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PONTOS Partnership

1. American University of Armenia (AUA) Acopian Center for the Environment (Lead Partner), Armenia | <http://ace.aua.am/>
2. Centre for Research and Technology Hellas Information Technologies Institute (CERTH-ITI), Greece | <https://www.certh.gr/>
3. Democritus University of Thrace, Laboratory of Ecological Engineering & Technology, Greece | <http://duth.gr/>
4. Environmental Protection and Mining Inspection Body of the Republic of Armenia | <https://www.ecoinspect.am>
5. Green Alternative, Georgia | <http://greenalt.org>
6. Odessa National I.I. Mechnikov University, Ukraine | <http://onu.edu.ua/en/>



Editor: American University of Armenia (AUA) Acopian Center for the Environment
E-mail: pontos@aua.am
Website: pontos-eu.aua.am



Lake Sevan, project pilot area of Armenia.
 Photo Credit: Sevan National Park

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GREEN
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Joint Operational Programme Black Sea Basin 2014-2020
 Copernicus Assisted Environmental Monitoring across the Black Sea Basin - PONTOS
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PONTOS

Copernicus Assisted Environmental
 Monitoring across the Black Sea Basin

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About PONTOS

PONTOS aims to enhance transboundary cooperation for **large-scale, harmonized environmental monitoring** across the countries of the Black Sea region and beyond. This goal will be reached through the usage of numerous freely available and reliable Copernicus data and services, e.g. Copernicus Land and Marine Environment Monitoring Services. *Copernicus is the European Union's Earth observation programme. It offers information services that draw from satellite Earth Observation and in-situ (non-space) data (<https://www.copernicus.eu/en>).*



Kolkheti lowlands, a pilot area of Georgia.
Photo Credit: Zura Javakhishvili

The combination of data and information will lead to new services and products for actors operating along the coastal and riparian zone. Spaceborne derived primary (e.g. images) and secondary (e.g. maps) products will be coupled with existing data and knowledge gathered in situ. The PONTOS operational platform and mounted online services will provide the local, national, and regional stakeholders with **free access to the new services and products**. To address the regional challenges, solutions will be generated by utilizing satellite data repositories, using automated retrieving methods, and leveraging results from the EU and national research and development projects.

Marine and lake coastal and inland human activities will be mapped targeting industry, recreation, agriculture, aquaculture, and commerce in Armenia, Georgia, Ukraine, and Greece. Their effluents towards the Black Sea or the lakes around it will be calculated, while at the same time spaceborne and in situ data will monitor fluctuations in marine features' values, such as surface water temperature, salinity, nutrients, potentially toxic elements, and algae presence. The impact will be assessed to set benchmark conditions.

Local stakeholders and other target groups will be informed and equipped with an adequate interface to access the information and its regular updates.



Panoramic view of the Nestos river delta, a pilot area of Greece (Eastern Macedonia-Thrace, Greece). Photo Credit: Artware

Project Pilot Areas

1. Armenia: Sevan Lake and its catchment area
2. Georgia: The entire coastline of Georgia and Kolkheti (Colcheti) Lowlands
3. Greece: Nestos River, its delta, the coastal zone close to the delta
4. Ukraine: Beaches and recreational areas from Odessa city to the Danube river delta, Dniester river delta area, and adjacent estuary

Expected Results

1. **Integration of online services' tools to implement efficient environmental monitoring** for the Black Sea and its surrounding environment. These tools will be based on IT applications that leverage remotely sensed and Copernicus environmental data in tandem with in situ retrieved ones.
2. **Improved availability and timeliness of cross-border compatible environmental monitoring data and information** for the Black Sea Basin.
3. **Capacity building and homogenization** across



The Dniester, Landscape near village Troitskoye, a pilot area of Ukraine.
Photo Credit: EU-TACIS Lower Dniester Project

the Black Sea through the tailor-made training material and actions targeting on one side the young generation of actors and on the other side the employees of the public and private sectors.

4. **Establishment of a transnational and transdisciplinary cooperation team** to act as the core of flexible local clusters promoting data sharing via the PONTOS proposed methodology and tools.
5. **Awareness-raising** on the importance of water quality degradation for local and national sustainable development.