Title:

A comparative study of emerging and legacy of organic contaminants in seawater and sediments between the Bohai Sea, China and Seto Inland Sea, Japan.

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Aim:

(1) To investigate the occurrence and distribution characteristics of PFASs and BFRs in the Seto Inland Sea.

(2) To compare the concentrations and compositional distributions of PFASs and BFRs between the Seto Inland Sea and the Bohai Sea.

(3) To explore the possible sources of PFASs and BFRs in the Seto Inland Sea.

Procedure:

(1) Participate a cruise in the Seto inland sea, and collect water and sediment samples;

(2) Discussion with Prof. Xinyu Guo about the comparison of POPs in the Bohai Sea and Seto Inland Sea.

Result:

Influenced by global pandemic of COVID-19 and also due to the new policies for international travelling in China and Japan, we cancelled the exchange and study plan at Ehime University in Japan in 2020. We were not able to participate a cruise in the Seto Inland Sea, so we did not collect water and sediment samples from the Seto Inland Sea.

In China, we have participated three research cruises and have successfully collected surface and bottom layer seawater samples in spring, summer and autumn in 2020 across the Bohai Sea and Yellow Sea (Figure 1).

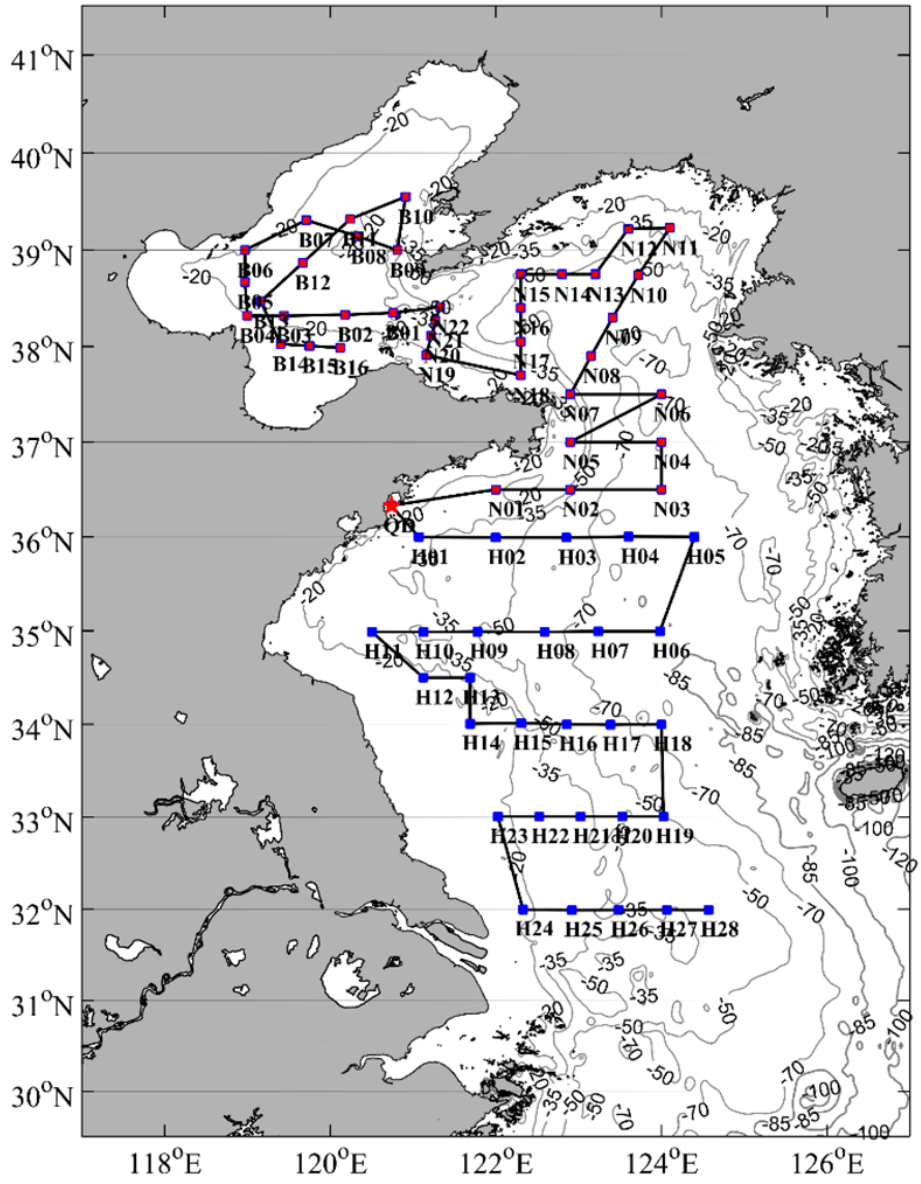

Figure 1. Schematic map showing the sampling stations in 2020

According to the plan, 20L of surface water and 20L of bottom water were collected from each of the 11 stations in the Bohai Sea. Based on the actual situation, the completion of sampling work in each quarter is not exactly the same. Table 1 lists the detail information about the seawater samples in the Bohai Sea in three different seasons.

After the sampling work, we have started to pretreat the samples but not yet finished the experimental work. We expected the data can be obtained around July and August, 2021 and then we can analyze the concentrations, distribution characteristics and sources of BFRs in the Bohai Sea.

We look forward to going to Ehime University in Japan in 2021 and participating a cruise in the Seto Inland Sea to successfully collect water and sediment samples to compare the concentrations, distribution characteristics and sources of BFRs between the Seto Inland Sea and Bohai Sea, and to better understand the environmental behaviors and fates of those emerging contaminants in different coastal seas under different social-economical influences.

Table 1. Detail information about the water samples collected in the Bohai Sea in 2020

Seasons	Station	Surface water	Water volume	Bottom water	Water volume
Spring (2020.05.30-2020.06.09)	N19	√	20L	√	20L
	N21	√	20L	√	20L
	N22	√	20L	√	20L
	B04	√	20L	√	20L
	B06	√	20L	√	20L
	B09	√	20L	√	20L
	B10	√	20L	√	20L
	B11	√	20L	√	20L
	B12	√	20L	√	20L
	B14	√	20L	√	20L
	B16	√	20L	×	—
Summer (2020.07.30-2020.08.09)	N19	√	20L	√	20L
	N21	√	20L	√	20L
	N22	√	20L	√	20L
	B04	√	20L	√	20L
	B06	√	20L	√	20L
	B09	√	20L	√	20L
	B10	√	20L	√	20L
	B11	√	20L	√	20L
	B12	√	20L	√	20L

	B14	√	20L	√	20L
	B16	√	20L	√	20L
Autumn (2020.10.15-2020.10.24)	N19	√	20L	√	20L
	N20	√	20L	√	20L
	N22	√	20L	√	20L
	B04	√	20L	√	20L
	B06	√	20L	√	20L
	B09	√	20L	√	20L
	B10	√	20L	√	20L
	B11	√	20L	√	20L
	B12	√	20L	√	20L
	B14	√	20L	√	20L
	B16	√	20L	√	20L