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GEO-CRADLE: Coordinating and integrating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East, and Balkans and Developing Links with GEO related initiatives towards GEOSS



Organised by the National
Observatory of Athens, GEO-
CRADLE Project Coordinator

Kindly hosted by the State
Hydrometeorological Service of
the Republic of Moldova



GEO-CRADLE networking event in Chişinău, Moldova 3 January 2017



MINUTES



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Objective & Outline:

GEO-CRADLE fosters regional cooperation and integration of monitoring capabilities, networks, and scientific skills in the direction of a roadmap for GEO and Copernicus implementation in North Africa, Middle East and Balkans. Moldova is part of the Balkans, therefore it belongs in the region of interest of GEO-CRADLE.

GEO-CRADLE has proactively engaged and keeps engaging with the relevant regional stakeholders (data/service providers, decision makers, and SMEs) in a series of consultation activities including surveys, interviews, workshops and bilateral exchanges, in order to identify gaps and needs in relation to common regional challenges.

In the context of this effort, the objective of the GEO-CRADLE Networking Event, which took place on 3 January 2017 in Chişinău, Moldova, was to present to the State Hydrometeorological Service (SHS) of the Republic of Moldova the project's objectives, current activities and expected outcomes, as well as to identify the EO capacities and discuss the relevant needs of SHS and Moldova, and finally to explore the possibilities for cooperation and future perspectives.

The meeting was organised by GEO-CRADLE Project Coordinator NOA, and was kindly hosted by the SHS. It was attended by representatives of all three Departments of SHS:

- 1) Meteorology Department;
- 2) Hydrology Department;
- 3) Environment Quality Monitoring Department.

Welcome Speech

Speaker: **Mr Valerii Cazac** – Chief of the Department of Hydrology of SHS

Mr Valerii Cazac opened the meeting welcoming the participants. He noted that he had the opportunity to hear about GEO-CRADLE during the GEO-XIII Plenary & Exhibition in St. Petersburg, Russia, in November 2016. Following the initial discussions with Ms Alexia Tsouni and the support of Project Coordinator Dr Haris Kontoes, this meeting was organised.

Mr Cazac emphasized that the purpose of this meeting was not just to have an information session, but to discuss concrete ways to address needs and establish cooperation in issues of common interest. He wished a fruitful meeting and a productive day to all.



Presentation of the State Hydrometeorological Service of Moldova

Speaker: **Ms Violeta Balan** – First Deputy Director of SHS

Ms Violeta Balan presented the State Hydrometeorological Service, which is subordinated to the Ministry of Environment of the Republic of Moldova. The Director of SHS, Mr Mihail Roibu, is also the GEO Principal in the Republic of Moldova.



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The history of SHS begins with the first meteorological observations carried out in Chisinau in 1844. The first hydrological post was organized in 1878 on the Nistru river in Tighina. At the end of the XX century there were 11 meteorological stationary posts and 6 hydrological posts. However the observations were not carried out regularly, being interrupted by the First and Second World Wars. In October 1944, the Hydrometeorological Department of the Republic of Moldova was established to ensure regular hydrometeorological observations. Additionally, the Meteorology Office comprised of hydrological and meteorological forecasting groups was established within the Department.

The State Hydrometeorological Service (SHS) became independent at the same time when the Republic of Moldova obtained its independence. In 1994 SHS joined the World Meteorological Organization; while in 1993 it became member of the Intergovernmental Council for Hydrometeorology of the Commonwealth of Independent States and participated in a range of international programs and agreements (UN Framework Convention on Climate Change, Convention on Co-operation for the Protection and Sustainable Use of the River Danube, Convention on Long-Range Transboundary Air Pollution, UN Convention to Combat Desertification).





Starting in 2001, in the framework of the governmental program “Modernization of the country – well-being of the people”, a perspective plan that stipulated development and strengthening of SHS was elaborated. To achieve this goal, with the financial aid of the Government and National Ecological Fund, several important activities were carried out for modernization and optimization of the SHS main production departments, including the National Observational Network. Automatic weather stations for all the meteorological posts, as well as up-to-date equipment for the hydrological and hydrochemical posts were acquired.

Social and economical changes impelled the Service to conclude contracts with commercial organizations and economic agents – potential users of hydrometeorological information. Marketing studies are being carried out in order to increase the volume of services rendered and to find efficient and cost-effective tools to meet users’ demands and needs.

Ms Balan noted that in the actual formula the Service comprises three main fields of activity: Meteorology; Hydrology; and Environment Quality Monitoring.

