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EUROPEAN UNION

Balkan-Mediterranean

HERMES

A HarmonizEd Ramework to Mitigate coastal EroSion promoting ICZM protocol implementation

Newsletter # 4 **May, 2020**

The HEMES project organises a Virtual International conference on tackling coastal erosion 18-19 June 2020

While coastal zones in the Balkans and the Eastern Mediterranean are undoubtedly a competitive advantage for local communities, they are facing ever-increasing natural and anthropogenic pressures that generate poor environmental conditions and can lead to their demise.

Based on this fact, Municipalities, Universities and NGOs from Greece, Cyprus, Bulgaria and Albania have formed a partnership coordinated by the Municipality of Paggaio to jointly address in a comprehensive and effective manner this challenge, through the implementation of the HERMES project. co-financed by the European Union.

Project co-funded by the European Union and National Funds of the participating countries

The HERMES project is an initiative aimed at developing, implementing and disseminating a common operational planning framework capable of supporting the assimilation and exploitation of advanced approaches and techniques, with solid references to modern Environmental Engineering, at local scale.

A key milestone of the HERMES project is the Virtual International Conference to be held 18-19 June

«The conference» notes Filippos Anastasiadis, Mayor of Paggaio, «will be an opportunity to discuss and exchange views and experiences between local government officials, scientists, active citizens and, of course, local civil servants from all participating countries. The issues of coastal erosion and climate change will be particularly relevant in the coming years and local communities should be well prepared. «

The conference will be supported and enriched with presentations by members of the "Design and Management of Harbor, Coastal and Offshore Works" (DMPCO)network, which includes the National Technical University of Athens(NTUA) and Departments of Civil Engineering of the Aristotle University of Thessaloniki and of the University of Patras.

«Coastal erosion,» says Vasiliki Tsoukala, Associate Professor at the NTUA, and a Keynote Speaker at the Hermes Conference, «is a phenomenon that is closely linked to both natural processes and human activity, so this meeting is a great opportunity to inform local communities on the state of the art in the field and to highlight the maturity and value of current practices related to coastal zone management. «

According to the Scientific Coordinator of the HERMES project and Professor of Democritus University of Thrace, Georgios Sylaios, the topics to be developed at the conference include:

- Coastal erosion: Current state, trends and perspectives
- Policies and Tools supporting the adaptation and resilience of Coastal Municipalities to Coastal Erosion and Sea Level Rise
- ICZM Protocol Implementation by Municipal and Regional Authorities
- Scientific Tools to Monitor Coastal Zone Processes
- Engineering Solutions Tackling Coastal Zone Challenges
- Touristic Development under Coastal Erosion and Climate Change Risks
- Financial Instruments related to Coastal Zone Management

The working language of the Conference is English and abstracts can be submitted to hermes.bmp@gmail.com, using the instructions available here http://www.dimospaggaiou.gr/anakoinwseis-gr/genikes-anakoinwseis/6220-hermes-conference until 10 June 2020. Those interested to participate are invited to fill out the Registration Form that can be found here https://forms.gle/QDSCP8gTSSLSCgQv6

HERMES activities are making a difference in Eastern Mediterranean and the Black Sea

Since its start in 2017 the HERMES project has carried out successfully a number of key tasks that include among others:

a) the purchase, deployment and operation of 4 monitoring stations in the 4 partner areas (Shëngjin-Albania, Varna-Bulgaria, Larnaca-Cyprus, Kariani-Greece)measuring sea parameters affecting and related to the coastal erosion, such as sea currents, waves, sea level variations, suspended particles and sea temperature;

b) the integration and application of modeling tools for the provision in operational mode of forecasting data for sea currents, sea temperature, salinity and waves at all the four areas, namely in the coastal North Aegean Sea (Greece), in the SE coastal area of Cyprus, in the SW coastal area of the Black Sea (Bulgaria) and the SE coastal area of the Adriatic Sea(Albania);

c) the development and operation of the HERMES Web GIS system (hermes.orioncyprus.org), which manages and visualizes the data collected and transmitted from the HERMES monitoring network, as well as the visualization of the forecasting data for all the four coastal areas in Greece, Bulgaria, Cyprus and Albania.

