



Nature's shock absorbers

Background reading for teachers

This reading gives you the background for each slide, with sources you can check.

Coral reefs

A global meta-analysis found that coral reefs reduce wave energy by 97% on average, with the reef crest alone dissipating 86%. The reef crest reduced wave height by 64%. More than 100 million people may receive risk reduction benefits from reefs.¹

Mangroves

A review by The Nature Conservancy and Wetlands International found that wave height can be reduced by 13 to 66% over 100 m of mangroves, and by 50 to 99% over 500 m. Dense aerial roots are most effective in shallow water.²

Yolanda

After Yolanda, news reports described villages sheltered by mangroves, for example in Giporlos, Eastern Samar, suffering less surge damage.³ On the Molocaboc islets in Sagay, Negros Occidental, the village chief credited mangroves with shielding homes, but said it was the evacuation before the typhoon that saved lives.⁴ Natural defences reduce damage; early warning and evacuation save lives.

Sources

1. Ferrario, F. and others (2014). The effectiveness of coral reefs for coastal hazard risk reduction and adaptation. *Nature Communications* 5: 3794.
2. McIvor, A.L. and others (2012). Reduction of wind and swell waves by mangroves. The Nature Conservancy and Wetlands International.
3. Inquirer (2014). Mangroves can serve as protective wall, even against a storm like Yolanda. inquirer.net
4. Eco-Business. Mangroves shielded Sagay islets' residents. eco-business.com

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