

Author's Response:

In response to the reviewers' second-round comments, we have carefully verified the variable importance values presented in the abstract. We identified inaccuracies in the relative importance percentages for salinity and mixed layer depth (MLD). Accordingly, we have corrected these values to 8.29% and 8.23% respectively (Line 18). Additionally, we have incorporated the importance value for photosynthetically active radiation (PAR) into the text.

The modifications are as follows:

Original version:

"Random forest analysis revealed that the vertical temperature gradient was the most influential environmental factor affecting the distribution of mesopelagic organisms year-round, with a relative importance of 26.03%. Other critical factors include latitude, dissolved oxygen, salinity, mixed layer depth (MLD), and surface chlorophyll concentration, with relative importance values of 13.92%, 13.71%, 8.66%, 8.29%, and 8.09%, respectively."

Revised version:

"Random forest analysis revealed that the vertical temperature gradient was the most influential environmental factor affecting the distribution of mesopelagic organisms year-round, with a relative importance of 26.03%. Other critical factors include latitude, dissolved oxygen, photosynthetically active radiation, salinity, mixed layer depth (MLD), and surface chlorophyll concentration, with relative importance values of 13.92%, 13.71%, 8.66%, 8.29%, 8.23%, and 8.09%, respectively."