地球科学的手法を活用した水域環境の修復・保全・創成

Restoration, preservation and creation of aqueous environment using by earth-scientific methods

キーワード：環境評価，音響機器，ロボット，微化石 / keywords: environmental assessment, acoustic machine, robot, microfossil

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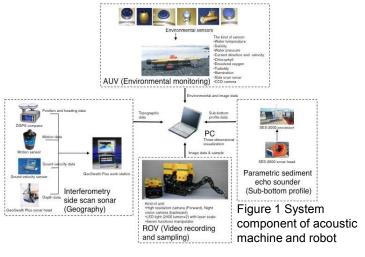
●人為的環境負荷の時系列解析

　河川流域や沿岸域が改変されると，底質の粒度や生物の構成が変化します．環境情報が欠損している水域でも，柱状堆積物試料中の地層や化石の変化から，過去100年間の環境が復元でき，環境に対する人為的影響も評価できます．

●大規模海象災害地における環境評価（詳細は，http://kico.kumamoto-u.ac.jp/seeds/seeds/?id=339bをご覧ください）

　地震や土砂災害は，水域の環境や生物相にダメージを与え，地域の社会構造（経済，政治，文化など）に甚大な影響を及ぼします．最新の音響装置やロボットを用いた被災地の環境研究は，地域社会の迅速な復興に貢献します．

Evaluation of human-induced pollution to environment: The aims of this study are: 1) improved understanding of the history of oceanic conditions since the 1900's, based on environmental reconstruction using geological and paleontological methods; and 2) evaluation of the influence of human activity on oceanic conditions by comparison with the records of environmental change obtained from the sediments and from previous reports and published data.

Environmental assessment in huge hydrographic disaster: Tsunami impact has an influence on the environment and the biota in the water, and causes a serious damage to the local economy and community. The purpose of the environmental research using an acoustic machine and a robot is contribution to the immediate rehabilitation in the disaster areas.

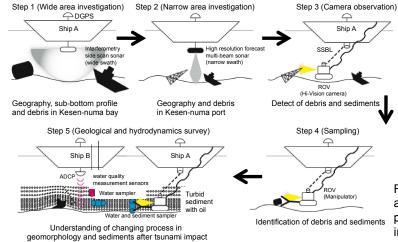Figure 1 System component of acoustic machine and robot

Figure 2 Environmental assessment of the oil pollution after the tsunami impact (Kesennuma Bay)