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REGIONAL ASSOCIATION VI (EUROPE)
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**SUBGROUP ON INSTITUTIONAL
ASPECT OF MONITORING AND ASSESSMENT**

Draft Report by the Chairperson, Mr A Snorrason (Iceland)

**WORLD METEOROLOGICAL ORGANIZATION
REGIONAL ASSOCIATION VI (EUROPE) - WORKING GROUP ON HYDROLOGY
Sub-group on Institutional Aspects of Monitoring and Assessment
Chair Dr. Árni Snorrason, Iceland**

**Report on activities of the
Sub-group on Institutional Aspects of Monitoring and Assessment**

Background

At the meeting of the RA-VI WGH in Berlin in 2002, Árni Snorrason, Iceland and Markku Puupponen, Finland presented a Memorandum on procedures to strengthen the co-operation between the European Hydrological Services (EHS) and other environmental monitoring network operating institutions. This memorandum stated that:

There is a growing need for closer a co-operation between network operating institutions. The forum for institutions that are responsible for the operation of national hydrological networks is within the RA-VI Working Group on Hydrology (WGH), but currently its co-operation with institutes operating other environmental monitoring networks is limited. The call for integrated environmental information, e.g., the EU Water Framework Directive, and the pressure for increased efficiency in the management of monitoring networks demands improved co-operation. It is, therefore, suggested that:

- 1. WGH should meet annually at an informal meeting for discussion and consultation among the members.*
- 2. WGH should formalise its co-operation with EU regarding the EU Water Framework Directive.*
- 3. WGH should establish a dialogue with those responsible for the European implementation of the EU Water Framework Directive. The annual meeting of WGH can serve as a forum for this dialogue.*
- 4. WGH should emphasize the hydrological dimension and contribution to the EU Water Framework Directive at all levels including the European, the international river basin, the national and the river basin district level*

The hydrological contribution that will be needed for the implementation of the EU Water Framework Directive may exert considerable influence on the design of the future environmental monitoring networks. The suggestions above should increase the likelihood of successful integration of hydrological and other environmental networks since it facilitates a dialogue between the actors and stakeholders in the European arena.

This memorandum served as a basis for an extended discussion of the issues put forward in the memorandum as well as other issues relevant for the NHS and their collaboration. This discussion led to a proposal to establish a sub-group under the chairmanship of Árni Snorrason, Iceland, that would tackle some of these issues. This proposal was accepted by the RA-VI regional meeting with the following:

TERMS OF REFERENCE FOR THE WORKING GROUP ON HYDROLOGY / sub-group on Institutional aspects of monitoring and assessment (surface water, groundwater, quality and quantity)

In consideration of the problem posed by the insufficient standardization of data-collection and processing procedures, even at the national level between various agencies, and of

the requirements for monitoring established by the European Union Water Framework Directive:

- (a) To investigate the institutional and organizational aspects of hydrological monitoring and assessment by means of a mapping of the monitoring actors and programmes;*
- (b) To assess the needs for hydrological information to contribute to the formulation of standards on measurements and data processing and to formulate proposals for integrated monitoring network design and assessment;*
- (c) To support RA VI member countries in the application of river basin management plans and of the European Union Water Framework Directive;*
- (d) To establish and maintain collaborative contacts with the main bodies (NHSs, the European Commission, the European Environment Agency, etc.) in this area with a view to increasing the role and visibility of NHSs with international conventions and the European Commission, also by means of attendance to, or organization of, workshops involving the key bodies for cooperation and active participation in the planning of the Conference on Hydrological Monitoring foreseen for 2005 in the Netherlands.*

Institutional mapping

One of the very central background factor for the role of the Hydrological Services was considered to be their institutional status. Different possibilities for the mapping of institutional background and summarizing its results were discussed:

- the mapping should result in a concept where both the administrative and the scientific levels, and their interactions, are presented
- the description of the science level should show the main linkages between hydrology and other relevant disciplines, ecology being a very important component
- a relatively low number of basic institutional solutions can be defined for the Hydrological Services, and this should be utilized in the mapping concept
- the mapping can be carried out by using selected experts that are responsible for sub-regions
- EC has some formal information related e.g., to the national focal points; also hydrological
- indicators are very important in multidisciplinary work (this issue is not in the core on institutional mapping, but it was raised in the discussion).

