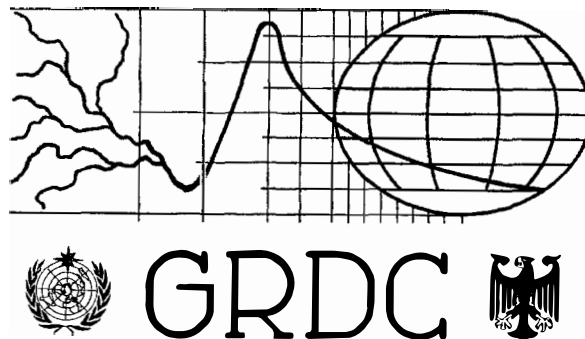


Weltdatenzentrum Abfluß  
Bundesanstalt für Gewässerkunde  
Koblenz, Deutschland

Global Runoff Data Centre  
Federal Institute of Hydrology  
Koblenz, Germany

**Report No. 4**

**GRDC - Status Report 1993**



DOI: 10.5675/GRDC\_Report\_4

**June 1994**

56068 Koblenz, Kaiserin-Augusta-Anlagen 15-17, Phone (0261)1306-0, Fax

## Contents

|                                                            | Page |
|------------------------------------------------------------|------|
| General                                                    | 1    |
| Data dissemination policy                                  | 1    |
| Summary of GRDC's main activities in 1993                  | 2    |
| Technical activities                                       | 2    |
| Organizational activities                                  | 3    |
| Main GRDC activities planned in 1994                       | 4    |
| Technical activities                                       | 4    |
| Organizational activities                                  | 5    |
| Medium-term planned activities                             | 6    |
| Principal linkages of the GRDC<br>with WCP-Water Projects  | 6    |
| Current and planned research at the GRDC                   | 7    |
| Requests for data from the GRDC in 1993                    | 8    |
| Figure 1: Total number of stations in the GRDC             | 10   |
| Figure 2: Size classes of GRDC-basins in Africa            | 11   |
| Figure 3: Size classes of GRDC-basins in Asia              | 12   |
| Figure 4: Size classes of GRDC-basins in Europe            | 13   |
| Figure 5: Size classes of GRDC-basins<br>in North America  | 14   |
| Figure 6: Size classes of GRDC-basins<br>in South America  | 15   |
| Figure 7: Size classes of GRDC-basins<br>in the Pacific    | 16   |
| Annex 1: Tables of updated and new stations<br>in the GRDC | 17   |
| Annex 2: Country requests for data supply<br>to the GRDC   | 35   |
| Annex 3: Extraction of GRDC catalogue                      | 43   |
| Annex 4: Examples of mean daily flow data                  | 44   |
| Annex 5: Examples of mean monthly flow data                | 46   |
| Annex 6: List of country codes                             | 48   |
| Reference of GRDC Reports                                  | 50   |

## GRDC - Status Report 1993

### *General*

A global database of hydrological data is considered necessary for research and application-oriented hydrological and climatological projects which are undertaken on regional and global scales. These projects include basin-oriented, regional and global water balance studies, investigation of trends in long-term hydrological time series, flux of fresh water and matter into the oceans, the coupling of runoff with water quality data and the coupling of hydrological and meteorological models. The project A.5 of the World Meteorological Organization (WMO) under the World Climate Programme-Water (WCP-Water) provides a general service for the collection, storage and dissemination of internationally available sets of hydrological data. Since 1988, the Global Runoff Data Centre (GRDC) is performing this task.

The GRDC is a user-oriented service center for global runoff data. By itself, it does not engage at present in advanced data processing and scientific projects. By the services rendered to users, the GRDC stimulates and encourages the scientific exploitation of the data for a variety of scientific and applications - oriented programmes, namely the WCP-Water, the Global Energy and Water Cycle Experiment (GEWEX), the Operational Hydrology Programme (OHP) of WMO, the International Hydrology Programme (IHP) of UNESCO, the United Nations Environment Programme Global Environment Monitoring System - Water (UNEP GEMS-Water), and a considerable number of institutional research projects.

### *Data dissemination policy*

At present, requests for GRDC data are in general free of cost provided, that the user indicates in detail the purpose for which the institution requests the data.

The researchers are requested to contribute copies of their research reports/results to the GRDC, as the GRDC is currently setting up a reference library which is aimed to provide reference of research results as feed-back information for the data suppliers. The GRDC expects data users to assist in the build-up of the GRDC database by supplying hydrological data sets. Only sub-sets of the databank can be ordered; requests for the contents of the total databank are not entertained. The access to the database system is strictly controlled and the commercial use of the data is excluded.

