

# Integrated Drought Management in Central and Eastern Europe 4<sup>th</sup> Quarterly report (October – December 2014)

Short summary of the main programme activities

#### 1) National events

In November and December all Country Water Partnerships (CWPs) organized their 2<sup>nd</sup> National Consultation Dialogues. All together 260 representatives from different ministries, research institutes, universities, NGOs, companies, farmers associations, etc. participated on 10 NCDs. In addition, <u>National Drought Dialogue</u> was held in Kosovo on 12 November 2014.

All other information about these events <u>here</u>.

#### 2) Regional events

In October we organized our 3<sup>rd</sup> IDMP CEE workshop and together with the Drought Management Centre for Southeastern Europe (DMCSEE) training "From monitoring to end users". *More about both events <u>here</u>.* 

## 3) International events

IDMP CEE was presented on several international events and conferences. *Read more <u>here</u>.* 

## 4) Demonstration projects

Partners within the demonstration projects are working on their final outputs. Some of them are already available publicly on our <u>web page</u>, others (half-finished) on <u>"for partners" web page</u>:

- 2<sup>nd</sup> year of testing how to increasing soil water holding capacity has finished <u>activity 5.1</u>
- on the basis of previous work, preparation of the recommendations for forest adaptation measures and mitigation actions has started <u>activity 5.2</u>
- Guidelines on Small Water Retention measures are almost finished <u>activity 5.3</u>
- Workshops and other awareness rising activities have been organized to communicate the importance of effective drought management, to get familiar with EU practices and to identify ways to reduce the negative effects of drought for the agro-sector in Moldova and Ukraine <u>activity 5.6</u>

#### 5) Drought data exchange platform

Data for identifying or forecasting drought (about 18 products) from 8 countries have been added to the European Drought Observatory. Read more <u>here</u>.

#### 6) Communication activities

Regularly updated web page with latest news; two new videos available online, new poster, and more - here

Check the latest news on our web page: http://www.gwp.org/en/GWP-CEE/IDMPCEE/News-and-events/

*Here you can access all Activity Lists, milestone reports, past BTORs and other internal documents:* **IDMP CEE for partners.** 



## Detailed description of the programme activities

Work package 1	Regional and Transboundary Cooperation
Activity	Act. 1.1: Cooperation with international basin commissions and regional
	organizations
Responsible	RWP Coordinator, IDMP CEE Programme Manager
demonstration project	<u>small water retention (act. 5.3)</u> , Tomasz Okruszko presented the results of the at <u>European River Restoration Conference</u> (ERRC) 2014 in Vienna on 27 October. esented experiences from the first round of national consultation dialogues during GWP
CEE session on public par	rticipation on 29 October. Photos from the conference are available on <u>GWP CEE's Flickr</u> about the GWP CEE session.
4 November 2014. Event note introductions were	r attended <u>3rd Pan-EU Drought Dialogue Forum</u> which was held in Brussels, Belgium on t was organized as part of the <u>DROUGHT-R&amp;SPI project</u> . After the opening, several key- given on: drought on the EU Research & Innovation Agenda, Water Scarcity and Drought Europe, and the challenge of integrating drought and water scarcity in the WFD pout this event in <u>BTOR</u> .
European conference on Romania from 12-15 No roundtables dealing with water-related Directives. measures to cope with alterations, adaptation to more involved in the imp	EE partner (act. 5.3) and Programme Manager attended <u>EUROPE-INBO 2014</u> - 12 <sup>th</sup> the implementation of the Water Framework Directive which was held in Bucharest, wember, 2014. The conference was organized around a preparatory workshop and 4 in the updated issues of the field implementation of the EU-WFD and other European. They put a special focus on the means for better integration of the processes, new the main challenges that are non-point sources of pollution, hydro-morphological o climate change, prevention of droughts and floods, the need to get the stakeholders olementation of these measures in the field. You can read more on their web page or in is conference, <u>video on Small Water retention measures</u> was <u>officially released</u> .
participated on <u>6th Leor</u> <u>Runoff Droughts</u> which t	" <u>Remote sensing agricultural drought monitoring methods</u> " demonstration project hardo Conference 2014 - HYPER Droughts: Hydrological - Precipitation - Evaporation - cook place on 13–14 November 2014 in Prague, Czech Republic. They prepared a <u>poster</u> the IDMP CEE demo project were presented.
	esented IDMP CEE during Inaugural Session of the GWP Steering Committee on 24 pest, Hungary. The Inaugural Session was organized by GWP Hungary in cooperation
Activity	Act. 1.2: Review of the current status of the implementation of DM plans and measures within RBMP according to EU WFD
	Elena Fatulova
Activity Leader	GWP Slovakia
	<u>elena.fatulova@gmail.com</u>
Partners	All 10 countries
	atus of the implementation of DM plans and measures within RBMP according to EU
	zed by the end of March 2014. The report summarizes the assessment of the drought
	on and identifies the gaps in the national drought management strategies in comparison t is <u>published on GWP CEE website</u> .
Activity	Act. 1.3: Drought data exchange Platform
Activity Leader	Gregor Gregorič Slovenian Environmental Agency /DMCSEE