A simplified questionnaire regarding the institutional status of the EHS as well as questions regarding their involvement in the Common Implementation Strategy of the EU WFD was send out to all members of RA-VI. The response was relatively good regarding the first issue, but poor with regard to the second issue. The results are summarized in Annex 4.

Collaboration with EC/DG Environment

During the 1st phase of the implementation of the European Water Framework Directive (WFD), the European Hydrological Services (EHS) did not contribute as a community, and in most cases, also the national input was inadequate. There were several reasons for this, e.g., the leading role of ecology and various institutional aspects. However, as the hydrological community can give a strong input into the implementation, and as the WFD may also call for new hydrological practices, the EHS would like to have a more active role during the 2nd phase of the implementation. Based on this, one of the tasks of the Sub-group on Institutional Aspects of Monitoring and Assessment (IAMA) was to establish contacts and co-operation with the European Commission (EC). To formulate our approach, the IAMA held a meeting in association with the General Congress of WMO in Geneva in

2004 (see the minutes in Annex 1). A representative from the EC/DG Environment, Marta-Christina Moren-Abat attended the meeting which was instrumental in formulating an approach on how and through which channels the co-operation could develop. As a follow up of this meeting an Expression of Interest (see Annex 2) was formulated and sent to EC/DG Environment clarifying the possibilities for hydrological contribution from the EHS with a request for an observer status in the Strategic Coordination Group (SCG) of the Common Implementation Strategy (CIS) of the WFD. This request was received positively by the EC/DG Environment so IAMA has gained an observer status at the SCG meetings. This is, in my view, an extremely important development in establishing co-operation between WMO and the Commission. The chair of IAMA has been invited to the meetings of SCG since October last year and has attended the meetings.

WMO and the EU Commission recently signed a Memorandum of Understanding concerning the co-operation of WMO and EU. Many of the issues we have raised were mentioned in the MoU and we feel that our initiative is very much in line with the general objectives of the WMO and EU Commission regarding co-operation in the field of Hydrology and Water Resources.

Discussion between IAMA and EC/DG Environment has shown interest on behalf of both parties to develop the co-operation into more substantial tasks or projects, possibly co-funded by EC/DG Environment and WMO focusing on particular issues where the know how and expertise of the Hydrological Services and WMO align with the needs of the CIS. Some of the areas already discussed are in the Reporting, in the Flooding initiative and in the Droughts initiative. Last, but not of least importance is the global issue of climate change effects to water resources which is a great concern of both WMO and EC/DG Environment.

Contacts have already been made with the Working Group leader on Reporting and the Steering Group for Reporting will analyse the involvement of EHS as a member of the group. On the flooding initiative the Commission invited to a Consultation meeting in late April open to Member States, NGOS and Stakeholders. The EHS, as SCG member, was invited to the meeting including a representative from the WMO Secretariat. On the Droughts initiative, the involvement of the EHS in the production of the document is under discussion.

A second meeting of IAMA and the WMO Secretariat was held at the CHy meeting in Geneva in October 2004 (see minutes in Annex 3). The main task for the meeting was to formulate in further details a plan for the activities that should be put into priority and develop further how such co-operative tasks and projects could be co-funded by WMO and EC/DG Environment on the basis of the recent MoU. The following were the main decisions for future actions:

WMO will consider possibilities for funding the future work of WG-IAMA, and the expected future work during the RA VI work programme 2005 - 2008.

The chairman and Ms. Zuza Buzas will make a summary of the results on institutional mapping (decided in the previous meeting) and present the results at the next meeting of RA VI WGH.