## *Summary of GRDC's main activities in 1993*

After the organizational strengthening of the GRDC since January 1993, a series of measures are under way to improve the services of the GRDC for the user community:

### *Technical activities*

1. The GRDC is implemented under SCO-UNIX on a PC-based INFORMIX data bank system. The databank is fully relational and allows complex queries. The databank facilities have been improved to simplify data retrieval and dissemination. The GRDC contains global daily and monthly runoff data for 3.347 stations from 2941 river basins (Status as of February 1994).
2. Beyond the set of currently available graphic and tabular presentations of the database contents, a set of standard hydrological graphical data products is being developped. These products will be available before the end of the year 1994.
3. The development of an "Intelligent Interface" allows the import of a variety of data formats into the GRDC.
4. The use and adaption of the GEMS/Water RAISON - software package to the GRDC allows the production of basin reports from GRDC-data (at present for 90 large basins worldwide)
5. The update of data holdings of the GRDC for data received in 1992 and 1993 has been finalized. An account of the update is attached to this report (Annex 1). Efforts are made to update the data sets currently contained in the GRDC and to close data gaps for a number of regions. The GRDC intends to update the GRDC catalogue twice a year. These efforts are made by the incorporation of recent hydrological yearbooks which were sent to WMO by a number of countries, intensified direct contacts to hydrological services and requests for data exchange with other national and research-oriented hydrological databanks in the world.
6. The GRDC maintains a report series. Three reports have been issued in 1993 (see last page: Reference of GRDC Reports). Besides the yearly Status Report, the GRDC will regularly publish reports on current issues.

## *Organizational activities*

1. Nominations have been made to establish a GRDC Steering Committee to advise the GRDC on necessary activities and assist the GRDC in data acquisition and dissemination as well as in the development of user-oriented data products from the GRDC database. The first meeting of the Steering Committee is planned for June 1994.
2. The collaboration between the GRDC and GEMS/Water has been strengthened with regard to the regular exchange of data. To facilitate communication between the GRDC and the GEMS/Water global databank for surface and groundwater quality, the software package RAISON - developed by Environment Canada in the GEMS/Water program - is used at the GRDC to compile regional reports of streamflow.
3. A closer linkage between the GRDC and the OHP of WMO has been established through active participation in meetings of the Regional Working Groups Hydrology and linkage with OHP activities, namely the planned World Hydrological Cycle Observing System - Africa (WHYCOS-Africa) project.
4. The establishment of close bilateral contacts to national hydrological services and research institutions is especially important for the GRDC to maintain and improve the level of acceptance of the Centre.

In 1993, the GRDC participated on a meeting of the Working Group Hydrology of the WMO Regional Association I (Africa) in November 1993 in Abidjan, Ivory Coast. The GRDC was also presented during Symposia and Workshops in Wallingford, England; Yokohama, Japan; Montevideo, Uruguay; Geneva, Switzerland; Kathmandu, Nepal; and New Delhi, India.

4. A call for data for the inclusion into the GRDC has been issued to 73 countries so far. The list of addresses of countries to which letters were sent by February 1994 is attached to the report as annex 2.

## ***Main GRDC activities planned in 1994***

### *Technical activities*

1. Transposition of the databank to an Open Desktop under UNIX using INFORMIX 4GL.
2. Improvement of databank tools for the display of databank information and production of data products.
3. Generation of an updated GRDC catalogue of available and missing data series; the first updated catalogue is available since February 1994.
4. With regard to quality control, the GRDC has yet to build up facilities for tests of data plausibility and homogeneity. Information about data consistency are usually not provided by data suppliers. While the principal responsibility of data quality lies with the national services supplying hydrological data to the GRDC, the practice has shown that an additional quality control is necessary to advise users on possible errors or anomalies in data sets delivered to them and to give a feed back to data suppliers if errors have been detected.

This is an activity which will not be finalized in 1994 due to budgetary constraints to develop the necessary tools in the databank and the enormous task to perform quality control for all river basins. Quality control will be performed first on a set of selected rivers.

5. Compilation of information about stations and river basin characteristics. This is an on-going activity and depends largely upon incoming information from WMO member countries and other sources of information, such as from UNEP-GRID. So far, the incoming information from members is not sufficient to build up a GIS-based support system for the GRDC.
6. Establishment of a GRDC library for printed and electronic information. This activity is in its infancy state. Yearbooks, studies, maps etc. are archived in a library system. A quantitative input is expected in future from incoming results from research projects which were conducted on the basis of GRDC data.
7. In accordance to a recommendation of the Scientific Steering Group of GEWEX (January 1994), the GRDC aims at the production of a report with the collective data of all river stations which are close to the mouth of rivers to oceans. These data can then be used to determine continental fresh water fluxes into oceans for the validation of General Circulation Models (GCM's).

8. With regard to WCP-Water project A.8 (see below) the GRDC will produce a report about the discharge of the 15 largest rivers of the world, together with the discharge data for these rivers displayed and also available on diskette.

