

Earlier this year, the southern part of China has encountered a rare snowstorm disaster, which caused huge damages in farms, transportation, power, phone services and other industries across China. It has reported total direct losses of 6.23 billion RMB.

The research findings of some Chinese experts show that the weather disaster in China is related with the Arctic at a certain extent. For example, the figure on the left shows that dust storm in China relate to cold air mass from the Arctic, the figure on the right illustrates that the duration and area of Plum Rains in the Changjiang River basin is related to the Arctic Oscillation.

Which indicated that the Arctic would impact the climate in China significantly. In addition, According the observation and model simulation, the figure on the left illustrated the Sea Ice is thinning and shrinking, and the figure on the right predicted that there would be no ice cover on the Arctic Ocean up to the end this century.

It is just a reason why we are so interesting in the Arctic area. Changing Arctic and effects on the environment of China attracted our attentions strongly and we went straight to the Arctic to investigate.

During this expedition, we were really aware of the current conditions of the Arctic. That is beyond our imagination. There were barely any massive icebergs floated in the ocean, and the temperature was hardly as cold as we expected. The ice and snow layers were extremely thin and being melted severely on the glacier of Longyearbyen. Our feet were sunk into snows about 30cm when we walked on the glacier. The experts said it is unimaginable several years ago. All of these are different from what we saw at the local museum.

Thus it can be seen that the Arctic environment has greatly changed within the last few decades.

Return from the Arctic, we collected more literature, and carried on further research on this topic.

The literatures show that the Arctic is link with other parts of the earth closely; the Arctic has been polluted by human activity. A mass of pollutants have been carried to the Arctic through the atmosphere, the rivers and the sea channels.

For example, in the west Euro-Asia area, pollutants such as sulfur and nitrogen, POPs and radionuclide were transported from low latitude to high latitude area in the winter. PCBs and some bug sprays are enriched in the Arctic obviously.

The flooded rivers may become the major pathway of pollutants dispersing as a result of the seasonal ice-bound and the dissolution in the Arctic. Aerosol silt containing

PCB and DDT is deposited in the estuary area.

Radioactive nuclides from low latitude areas were long-distance transported by atmosphere and ocean and enriched in the deposit. Early oil residue and nuclear waste has been leaked into the seabed of the Arctic Regions, and dispersed by the ocean flow.

The figure in the left shows that temperature rising make to northward movement of permafrost, which would threaten human living.

At present, we believe that all countries should work together, and build a more complete monitoring network in order to protect our Arctic.

We love the Arctic, appeal to explore and protect the Arctic.

Thanks.