**Partners** 



#### Gregor.Gregoric@gov.si

All 10 countries

Partners were collecting existing national data (SPI and any other indicators that are used in partner's countries for identifying or forecasting drought) and make them available through <u>Drought Metadata Catalogue</u>, which is a part of the <u>JRS's European Drought Observatory</u> (EDO). Already existing platform which was selected at the beginning of the programme as the most appropriate one for exchanging data collected within IDMP CEE. Training on activity 1.3 was given on the 2nd IDMP CEE workshop in Ljubljana (8-9 April 2014) and partners have received <u>Implementation guide</u> with detailed description how to prepare metadata for Drought Metadata Catalogue. By the end of December, with the help of Activity Leader, data about 18 products from 8 countries have been added to EDO.

The second output - Implementation Report, will be ready at the beginning of January 2015. Its main aim is to give a short description of selected data exchange platform and report which data have been added to the platform from contributing partners.

IDMP CEE is also listed as one of the "drought projects" on EDO web page.

Activity	Act. 1.4: Development of GIS Based Communication Technology Platform for the Sustainable Management of Transboundary Water Resources in Lithuania, Poland and Kaliningrad Region (Russia)
Activity Leader	<b>Bernardas Paukstys</b> GWP Lithuania bernardas@iti.lt
Partners	GWP Poland Kaliningrad district Central Research Institute for Complex Use of Water Resources, Belarus

The final workshop of GIS experts was held on 5 November 2014 in Ryn, Poland. 17 water managers and GIS experts attended the workshop: 9 from Lithuania, 2 from Belarus, 2 from Kaliningrad and 4 from Poland. GIS experts presented and discussed information sources that were used for compilation of national GIS maps and their reliability. You can read more about this event <u>here</u>. The meeting was organized back-to-back with the joint workshop of Stockholm International Water Institute (SIWI), GWP-Lithuania and GWP-Poland on "Project Development and Design Workshop - Indicative River Basin Management Plan, Program of measures and Investments for the South East Baltic Sea Region – Neman/Pregolya Basin Micro-Region".

Joint GIS maps for the transboundary Nemunas (Neman) and Pregolya river basins have been compiled, common databases created and visualization of hydrological and human pressure information (video) provided. Neman and Pregolya river basins are shared by Belarus, Lithuania, Kaliningrad Oblast (Russia) and Poland. One of the important outcomes of the project was also stronger professional cooperative links between the water management and GIS experts of neighbouring countries Belarus, Lithuania, Kaliningrad and Poland.

See Interactive map and database & explanation how to use interactive map.

Work package 2	National planning processes
Activity	Act. 2.1: Guidelines for Drought Management Plan (WP2)
Activity Leader	Elena Fatulova
	GWP Slovakia
	elena.fatulova@gmail.com
Partners	All 10 countries
The first draft of the G	iuidelines for preparation of the Drought Management Plans was prepared. Together with

the template for providing national experiences into the Guidelines and instructions for the 2<sup>nd</sup> National



**Consultation Dialogues** was sent to all CWPs in mid-September. After that all CWPs were sending comments on the Guidelines to Activity leader. The final version from the activity leader will be prepared by mid-February 2015.