The chairman will try to organize a bilateral meeting between the European Commission and WG-IAMA (representing ENHS) in order to discuss possible contributions for CIS II. The representative of WMO will participate.

The European Commission will be invited to send its representative to the next meeting of RA VI WGH.

WG-IAMA has set an objective to present hydrological applications, related to WFD, and discuss future work in some relevant conference. Mr. Piet Warmerdam will study possibilities to arrange a conference in the Netherlands in 2006 (or 2007).

It was noted, that the e-mailing list of RA VI WGH should be updated to cover the present Hydrological Advisors of RA VI and active WGH members.

Sincerely,

Dr. Árni Snorrason, Chair
Sub-group on Institutional Aspects of Monitoring and Assessment
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ANNEX 1.

MP / 26.5.2003

**WORLD METEOROLOGICAL ORGANIZATION
REGIONAL ASSOCIATION VI (EUROPE) - WORKING GROUP ON HYDROLOGY**

Working Group on Institutional Aspects of Monitoring and Assessment

Minutes of the start-up meeting 8 – 9 May 2003

Venue

WMO Building, 7 Avenue de la Paix, Geneva

Participants (see also annex 1)

Arni Snorrason, Iceland (chair)

Tommaso Abrate, WMO

Siegfried Demuth, Germany

Alberto Rodriguez Fontal, Spain

Pierrick Givone, France (vice-chair of WMO RA VI WG on Hydrology)

Karl Hofius, Germany

Jan Kubat, Czech Republic (chair of WMO RA VI WG on Hydrology)

Guisseppina Monacelli, Italy

Marta Moren, European Commission

Atanase Mustatea, Romania

Markku Puupponen, Finland

Peter Roncak, Slovakia

Opening

Arni Snorrason opened the meeting and wished all participants welcome. The presence of EC/DG Environment, and the chair and vice-chair of WMO RA VI WG on Hydrology was recognized and appreciated. WMO was acknowledged for hosting the meeting.

Some background was given for the work. In the previous meeting of WG on Hydrology (Berlin 2002), a state-of-the-art report was presented on "Integration of environmental monitoring networks". The report and its assessment highlighted the need for closer co-operation between the network operating institutions. The relations between the family of National Hydrological Services and the EU was considered to be very important, especially due to the implementation of the Water Framework Directive (WFD). The WG on Hydrology decided to suggest for a new sub-group that would work for this goal during the next work programme 2002-2005. This proposal resulted in the establishment of the Working Group on Institutional Aspects of Monitoring and Assessment in a meeting of WMO RA VI in July 2002. The terms of reference of the group are given in annex 2.

Terms of reference

The ToR were discussed in general. RA VI includes some 50 countries - many of them in the Near East and Central Asia. It was noted, that as the work will focus on the WFD, and related institutional aspects, the RA VI member countries do not have the same formal status in the process. However, it was recognized, that very many countries in the region are prepared for the WFD process, and are willing to develop their future activities along these lines. Based on this, the work of the group was expected to be interesting for most of the RA VI members.

Institutional mapping

One of the very central background factor was considered to be the institutional status of Hydrological Services. Different possibilities for the mapping of institutional background and summarising its results were discussed:

- the mapping should result in a concept where both the administrative and the scientific levels, and their interactions, are presented
- the description of the science level should show the main linkages between hydrology and other relevant disciplines, ecology being a very important component
- a relatively low number of basic institutional solutions can be defined for the Hydrological Services, and this should be utilized in the mapping concept
- the mapping can be carried out by using selected experts that are responsible for sub-regions
- EC has some formal information related e.g. to the national focal points; also hydrological
- indicators are very important in multidisciplinary work (this issue is not in the core on institutional mapping, but it was raised in the discussion).

