

NATIONAL IHP-ACTIVITIES IN THE NORDIC COUNTRIES

June 2000 - May 2002

May 2002

Prepared by KOHYNO based on input from the Nordic IHP Committees:
Denmark, Finland, Iceland, Norway and Sweden

15TH SESSION OF THE INTERGOVERNMENTAL COUNCIL OF THE IHP

UNESCO, PARIS, 17 - 22 JUNE 2002

1. Activities undertaken in the period June 2000 – May 2002

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 Association publishes the international scientific journal "Nordic Hydrology" and, at the web, the periodical "Vannet i Norden" (eng. Water in the Nordic Countries). Every second year the Association organises, on a rotational basis, the Nordic Hydrological Conference (NHK), next time 4-7 August 2002 in Røros, Norway. 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.

2. UNESCO, IHP/Hydrological Committees

The main function of the Nordic IHP/Hydrological Committees is to coordinate the contributions to IHP from the Nordic countries and to encourage and stimulate regional co-operation between institutions across the national borders of the region. The coordination is carried out by KOHYNO (the Coordination committee for hydrology in the Nordic countries). Northern Research Basins is a permanent working group established by the IHP committees of the countries around the Arctic Circle. The working group organises bi-annual symposia.

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.

National IHP activities in the Nordic countries

Denmark

The Danish Water Resources Committee (DVK) was established in June 1994 by a group of Danish institutions with a particular interest in hydrology and water resources. One of several tasks of the committee

is to act as the IHP National Committee and maintain the Nordic relations through KOHYNO. The Ministry of Environment provides a limited financial support to sustain basic activities of the Danish IHP NC. Other contributors are: The Danish UNESCO National Commission (support to participation in IHP IC meetings) and Ministry of Transport (support to participation in WMO CHy meetings).

The DVK tasks can be divided into four groups:

- 1) *Exchange and dissemination of information.* This has been accomplished by organising meetings on specific topics, issuing "Nyt om Vandressourcer" (a DVK Newsletter in Danish), and arranging public information meetings.
- 2) *Obligatory tasks*, i.e. tasks that are carried out in accordance with DVK's terms of reference. This is mainly in relation to IHP, WMO and KOHYNO.
- 3) *Tasks generated by external demand*, i.e. tasks on which some of the founding members or other external organisations have asked DVK to play a certain role.
- 4) *Tasks where DVK have taken independent initiatives.*

In November 1988 DVK established a web site: www.vandressource.dk with the purpose of exchange and dissemination of information. The DVK web site includes, among other things, an overview of DVK activities, a conference calendar, and links to water resources institutions and databases (in Denmark).

DVK was co-organiser of the International Conference on Groundwater Research, Groundwater 2000, held 6-8 June 2000 in Copenhagen, Denmark. The primary focus of the conference was 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 covered groundwater pollution arising from industrial activities and disposals as well as diffuse sources due to agricultural practices. The key-issues comprised

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

Approximately 325 participants attended the conference.

DVK participated in the 13th Northern Research Basins symposium/workshop in Finland 19-24 August 2002.

In November 2000 DVK organised a meeting on Evapotranspiration and Water Balance. A seminar on Application of Tools for Geological Modelling was held in November 2001. A specific task has been undertaken by DVK in the form of a mid-term evaluation in June 2002 of a national report on the Land-phase of the Hydrological Cycle. The report is prepared by the Geological Survey of Denmark and Greenland, the National Environmental Research Institute, the Danish Institute of Agricultural Sciences and the Danish Meteorological Institute. The report is to be issued by the end of 2002 within the frames of the Danish Environmental Monitoring Programme.

Presently, DVK considers the possibilities for a HELP initiative in Denmark.

Finland

The participation to the IHP-V and other environmental programmes of UNESCO has been financed by the Academy of Finland with some administration and participation costs also by the Ministry of Education. The scientific project proposals have been evaluated using the review procedure of the Academy of Finland.

Coordination between UNESCO-programmes and also with some other international programmes (WCRP, IGBP, IHDP, SCOPE) has been and is carried out in the Finnish Global Climate Change Research Support Group (FIGSU) nominated by the Academy of Finland. Close co-operation between the environmental programmes of UNESCO and UNESCO National Committee of Finland has continued.

In UNESCO, IHP-V (Hydrology and water resources development in vulnerable environment, 1996-2001) - projects Finland had representatives as follows:

- IHP V 1.3 Hydrological interpretation of global change predictions; rapporteur Esko Kuusisto
- The Second International Conference on Climate and Water, organized 1998 in Finland produced the resolutions for future activities. Technical Report of Rapporteurs "Climate and Water: On the search for improved interconnections between climate models and scenarios, hydrology, and water resources management", prepared by Olli Varis, Tommi Kajander and Risto Lemmelä, was published in 2002 and will be delivered during the 15th Council Meeting of IHP
- IHP V 1.4 Strategies for water resource assessment and management under conditions of anthropogenic global climate change; rapporteur Esko Kuusisto
- IHP V 4.2 Strategies for water resources management in emergency and conflicting situations; rapporteur 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 1.1 FRIEND Steering group meetings; Pertti Seuna, member

The **main activities of Finland during IHP V** have been organizing international conferences, the latest one:

The International Symposium on natural hazards: Recent Crustal Movements, Helsinki, Finland, August 27.-31, 2001

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

Finland has organized regional meetings, the latest one: The 13th Northern Research Basins symposium/workshop in Saariselkä, Finland 19.-24. August 2001

Nordic cooperation (Denmark, Finland, Iceland, Norway and Sweden) has continued.

The co-operation with Estonian IHP-committee has also continued in administrative, scientific and educational level. 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-conferences and seminars
- organising the meeting of UNESCO Scientific committees in Finland, May 2001
- publications; Geophysica Vol 37, Nos. 1-2, 2002; Special Issue: Geophysics in Finland During the 1900s; Hydrology During the 20th Century. Separate articles by E. Kuusisto, J. Virta, P. Vakkilainen, R. Andberg (Finnish Participation in Unesco Hydrological Programmes) and R. Lemmelä (International Activities and Co-operation in Hydrology).

The main **activities in the future** are as follows:

- follow up of World Conference on Science
- follow-up of Conference on Climate and Water
- financing research concerning hydrological processes (ex. Predicting Impacts of Land Use Changes on Catchment Hydrological Processes)

The **foreseen activities concerning the IHP-VI** (Water interactions; systems at risk and social challenges), 2002-2007 are:

* the follow-up IHP-V; 1.3, 1.4 and the results of the International Conference on Climate and Water. This belongs in IHP-VI to theme 1, Global Changes and Water Resources

* under IHP-VI, theme 2, Integrated Watershed and Aquifer Dynamics, input data will be received through the research on Predicting Impacts of Land Use Changes and Catchment Hydrological Processes

* under the theme 4, Water and Society, the focal area 4.1, Water , Civilization and Ethics provide the framework to develop new water ethics. The need for ethical considerations within science and technology were underlined by the creation of the COMEST (the World Commission on the Ethics of Science and Technology) by the General Conference of UNESCO in 1997. COMEST launched the RENEW (the Research and Ethical Network Embracing Water) network first to Australia-Southeast Asia-Pacific region and after the good results from there to the Baltic and Nordic Countries in summer 2001. Finland participated to the start and will promote the work and efforts on this area.

* in theme 4 continuation will be done on the research project Interconnections of Water, Food, Property and Urbanization

* in theme 4 , in focal area 4.3, Water Conflicts, their Prevention and Resolution, participation on the interbasin water transfer and related matters will be continued, IHP-V, Doc. 28.

Finland informed in Regional Meeting of the IHP National Committees of Electoral Groups I and II in Berlin that it is ready to produce guidance material to high priority area International Waterbodies (see Report of the Meeting p. 4)

* in theme 5, Water Education and Training, supporting the planned work on launching the GOUTTE of water (Global Organization of Universities for Teaching, Training and Ethics of Water) and continuing the work in the European Thematic Network of Education and Training (ETNET) for Environment-Water.

Water resources and supporting ecosystems will be of the highest priority of UNESCO activities between 2002 and 2007. However, IHP Finland would be pleased to see efforts for prioritizing on the themes and focal areas in the planned IHP-VI.

Norway

The Norwegian Hydrological Committee (NHR) includes 28 members institutions, which all contribute with tasks concerning hydrology. NHR functions as the national IHP-committee, and has close contacts with the Norwegian UNESCO Committee. The chair is held by Prof. Nils Roar Sælthun, the Norwegian Institute for Water Research/University of Oslo, and the secretary is Anne Haugum, the Norwegian Water Resources and Energy Directorate.

National activities:

- 9 committee meetings and 2 annual meetings have been arranged during this period.
- 7 seminars have been held:
 - Geothermal energy (coarrangement with NGU)
 - E-training and E-education in hydrology
 - Norwegian water research (World Water Day 2001)
 - Management of large rivers - a challenge for the future (World Water Day 2001, coarrangement with the Norwegian Water Association and the Chartered Engineers' Development Aid Forum)
 - Urban drainage - new challenges (coarrangement with NORVAR)
 - Norwegian Arctic Research
 - Climate Change and Water - effects on society and environment (World Water Day 2002, coarrangement with the Norwegian Water Association)
- NHR has its own home pages on the Internet, the address is as follows: <http://www.hydrologiraadet.no>
- Hydrological research: NHR is promoting a proposal for a new Norwegian research program called "Water Balance of Norway", and other initiatives towards the Norwegian Research Council.
- NHR is local organiser of the Stockholm Junior Water Prize together with the Water Association of Norway, with Kaldnes as sponsor.

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 Thomas Skaugen

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

IHP VI

NHR has responded to the draft proposal for the IHP VI, and has particular interest in the following themes: Focal Area 1.3 "Integrated assessment of water resources in the context of global land-based activities and climate change", Focal Area 2.4 "Methodologies for integrated river basin management", Focal Area 3.3 "Maountains", Focal Area 4.1 " Water, civilization and ethics" and Focal Area 5.2 "Continuing education and training for selected target groups". Norway is participating in the establishment of the book series "Water and Civilization".

IHP meetings

NHR was represented on the meeting in Paris June 2000, and Norway was member of the Intergovernmental Council until 2001. NHR did also participate in the Regional Meeting of the IHP National Committees of the Electoral Groups I and II, Berlin February 2002.

FRIENDs Steering Committee

Norway is represented in the FRIENDs Steering Committee and has two regional group leaders, project group 2, "Low flows", and Project group 3, "Large scale variations in hydrological characteristics"

Northern Research Basins

NHR has been represented at the 13th International Symposium and Workshop in Finland and Russia.

RENEW Node

NHR was active in establishing the Nordic-Baltic node of the UNESCO Commission on the Ethics of Scientific Knowledge and Technology (COMEST) Nordic-Baltic node of the RENEW network (RENEW: Research and Ethical Network Embracing Water), and presently holds the chair.

Future activities in Norway:

Norway will continue its participation in FRIEND and Northern Research Basins. Norway is hosting the 22nd Nordic Hydrological Conference in August 2002, and with NHR as local organiser.

A 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 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. Sweden has the chairmanship of KOHYNO during 2002-2003.

In line with earlier documents (1998-02-25, 1998-09-24, 2000-04-25), the Swedish IHP-Committee is particularly interested to participate in the following six topics.

Ecohydrology Focal areas 2.5 Ecohydrological approaches in environmental systems, and 4.4; human and environmental security and water-related disasters)

Groundwater Focal areas 1.1 Global distribution of contemporary resources: water availability (supply) and water quality; 1.4 The changing character of receiving waters as a consequence of land-based activities and climate change; and 3.3 Temperate zones

Freshwater-coastal sea Focal areas 1.4 The changing character of receiving waters as a consequence of land-based activities and climate change; and 3.7 Small islands and coastal zones

Water bodies – lakes Focal area 1.1 Global distribution of contemporary resources water availability (supply) and water quality

Urban hydrology Focal areas 3.3 Temperate zones; and 3.8 urban area interactions in particular climate regions; and 3.8 Urban water interactions in particular climate regions.

Transfer of knowledge Focal area 5.3 Water interactions an public awareness raising

The Swedish Committee has been active in the development of the HELP programme, and at presently preparing the HELP Symposium "Towards integrated catchment management, Increasing the dialogue between scientists, policy makers, and stakeholders, that will take place in Kalmar, Sweden the 18-22 August 2002.

It is within the responsibility of the Swedish IHP committee to analyse what possible gaps of knowledge that needs to be challenged in order to meet new national environmental laws, goals and EU's water frame work directive. The focus of EU's water frame work directive is to clarify interaction between humans, land, water and biota. An investigation of needed hydrological knowledge was initiated during a one-day seminar with the Swedish IHP committee and the Swedish Environmental Protection Agency (NV), in autumn 2001. It was concluded that Swedish environmental conditions are considerably different from conditions in continental Europe, and consequently, we can not simply transfer knowledge from other regions to Swedish conditions. The Swedish IHP-committee will follow up the workshop with a written synthesis of present knowledge gaps and research needs to enable implementation of laws, goals and water frame work directives. Special attention will be taken to transfer of knowledge to NV and other involved authorities, municipalities, planned water districts, journalists and the public. In this respect it is important to make people and organisations aware of the possible sacrifices needed to be done to avoid non-wanted environmental effects.

Although the present situation with a number of new environmental laws, goals and the need to live up to EU's water frame work directive, at present has made us focus on assessment of knowledge gaps and transfer of knowledge within Sweden, we will also certainly concentrate our efforts on bridge building between Swedish hydrologists and the international arena. Efforts have and will be taken to involve Swedish researchers in the FRIEND and HELP programmes, both from an European and an international perspective. We will focus on integrated catchment management both in industrialised and developing countries, with attention both to implementation of available knowledge, tools and management strategies and identification of research needs in order to fill gaps in order to enable efficient management of land and water resources.

The Nordic cooperation within the framework of KOHYNO will continue to be an important platform for our work. The Swedish IHP-committee has is represented in the Northern FRIEND steering committee, and participated in the meeting with the steering committee held in Cape Town in March 2002, in connection to the FRIEND conference.

Our former chairman, Professor Malin Falkenmark, left the Swedish IHP-committee January the 11th 2002. Her position is now held by Professor Lars O Eriksson, Chalmers University. In addition, our secretary Ms. Iréne Johansson has left the Swedish IHP-committee. In January 2002, she was replaced by Ass. Professor Lotta Andersson, Linköping University.

Future activities will both include further involvement in the HELP and FRIEND programmes, and possible also in other international programmes. In addition, the Swedish IHP-committee, see it as one of its major tasks to identify, and clarify for governmental ministries and funding agencies what water-related knowledge that will be needed to fulfil new environmental laws and EU's water framework directive. KOHYNO will participate in a half-day workshop about Nordic implementations of the water framework directive, arranged during the Nordic Hydrological Conference in Röros in August 2002.