On "for-partners" site you can find:

- <u>Slovak Case Study</u>
- <u>Draft Guidelines</u>
- List of definitions

Activity	Act. 2.2: National Consultation dialogues (WP2)
Activity Leader	Elena Fatulova
	GWP Slovakia
	<u>elena.fatulova@gmail.com</u>
Partners	All 10 Country Water Partnerships
2 <sup>nd</sup> National Consultat	tion Dialogues (NCDs) took place:

- 12 June, Czech Republic
- 16 October, Hungary
- 20 November, Lithuania
- 20 November, Romania
- 26 November, Bulgaria
- 3 December, Slovenia
- 8 December, Poland
- 12 December, Ukraine
- 12 December, Moldova

(Due to problems in GWP Slovakia they didn't organized their  $2^{nd}$  NCD).

The main objective of the 2<sup>nd</sup> NCDs was contribution to the completion of the draft of the Guidelines by elaboration of the written comments, proposals for adjustment, corrections, amendments of the draft version and with providing national experiences related to the key elements of the Drought Management Plan:

- examples of the national methodologies for assessment of historical drought;
- examples of the national drought indicator systems;
- examples of the national drought classification and early warning systems;
- examples of national organizational structures to deal with drought;
- examples of national program of measures for preventing and mitigating drought;
- examples of the national research programme supporting drought management.

Some of the examples will be included into the Guidelines as "case studies".

All reports can be found on our web page, under <u>National planning</u>, also there is a <u>Summary report</u> from the 1<sup>st</sup> cycle of NCDs.

One of the conclusions after the 2nd NCD in Lithuania was also a preparation of the chapter in the River Basin Management Plan of Lithuania with the name *"Impact of droughts for water resources of Lithuania"* which also includes some of the findings from other IDMP CEE activities (5.4, 5.2, etc.).

For 2<sup>nd</sup> NCD in Slovenian a special <u>brochure in Slovenian language</u> was prepared with the purpose to inform all participants about the current status of the drought management in Slovenia – what they have, what is missing, which part of the management needs improvements.

GWP CEE together with GWP Mediterranean organized **National Drought Dialogue in Kosovo** based on an invitation from the Office of the Prime Minister of the Republic of Kosovo. The event took place on 12 November in Pristina. The main objective was to discuss the current status of the drought management in Kosovo and to



identify the challenges. The discussion was also focusing on how IDMP CEE outcomes could help or contribute to the development of the drought management plan in Kosovo. The dialogue involved around 35 participants, key actors dealing with drought issues at all levels. You can read more about this event on our <u>webpage</u> or in a <u>report</u>.

Work package 5	Demonstration Projects
Activity	Act. 5.1: Drought management by agricultural practices and measures-increasing soil
	water holding capacity
Activity Leader	Pavol Bielek
	Slovak University of Agriculture
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Partners	Research Institute for Soil and Water Conservation (Czech Republic)
	Institute of Agricultural and Forest Environment, Polish Academy of Sciences (Poland)
	Biotechnical Faculty (Slovenia)

Partners within this demonstration project are testing several approaches to agricultural practices which can improve the conditions for soil water holding capacity (traditional tillage, mouldboard ploughing, no-till farming, subsoiling, fertilizing (organic fertilizers) and combinations of them). Partners joined their findings after the second experimental year into a joint report (Milestone 3). It will available online in January 2015.

By the end of the programme (March 2015) they will incorporate their field experiences from both years (2013 and 2014) into the final report – *practical recommendations for farmers and decision makers on preventive measures as tools for drought management in agricultural practices and technologies*:

- study on the soil water regime;
- theoretical and practical study on water holding capacity increased by farming innovation systems, mainly by subsoiling, no tillage farming, mulching, composting tillage, organic fertilizers use and other measures;
- new agricultural policy proposals as a support for farmers to use recommended farming systems (increase of the soil water holding capacity and improvements in water regime);
- practical manual how to implement measures and farming systems; including recommendations for appropriate support systems for farmers, establishment of control mechanisms, systems of evaluations and other principles as parts of national agricultural policies.

