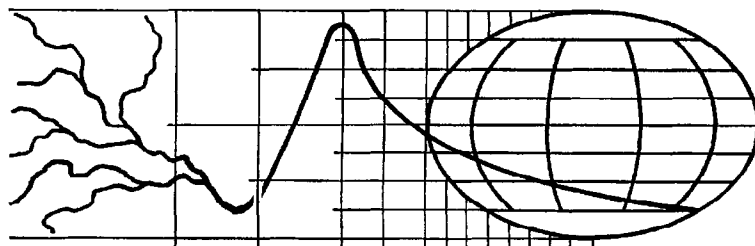


Weltdatenbank Abfluß
Bundesanstalt für Gewässerkunde
Koblenz, Deutschland

Global Runoff Data Centre
Federal Institute of Hydrology
Koblenz, Germany

REPORT No. 9

**Report of the Second Meeting of the
GRDC Steering Committee,
Koblenz, Germany
27 - 28 June 1995**



GRDC



August 1995

56068 Koblenz, Kaiserin-Augusta-Anlagen 15-17
Phone +49-261-1306-224, Fax +49-261-1306-280

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4. Comments on the World Climate Research Programme (WCRP) of WMO

4.1 The Director of the WCRP, Professor Graßl, informed the participants of the view of the WCRP with regard to the GRDC-activities. He outlined the principal interest of the climate research community in quality-controlled hydrological data sets with maximum possible global coverage to model, forecast and assess impacts of climate change. For the validation of climate models, hydrological data are indispensable. In this respect, river flows from the continents into the oceans are of prime interest as the freshwater flux into the oceans contributes significantly to the ocean-atmosphere energy transport and thus has a powerful impact on the formation of climate patterns and changes of climate.

4.2 Professor Graßl and Professor Raschke welcomed the contribution of the GRDC to various projects of the Global Energy and Water Cycle Experiment (GEWEX).

5. Presentation of the draft GRDC Status Report 1994

5.1 The Head of the GRDC, Dr. Grabs explained the principal activities of the Centre in 1994. Priorities were assigned to substantive works for GEWEX in the context of the Arctic Climate System Study (ACSYS), the assembly of a database of gauging stations close to the mouths of rivers and support for the Global Environment Monitoring System - Water (GEMS/WATER) of UNEP. The database was substantially updated and new software products included to enhance the updating capacity of the GRDC. The GRDC has been keen to strengthen its ties with national hydrological services and other data providers such as the Mekong Secretariat and the Zambesi River Basin Development Authority in close collaboration with WMO, UNEP/WHO and the World Bank. The participants acknowledged and expressed their satisfaction with the work concluded. The report was duly adopted and is separately attached as Annex 6 to this report.

6. Strategy and activities of the GRDC in co-operation with the Global Freshwater Assessment (WMO), WHYCOS (WMO/World Bank) GEMS/Water (UNEP/WHO/UNESCO/WMO), and FRIEND

6.1 Global Freshwater Assessment

The GRDC is prepared to participate actively in the global freshwater assessment which is being undertaken at the request of the United Nations Commission for Sustainable Development (CSD), especially with regard to chapter 2 of the planned report: Assessment of the resource itself. On a global scale, the GRDC has already computed the continental runoff of rivers into the oceans and compared it with continental runoff estimates of various researchers. The specific tasks of the GRDC will be defined during a meeting in Geneva in July 1995.

6.2 GEMS/Water

The representative for GEMS/Water, Dr. Helmer explained that the GRDC has entered a contract agreement with GEMS/Water under which the GRDC links country missions with GEMS/Water missions and delivers data support to the GEMS/Water Collaborating Centre for Water Quality in Burlington, Canada. The GRDC participates in the Freshwater Programme of UNEP and contributes to the implementation of regional freshwater programmes of UNEP. Operating funds are allocated to the GRDC, dedicated mainly for country missions, data acquisition and production of primary data products. In this respect, GRDC and GEMS/Water join forces in country missions to strengthen water quantity and quality data exchange arrangements and exchange information about planned and current activities.

