

**“SEASONAL CHANGES IN SIZE STRUCTURES AND SPECIFIC COMPOSITION OF THE MESOZOOPLANKTON COMMUNITY IN THE NORTH AND CENTER OF PERU, THROUGH THE ANALYSIS OF DIGITAL IMAGES”**

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**Abstract**

With the aim of determining the specific composition of the mesozooplankton and of assessing seasonal changes in the structure based on digital images, we analyzed net samples proceeding from 94 seasons distributed in five profiles along the northern and central Peruvian sea line: Paita, Punta La Negra, Malabrigo, Chimbote and Callao. Samples were collected by Research Cruises conducted by the Institute of Peruvian Sea (IMARPE) between November of 2008 and September of 2009. At the laboratory, samples were scanned in the Zooscan equipment and analyzed by the ZooProcess software, which provided measurements related to the abundance and the size of organisms. The Copepoda type presented the highest number of species (70% of the total). We witnessed a marked seasonality in the structure of sizes of mesozooplankton by obtaining significant differences among the slopes of the four climate seasons. For the oceanic - coastal zone it was also evident a marked difference among the size spectrums. On the other hand, size spectrums both for the northern areas as for the central area of the Peruvian sea did not show a significant difference, nonetheless, slopes in the northern area were more positive. This patten, of more positive slopes in the northern area and in oceanic seasons would indicate the presence of greater sizes, whether by the incursion of new species with big sizes or of more developed stages.

**Key words:** Pacific Ocean, mesozooplankton, slope, ZooProcess.