

OUR ENVIRONMENT OUR HERITAGE

CORAL REEFS



WHAT ARE CORAL REEFS?

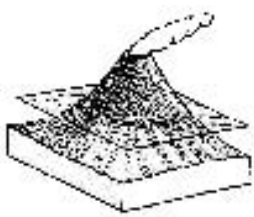
Coral reefs are amazing and unique ecosystems that are made from calcium carbonate (limestone) which are deposited by *coral polyps*.

Polyps have a cup-like structure made up of calcium carbonate. Each polyp has stinging tentacles surrounding its mouth. Corals use tentacles to defend themselves & catch its prey.

TYPES OF CORAL REEFS

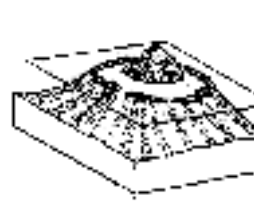
There are basically 3 types of coral reefs that occurs through-out the world.

FRINGING REEFS:



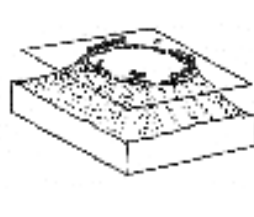
These are the most common reefs that grow in shallow water near shorelines of Continents & islands.

BARRIER REEFS:



Barrier reefs are different from fringing reefs since they occur further offshore & are separated by a relatively deep lagoon.

ATOLL:



Atolls are circular reefs that are made up of sand cays & islands which surround a relatively shallow lagoon. Found far from land in the open ocean, rising up from depths of 1,000 meters or more.

DISTRIBUTION OF CORAL REEFS

Coral reefs are distributed in all oceans of the world, generally between latitudes of 30° C north & south.

CORALS & CORAL REEFS OF SAMOA

Samoa is not so fortunate with coral reefs, partly because of the recent volcanic flows that covered previous reef areas & partly because of the deep-sided volcanic cones in deep waters.

Samoa has both narrow fringing & barrier reefs. Barrier reefs are separated by shallow lagoons that are up to 2km wide in some places.

Little information is known on the diversity & number of coral species found in Samoa, however a recent survey recorded 123 hard coral species.

VALUE OF CORAL REEFS

Apart from the sheer beauty of coral reefs, they are the amongst the most productive, diverse & complex but fragile ecosystems in the world.

GENERALLY CORALS & CORAL REEFS:

Provide Food:

Provide most of the protein for many tropical coastal people. Fisheries survey in 2000 indicated that local seafood makes up 34% of the total meat consumption.

Provide Income & Export Earnings:

These resources have also become a major source of income such as the export of tuna

Provide an Effective Protective Barrier:

Coral reefs serve as an effective protective barrier for beaches & the coastlines by reducing the constant thrashing of strong waves & currents.

Provide Sources of Medicines:

Many marine plants are being discovered & used for medicines, eg, sponges have been used as an anti-leukaemia drug.

Provide Raw Materials for Handicrafts:

Shells of some shellfish & black coral can be used for necklaces & other handicrafts.

Provide Attraction Sites for Tourists:

Coral reefs diverse colours & interesting reef animals & plants attracts tourist who come to enjoy this unique habitat. This in return provides income & employment for coastal communities.

HUMAN THREATS ON CORAL REEFS

Destructive fishing methods:

The use of dynamites, derris roots (ava niukini) & other poisons not only kills marine animals but also their habitats, eg, coral reefs.

Over-fishing of certain species:

Certain marine species, eg, triton, are over-harvested & can lead to the loss of other marine species.

Pollution and siltation:

Pollution & silt can smother corals & destroy coral reefs

Freshwater runoff:

Increase in freshwater runoff from land destroys corals & coral reefs. This is caused by poor land use & management near water catchments areas.

Destruction of other marine habitats:

Mangroves & seagrass are important ecosystems because they filter sediments. These ecosystems are being destroyed rapidly therefore the coral reefs are rapidly being destroyed.

NATURAL THREATS ON CORAL REEFS

Cyclones:

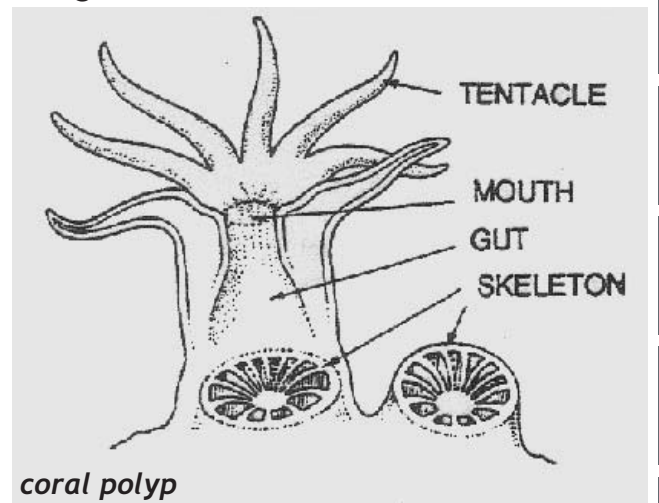
During cyclones the strong waves breaks & up-roots corals.

Sea temperate rise:

This is associated with climate change due to green house effect & ozone depletion. An increase in sea temperate causes corals to release zooxanthallae before they die off.

MINIMIZING THREATS

- Stop the use of effective & destructive fishing methods
- Stop over-harvesting of undersize fish & invertebrates
- Stop pollution & dumping of rubbish into the marine environment
- Stop the removal of corals
- Prevent the destruction of mangrove & sea-grass habitats
- Stop the use of effective & destructive fishing methods
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- Prevent the destruction of mangrove & sea-grass habitats



coral polyp

**BLESSED / HAPPY
WHITE SUNDAY!!!**

**TO ALL THE CHILDREN
OF SAMOA.**

FROM THE CEO & MANAGEMENT

For more information contact our
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Produced by the Ministry of Natural Resources and Environment