

## BIOLOGICAL MODULE OF BILATERAL FLANDERS-UKRAINE PROJECT OCEAN-UKRAINE. OVERVIEW, ACHIEVEMENTS, PERSPECTIVES

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The Ocean-Ukraine project (1 March 2007 – 30 November 2009) involved VLIZ and two major Ukrainian marine institutions: IBSS (marine biology) and MHI (oceanography and operational services). The general objectives of the project were to strengthen capacity in both institutions and to integrate them in European networks through a bilateral partnership with Flanders. Within the biological module of the project, two main topics of work were planned: (1) general activities of the National Oceanographic Data Centre (NODC) and strengthening of existing infrastructure, including creation of a national distributed data center; and (2) biological data management, including data archaeology and rescue.

Within the first topic the big step ahead was realized by the IBSS capacity building. A set of the installed enterprise level equipment and laid fiber channel line gave a possibility, not only to entirely fulfill the planned tasks of the Ocean-Ukraine project, but also to provide the IT support to the work within all international and national projects that are now being executed by the IBSS. Merging best European practice and modern technologies available through VLIZ, IBSS on the basis of created infrastructure is implementing international standards in the field of marine data and information management. As the result of the activities within the Ocean-Ukraine project in 2008, Ukraine decided to shift to the distributed model of the NODC. From now on there is in Ukraine, in addition to the NODC based at the MHI, one more NODC based at the Laboratory of the Marine Information Systems (LaMIS) of IBSS. NODC on a basis of the IBSS is dealing with the marine biological data.

Within the second topic the very important tasks addressed by the project were archaeology and rescue of unique biodiversity data collected by Ukrainian scientists during many years that exists now in non-digital form as tables, field notebooks, logbooks, etc. and that are now at a growing danger to be lost forever. As a backbone for the digitized data the cruise inventory for the scientific research cruises of IBSS ships and cruises of other ships where IBSS staff worked was created. For the moment the inventory includes 150 cruises and 12205 stations for the all world oceans and is being actively populated with the new information. Thousands of biodiversity records were digitized or extracted from the old or inappropriate formats (Excel, Paradox etc.) and put in the properly managed MS SQL database where all standard data management procedures are ensured. Archived biogeographical records were contributed to Ocean Biogeographic Information System (OBIS), through the European node of OBIS (EurOBIS), which is hosted at VLIZ.

The project improved the national and regional resources aiming to provide data, related data products, and results of analyses to meet societal needs. This was achieved through elaboration of management strategies, institutional capacity building and development of pilot activities in specific fields. Transfer of knowledge and capacity building within Ocean-Ukraine created a sound basis for achieving the European standards in the Black Sea region.