

NATIONAL IHP-ACTIVITIES IN THE NORDIC COUNTRIES

June 1998 - May 2000

KOHYNO 22 May 2000

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Denmark, Finland, Iceland, Norway and Sweden

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1. Activities undertaken in the period June 1998 – May 2000

Introduction

There are three different forms of organised hydrological co-operation between the Nordic countries, Denmark, Finland, Iceland, Norway and Sweden:

1. Nordic Association for Hydrology

The main activity of the Association is publishing the international journal "Nordic Hydrology" and the periodical "Vannet i Norden - Water in Nordic Countries". The Association organises every second year, on a rotational basis, the Nordic Hydrological Conference (NHK), next time June 26 – 30, 2000 in Uppsala, Sweden. The association takes part in organising smaller seminars, workshops etc. Membership to the Association is either individual or corporate. There are about 270 individual and 20 corporate members in the Association (CHEK!)

2. UNESCO, IHP/Hydrological Committees

The main function of the Nordic IHP/Hydrological Committees is to encourage and stimulate regional co-operation between institutions across the national borders of the region. Joint projects are carried out within the Nordic Hydrological Programme (NHP). The activities in NHP can be a working group, an expert meeting, a seminar or a research project. Results of the NHP are published in the series "NHP-reports". The coordination of NHP is carried out by KOHYNO (Coordination committee of hydrology in the Nordic countries). More information available from: <http://www.vandressource.dk/nhp-dk.htm#top>

3. Nordic Operational Hydrological Institutes. The co-operation between the institutes is mainly focused on instruments and methods for hydrological measurements, collection, transmission, processing, storage and publication of basic data, hydrological forecasting and development and improvement of relevant methods and techniques in network design, specification of instruments and development of geographical information system. The institutes also discuss Nordic participation in working groups of international organisations.

All the three branches of Nordic hydrological co-operation work under published statutes.

Regional co-operation between the Nordic IHP/Hydrology Committees

The main activity is the joint projects carried out in two year phases within the NHP and coordinated participation in the work and projects of governmental and nongovernmental international organisations.

The programme for the years 1999-2000 comprises 12 projects:

1. NOPEX (a Northern hemisphere climate Processes land-surface Experiment)
2. FRIEND (Flow Regimes from International Experimental and Network Data)
3. BALTEX (Baltic Sea Experiment)
4. NRB (Northern Research Basins)
5. New Strategies for Monitoring of Groundwater Pollution Risks
6. Groundwater 2000 – International Conference on Groundwater Research
7. Time Series Analysis
8. Nordic Water Balance Map 1961-90
9. Exchange Networks
10. Education in Hydrology
11. Long term Impact of Agriculture on Losses of Nitrogen from Land to Sea
12. Nordic Hydrologic Conference 2000, Uppsala, Sweden (NHK 2000)

National IHP activities in the Nordic countries

Denmark

The Danish Water Resources Committee (DVK) was established in June 1994 by a group of Danish organisations. One of several tasks of the committee is to work as the national IHP Committee and be responsible for the relations to the Nordic Hydrological Programme through its coordination committee, KOHYNO. The Ministry of Energy and Environment provides a limited financial support to sustain basic activities of the Danish NC. Other contributors are: The National UNESCO Commission (support to participation in IHP IC meetings) and Ministry of Transport (support to participation on WMO CHy meetings).

DVK tasks can be divided into four groups:

- 1) *Exchange and dissemination of information.* This has in fact been the main activity both at DVK meetings, through "Nyt om Vandressourcer" (DVK Newsletter in Danish) and at public information meetings
- 2) *Obligatory tasks*, i.e. tasks which are generated through incoming mail in accordance with DVK's TOR. This is mainly in relation to WMO, IHP and KOHYNO.
- 3) *Tasks generated by external demand*, i.e. where some of the founding members or other external organisations ask DVK to play a certain role, e.g. seminar on low-flow in rivers and stream quality in May 1999, and a follow-up seminar on "Surface water - Groundwater relationships, streamflow variations, physical conditions and habitat models for rivers" for danish water resource researchers, professionals and managers 22 March 2000 (World Water Day)
- 4) *Tasks where DVK have taken independent initiatives.* These include first of all the "VRI system" (i.e. establishment of a national water resource information system), a joint DVK/Danida meeting on Water Action Plans and experiences with alternative implementation strategies arranged in September 1998 and the Groundwater 2000 conference on groundwater research to be held 6-8 June 2000 in Copenhagen.