#### *Organizational activities*

1. The first meeting of the GRDC Steering Committee planned for June 1994 will certainly be a major impuls for the work of the GRDC especially with regard to the definition of the nature and extent of GRDC services and the linkage to other UN bodies and non-governmental institutions.
2. Data acquisition for hydrological and related data from selected countries will be continued as outlined above.
3. Participation in GRDC related activities to improve flow of up-to-date data to the GRDC. The means to achieve this is mainly the participation in meetings of WMO Working Groups Hydrology, workshops, symposia and activities related to WCP and World Climate Research Programmes (WCRP) as well as the planned WHYCOS-Africa - project to ask for data.
4. Participation in WMO, UNESCO, GEMS/Water and activities of the Global Precipitation Climatology Centre (GPCC) activities with regard to the definition of working programs and data exchange.
5. Improvement of information policy about GRDC's role and data contents. An important task in this respect will be the improvement of feed-back information to data suppliers about database contents and use of the data. As an incentive to national hydrological services supplying data to the GRDC, some advisory services are offered with regard to network planning, instrumentation, hydrological methods for discharge and sediment measurements, water quality assessment and data processing. The Federal Institute of Hydrology has the know how to assist in this task.

### *Medium-term planned activities*

Besides the on-going activities in 1994, the GRDC keeps abreast to improve its services. Further activities are planned in medium term (say, 2 years) to be incorporated into the routine GRDC activities:

- Improved quality control and statistical analyses of data sets.
- Compilation of information about stations and river basin characteristics and the generation of a Geographical Information System (GIS).
- Map of long-term annual and monthly means of measured and gridded runoff for the documentation of the hydrological situation. This activity depends on the results of grid-oriented estimation techniques.
- Further cooperation with the Global Precipitation Climatology Centre (GPCC) and other relevant global data centres (e.g. UNEP GEMS/Water and the Global Resource Information Database of UNEP (GRID-UNEP)).

### *Principal linkages of the GRDC with WCP-Water Projects*

Currently, the GRDC is linked with a number of WCP-projects:

#### **Project A.2**

Analyzing long time series of hydrological data and indices with respect to climate variability and change.

#### **Project A.5**

"Collection of Global Runoff Data" is equivalent to the operation of the GRDC.

#### **Project A.8**

Detecting global and regional runoff trends by monitoring discharge of selected rivers.

#### **Project A.9**

Monitoring changes in the characteristics of extreme hydrological events (floods and droughts).

### Project B.3

Development of grid-related estimates of hydrological variables.

### Project B.7

Comparison study of time series of areal mean monthly precipitation and streamflow of selected catchment areas.

### *Current and planned research at the GRDC*

While the GRDC is at present not engaged in research itself, the GRDC collaborates actively with a number of research projects including regional and global trends in time series, calculation of water balance components in different scales, transfer of runoff to grid area values for validation of GCM's (WCP-Water project B.3) including maps of means for measured and gridded runoff, and a comparison of gridded mean monthly precipitation and streamflow for the Niger river (WCP-Water project B.7).

Preparations are made to participate actively in the planned ICSU/WMO Arctic Climate System Study (ACSYS). A nationally funded project "Analysis and parameterization of runoff formation on a regional and global scale" is under preparation. The Niger river basin has been selected for this study.

In the context of the WMO WCP-Water Project B.3 (Development of grid-related estimates of hydrological variables), since October 1992 a nationally funded research project is undertaken at the Federal Institute of Hydrology. It is foreseen that the GRDC will make use of the methodologies developed in the project to produce maps of gridded runoff data for selected basins. The project is briefly outlined below:

Monthly runoff values for the period 1971 to 1980 are computed for a grid net covering the Weser catchment in Germany as a pilot catchment. The methods used are in line with the agreement reached on the Second Planning Meeting on Grid Estimation of Runoff Data in Warsaw, in April 1992. In accordance to user requirements, the grid size can be customized for projects in climatology and hydrology on regional and global scales. A GIS is being used as a tool for the computation of these data. Data input to the GIS consist of image processed data sets (soils, landuse, etc.) from international institutions as well as from a Digital Elevation Map of the Weser catchment. The results of this project can be used for the validation of climatological as well as for meso- and macroscale hydrological models. The gridded runoff data and ancillary information will be offered to the World Climate Centers of the WMO and to UNEP/GRID in Geneva for further distribution.

### *Requests for data from the GRDC in 1993*

The table below lists the major data requests from GRDC in 1993. Only those names are listed where actual data has been transferred. The GRDC sent the catalogue of the database to about 20 data users who wanted to obtain information about the GRDC holdings before requesting actual data at a later stage.

The few cases, where requests could not be positively answered, are not listed.