Implementation of the WFD

Marta Moren presented the WFD and its implementation. The first part of the presentation was an overview of the background factors and the results produced (e.g. guidance documents) during the first phase on the implementation (till the end of 2002). The second part focused on the future work and the special interests of the EC on GIS aspects.

The Common Implementation Strategy (CIS) aims at common understanding on the main principles, arrangements and methods that can be applied. All of the EU, EFTA and candidate countries are represented at various levels. The work is managed by the group of Water Directors. The Strategic Coordination Group is coordinating the expert work, and preparing issues for the Directors. The expert work is carried out by working groups that receive input from their national representatives, and various advisory groups, NGOs and scientific communities.

The second phase on the implementation work is starting, and it includes four main themes: ecological status, integrated river basin management, groundwater and reporting. The Water Directors are expected to approve this work plan in their next meeting in June 2003.

The thorough presentation was followed by a general discussion. The fact that the WFD stresses mainly the importance of and contribution from ecology, easily creates a "distance" between the hydrological community and the CIS organization. The group agreed that it would be important to produce some hydrological contribution and input for the working groups within the CIS. Work and contacts at the national level are also needed, but as a community, the Hydrological Services should be both visible at the CIS level, and be aware of the process and its requirements. The discussion showed, that there may be various problems for the hydrological community to contribute nationally (e.g. lack of communication, insufficient interchange of experiences and practices).

Marta distributed her presentations "Current and prospective on water policy" and "Special interests of the European Commission on GIS aspects" (these two files also as annex 3), and a draft paper on "Elements of a common vision requirements". She also delivered files "Work Programme and joint timetable / Working Structure under the CIS in 2003/2004" (annex 4), "Working Group 2D – Reporting" (annex 5), and "Best practices on flood prevention, protection and mitigation" (annex 6). All these are working documents for the information of the participants only.

Forms of hydrological contribution

The meeting discussed approaches and topics for hydrological contribution to the CIS. The following aspects were considered to be important:

- expertise in monitoring systems - existing infrastructures that can be utilized for integrated monitoring at marginal cost
- expertise in production processes: monitoring-data-information
- capacity for assessment – both spatial and temporal applications available
- geoinformatics (GIS, mapping) on water resources carried out by most hydrological services
- good capabilities and close co-operation in meteorological sciences – the role of climate change and variability
- flood and draught studies (RA VI WG on Hydrology has many flood related work items)
- hydraulics applications available (important linkage in river ecology)
- interaction and integration between data, products and research.

It was noted, that the EC FP6 gives high priority for many of the above aspects.

Future work

The meeting discussed possibilities for input and co-operation. It was agreed that the working group level of the CIS would be a good forum at the EU level.

According to the EC view (that was agreed by the meeting), the WG2D (reporting) could clearly benefit from hydrological input. Especially the process: "data collection – data treatment - information user – purposes for reporting" could be studied from this point of view. This process also includes potential feedback to monitoring network design and operation. The other groups within the CIS umbrella could benefit as well – they all have some hydrological components.

In addition to the minutes of this meeting, the working group will produce a summary paper on hydrological aspects related to the CIS (justification paper for the hydrological contribution). The chairman will draft the paper that will be sent to the EC/DG Environment for background, and to be considered as an expression of interest application to be part of the CIS process.

The next meeting of the Water Directors (June 2003) will discuss a report on floods in Europe. The follow-up of this process may call for new hydrological input.

Pierrick Givone informed about a FP6 project proposal (GMES – Global Monitoring for Environmental Security) that is co-ordinated by Cemagref and under development. He asked for possible core group partnership within the working group. As a sub-group of a WMO body cannot be a partner (?), Arni put himself as a contact person at this stage.

Guisseppina Monacelli told that there will be a GMES conference in Athens on 4-6 June. She also promised to deliver a BICEPS (Building an Information Capacity for Environmental Protection and Security) report, that was commissioned to examine the scientific and technical design issues that are influential in relation to the development of a European capacity for GMES (annex 7).

The chairman will produce a proposal for institutional mapping.

