



EU PONTOS Week Held in Armenia

YEREVAN, Armenia — October 10-14, the American University of Armenia (AUA) Acopian Center for the Environment (Armenia) held PONTOS week in Armenia in collaboration with the Environmental Protection and Mining Inspection Body (EPMIB) of the Republic of Armenia (RA). Participating institutions included the Center for Research and Technology Hellas (CERTH), Democritus University of Thrace (DUTH, Georgia), Green Alternative NGO (Georgia), and I.I. Mechnikov Odessa National University (ONU, Ukraine).

The PONTOS Week included a wide range of events and activities, including the second set of **Training Sessions on Earth Observation and Environmental Monitoring for Young Scientists and Practitioners**, a field visit to Lake Sevan, the **PONTOS final conference, a panel discussion and press conference, and the PONTOS hackathon.**

More than 100 participants attended PONTOS Week, among them policymakers, government officials and various agency representatives, scientists, researchers, students, civil society representatives, journalists, and others. All national agencies having relevance to the PONTOS project were invited to participate.

PONTOS Final Conference

Opening speeches were delivered by Alen Amrikhanian, director of the AUA Acopian Center for the Environment, Dr. Levon Azizyan, acting director of the Hydrometeorology and Monitoring Center (a state non-commercial organization), and Hovhannes Martirosyan, head of the RA Environmental Protection and Mining Inspection Body.

“Within the framework of the PONTOS project, the data and services of the Copernicus system are used to conduct analysis and monitoring of the environment. Consequently, we have created tools and algorithms to analyze satellite images and see what changes have taken place, what the

dynamics are, and what predictions can be made. We can use satellite images to go back 20, 30 or more years and see what the situation with Lake Sevan was like in the 1980s and successively, how it has changed, and what will happen next,” mentioned Aghavni Harutyunyan in her speech.

During the conference, PONTOS project outputs — the findings from the five completed assessments and the PONTOS operational platform — were shared with the audience. Presentations included topics related to environmental challenges, their assessments and public participation in the PONTOS project pilot areas. The latter includes Lake Sevan and its catchment area (Armenia), the entire coastline of Georgia and the Kolkheti lowlands (Georgia), the Nestos River, its delta, the coastal zone near the delta (Greece), and the Dniester River delta and adjacent estuary, beaches and recreation areas from the city of Odessa to the Danube Delta (Ukraine). Researchers and scientists from four countries, namely, Professor Georgios Sylaios of the Democritus University of Thrace, Dr. Irakli Macharashvili of Georgia’s Green Alternative, Dr. Sergiy Medinets of the Odessa National I.I. Mechnikov University, and Dr. Garabet Kazanjian of the AUA Acopian Center for the Environment presented the objectives and results of their respective assessments.

Subsequently, there were presentations by the partners from Greece, Dr. Ioannis Manakos of the Centre for Research and Technology Hellas, Eleftherios Katsikis of the Centre for Research and Technology Hellas, and Dr. Nikolaos Kokkos of Democritus University of Thrace. They touched upon the PONTOS platform and resources, its components and demonstration, including PONTOS data cube, PONTOS web application, and PONTOS webGIS. More information is available on the PONTOS [website](#).

Representatives of several Black Sea Basin (BSB) projects being implemented in Armenia also attended PONTOS Week, namely BSB963 Protect-Streams-4-Sea, BSB1034 The Sea of Wine, BSB1107 BeECO, and BSB1135 AGREEN. In turn, they shared insights about their respective projects and relevant updates.

The conference concluded with a press briefing to respond to questions from over 10 media reporters present.

Three-Day Training for Young Scientists and Researchers

During the PONTOS week, a three-day training was organized for young scientists, researchers, local and national government representatives, and university students. The trainees were from the RA Ministry of Environment, Ministry of Territorial Administration and Infrastructure, Ministry of Emergency Situations, Yerevan State University, Ararat Marzpetaran (district government), the RA National Academy of Sciences, Armenian National Agrarian University, and Hydrometeorological Monitoring Center. The topics specifically addressed monitoring of environmental problems and challenges, revelation of environmental problems and their study through satellite images. The training covered the PONTOS platform along with theoretical and practical exercises on earth observations for the following areas of study — water quality; eutrophication; assessment of water balance, water productivity, and water stress indices; and assessment of forest cover changes and their impact on the environment.

The training concluded with a study visit to the PONTOS Armenian pilot area, Lake Sevan. The field trip included both participants and PONTOS team members. The training resources are available at: <https://pontos-eu.aua.am/outreach/secondtrainingsession/armenia/>

The PONTOS Hackathon

On October 12-13, EPMIB and the AUA Acopian Center for the Environment jointly organized the PONTOS hackathon for teams from different academic institutions in Armenia.