Data suppliers are invited to contact the GRDC in case a direct communication with the data users is desired. The GRDC would then transmit the complete address of the data user. In this context it is necessary to note, that all data users are requested to supply information about the results of their research to GRDC for reference. As all requests were made for new research projects, results are at the moment not available.

| REQUEST MADE BY (NAME, COUNTRY)                                                    | COUNTRY OR RIVER, FOR WHICH DATA ARE REQUESTED | PURPOSE OF DATA USE                                                |
|------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------|
| Bishop, J.M., Institute for Scientific Research, Kuwait                            | Iran, Kuwait                                   | Design for prawn industries                                        |
| Buren, T., International Institute for Applied Systems Analysis, Austria           | Altogether 114 river basins in all regions     | Climate change impact on regional water resources                  |
| Drange, H., Nansen Environmental and Remote Sensing Centre, Norway                 | Report 100 MPI/GRDC                            | Discharge from 50 selected rivers of the world for GCM validation  |
| Cunnane, C., University College, Dept. Hydrology, Ireland                          | GRDC catalogue                                 | Selection of rivers for trend analysis of discharge                |
| Ebel, Ch., State Environment Agency, Germany                                       | Argentina                                      | Environmental protection in the Rio Colorado basin                 |
| Freon, P., ORSTOM, France                                                          | Italy                                          | EC-program in Marine research                                      |
| Friederich, State Agency for Agriculture and Water Resources, Germany              | Rivers flowing in the Baltic Sea               | Pollution fluxes in the Baltic Sea                                 |
| Hastenrath, S., Univ. of Wisconsin, Dept. Atmospheric and Oceanic Sciences, U.S.A. | Zaire                                          | Research on mechanisms of tropical climate anomalies               |
| Zhou, J., Institute of Atmospheric Physics, China                                  | Report 100 MPI/GRDC                            | Discharge from 50 selected rivers of the world for GCM validation. |

|                                                                             |                                              |                                                                                   |
|-----------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------------------------------------------|
| Kisiel, K., Univ. Arizona,<br>Dept. Hydrology, U.S.A.                       | 12 large river<br>basins globally            | Development of GIS-system                                                         |
| Lee, T., UN Economic<br>Commission, Chile                                   | GRDC catalogue                               | Latin-American integrated water<br>resources planning and management              |
| Lal, M., Indian Institute of<br>Technology, India                           | India                                        | Validation of GCM's                                                               |
| Lean, J., U.K. Met. Office,<br>U.K.                                         | Report 100<br>MPI/GRDC                       | Discharge from 50 selected rivers of<br>the world for GCM validation.             |
| Mahfouf, J., Meteo-France,<br>France                                        | Report 100<br>MPI/GRDC                       | Discharge from 50 selected rivers of<br>the world for GCM validation.             |
| Mamayev, V., Central Research<br>Centre, Oceanographic<br>Institute, U.S.A. | Selected rivers<br>in Eastern<br>Europe      | Sea level rise in the Black Sea                                                   |
| Manley, R., Cambridge Univ.,<br>U.K.                                        | Euphrat, Tigris                              | Marshes at the southern end of Euphrat<br>and Tigris for World Conservation Union |
| Hua-Lu, P., NOAA, U.S.A.                                                    | Report 100<br>MPI/GRDC                       | Discharge from 50 selected rivers of<br>the world for GCM validation.             |
| Tonderski, A., Linköping<br>Univ., Sweden                                   | West European<br>and East<br>European rivers | Hydrological data for research in water<br>quality changes                        |
| Tateishi, R., Chiba Univ.,<br>Japan                                         | Selected rivers<br>over the world            | Global water resources and water use                                              |
| Braithwaite, D., EOS Project,<br>Univ. of Arizona, U.S.A.                   | Selected rivers<br>over the world            | Preparation of selected global data<br>sets for GCM modellers                     |
| Kwadijk, J., Univ. Utrecht,<br>Netherlands                                  | Ganges,<br>Brahmaputra                       | Adaption and test of water balance<br>model                                       |
| Winnegge, Th., Fed. Inst.<br>Hydrology, Germany                             | Niger river                                  | Comparative studies with precipitation<br>data held in the GPCC                   |
| Yamagata, T., University of<br>Tokyo                                        | Report 100<br>MPI/GRDC                       | Discharge from 50 selected rivers of<br>the world for GCM validation.             |
| Roth, R., Int. Meteorology &<br>Climatology, Univ. Hannover                 | Report 100<br>MPI/GRDC                       | Discharge from 50 selected rivers of<br>the world for GCM validation.             |

