

Long-term calibration analysis of scientific echosounders used in research vessels

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ABSTRACT

The use of scientific multifrequency echosounders like SIMRAD EK60 in resource-assessment surveys of small pelagic fish like sardine or anchovy, has been employed by the Spanish Institute of Oceanography (IEO) for more than thirty years. The quantitative use of its data for biomass estimations, makes necessary that accurate echosounder calibrations are done at the beginning of the acoustics surveys.

Echosounder stability over time, is fundamental to guarantee the consistency of the annual results and to ensure their comparability.

This paper shows a long-term comparison study of the calibrations of SIMRAD EK60 echosounders that were installed in different Research Vessels (R/V), carried out in different locations and in different seasons. A study of calibration results was carried out by three different methods; the first of them, using a specific echosounder software tool, the second using an ad-hoc design optimization algorithm over previous software selecting and filtering data and finally, using an algorithm recommend by ICES, doing an optimization of raw data.

Keywords: long-term, calibration, echosounder

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