



## Scientific Areas of the OSENU

- development of methods and facilities for the hydrometeorological provision of environmental monitoring system and various industries of the national economy in Ukraine;
- research into applied problems, related to environmental protection; modelling of geophysical objects and climate change tendencies, estimation of influence of these changes on various economic industries;
- integrated study of water bodies, development of recommendations for control of their hydrological regime and ecological state, and prognostication of qualitative and quantitative changes in the future; modelling and forecasting of ecological state and hydrodynamic processes in shelf and coastal zone of the sea;
- mathematical modelling of the influence of weather conditions on crop productivity processes, development of new and improvement of the existent methods of agrometeorological prognostication for growth, development and productivity formation;
- management, economic and legislative substantiation of nature protection activity.



## Integrated Hotspots Management and Saving the Living Black Sea Ecosystem HOT BLACK SEA (2.2.1.72761.225 MIS - ETC 2303), 2013-2015



### Partners

*Lead Partner:* National Institute for Research and Development in Electrical Engineering ICPE-CA, Romania

TUBITAK-Marmara Research Center, Turkey

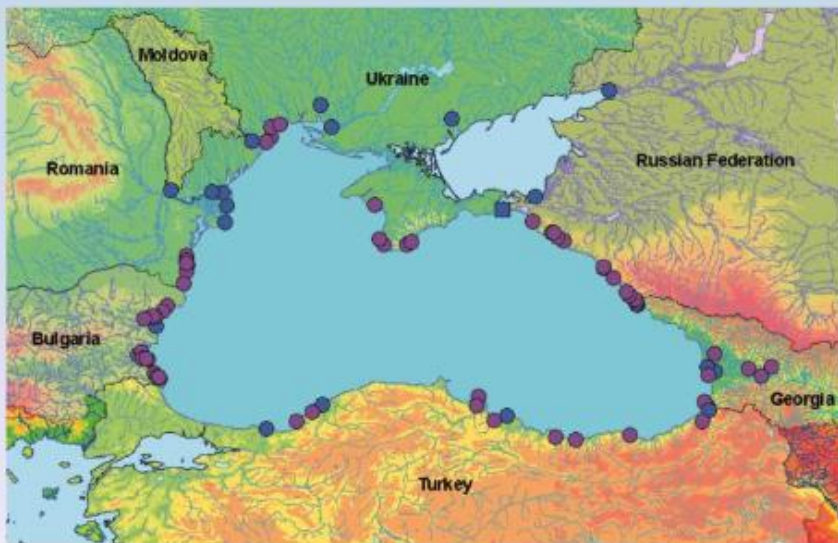
Foundation Caucasus Environment – FCE, Georgia

Odessa State Environmental University (OSEN), Ukraine

Burgas Municipality, Bulgaria

NGO for Sustainable Regional Development and Environment Protection – SuRDEP, Bulgaria

*Website:* <http://www.bs-hotspots.eu/>



*Black Sea HotSpots map*

### *The project overall objective*

To foster cross-border partnership for the development of harmonised policy and utilization of scientific studies relevant to monitoring and addressing environmental threats in the Black Sea Basin in the field of land-based sources of pollution.