The members will consider and develop possibilities for acting at a national level.

Timetable and budget

It was decided, that the working group will make its work plan and timetable after the EC response.

Activity report for RA VI will be made at the end of the year 2003.

WMO will study possibilities of providing resources for the working group. This budget would allow further discussions with the CIS actors and a meeting of the RA VI members e.g. during late 2003.

WORLD METEOROLOGICAL ORGANIZATION
REGIONAL ASSOCIATION VI (EUROPE) - WORKING GROUP ON HYDROLOGY
Sub-group on Institutional Aspects of Monitoring and Assessment
Chair Dr. Árni Snorrason, Iceland

Expression of Interest

Hydrological Contribution of the European Hydrological Services to the Implementation of EU-WFD

Introduction

The European Hydrological Services (EHS) form a community that is responsible for many operational and scientific tasks related to water resources. Institutional patterns and services may change country by country, but the activities are focused on the quantity aspects of the hydrological cycle and the inland water resources. The EHS form a network within the World Meteorological Organization (WMO) Regional Association Europe and its Working Group on Hydrology.

During the 1st phase of the implementation of WFD, the EHS did not contribute as a community, and in most cases, also the national input was inadequate. There were several reasons for this, e.g. the leading role of ecology and various institutional aspects. However, as the hydrological community can give a strong input into the implementation, and as the WFD may also call for new hydrological practices, the EHS would like to have a more active role during the 2nd phase of the implementation. The possibilities for the hydrological contribution are discussed briefly below.

Hydrological monitoring and assessments

The European Hydrological Services have as their central role the operation of the national hydrometric networks. These networks have, in many cases, been operated for a long time, in some cases over one hundred years. The data and information derived from these operations are fundamental for all national and regional water resources assessments, which has also been a key role of the EHS. The operation includes the following: a) network design, b) network construction and maintenance, c) field measurements and data collection, d) data processing and quality assurance, f) reporting and database management.

The assessment also utilizes the following data systems: g) Registry of rivers, lakes and other water bodies, h) GIS databases, i) Hydrological models at the basin scale, often generalised at the national (or international river basin) scale. The practices of the EHS are harmonized under the umbrella of WMO, and its Operational Hydrological Program, OHP provides the international framework for co-operation and standardisation within hydrology. The expertise, infrastructure, basic data and information reflected in this core task of the EHS must be of high value for the implementation of the WFD.

Integrated environmental networks

The operation of the core monitoring network creates a opportunity to integrate other environmental monitoring into its operation at a marginal cost that is considerably lower than implementing new networks. This is already the practice in many EHS: e.g. ground water

measurements, sediment sampling, sampling for qualitative and ecological analysis have been integrated into the network operation. This integration can be done on many levels, e.g. in the network design, in the field stations themselves by multi-sensor data loggers, in the field operations, in the data base management and in the reporting. This integration is not only economically efficient, but also generates syntheses that are essential to increase our understanding of the aquatic processes and eco-systems.

Information management and dissemination, GIS and hydroinformatics

The EHS presently use GIS systems for the management and representation of information on the many aspects of hydrological monitoring and assessments. The basic information layer of rivers, lakes, groundwater and glaciers is used extensively for the mapping and reporting of all types of information related to the aquatic environment. Furthermore, topography, water divides, vegetation, soil characteristics, hydrogeological characteristics and other geophysical information relevant for the understanding and modeling of the hydrological cycle are often available within the GIS. Furthermore, GIS is presently the basis for future development of hydrological models at the river basin scale. This is essential for efficient or rather: water resources assessments and serves as a basis for the assessments of the temporal and spatial aspects of surface and ground water, including water quantity, water quality, floods, droughts, risks etc

This synthesis of hydrological and environmental information in a comprehensive mathematical modeling framework is called hydroinformatics. This integration has as essential components; dynamic hydraulic and hydrological models, GIS data base, and data bases of hydrological and other environmental time series. Hydroinformatics is the tool to assess the status of the aquatic environment, to study the impacts of changes and it is the tool to identify the gaps in both our understanding of the systems as well as the gaps in our monitoring networks. Within this framework problem spanning from detailed eco-systems modeling to large scale assessment of climate on the hydrological systems, such as drought and floods can be carried out for the benefit of the decision makers and the public. The development of the tools of hydroinformatics has been a part of the tasks of the HS and will continue to be so. These tools are fundamental for present and future management of the environment.

