

Report from the 2nd GIS meeting in Ryn, Poland (act. 1.4)

1. General Data

Country:	Poland
Organizer:	GWP Lithuania & GWP Poland
Date & Place:	5 November 2014, Ryn castle

2. Agenda

Objective of the workshop:

The main objective of the meeting was to discuss draft GIS maps for the Nemunas (Neman) and Pregolya river basins prepared by the GIS experts from Belarus, Lithuania, Kaliningrad Oblast (Russia) and Poland, information sources used for map compilation and their confidence level.

Agenda

Annex 1 in the attachment

3. Report (max 2000 characters)

On 5th November, 2014 the 2nd workshop on “GIS mapping of water bodies in Lithuania, Poland, Belarus and Kaliningrad Oblast (Russia) for the management of transboundary Neman and Pregolya river basins” organized by GWP-Poland and GWP-Lithuania was held in Ryn, Poland. 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”.

The main goal of the GIS meeting was to discuss draft GIS maps on hydrology and human pressures for the Nemunas (Neman) and Pregolya compiled by GIS experts from Belarus, Lithuania, Kaliningrad Oblast (Russia) and Poland. Another important issue was to present and discuss information sources, their confidence level and other technical details of GIS mapping. Presentations on development of common databases and visualization of hydrological and human pressure information was also included into the agenda (see Annex 1).

17 water management and GIS experts attended the workshop: 9 from Lithuania, 2 from Belarus, 2 from Kaliningrad and 4 from Poland.

Criteria for classification of chemical and ecological status of water bodies, delineation and classification of groundwater bodies and mathematical modelling for the assessment of quantitative, chemical status and interaction between surface waters and groundwaters were presented and discussed.

GIS experts from the participating countries presented and discussed information sources that were used for compilation of national GIS layers and data reliability. It was mentioned that only official (Lithuania, Poland) and open information sources were used (Belarus, Kaliningrad Oblast).

Draft interactive map, video movie on visualization of GIS information and GeoClip database were also presented and discussed. Interactive maps are user friendly sources of project information and the possibility of using them online should be found.

4. Conclusions

Outcomes of the workshop:

Working procedure:

It was agreed by the participants that the deadline for sending corrected final GIS information to Edvinas Stonevicius, GWP-Lithuania is 1st December. Edvinas will compile and submit final maps until 20 December 2014. Final GIS maps will be supplemented by the explanatory note which will facilitate understanding of GIS map content.

Next steps:

Joint GIS maps will be included into river basin management plans for 2015-2021 in Poland and Lithuania.

5. Attachments

- Annex 1: Programme of the meeting
- Annex 2: List of participants
- Annex 3. Information sources used for GIS map compilation
- Annex 4: Draft GIS maps
- Annex 5: Draft interactive map
- Annex 6: Photos

ANNEX 1. PROGRAMME OF THE MEETING

2014-11-05 Technical Workshop: “GIS mapping of water bodies in Lithuania, Poland, Belarus and Kaliningrad Oblast (Russia) for the management of transboundary Neman and Pregolya river basins

09:00-09:15 Registration

09:15-09:30 Opening/Welcome - Marek Gielczewski, Global Water Partnership –Poland/Warsaw University of Life Sciences, WULS.

Introduction of workshop participants

09:30-09:45 Presentation of agenda and objectives of the workshop - Bernardas Paukstys, Global Water Partnership -Lithuania.

09:45-10:05 2nd cycle of river basin management planning. Criteria for classification of chemical and ecological status of water bodies - Audrone Pumputyte, Environmental Protection Agency, Lithuania.

10:05-10:25 Delineation and classification of groundwater bodies in Lithuania – Jurga Arustiene, Geological Survey of Lithuania

10:25-10:45 Mathematical modelling for assessment of quantitative and chemical status of groundwater bodies. Surface water - groundwater interaction – Marius Gregorauskas, Vilnius University

10:45-11:00 Discussion on delineation and classification of water bodies

11:00-11:30 Coffee break

11:30-11:50 GIS maps for the Neman and Pregola River Basin Management in Poland: classification criteria, information sources and confidence level – Katarzyna Tarnowska, Regional Water Management Authority in Warsaw, Poland

11:50-12:10 GIS maps for the Neman River Basin in Belarus: information sources and confidence level – Aliaksandr Pakhomau, Central Research Institute for Complex Use of Water Resources, Belarus

12:10-12:30 GIS maps for the Neman and Pregolya River Basins in Kaliningrad oblast: information sources and confidence level – Dmitry Domnin, Baltic Institute for Ecology of Hydrosphere, Kaliningrad

