



Marine sediments in the classroom

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In the present context of global climatic change, studies of the past natural climate variability is critical for the knowledge of the Earth climate mechanism. One of the major climatic reservoir is the ocean which covers more than 70% of the surface of the earth. It exchanges moisture and heat with the atmosphere and plays an important role in the climatic changes at different latitudes. The marine sediments are therefore archives of the past oceanographic/climatic changes. These marine sediments are collected as long cores penetrating into the sediment and therefore giving access to the progressive climatic changes with time.

Marine sediments are classically composed of skeleton of micro-organisms and of terrigenous fraction. The main micro-organisms used as tracers of paleoclimatic changes are foraminifera. Their species change with the properties of the water mass in which they live (in particular temperature and salinity). With the aim of showing the students in a classroom how to recognize these species and to reconstruct the past oceanographic changes, "real" sediment has been taken during different cruises in different oceanic basins.

We will present here the type of sediments available and the type of analysis/observation which can be made in a class. We will show how to perform the preparation of the samples and what are the possible observations through a binocular microscope. The students will then be able to extract information from their own observation about climate: its variations over time and through the differences between the areas of coring operations.

In order to allow this activity to be introduced into your class, a program of distribution of these marine sediments will be proposed and will be presented. A registration form will be available. A limited number of proposals will be accepted and a report of their activity in the classroom will be mandatory a few months after the distribution of samples.