Within IHP a major task has been to coordinate the Nordic Hydrological Programme through the coordination committee KOHYNO and to provide input to the Nordic participation within IHP V and forthcoming IHP VI. There is no significant direct Danish participation in the IHP Programme due to a lack of governmental commitment as well as lack of interest from the Danish research councils as to funding of IHP-related reserach projects. Danish research activities within the water resources area are largely limited to national research programmes and EU-funded research projects. Research activities at the global scale is presently of limited extent.

In November 1988 DVK established a web-site: www.vandresource.dk with the purpose of exchange and dissemination of information. The DVK web-site includes a.o. a conference calendar updated on behalf of the other Nordic countries, information on the Nordic IHP programme (NHP), and links to water resources institutes and databases (in Denmark).

DVK has participated (with Bjarne Madsen, GEUS) in the 5th UNESCO/WMO International Conference on Hydrology 8-12 February 1999 and the WMO Commission on Hydrology Working Group meeting at WMO Headquarters in Geneva in December 1999, preparing a first draft of a proposal on the establishment of a International Groundwater Resources Assessment Centre (IGRAC) under the Auspices of UNESCO and WMO (IHP/IC-XIV/Inf.26).

DVK has participated in Northern Research Basin 12th symposium and workshop on Iceland 23-27 august 1998 and a nordic NHP meeting 12-13 November 1998.

On 9th September 1998 Danida and Danish Water Resources Committee arranged a workshop held at Eigtveds Pakhus. The subject for this workshop was Exchange of experiences between Danish consultancy firms and Danida regarding implementation strategies of water action plans. The workshop was arranged by a working group consisting of representatives from both Danish Water Resources Committee and Danida. The working group has also been in charge of the editing of the material for the workshop and completion of the report (<http://www.vandresource.dk/danida-uk.htm>).

DVK has participated in the preparation of the International Conference on Groundwater Research, Groundwater 2000 to be held 6-8 June in Copenhagen, Denmark. It is the primary focus of the conference to create an interdisciplinary forum for presentation and exchange of the most recent advances in groundwater research with a maintained focus on selected key issues. The conference covers groundwater pollution arising from industrial activities and disposals as well as diffuse sources due to agricultural practices.

- aquifer properties, governing processes, and fate of organic compounds
- redox processes in contaminated and pristine aquifers
- groundwater protection and remediation technology

Approximately 300 participants are expected for this conference.

Finland

In Finland the activities concerning the environmental programmes of UNESCO are financed by the Academy of Finland. Some administration costs are coming from the Finnish UNESCO Commission. Co-ordination between UNESCO-programmes is carried out in the Finnish Global Climate Change Research Support Group (FIGSU). Close co-operation between the environmental programmes of UNESCO and UNESCO National Committee of Finland has continued.

In UNESCO IHP-V -projects Finland has representatives as follows:

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| IHP V 1.3 | Hydrological interpretation of global change predictions; Esko Kuusisto |
| IHP V 1.4 | Strategies for water resource assessment and management under conditions of anthropogenic global climate change; Esko Kuusisto |
| IHP V 4.2 | Strategies for water resources management in emergency and conflicting situations; Olli Varis. The report "Will water be enough, will food be enough?" by Pertti Vakkilainen and Olli Varis was published in IHP-V Technical Documents in Hydrology No. 24 |
| IHP V 1.2 | The Second International Conference on Climate and Water was held in Espoo, Finland, on |
| 1.3 | 17-20 August, 1998. The papers presented were preprinted in 3 volumes (1676 pages in all) |
| 1.4 | The Report of the Conference (including the recommendations, 48 pages) was send to all IHP National Committees. The Conference acted as one input for the World Conference on Science |

organised jointly by UNESCO and ICSU and the executive Summary of the Conference was delivered to the participants in the World Conference.

