Marine litter is defined as a pollutant in water body which reached the sea from both main land and off shore. Plastic has a large share in marine litter found in the sea because of its persistence and buoyancy properties. This study aims to investigate marine litter transportation, especially plastic and floating marine litter, based upon oceanic circulation in the Andaman Sea by applying Finite Volume Coastal and Oceanic Model (FVCOM) and particle tracking technique. The buoy test has been conducted to estimate actual marine litter movement in six study sites along the coastal Andaman Sea. Oceanic circulation in general tide and tide in coupled with 10-m wind in two monsoons, Northeast and Southwest monsoons are then simulated and the particle tracking analysis was performed. Results obtained from simulation are validated, and it has revealed a good agreement between observation and simulation. Overall, residual current in the Andaman Sea driven by only tide has very calm velocity except at the near shore and shallow water, and has various directions, whereas that in Northeast monsoon tends to have stronger currents' velocity moving westerly. Meanwhile, residual current during Southwest monsoon has tendency to move landwards. Particle tracking technique reveals that marine litter in Andaman Sea is dispersed out of the origins through either tide or tide coupled with wind driving. However, tide coupled with wind driving seems to transport floating marine particle farther than solely tidal force with maximum distance of 80-90 km within 90 days. The results from this study are valuable and beneficial for waste management along coastal line in Andaman Sea.

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