On "for-partners" site you can find:

- <u>Milestone 1</u>: Set up of the experiments; start of the theoretical study
- <u>Milestone 2</u>: Theoretical review of problems and first results of experiments

Activity	Act. 5.2: Assessment of drought impact on forests
Activity Leader	Galia Bardarska
	GWP Bulgaria
	bardarska@dir.bg
Partners	Vilnius university; Dept. of Hydrology & Climatology (Lithuania)
	Institute of Forestry; Research Centre for Agriculture and Forestry (Lithuania)
	Slovenian Forestry Institute, Department for forest ecology (Slovenia)
National Scientific Centre for Global Changes (Bulgaria) Forest Research Institute (Bulgaria)	National Scientific Centre for Global Changes (Bulgaria)
	Forest Research Institute (Bulgaria)
	Ukrainian Research Institute of Forest and Forest Melioration (Ukraine)

Partners finalized their 2<sup>nd</sup> Output "Determination of vulnerability forest zones in contemporary climate (1960-1991), 2050 (realistic scenario) and 2070 (optimistic, realistic and pessimistic scenarios)". It was a combination of the two tasks they did in the last quarter:

• elaboration of the maps for current climate (1950-2000) and future (2050 and 2070) climate conditions



- in Bulgaria, Lithuania, Slovenia and pilot area in Ukraine;
- determination of vulnerability zones of forests for future climate conditions on the base of De Martonne index.

This output is important background for the final output of 5.2 demonstration project - *Comparative analysis of climate change impact on forests between 4 GWP CEE and establishment of recommendations for forest adaptation measures and mitigation actions.* Partners are working on this output now so it will be available online in February 2015. Remedial measures for the forests to mitigate negative effects of the drought are oriented to decision makers, politicians and stakeholders.

On "for-partners" site you can find:

- <u>Milestone 1</u>: Kick-off meeting and Forest policy
- <u>Milestone 2</u>: Output 1 Establishment of methodology for assessment of drought impact on forest ecosystems in 2050 and 2070

Activity	Act. 5.3: Natural small water retention measures
Activity Leader	Tomasz Okruszko
	Warsaw University of Life Sciences (Poland)
	t.okruszko@levis.sggw.pl
Partners	University of Debrecen (Hungary)
	HYCOMP (Slovakia)
	Limnos Ltd (Slovenia)

During this period partners have made a significant progress in drafting the Guidelines on natural small water retention measures.

Content of the Guidelines will be structured as:

- 1. Technical and non-technical measures to increase the water retention
  - What is natural small water retention? Definitions
  - The retention on agricultural areas
  - Landscape retention
  - Technical retention
- 2. How to choose the catchment for the retention measures?
  - General remarks
  - The methodology of catchment selection

3. How can we evaluate the results in the terms of flood protection, drought mitigation and biodiversity increase?

- Evaluation of natural small water retention measures
- Analytical methods

4. How can we incorporate the natural water retention measures in the RBMP, FPMP and DMP?

5. Experiences and critical analysis from implemented projects in Poland, Slovakia, Hungary, Slovenia including best examples on combined effects and involvement of stakeholders

6. Conclusions – what is the best action plan?

In Q3 partners were collecting best practices on technical and non-technical small retention from all four involved countries. You can find all of them <u>here</u>. They are asking all other IDMP CEE partners to contribute with cases from their countries as well to enrich the Guidelines with the experiences from elsewhere.

In November a <u>video on Small retention</u> was released. The purpose of the video is to explain what Small Retention is, why it is important and show some of the demonstration projects - water reservoirs, ponds, etc.



Activity	Act. 5.4: Drought Risk Management Scheme: a decision support system
Activity Leader	Tamara Tokarczyk
	Institute of Meteorology and Water Management, National Research Institute (Poland)
	<u>tamara.tokarczyk@imgw.pl</u>
Partners	Institute of Technology and Life Sciences (Poland)
	Vilnius University, Department of Hydrology and Climatology (Lithuania)
	National Meteorological Administration (Romania)

Partners finalized their second Output - **Methods for drought hazards and risk management**. The work was concentrated on building methodology for the drought hazard and risk mapping with the use of GIS techniques that will constitute the key tool for drought management. Both reports (Output 2) are available on our web page:

- Developing <u>methodology for drought hazard mapping</u> with the use of measures for drought susceptibility assessment
- Framing <u>methodology for vulnerability to drought assessment</u> based on available GIS information including population map, type of economic

Output 2 provides an inventory of the methods concerning drought risk management that were developed and used in the partners (PL, LIT, ROM) countries. The inventory will serve as the repository for the potential applications in the operational decision support system for the Odra River (Output 3).

