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# 3D geospatial modelling and visualization for marine environment: Study of the marine pelagic ecosystem of the south-eastern Beaufort Sea, Canadian Arctic

J. Sahlin[1], M. A. Mostafavi[1], A. Forest[2], M. Babin[2], and B. Lansard[3]

[1]Dept. of Geomatic Sciences, Université Laval, Québec, Canada

[2]Takuvik Joint International Laboratory, Université Laval (Canada) − CNRS (France), Département de Biologie and Québec-Océan, Université Laval, G1V 0A6, Canada

[3]LEGOS, Laboratoire d'Études en Géophysique et Océanographie spatiales, CNRS-UPS-CNES, 31400 Toulouse, France

Abstract. Geospatial modelling of the marine pelagic ecosystem is challenging due to its dynamic and volumetric nature. Consequently, conventional oceanographic spatial analysis of this environment is in a 2D environment, limited to static cutting planes in horizontal and vertical sections to present various phenomena. In this paper, we explore the contribution of recent 3D development in GIS and in scientific visualization tools for representation and analyses of oceanographic data sets. The advantages of a 3D solution are illustrated with a 3D geospatial voxel representation of water masses distribution in the southeastern Beaufort Sea (west of the Canadian Arctic).

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