# **TOTAL NUMBER OF STATIONS IN THE GRDC - DATABASE**

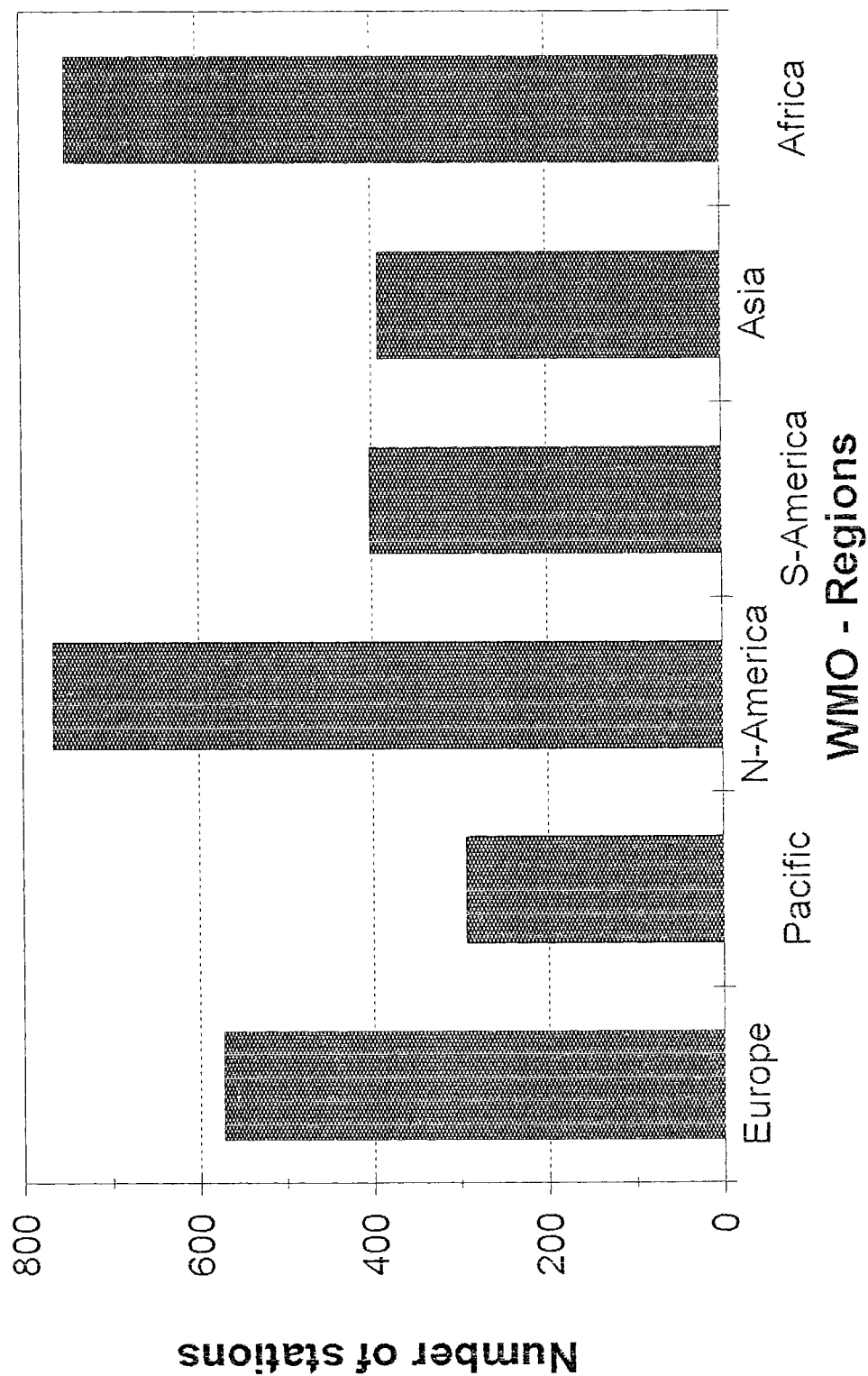


Figure 1: Total number of stations in the GRDC - Database

