

INDONESIA'S CORAL REEFS ARE UNDER CLIMATE CHANGE THREAT



Indonesia's once pristine coral reefs have been seriously threatened by the rise in temperatures that has been caused by climate change. According to the Intergovernmental Panel of Climate Change (IPCC) 2013 report, in the last century the average surface temperature had increased worldwide by approximately 0.8°C and is projected to increase by between 3 °C and 4°C in the next century over the

Southeast Asia region.

Indonesia's coral reefs are home to 75% of the world's coral species, 3,000 different kinds of fish and a host of other unique marine life. **They also provide important coastal protection functions as they reduce wave energy by approximately 97 %.** They are now suffering from bleaching, hence instead of their natural myriad of colors, they are turning white.

Corals and most of the other reef organisms depend on symbiotic algae that live in the polyps. These algae provide up to 95 percent of the coral's energy for feeding, growth and reproduction. The algae are known as zooxanthellae and they give the coral reefs their attractive color and when the corals become stressed, they lose zooxanthellae and as a result the coral colony ends up with a 'bleached' appearance.

If the source of stresses and conditions improve the corals may recover, with the zooxanthellae returning, however this depends on the severity and duration of the environmental disturbance. One environmental stress that is often associated with the loss of zooxanthellae by corals is the increase of Sea Surface Temperatures (SST).

Marthen Welley, a marine scientist and conservationist believes that measures taken to protect Indonesia's coral reefs could ultimately save other coral reefs worldwide as a result of the way currents carry coral throughout the ocean. Welley's research shows that Indonesia's coral reefs may not be adversely affected by climate change due to the fact they are located close to deeper colder waters. However, Welley fears that this year's El Niño will further warm the waters and take coral reefs closer to extinction.

Welley is working with Indonesia's government officials and local community leaders to create marine protected areas, with guidelines that encourage local fishermen to use environmentally friendly fishing practices so that they can contribute to the preservation of marine biodiversity in the region.

Human activities have also contributed to the destruction of Indonesia's coral reefs. A good example of the negative effects of human activities on Indonesia's coral reefs is the iron ore mine that was set up near the coral shores on Bangka Island. According to Angelique Monique, a diver resort operator and marine conservationist, the mining activities of the iron ore mine have led to the deposition of silt on the coral shores. The thick deposited silt has contributed to the destruction of Bangka Island's healthy and beautiful coral reefs and fish.

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