6.2.1 The database of continental runoff into the oceans is of particular interest with regard to the Global Register of Rivers (GLORI) project of GEMS/Water. The GEMS/Water Steering Committee recommended during its session on 23rd June, that the two databases should liaise closely in future and necessary actions should be initiated. Dr. Ongley, Director of the GEMS/WATER Collaborating Centre for Water Quality, outlined the cooperation between the Centre and the GRDC and the common use of the RAISON software for visualization and graphical interpretation of both quantity and quality data.

6.3 WHYCOS

Resolution 3.5/3 (Cg-XII) - World Hydrological Cycle Observing System (WHYCOS) outlines the role of the GRDC in this important joint project of WMO and the World Bank. The World Bank expressed its view that the collaboration will facilitate the implementation of the Bank's Water Resources Management policy and the CSD's Global Freshwater Assessment. The GRDC is in a position to react in short-term to anticipated requests for receiving and processing of near real-time hydrological data. WMO is actively publicising the capacity and potential of the GRDC to play a vital role in the further development of WHYCOS.

6.4 FRIEND

The representative of UNESCO, Dr. Habib Zebidi, explained the aims and objectives of this important UNESCO project under IHP-IV and IHP-V and emphasized the common links between the WMO and UNESCO with regard to the development of both the FRIEND project and the GRDC.

6.4.1 The representative of FRIEND - Northern Europe, Dr. Gustard, outlined the strategy of FRIEND, especially that to increase the number of FRIEND projects in different regions. In his view, there is no prospect of a competition between FRIEND and the GRDC. In his response, Dr. Grabs informed the participants of a Memorandum of Understanding between the GRDC and FRIEND (Annex 7), in which ways of cooperation between FRIEND and the GRDC are outlined. He expressed his concern for possible competition and confusion in those cases where FRIEND and GRDC are seeking the same set of data. These cases occur especially in developing countries where there are no small experimental basins and FRIEND will incorporate data from the regular hydrological network of the respective country.

6.4.2 As the FRIEND data policy is more restrictive than the data policy of the GRDC (see item 11) this issue must be solved. First steps in this direction are the mutual invitations to the Steering Committee meetings of FRIEND and GRDC.

6.4.3 The SC recommended that the GRDC and FRIEND should collaborate in the field of quality control of data.

7.3 GPCC

The cooperation between the GRDC and the GPCC is expected to bear results in the contribution of the GRDC to the WCP-Water Project B.7. Due to the resignation of the responsible scientist at the FIH, however, further progress of the project will slow down considerably. The GRDC and the GPCC are extending the common time series where runoff and precipitation data are available. The Head of the GPCC, Mr. Rudolf, expressed his view that by autumn 1995 data sets of seven years (1986-1992) and by mid-1996 time series going back to 1980 will be available.

7.3.1 Mr. Rudolf then presented the work of the GPCC, especially with regard to the compilation of global time-series of precipitation and the quality control of precipitation data.

8. Scope and priorities for data acquisition of the GRDC

8.1 The SC re-iterated the present criteria for data collection, namely: Data should be collected for rivers with mean annual discharge greater than 100 m³/s, from rivers with catchment areas greater than 1.000.000 km² and from river basins with more than 1.000.000 inhabitants. It should be expanded if a catchment size of 100.000 km² would be more appropriate.

8.2 The SC recommended that, as a general policy, the aim should be to collect daily discharge data. Data suppliers should therefore be requested to supply daily data. However, the SC is aware of the fact that many data suppliers at present supply only mean monthly discharge data to the GRDC.

8.3 The SC felt that the GRDC should be selective in what data it requests and accepts from programmes such as GEWEX and WHYCOS so that the received data are matching with the actual data requirements for the tasks of the GRDC. Dr. Helmer pointed out that the GRDC has to follow a definite data acquisition policy in order to develop an institutional profile of its own. Some members noted that the GRDC should not put too strict conditions on the data acquisition and also collect data from rivers even if the discharge is less than 100m³/s, if these rivers have an important role regionally.