The case of Cyprus illustrates the added value of this action. The deployment by ORION of the HERMES monitoring station, under a permit issued by the Cyprus Ports Authority near the well-known tourist attraction shipwreck «Zenobia» has resulted in the provision of data that have attracted the interest of divers and local marine communities, while contributing at the same time to issues related to the maritime safety in Larnaca bay.

These achievements were presented by ORION in several Mediterranean fora, as for example during the 8th MONGOOS Annual Meeting & Workshop "Modelling and Observations in the Coastal Mediterranean Sea: Physical and Biogeochemical Processes", 3-5 December 2019, Trieste. In addition, an article entitled "The HERMES Web GIS monitoring and forecasting platforms in the Med and Black seas" prepared by the HERMES partners was submitted at the RSCy2020RemoteSensing Conference for publication by the SPIE Digital Library.

The in-situ data from the HERMES monitoring network brings also an added value for the ocean observing systems of MONGOOS and EuroGOOS, as it contributes to the calibration/validation of the information provided by the sub-regional and coastal scales operational forecasting systems within the broader scope of the Copernicus Marine Environmental Monitoring Service (CMEMS) in the Mediterranean and the Black Sea.

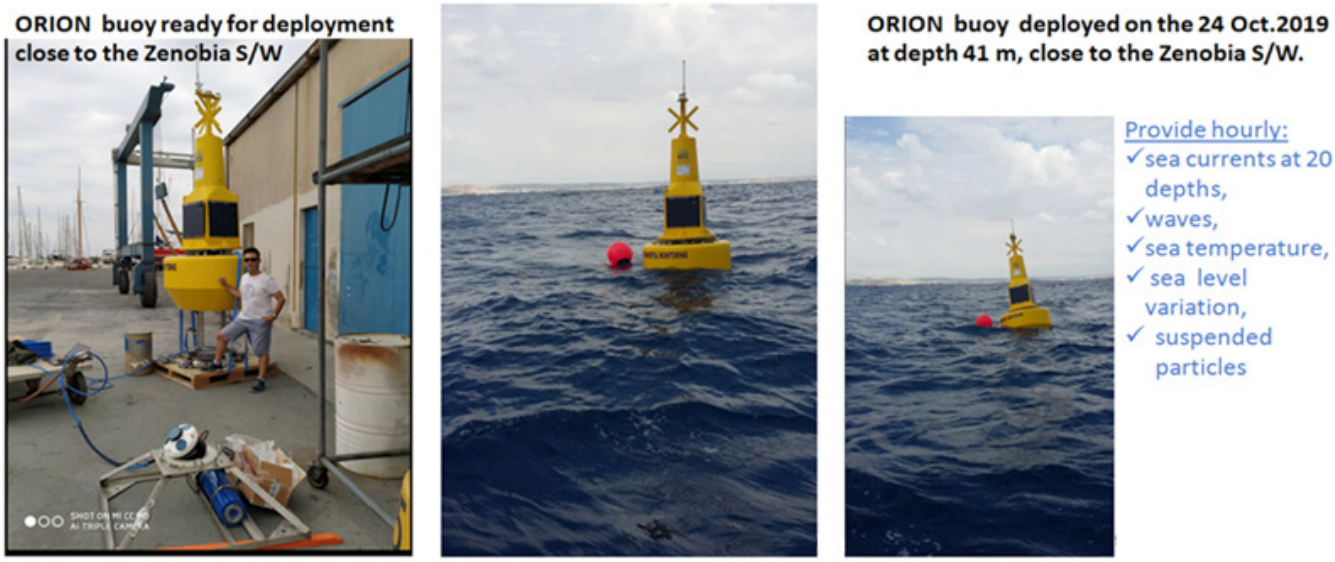


Figure 1.

The deployment in the Larnaca bay of the HERMES monitoring station by ORION.

