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Workshop-3 Report and Material - Georgia

ILMM-BSE: Integrated Land-use Management Modelling of Black Sea Estuaries

December 2014



ILMM-BSE PARTNERS AND BENEFICIARIES



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Burgas, Bulgaria - ENPI Partner



Hayrabolu Municipality
Tekirdağ, Turkey - IPA Beneficiary



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Association (UkrMEPA)
Odessa, Ukraine - ENPI Partner



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International Association Civitas Georgica
Tbilisi, Georgia - ENPI Partner



Namık Kemal University (NKU)
Tekirdağ, Turkey - IPA Partner



ABBREVIATIONS

Term	Explanation
BG, GE, RO, UA, TR	Bulgaria, Georgia, Romania, Ukraine, Turkey
GR, NL, US	Greece, The Netherlands, United States
BSC	Black Sea Commission
BSC-PS	Black Sea Commission Permanent Secretariat
BSC-OS	Black Sea Catchment Observation System
BSD	International Black Sea Day
BRTA	Burgas Regional Tourist Association, Bulgaria
BSU	Batumi Shota Rustaveli State University
CSW	Catalog Service for the Web
EO	Earth Observations
GEO	Group on Earth Observations
GEOSS	Global Earth Observation System of Systems
GeoGraphic	GIS and RS Consulting Center 'GeoGraphic'
gSWAT	SWAT Hydrological model over the Grid and HPC infrastructure
HPC	High Performance Computation
ILMM-BSE	Integrated Land-use Management Modelling of Black Sea Estuaries
ISO	International Organization for Standardization
KML	Keyhole Markup Language
MoE	Ministry of Environment & Natural Resources Protection of Georgia
NEA	National Environmental Agency of Georgia, MoE
NKU	Namık Kemal University, Tekirdağ, Turkey
OGC	Open Geospatial Consortium
PNF	Permanent Networking Facility
PyWPS	Service Web in Python
RS	Remote Sensing
SDI	Spatial Data Infrastructure
SLD	Styled Layer Descriptor
SWAT	Soil & Water Assessment Tool (freely available hydrological model)
UNIGE	University of Geneva
UTCN	Technical University of Cluj-Napoca
WCS	Web Coverage Service
WFS	Web Feature Service
WMS	Web Mapping Service
WPS	Web Processing Service
FP7	Seventh Research Framework Programme
R&I	Research and Innovation



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EXECUTIVE SUMMARY

The document describes in details all phases of design, implementation and dissemination of results of the [ILMM-BSE](#) Workshop-3, that was organized in Batumi, Georgia, 30-31 October 2014, by Civitas Georgica, in synergy with European FP7 [IASON](#) Project and collaboration with its Georgian partner GeoGraphic.

The Workshop-3 was organized in celebration of the international Black Sea Day of 31 October and was endorsed by the Black Sea Commission Permanent Secretariat and the Ministry of Environment and Natural Resources Protection of Georgia and its National Environmental Agency.



1. PLANNING OF THE WORKSHOP

The *ILMM-BSE* project funded by the European Cross-Border Cooperation Joint Operational Program ‘Black Sea Basin 2007-2013’, planned organizing 4 workshops.

Georgian *ILMM-BSE* ENPI Partner ‘Civitas Georgica’ has been assigned to organize the third regional workshop and to report on its implementation.

1.1 Aim of the Workshop

The Workshop-3 in Georgia was devoted to Catchment Observations, Modelling and Management as its main themes and had a twofold objective.

In particular, the two day *ILMM-BSE* Workshop-3 in Georgia included the capacity building part on October 30th (Day 1), dealing with hydrological modelling and data dissemination tools for the Black Sea Catchment, as well as special policy session next day devoted to International Black Sea Day (BSD) of October 31st (Day 2), with participation and presentations of local, national and international stakeholders involved in various European projects (such as *ILMM-BSE* and *IASON*) and other projects in river basin and catchment management. The workshops were targeting policy makers, researchers, and stakeholders from the region. The second half of the Black Sea Day of 31 October 2014 was specifically devoted to public presentations by *ILMM-BSE* Partners.

The Black Sea Workshops and Events in Georgia of 30-31 October 2014 were collocated with EC FP7 *IASON* Meeting in Batumi, October 29, 2014 and Cross Border Cooperation *ILMM-BSE* Project Meeting in Georgia, November 01, 2014, and were organized in synergy between these two European regional research projects and in close coordination between two Georgian partners International Association Civitas Georgica (*ILMM-BSE*) and GeoGraphic (*IASON*).

The workshop was promoted as the international Black Sea Day event in Georgia by the Black Sea Commission Permanent Secretariat (BSC PS) and the Ministry of Environment & Natural Resources Protection of Georgia, represented by the



Commissioner (BSC Member) from Georgia, who also announced the address of the BSC PS Executive Director to the participants of the policy workshop on the Black Sea Day of 31st October (see Annexes I and II).