Five teams and twenty-seven students and researchers participated, including **Libero** (Yerevan State University); **Ecoteam** (Center for Ecological Noosphere Studies of the RA National Academy of Sciences); **ASPU PONTOS** (Armenian State Pedagogical University); **Mind Galactice** (Yerevan State University); and **EcoFuture** (National Agrarian University of Armenia).

The hackathon challenges consisted of two parts — generation of new ideas using the PONTOS operational platform and mounted online services/tools, and the suggestion to create a useful application (or stand-alone solution/tool) for the PONTOS platform using Copernicus data. The suggested topics of the hackathon include ideas related to sustainable development goals; land changes (it can include different classes of land cover/land use, such as forests, crops, grassland, water surfaces and artificial covers like roads and buildings); water health and pollution; agricultural practices (such as estimate crop size to provide soil moisture information and to forecast yield); climate change, and so on.

EcoFuture's idea is to clean Lake Sevan with the help of different machines and pumps from cyanobacteria, as needed, and use the waste to generate biogas. For biogas production various types of waste from Lake Sevan can be utilized.

Ecoteam's idea is to create a beach assessment layer in the PONTOS platform that will reflect the environmental status of private and public beaches. It will be obtained by combining the existing layers in the PONTOS platform. The idea supports tourism development in the lake area.

ASPU PONTOS proposes to create extracurricular content and activity in schools to include the PONTOS educational system as a mobile application and a website where students can get ecological knowledge and information (similar endeavors are the Armath engineering laboratory, My School, Edmodo, Solo Learn systems).

Libero offers to clean Lake Sevan with two methods: using cyanobacteria viruses and physical cleaning for further usage. Also, the team suggests improving PONTOS by adding a system that records methane emissions.

Mind Galactics' idea is to construct a pipeline along the entire Lake Sevan, pumping sewage into the pipeline, chemically cleaning it, and returning the water to the lake.

More information about the project is available on the [PONTOS](#) website. Interested individuals can also directly contact the PONTOS team at pontos@aua.am.

Copernicus assisted environmental monitoring across the Black Sea Basin-PONTOS is a 30-month project funded by the European Union's ENI CBC Black Sea Basin Programme 2014-2020. The PONTOS makes information about the Black Sea environment from the EU Copernicus Earth Observation platform accessible to scientists, policymakers, citizens, and other relevant stakeholders. It utilizes information technologies to automatically retrieve Copernicus products, couples them with national or regional infrastructures for data acquisition and processing, and provides monitoring services for the Black Sea and the surrounding

environment in a transboundary, standardized, and homogenized manner. The environmental monitoring system developed is tested in pilot sites across Armenia, Greece, Georgia, and Ukraine.

The AUA Acopian Center for the Environment, a research center of the American University of Armenia (AUA), promotes the protection and restoration of the natural environment through research, education, and community outreach. The AUA Acopian Center's focus areas include sustainable natural resource management, biodiversity protection and conservation, greening the built environment, sustainable energy, as well as information technology and the environment. Visit <http://ace.aua.am>.

Media Coverage:

[Armenpress] [Lake Sevan's water quality monitoring improved within framework of PONTOS project](https://www.armenpress.am/eng/news/1094692/)
<https://www.armenpress.am/eng/news/1094692/>

[Public TV] [Շրջակա միջավայրի մոնիտորինգ՝ «ՊՈՆՏՍ» ծրագրով. ինչու է ծաղկում Սևանը և ինչպես լուծել խնդիրը](https://www.youtube.com/watch?v=1O1oek7jJ1w)
<https://www.youtube.com/watch?v=1O1oek7jJ1w>

[ԵՊՀ] [ԵՊՀ ԿԵՆՍԱԲԱՆՈՒԹՅԱՆ ՖԱԿՈՒԼՏԵՏԻ ՈՒՍԱՆՈՂՆԵՐԻ ԹԻՄԸ ՀԱՂԹԵԼ Է «ՊՈՆՏՍ» ՀԱՔԱԹՈՆՈՒՄ](http://www.ysu.am/news/hy/The-YSU-team-won-the-Pontos-hackathon)
<http://www.ysu.am/news/hy/The-YSU-team-won-the-Pontos-hackathon>

[ՀՀ ԲՆԱՊԱՀՊԱՆՈՒԹՅԱՆ ԵՎ ԸՆԴԵՐՔԻ ՏԵՍՉԱԿԱՆ ՄԱՐՄԻՆ] [ԵՊՀ կենսաբանության ֆակուլտետի ուսանողների թիմը հաղթողն առաջինը «ՊՈՆՏՍ» հարաթոնում](https://www.ecoinspect.am/post/more/376)
<https://www.ecoinspect.am/post/more/376>

