

Monitoring of drifting seaweed (*Sargassum horneri*) in Liaodong Bay in 2020

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From 2015 to 2020, satellite remote sensing methods are used to monitor drifting seaweed, mainly monitoring the distribution area and drifting path. The measurement frequency is once every 3 days. As of mid-August 2020, the monitoring results found that the distribution area of drifting seaweed (*Sargassum horneri*) in Liaodong Bay in 2020 was the largest in six years since 2015. In 2020, on June 28th, the largest distribution area of *Sargassum horneri* in Liaodong Bay was monitored to be 640km²; On July 7th, 2020, the source of drifting was monitored from the northern part of the Yellow Sea. On August 8th, the ship's on-site investigation found that there were still *Sargassum horneri* drifting in the area, and every drifting seaweed cluster was entangled with artificial floating bodies such as foaming foam. Perhaps the buoyancy of the seaweed itself was not sufficient for long-distance drifting. With the help of external floating objects, it can maintain long-term growth and drifting.

Many young fish can be seen under the *Sargassum horneri* mass. The resource of Spanish mackerel in the Yellow Sea and Bohai Sea have increased significantly this year, which may be related to the surge of drifting seaweed and the large number of fish eggs and juveniles transported. Drifting seaweed and the fish eggs or juveniles it carries, drifting and spreading over long distances across the sea, are all non-native species (NIS) wherever they go, and may be an ideal model organism for studying environmental DNA (eDNA) technology .

Keywords:

drifting seaweed
Sargassum horneri

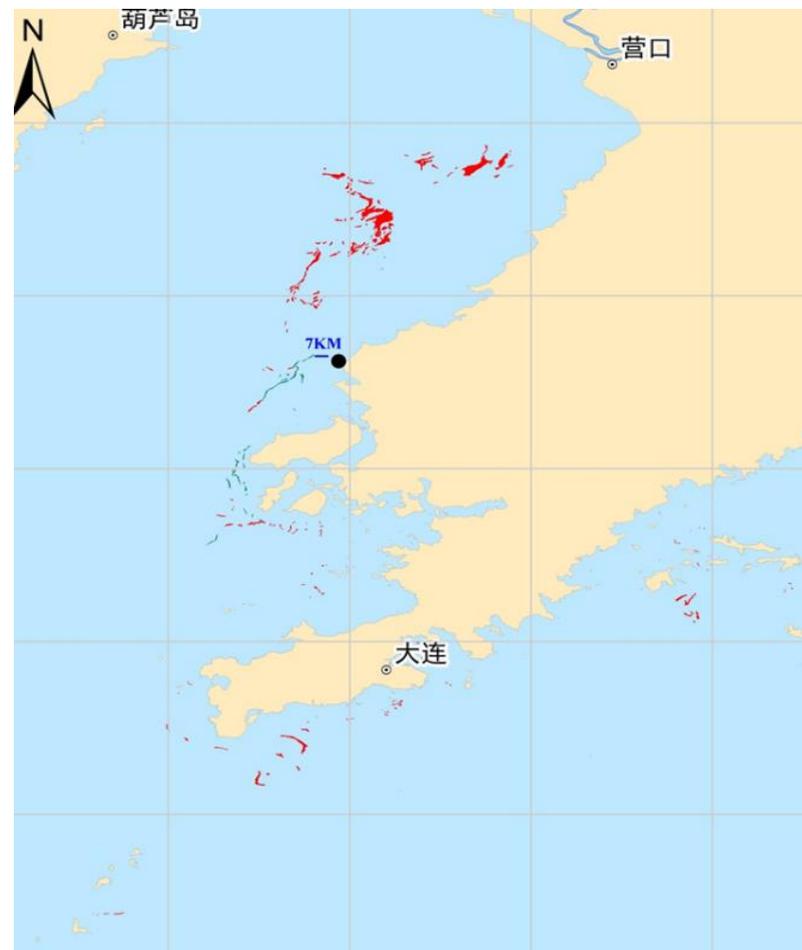
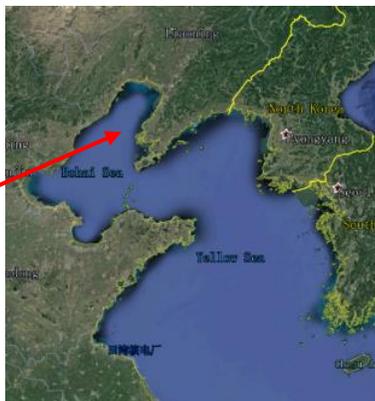
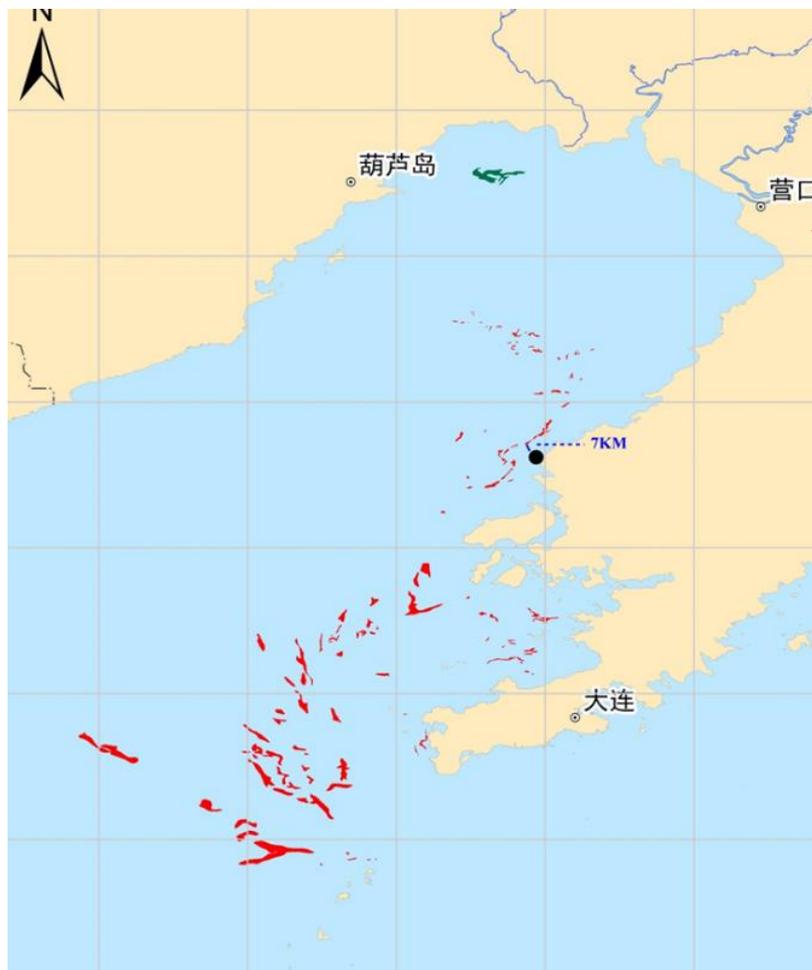


Figure1: Distribution of drifting seaweed in Liaodong Bay on June 28, 2020
(satellite: GF-1/WFV, resolution: 16m)

Figure2: The distribution of drifting seaweed in Liaodong Bay and the northern part of the Yellow Sea on July 7, 2020
(satellite: Sentinel-2/MSI, resolution: 10m)



Figure3: Drifting seaweed in the central part of Liaodong Bay on June 5, 2020 (no other floating objects such as algae entangled with foam)



Figure4: Drifting seaweed in the central part of Liaodong Bay on August 8, 2020 (it can be seen that seaweed is floating around foam plastic and other foreign objects.)



Figure5: Drifting seaweed in the central part of Liaodong Bay on August 8, 2020 (visible floating seaweed entangled with foam and other floating objects)

It is speculated that the combination of drifting seaweed and foreign floating objects (foam plastic) can complete long-term and long-distance drifting. Almost all of the drifting seaweed clusters in August were found to be entangled with foreign floating objects such as foam plastic. The drifting seaweed in Liaodong Bay is presumed to come from the Yellow Sea.



Team member