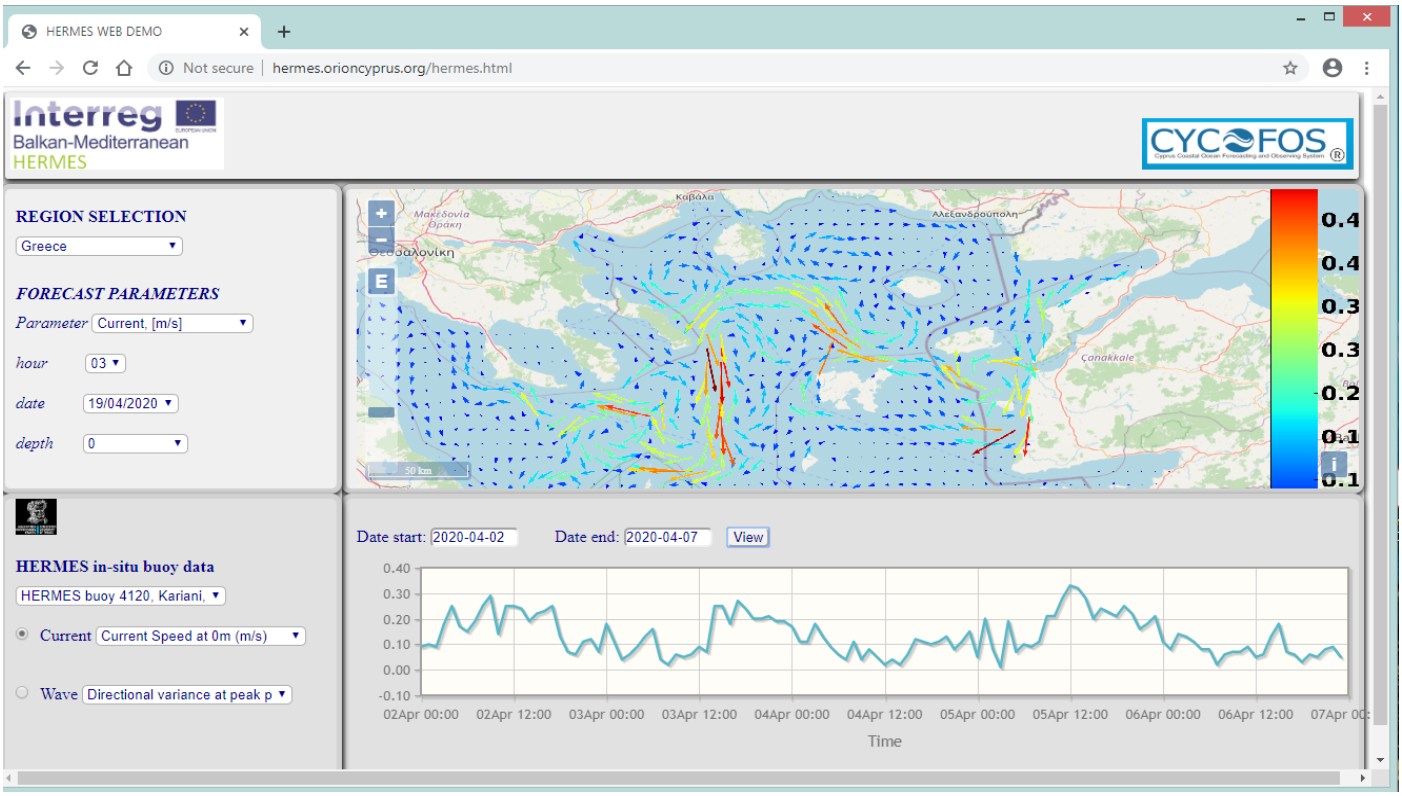


Figure 2.