On "for-partners" site you can find:

- Milestone1: Output 1 (<u>Report 1.1</u> & <u>Report 1.2</u>,) Measures for the assessment of susceptibility and vulnerability to drought
- Milestone 2: Output 2 (<u>Report 2.1</u> & <u>Report 2.2.</u>) Methods for the drought hazard and risk management (also available on public web page)
- Part of the Output 3 (<u>Report 3.1</u>) Framework for Drought Risk Management Scheme

Activity	Act. 5.5: Policy oriented study on remote sensing agricultural drought monitoring methods
Activity Leader	János Tamás
	University of Debrecen (Hungary)
	<u>tamas@agr.unideb.hu</u>
Partners	Institute of Hydrology of the Slovak Academy of Sciences (Slovakia)
	University of Oradea (Romania)

Partners already finalized two out of the three outputs planned:

- <u>Green and brown water resources on watersheds</u> (Output 1 needed to gather information on water utilization)
- Identification of remote sensing and GIS data tools for agriculture drought monitoring and forecast (Output 2 a toolbox with concrete identification of remote sensing and GIS data tools for agricultural drought monitoring and forecast

They are working now on their third Output which will combine data from Output 1 and 2 in order to develop drought indicators and integrate them into a drought monitoring system. In the next phase this integrated agricultural drought management system will be tested in the case of different scenarios. Testing will focus on the impact of the spatial and temporal, yield loss based drought mapping, on the economic relations and indicators of drought, eventually on decision making.



Activity	Act. 5.6 Upgrading agricultural drought monitoring and forecasting: the case of Ukraine and Moldova
Activity Leader	Tatiana Adamenko
	HydroMet Centre of Ukraine (Ukraine)
	adamenko@meteo.gov.ua
	Ecaterina Kuharuk
	Soil Research Institute (Moldova)
	<u>ecostrategii@yahoo.com</u>
Partners	State Agency of Water Resources (Ukraine)
	GWP Ukraine
	GWP Moldova

GWP Ukraine together with the Poltava State Agrarian Academy organized a seminar "Drought Management — Practical Aspects for Farm Enterprisers" which was held on 10 October in Poltava, Ukraine. The main objectives of the workshop were to discuss the approaches and tools of drought management in Ukraine and to get familiar with EU practice; to consider the characteristics and priorities for drought management in Ukraine as well as identify ways to reduce the negative effects of drought for the agro-sector. You can read more about this event <u>here</u>.

Moldavian partners also organized several **consultations for farmers** already in July 2014 with the purpose to inform them about the IDMP CEE, to identify their expectation from the programme and to present them the main moisture conservation practices existed in Moldova. Photos on <u>Flickr</u> and report <u>here</u>.

Workshops are part of their awareness rising activities mainly focusing on farmers and policy level.

Based on the work done by now, Ukrainian partners published <u>publication for farmers on agroclimatic</u> <u>zoning</u>. In February 2015 Moldavian partners will published the guide on best practices on soil conservation in Moldova.

In Q4 they have started working on their main outputs:

- Upgrading of forecasting models for identification of crop yield losses caused by droughts in Ukraine
- Development of proposals for the precipitation harvesting and practices for moisture conservation in agricultural lands in Moldova

Both outputs will be finished by mid-January 2015.

On "for-partners" web page you can find:

- <u>Milestone 1</u>: Data Collection and Analysis. Identification of the Climate Change trends (evidences) based on observation data (136 stations of UKR Hydromet and 7 stations in Moldova HydroMet network)
- <u>Milestone 2</u>: Analyses of the trends on water holding capacities of soils under climate change based on long term (1961- 2010 period) observation at meteorological stations of Ukraine and Moldova
- <u>Milestone 3:</u> Output 1 & 2 Review climate-zoning and mapping of drought risk areas in Ukraine and Dniester river basin & Collection/Analyses /Comparing the soviet and EU drought indexes

#### *Work Package 6* Capacity Development

Activity Act. 6.1 Workshops

**3rd IDMP CEE workshop** took place on 2<sup>nd</sup> and 4th October in Budapest, Hungary.

The workshop was opened on 2nd October in an extended group together with the participants from the <u>Drought Management Centre for Southeastern Europe</u> and participants from international organizations - WMO, UNCCD, JRC, etc. – altogether more than 60 participants, from 17 countries of the Central-Eastern and South-Eastern Europe. Brief presentations of the main activities and their current focus from both organizations at the beginning of the session gave the participants a quick overview of the drought management status in the Central and South Eastern Europe. Afternoon session was then continued separately.



