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**CONCLUSIONS OF
THE INTERNATIONAL SYMPOSIUM
"PROTECTION OF THE BLACK SEA ECOSYSTEM AND
SUSTAINABLE MANAGEMENT OF MARITIME ACTIVITIES", 8TH
EDITION - PROMARE 2017**

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Between 7-9 September 2017, in Constanta, Romania, at the headquarters of the National Institute for Marine Research and Development "Grigore Antipa", the proceedings of the International Symposium "PROTECTION OF THE BLACK SEA ECOSYSTEM AND SUSTAINABLE MANAGEMENT OF MARITIME ACTIVITIES", VIIIth edition, **PROMARE 2017**, were carried out.



The event was organized by the National Institute for Marine Research and Development “Grigore Antipa“ and the Balkan Environmental Association (B.EN.A.), under the auspices of Commission for the Protection of the Black Sea Against Pollution (BSC) and General Fisheries Commission for the Mediterranean (GFCM) with the support of the Ministry of Research and Innovation (MRI), the Romanian Black Sea Titleholders Association (RBSTA) and Accela s.r.o.. The event was attended by **181 participants** from Bulgaria, Canada, Czech Republic, Georgia, Germany, Greece, Italy, Romania, Poland, Turkey, United Kingdom, Ukraine, and, notably, the European Parliament.

This year, the Symposium was organized under the celebration of 150 years from the birth of the prominent scientist Prof. Dr. Grigore Antipa, whose name our Institute proudly bears together with the National Museum of Natural History in Bucharest. Grigore Antipa is the founder of Romanian oceanography, due to his extensive studies dedicated to the Black Sea and the Danube Delta. Prof. Antipa was a specialist in zoology, ichthyology, ecology and oceanography. Back in 1932, he founded the Bio-oceanographic Institute in Constanta, one of the first steps in creating our Institute. For this reason, this edition of the PROMARE Symposium is dedicated to his prodigious activity.

During the Symposium, were organized other back to back events:

- Workshop on Bio-Nano Genomic;
- Copernicus Training Black Sea Monitoring and Forecasting Center;
- Stakeholder Workshops within the MareFrame (FP7 Project), TraSiPesc (NPII Project), Stakeholder Meeting ECOAST (COFASP project);
- Workshop: Addressing National and Regional Needs by Enhancing the Uptake and Relevant Functionalities of the Earth Observation Portals towards Business Performance within COSMOMAR and Romanian Cluster Of EO/ RO-CEO

During the Symposium (including ther back to back events and Plenary session) were presented **130 scientific papers** (oral or poster) with authors from Bulgaria, Canada, Georgia, Germany, Greece, Italy, Romania, Poland, Turkey and United Kingdom. Parallel with the oral presentations, there was a poster session covering all five scientific sections. The posters were displayed throughout the two days of the event.

The Plenary Lectures revealed the following aspects:

- Importance of proeminent scientist Grigore Antipa in the Romanian ocenography;
- Safety and Security of Water Quality and Resources;
- Black Sea Commission comitment and involvement;
- Technical support towards improved management in the Black Sea through the GFCM BLACKSEA4FISH Project.

Within the **Oceanography and Coastal and Marine Engineering**, **15 papers** (6 oral presentations and 9 posters) were delivered, belonging to authors from Georgia, Turkey and Romania. The main research areas concerned were: physical-chemical characterization of marine waters, oceanographic data management, coastal area morphodynamics, marine water pollution, including underwater noise, methodological approach to implement Copernicus tasks.

Two main European initiatives of vital importance in managing oceanographic information were presented: Copernicus Marine and EMODNET (European Marine Observation and Data Network), both collecting, validating and quality controlling marine data sets in order to provide access to marine data and derived data products to a large number of end users. As it was presented, the pollution of marine water (from ships, from land or rivers) is continuously monitored and the results are used for environmental assessments. Modern techniques (GPS, UAV aerial photos, LIDAR) are used for the evaluation of beaches and coastal area vulnerability.

The posters covered a broad range of concerns and approaches. Thus, while some are directly applicable for the WFD (chemical status) and MSFD implementation (underwater noise, geoindicators) others are exploring the modern tools for the oceanographic studies – models, remote sensing or the Black Sea's potential for wind energy. All of them are providing useful information for the Black Sea's oceanographic researches and should continue in order to deepen the knowledge in this field.

Under the **Marine Ecology and Environmental Protection Section, 29 papers** (7 oral presentations and 22 posters) were delivered, belonging to authors from Germany, Italy, Turkey, Canada and Romania. The main issues covered by the papers were the following: marine and coastal biodiversity issues, molecular-based approach for taxonomic classification and identification of species, assessment of the ecological quality status of marine waters according to MSFD, and the bioaccumulation of radionuclides in marine biota.

