



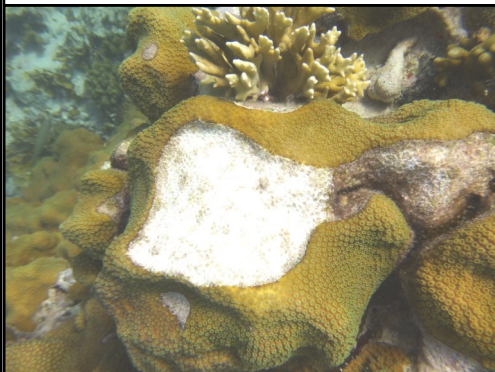
Creation of an artificial coral reef

- Kay an nou -

Innovative scientific and technological project
Directed by year 10 students from Gourdeliane secondary school in



Decree 971-2016-11-14-010 PREF/DM/EAMPR/DPM of nov 14th 2016



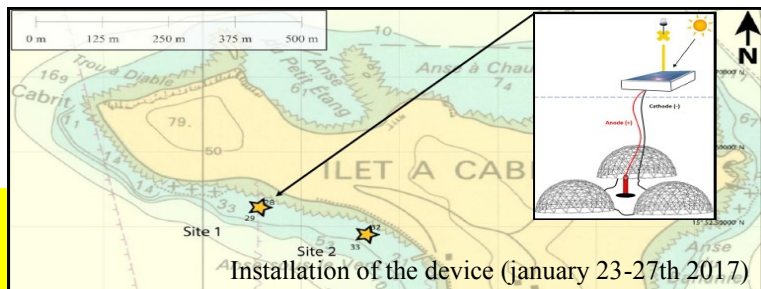
A piece of *Orbicella* coral bleaching

WHY?

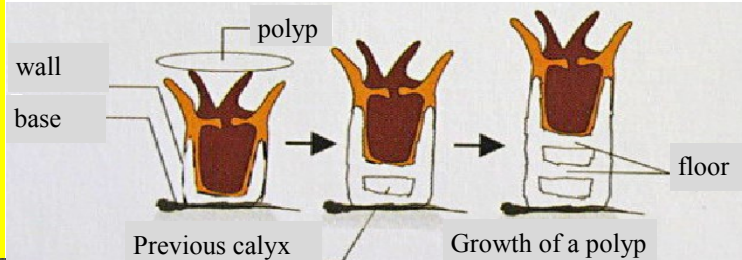
The danger facing coral reef bleaching worldwide is also present in french west indies island of Guadeloupe. This phenomenon is fully increased because of many factors such as elevated sea temperatures, various forms of pollution, storms, and brings about the extinction of coral reefs.

HOW DOES IT OCCUR?

On the side of the islet known as « the islet of goats » in « les Saintes » and more precisely on the leeward bay, one can see deep down in the water three iron structures in the shape of a dome set at the bottom so as to build an artificial coral reef. They are electrically powered by a faint current generated by solar panels placed on a floating buoy.



Installation of the device (january 23-27th 2017)



The principle is to induce electrolysis of sea water to precipitate the calcium carbonate (aragonite) on the immersed structures thus leading to the fixing of polyps lying at the end of clusters of coral. Such technique also called Bio-rock accelerates their growth three times or five times as much and makes them more resistant to external aggression (acid sea water, changes of temperature...).



Team « Kay an nou » (january 16th, 2017)

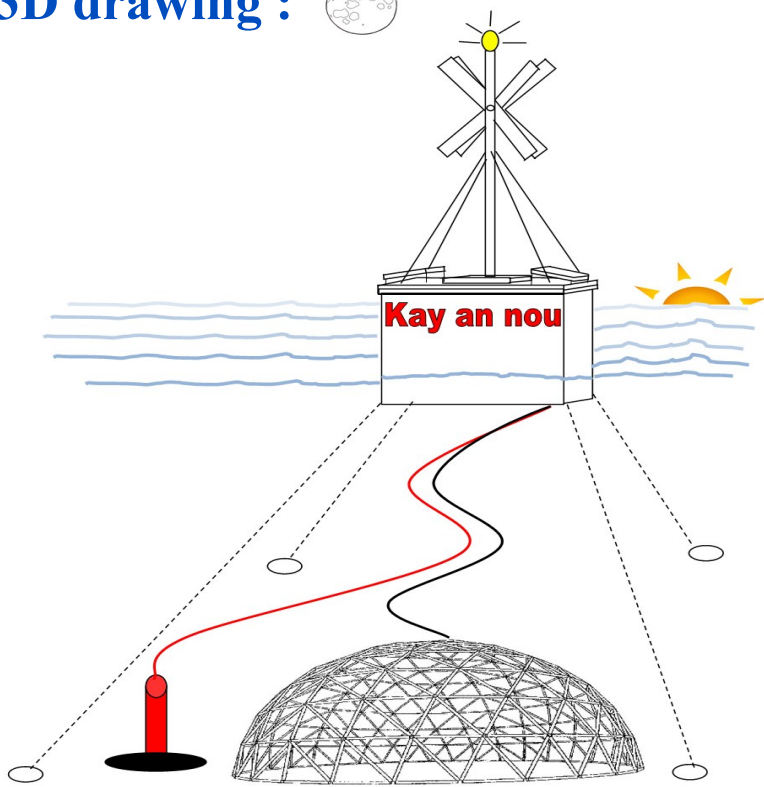
WHAT IS THE POINT OF OUR PROJECT?

The larva of the corals gather naturally on our structures then develop into polyps. They build their platform, then their calcareous wall. The presence of aragonite on the structures speeds up the growth of the coral reef.

Biological monitoring will allow us to follow the evolution of the process



3D drawing :



Kay an nou



Gourdeliane
Secondary School
Guadeloupe
2016-2017 / 2017-2018



One of our domes
during its
calcification process
05-08-2017