



Preparation of samples of
MARINE SEDIMENTS
in the cooled incubator

The mission of the research ship Belgica is the exploration of the marine ecosystem of the North Sea.

The marine scientists on board use the journey home, which takes several days, to dry out their samples of marine sediments in the ICP incubator in the so called wet laboratory.

The predecessors of today's marine scientists and geologists in the Antarctic

Today's **Belgica** had a famous predecessor. Belgian officer **Adrien de Gerlache** de Gomery set off with her in the year 1897 on the first research trip to the **Antarctic**, the so-called **Belgica** expedition, during which islands and coastal stretches were charted, and sea depths, temperatures and rainfall were recorded. Also on board were the famous polar scientist **Roald Amundsen** and the American **Frederick Cook**, who, even today, is remembered for his rather doubtful claims to be the first to climb Mount McKinley, as well as the first to reach the North Pole by foot. The first



The first **Belgica** with **Adrien de Gerlache**, **Roald Amundsen** and **Frederick Cook** in the **Antarctic**

heroes of the **Antarctic** who ventured further south than anyone before them, were enclosed by pack ice in March 1898 and were forced to spend 377 days in these unknown surroundings. That nearly all the crew survived was down to the ship's doctor, **Frederick Cook**, who switched their diet to raw seal meat and forced them to undergo a "regime of fire light", in which the men had to look into the brightly glowing light of an open fire.

Exploration of the marine ecosystem of the North Sea

For about 200 days a year, the modern **research ship Belgica**, almost 512 metres in length, is away from its home port of Zeebrugge, to enable **scientists** from all over Europe to go on **underwater expeditions** in the **North Sea** between Brest and Aberdeen, and now and then even to Norwegian, Spanish or Irish waters.

The **research ship** is run by "The Management Unit of the **North Sea Mathematical Models**", in short **MUMM**, a department of the Royal Natural Science Institute of Belgium, and the crew is provided by the Belgian Navy. The work of the **MUMM** can be described with three Ms. Modelling stands for the development of mathematic models to be able to make better predictions for the **marine ecosystem** of the **North Sea**. Monitoring means the collection of marine observational data and management, the final keyword, entails the work in a wide range of committees dealing with the protection of the **ecosystem**.

Research focus marine geology – specifically sedimentology

Scientists from the Renard Centre of **Marine Geology** of Ghent University are also regular guests on board the **research ship**. One of their **areas of research** is marine sedimentology, which examines the sedimentation and transport paths of sea-floor material in order to document the development of siltation, to chart the habitats of benthic creatures such as algae, crustaceans, mussels, fish, diatoms, rotifers and snails, and also to gain a better



Satellite image showing the distribution of **marine sediments** in the **North Sea**



Scientists with samples of marine sediments

Memmert Incubators

understanding of the **developmental history** of the Earth.

The samples taken from the sea bed **dry out** on the **Belgica** in the wet **laboratory Memmert cooled incubators** in two ICP at 45 °C, before they are analysed on land. This granulometric analysis includes determining grain sizes and the distribution of various grain sizes in the sample.

An overview of focus topics

- Marine Geology
- Sedimentology
- Belgica
- North Sea
- Marine ecosystem
- Cooled Incubator
- Marine Sediments
- Drying samples

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[Cooled incubator ICP](#)

[Incubating bacteria in the incubator](#)

The Science Gallery in Ireland demonstrated to those with scientific interest the mechanisms of infection during an epidemic.

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