

# Coral reefs



**ASSIGN  
BUSTER**

**CORAL REEFS** ♦ Coral reefs are living things made of coral polyps. Coral reefs are large strips of wave-resistant coral rocks built up by carbonate organisms lying close to the surface of the sea and even sometimes rising above the sea level. In the Caribbean, there are generally three types of coral reefs: ♦ Barrier reefs are to be found parallel to the coast and are usually separated by a shallow but wide area of water called a lagoon. Belize has one of the second largest barrier reefs. ♦ Fringing reefs are low platforms of corals, 0.5 km. to 2.5 km. wide, lying close to the shore of an island or continental shelf, but separated by narrow lagoons; its outer edge descends sharply into the sea. These are most common in the Caribbean. ♦ Atoll reefs tend to form a horseshoe. They are usually linked to a sunken volcanic cone.

**BENEFITS OF CORAL REEFS** Coral reefs are very much part of the Caribbean culture and we have learned to use them to enhance our economic well-being through fishing and tourism, and have become conscious of their value in sustaining the physical environment. ♦ Coral reefs are natural tourist attractions. The Bahamas and Jamaica are well known for their beautiful coral. They are also attractions in most Caribbean islands. ♦ Coral reefs are breeding grounds for fish. ♦ They are a food supply as well as a habitat for flora and fauna. ♦ They add to biodiversity which is important. Flora and fauna for example flora and fauna have medicinal and economic value. Some have been known to secrete substances to protect themselves from predators and these chemicals have been found to be medically useful to humans. ♦ They provide a barrier to destructive waves or for breaking waves and reducing the effect of storm surges. This allows wetland ecosystems such as mangroves and swamps to survive and grow. Mangroves provide valuable fisheries, ecotourism

attractions and ecological benefits to man. CONTRIBUTIONS OF CORAL

REEFS TO CARIBBEAN SOCIETY AND CULTURE

- Biodiversity o They are ecosystems which support a wide variety of marine life (flora and fauna).

This aids with tourism as well as fishing.

- Medicine o Ingredients of some medicines include chemicals found in sponges found on Caribbean reefs.

This has both positive economic and social effects.

- o Potential sun screens

- Tourism o Adventure tourism o Reproduces sand which provides us with the beautiful shorelines many tourists find very attractive.

- Fisheries o Employment for many o Diet

- Coastal protection o Coral reefs help to prevent coastal erosion by reducing the effect of the waves and wind; o They also aid in the preservation of mangroves and other wetlands \*which also

- add to the diversity in flora and fauna).
- Culture and identity o

Influencing both economic and recreational activities

THREATS TO CORAL REEFS

- Natural Threats

- Weather systems such as ENSO

- Global warming (results in warm temperatures which kills algae living in the polyps)

- Dust from the Sahara introduces soil fungi which destroys some species of reefs

- Droughts and desertification

- Bleaching events

Dangers posed by the environment in the form of hurricanes that deposit

tons of sand on reefs as well as destroy reefs by ripping them from the ocean

floor.

- Human Threats

- Pollution, in the form of detergents and other chemicals, stimulates algal growth which develops over living corals and kills

- them (eutrophication).

- Increased silting and sedimentation which prevents algae growth within polyps
- Building of hotels which drain wetlands and change the contours of the coast. Coastal development in the form of hotels and marinas involve construction, quarrying and dredging, the waste of which drains out to sea to provide turbid waters that choke coral

growth. ♦ Harvesting of corals for buildings ♦ Overgrowth of algae o Sewage o Agricultural and industrial waste such as fertilizers ♦ Warming of temperatures due to hot water emissions from power plants and other industrial activities; ♦ Overfishing and destructive methods of fishing ♦ Tourism o Reefs are destroyed from the anchors of ships o Reefs are destroyed by the fuel from boats o Tourists and craftsmen break off the reefs o Tourists walking on corals ♦ Dangers posed by agricultural land use and practices (small and large farmers) in the form of deforestation that leads to erosion and heavy siltation in rivers that deposit soil on the reefs; ♦ Dangers posed by cruise and other ships such as oil spills, that can reduce the oxygen supply for organisms that create coral reefs; disposal of garbage from such ships that pollute and damage reefs; MEASURES FOR PROTECTING CORAL REEFS ♦ Educating individuals and groups such as fishermen, farmers, hoteliers and even tourists would be part of the effort to increase awareness about the importance of reefs and to encourage all to protect them. ♦ Governments have established and should continue to establish marine-protected zones around important coastal regions inhabited by coral species and fish as the official stance or policy in the fight to guard the reefs. Declaring marine protected areas encompassing critical coastal regions that have a wide variety of fish and coral species to minimize and regulate the use and access; ♦ Legislation reform and law enforcement that minimize the potential for pollution and damage from external and internal forces such as cruise ship operators or large fishery companies, for example, that use trawling as a method for fishing that significantly changes the reef ecosystem. For example, the use of marine protection officers may be helpful; ♦ A regional environmental response by Caribbean governments

could take the form of a combination of legislation and institutions to promote all of the above adopting the policy of eco-tourism which emphasizes preservation of the environment and sustainable development.

â†— Establishing parks and reserves â†— Environment Impact Assessment for development and commercial projects.