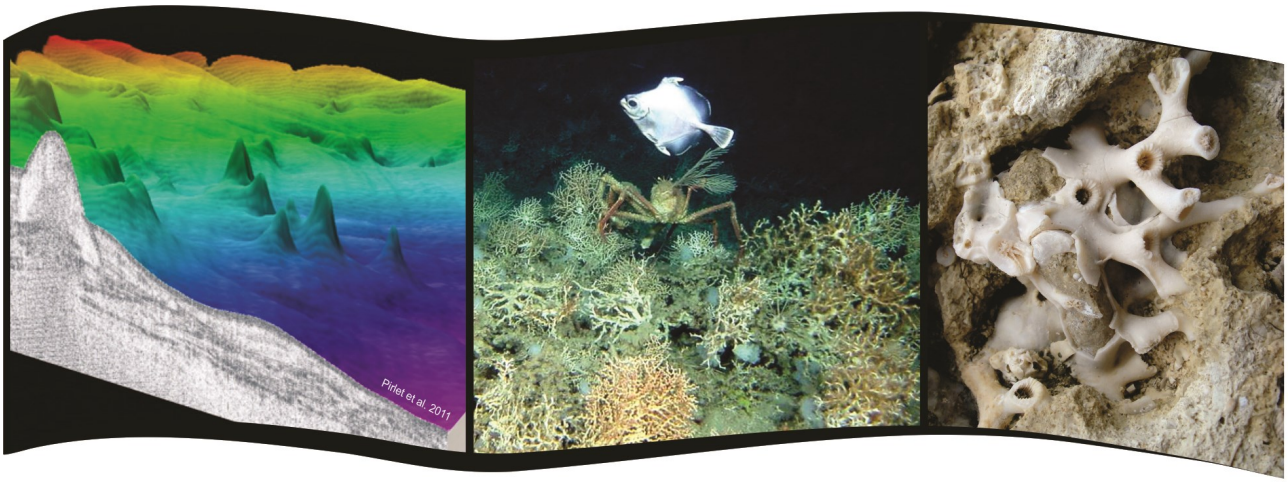
Dipartimento di
Scienze della Terra "Ardito Desio"

UNIVERSITÀ
DEGLI STUDI
DI MILANO

Venerdi 1 Dicembre, ore 9:00
Aula Taramelli, via Mangiagalli 34 Milano

Cold-water coral build-ups: present, past, future



Dott.ssa Agostina Vertino

Dipartimento di Scienze dell'Ambiente e della Terra,
Università di Milano-Bicocca
Renard Centre of Marine Geology, Department of Geology,
Ghent University

Per informazioni, rivolgersi a: G.Della Porta (giovanna.dellaporta@unimi.it) o F. Felletti (fabrizio.felletti@unimi.it)

Venerdi 1 Dicembre, ore 9:00
Aula Taramelli, via Mangiagalli 34 Milano

Cold-water coral build-ups: present, past, future

Dott.ssa Agostina Vertino

Dipartimento di Scienze dell'Ambiente e della Terra,
Università di Milano-Bicocca
Renard Centre of Marine Geology, Department of Geology,
Ghent University

To most people, the term "coral" refers to gorgeous and colourful organisms thriving in shallow-water tropical seas. However thousands of species, known as "cold-water corals" (CWC), live in dark, cold and generally very deep marine environments. Some of them can create large carbonate build-ups comparable, in terms of complexity and biodiversity, to shallow-water tropical reefs.
Known to science since the mid-eighteenth century, CWC have become focus of intense research only in the last decades thanks to the increased interest in deep-sea exploration and the rapid progress in ocean survey technology. Recent CWC build-ups (variously named as mounds, reefs, banks etc.) occur over a wide range of latitudes and are particularly abundant in the North Atlantic Ocean where extensive mound fields exist between 600 and over 1000 m depth, at temperature lower than 10°C. The oldest known record of frame-building CWC dates back to the Cretaceous, but deep-sea build-ups have not been reported before the Paleogene so far. Recent studies have highlighted the potential of these peculiar bioconstructions as paleoenvironmental archives. In particular, they seem to be crucial for a better understanding of oceanographic modifications occurred through the Quaternary in the Mediterranean and North Atlantic.
CWC ecosystems are vulnerable biodiversity hotspots of the deep ocean, exposed to present and future human impacts (e.g., destructive fishing practices) and climate change. Their long and complex geological history hints at the ability of some species to cope with oceanographic modifications through time. Nevertheless, the projected shoaling of the aragonite saturation horizon might threaten the future integrity of deep-sea coral bioconstructions.