

Case Study: Menjangan Island, Bali. Exploitation and Management

View the virtual fieldtrip as a slideshow, navigating your way around Menjangan, exploring different aspects of it by clicking on the relevant links and icons.

As you explore, complete the activities below to build a case study of the Island and its surrounding reef.

The case study will be focused on two main areas:

- 1) Exploitation and pressures of the reef.**
- 2) Management of the area.**

Activities

Environment

- 1) In the starter activity for this lesson, you described the location of Menjangan, look again at the Island using Google Earth or similar to describe the Islands landuse (where are the woodlands, open areas, settlement, etc?). When doing this, try to estimate proportions of different landuse cover as a percentage or fraction.
- 2) What does the word 'Menjangan' mean in English?
- 3) What is a Marine Protected Area (MPA)?
- 4) How long has Menjangan been an MPA?
- 5) How many divers does the Menjangan tend to see each day?
- 6) Why was it considered important economically and environmentally for fishers to be persuaded to change from fishing to ferrying tourists?

Climate

- 1) What type of Climate does Bali have?
- 2) In which month was the highest rainfall? How much fell?
- 3) What is Bali's annual average atmospheric temperature in degrees Celsius?
- 4) Bali only has two seasons each year. A wet and dry season. Use the climate graph to find out when in the year each of these occurs.
- 5) What is the modal average daily hours of sunshine?
- 6) What conditions do corals need in order to survive?
- 7) Menjangan has some of the best reefs in Bali (in terms of beauty and species abundance). What is it about the areas oceanic conditions that produce this?

Coral reef ecosystem

There are a number of threats impacting upon coral habitats. In this section you will explore these.

- 1) Corals are very special and unique environments. Outline at least four reasons to explain Why in addition to their uniqueness they are considered so special (Make sure you use figures in your answer).
 - 2) How is Menjangan used by the local people and why is the area important to them?
 - 3) What is Coral bleaching and how does it occur?
 - 4) Describe and explain the global distribution of coral bleaching and thermal stress between 1998 and 2007.
 - 5) What proportion of coral reefs has already disappeared?
 - 6) How many are currently considered 'at risk' or threatened?
- Produce two spider diagrams (one on human factors and one on physical factors) to show the main pressures on coral reefs. Use one page of A4 for each spider diagram. In your diagrams you must describe and explain each factor.

Remember, be as detailed as possible; using all the links and resources available. Including images and /or sketches may help when you come to revise.

Management

- 1) What management activities are the Friends of Menjangan doing to reduce the various reef pressures?
- 2) What are their future management plans? Which do you think is most important to Menjangan Island and reef ecosystems? (Argue your choice).
- 3) What are the aims of Dr. Philip Dustan and his team for this study?
- 4) What benefits do you think the findings might have on the management of Menjangan in the future?