



## Origin and pathway of the floating Sargassum in the Yellow and East China Sea

Using particle tracking modeling and satellite data, the origin and pathway of the floating Sargassum reaching southwestern part of Korea and the distribution over the East China Sea (ECS) and the Yellow Sea (YS) were investigated. The Sargassum was not only from the Zhejiang coast of China, but also from the northern coast of the YS. The Sargassum released from Zhejiang coast between December and February typically reaches Jeju Island through the Kuroshio Current within approximately five months. Sargassum originating from the northern YS between December and February can reach Jeju Island directly in about two months due to the influence of southward coastal currents and winds, or in about 3–4 months through the central part of the ECS. The comparison between GOCI-based floating algae distribution and model results reveals that the algae found in the central part of the ECS is mainly from the northern origin. The one from the Zhejiang coast is mainly found over southern part of the ECS along the onshore edge of the Kuroshio. Due to the global warming the temperature of the northern YS increases rapidly allowing the expansion of the habitat. This temperature increase may explain the recent Sargassum blooms over the central part of the ECS. The effect of wind and monsoon on the pathways and travel time also will be discussed.

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