8.11 The SC also discussed the requirement for the GRDC to keep records of sediment data for flux stations as hydrological services usually also collect sediment samples, and these are not available through other services. The SC discussed also in some depth the necessity for the GRDC to obtain not only surface water discharge data but also information about soil moisture and groundwater. This issue has been brought up in discussions at various occasions but a solution has not been found as of now.

9. Participation of the GRDC in regional working groups, cooperation with regional centres and other information networks

9.1 Dr. Grabs reported on the participation of the GRDC in regional working groups and its links with regional centres, especially the Mekong Secretariat.

9.2 The SC discussed this item and concluded that, as a general strategy, the GRDC should combine regional working group attendance by GRDC with country missions for contacts to national Hydrological Services to advertise the GRDC and stimulate the data collection.

9.3 The SC felt that it is extremely difficult to operate a regionalized or distributed data centre. The GRDC should therefore continue its practice of centralizing the holding of discharge data vital for the support of global and regional projects. However, the GRDC should liaise with existing or emerging data centres and assist in capacity building in terms of assistance in methodologies, techniques, and invitation of guest researchers or databank managers. Active liaison should only be sought when the data centres are established and founded and do not require extensive inputs from the GRDC.

9.4 The GRDC should monitor the creation of regional Centres which follow their own dynamics: methodological support by the GRDC being offered to such emerging Regional Centres based on the regional context and the support of leading countries.

the GRDC database at the GRDC in Koblenz. Results of such publications should be published under the GRDC as host institution with the collaboration of the guest institution, where appropriate.

14.7 The issue of the establishment of a Science Team was discussed at some length. The SC then recommended that a science team meeting could be convened on an ad-hoc basis to discuss specific research issues. The SC requested Dr. Grabs to contact members of the Steering Committee when need for scientific clarification/guidance is required and convene ad hoc scientific groups for this purpose.

15. Miscellaneous

15.1 Public Relations

The GRDC expressed its intention to publish a color leaflet by the end of 1995. This leaflet is intended to give general information about the GRDC, its mandate, objectives and services. In 1996, a more detailed leaflet will be produced.

15.2 Information Transfer

The transfer of data and on-line information makes it necessary that the GRDC is linked to the World Wide Web (WWW) and INTERNET. Technically, the GRDC could be "on-line" by the end of 1995 and will take every step possible to achieve this objective after many requests by agencies, data providers and users. However, the on-line access to the data base itself is not foreseen, because it would contradict the GRDC policy on the dissemination of data and costing of services (see topic 11 above).

16. Next meeting of the Steering Committee

16.1 The SC discussed the necessary frequency of SC meetings and decided that its next meeting should take place in Koblenz tentatively in **June 1997**.

17. Summary of results and closure of the meeting

17.1 The Secretary of the SC reviewed the work of the Steering Committee and the major conclusions and recommendations. The SC agreed, that the final report should be made available to all participants and the abridged version published by the GRDC in its GRDC Status Report 1995.

17.2 In the closing session, the participants thanked the President of the Federal Institute of Hydrology for his hospitality and genuine interest in the progress of the GRDC. Likewise, the participants expressed their satisfaction about the professional preparation and conduct of the meeting.

17.3 In his closing remarks, Prof. Liebscher thanked the participants for their valuable advice and inputs towards the operation of the GRDC. He then wished the participants a safe journey home. The meeting was closed on Wednesday, 28 June 1994.

Dr. Allan Gustard
Institute of Hydrology
Crowmarsh Gifford
Wallingford, Oxfordshire OX10 8BB
United Kingdom
Phone: +44-1491-838800
Fax: +44-1491-692424

Dr. Richard Helmer
Chief, Urban Environmental Health
World Health Organization (WHO)
CH-1211 Genf 27, Switzerland
Phone: +41-22-7913761
Fax: +41-22-7914127

Professor Karl Hofius
Secretary, IHP/OHP Secretariat c/o
Federal Institute of Hydrology
Kaiserin-Augusta-Anlagen 15-17
D - 56068 Koblenz, Germany
Phone: +49-261-1306-313
Fax: +49-261-1306-422