The EHS have the role to disseminate hydrological data and information to stakeholders including the public. This tradition has been an integral part of the EHS from their early start and some of the hydrological yearbook series extend over many decades. This role has developed with technology and presently the EHS have been in the forefront of public institutions in disseminating information to the public. Their international co-operation has also lead to meta-databases on hydrology and hydrological practices.

Floods and Droughts

Information on floods and droughts are one of the key products derived from a long term operation of the hydrometric networks. On the bases of these records, the scale of floods and droughts can be assessed as well as the risk associated with these extremes of the hydrological cycle. In light of the escalating costs and losses associated with floods and droughts, the international hydrological community has joined forces under the leadership of WMO to study the hydrology of floods and droughts, their societal and environmental impacts as well as how these can be mitigated. The Working Group on Hydrology has put this issue as a top priority due to the recent catastrophic floods in Europe.

The EHS play a key role in any mitigation strategy due to their expertise in real time monitoring and flood forecasting. In fact, this is a clearly defined role is some of the EHS.

Research

The EHS have a long research tradition and have often played a leading role in European hydrological research. With the EU 6th Research Program they are likely to play even more important role due to the emphasis on environmental issues including climate change and its impact on hydrological conditions as well as natural risks including floods and droughts. Within the EHS and with them as research partners an integration of theory and practice leads to creative research environment that is quite efficient in developing new products for improved management of natural resources and the environment. Their international networks are also an important element in creating the critical mass necessary for success. The WMO covers weather, climate and water: this integration at the global level is essential for the international community to assess and respond to global problems. In particular the issue of climate change, floods and water scarcity. The interplay and impact of climate on the hydrological cycle is one of the most important topics in the environmental sciences to day and the long experience of the holistic approach to the understanding of the hydrological cycle must put the HS in the front line on the issues of global change.

Conclusion and recommendation

The EHS play a fundamental role in the monitoring and assessment of European water resources by providing the long-term systematic observations and water resources assessments integral to sound water management decisions. This role has a long tradition and should be extended into the realm of the EU-WFD. Furthermore, the EHS provide the bases for integration and extension of the traditional networks to include environmental and eco-hydrological variables. Integration from observation to mathematical models and information dissemination is also a central task of a modern Hydrological Service. The role of the EHS in flood management and mitigation should also be stressed in light of the recent increase in damages due to flood disasters.

Improved governance and decision making requires clear mandate, role and responsibility for the actors. Furthermore, institutional coordination is crucial for sound water management. The points above are especially relevant in disaster mitigation.

To facilitate the dialog between EC/DG Environment and the EHS as well as to enhance the hydrological contribution of the EHS to the WFD, the sub-group on Institutional Aspects of Monitoring and Assessment (IAMA, chair Árni Snorrason) applies for an active role in the Common Implementation Strategy, CIS, but one of the mandates of IAMA is to establish such a link. The CIS Working Group on Reporting, that also covers aspects of monitoring, could clearly benefit from this dialog, but other groups as well, since they all contain some hydrological components.