IHP V 1.1 FRIEND Steering group meetings; Pertti Seuna

The main activities in regional/subregional level have been as follows:

The International Symposium on De-icing and Dustbinding - Risk to Aquifers was organised on 14 - 16 October 1998, Helsinki, Finland. Proceedings of the symposium has been published in Nordic Hydrological Programme Report Series, Report No 43.

The Nordic Association for Hydrology organised XX Nordic Hydrological Conference on 10-13 August, 1998 in Helsinki, Finland. The papers presented in the conference has been published (in 2 volumes) in Nordic Hydrological Programme Report Series, Report No 44.

The co-operation with Estonian IHP-committee has continued in administrative, scientific and educational level. The Finland has financed the participation of Estonian researchers in international conferences, seminars and courses organised in Finland.

The main national activities concerning IHP programme have been:

- financing yearly about 2 to 3 research projects
- financing Finnish participation and organisation in international IHP-conference and seminars

The main activities in the future are as follows:

- follow up of World Conference on Science
- follow-up of Conference on Climate and Water
- organising the International Conference on Natural Hazards in Finland in 2001
- financing research concerning hydrological processes (ex. Predicting Impacts of Land Use Changes on Catchment Hydrological Processes)
- prepare to organise NRB Meeting in Finland

Iceland

The Icelandic Hydrological Committee (IHC) is funded by the National Energy Authority, which provides limited support sufficient for minimum activity. This includes the office functions of an executive secretary and funding of the most necessary travel costs, for maintaining international contacts by the means of Nordic IHP co-operation. After the reorganization of the National Energy Authority in 1998 this funding has been under discussion, but a more permanent solution has not been found as of yet.

A local conference on the Protection and Utilization of Freshwater Resources was held in Reykjavik, Iceland on December 3, 1998. The conference was organized by the IHC in cooperation with the County Association and the Ministry of Environment. One session of the conference was dedicated to a discussion on possible ways and means of reorganizing the IHC.

The Twelfth Northern Research Basins Symposium and Workshop was held in Reykjavik, Kirkjubæjarklaustur and Höfn, Hornafjörður, Iceland, on August 23-27, 1999, with an organizing committee composed of IHC members, headed by prof. Jónas Elíasson.

Since the later half of 1999 much effort has been spent at the Hydrological Service of the National Energy Authority, on the organization of an International Symposium on Extraordinary Floods, "The Extremes of the Extremes", which will be held in Reykjavik, Iceland, on July 17-19, 2000. The IHC is directly and indirectly connected with this event. The Symposium is organized in co-operation with the IAHS and supported by UNESCO/IHP, WMO/OHP and domestic sponsors.

Other activity of the IHC has been limited to the distribution of information through appropriate channels from and to IHP related entities, as well as taking part in KOHYNO meetings and the organization of Nordic IHP projects.

Norway

The Norwegian Hydrological Committee (NHR) includes 28 members institutions, which all contribute with tasks concerning hydrology. NHR functions as the national IHP-committee.

National activities:

- 8 committee meetings and 2 annual meetings have been arranged during this period.
- 5 seminars have been held:
 - Norwegian water research (1999, 2000) (arrangement on World Water Day)
 - Water conflicts (international) “
 - Hydrology and planning
 - The value of water in global perspective “
- NHR has its own home pages on the Internet, the address is as follows: <http://www.nve.no/nhr>
- Published reports:
 - No. 6 Norwegian water research (1999, *in Norwegian*)
 - No. 7 Water conflicts (1999 *in Norwegian*)
 - No. 8 Hydrology and planning (1999, *in Norwegian*)
 - No. 9 Norwegian water research (2000, *in Norwegian*)
- Hydrological research:

NHR has worked out a proposal for a new Norwegian Research Program called “Water Balance of Norway”, which we attempt to carry out and finance in collaboration with the Norwegian Research Council and others. It will be linked to IHP VI.

International activities:

IHP V

Norwegian activity in relation to IHP V, has consisted of participation in a number of working groups:

Project 1.1: »Application of methods of hydrological analysis using regional data sets»:

- Project 1: European Water Archive: Lars Roald
- Project 2: FRIEND Low flow project: Lena Tallaksen and Hege Hisdal
- Project 3: Large scale variations in hydrological behaviour: Lars Gottschalk
- Project 4: Techniques for extreme rainfall and runoff: Lars Roald and Nils Roar Sælthun and Thomas Skaugen

Project 2.1: Vegetation, land-use and and erosion processes: Johannes Deelstra

IHP VI

NHR responded to the draft proposal for the IHP VI and suggested some themes and topics.

UNESCOs 13th Intergovernmental Council

NHR was represented on the meeting in Paris 8-13 of June in 1998.

UNESCO/WMO

NHR was represented on the WMO/UNESCOs 5th International Conference on Hydrology in Geneva 8-12 of February.

FRIENDs Steering Committee

Norway has its own representation in the FRIENDs Steering Committee and was represented in meetings in Istanbul, Turkey on the 14-16 of October 1998 and in Koblenz, Germany 21-22 of March 1999.

Northern Research Basins

NHR has been represented in a symposium and workshop in Iceland 22-23 of August 1998.

Future activities in Norway:

Norway will continue its participation in FRIEND and Northern Research Basins. Although not formally decided yet, Norway will probably host the 22nd Nordic Hydrological Conference in 2001, and NHR will play a central role in the arrangement.

On the national level, the top priority for NHR is to establish funding for the national research programme "Water balance of Norway". Another high priority activity is to enhance public awareness on hydrology and water issues and improve dissemination of water related information from the scientific community. To this end, a "Popularisation Prize" will be established. NHR will continue to arrange workshop and seminar with a Norwegian and Scandinavian audience, with special emphasis on an annual scientific meeting, particularly oriented towards young scientists, and a full day conference on the International Water Day, focusing on international water topics.

Sweden

The Swedish National IHP Committee acts under the auspices of the Swedish Natural Science Research Council and is composed of representatives from the scientific community and governmental organisations with activities related to water resources, total 13 members. The National Committee meets 4-6 times a year.

The goal decided by the committee for its activities is:

- to visualise the importance of the water cycle for the society's development and prosperity;
- to elucidate the interaction between man-land-water-biota, and the fact that a land use decision is also a water decision;
- work to facilitate/improve necessary understanding of geo-science related preconditions for biological phenomena.

Last year the Swedish IHP-Committee published a book on *Water, a reflection of land use -Options for counteracting land and water mismanagement*. The book is a contribution from the Swedish IHP Committee to IHP V project 2.4 Comprehensive assessment of the surficial ecohydrological processes. The book has been written by a group of international authors, supported by a large group of contributors and based on case studies provided from a large number of National IHP Committees. It illustrates many different ways in which man interferes with the water cycle and clarifies environmental problems which emerge. The main message of the book is that a land use is also a water decision.

The National Committees for IHP and MAB have during past years taken several joint initiatives to enhance the dialogue and co-operation between the natural and social sciences concerning land-water issues by organising national and international meetings. Research needs have been identified and reported to relevant funding agencies.

The National Committee has now taken the initiative to organise a workshop to present state of the art within the field, identify gaps of knowledge and create possibilities to establish interdisciplinary networks. Water quality is defined by its chemical and biological composition. From a chemical point of view, a characterisation of the chemical speciation of inorganic and organic compounds is necessary to be able to define the water quality. Today, it has become obvious that the toxicity of metals is to a great degree related to the different chemical forms in which the metal ions are found.

2. Future Activities

The future IHP cooperation amongst the Nordic countries, the role of KOHYNO is under discussion in the Nordic NC's. The future activities will be decided at a NHP meeting later this year. Some of the above projects will continue and contribute to IHP VI, others will be finalized in 2000, but there will properly not be a separate NHP programme for the next years. The next Nordic Hydrological Conference is planned to take place in Uppsala in June 2000. KOHYNO will follow up on existing IHP-projects and will take part in the planning and implementation of IHP VI. Important activities like the NHP Report-series should be continued. Use of the Internet in relation to Nordic IHP/KOHYNO cooperation should be considered.