12:30-12:50 Challenges and results of compilation of joint GIS maps – Edvinas Stonevičius, GWP-Lithuania/Vilnius University

12:50-14:00 Lunch

14:00-14:30 Interactive map of Neman and Pregola river basins – Ignacy Kardel, GWP-Poland/Warsaw University of Life Sciences, WULS

14:30-15:00 Visualization of hydrology and human pressures - Bernardas Paukstys, GWP- Lithuania

15:00-15:15 Project database (“GeoClipSolo” system or other) – Aliaksandr Pakhomau, CRICUWR, Belarus

15:15-15:45 Questions & Discussion

15:45-16:15 Coffee break

16:15-17:00 Next steps and closure

18:30 Dinner

ANNEX 2. LIST OF PARTICIPANTS

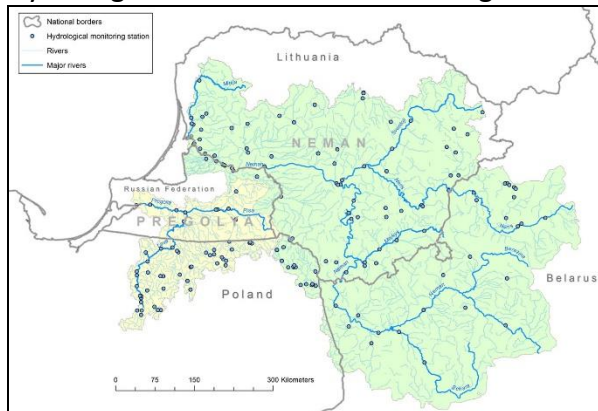
No	Name, surname	Organization
1.	Audronė Pumputytė	Environmental Protection Agency, Lithuania
2.	Audrius Šepikas	Environmental Policy Center, Lithuania
3.	Edvinas Stonevičius	Department of Hydrology and Climatology, Vilnius University/ GWP-Lithuania
4.	Bernardas Paukštys	GWP-Lithuania
5.	Jūratė Kriaučiūnienė	Institute of Energy
6.	Diana Šarauskienė	Institute of Energy
7.	Jurga Arustienė	Geological Survey
8.	Virgilija Gregorauskienė	Geological Survey
9.	Marius Gregorauskas	Vilnius University
10.	Aliaksandr Pakhomau	Central Research Institute for Complex Use of Water Resources, Belarus
11.	Olga Vasniova	State Scientific and Research Centre for Geology, Belarus
12.	Dmitry Domnin	Atlantic Branch of P.P.Shirshov Institute of Oceanology of Russian Academy of Sciences, Kaliningrad
13.	Ivan Kesoretskikh	Atlantic Branch of P.P.Shirshov Institute of Oceanology of Russian Academy of Sciences, Kaliningrad
14.	Katarzyna Tarnowska	Regional Water Management Authority in Warsaw, Poland
15.	Magdalena Augustyniak	GWP-Poland and Warsaw University of Life Sciences
16.	Marek Gielczewski	GWP-Poland and Warsaw University of Life Sciences
17.	Ingacy Kardel	GWP-Poland and Warsaw University of Life Sciences

