

16th Northern Research Basins Symposium and Workshop 2007
Delegates Meeting
Petrozavodsk, Russia, Saturday 1 September

Present

Nikolay, Filatov-Russia, Chairman

Larisa Nazarova, Nikolay Palshin, Vladimir Putyrsky, Tatjana Regerand, Yuri Salo,

Elena Shalina, Anatoly Semenov, Arkady Terzhevik-Russia

Anna Abnizova, Richard J. Janowicz, Melissa Lafreniere, Ming-ko Woo and

Kathy L. Young-Canada

Bent Hasholt-Denmark

Johanna Korhonen, Matti Lepparanta-Finland

Sveta Berezovskaya, Glen E. Liston, Sebastian H. Mernild, Amy Tidwell, Doug Kane-USA

Kunio Shirasawa, Kazuyoshi Suzuki-Japan

Agenda

Task Forces

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TASK FORCES

1. Water temperature in lakes of the North - reported by Nikolay Filatov

Nikolay and Osama Maher proposed this task force at the Finnish meeting in 2001. Russia has had a working group at the Northern Water Problems Institute in Petrozavodsk working on this task since then. Nikolay indicated that Mr. Osama Macher (Sweden) and Ms. Aja-Ritta Elo (Finland) are no longer part of the task force due to recent professional activities. Nikolay described data that has been collected in Russia and indicated that a database of lakes situated in northwest Russia (more than 60 lakes) and Finland has been created. The joint analysis of climatic parameters (including NAO index) with water temperatures, water level and ice characteristics have been realized. Nikolay indicated that modelling efforts are now proceeding . For instance, a statistical model for describing the thermal regime of lakes was presented at the 16th NRB symposium by Dr. T. Efremova from NWPI. The purpose of this part of the investigation was to quantify the effect of climate and morphometry of the lakes on their surface temperature cycle and the vertical thermal structure. The main goals of the next stage of the joint investigation are: to study the impacts of climate change on northern water resources and to estimate the possible changes of the annual cycle of a lake's surface temperature and their vertical thermal structure for different scenarios of regional climate changes on the territories of Russia, Finland, Sweden and North America.

During the discussion it was decided to continue this task force during the next two years. The final report of the task force will be presented at the 17th NRB meeting in Canada.

2. Prediction in Ungauged Basins (PUB)-reported by Kathy L. Young

This task force is presently headed up by Chris Spence (Canada) who unfortunately was unable to make the meeting. Kathy presented a few slides on Chris's behalf. This task force was created at the 14th NRB workshop in Greenland. Soliciting and receiving members since the 15th NRB in Sweden has taken some time. Current members include: Chris Spence (Canada); Daqing Yang (USA); Stein Beldring (Norway) and Bertel Vahvilainen (Finland). This task force would therefore welcome participation by members from other NRB countries. There were some discussions in 2006 and 2007 amongst the task force members on refining the focus of the task force. The theme of uncertainty in precipitation estimates re-occurred throughout the discussions and all the members agreed this should be the focus of the NRB PUB task force for the following reasons: 1) Precipitation across northern basins is notoriously difficult to estimate; 2) there are no current PUB working groups addressing precipitation, so this group would be address in a significant gap; 3) better understanding of precipitation and its variability in northern regions would be of great benefit to the NRB member countries; and 4) the NRB working group has expressed interest in addressing precipitation fluxes with a task force in the past. Presently, the 2007 status report has been circulated at both the 16th NRB meeting in Russia and at the Climate and Water Conference in Finland. The group hopes to develop a workplan including methodology, implementation and reporting as well as outreach activities. A workshop on the subject may be a possibility. The group would like to register the task force as a working group with the PUB secretariat once its objectives and methodology are better defined.

