

Let' s solve the mystery of gyre drift toward north !

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There is a spiral current which moves to counterclockwise during stratified period in Lake Biwa. This is generally called gyre, and it is thought that the gyre is kept by balance with pressure gradient and rotation of the earth. We discussed the changes of gyre motion using the position information of gyre observed by two drifting buoys. The center of gyre shifted toward north about three kilometers during the field experiment. Also, we found that the wind blew from east to west during almost 24 hours at about four to five meters per second. From these results, we deduced the possibility of gyre movement toward north due to Ekman drift currents which were caused by east wind. In addition, we inspected the presence of geostrophic gyre which governs water quality distribution such as water temperature, chlorophyll-a, dissolved oxygen and so on.

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