# STATIONS SPLITTED INTO CLASSES

## WMO - Region: AFRICA

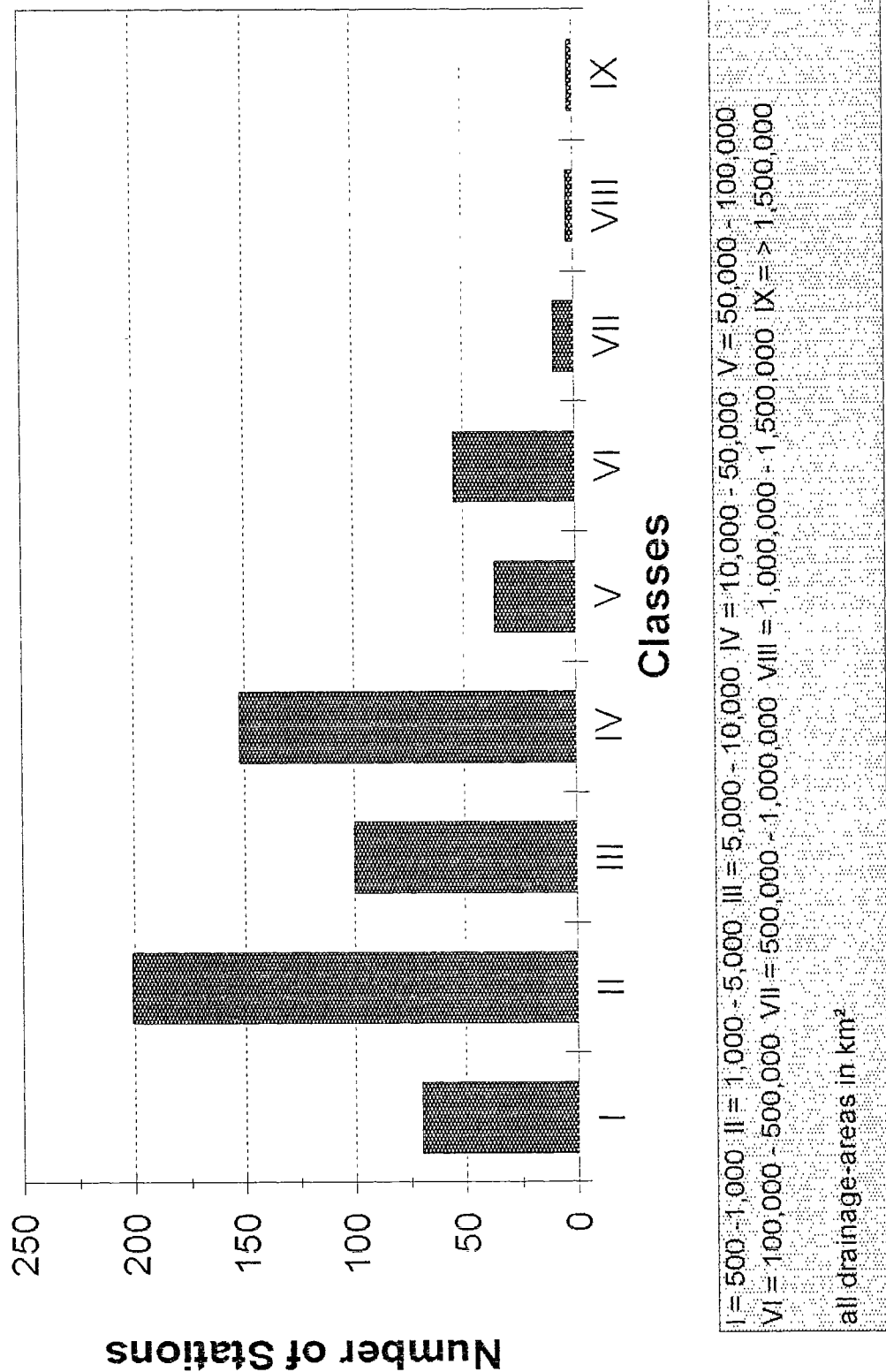
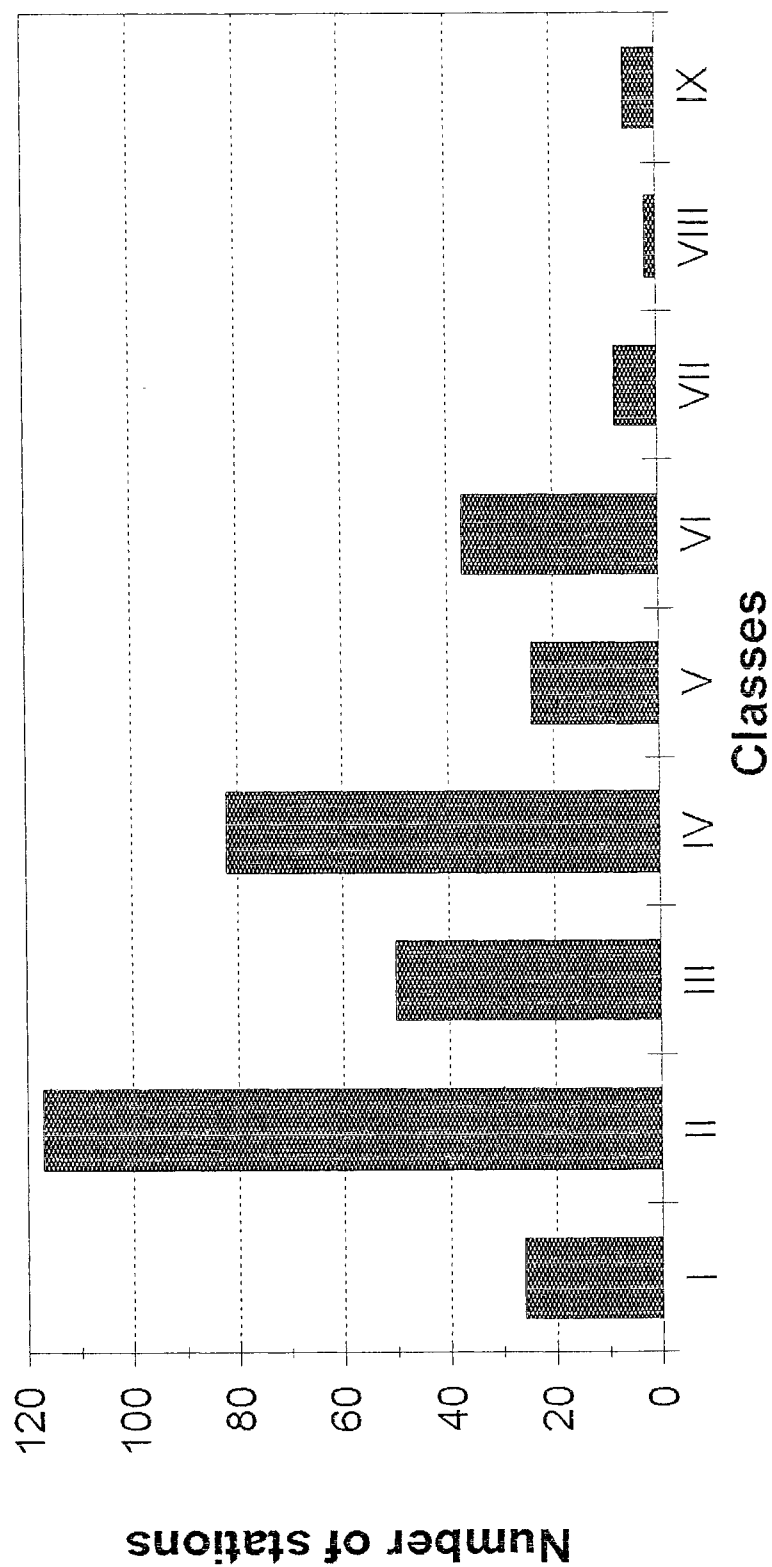