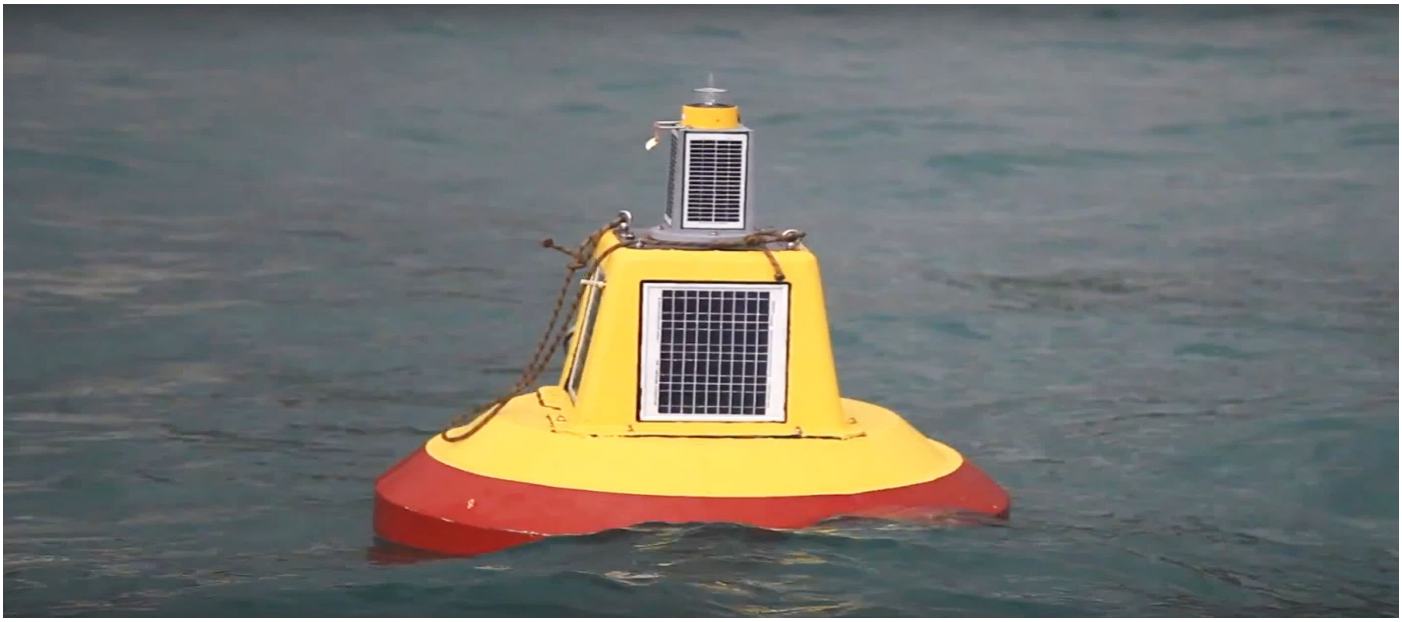
The HERMES Web GIS. Example of the visualization of the:

a) in-situ sea surface currents from the HERMES monitoring station at Kariani, Greece and

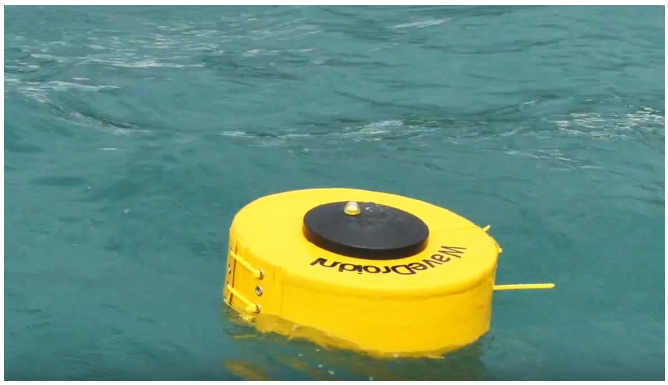
b) forecasting sea surface currents in the Northern Aegean Sea.

HERMES deploys Oceanograhic Station in Albania

The Institute of GeoSciences, Energy, Water and Environment (IGEWE), one of HERMES' partners in Albania, completed in 2019 the successful deployment of the project's 4th oceanographic station for wave and current real-time monitoring in the Shëngjin area, near Skhodra. The data is transmitted on a real time and will be freely accessible to users. The station will provide valuable information for wave energy, providing a better understanding and data for environmental monitoring. The new equipment will contribute to the timely forecast of sea floods in the most impacted area from coastal erosion in northern Albania. . As the head of the IGEWE team , Dr Klodian Zaimi says, "the deployment and operation of this oceanographic station marks a positive step for analysis of coastal erosion in Albania as well as for the design and implementation of well-planned actions".



The (HERMES AL-1) buoy has one moonpool in which an ADCP (AquaDop 600 by Nortek) is fixed facing down. Inside the dry compartment, external power pack with controllers is placed. The powerpack is charged by 4 solar cells of 10 W each, which gives autonomous power supply for a long period of measurement. The buoy is collecting data for the water current velocity in the vertical profile.



To measure waves, (HERMES AL-2) a small buoy, WaveDroid® (manufactured by Obscape, The Netherlands) is deployed. This buoy transmits via GPRS bulk wave parameters every half an hour. The device can operate with one powerpack of DD batteries for more than 6 months.

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