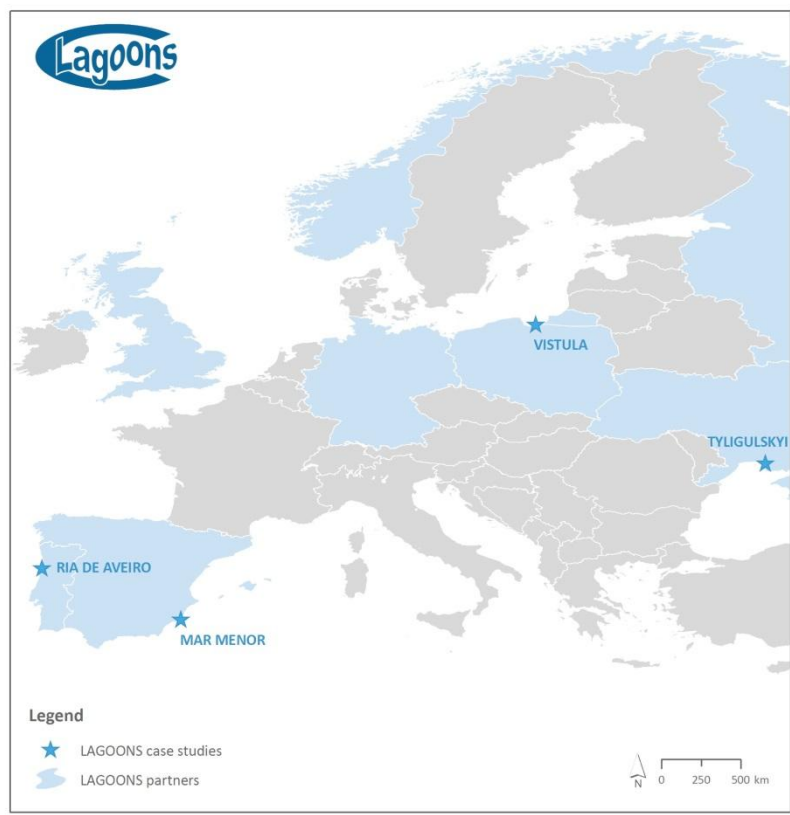
### *The specific objectives*

- Harmonise river monitoring programmes;
- Harmonise Hot Spots identification and prioritisation;
- Update the Lists of Hot Spots based on common Methodology;
- Provide data/information management tool to support decision-making in the field of Hot Spots management;
- Share competencies to increase capacity in hot spots management embracing the adaptive approach and market-based instruments for pollution control;
- Increase public awareness and stakeholders participation in decision-making related to hot spots.





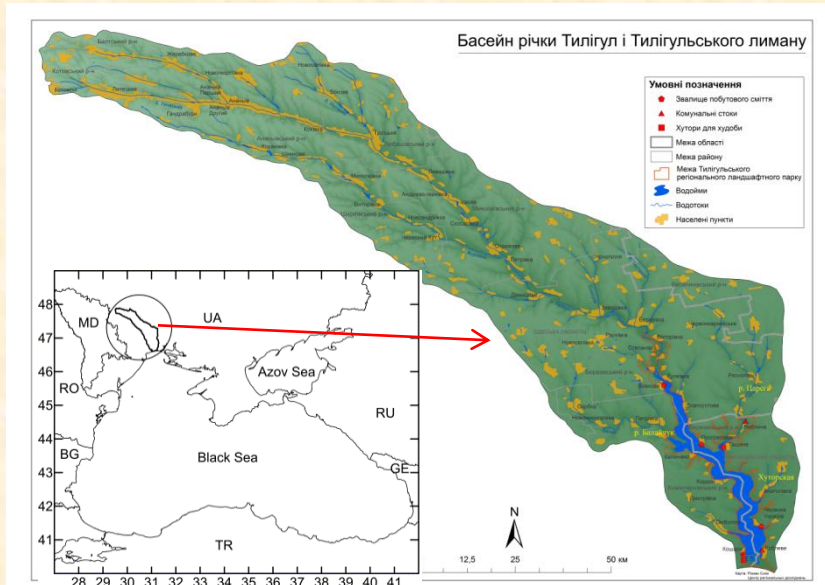
# *Integrated water resources and coastal zone management in European lagoons in the context of climate change – LAGOONS* FP7-ENV-2011 № 283157, 2011-2014



The main objective of the LAGOONS project is to contribute to a science-based seamless strategy – in an integrated and coordinated fashion – of the management of lagoons seen under the land-sea and science-policy-stakeholder interface; i.e., the project seeks to underpin the integration of the EU Water Framework Directive, Habitat Directive, the EU's ICZM Recommendation, and the EU Marine Strategy Directive.

The Research Object in the Ukraine is **Tyligulskiy Liman** estuary, which is situated in the north-western part of the Black Sea area.

*The research purpose is definition of the role of natural and anthropogenic factors that form the present-day hydrological regime and hydroecological state of Tyligulskiy liman, and development of guidelines for implementation of water management in the watershed of Tyligulskiy liman in view of the human impact and the climate change.*



## Major national results of the project:

- Trends in climatic factors of runoff formation in the liman watershed over the past decade; changes in water resources of the rivers in the basin of the liman that occurred as a result of the climate change; effect of water exchange with the sea on hydroecological regime of the liman are given assessment.
- The most likely climate change scenario for the region under research in the 21st century is identified.
- Scenario prediction for changes in freshwater inflow from the catchment to Tyligulskiy liman, fluctuations in salinity, concentrations of mineral and organic forms of nutrients, oxygen content in the 21st century are presented.
- Effectiveness of different scenarios of hydro-ecological management of Tyligulskiy liman, with the climate change, the human activities and conditions of water exchange with the sea taken account of, are evaluated on the basis of model calculations.

The book derives from a collaborative EC-funded project entitled *Integrated Water Resources and Coastal Zone Management in European Lagoons in the Context of Climate Change* comprising nine partner institutes with a wide diversity in the scientific disciplines covered.

### Contents:

- Challenges in the Policy-Environment-Modelling management context;
- The challenges in context of science-policy interface;
- The use of modelling tools to assess river basin environmental impacts;
- The challenges to improve integrated catchment-to-coast modelling in the context of climate change;
- Socio-economical and environmental scenarios for 2030; Engagement of local communities and Integrated scenarios;
- Catchment-to-coast integrated scenarios;
- Lagoons impact integrated scenarios; Integrated scenarios;
- The scenarios under the context of climate change (2030 and beyond);
- Lagoons response using key bio-indicators & and implications on ecological status;
- Catchment-to-coast climate-change impact scenarios;
- Coastal areas management perspective;
- Marine ecosystem services;
- Recommendations and strategies.