The first part of the capacity building workshop (30 October, delivered by IASON partner UNIGE) was devoted to capacity building, targeting common objectives of two European projects. The “Bringing GEOSS services into Practice” hands-on workshop introduced attendees how to set up their own Spatial Data Infrastructure (SDI) and how to publish and share data and metadata through the Global Earth Observation System of Systems (GEOSS).

The second concluding part of the capacity building workshop (also 30th of October) on further demonstration of SDI tools, started with the hands-on interactive ArcSWAT hydrological model set-up session (introduced by GeoGraphic) and continued with live demonstration of gSWAT hydrological model calibration with remote access to high performance computation resources (delivered by UTCN, IASON). ILMM-BSE partners benefited greatly from exposure to tools developed by this earlier FP7 project (<http://envirogrids.net>).

The second Black Sea Day Workshop (31 October) was devoted to plenary presentations promoting integrated catchment monitoring, modelling and governance principles, communicated by various project representatives, dealing with catchment monitoring and governance issues.

The meeting was targeting policy makers, researchers, and stakeholders from the region along with European experts that helped local stakeholders to be informed on the current European needs and trends in Earth Observations. Through this workshop, *ILMM-BSE* and IASON projects communicated the need to bring the scientific communities and programs closer to each other with regard to EO initiatives in the Black Sea region.

Knowledge gained in the workshop will allow to better cope with the regional needs for EO applications not only in the addressed themes, but also in a broader area so that all GEO Societal Benefit Areas can be addressed.



International experts from *ILMM-BSE* and IASON projects and other invited speakers gave plenary talks, while produced material is freely available through the *ILMM-BSE* and IASON websites.

1.2 Decisions Taken at Previous Meetings

ILMM-BSE Workshop-2 in Tekirdağ, Turkey, 29-30.05.2014

At this event Civitas Georgica presented and agreed with partners plan of organising capacity building workshop and project meeting in Batumi, Georgia, on 30.10.2014-01.11.2014 including organizing on the 31st October 2014, the international Black Sea Day, a joint public presentation and hearing, inviting closely related EU CBC projects (REPAIR <http://blacksea-repair.org>, HOT Black Sea <http://www.bs-hotspots.eu>, etc). It was also suggested to hold the Workshop in cooperation with the FP7 IASON Project which also planned to organize similar events in Georgia. Civitas Georgica representative informed partners that preliminary agreement was reached with IASON at the meeting in Thessaloniki, Greece, 20-24 May 2014, on organization of workshop of both projects in Batumi, Georgia, as events collocated in space & time, synergic in objectives & themes. Preliminary personal agreement was also reached with the leadership of the Ministry of Environment and Natural Resources Protection of Georgia (First Deputy Minister) to support stakeholder policy discussion meeting on 31st of October regarding integrated river basin modelling and management, while the intergovernmental Black Sea Commission Permanent Secretariat indicated, that regional Black Sea Day event in Georgia would be endorsed as official activity as part of the international celebrations in Black Sea countries.

ILMM-BSE Congress-2 in Odessa, Ukraine, 03-06.09.2014

Civitas Georgica confirmed with project management during ILMM-BSE Congress in Odessa, Ukraine all the arrangements for organizing ILMM-BSE meeting (01 November 2014) and workshops (30-31 October 2014) in Georgia, latter being organized in close synergy and cooperation with FP7 IASON planning the Black Sea regional capacity building workshop planned in Georgia in the same time, back-to-back with Black Sea Day activities of 31 October 2014. Standalone ILMM-BSE session was planned in the



second part of 31 October Black Sea Day, to highlight the visibility of the project. ILMM-partners welcomed such an initiative.

2. ANNOUNCEMENT OF THE WORKSHOP

The section below describes the publicity actions undertaken to maximize visibility of the workshop in Batumi. All ILMM-BSE partners disseminated through their individual channels the workshop to academic and relevant stakeholders in the Black Sea region.

2.1 Workshop Website

Final plans and logistics were cleared with the project management by the end of September 2014. Announcement of the workshop and the project meeting with registration details were posted at the newly launched webpage of ILMM-BSE at <http://e-blacksea.org/?p=news-detail&news=workshop-in-georgia&id=10><http://e-blacksea.org/?p=news-detail&news=workshop-in-georgia&id=10>, as well as posted the overall workshop and meeting programs at <http://e-blacksea.org/file/news/georgia-workshop-program.pdf>, respectively (see figures 1 and 2).

