

# International Symposium on Okhotsk Sea and Polar Oceans



## Background

Every year, drift ice arrives at the coast of the Sea of Okhotsk in Hokkaido around Mombetsu and Abashiri areas. This area is located at 44 degrees north. This is **the southern limit for drift ice** in the northern hemisphere.

Since the drift ice stays 2 or 3 months in winter, its existence has important role on climate, industry and human life in these areas.

Since the **Sea Ice\* Research Laboratory** of Hokkaido University was established in 1965 (until 1996) at Mombetsu and drift ice radars were installed at Mombetsu and other areas, the **International Symposium on Okhotsk Sea and Polar Oceans** was held every year at Mombetsu since 1986 to present (Fig. 1, 2), and **Okhotsk Sea Ice Museum of Hokkaido** was established by Hokkaido Prefecture in 1991, by which Mombetsu became the Mecca of the sea-ice researches.

(\* “Sea ice” is used scientifically rather than “drift ice”)



Fig. 1 International Symposium at Mombetsu



Fig. 2 Field study after Symposium (2019)

## International Symposium on Okhotsk Sea and Polar Oceans

The first International Symposium on sea ice and the Sea of Okhotsk was held at Mombetsu in 1986, which was held after that every year by Mombetsu city. Though the symposium title was changed sometimes, the present title is the International Symposium on Okhotsk Sea and Polar Oceans, which is 35 times in 2020. It must be unique that a local city continues hold an international symposium every year.

As shown in Fig. 3, the subjects of symposium changed gradually in these 35 years. In the early period, the subjects were mainly on physics and engineering for sea ice, biology and fishery. After 10 years, the engineering of oil development changed to the environment subjects of marine environment, oil spill, global

warming. In these 10 years, the subjects of the Northern Passage in Arctic Ocean and cold disaster for human life were added to them.

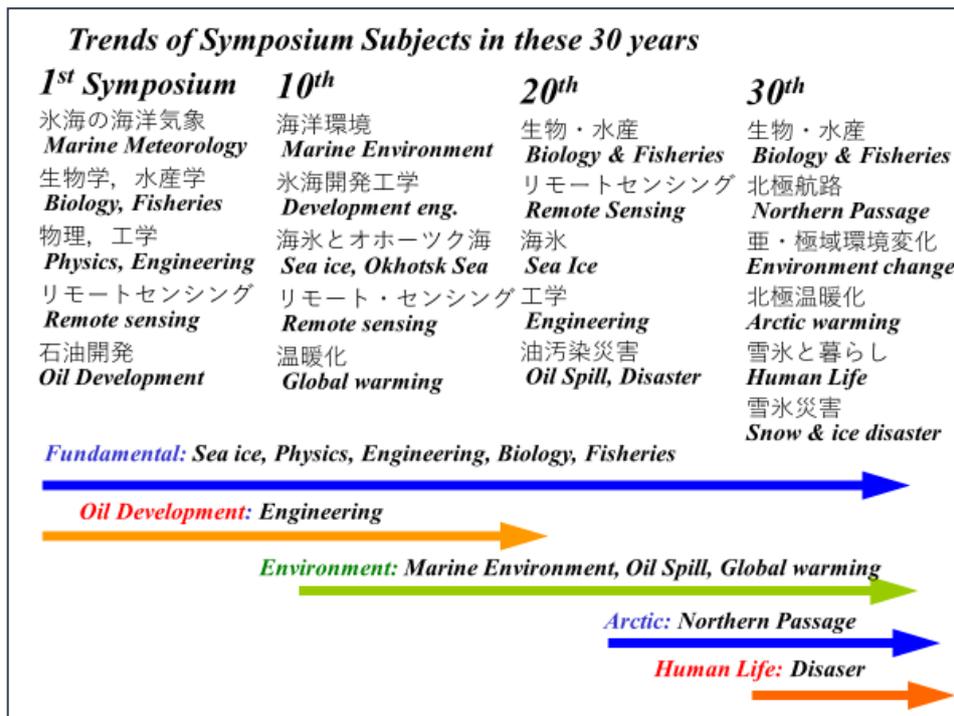


Fig. 3 Changes of symposium subjects in these 30 years

### Change of people's consciousness by the Symposium

Sea-ice was recognized as 'White Devil' 30 years ago, because the sea-ice caused marine accidents and fishing interruption.

However, people could understand by the presentations of Symposium that it is not and the sea ice makes the sea rich because "ice algae" breed rapidly on the ice bottom as 'blooms' so that zooplanktons and fishes increase (Fig. 4).

Recently fishermen do the sustainable fishery for scallop. They divided the offshore to 5 zones (1 young-selfis zone and 4 growing zones). They release the young selfish to the growing zones one by one. After 4 years, they can catch grown scallop from each zones (Fig. 5). They can do these operations in the season without sea ice.

Adding to it, lots of sightseeing tourists come to see sea ice (Fig. 6). Thus, people has been understood the sea-ice is important for the fisheries and also sightseeing in this area.

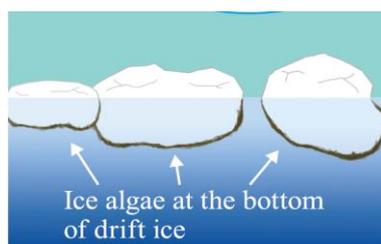


Fig. 4 Ice algae developed on the sea-ice bottom.

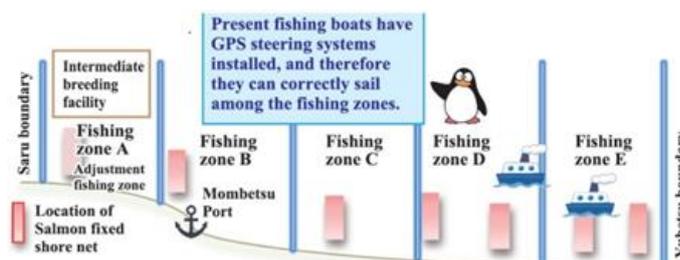


Fig. 5 Scallop fishery zones and salmon fixed nets at Mombetsu.



**Fig. 6 Sightseeing icebreaker Garinko II with Archimedes' screws. Its prototype was developed for the oil development in Sakhalin.**