Monitoring and Early Warnings in Water Governance

The Summer School is organised under the Erasmus+ project «Systems for monitoring and responses to early warnings – EU experience for Russia»

The Summer School on water governance is organised by **Siberian Federal University** (Krasnoyarsk, Russia). It is designed as a research training exercise, with the Krasnoyarsk Water Reservoir (also known as the **Sea of Krasnoyarsk,** the Eurasia-largest water reservoir) on the river of Yenisei and the lake of **Baikal** (the world largest freshwater body) set as case studies. The School will include research methodology training and group work on multidisciplinary research projects. Transfer to Baikal will involve an overnight train trip on the **Trans-Siberian Railway**.

Water governance involves significant analytical and normative uncertainty not at least due to complex biophysical set-ups, such as interdependencies between land- and water-use, complex institutional networks, and different upstream and downstream challenges. In order to steer progress towards sustainable development goals (SDGs), of which many relate directly or indirectly to water, governance actors require effective science-policy interfaces capable of timely recognition and communication of early warnings, backed by effective monitoring networks, including citizen science arrangements.

*This summer school will build research capacity and strengthen science-policy interactions for addressing these issues in Siberia and beyond. The **target audience** are early-stage researchers, civil servants and NGO activists involved in the management of freshwater ecosystems. The **focus** will be on monitoring, reporting and verification systems for water and ecosystem governance, recognition of early warnings and development of science-policy interfaces. This discussion will be primarily based on the EU experience. It will be analysed for its applicability in Russian (in particular Siberian) socio-economic, political and biophysical context.*

*The school will be held in the main campus of Siberian Federal University in Krasnoyarsk, and at the **Baikal** Lake in Russia. The participants will be engaged in group projects on a specific water/aquatic ecosystem-related issue in relation to the SDG agenda; the locations provide reach opportunities for setting-up case studies encompassing the range of topics.*

The School Faculty:

Sybille van den Hove, Bridging Sustainability (Brussels, Belgium)

Viktar Kireyeu, Erda RTE (Rijswijk, the Netherlands)

Olga Likhacheva, Pskov State University (Pskov, Russia)

Ruben Mnatsakanian, Central European University (Budapest, Hungary)

Irina Molodikova, Central European University (Budapest, Hungary)

Hans-Peter Nachtnebel, University of Natural Resources and Life Sciences (Vienna, Austria)

Nina Pakharkova, Siberian Federal University (Krasnoyarsk, Russia)

Tatiana Shashkova, Siberian Federal University (Krasnoyarsk, Russia)

Anton Shkaruba, Central European University (Budapest, Hungary)

Galina Sorokina, Siberian Federal University (Krasnoyarsk, Russia)

Egor Zadereev, Institute of Biophysics, Russian Academy of Science (Krasnoyarsk, Russia)

Contacts:

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- academic planning and research: Anton Shkaruba, shkarubaa@ceu.edu

http://www.sfu-kras.ru/en/education/courses/ecological-school

Detail schedule of the summer School “Monitoring and Early Warnings in Water Governance”

July 9, Sunday

- arrivals, course registration, checking-in in the dormitory of Siberian Federal University in Krasnoyarsk

July 10, Monday

9.00 – 10.00 – course registration (the main hall of the Library of Siberian Federal University)
10.00 – 10.20 opening ceremony; welcome from the Rectorate of Siberian Federal University (tbc), presentation of the Summer school, including the academic component (Anton Shkaruba), house rules (Nina Pakharkova) and logistics (Galina Sorokina), room Б1-01
10.20 – 11.00 – Introduction of the participants
11.00 – 12.00 – Water Governance and Early Warnings in the EU and beyond: the context and application (Anton Shkaruba), room Б1-01
12.00 – 13.30 – lunch, campus excursion
13.30 – 14.30 – Public participation and the involvement of expert groups in hydropower development (Hans-Peter Nachtnebel), room Б1-01
14.30 – 16.00 – Sustainability indexes: theory and utility (Anton Shkaruba, Viktar Kireyeu, Olga Likhacheva, Nina Pakharkova, Galina Sorokina), room Б1-01
16.00 – 19.00 – city tour

