



First tridimensional pelagic fish school observation from scientific multibeam echo sounder in Africa

Patrice BREHMER^{1,3,*}, Yannick PERROT², Abdoulaye SARRÉ³, Salahedine El AYOUBI⁴, Mohamed TALEB⁵, Ebou Mass Mbye⁶, Jean-Pierre HERMAND⁷ and Xavier CAPET⁸

¹Institut de Recherche pour le Développement (IRD), UMR 195 Lemar, BP1386, Dakar, Senegal

²Institut de Recherche pour le Développement (IRD), UMR 195 Lemar, Plouzané, France

³Institut Sénégalais de Recherches Agricoles (ISRA), Centre de Recherches Océanographiques de Dakar-Thiaroye (CRODT), BP 2241, Dakar, Sénégal

⁴Institut National de Recherches Halieutiques (INRH), Bd Sidi Abderrahmane 2, 20180 Casablanca, Morocco

⁵Institut Mauritanien de Recherches Océanographiques et des Pêches (IMROP), BP 22, Nouadhibou, Mauritania

⁶Fisheries Department (FD), Ministry of Environment, Climate Change, Water, Wild Life and Fisheries, 7 Marina Parade, Banjul, The Gambia

⁷Environmental Hydroacoustics Laboratory, Ecole Polytechnique, CP194/05, Université libre de Bruxelles (ULB), B-1050 Bruxelles, Belgium

⁸Centre National de la Recherche Scientifique (CNRS), Laboratoire d'Océanographie et du Climat: Expérimentations et Approches Numériques (UMR Locean), Université Pierre et Marie Curie Paris, France

*Correspondance: Tél: (+221) 78 122 16 15; Courriel: Patrice.Brehmer@ird.fr (P. BREHMER)

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Abstract

Since the 70's, numerous fisheries acoustics survey have been carry out in Africa, particularly in West Africa and Morocco. Traditional echo sounder, single and split beam, usually only detect a slide of the fish school occurring over the continental shelf, due to their low depth or and wide size as well as the avoidance reaction in front of a cursing vessel. The Simrad ME70 (70–120 kHz), is a high resolution scientific multibeam echo sounder, characterized by calibrated narrow beams and low sidelobe levels, which allow tridimensional rebuilt of an entire fish school. Early trials were performed in the middle of 90's using a Reson Seabat 6012 multibeam sonar (455 kHz) in vertical beaming, in Senegal and Ivory Coast. In this work, we present preliminary result obtain during the AWA cruise off Senegal, Gambia and Mauritania. The upwelling during March 2014 was strong and seldom school were observed in the beginning of the survey over Mauritanian shelf, but cluster of large school were detected in Senegal. Using dedicated software (movies3D) we have extracted fish school descriptors. Consistency in fish school descriptors was validated between the Reson sonar and Simrad SM 20 ones in previous study, and we assume that could also be the case with ME70. Such hypothesis will allow comparing the change in Senegalese fish school characteristics since early record in 1997-99. Such new scientific multibeam systems (ME70) will allow new fishery research applications on African small pelagic fish school and stocks for stock assessment and behavioral studies.



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