ANNEX 3

MP / 2004-10-29

**WORLD METEOROLOGICAL ORGANIZATION
REGIONAL ASSOCIATION VI (EUROPE) - WORKING GROUP ON HYDROLOGY**

Working Group on Institutional Aspects of Monitoring and Assessment

Minutes of the second meeting, 26.10.2004

Venue WMO Building, Geneva (in connection with CHy XII)

Participants (see also annex 1)

Arni Snorrason, Iceland (chair)

Tommaso Abrate, WMO

Zsuzsa Buzas, Hungary

Alberto Rodriguez Fontal, Spain

Dragan Jankovic, Serbia and Montenegro

Jan Kubat, Czech Republic (chair of WMO RA VI WG on Hydrology)

Guiseppina Monacelli, Italy

Tioslav Petkovic, Serbia and Montenegro

Markku Puupponen, Finland (secretary)

Peter Roncak, Slovakia

Pertti Seuna, Finland

Inita Stikute, Latvia

Dusan Trinic, Croatia

Michael van der Valk, Netherlands

Karel Vancura, Czech Republic

Piet Warmerdam, Netherlands

Opening and introduction

The chairman opened the meeting and wished all participants welcome. He presented briefly the background of the Working Group on Institutional Aspects of Monitoring and Assessment (WG-IAMA) that is a sub-group of the WMO RA VI Working Group on Hydrology during the Work Programme 2002 – 2005.

The chairman also summarized the progress since the previous meeting of WG-IAMA (May 2003). The group has prepared an Expression of Interest for the European Commission, applying for an observer status in the Strategic Coordination Group of WFD CIS II (Common Implementation Strategy for the Water Framework Directive / phase II). This group is coordinating the work of four CIS II working groups, and it prepares issues to be decided by the group of Water Directors – the highest decisive body of CIS II. The structure of CIS II is shown in annex 2.

The Expression of Interest included a summary of the types of contribution, that the community of European National Hydrological Services (ENHS) and WMO could offer during the implementation of WFD. This application was accepted, and the observer status was received during the Autumn of 2003. Since that, the chairman of WG-IAMA has participated the meetings of the Strategic Coordination Group.

During the work of Strategic Coordination Group, and in discussions with the European Commission, the following work items have been identified to be especially interesting from the point of view of hydrological contribution:

- CIS II Working Group on Reporting, and
- the flood and drought initiatives of the European Commission (task forces parallel to WFD CIS II).

Also the three other working groups of CIS II (Ecological status, Integrated river basin management, Groundwater) include hydrological components. As an observer, and a network of expert organizations, WG-IAMA can formulate issues that it wants to raise within CIS II. It can also nominate experts to work within the working groups depending on interests.

It was noted, that WMO and the European Commission have recently signed a Memorandum of Understanding, and this document strongly supports the objectives and work of WG-IAMA.

So far, WMO has not been able to give funding for the work of WG-IAMA. However, this would be necessary for continued role as an observer as well as with the actual expert work within CIS II.

Forms of participation

Different forms of WG-IAMA participation and action were discussed, and the following main lines were identified:

- continued participation in CIS II Strategic Coordination Group as an observer, designated by the European Commission
- participation in CIS II working groups as members, appointed by countries
- participation in CIS II working groups as WMO/ENHS representatives, accepted by the European Commission
- national activities for the preparation of CIS II work, or for national implementation of WFD
- participation in and input for relevant European Commission task force groups, such as the flood and drought initiatives

So far, the chairman of WG-IAMA will participate the meetings of Strategic Coordination Group. The next meeting (27.10.2004) will discuss the work programme of Strategic Coordination Group for 2005 – 2006. This item will clarify the timetables of CIS II working groups.

Currently it is not known, whom of the representatives of ENHS have been appointed to CIS II working groups, but this information is important and will be requested from the ENHSs. WG-IAMA was pleased to hear, that Ms. Zuzsanna Buzas represents Hungary in the WG of Integrated River Basin Management. Chairman and secretary will map the overall situation.

It was agreed, that participation in CIS II process, both participation in the SCG as well as the working groups as WMO/ENHS representatives require decisions on WMO funding. This view is based to the fact, that the work will be carried out as representation of WMO RA VI, and it requires extensive work and traveling costs. The same applies to possible contributions for European Commission task force groups.