Figure 2: Size classes of GRDC-basins in Africa

# STATIONS SPLITTED INTO CLASSES

WMO - Region: ASIA



I = 500 - 1,000 II = 1,000 - 5,000 III = 5,000 - 10,000 IV = 10,000 - 50,000 V = 50,000 - 100,000  
 VI = 100,000 - 500,000 VII = 500,000 - 1,000,000 VIII = 1,000,000 - 1,500,000 IX = > 1,500,000

all drainage-areas in km²

Figure 3: Size classes of GRDC-basins in Asia

# STATIONS SPLITTED INTO CLASSES

## WMO - Region: EUROPE

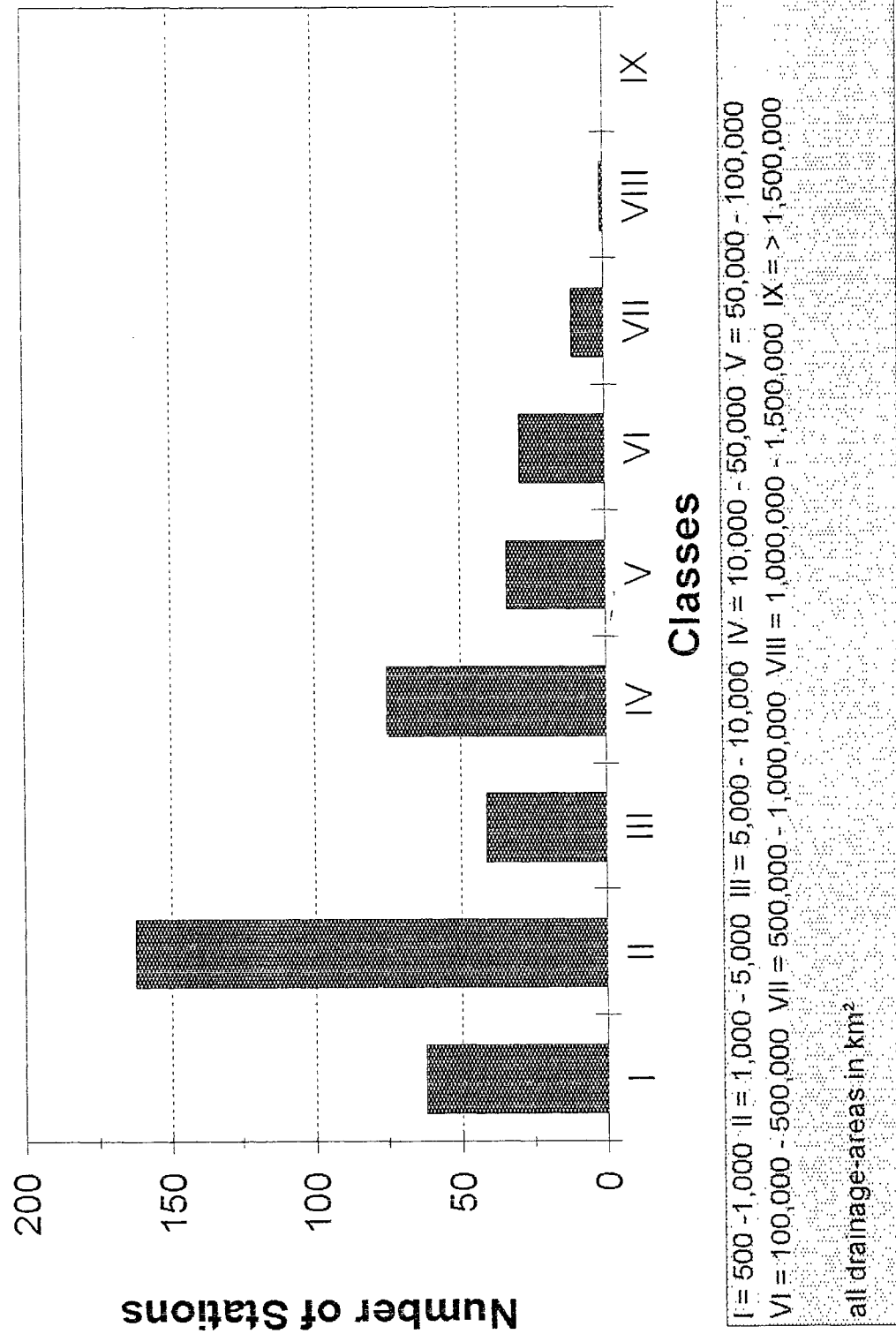