Professor Zdzislaw Kacmarek
Head, Institute of Geophysics
Polish Academy of Sciences
ul Ks. Janusza 64
PL 01-452 Warschau, Poland
Phone: +48-22-377858
Fax: +48-22-370522

Dr. Takeo Kinoshita
Advisor for the Government of Japan
Suimon Kankyo
Hori Building 501
9-13 Nihonbashi-hisamatsu-cho
Chuo-ku
Tokyo, Japan 103
Phone: +81-3-3668-2171
Fax: + 81-3-3668-2174

Professor Hans-Jürgen Liebscher

Director, Water Quality Division
Federal Institute of Hydrology
D - 56068 Koblenz, Germany
Phone: +49-261-1306-307
Fax: +49-261-1306-302

Dr. Thomas Lüllwitz

Assistant Head, Global Runoff Data Centre c/o
Federal Institute of Hydrology
D - 56068 Koblenz, Germany
Phone: +49-261-1306-265
Fax: +49-261-1306-280

Mr. Geoffrey Matthews - contribution by letter communication -

Sr. Advisor, Water Resources
The World Bank
1818 H Street N.W.
Washington, D.C. 20433, U.S.A.
Phone: +1-202-473-0354
Fax: +1-202-334-0568)

Dr. Ed Ongley

Director, New Technologies Research Branch
National Water Research Institute
867 Lakeshore Road
P.O. Box 5050, Burlington, Ontario L7R 4A6
Canada
Phone: +1-905-336-6440
Fax: +1-905-336-4582

Professor Erich Raschke

GKSS - Forschungszentrum
Institut für Atmosphärenphysik
Max-Planck-Straße
D - 21502 Geesthacht, Germany
Phone: +49-4152-87-2020
Fax: +49-4152-87-1533



Staff of the Global Runoff Data Centre

Name	Function	Principal Task
Dr. Wolfgang Grabs	Head of the GRDC	Overall operation of the Centre, international contacts, policy matters, programme planning and implementation, data acquisition and data product development
Dr. Thomas Lüßlitz	Deputy	Scientific data processing, quality control, geographic information systems support, statistical analysis of time-series
Mr. T. de Couet	Task Manager	Compilation of project databases and use of GIS-based software, response to data requests and data queries from users, generation of data products
Mr. J. Pauler	Databank Administration	Administration and development of the Databank System, development of databank tools, update of database, development of programme interfaces
Mrs. A. Markert	Administration	Archiving services, public relations, general support

Postal Address:
Global Runoff Data Centre
Federal Institute of Hydrology
Bundesanstalt für Gewässerkunde
P.O.B. 309, 56003 Koblenz, Germany

Phone: +49-261-1306-224/265
Fax: +49-261-1306-280

THE WORLD BANK/IFC/M.I.G.A.

Headquarters: Washington, D.C. 20433 U.S.A.

Tel. No. (202) 477-1234 // Fax Tel. No. (202) 477-6391 // Telex No. RCA 248423

FACSIMILE COVER SHEET AND MESSAGE

DATE: June 22, 1995

NO. OF PAGES: 1
(including this sheet)

MESSAGE NUMBER: \

TO

Name: Dr. Wolfgang Grabs
Organization: \

Fax Tel. No. 49 6542 1284
City: Bullay/Mosel
Country: Germany

FROM

Name: Geoffrey J. Matthews
Dept./Div. \
Room No. \

Fax Tel. No. 1 202 334 0568
Dept/Div No. \
Tel. No. 1 202 473 0354

SUBJECT: Global Runoff Data Centre (GRDC) - 2nd. Steering Committee - 27 to 28 June 1995

MESSAGE:

Dear Dr. Grabs,

I regret to inform you that neither I nor Mr. Guy Le Moigne will be able to attend the 2nd. GRDC Steering Committee due to mission commitments. However we wish that you record in the Minutes of your deliberations that the World Bank fully supports the activities and objectives of the GRDC.