ANNEX 3. INFORMATION SOURCES USED FOR GIS MAP COMPILATION

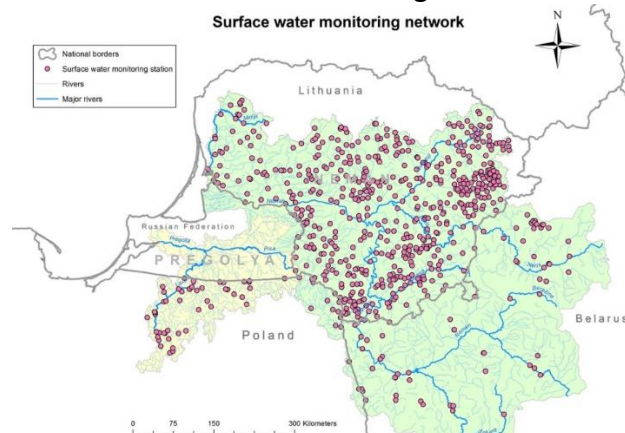
Country	Information sources
Lithuania	<p>Hydrological network, surface and groundwater monitoring stations: Nemunas River Basin District Management Plan 2009, based on official national surface water monitoring data from the EPA, groundwater monitoring data from Geological Survey;</p> <p>Human pressures: official data from the Department of Statistics.</p>
Poland	<p>Hydrological network: Hydrological map of Poland (MPHP 10) September 2013 scale– 1: 10 000;</p> <p>Monitoring stations and network: Data are from RBM 2011-2015 and Chief Inspector of Environmental Protection (GIOŚ) http://www.gios.gov.pl/ and Institute of Meteorology and Water Management - National Research Institute (IMGW-PIB);</p> <p>Human pressures: River basin management plans 2011-2015.</p>
Belarus	<p>River basins: information was used from: Surface water resources, Hydrometeo USSR ; Maps 1:100 000;</p> <p>Current hydrological monitoring stations: National Register of hydrological monitoring stations</p> <p>Existing surface water monitoring network: National Register of Monitoring System. Additional geo-referencing with SAS.Planet.</p> <p>Map of groundwater bodies /aquifers – paper maps from the National Atlas on Groundwater, etc;</p> <p>Groundwater monitoring network – data from the Scientific Research Centre for Geology; Point Sources - data from the Water Cadastre;</p> <p>Diffuse pollution sources - data from National State Statistical Committee; Official Statistical Data: www.belstat.gov.by;</p> <p>Hydropower plants - national data from the literature sources, National programme of Small HydroPower Plants reconstruction and creation.</p>
Kaliningrad	<p>Hydrological network: digitized map of Kaliningrad Oblast scale 1:100 000</p> <p>Current hydrological monitoring stations: Scheme of complex use and protection of water bodies for Neman River Basin and River Basin of the Baltic Sea, 2012 (based on Hydromet Data);</p> <p>Groundwater monitoring network (stations and wells):</p> <ol style="list-style-type: none"> 1) Regional information bulletin “The state of the subsoil in the North-West Federal District of the Russian Federation for 2013” (based on Hydromet Data); 2)Regional information bulletin “The state of the subsoil in the North-West Federal District of the Russian Federation for 2013” (based on Hydromet Data); 3) Geo-ecological estimation of natural groundwater security to pollutions, Mikhnevitch, 2010; <p>Groundwater aquifers (bodies): Regional information bulletin “The state of the subsoil in the North-West Federal District of the Russian Federation for 2013”;</p> <p>Pressures & impacts:</p> <p>Hydropower stations- Annual Report JSC Yantarenergo (publicly available);</p> <p>Diffuse pollution (mineral nitrogen and phosphorus) - Federal State Statistics Service Territorial Department of the Kaliningrad region, 2013;</p> <p>Point sources- Scheme of complex use and protection of water bodies for Neman River Basin and River Basin of the Baltic Sea, 2012 (based on Hydromet Data).</p>

ANNEX 4. DRAFT GIS MAPS

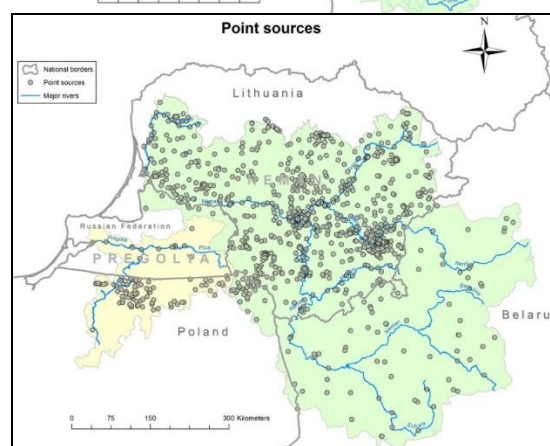
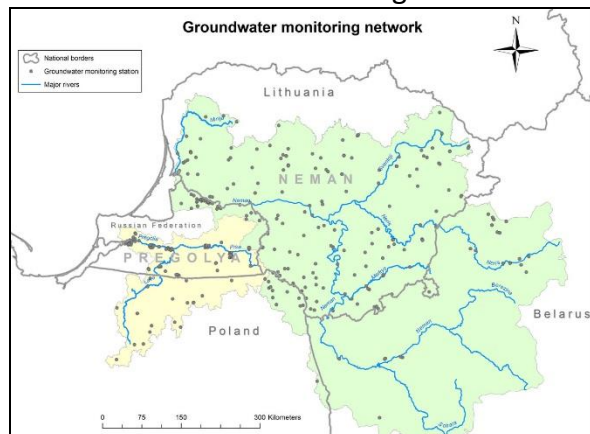
Hydrological network and monitoring stations



Surface water monitoring network



Groundwater monitoring network



Number of point sources (wastewater discharges):