July 11, Tuesday

9.00 – 10.30 – The Lake of Baikal: political, social and biophysical context (Egor Zadereev, Ruben Mnatsakanian, Anton Shkaruba), room 44-12
10.30 – 13.00 –identification of joint research interests, getting together research groups (all the faculty), room 44-12
13.00 – 14.00 - lunch
14.00 – 15.00 – Mutli-criteria assessment of hydropower schemes (Hans-Peter Nachtnebel), room 44-12
16.00 – 18.00 – Scientific communication and visualisation of spatially-relevant data (Viktar Kireyeu), room 44-12

July 12, Wednesday

9.00 – 18.00 – a research excursion to the Krasnoyarsk Water Reservoir

Work in groups; development of research plans

July 13, Thursday

Work in groups; development of research plans

Departure from Krasnoyarsk Main Railway Station for Irkutsk (time and train are TBD later)

In-train group work on research plans

July 14, Friday

Arrival to Irkutsk Railway Station, bus transfer to the Isle of Olkhon, check-in in the tourist camp

Presentation of research plans (might be while waiting for the ferry)

July 16, Saturday

9.00 – 10.00 – Social science research methodology for sustainability studies (Irina Molodikiva, Viktar Kireyeu)

The rest of the day – project work in groups

July 16, Sunday

9.00 – 10.00 - Transboundary water management: towards a basin wide perspective (Hans-Peter Nachtnebel, Ruben Mnatsakanian)

The rest of the day – project work in groups

July 16, Monday

Project work in groups

July 18, Tuesday

- bus transfer to Irkutsk Main Station, train departure to Krasnoyarsk, desktop research in the train

July 19, Wednesday

- in-train desktop research and consultations with the School faculty, arrival to Krasnoyarsk

July 20, Thursday

9.00 - 18.00 – Desk research by project groups; consultations with the faculty, room 44-12

July 21, Friday

10.00 - 12.00 – Opening of the Conference, keynote speeches, plenary discussion
13.00 – 14.00 – lunch
14.00 - 16.00 – Presentations by early stage researchers, concluding remarks, panel discussion, graduation, room Б1-01
18.00 – 21.00 – farewell dinner, the small banquet hall

