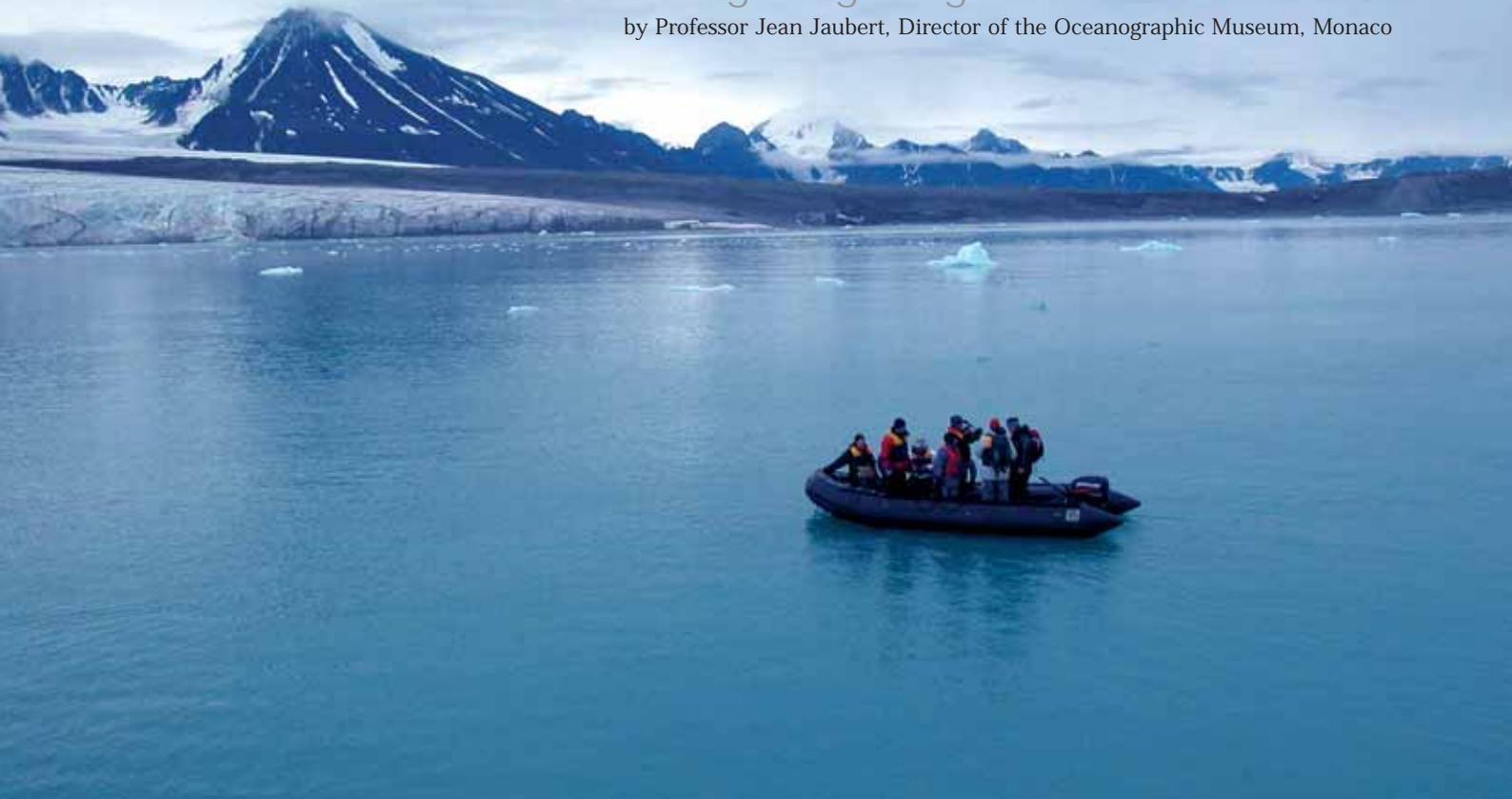


# Prince Albert II in the Arctic

A pilgrimage in the footsteps of his great great grandfather Prince Albert

by Professor Jean Jaubert, Director of the Oceanographic Museum, Monaco



Hopefully they will shed light on one century of the poorly known history of two increasing dangers, climate change and pollution, that threaten one of the most isolated arctic regions.

## Tradition

Pioneering oceanographer Prince Albert I had completed scientific investigations along the coasts of the Svalbard Archipelago (Norway) at a time when this region situated close to the North Pole was largely unexplored. Today the names of certain sites such as the Grimaldi Peak and the Monaco glacier recall the memory of those famous days. Yet the Prince had understood it was important to collect meteorological data and measure the extent of ice in this polar region where the impact of climate variations is greater than in temperate and tropical areas. To this end he used sophisticated photographic techniques to determine the exact shape and position of the fronts of several major glaciers.

One hundred years later the melting of these glaciers caused by the climate warming is so important that the simple comparison of photos shot in July 1906 and July 2006 shows their striking regression. That of the Lilliehöök glacier visited this year by HSH Prince Albert II is especially spectacular. The major objective of the expedition lead by HSH Prince Albert II was to perpetuate the tradition initiated by his great great grandfather and to bring a modest but valuable contribution to the corpus of scientific investigations that deal with the impact of climate warming and pollution on the ecosystems of the arctic regions.

## The experts

The three scientists of the expedition had complementary skills. Dr. Samantha Smith, Director of the polar programs of the World Wildlife Fund (WWF), had a perfect knowledge of the fauna and flora of the visited areas. Dr. Roberto Cassi, from the Marine Environment Laboratory (MEL) of the International Atomic Agency (IAEA) was commissioned to dissect and preserve specimens for subsequent analyses of micro-pollutants and trace elements. Prof. Jean Jaubert, Director of the Monaco's Oceanographic Museum was the scientific leader of a team of three divers who had the challenging task of spotting and collecting specimens of a long-lived clam called *Arctica islandica*. This species is extremely interesting because its life span exceeds one century and the growth rings of its shells contain chemicals taken up year after year in the surrounding water that record the variations of its temperature and pollutant content.

The challenge resulted from the difficulty to find this species, which is rare in the Arctic and is buried into muddy sediments so that almost nothing is visible at the surface of the seafloor. This was like looking for an invisible needle in a haystack. And to make things even more difficult the divers had to endure the freezing cold of the waters that surround the icecap. But those who dare, win and they were lucky enough to collect 8 specimens during the last minutes of the last dive. The analyses being completed by the IAEA are long and difficult. Hopefully they will shed light on one century of the poorly known history of two increasing dangers, climate change and pollution, that threaten one of the most isolated arctic regions.



The Lilliehöök glacier in July 1906 during the expedition of HSH Prince Albert I



The Lilliehöök glacier in July 2006 during the expedition of HSH Prince Albert II