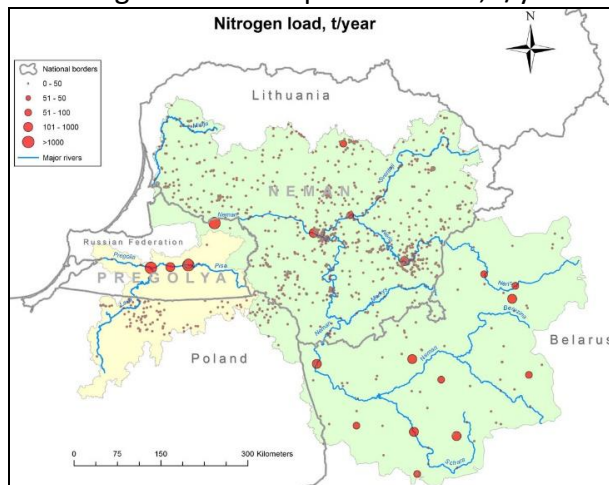
Lithuania -1264

Kaliningrad Oblast - 21

Poland - 128

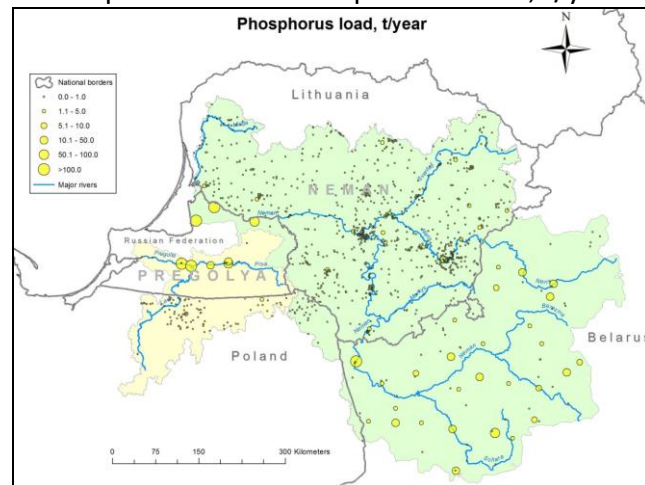
Belarus - 72

Nitrogen load from point sources, t/year



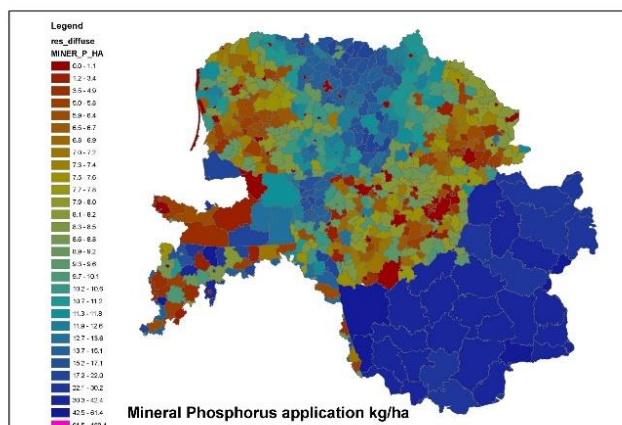
Lithuania ~ 1500; Poland ~ 80; Belarus ~ 2130;
Kaliningrad Obl. ~ 36000 (to be corrected).

Phosphorus load from point sources, t/year

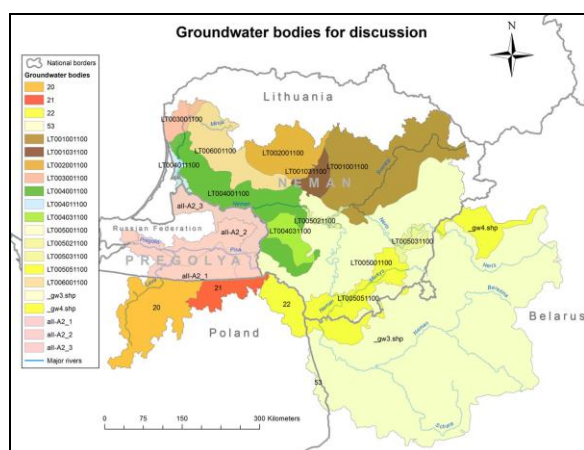
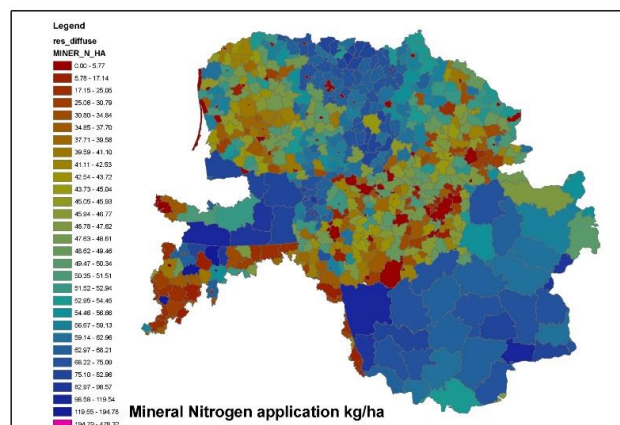