She concluded with the main tasks of SHS which are:

- 1) To monitor the state and evolution of the hydrometeorological conditions and environment quality with the purpose to protect the population and economical agents from dangerous hydrometeorological phenomena and from environmental pollution;
- 2) To elaborate meteorological, aeronautical, agrometeorological, hydrological forecasts as well as the forecast on the environmental pollution;
- 3) To issue warnings on hydrometeorological hazardous phenomena, as well as on the environmental pollution;
- 4) To meet the demand for hydrometeorological information of the population, economic agents, national security, public authorities;
- 5) To establish and operate the Hydrometeorological Data State Fund in support of hydrometeorological justification, design, construction and exploitation of socio-economic objects;
- 6) To participate in the international data exchange within the global observing system and to fulfill the commitments under the conventions and international agreements signed by the Republic of Moldova.

GEO-CRADLE contribution towards inventorying of capacities and user needs, gap analysis, maturity indicators and priorities, addressing regional challenges and implementing GEOSS & Copernicus

Speaker: **Ms Alexia Tsouni** – GEO-CRADLE Project Coordination Team

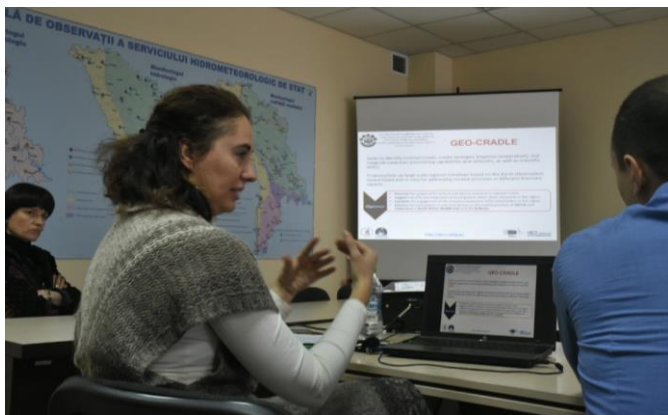
Ms Alexia Tsouni thanked SHS for the kind invitation and hosting of the meeting. She specially thanked Mr Cazac for his cooperation in organising this event, as well Ms Balan for her support and contribution. She highlighted that GEO-CRADLE is a project that aims at fostering regional cooperation and a roadmap for GEO and Copernicus implementation in North Africa, Middle East and the Balkans; therefore Moldova is included in the area of interest too.



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Ms Tsouni presented the consortium of the project, which allows covering the complete EO value chain, ensuring sufficient representation of the most important players in the Region of Interest (25 partners from 20 countries from 3 continents).



She emphasized that GEO-CRADLE's mission is to set up a network for a wide range of EO data applications, based on the needs of society, public, research and commercial market. Thus the project seeks to identify common needs, create synergies (regional cooperation), and integrate capacities (monitoring capabilities and networks, as well as scientific skills); and finally to propose / set up large scale regional initiatives based on the Earth Observation (space based and in-situ) for addressing societal priorities in different thematic aspects.

The thematic areas of GEO-CRADLE are linked with the UN Sustainable Development Goals and are reflected in the following pilot activities, which are currently under way:

- 1) Adaptation to Climate Change
- 2) Improved Food Security - Water Extremes Management
- 3) Access to Raw Materials, and
- 4) Access to Energy.

Ms Tsouni continued with the analysis of the project's overall approach and pillars, which includes the Inventory of capacities and user needs in the RoI, the Gap Analysis, the Maturity Indicators and Priorities, the Pilots towards regional challenges, the Regional Contribution to GEOSS & Copernicus, and in parallel the Dissemination & Engagement and the Impact Analysis in the end.

She briefly presented the results from the gap analysis per country and the definition of maturity indicators. Grouped by capacities, cooperation and uptake, the maturity indicators capture the EO and GI capacity level, and measure the progress of each country in the implementation of GEO and Copernicus.

Ms Tsouni noted that 30 project proposals were collected from country partners, and they were assessed based on a set of priority criteria: relevance; political interest; impact; feasibility; regional dimension; investment & marketability; and synergy with existing initiatives.

She then presented the refined scope of the four pilot activities, focusing more on the two pilots which are of interest to the SHS: the Adaptation to Climate Change and the Improved Food Security - Water Extremes Management.

Ms Tsouni emphasized the added value of GEOSS & Copernicus, welcoming the fact that Moldova is a GEO member with a GEO principal, and making a special reference to the Copernicus Relays. She concluded by referring to the EU funding opportunities for Moldova.



Presentation of the GEO-CRADLE Survey of the regional Earth Observation capacities

Speaker: **Ms Alexia Tsouni** – GEO-CRADLE Project Coordination Team

Ms Tsouni explained the importance of the GEO-CRADLE survey in order to collect adequate and reliable responses with a good thematic and geographic coverage.