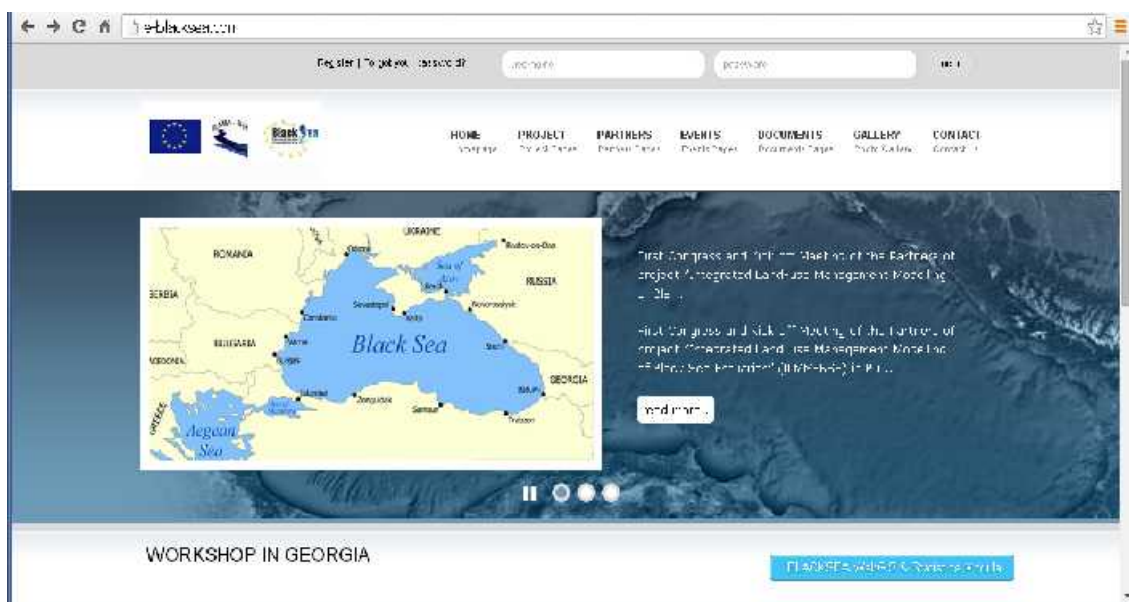


Figure 1 Workshop announcement at ILMM-BSE website (<http://e-BlackSea.net>)



The websites contained information regarding:

- Registration
- The Workshop Programme
- The Venue
- Travel and Accommodation

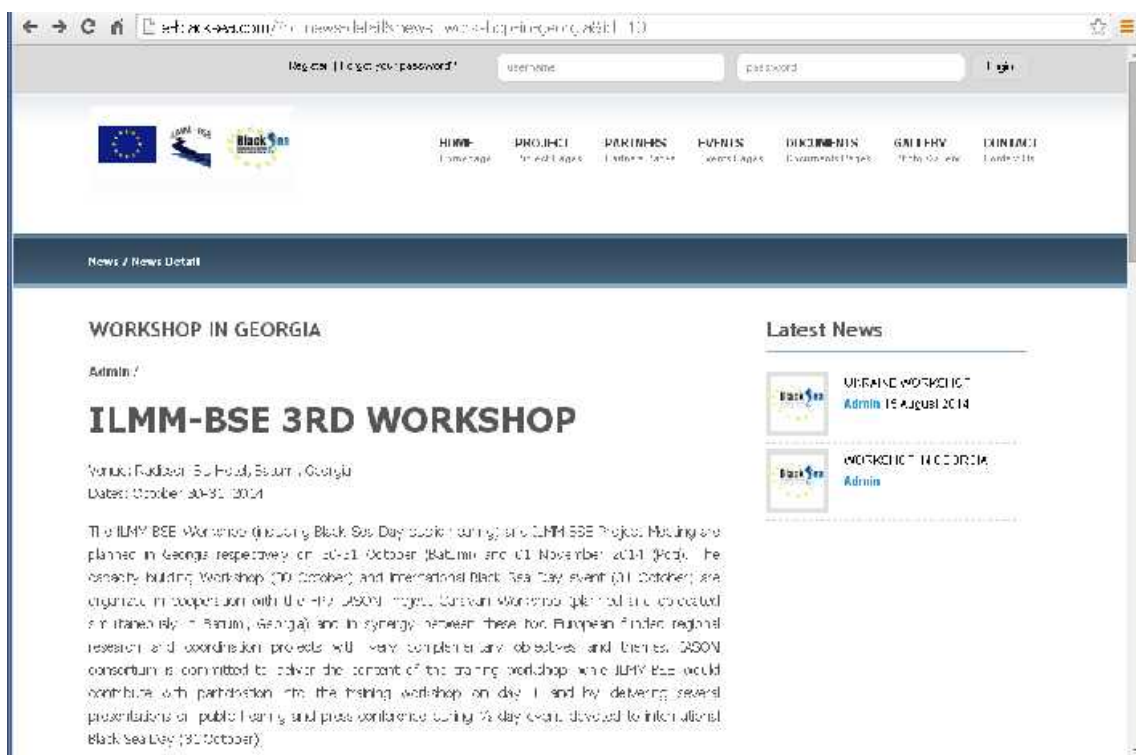


Figure 2 Workshop announcement at ILMM-BSE website (<http://e-BlackSea.net>)

A dedicated workshop website has been created by IASON as well, available at <http://www.iason-fp7.eu/index.php/en/events-eng/iason-workshop-2-georgia-eng> with the registration link at <http://goo.gl/MKIV7A> and its workshop programme at http://www.iason-fp7.eu/images/documents/ws2_batumi/IASON-Workshop-2-Georgia-PROGRAM-25.10.2014.pdf), see figures 3 and 4.