Lithuania ~ 120; Poland ~ 11; Belarus ~ 480;
Kaliningrad Obl. ~ 1270 (to be corrected)

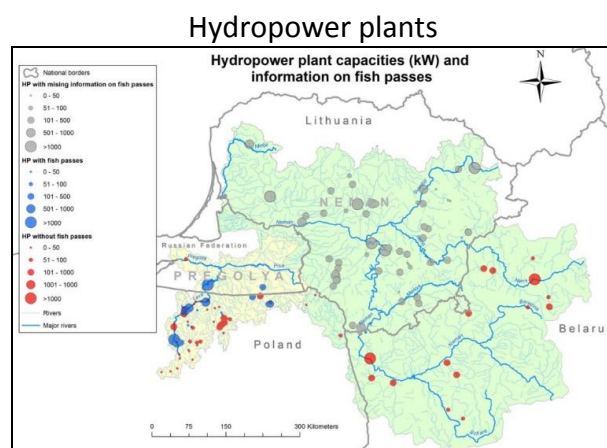
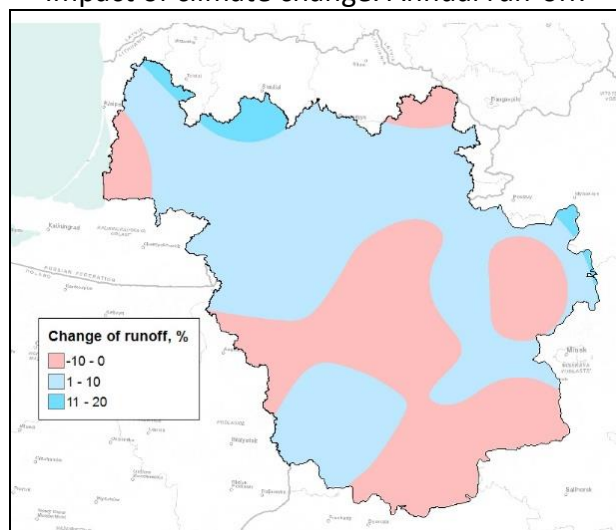
Diffuse pollution sources. Mineral phosphorus,
kg/ha



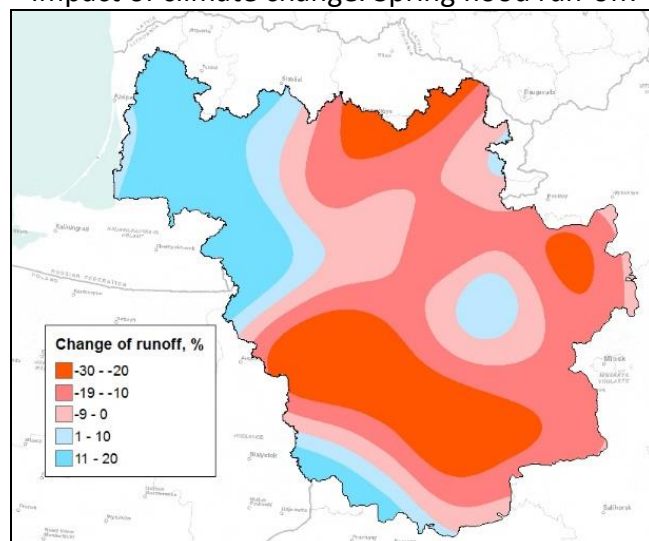
Diffuse pollution. Mineral nitrogen, kg/ha



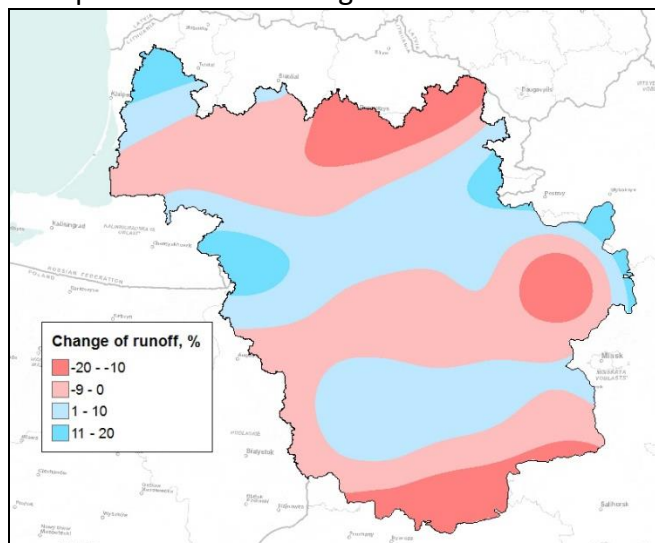
Groundwater bodies have been discussed
Impact of climate change. Annual run-off.