She noted that there were 257 responses so far, with the vast majority being from the Balkans, and most responses in the thematic areas of Food Security & Water Extremes and Climate Change. She encouraged the participants in the audience to take part in the survey and disseminate it to other relevant stakeholders and end-users as well.

Ms Tsouni underlined that the answers help GEO-CRADLE build a comprehensive picture of the Earth Observation capacities in the Balkans, North Africa and Middle East. Based on the survey results GEO-CRADLE supports the establishment of integrated EO services that meet regional priorities, and contributes to the implementation of GEOSS and Copernicus in the region.

She also emphasized that the participants join a large, regional network of stakeholders; gain access to important information and promote their capacities through the GEO-CRADLE portal and the Regional Data Hub; participate in concrete community activities (e.g. setting regional priorities, contributing to working groups) that pave the way towards a future regional GEO and/or Copernicus initiative; keep up-to-date with current collaboration and business opportunities in the region, networking events and EO-related news.

Ms Tsouni then presented the GEO-CRADLE online survey in detail, explaining each section:

- General Info: contact details;
- Activity Focus: your Organisation's role in the value chain, main thematic areas of activity, participation in EO-related projects, participation in Copernicus, participation in GEO/GEOSS SBA Tasks, collaboration with other EO actors;
- Capacities: space-borne capacities, ground-based/in-situ monitoring networks/facilities, modelling and computing processing capacities, EO data exploitation;
- National Activities: national funding for EO activities, national space policy/strategy, existence of national space agency, coordination of EO activities in the country, interaction between the EO community and decision makers in the country, organisation of EO dedicated workshops in the country;
- Engagement in GEO-CRADLE: contribution with your capacities to a regional initiative of GEO and/or Copernicus, provision of feedback for establishing a roadmap for the implementation of GEO and Copernicus in the region, participation in future GEO-CRADLE networking events and portal.



Registration of capacities on the GEO-CRADLE Survey in terms of space/air-borne/in-situ EO monitoring networks and infrastructure, as well as modelling and EO data exploitation facilities and skills

Hard-copies of the survey were distributed to the participants and the first section of the survey was filled in. It was decided that the best is to have the survey filled in by each Department separately, namely Meteorology Department; Hydrology Department; Environment Quality Monitoring Department.



Open Discussion – Conclusions

An interesting open discussion took place providing valuable knowledge on the identified EO capacities and skills, as well as the regional needs and challenges. This enriched GEO-CRADLE's findings in capacities recording, user needs analysis, maturity assessment and priorities setting. Besides, this is an ongoing process, whose results continuously update our view for the region, and will be included in the final roadmap.

First of all Moldova has a well-developed National Geospatial Data Fund, which was created for the purposes of centralized accounting, keeping and use of topographical, geodetic and mapping data: <http://www.geoportal.md/en/default/map#lat=204865.500000&lon=201581.000000&zoom=0>, storing them for the whole territory of the Republic of Moldova. These data are of technical, scientific, economic, historical, social and cultural interest, and are distributed for use to public authorities as well as to private sector on demand, observing the Fund Regulations.



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As for the State Hydrometeorological Service of Moldova, apart from its advanced technical infrastructure, it has a number of high level researchers with rich expertise and active involvement in national, European and international projects, and offers a series of useful products and services to the public, the relevant stakeholders and end-users. Concerning the data policy, the access is not always free and open, but subject to some restrictions, depending on the user and the purpose.

SHS agreed to join the GEO-CRADLE Regional Networking Platform and follow the activities of the project, with dissemination to other relevant stakeholders in the country. SHS representatives may be invited to participate in consultation phases, regional workshops and in the meeting where the pilots' outcomes will be presented, in order to provide feedback and exploit the results adapted to their own needs and interests. Moreover, SHS is also interested in Copernicus data and relays.

Ms Balan and Mr Cazac highlighted the fact that Moldova faces atmospheric / air quality challenges, as well as floods, including flash floods, and even droughts occasionally. Therefore, regarding the thematic areas of GEO-CRADLE, SHS is mostly interested in the Adaptation to Climate Change and the Improved Food Security - Water Extremes Management. More specifically the Meteorology Department and the Environment Quality Monitoring Department are mainly interested in the Adaptation to Climate Change, while the Hydrology Department in the Water Extremes Management.

During this important networking event new contacts were established and the mutual interest for future cooperation was expressed to address common needs, based on the opportunities which the European Union provides in terms of networking, capacity building, technology transfer and funding.

Ms Tsouni emphasized the importance of this meeting, which was very useful for both sides in order to identify common needs, share capacities and create synergies. She thanked the hosts for their warm hospitality and the participants for their participation and attention.