Electronic registration process assured that all requested data on all participants were collected and kept updated throughout entire event organisation. Local stakeholders, potentially interested in the event, had the possibility to apply for participation in response to the announcements distributed through regional channels



(such as CENN) and majority of participants, not directly invited by organisers, participated in the capacity building and policy discussion events through this participatory mechanism.



Figure 3 Workshop announcement in the news section of IASON website



Figure 4 Workshop announcement page at the IASON website



2.2 Official Programme and Flyer of the Workshop

A flyer of the workshop was integrated with the official programme. In addition to the project websites, announcement and programme/flyer were distributed via popular Caucasus Environmental NGO Network (<http://www.cenn.org>) listserver (figure 5).



Figure 5 Workshop programme/flyer (left) and announcement via CENN (right)

Announcement of the workshop was posted in IASON 3rd Newsletter as well (fig. 5).¹



Figure 6 Announcement of the Workshop in IASON's 3rd e-Newsletter

¹ ILMM-BSE and IASON posters were displayed at the workshop venue. Electronic posters were rotating at the poster size electronic screens as well. Each workshop room wall display near room entrance indicated respective slides informing the participants on each session title.



2.3 Press conference & Media Coverage

Both workshop days were extensively covered through local media (see figure 7).



Figure 7 Screenshots of the workshop coverage through local TV channels

Informative press releases were issued for journalists. Two press conferences were organised on days 1 (capacity building) and day 2 of the workshop (policy discussion). Local television stations Adjara TV (governmental) and Channel 25 (independent),



both with national coverage in Georgia, broadcast announcements and thematic interviews with several workshop participants, including the interviews with the Black Sea Commission Representative from Georgia (she was special guest at Channel 25 news studio on , 29th of October, a day prior to the workshops), Coordinators of ILMM-BSE and IASON Projects, JRCs, representatives of co-organizers Civitas Georgica and GeoGraphic, as well as several other partners and participants of the Workshop.

Web links to video coverage by local television are provided below:

<http://www.ajaratv.ge/ge/index.php?page=shownews&id=63810>

<http://www.ajaratv.ge/ge/index.php?page=shownews&id=63831>

<http://www.ajaratv.ge/ge/index.php?page=shownews&id=63848>

http://www.tv25.ge/?page=news&news_id=14189

http://www.tv25.ge/?page=news&news_id=14182

http://www.tv25.ge/?page=news&news_id=14207

3. IMPLEMENTATION OF THE WORKSHOP

3.1 Participants

BSD Workshops (including practical training on GEOSS services) took place on 30-31 October 2014 as it was planned. In total 64 participants attended, majority present on both days of the workshop (52 participants registered at the capacity building part and 60 participants at the plenary discussion part). A detailed list of participants is presented in Annex III.

3.2 Workshop Program

Since the workshop had twofold objectives, it was split into two different parts.

3.2.1 Practical Workshops

The “Bringing GEOSS services into Practice” hands-on workshop introduced attendees how to set up their own SDI and how to publish and share data and metadata through



Global Earth Observation System of Systems (GEOSS). The training on enviroGRIDS tools was presented and explained the possibility of processing remotely, with a laptop, large amount of geospatial data. The user had remote access to HPC resources and spatial data models via web applications.

DAY 1 - 30 October 2014

Theme: Capacity Building in Earth Observations (EO) and Environmental Applications

Duration: all day

Skills required: basic GIS knowledge

Participants: about 50 participants (including partners), each with own laptop ^(*)

Description: training workshop was composed of two interrelated parts.

First part of the workshop with the course entitled 'Bringing GEOSS services into practice' (materials were distributed as virtual machine packs) aimed at explaining to participants how to install, configure and deploy a set of open source software to publish and share data and metadata through the Global Earth Observation System of Systems (GEOSS). GEOSS has been created as an international voluntary effort that connects geospatial and Earth Observation and information infrastructures, acting as a gateway between producers of environmental data and end users. The aim of GEOSS is to enhance the relevance of Earth observations and to offer public access to comprehensive, near-real time data, information and analyses of the environment.

In second part of training, after hands-on introductory session into hydrological modelling (ArcSWAT session with virtual machine packs), introduced participants how to access high performance computation (HPC) infrastructures available at the Black Sea Catchment-Observation System (BSC-OS by enviroGRIDS project) and providing hydrological model calibration and execution capacity, other web applications.