The session started with the presentation of the main steps done for the implementation of Marine Strategy Framework Directive in Romania underlying the importance of a wide involvement of stakeholders and institutions related to marine water use.

Methods for evaluation of marine environmental status have been presented in two papers, based on the requirements of WFD and MSFD for benthic habitat assessment, using marine nematodes community structure and M-AMBI Index.

Information about phytobenthic community structure, techniques for diatom *Skeletonema costatum* isolation and distribution of calcareous nanoplankton and diatoms in sediments have been largely discussed during the session.

Within the **Sustainable Use of Marine Resources, 26 papers** were delivered (7 oral presentations and 19 posters) were delivered, belonging to authors from Bulgaria, Greece, Turkey and Romania. The main issues covered by the papers were the following: commercial fisheries in Natura 2000 MPAs, cetacean abundance, distribution and stranding in Romania, effectiveness of pingers, ichthyofauna diversity issues, importance of traceability for Romanian fisheries products, biological parameters from mussel mariculture, sturgeons and shads migration, studies on rapa whelk, etc.

As it concerns commercial fisheries in Natura 2000 protected areas it is important to comprehend not only the fish population, but also the distribution and abundance of

other sensitive species as the cetaceans or the population parameters and exploitation rate of commercial fish species, including traceability within supply chain, public health and safety with the support of information tools. For inland waters it is critical

to register and organize the protection status of the fish species for each ecosystem with innovative technologies for their sustainable management.

The discussions held pointed out the importance of marine living resources, which provide humans with countless economic, environmental, aesthetic and cultural benefits. The general conclusion was that, for the Black Sea, fishery remains the main marine resource for the riparian countries that needs cooperation to be managing in a sustainable way. In this respect, the project funded by GFCM BLACKSEA4FISH will provide the technical support towards improved management in the Black Sea.

Under the **Maritime Spatial Planning Section, 18 papers** (8 oral presentations and 10 posters) were delivered, belonging to authors from Bulgaria, Germany, Italy, Poland, Romania and United Kingdom. Papers were related to Maritime Spatial Planning (MSP), starting with definition, methodologies, practices, vision and practical approach regarding new methods for new methodologies for temporal and spatial analyses of fish stocks and Sketch Match methods regarding MSP stakeholders meetings. The poster also included spatial data regarding marine fisheries and aquaculture, MSP transboundary approach between Romania and Bulgaria and land pressures impacts to the sea. All presentations had a high level and expertise, being comprehensive, integrating and informative like a real professional training; they were linked each other and planned from the beginning to support the MSP Directive in Romania, answering directly to MSP National Authority and its and to MARSPLAN Project Objectives. Each speaker underlined the main MSP important processes and methodological steps and approach, mentioning harmonization of legislation, conflicts evaluation, the transposition of the EU experience to the national and local level, spatial plans and data base updating (by very different specialities participation), temathical and integrating mapping, Collaborative Assistance for Spatial - Temporal Cohesion (CAST), Coherent of Participatory Methods in MSP Directive implementation, the importance of research, the importance of fishing activities in the ecological, economic and social paradigm and some mistakes which have to be mentioned do not be repeated. In essence was presented what is most important in MSP at this stage.

Within the **Sustainable Development and Ecological Education Section, 17 papers** (5 oral presentations and 12 posters) were delivered, belonging to authors from Georgia and Romania. The main issues covered by the papers were the following:

- The development of our society, with increasing demands of all economic sectors, urbanization, tourism and others contributed to the increasing pressures on the coastal area and consequently on the marine environment. All presentations stressed the importance of ecological education to reduce human impact on the environment through environmental education, promotion and implementation of sustainable development principles.
- Sustainable development is in the focus of international policies recently and we need to employ green policies and take into consideration various ecological parameters. Therefore, environmental education, research and awareness are key elements aiming to resolve issues as air and coastal pollution, sea litter and health impact.

- Monitoring has become a major tool aiming to confront distribution of marine and coastal areas litter. With regards to Integrated Coastal Zone Management (ICZM), a set of indicators covering the main priority aspects for coastal areas have been developed both for measuring the sustainability of coastal zone and supporting the integrated development of socio-economic activities along the Romanian Black Sea coast.

- Sustainable development in coastal and marine ecosystems can be achieved through the exploitation of local natural resources as development carrier, such as in therapeutically aspects in Techirghiol, also various balneal and medical employ of them. As sustainability stands for 3 pillars, economy, society and environmental protection, it is critical to simultaneously support public well-being and use properly the possibilities of European funds as recognized through appropriate socio-economic analysis and incorporation of environmental factors and models.

As a general conclusion we can say that the PROMARE 2017 Symposium has created a common framework to draw public attention to the importance of protecting and preserving the marine ecosystem and to the need for concerted action to mitigate the effects of human activities on biodiversity and the quality of Black Sea waters. The Symposium also provided an opportunity to establish new partnerships and strengthen existing ones.