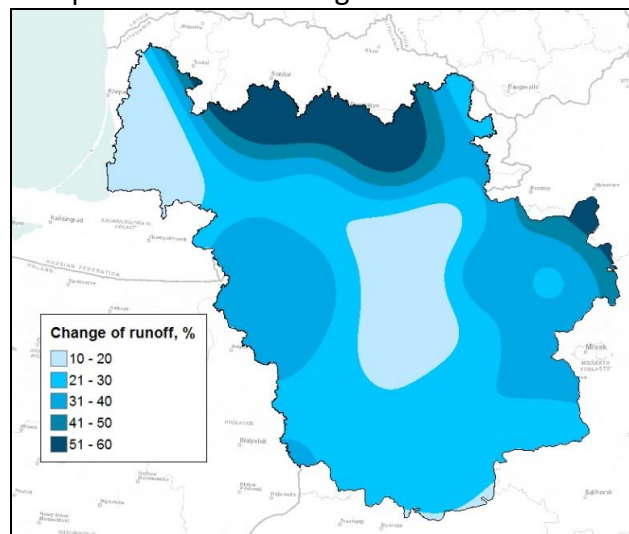
Impact of climate change. Spring flood run-off.



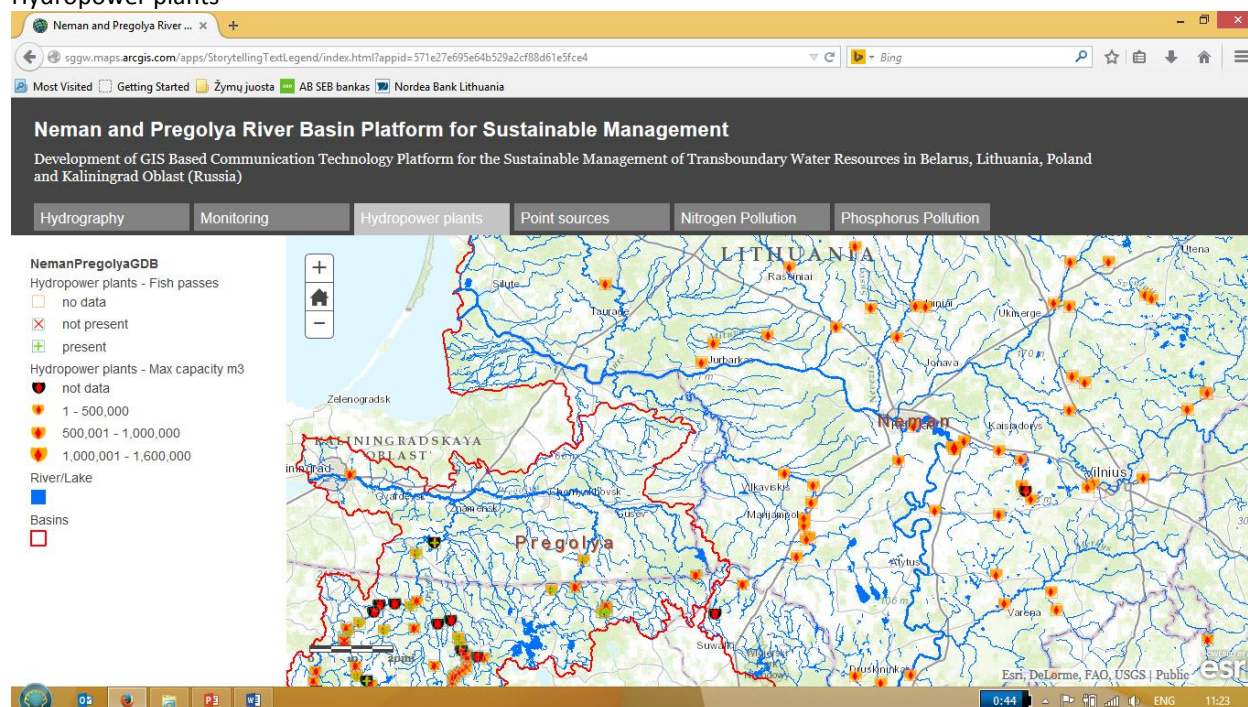
Impact of climate change. Summer minimum