Pre-requisites ^(*): participants were required to bring their own laptops with free Virtual Box software (www.virtualbox.org), downloaded & installed prior to the workshop. This allowed use of virtual machine preloaded with all needed GIS software, data, tutorials and presentations. All virtual machine files were fully distributed prior to workshop. Operating system & specifications: Windows or MacOS or Linux; memory (RAM) minimum 4 GB; disk space minimum 30 GB.





Part 1, concepts on GEOSS & SDI delivered by University of Geneva, Switzerland (Yaniss Guigoz, Pierre Lacroix)

09:00-09:30	Registration
09:30-11:00	Part 1: 'Bringing GEOSS services into practice'
	Introduction: Concepts on Spatial Data Infrastructures (SDI)
	How to store geospatial data? (PostGIS and flat rasters)
	How to publish geospatial data? (GeoServer; Web services)
11:00-11:15	Coffee Break
11:30-13:00	Part 1: 'Bringing GEOSS services into practice' (continued)
	How to document and search geospatial data? (GeoNetwork, metadata)
	How to process geospatial data? (PyWPS, WPS)
	How to view geospatial data? (WMS, OpenLayers, QGIS, Google Earth)
13:00-14:00	Lunch
14:00-15:30	Part 1: 'Bringing GEOSS services into practice' (continued)
	How to download geospatial data? WFS, WCS, QGIS
	How to analyze geospatial data? (consuming local/remote WPS with QGIS)
	How to share geospatial data? (registration; Discovery and Access Broker)
15:30-16:00	Coffee Break
16:00-18:00	Part 2: Hydrological modelling & Black Sea Catchment Observation System
	Introduction in hydrological modelling & hands-on demonstration (arcSWAT)
	Model application, calibration, execution over HPC infrastructure (gSWAT)

Part 2, BSC-OS modelling tools delivered by Technical University of Cluj-Napoca, Romania (Dorian Gorgan, Teodor Stefanut) & GeoGraphic, Georgia (Mamuka Gvilava)



To diversify the capacity building session and to accommodate time logistics of the invited speakers, two keynote presentations by prominent scientists and policy makers of the Black Sea region were delivered during the training day (latter one during the Black Sea Day reception organised for participants by local hosts):

11:15-11:30	EO and disaster management	O. Altan, 1stVP ISPRS , EKINOKS, TR
	Presentation with two videos. Starting with compelling evidence of climate change (global average temperature and sea level rise, northern hemisphere snow cover), hazard & vulnerability to CC, increased occurrence & victims of natural disasters, opportunities for EO & RS, http://www.un-spider.org portal.	
19:30-19:45	Black Sea research challenges	A. Kideys, IASON Board, IMS , TR
	About IMS/METU. Black Sea environmental challenges: habitat destruction, unsustainable fishing, eutrophication, invasive species, pollution, marine litter, global warming. Black Sea Environmental Programme. Legal and institutional framework (Convention/Black Sea Commission). Need for wider engagement.	







3.2.2 Black Sea Catchment Observations, Modelling, Management Workshop

The second day (31 October) was devoted to international Black Sea Day and was concerned with promoting integration of national and international initiatives in the Black Sea catchment observations, modelling and management. It was targeted to policy makers, researchers, and stakeholders from the region along with European and International experts that helped local stakeholders to be informed in the current European needs and trends in EO in the thematic nodes, such as the coastal monitoring and water and land resources management.

Workshop has been completed without major changes in the program. The first half of the workshop was facilitated by IASON and the second half by ILMM-BSE Project Coordinators. As the Workshop was held in celebration of the international Black Sea Day of October 31, after the official opening speech by the Rector of the Batumi Shota Rustaveli State University the participants were addressed by the Black Sea Commission Member of Georgia Mrs. Nino Tskhadadze, after delivering the official address of the BSC-PS Executive Director Prof. Dr. Halil Ibrahim Sur, Istanbul, Turkey.




