of losing its coral reefs. If the coral reefs disappeared, there would be countless results. The impacts that are able to be predicted with great certainty include hunger in first world countries that rely on the wildlife living here for food, spawning grounds for a multitude of marine-life would disappear, and the ocean fishing industry (which employs 38 million people worldwide) would collapse (howstuffworks.com, web).

The issues that are causing the ocean issues can be slowed down through a group effort by humans; less man-made carbon dioxide could be produced, recycling could be better, and
chemicals that are used could be kept out of the waterways. However, even an individual can have an impact on the growing changes of climate change and, together, individual impacts truly add up. By saving water, you can save money, reduce the costs and chemicals for wastewater treatment, and reduce the energy used to pump and heat the water. By using eco-friendly products, when poured down the drain, they don’t have a negative impact in our waterways. And by reducing plastic use, the oceans do not see as much litter. If the world would work together, climate change could be reduced, stopped, or even reversed!
REFERENCES:


