

## Numerical study on seasonality of ocean litters collected at the Dongsha Island in the northern South China Sea

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Distribution of ocean litters collected at the Dongsha Island, an isolated island in the northern South China Sea, shows a significant seasonal change. More litters were accumulated in the northern (southern) part of the island in winter (summer). By means of backward-tracking simulation by considering the effect of both ocean currents and winds (i.e., windage), a series of numerical experiments are carried out to clarify the possible source and mechanisms for the observational seasonal change of litters. Results exhibit that, in winter, low-windage litters are mainly from the western Philippine Sea via the Luzon Strait while the high-windage ones are contributed from the Taiwan Strait. In summer, litters from the southwestern South China Sea, i.e. east of Vietnam, could be a major origin.

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