DAY 2 - 31 October 2014 - INTERNATIONAL BLACK SEA DAY







09:30-11:00		Black Sea Day - Plenary Session	
		Opening addresses by the Rector of the Batumi State University; on behalf of the Black Sea Commission Permanent Secretariat Executive Director; and the Ministry of Environment and Natural Resources Protection of Georgia.	
		EO thematic pillars of IASON project	P. Patias, IASON Coordinator, GR
		IASON project: objectives, partners, countries, meetings, timeline, deliverables (planned, prepared), Med/BS stakeholders/activities PNF & its analysis, EO capacity building, global partner projects.	
		CBC ILMM-BSE project & research	S. Enilova, BG & F. Konukcu, TR
		ILMM-BSE project: objectives, partners & beneficiaries, countries, meetings, timeline, deliverables (planned, prepared), activities and target groups, joint research activities and preliminary results.	
		enviroGRIDS and BSC-OS	D. Gorgan, IASON, UTCN, RO
		'enviroGRIDS Black Sea Catchment Observation System portal' (BSC-OS): Specific objectives & motivation, uptaking its HPC applications, tools & platforms (gSWAT, BASHYT, GreenLand).	
		EO toolkit & business opportunities	M. Noort, IASON & EOPower , NL
		'EO toolkits & business opportunities': EO market size, marketing needs, EO costs/benefits step-by-step guidance, EO contribution into green economy, application examples, EO marketing tools.	
		Marine Climate Remote Sensing	N. Meskhidze, NCSU , US
		'Sea spray aerosol and climate assessments: model results and remotely sensed data': aerosols, radiative forcing uncertainty, sea spray organic emissions, effect on clouds/climate, RS vs. Model.	

11:00-11:30	Black Sea Day - Press Conference
11:00-11:30	Coffee break



11:30-14:00		Black Sea Day - Plenary Session (Continued)	
	CBC Black Sea REPAIR project	A. Margebadze, ABC Group , GE	
	'Regional cooperation for Black Sea river basins environmental protection from agricultural polluters' (REPAIR): project objectives, partners & countries, activities, river basins covered, action plans.		
	CBC HOT BLACK SEA project	M. Devidze, Partner FCE, GE	
	'Integrated hotspots management & saving the living Black Sea ecosystem' (HOT Black Sea): objectives, partners and countries, activities, hot spots map, Black Sea algal blooms & eutrophication.		
	MIS ETC 171 (Spatial) project	V. Vassilev, RESAC , BG	
	'Use of Copernicus & LPIS data in the elaboration of trans-border reference land cover datasets for the Danube Countries': BG-RO land cover data validation per INSPIRE, stakeholder feedback.		
	USAID INRMW project	M. Shotadze, GLOWS, GE	
	'Participatory cross-sectoral approach for integrated watershed management - INRMW-Georgia': objectives, watershed planning, community selection, priority actions & projects, ecoclubs, lessons.		
	Flood prevention project in Georgia	I. Tsiklauri, AF/UNDP, GE	
	'Developing climate resilient flood and flash flood management practices to protect vulnerable communities of Georgia': objective & components, flood model, early warning, progress with outputs.		
	EEA ENPI-SEIS in Georgia	T. Bakuradze, on behalf of NFP, GE	
	ENPI-SEIS project description, priority themes (water, waste, air & climate, biodiversity), environmental data identified in Georgia, web sources for core indicators, key agencies, statistical reporting.		
	Uptaking PEGASO project results	M. Gvilava, IASON, GeoGraphic, GE	
	'Uptaking FP7 PEGASO outputs: ICZM stock-taking survey tool': ICZM stock-take background, protocol, audit themes & questions, results mapping, LimeSurvey based data entry tool, live demo.		
	Workshop summary and closure	P. Patias, IASON Coordinator, GR	
14:00-15:00		Lunch and adjourn (IASON)	



DAY 2 - 31 October 2014 - INTERNATIONAL BLACK SEA DAY	
15:00-16:45	Black Sea Day - Plenary Session - ILMM-BSE Workshop
	Addresses by Civitas Georgica (G. Meskhidze, GE) and BRTA (S. Enilova, BG)
	Presentation of BRTA (ILMM-BSE Applicant) S. Enilova, BRTA, BG
	 'Burgas Regional Tourist Association, Bulgaria, presentation': about country of Bulgaria, its south-eastern part and city of Burgas, Black Sea coast, cultural & natural heritage of Thrace, BRTA activities and projects.
	Research case: land use model of Meriç-Ergene Basin F. Konukcu, NKU, TR
	 Comprehensive about Thrace Region, Tekirdağ, Namik Kemal University. Ergene river basin: basic characteristics, key environmental problems in the basin, work already done & to be done under the ILMM-BSE project.
	Research case: Ropotamo and Veleka River Basins H. Yemendzhiev, BSU, BG
	 About Burgas Asen Zlatarov University. Environmental setting of rivers Ropotamo & Veleka, review of available data, GIS development, estuary assessments (land use parameters, nutrient gradients, flood vulnerability).
	Research case: Modelling River Catchments of Guria M. Gvilava, Civitas, GE
	 Research progress to date, training series and grassroots actions, data & tools for modelling rivers of Guria Region, enviroGRIDS & PEGASO tools tested for ILMM-BSE case & way forward. EIA/SEA/PP in the BS region.
	Polish Flood Early Warning Project in Georgia T. Tsamalashvili, Civitas, GE
 'Anti-flood early warning and prevention systems in Georgia: special focus on Kabali and Duruji rivers': objectives, basin characteristics, hydro gauge installation, student training, LULC, Mike modelling, early warning system.	
16:45-17:00	Coffee break
17:00-18:00	Black Sea Day - Plenary Session - ILMM-BSE Workshop (Continued)
	ILMM-BSE WebGIS Demo Session R. Akgöz, InfoMab, TR
	 ILMM-BSE webpage & webGIS portal explained through screenshots and live demo, interactive layer controls and tools (such as CORINE land use change maps, charts, statistics), soil loss modelling, planned applications.
	Workshop summary and closure F. Konukcu, TR and S. Enilova, BG



3.3 Photos, Presentations, and Recordings

Workshop materials such as presentations of the event, relevant multimedia and training files are public and can be downloaded from the dedicated section of the ILMM-BSE webpage as well as from the IASON webpage Knowledge Base Repository.



