Geophysical Research Abstracts, Vol. 7, 03791, 2005
SRef-ID: 1607-7962/gra/EGU05-A-03791

Evaluation of vertical extension of methane gas bubble streams from the bottom of the Black Sea by hydroacoustic method

V.N.Egorov, Yu.G.Artemov, G.G.Polikarpov, S.B.Gulin

A.O.Kovalevsky Institute of Biology of the Southern Seas NAS of Ukraine, Sevastopol, (viktor@egorov.sebastopol.ua)

Since gas bubble streams from anoxic depths of the Black Sea were discovered in 1989 by us, specialists of the Institute of Biology of South Seas of the National Academy of Sciences of Ukraine (Sevastopol), we have carried out investigations of this phenomenon in 17 scientific cruises on board the R/V "Professor Vodyanytskiy", sponsored by Ukraine, the Georgian Government, 'Folkwagen' Scientific Foundation, Scientific Research Council of Germany (Grant No. DFG Ke 287/10-1), NATO Project EST.CLG.978266 and EC Projects: EROS-2000, INCO-COPERNICUS Project IC15 CT96 0107, EC RTD Projects EVK2-2001-00322, METROL. In the period from 1989 to 2004 we collected the database of echograms with information about location, intensity and vertical extension of more than 3000 natural gas seepages at depths from 16 to 2100 ì practically over all the Black Sea area. Starting with 1998 echograms are stored in the electronic format.

The results presented in this work are based on analysis of echograms concerning the study of vertical extension of gas bubble streams from different depths of the Black Sea and their reachability the sea surface.

The histogram of relative extension of bubble streams from different depths is presented. It is shown, that only shallow seeps (in an areas above 250 m water depth) can reach the sea level. The percentage of gas bubble streams observed at areas above 250 m water depth is calculated.