Typhoons & Coral Reefs

The Effects of Typhoons on Coral Reefs

Jerric Conde

Northern Marianas College

Dr. Kimberly Bunts-Anderson

EN101 – 06 English Composition I

October 15, 2018

Final Draft for Essay #3 (Literature)

How Do Typhoons Affect Coral Reefs?

A general browser search with Google on October 11, 2018 on the topic of “the effects of typhoons on coral reefs” – resulted in 480,000 hits, many of the publications being articles from environmental organizations providing information about what places in the world have coral reefs that have been affected by severe typhoons. Majority of articles are generated from coastal or environmental groups that discuss the effects of coral reefs on different parts of the world. Much of the literature highlighted places that have coral reefs which have been affected by typhoons. The non-academic sources found, were mostly news reports about different coral reefs around the world that have been damaged. The review of literature will discuss the effects of typhoons on coral reefs around the world, coral reefs in Saipan, and the future of our coral reefs.

Many coral reefs around the world have been affected by severe typhoons. The Philippines, China’s atolls, Palau, Hawaii, South Florida, the CNMI and many more have been affected by typhoons and coral bleaching. Storms generate waves which cause damage to reefs (Roeber and Bricker, 2015). When the reefs are damaged, the likelihood of floods increase. Reports suggest that “If you reduce coral reef health – if you go from that really rough coral reef with lots of live coral to a degraded coral reef with a relatively smooth surface – you have increased run-up in flooding (Harvey, 2017).” The Philippines was severely affected when Typhoon Yolanda hit (Anticamara and Go, 2017). Many islands in the Pacific really value their coral reefs and Saipan is one of many islands in the Pacific that is protected by their coral reef.

There are many islands in the Pacific that have coral reefs. Coral reefs protect these islands from potential tsunamis. Lately, with all the storms that have been happening, many coral reefs around the Pacific have been affected by typhoons. On the island of Saipan, many people are lucky to be living on an island that has a coral reef that goes all around. Typhoon Soudelor, which made a direct hit on Saipan about two years ago had an impact on the coral reefs (Villanueva-Dizon, 2015). Humanity cannot really stop mother nature. However, we as humans can make a difference on our coral reefs for the future.

The future of our coral reefs really depends on mother nature. Damage to our coral reefs is inevitable, but we can act. “We must work together to make a difference now (Villanueva-Dizon, 2015).” Many people around the world have put in effort in coral restoration. “Active coral restoration, reduction in fishing effort, diversification of economic activities, and effective management of no-take marine reserves should play key roles in the recovery of resources and human lives in these devastated areas (Anticamara and Go, 2017).” One thing we should do is always monitor the state of our coral reefs for the future (Yang, Yu, Zhao, Shi, Tao, Yan, and Liu, 2015). If we act now, we can help save our corals for the future.

Harmelin-Vivien’s (1994) study investigates the effect of storms and cyclones on coral reefs. The opinions and perspectives are presented. There is a report on which places of the world that have been affected. Places such as Hawaii, French Polynesia, Jamaica, Guadeloupe have been investigated. My research is like Harmelin-Vivien, but her case study is outdated. I want to investigate today’s coral reefs, and specifically Saipan’s coral reef.

This essay summarizes the literature reviewed for the student researcher’s investigation on the effects of typhoons on coral reefs. Different coral reefs around the world that have been affected, coral reef in Saipan, and the future of our coral reefs have been highlighted.

References

Anticamara, J., & Go, K. (2017). Impacts of super-typhoon Yolanda on Philippine reefs and communities. Regional Environmental Change, 17(3), 703-713. doi:10.1007/s10113-016-1062-8 Retrieved from NMC EBSCO on September 10, 2018.

Harmelin-Vivien, M. (1994). The Effects of Storms and Cyclones on Coral Reefs: A Review. Journal of Coastal Research, 211-231. Retrieved from http://www.jstor.org/stable/25735600 on September 10,2018.

Harvey, Chelsea. “Scientists Say Damage to Florida's Coral Reef Has Made the State More Vulnerable to Storm Surges.” The Washington Post, WP Company, 12 Sept. 2017. Retrieved on September 10, 2018 from www.washingtonpost.com/news/energy-environment/wp/2017/09/12/how-floridas-damaged-coral-reef-makes-it-more-vulnerable-to-storms-like-irma/?noredirect=on&utm\_term=.d29ec702e545.

Roeber, V., & Bricker, J. D. (2015). Destructive tsunami-like wave generated by surf beat over a coral reef during Typhoon Haiyan. Nature Communications, 67854. doi:10.1038/ncomms8854 Retrieved from NMC EBSCO on September 10, 2018

Villanueva-Dizon, F. S. (2015, November 05). Pacific coral reefs face bleaching, other threats. Retrieved September 10, 2018, from https://www.saipantribune.com/index.php/pacific-coral-reefs-face-bleaching-other-threats/

Yang, H., Yu, K., Zhao, M., Shi, Q., Tao, S., Yan, H., & ... Liu, G. (2015). Impact on the coral reefs at Yongle Atoll, Xisha Islands, South China Sea from a strong typhoon direct sweep: Wutip, September 2013. Journal of Asian Earth Sciences, 114457-466. doi:10.1016/j.jseaes.2015.04.009 Retrieved from NMC EBSCO on September 10, 2018