Opening GEO/GEOSS training session



Facilitators from UNIGE



Venue and training audience



ILMM-BSE participants in action



UTCN capacity building team at work



Selfie at HPC hydrology modelling session



In memory of Professor Laurence Mee
(<http://www.sams.ac.uk/laurence-mee>)



Launching the Black Sea Day Workshop



Opening addresses



Opening session packed with audience



BSC PS ExDi & BSC Member addresses



IASON Coordinator



Workshop as reflected in venue mirrors



ILMM-BSE Project Coordinator



ILMM-BSE Joint Research Coordinator



Presenting enviroGRIDS HPC tools



EO marketing and business opportunities



Aerosols - yet another land-sea challenge



Black Sea Day Workshop in TV & Media



[Black Sea REPAIR](#)



[HOT Black Sea](#)



Concluding remarks by Civitas Georgia



... and its Joints Research Coordinator



Workshop group photo on international Black Sea Day of 31 October 2014

Figure 8 Workshop photos

4. CONCLUSIONS

ILMM-BSE Workshop-3 organized in Batumi, Georgia on 30-31 October 2014 was a success with an important participation of experts from 14 countries (with 5 Black Sea countries including Georgia, latter constituting 50% of participants). These were:

- ILMM-BSE partners and beneficiaries
- IASON partners
- EU & other regional projects concerned in catchment observations & management
- Authorities & scientists/experts from Georgia and other Black Sea region countries
- Public and NGO representatives

Important outcome of the meeting is the capacity building delivered and received by IASON, ILMM-BSE and other projects, establishment of person-to-person links and networking between institutions represented at the meeting. Particularly high level of satisfaction was expressed by participants regarding the advanced acquaintance with GEO/GEOSS knowledge; opportunities to exchange knowledge and experience on hydrological modelling tools, with particular satisfaction regarding the high power



computing resource access opportunities. European experts were satisfied as well with the better understanding of ongoing projects and initiatives in the Black Sea region. It also needs to be noted that direct personal contacts strongly support the knowledge sharing and experience distribution in the application of modern Earth Observations tools and instruments in support of environmental governance.

5. ACKNOWLEDGEMENTS

Organising these workshops in Georgia would not have been possible without close cooperation, delicate cost sharing and intense synergy between the two European projects ILMM-BSE and IASON. Support of the Coordinators and the Management of these two projects are therefore thankfully acknowledged. IASON project, through Geolmaging partner covered all venue related costs as well as meals for all the participants on 30th of October and in the first half of the 31st October workshop, while ILMM-BSE project through Civitas Georgica partner covered costs of venue on second half of the 31st of October, as well as the costs of receptions on 30th of October (ice-breaker) and 31st of October (Black Sea Day reception).

All ILMM-BSE and IASON partners as well as all invited other project representatives (for which latter are gratefully acknowledged!) covered their own travel and hotel costs. Civitas Georgica through ILMM-BSE budget generously supported participation (travel and hotel accommodation) for all Georgian stakeholders invited to Batumi to participate in the capacity building and plenary workshops (10 participants), as well as covered all the local logistics (including bus and minivan service costs).

Namik Kemal University (ILMM-BSE) and University of Novi Sad (IASON) Partners are sincerely thanked for administering webpage announcements.

Special thanks go to UNIGE, UTCN & GeoGraphic IASON partners of for providing content, material & facilitation for capacity building workshop on 30th of October.



ANNEX I - ADDRESS OF BSC PS



Distinguished colleagues and friends, dear participants of IASON and ILMM-BSE Black Sea Day Workshops,

In my capacity of Executive Director of the Black Sea Commission' Permanent Secretariat, let me thank you for joining the Black Sea celebrations in Georgia, in this wonderful city of Batumi! I do regret that I cannot join you today and wish you a successful meeting!

I would like to mention that the Black Sea Day is one of the most outstanding and important events of the Black Sea Commission recalling us the day then the first Strategic Action Plan for the Rehabilitation and Protection of the Black Sea was signed by all riparian countries of the Black Sea on the 31st of October back in 1996 in Istanbul. It continues to be our good tradition every year and let me extend the warmest congratulations to each and every one of us, to every person dealing with the preservation of the Black Sea, our precious common heritage.