The NRB delegates were supportive of the PUB work and recognize that this information is critically important for accurate prediction of streamflow in northern basins. The group also indicated that greater participation from other circumpolar countries should occur. Bent Hasholt (Denmark) suggested that the group might want to consider "representative" type basins for their research (both small and large) to further improve upscaling procedures, while Doug Kane (USA) suggested that PUB look at Daqing Yang's present work at the Pan-Arctic scale for further ideas. Finally, Yuri Salo (Russia) said that he would be happy to participate on this PUB task force. Russia has extensive precipitation records and he has considerable expertise with the correction of precipitation from different-types of gauges.

3. Other Task Forces

There was some discussion about the need for other task forces. The group suggested that now is the time to set up a task force which will investigate hydrological processes at different time and spatial scales. For example, diurnal processes such as streamflow are important for small basins while daily streamflow is adequate for much larger basins (e.g. Mackenzie). Glen Liston (USA) suggested that the task force focus on representing fine scale processes in larger models. Basically, show how fine scale processes aggregate to larger scale processes. It was suggested by the group that the Chief Delegates get together to discuss this new task force with the hope that a working group can be set up in 2009.

Nordic Hydrology

Nikolay Filatov (Russia) read a note from Lars Bengtsson (Sweden) who unfortunately was absent from the meeting. Lars sent his well wishes and expressed his success for the 16th NRB meeting. Lars' note also indicated that there will be another special edition of *Nordic Hydrology*

devoted to the 16th Northern Research Basins' papers. Lars indicated that papers should follow the *Nordic Hydrology* template and that papers should be submitted to him by November 1, 2007 in digital form-email: lars.bengtsson@tvrl.lth.se. He also noted that in the near future the name of the journal will change to "Hydrology Research" and will be the official joint journal of the Nordic Hydrological Society and the British Hydrological Society.

Next Meeting

Kathy L. Young (Canada) made the presentation for the next NRB meeting which will be hosted by Canada in 2009. It is anticipated that the 17th International NRB will be held in the Eastern Canadian Arctic, August 23-29, 2009. It will consist of a cruise from Kuujuaq (Ungava Bay) to Pangnirtung and Iqaluit (Baffin Bay). The theme of the meeting will be "Managing Hydrological Uncertainty in High Latitude Environments". Kathy also indicated that the meeting will highlight the achievements and accomplishments of the International Polar Year. Presently, the Canadian Organizing Team consists of Kathy L. Young, Chris Spence, William Quinton, Richard Janowicz and Sean Carey. Overall the delegation was pleased with the venue for the meeting. There was some discussion about possible guest speakers. It was suggested that one of the guest speakers should be an oceanographer. The possibility of inviting a climatologist/meteorologist was also mentioned.

There was some discussion about improving participation at the NRB meetings and the importance of involving more young hydrologists. The last two meetings in Russia and Sweden have had low enrolments (less than 35 people). The group was also disappointed to see no participation from Norway, Iceland and Sweden and only two participants from Finland and Denmark at the Russian meeting. There was some discussion about how information is being distributed to potential delegates and how the meetings could be better advertised. It was decided that the Chief Delegates at the Russian meeting would write a letter to the absent Chief Delegates (Norway, Iceland, Finland and Sweden) to signal our distress at seeing enrolments falling at these international meetings, and to explore possible avenues of increasing enrolment and participation at both the meetings and on the task forces. Kathy indicated that participation is critical for the 2009 NRB meeting where 50 people are required to fill the cruise ship. Kathy also indicated that she will try to keep registration costs to about \$2000 USD. This would cover flights from Montreal to the Arctic and the cost of the cruise.

Other Matters

Nikolay Filatov (Russia) indicated to symposium participants that he would very much like to include the information material contained in the symposium publication to further environmental education in Northern Russia and to further attract attention to the ecological situation there. The material would be aimed at the general public and university students.

On behalf of the delegates Kathy L. Young (Canada) thanked Nikolay Filatov and his organizing committee for hosting such a wonderful and well-organized meeting and invited him and the other Russian delegates to Canada in 2009 for the next NRB meeting. Ric Janowicz (Canada) on behalf of all delegates then invited all the Russian organizing committee for lunch at a local restaurant.

Meeting closed 12:35 pm