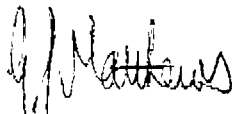
With regard to future activities, the Bank would like the GRDC to continue its commitment to the development of the World Hydrological Cycle Observing System (WHYCOS) in partnership with the Bank and all other interested parties. The strategy of the Bank, the GRDC and others should be mutual support and the marketing of each others services.

The result of this collaboration will facilitate the implementation of the Bank's Water Resources Management policy, Agenda 21 and the CSD's Global Freshwater Assessment.

Please send a copy of the Minutes to the Bank..

We wish you a very successful meeting.

Kindest regards,



Geoffrey J. Matthews
Senior Water Resources Engineer

Transmission authorized by: \ _____

If you experience any problem in receiving this transmission, inform the sender at the telephone or fax number listed above.

Annex 5

Resolutions of Cg-XII with regard to GRDC

Draft resolution

Res. 3.5/3 (Cg-XII) - WORLD HYDROLOGICAL CYCLE OBSERVING SYSTEM (WHYCOS)

THE CONGRESS,

NOTING:

- (1) That WHYCOS has already been endorsed by the Commission for Hydrology at its ninth session (1993);
- (2) That the Executive Council of WMO, at its forty-sixth session (1994), expressed the view that WHYCOS was potentially of great importance to water resources assessment on the global, regional and national scales;
- (3) That the Eleventh Session (1995) of the Intergovernmental Council of the International Hydrological Programme of UNESCO adopted a resolution which called upon the Director General of UNESCO to arrange, in co-operation with WMO, for the planning and implementation of WHYCOS;
- (4) That the World Bank as part of its water resources strategies has specifically recommended the establishment of Hydrological Cycle Observing System (HYCOS);
- (5) The financial support already given by the World Bank for the implementation of the Mediterranean Hydrological Cycle Observing System (MED-HYCOS), a sub-regional component of WHYCOS, and the interest shown by other donors for similar sub-regional components;

CONSIDERING:

- (1) That WHYCOS is one of the basic WMO responses to the recommendation of the UN Commission on Sustainable Development (CSD) to strengthen efforts towards a comprehensive assessment of freshwater resources, notably by providing timely, reliable and consistent data to regional data centres. Certain of these data could then be made available at the international level through centres such as GRDC for runoff data;
- (2) That WHYCOS has a vital role to play in several new programmes such as the Global Climate Observing System (GCOS), the Global Terrestrial Observing System (GTOS) and in the Global Ocean Observing System (GOOS);
- (3) That the concept of WHYCOS is in line with the spirit of international co-operation in which the World Weather Watch (WWW) was established and has since operated;

ENCOURAGES Members:

- (1) To participate in the development of a global conceptual basis for providing a framework and general guidance for the establishment of WHYCOS;
- (2) To facilitate the establishment of WHYCOS through the implementation of national, sub-regional and regional components of the system;

Draft resolution

Res. 3.5/4 (Cg-XII) - GLOBAL RUNOFF DATA CENTRE (GRDC)

THE CONGRESS,

NOTING:

- (1) That the GRDC has its origins in support to the World Climate Research Programme (WCRP) and to studies of large-scale hydrological processes;
- (2) The generous support that has been provided by Germany over many years for the establishment and maintenance of the Centre;
- (3) That the GRDC is now widely-recognized as the principal source of global data on river flows, providing an effective service to an increasing range of users;
- (4) That the Centre already co-operates in a number of major international projects;
- (5) That the Executive Council, at its forty-fifth session, had approved Recommendation 2 (CHy-IX) - Support to global data centres;

CONSIDERING:

- (1) That new and increased demands are now being put on the Centre, in particular in relation to the global assessment of the world's water resources requested by the second session of CSD (1994), the need for a global data centre in relation to the World Hydrological Cycle Observing System (WHYCOS) and for various climate studies;
- (2) That the Centre will need considerably more resources if it is to meet these new demands effectively;

RECOGNIZING that the GRDC is a major component of WMO's Hydrology and Water Resources Programme (HWRP), serving also the WCRP and other programmes of the Organization;

ENCOURAGES Members:

- (1) To support the GRDC through the provision of the hydrological data and related information that it needs, including through the regional components of WHYCOS;
- (2) To consider also providing support to the Centre in the form of staff, funding and other resources;

