

In search of the riders of icebergs

International Polar Bear Day, set up by Polar Bears International, a non-profit organisation, was held on 27 February. The aim of day is to increase awareness in all of us of the challenges that polar bears must face daily due to climate changes. The North Pole, the home of polar bears, is one of the places on our planet where the impacts of climate change and global warming are most pronounced. Due to the increase in temperatures, in fact, Arctic ice is disappearing because it melts earlier in spring and forms later in the autumn. Thus, every year the area of ice grows increasingly small, taking away the habitat that offers refuge and hospitality to these splendid animals. To better understand what the impacts of these climate changes on polar bears are, let us discover together some of the characteristics of these Riders of Icebergs, as they were called by medieval Norse poets.



Polar bears are the largest terrestrial carnivores. Their main source of food are seals which the bears hunts in a truly unusual way: the bear hears the sound of its prey beneath the ice and as soon as the seal surfaces to breathe, the bear kills it with a blow from one of its paws. If the opportunity arises, polar bears may also eat carcasses, for example those of dead whales. Polar bears are the only species of bear considered as marine mammals and, in fact, they are dependent upon the ocean for their food and habitat. Indeed, the scientific name of the polar bear is *Ursus maritimus*, meaning sea bear. Polar bears are expert swimmers, and can achieve speeds as high as 10 km/h, using their front paws as paddles and their hind paws as a rudder. Their thick fur, made up of water-repellent hairs and a layer of no less than 11 centimetres of body fat allows the bears to withstand the freezing Arctic temperatures, both on the ice and in the sea.

On the subject of fur, contrary to what may be thought, polar bears are not white! Yes, appearances are deceptive. The hairs seem white but in reality are colourless and transparent. Each hair has a hollow nucleus that disperses and reflects visible light, making them seem white. This is what happens with ice and snow too. Beneath its thick fur, a bear's skin is black, ideal for absorbing the rays of the weak Arctic sun. Due to the radiative properties of the bear's fur, which insulates it completely preventing any loss of heat, when the animal is filmed using an infra-red camera, only its eyes, mouth and nose are visible.



The habitat fundamental for its survival is the sea ice of the North Pole where there are 19 populations of polar bears distributed between Canada, Alaska (United States), Russia, Svalbard Islands (Norway) and Greenland (Denmark). These Arctic giants are the absolute masters of their environment and have no natural enemies. What threatens their survival has an anthropic origin. Global warming, the consequence of climate changes, is the major threat to the survival of polar bears. Year after year, the Arctic sea ice forms ever later and melts earlier, forcing polar bears to live in an environment that is increasingly less suited to their needs. Polar bears need ice to hunt and accumulate the fat required to cope with the months in which food is scarce in the Arctic regions. The melting of the ice forces these animals to cover greater and greater distances on the ice pack and on dry land in search of prey. The problem of finding sufficient food often compels them to approach dangerously near to human settlements.



Due to the scarcity of food, there has been a worrying increase in the polar bear mortality rate, given that the bears are forced to consume increasingly more energy resources in order to survive. Undernourished and less healthy bears have a lower reproduction rate, increasing the probability of extinction. Scientists have discovered that cubs often do not survive the harsh Arctic climate both due to lack of food and because the mothers who nurse them have not stored up enough fat and are undernourished.



The *Ursus maritimus* is included in the IUCN (International Union for Conservation of Nature) Red List of threatened species with the “vulnerable” status. It is currently estimated that there are only 20-25 thousand individuals remaining in the world.

Polar bears in various cultures

The scientific name of the polar bear is *Ursus maritimus*, meaning sea bear, a perfect name for an animal which, as we have seen, lives in and out of water. In reality, this animal's name differs in the various cultures that have come into contact with it. The Norse poets in medieval Scandinavia said that polar bears have the strength of 12 men and the intelligence of 11. They referred to them with the following names: white sea deer; the seal's dread; the rider of icebergs. The Sámi people (an indigenous Scandinavian population) refused to say the true name of polar bears for fear of offending them. On the contrary, they called them God's dogs or old men in fur coats. The Inuit, an Arctic population, called the bear “*nanuk*”, or “an animal worthy of great respect”, while in their poems they called it “*pihoqahiak*”, the ever-wandering one. The Inuit have strong ties with polar bears, and many legends describe the bond between this animal and humans: polar bears are seen as wise, powerful and similar to humans, and are represented as disguised men, living in igloos and with habits similar to those of humans, for example they can walk, stand up and talk. The idea that they can stand up and walk on two legs is due to observation of the tracks that the bears leave on the snow: in fact, when the bears walk, they place their hind paws in the prints of their front paws, giving the impression that they are walking on two legs like human beings.

The Ket, a small tribe living along the course of the Yenisey in Siberia, call it “*gyp*” or “*orqol*”, grandfather or stepfather - as a sign of great respect. In Eastern Greenland, the polar bear is known as “*tornassuk*”, the master of helping spirits.

by Benedetta Palazzo

Sources of further information: