

# ***NATIONAL IHP-ACTIVITIES IN THE NORDIC COUNTRIES September 1996 - May 1998***

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Denmark, Finland, Iceland, Norway and Sweden

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## **1. Activities undertaken in the period September 1996 - May 1998**

### 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 10-13 August 1998 in Helsinki, Finland. The association takes part in organising smaller seminars, workshops etc. Membership to the Association is either individual or corporate.

There are about 300 individual and 30 corporate members in the Association

#### *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; one member from each Nordic IHP committee).

#### *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 1997-98 comprised 15 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. Northern Research Basins (NRB)
5. The Second International Conference on Climate and Water 1998)
6. Groundwater resources at risk
7. Cost-Benefit analysis of hydrological data
8. Time series analysis
9. A Nordic hydrological information system (GIS)
10. Nordic water balance map 1961-90
11. Nordic network on reference watersheds
12. An advanced course on Snow in NorthEuropean Environment
13. De-icing and Dustbinding - Risk for aquifers
14. Long term impact of agriculture on losses of nitrogen from land to sea
15. Nordic hydrological conference (NHK 98), Helsinki, Finland

#### National IHP activities in the Nordic countries

##### **Denmark**

One of Danish Water Resources Committee's (DVK) important tasks is to work as the national IHP Committee and be responsible for the relations to the Nordic Hydrological Programme through its coordination committee, KOHYNO. At present Denmark is a member of the IHP Intergovernmental Council on behalf of the Nordic countries for the five year period (1996-2000). Other tasks include (i) exchange and dissemination of information, (ii) relations to WMO (Commission for Hydrology-/hydrological advisor), (iii) tasks generated by external demand and (iv) tasks where DVK has taken independent initiatives (national water resource information system, convining conferences, input to research programmes/strategies etc.).

Exchange and dissemination of information have been major activities in 1997-98 both at DVK-meetings, at public meetings arranged by DVK and through the newsletter 'Nyt om Vandressourcer' (Water resources news). In 1998 DVK will arrange two public meetings: "Our threatened water resources - a global theme" (5 May 1998) and "Water Action Plans - experiences from alternative implementation strategies" (October 1998).

At present the funding of hydrological research in Denmark is characterised by a high priority to groundwater research projects. The most recent national initiative is part of the Danish Environment Research Programme (SMP). As a new sub-programme a comprehensive project on "Pesticides and Groundwater" has been released for the period 1996-99.

DVK was responsible for the International Conference on Operational Water Management held in Copenhagen 3-6 September 1997 as the third conference of the European Water Resources Association

(EWRA). It was organised jointly by the Danish Water Resources Committee (DVK), the Geological Survey of Denmark and Greenland (GEUS) and EWRA. The specific objectives of the conference were: (1) to present the newest research results from the various disciplines, (2) to present case studies involving applications of operational water management, and to bring together experts and professionals and provide a forum for exchange of information and experience.

On behalf of DVK Svend Elsnab Olesen, Danish Institute of Agricultural Sciences Research Centre Foulum participated in an international UNESCO workshop in Zaragoza, Spain on "Agricultural threats to groundwater". Furthermore, Edmund Gosk, GEUS, has been member of the IHP-V working group of project 3.2 and participated in one meeting in Paris; The first draft of the guidebook is being prepared.

In cooperation with Groundwater Research Centre at the Technical University of Denmark, DVK has initiated the preparations for an international conference on Groundwater Research: Groundwater 2000 to be held 6- 8, June 2000 in Copenhagen, Denmark, with the main topics: (1) Redox processes in contaminated and pristine aquifers, (2) Aquifer properties, governing processes, and fate of organic compounds and (3) Groundwater protection and remediation technology.

In April 1997 DVK has established a homepage (WWW) for dissemination of information regarding the activities of the committee (<http://www.geus.dk/dvk>). More detailed information on Nordic Hydrological Programme are available from this website.

## **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 newly founded FIGSU (The Finnish Global Climate Change Research Support Group). Close co-operation between environmental programmes and UNESCO National Committee of Finland has continued.

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

- 1.3 Hydrological interpretation of global change predictions; Esko Kuusisto
- 1.4 Strategies for water resource assessment and management under conditions of anthropogenic global climate change; Esko Kuusisto
- 4.2 Strategies for water resources management in emergency and conflicting situations; Olli Varis

The main national activities concerning IHP Programme have been:

- Financing yearly 3 - 5 research projects
- Finnish participation and organisation in international IHP-conference and seminars
- Publishing the reports "Climate and Water in Europe; water quality and aquatic ecosystems"(IHP & WMO RA VI working group report), "National Inventory of the Major Lakes and Reservoirs in Indonesia" (UNESCO Regional Office and Expedition Indonau Tech. Report).
- Financing the reprint of the "FRIEND Report Vol. 1 Hydrological Studies".

The co-operation with Estonian IHP-committee has continued. The co-operation has been active in administrative, scientific and educational level. The Finnish IHP Committee has been able to finance the participation of Estonian researchers in international conferences, seminars and courses organised in Finland.

On sub-regional level Finland organised a Nordic-Baltic meeting for preparation for the Nordic Hydrological Programme (1997-1998) in November 10 -12, 1996 in Helsinki and Tallin, Estonia. Secretary general Andras Szöllösi-Nagy from IHP-secretariat took actively part in the meeting.

Finland will organise two international conferences in 1998:

- The Second International Conference on Climate and Water Espoo, Finland, 17-20 August 1998 (IHP -V; 1.2, 1.3 and 1.4 - Chairperson of the international organising committee Risto Lemmelä)
- International Symposium on De-icing and Dustbinding - Risk to Aquifers 14 - 16 October 1998, Helsinki, Finland

## **Iceland**

The Icelandic Hydrological Committee has seven members nominated by six institutions and appointed by the Minister of Culture and Education as the national IHP-committee. The committee was founded in 1986 and has ever since been provided with funds and manpower, including a general secretary, by the National Energy Authority (NEA).

Following organisational changes at the NEA effective from January 1, 1997, it became clear that more involvement and support, including funds, had to be found from other sources, for the continuation of activities by the committee. The ways and means for this are presently being actively sought.

In the meantime, the main task of the IHP, besides aiding and promoting the flow of water related information to and from Iceland and co-ordinating Icelandic participation in IHP projects, has recently been to organise the 12<sup>th</sup> Northern Research Basins Symposium and Workshop. The symposium will be held in Iceland on August 23-28, 1999. The theme is High Latitude Hydrology and Global Climate.

## **Norway**

The Norwegian Hydrological Council (NHR) includes of 25 members institutions, which all contribute with tasks concerning hydrology. NHR functions as the national IHP-committee.

### *National activities:*

- 9 committee meetings and 2 annual meetings have been arranged during this period.
- 5 seminars have been held:
  - Hydrological research in Norway
  - Commercialising and pricing of hydrological services
  - Is standardising of water data necessary?
  - Nordic seminar on low flow hydrology
  - Norwegian water research (current status)
- NHR has worked- and laid out its own home pages on the Internet, the address is as follows: <http://www.nve.no/nhr>
- Published reports:

- No. 1 Water and values (1996, *in Norwegian*)
- No. 2 Hydrological research in Norway (1997, *in Norwegian*)
- No. 3 Water data – pricing, standardising (1997, *in Norwegian*)
- No. 4 Nordic Seminar on Low Flow (1997)
- No. 5 Norwegian water research (1998, *in Norwegian*)

*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 erosion processes: Johannes Deelstra

FRIENDs Steering Committee

Norway has its own representation in the FRIENDs Steering Committee and was represented in a meeting in Postojna, Slovenia on the 3<sup>rd</sup> of October 1997.

Northern Research Basins

NHR has been represented in a symposium and workshop in Alaska on the 18-19 August 1997.

*EU- Task Force Environment Water*

NHR has contributes to EUs Task Force Environment Water.

**Sweden**

The Swedish National IHP Committee is composed of scientists and representatives from sector authorities. The Committee is now focusing their activities on the fifth phase of IHP 1996-2001; Hydrology and Water Resources Development in a Vulnerable World, and is presently engaged in the following projects:

*Interaction between land, water and environment*

An integrated land-water approach is an important mean to achieve a sustainable use of land and water resources. This approach and barriers against its implementations have been highlighted at three different workshops during 1996 and 1997: *The Interplay between land – water – environment. Physical planning as a mean to reach societal goals.* 16 – 17 April 1996, *A dialogue concerning the Krisitanstad Plain. The interplay between land – water – environment in physical planning and to reach sustainable land use,* 21 –22 May 1997 and *How to cope with degrading groundwater quality in Europe,* 21 –22 October 1997.

The three workshops have been conducted in co-operation between the Swedish national committees for IHP and MAB. These committees have been during past years taken several initiatives to enhance the dialogue and co-operation between the natural and social sciences concerning land – water issues. Problems in this area in need of research are being identified as a result of the workshops as a basis for further initiatives.

#### *Ecological – hydrological monograph*

The Swedish IHP Committee has prepared with international well-known authors a publication on *Water, a reflection of land use. Options for improving land and water management*. The book aims at clarifying for the layman the interactions between man, land and water. Its main purpose is to demystify the hydrological cycle by conveying a comprehensive image of the different functions of the water circulating through the watercycle, passing through different landscapes, above and below the soil surface, so that better attention can be paid to its consequences in future decision making. The objective is to open Man's eyes to his own dependence on interaction with and its quality by human settlements and to the ways in which his own actions interface with the globally circulating water. The book is in print.

#### *International project NOPEX*

Sweden has the responsibility for the international project A Northern Hemisphere Climate Processes Land-surface Experiment (NOPEX). This Northern hemisphere climate processes land-surface experiment aims at improving the parameterisation of exchange processes for mosaic-type landscape dominated by the boreal forest. The project is organised around a series of time-limited Concentrated Field Efforts tied together by a Continuous Climate Monitoring Programme.

## **2. Future Activities**

The planned joint projects and participation for the years 1999 - 2000 will be decided at a KOHYNO meeting in Sweden in autumn 1998. Some of the above projects will continue and contribute to IHP V, others will be finalized in 1997/98, and new projects will be initiated and carried out during 1999-2000. The next Nordic Hydrological Conference is planned to take place in Helsinki in August 1998. KOHYNO will follow up on existing IHP-projects and will take part in the planning and implementation of IHP VI.