REQUESTS the president of CHy to ensure that the Commission provides the GRDC with the scientific and technical advice that it requires;

REQUESTS the Secretary-General:

- (1) To invite other international organizations to co-operate with the GRDC, to make use of the services that it offers and to contribute both data and other resources in support of its operations;
 - (2) To provide all possible support to the GRDC from available resources and to seek additional resources for this purpose from external sources.
-

Annex 6

GRDC Status Report 1994

(attached seperately)

Common views of the representative of FRIEND and the GRDC on the relationship between FRIEND and GRDC

Results of a meeting at the Federal Institute of Hydrology
Koblenz, 25 January 1995

Participants:

A. Gustard, representative FRIEND
K. Hofius, President of CHy
H. Liebscher, Chairman, GRDC Steering Committee
W. Grabs, Head of GRDC
U. Schröder, IHP/OHP Secretariat
T. Lüllwitz, Federal Institute of Hydrology

Results

The group agreed on the following points:

1. To prepare a draft brochure to outline the objectives and present and future activities of FRIEND and the GRDC and ways of co-operation between FRIEND and GRDC primarily in the fields of data
 - acquisition
 - archiving
 - processing
 - dissemination
2. To develop operational links between the GRDC and FRIEND on the basis of the GRDC Steering Committee and the individual Steering Committees of FRIEND.
3. To exchange meta-data between GRDC and FRIEND with regular up-dates
4. During country missions, representatives of FRIEND and GRDC should inform the data providing agencies about the different programmes and activities of GRDC and FRIEND and ask for active contributions to each other's programme.
5. In regions, where FRIEND is established, FRIEND could act as an agent for GRDC in order to implement previous agreements between the relevant partners.

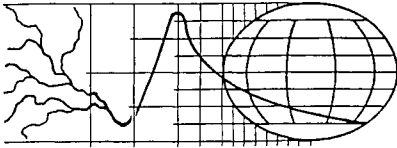
6. In new FRIEND regions, GRDC could act as an agent for FRIEND with respect to time-series database development.
7. UNESCO should inform WMO prior to the establishment of new FRIEND activities.
8. It is recommended, that participation by WMO in FRIEND activities should be strengthened and that UNESCO should continue to support activities of GRDC.
9. Define the roles of GRDC and FRIEND in the respective programmes of WMO and UNESCO more clearly.
10. To invite Mr. Alan Gustard as FRIEND representative to the next Steering Committee meeting of the GRDC (Koblenz, June 27-28, 1995).
11. To invite Mr. W. Grabs of the GRDC to the regional Steering Committee meetings of FRIEND.

13.2 Global Runoff Data Centre (GRDC) Operations

Since GEWEX is interested in quantitative estimates of water discharge from the continents to the oceans or from one large land area to another, the SSG reaffirmed that a quality controlled climatologic runoff data set remains its primary requirement from GRDC. The Group acknowledged the preparation and distribution on diskette of a new GRDC data catalog of 115 stations as an important first step in achievement of this goal. Other operational improvements and technical progress were also acknowledged. The SSG recommended, however, further development of a scientific programme to define and implement a quality control element in the GRDC data scheme with the objective of coupling an error budget definition with each dataset. Dr. W. Grabs, representing GRDC at the meeting, was invited by the SSG to participate in the ISLSCP/IAHS joint development of hydrological requirements (noted above) and the newly formed Hydrometeorological Working Group (Item 8.2) to enhance acquisition of discharge data.

Dr. E. Raschke was asked by the SSG to consolidate the GEWEX runoff data requirements (in concert with the ISLSCP/IAHS action group) and to convey these to the GRDC in a formal report by mid-1995. The SSG also asked WCRP to coordinate with the WMO Hydrology and Water Resources Department to:

- a) have Dr. Raschke added, as a GEWEX representative, to the recently organized GRDC Advisory Panel,
- b) recommend that a small science team be established to assist the Centre with development and publication of a GRDC Science and Implementation Plan and
- c) make the appropriate German National Offices aware of the SSG recommendations with the suggestion that consideration be given to augmentation of the GRDC's resources, as required, to expedite development of the runoff datasets necessary to meet the needs of the climate research community.