Some examples were given on strong national position that a NHS may have in the implementation of WFD (e.g. Italy, Slovakia).

Monitoring and assessment is a very important topic for the hydrological community. This work is about to begin within CIS II. All of the working groups will study it as a horizontal theme.

Other topics for discussion were: characteristics and expected number of water bodies; pilot studies on integrated river basin management or ecological status, and level of NHS involvement; contacts between NHS and national Water Directors; WMO resolution 25 and its possible connections to integrated monitoring and the WFD process.

The chairman of WMO RA VI WG on Hydrology informed the meeting, that the next session of this working group will take place in Prague 4.-7. May 2005.

Very much information on the implementation of WFD is available on the CIRCA information exchange platform. The home page is <http://forum.europa.eu.int/Members/irc/env/wfd/home>

Decisions on future actions

WMO will consider possibilities for funding the future work of WG-IAMA, and the expected future work during the RA VI work programme 2005 - 2008.

The chairman and Ms. Zsuzsa Buzas will make a summary of the results on institutional mapping (decided in the previous meeting) and present the results at the next meeting of RA VI WGH.

The chairman will try to organize a bilateral meeting between the European Commission and WG-IAMA (representing ENHS) in order to discuss possible contributions for CIS II. The representative of WMO will participate.

The European Commission will be invited to send its representative to the next meeting of RA VI WGH.

WG-IAMA has set an objective to present hydrological applications, related to WFD, and discuss future work in some relevant conference. Mr. Piet Warmerdam will study possibilities to arrange a conference in the Netherlands in 2006 (or 2007).

It was noted, that the e-mailing list of RA VI WGH should be updated to cover the present Hydrological Advisors of RA VI and active WGH members.

List of participants and e-mail addresses

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Annex 4. Results from Institutional Mapping

Country	Ministry	Resp. Nat. Organization	Hierarchy of Hydrol. Serv.
Albania	Academy of Science	Inst. of Hydrometeorology	Institute
Austria	Agr, For., Env. And Water Mgm.	Ministerial Dep. of Water	Sub-dep.
Bulgaria	Academy of Science	Institute of Met. and Hyd.	Institute
Croatia	Science and Technology	Met. And Hyd. Service	Institute
Czech Republic	Environment	Czech Hydromet. Institute	Institute
Denmark	Environment	Nat. Env. Res. Institute	Sub-dep.
Estonia	Environment	Nat. Hydrometeorological Inst.	Institute
Finland	Environment	Finnish Env. Institute	Division
Germany	Transport, Building and Housing	Federal Institute of Hydrology	Institute
Hungary	Environment and Water	Nat. Water Authority	Sub-dep.
Iceland	Industry	National Energy Authority	Division
Italy	Environment	Agency for Env. Prot. And Tech. Serv. APAT	Sub-department
Lativa	Environment	Lat. Env., Geo. and Met. Ag.	Agency
Lithuania	Environment	Nat. Hydrometeorological Inst.	Institute
Macedonia	Agriculture, Forestry and Water Management	Hydrometeorological Service	Department
Moldova	Ecology, Constr. and Reg. Dev.	Hydrometeo	Institute
Norway	Industry	National Water and En. Dir.	Department
Poland	Environment	Inst. of Met. and Water Mgm.	Institute
Romania	Water and Env. Protection	Nat. Inst. of Met. and Hyd.	Institute
Slovakia	Environment	Slovak Hydromete. Inst.	Department
Slovenia	Env., Spatial Plan. And Energy	Environment Agency	Department
Spain	Environment	General Direction of Water	Department
Sweden	Environment	Swedish Met. and Hydrol. Inst.	Department
Switzerland	Env., Transp., Energy and Communic.	Fed. Off. for Water and Geology	Institute
Ukraine	Environment and Natural Resources	State Hydrometeorological Inst.	Institute
Yugoslavia	Agency	Nat. Hydromet. Agency	Agency