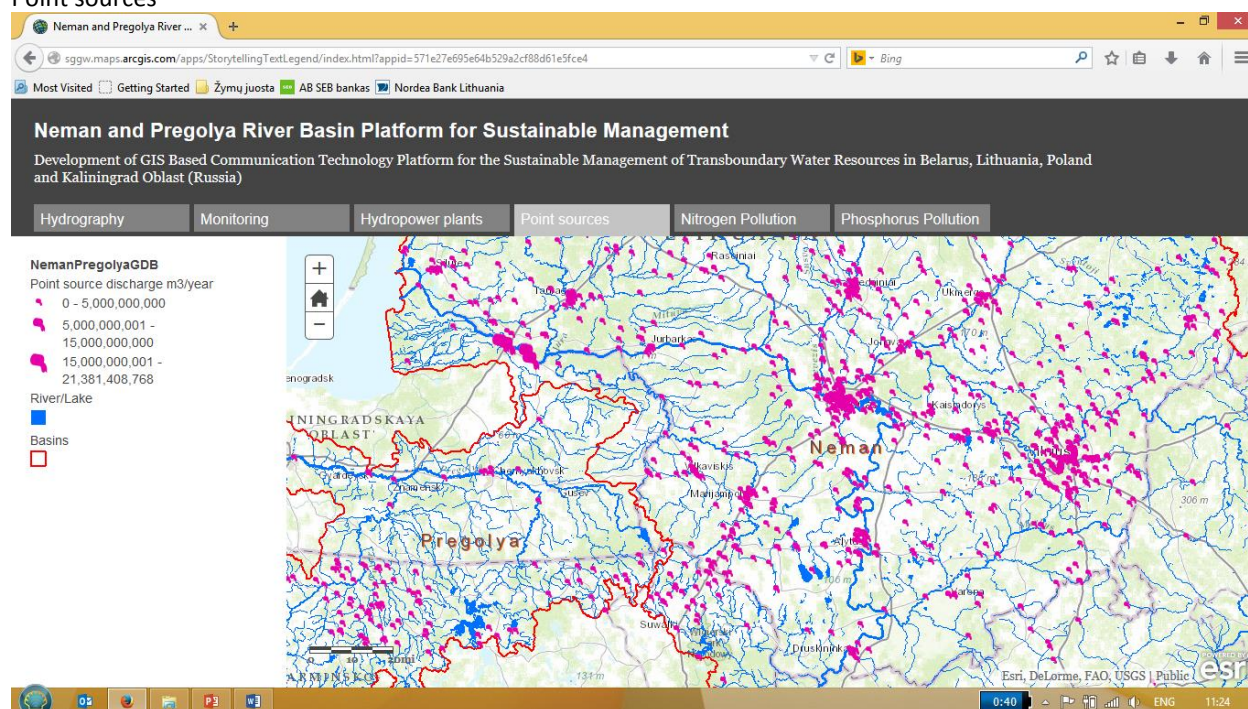
Impact of climate change. Winter minimum.