Global Runoff Data Centre
Federal Institute of Hydrology
Bundesanstalt für Gewässerkunde
Kaiserin-Augusta-Anlagen 15-17
56068 Koblenz
Federal Republic of Germany

Tel. National (0261)1306-0
International +49 261 1306-0
Telex 8-62499
Telefax +49 261 1306280



GRDC



GRDC operates with the support of the Federal Republic of Germany under the auspices of WMO

POLICY GUIDELINES FOR THE DISSEMINATION OF DATA AND COSTING OF SERVICES

Preamble

The Global Runoff Data Centre (GRDC) operates under the auspices of the World Meteorological Organization (WMO) on the advice of its international Steering Committee and in cooperation with organizations such as UNESCO, UNEP, WHO and ICSU. This Guideline regulates the acquisition and dissemination of hydrological data and costing of services in the Global Runoff Data Centre under the Terms of Reference stipulated during the First Session of the Steering Committee of the GRDC and the commitments of WMO at its Twelfth Congress in 1995.

The Guideline does not infringe on the ownership rights on the data transmitted to the GRDC by data providers. In particular, the GRDC does not usually provide value-added and costed services to data users which fall in the domain of national hydrological services.

At its Twelfth Congress in 1995, the World Meteorological Organisation (WMO) adopted Resolution 40 (Cg-XII) and thus committed itself, as a fundamental principal, "to broadening and enhancing the free and unrestricted international exchange of meteorological and related data and products." In this context, "free and unrestricted" means non-discriminatory and without charge, the latter with the meaning "at no more than the cost of reproduction and delivery, without charge for the data and products themselves." With regard to the Global Runoff Data Centre, Congress also adopted Resolution 21 (Cg-XII) which encourages Members "to support the GRDC through the provision of the hydrological data and related information that it needs".

WMO Congress also adopted the practice that countries "should provide to the research and education communities, for their non-commercial activities, free and unrestricted access to all data and products exchanged under the auspices of WMO "with the understanding that the commercial use of these data may be subject to conditions."

3.3 Standard GRDC services (annex 3) are free for agencies and institutions which contribute data to the GRDC, as well as for the Secretariats of international organizations which are the principal clients of the GRDC, such as WMO, UNESCO, UNEP and WHO.

3.4 For all other users, the cost for databank queries, diskettes, mail and all other overheads is based on the current price for services charged by the Federal Institute of Hydrology, Koblenz staff time being based on a per hour rate which in June 1995 was set at DM 75,--.

3.5 Services for projects which require extensive work at the GRDC or the establishment of an own database are agreed upon in a Memorandum of Understanding (MoU) between the project partners. In these cases, the financial contribution for the services of the GRDC are costed and incorporated in the MoU.

3.6 To give an indication of the approximate costs of databank services, the following can serve as a guide:

a) Simple queries, such as a search for all stations of three major rivers and the extraction of mean daily discharge data:

Estimated time for completion: 1.5 hours
Approximate cost (June 1995) : DM 112,50

b) Complex queries, such as the selection of daily discharge time series of at least 20 years for 20 stations from three major rivers, with maximum overlap of time series:

Estimated time for completion: 5 hours
Approximate cost (June 1995) : DM 375,--

For complex tasks where data products (statistical evaluations, graphics etc.) are also requested, a cost estimate is made and agreed upon in advance.

3.7 Payment for services is by bank transfer to the credit of the GRDC:

BUNDESKASSE KOBLENZ, LANDESZENTRALBANK KOBLENZ
BLZ: 570 000 00, ACCOUNT: 570 010 01, credit: 1207/11902 GRDC

Cheques sent by registered mail are also acceptable.

4. Disclaimer

4.1 While the GRDC makes every effort to eliminate errors from the data base, there may be errors in the data unknown to the GRDC. Neither the GRDC nor its sponsors can be held responsible for the consequences of the use of GRDC data, error free or otherwise.

