Project funded by EUROPEAN UNION

PONTOS

Black Sea CROSS BORDER COOPERATION

საერთო საზღვრები. საერთო მიდგომები

GREEN ALTERNATIVE

Copernicus Assisted Environmental Monitoring Across the Black Sea Basin – PONTOS

Second set of Training Sessions on Earth Observation and Environmental Monitoring for Young Scientists and Practitioners

The purpose of the training:

First set of Training Sessions on Earth Observation and Environmental Monitoring for Young Scientists and Practitioners held in Georgia in October 2021. Training materials are Available at the PONTOS web site.

The purpose of the second set of Training Session:

- To remind/or introduce to participants the programs/applications used within the project;
- to present the studies conducted using these programs within the Georgian pilot Area (the emphasis will be on the methodological part);
- To present the PONTOS web platform and carry out training - how to use the PONTOS platform as a tool for environmental monitoring.

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Agenda

Day 1

Date: 6 September 2022
Departure from Tbilisi to Batumi Hotel Divan Suites Batumi, https://www.divan.com.tr/hotel/divan-suites-batumi-hotel

19.00. Dinner in the Hotel Divan Suites Batumi, https://www.divan.com.tr/hotel/divan-suites-batumi-hotel

Day 2

Date: 7 September 2022
Time: 10:30 - 16:00
Venue: Batumi Hotel Divan Suites Batumi

Topic	Presenter - Entity	Time
Opening Session		
Welcome and Introduction of the Agenda, Purpose of the event, expected results, logistics	**Irakli Matcharashvili, Green Alternative, Project Manager**	**10.30. – 10.40**
Introduction of Participants	**All Participants**	**10.40. – 11.00**
Overview of the PONTOS Project, achieved milestones and planned activities	**Irakli Matcharashvili, Green Alternative, Project Manager**	**11.00 – 11.20.**
Q/A, Discussion	**All Participants**	**11.20. – 11.40**
Coffee break **11.40 – 12.10.**		
Introduction Copernicus and EO Programmes		
Copernicus program and services	**Giorgi Mikeladze, Researcher**	**12.15. – 12.35.**
Q/A	**All Participants**	**12. 35. – 12.45.**

SNAP - overview and principles	**Giorgi Mikeladze, Researcher**	**12. 45. – 13.05.**
Q/A	**All Participants**	**13.05.-13.15.**
Implementation in Pilot Area - Overview of studies and methodology		
Integrated assessment on chlorophyll concentration and eutrophication dynamics. Methodology and short overview of the study	**Ketevan Kupatadze, GRAL Researcher**	**13.15.-13.35**
Q/A, Discussion	**All Participants**	**13.35. - 13. 45.**
Lunch 13.45. – 14.30.		
Implementation in Pilot Area - Overview of studies and methodology		
Assessment on forest cover changes. Methodology and short overview of the study	**Giorgi Mikeladze, GRAL Researcher**	**14.30. - 14.50.**
Q/A, Discussion	**All Participants**	**14.50. – 15. 00.**
Assessment on dynamics of coastline changes. Methodology and short overview of the study	**Nutsa Megvinetukhutsesi, GRAL Researcher**	**15.00. – 15.20.**
Q/A, Discussion	**All Participants**	**15.20.- 15.30.**
Assessment on changes in wetland and floating vegetation cover. Methodology and short overview of the study	**Giorgi Mikeladze, GRAL Researcher**	**15.30.- 15.50.**
Q/A, Discussion	**All Participants**	**16.50.- 16.00.**
Wrap Up		16.00.
Dinner in the Hotel		18.00.

Day 3

Date: 8 September 2022
Time: 10:30 - 16:00

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Venue: Batumi Hotel Divan Suites Batumi

Topic	Presenter - Entity	Time
PONTOS Platform and – related practical exercises		
Introduction of the Agenda	**Irakli Matcharashvili, Green Alternative, Project Manager**	**10.30.-10.35.**
Q/A	**All Participants**	**10.35.- 10.40.**
PONTOS platform presentation	**Eleftherios Katsikis, CERTH**	**10.40. -11.10.**
Q/A	**All Participants**	**11.10.- 11.20.**
შესვენება ყავაზე/ჩაიზე 11.20 – 11.40.		
Presentation of the PONTOS Web Application and PONTOS Data Cube, full live demo of services	**Eleftherios Katsikis, CERTH**	**11.40 - 12.40.**
Q/A	**All Participants**	**12.40.-13.00.**
Practical exercises 1) **Visualization of airborne images and calculation of the NDVI and NDWI indices**		
LUNCH 13.45. – 14.30.		
Practical exercises (continuation) **2) calculation of Watermasks to classify an image in four classes (land, open surface water, floating vegetation and emergent vegetation)** **3) calculation of the Hydroperiod from a series of Watermasks to detect how many days there was water in each area for the selected period**	**Eleftherios Katsikis, CERTH**	14. 30 – 16. 00

4) calculation the Phenology Metrics to identify in which day of the year the greenup, the max NDVI and the senescence occurred **5) calculation the EODESM to create land cover maps.** **6) Monitoring of coastline erosion (riverbanks, inland waters) via PONTOS web application**		
Wrap Up		16.00.
Dinner in the Hotel		18.00.

Day 4 – Field Study

Date: 9 September 2022
Time: 9:00 - 16:00
Venue: Batumi – Poti- Kolkheti National Park

Poti Coastline, Seaport, Kolkheti National Park, Lake Paliastomi

Breakfast in the Hotel, Check out (Only Training Participants, Not PONTOS stuff)

Visit in Pilot Area, Field Study		
Departure to Poti		**9.00.**
Field trip to Poti Coastline and Seaport. **Verification of results and discussion. GPS Sampling.**	**Giorgi Mikeladze, GRAL Researcher** **Irakli Matcharashvili, GRAL**	**10.00-11.30.**
Field trip with boat - lake Paliastomi, River Pichori (depends in weather condition) https://apa.gov.ge/en/eco-tourism/Trails/kolxetis-erovnuli-parkis-turistuli-bilikebi-satesto/2-paliastomi-fichori		**13.30. – 14.00.**
Verification of results and discussion. GPS Sampling	**Giorgi Mikeladze, GRAL Researcher** **Irakli Matcharashvili, GRAL**	
Chemical analysis of water, sampling methods	**Ketevan Kupatadze, GRAL**	

	Researcher	
Lunch in Poti		**14.30**
Departure to Tbilisi/Batumi		**15.00**

Information for training participants:

For practical training related to PONTOS research (environmental monitoring issues using Earth observation programs), you must have a personal computer. Please also pre-download/register the programs/apps below.
Please register:

- ✓ Copernicus Open Access Hub - **https://scihub.copernicus.eu/dhus/**
- ✓ Earth Explorer - **https://earthexplorer.usgs.gov/**

Download:

- SNAP **https://step.esa.int/main/download/snap-download/**
- QGIS **https://www.qgis.org/en/site/**
- Semi-Automatic classification Plugin
- DSAS tool: https://www.usgs.gov/centers/whcmsc/science/digital-shoreline-analysis-system-dsas?qt-science_center_objects=0#qt-science_center_objects

Please bring comfortable shoes and clothing for field trips.