By means of having such events in different coastal regions of the Black Sea we try to attract the attention of scientists, politicians, decision-makers and just a wider public to our day-by-day activities related to the protection of the Black Sea. I hope your meeting will bring us to some new solutions and help to better coordinate our efforts in the future.

I would like to thank my Georgian colleagues for organizing this event and mark their continuous dedication and efforts to improve the environment of the Black Sea and support of our activities.

Thank you very much for your kind attention and once again, heartily congratulations to all of us!

Prof. Dr. Halil Ibrahim Sur, Executive Director

The Black Sea Commission Permanent Secretariat



ANNEX II - ADDRESS OF BSC MEMBER FROM GEORGIA



**Ladies and Gentlemen,
distinguished guests,**

Welcome to Batumi and 18th celebration of international Black Sea Day. Cooperation which started between Black Sea countries by signing the Bucharest Convention and Odessa Declaration deepened on 31st of October 1996, when first Black Sea Strategic Action Plan was endorsed. International Black Sea Day commemorates this date.

All six coastal states celebrate this day to raise public awareness for the protection of Black Sea environment and ongoing cooperation. We are indeed pleased and humbled to be greeted by the Black Sea Commission Permanent Secretariat Executive Director on this memorable event here in Batumi.

The Convention on the Protection of the Black Sea Against Pollution is the first International Environmental Agreement which Georgia signed as an independent country. Therefore the Convention and its following policy documents like the Black Sea Strategic Action Plan remain very important for Georgia. Several environmental specialists and other stakeholders gained first experience in negotiations of international agreements. We would like to underline in this regard the important role of the international community, GEF, UN organizations, EU and other key supporters in the development of this process. Many thanks to them.

Because of the economic and political crisis of that time, Georgia was unable to implement provisions of the Convention. From that time, Georgia attempts to develop stronger legal frameworks. As part of the environmental policy reform process, the legal framework on the environment and some other Black Sea relevant laws have been developed or updated. Black Sea issues were included in a separate chapter of the new National Environmental Action Plan. This chapter is based on priorities and findings of the Regional BS SAP.

The beautiful city of Batumi is an example of the outputs of this regional policy on environmental protection of the resources of the Black Sea. Quite recently, in 2012,



a new system of sewage and water supply was completed in this city. Certainly the Government of Georgia is committed in recognizing environmental protection as one of the top priorities and is thriving to achieve much more for the protection of the Black Sea and its coastal zones.

This year, the international Black Sea Day celebration here in Georgia is organized in collaboration and in synergy with two European projects with quite different sources of funding - IASON - a so called 'uptake' type project supported by the European research 7th Framework Program (FP7) - that is aiming at building capacity on Earth Observation in the Black Sea and Mediterranean basins and catchments. IASON present its main results in relationship with international agreements on data sharing such as GEO/GEOSS at a global level, and INSPIRE at the European level. Some of the 'uptake' projects IASON is trying to peruse in the Black Sea regional are FP7 enviroGRIDS and PEGASO. Until 2014 among the six Black Sea countries, only Georgia and Bulgaria still were not members of Group on Earth Observations - GEO. It is indeed great pleasure to report, that thanks to efforts of enviroGRIDS and its continuation momentum under IASON Georgia accomplish these tasks and joined GEO as 90th of its member. It is also noteworthy that at least two countries in the Black Sea and Caucasus Region were indeed encouraged to take this step and at forthcoming GEO Plenary Armenia and Bulgaria are expected to be welcomed as member of this global network.

Another European project sponsoring this collaborative celebration of the Black Sea Day in Georgia is ILMM-BSE - and initiative to apply reach toolsets of land use modelling in the catchments draining to estuaries and marine waters of the Black Sea. It is also noteworthy that Cross-Border Cooperation Program for the Black Sea is administered by Romania - the European country adjoining the Black Sea. It is not surprising to expect that this project will try to deliver more at the regional and the local grassroots level.

These Projects are indeed relevant instruments for strengthening the application and implementation of European instruments such as the Water Framework Directive, while helping the dissemination of good environmental and policy practice



eastward. This is particularly important for Georgian environmental governance agenda in the context of the Association Agreements, established with the 28 Countries of the European Union.

A key lesson that we learned from our Regional and European cooperation for the protection of the Black Sea is that the network is stronger than its individual parts. Cooperation between countries, sharing the problems and best practices for their solving is a way how coastal states should act. We have difficult problems to face, and we will get through them if we face them together. Thank you.

Nino Tskhadadze

The Black Sea Commission Member from Georgia

Ministry of Environment and Natural Resources Protection of Georgia



ANNEX III - PARTICIPANT LIST

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63	Khalvashi	Meri	Georgia	National Environmental Agency, Black Sea Monitoring Centre, Batumi			0	1
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TOTAL							52	60