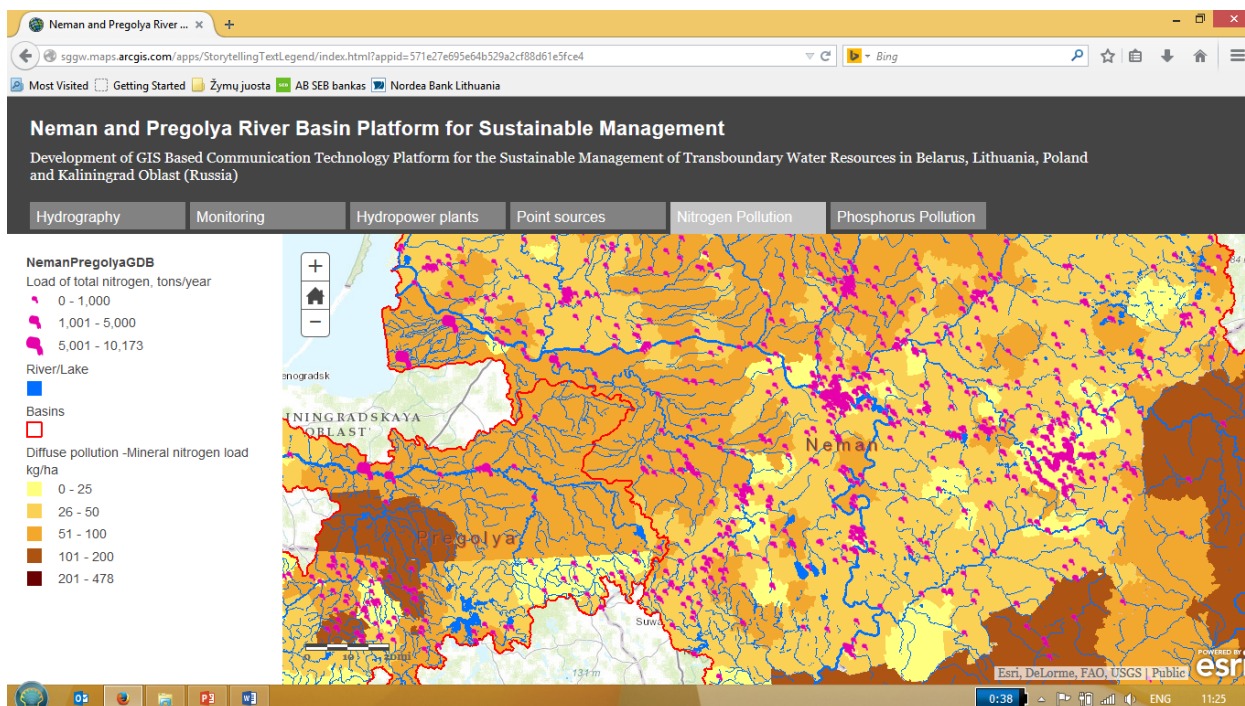
Hydropower plants



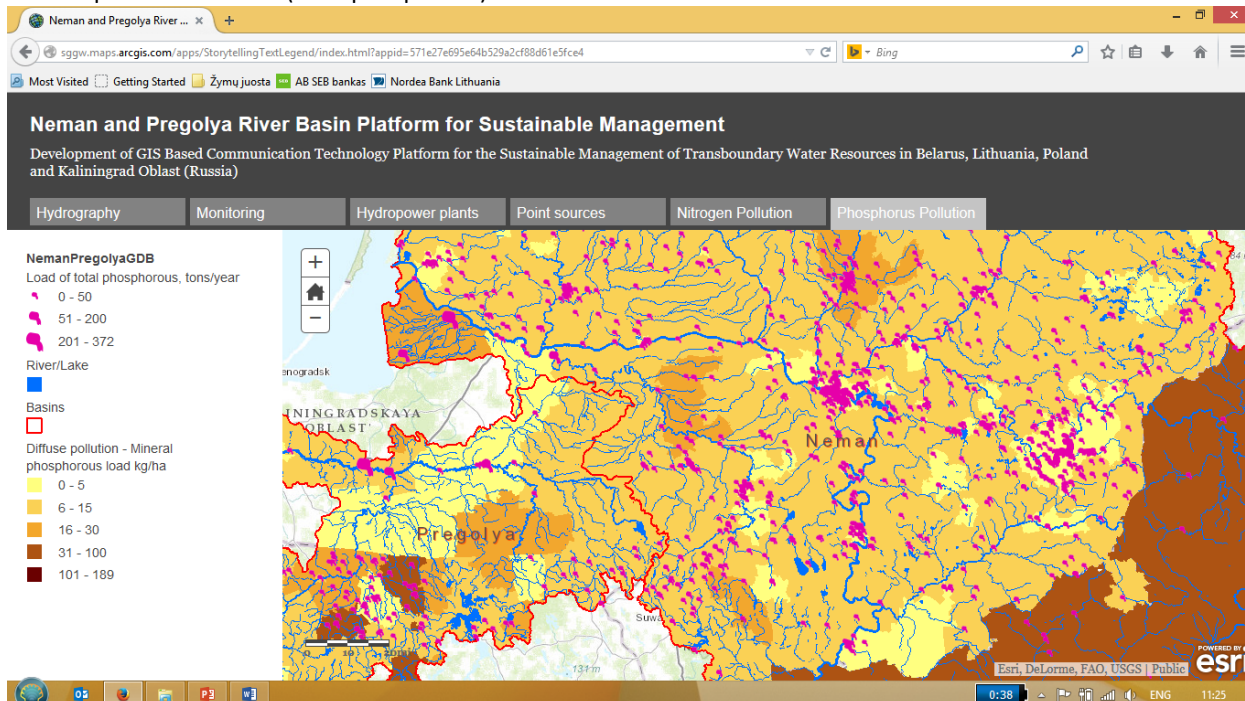
Point sources



Diffuse pollution sources (total nitrogen)



Diffuse pollution sources (total phosphorus)



ANNEX 6. PHOTOS