IDMP CEE workshop started with a brief overview what has been done in the last 6 months and what are the plans for the last period (October 2014 – March 2015). The focus was first on all 6 demonstration projects. During the presentations and discussion participants tried to find links between the activities and where in the overall context do their outputs belong - which of the seven steps described in the Guidelines they address and in which part of the drought management they belong (monitoring, early-warning, forecasting / prediction, impacts, incl. threshold, vulnerability, measures, management, risk management).

On 4<sup>th</sup> October we continued with the regional activities with special focus on the Guidelines and the 2<sup>nd</sup> cycle of the National Consultation Dialogues.

Meeting minutes Agenda Presentations Photos 2<sup>nd</sup> PRG meeting (report) Attendance list

Final (fourth) workshop is planned to be held from 21-22 April 2015 in Bucharest, Romania.

Activity Act. 6.2 Capacity building trainings

On 3rd October both groups worked together in a **joint capacity building training** *"From monitoring to end users"* focusing on the following topics: drought monitoring and platforms, new ways of drought detection by remote sensing and drought management from national, regional and global perspectives with emphasize on good practices (United Kingdom, Romania and Greece).

**Presentations** 

Attendance list

<u>Agenda</u>

Activity

Act. 6.3 Peer Review Group (PRG)

Since the beginning of the Programme (March 2013) Peer Review Group evaluated everything what was prepared within all IDMP CEE activities and summarized their assessment in two Progress reports:

- <u>1<sup>st</sup> PRG Progress Report</u> (2013 March 2014)
- <u>2<sup>nd</sup> Progress Report</u> (April September 2014)

From April on all activity leaders are using a special template (*Milestone progress report*) which is prepared and submitted with all their milestone products, outputs, etc. The main point of these templates is to have a quick insight into the activity, what was done from previous report, what are the plans, what are connections with other activities, etc. All Milestone Progress Reports which was submitted from April 2014 on can be found <u>here</u>.

Work Package 7	Knowledge and awareness
Activity	Act. 7.1: Good practice Compendium
After an analyse of the	e existing Drought Management Plans across Europe (and other policy and management
documents) was prepa	ared activity leader made a review of the outputs which will be prepared within IDMP CEE

documents) was prepared activity leader made a review of the outputs which will be prepared within IDMP CEE and where to include them in the final version of the Compendium. Final content will be prepared in March 2014.

Activity Act. 7.2: Rising awareness (dissemination activities)

Both videos which were prepared within IDMP CEE were released in November:

<u>Video on Integrated Drought Management Programme</u> and

<u>Video on Small water retention measures</u>

A special <u>poster</u> with basic information about the programme and the main points of the Guidelines was prepared with the purpose to be presented at the 2nd national consultation dialogues. The poster was translated



also into Hungarian, Bulgarian, Romanian and Slovenian language. Publications and other collateral material for National Consultation Dialogues, ERRC 2014, Steering Committee and other meetings was shipped / brought from GWPO / GWP CEE upon request.

Work Package 8	Governance and Fundraising
Activity	Act. 8.1: Improving fundraising capacity of CWP and RWP

In October 2014, GWP CEE hired an external consultant who in cooperation with the Regional Coordinator, IDMP CEE Programme Manager and some IDMP CEE partners is preparing a follow-up proposal for IDMP CEE. More information in the next Quarterly progress report.

Secretariat Meeting with the Programme Manager was held in Bratislava on 15-16 December 2014.

## IDMP CEE budget 2014:

Total budget	Q1	Q2	Q3	Q4	Unspent budget
433.283	22.276	84.581	90.661	233.793	1.972
100%	5%	20%	21%	54%	1%

#### **Upcoming events**

- Final Conference DROUGHT-R&SPI in Valencia, Spain, 10-13 March 2015
- Secretariat Meeting in Bratislava, March 2015
- <u>World Water Forum</u> in Republic of Korea, 12-17 April 2015
- Final IDMP CEE Workshop in Bucharest, Romania, 21-22 April 2015