July 22, Saturday

9.00 - 18.00 – hiking and climbing tour to the “Stolby” nature reserve

July 23, Sunday

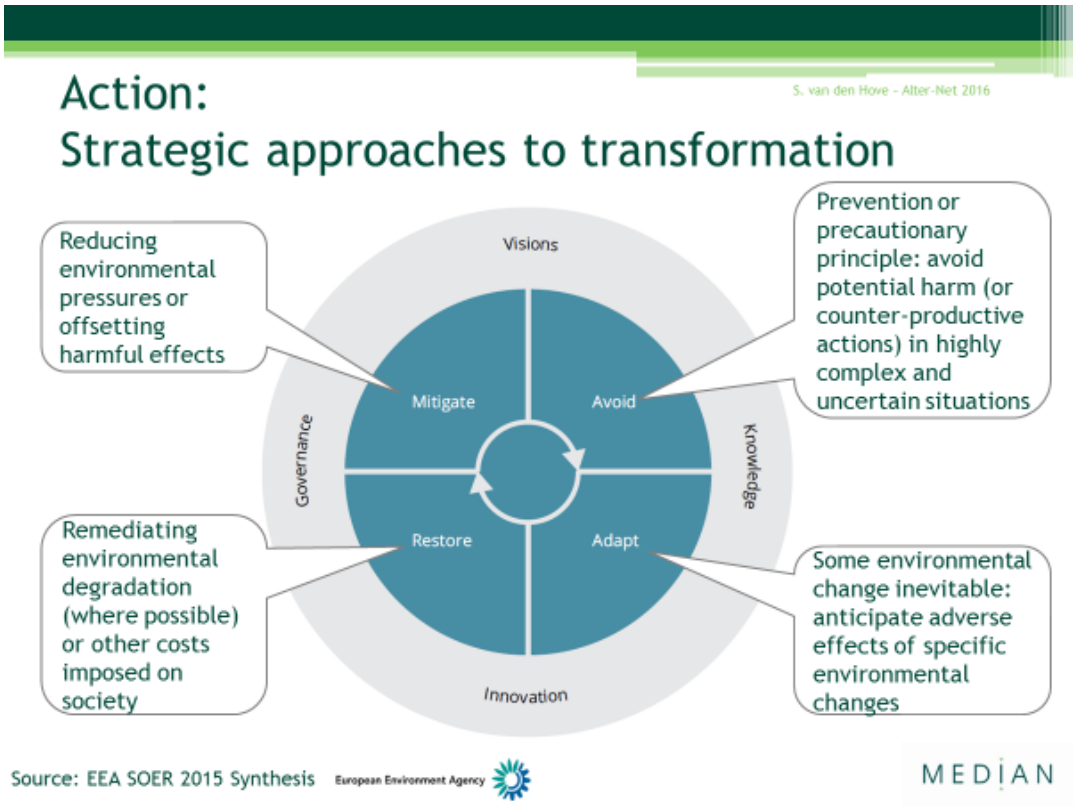
- departures

Group research – the concept, ideas for the research framework and sectors

The research framework

The central component of the School is supervised group research. The research groups (3-5 participants) will be expected to address the issues of socio-ecological monitoring, recognition and communication of early warnings in the context of socio-economic transition to free market and transboundary governance of water resources. The case studies will be set at the lake of Baikal, while the overall approach to problem solving will be taken from EU policies concerned with water and biodiversity governance, risk management and precaution, and mediation of transboundary conflicts. Possible areas of research inquiry may include identification of tipping points and development of sustainability indicators, valorisation of ecosystem services, appropriate governance arrangement for public involvement in environmental decision-making and citizen science, development of science-policy interfaces and communication of scientific uncertainty, risk management approaches and the applications of the precautionary principle, all in the context of creation of sustainable livelihoods and/or ecological sustainability of the Lake of Baikal and/or the surrounding regions. The examples of the sectors addressed by group research include fisheries, water supply, energy, tourism (in particular, green and scientific tourism emerging in Russia), local communities (including economics and infrastructure).

The research reflection can be structured according to the following strategic approaches to transformation: Mitigate, Adapt, Avoid, restore (SOER 2015 synthesis).



The research will be implemented according to research plans prepared in Krasnoyarsk and during the railway trip to Irkutsk. If necessary, the participants might have an opportunity to arrange interviews with the representatives of stakeholder groups in Irkutsk and elsewhere in the region, while most of the research will be done on the isle of Olkhon and the neighbourhood.

Topic suggestions

All the topics proposed by case study groups need to deal with the identification and analysis of negative trends threatening the sustainability of the Isle of Olkhon or its broader system, to suggest the directions for addressing the emerging problems and / or (more realistic) for its better understanding and future research inquiry, including (where relevant) the indicators describing the state of the system and its dynamics. Once again, we encourage analytical comparisons with the EU context and/or references to EU policies or practices succeeding or failing to address similar issues. Here are some topic suggestions:

- Declining fish stocks and local unsustainable practices
- Illegal HORECA and its scale
- Conservation status of Olkhon and implications for the sustainable livelihood
- Options for sustainable transport and energy: how much are they worth exploring?
- Deep lake mining as an emerging issue?
- Up- and downstream pollution and environmental flow issues and indigenous rights
- The emerging multilevel governance issues, including those related to the international politics and technical assistance
- The dilemmas of (foreign?) investments

The suggested topics are indicative, and we consider them as starting points for discussions within interest groups rather than options to choose from. All of them offer good opportunities to explore such issues as promotion of ecosystem services and nature-based solutions, development and promotion of local and indigenous knowledge and management practices, development and effectiveness of science-policy interfaces, communication tools and strategies in general (e.g. general issues of environmental awareness as well as more specific tools), adequacy of monitoring systems in place (in a broad sense) and their role in decision- and policy-making, governance fits/misfits and interplays, options for green economy, adaptive (co-)management and applications for preventive approaches, the precautionary principle etc.