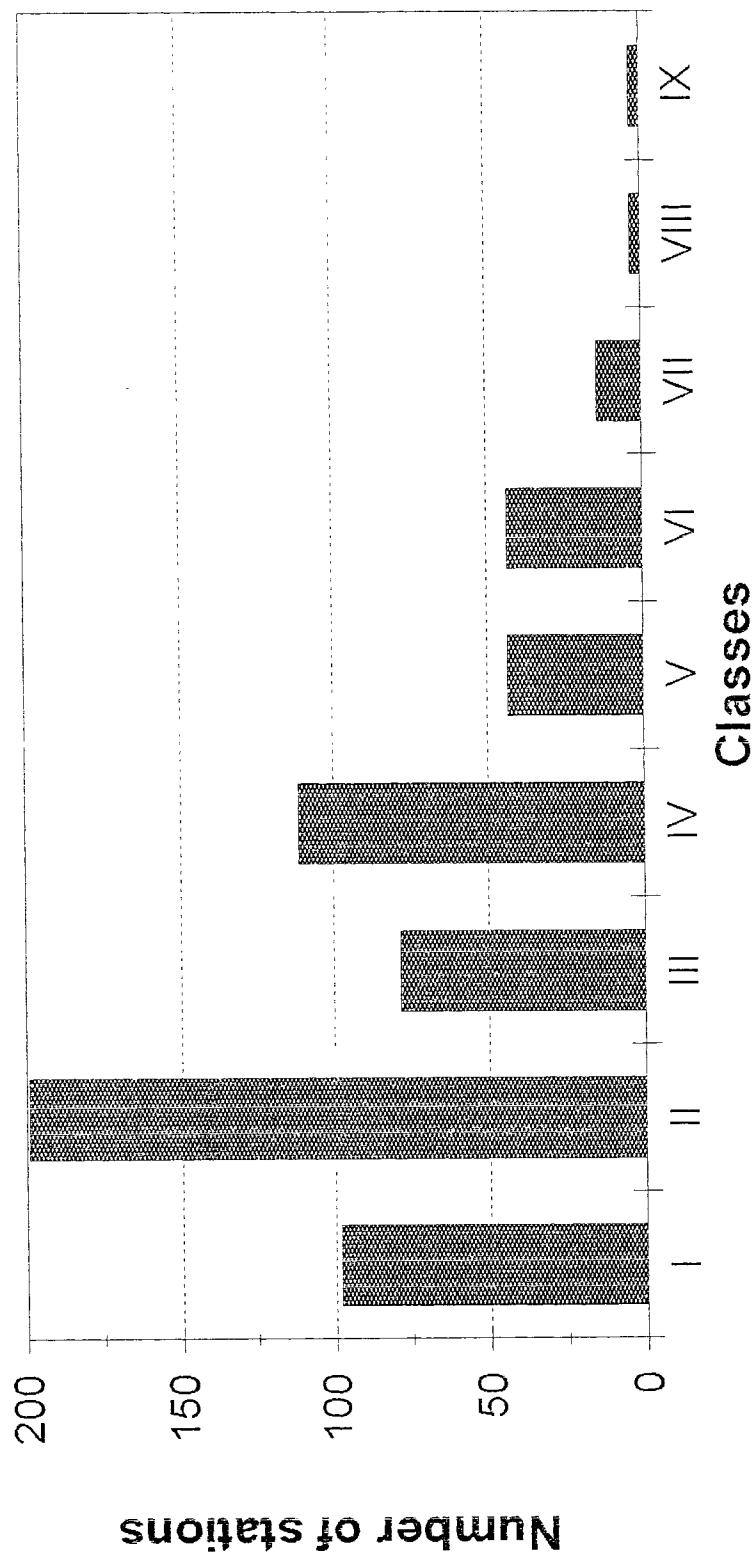


Figure 4: Size classes of GRDC-basins in Europe

# STATIONS SPLITTED INTO CLASSES

## WMO - REGION: NORTH AMERICA



I = 500 - 1,000 II = 1,000 - 5,000 III = 5,000 - 10,000 IV = 10,000 - 50,000 V = 50,000 - 100,000  
 VI = 100,000 - 500,000 VII = 500,000 - 1,000,000 VIII = 1,000,000 - 1,500,000 IX = > 1,500,000

all drainage-areas in km<sup>2</sup>

Figure 5: Size classes of GRDC-basins in North America

# STATIONS SPLITTED INTO CLASSES

## WMO - Region: SOUTH AMERICA

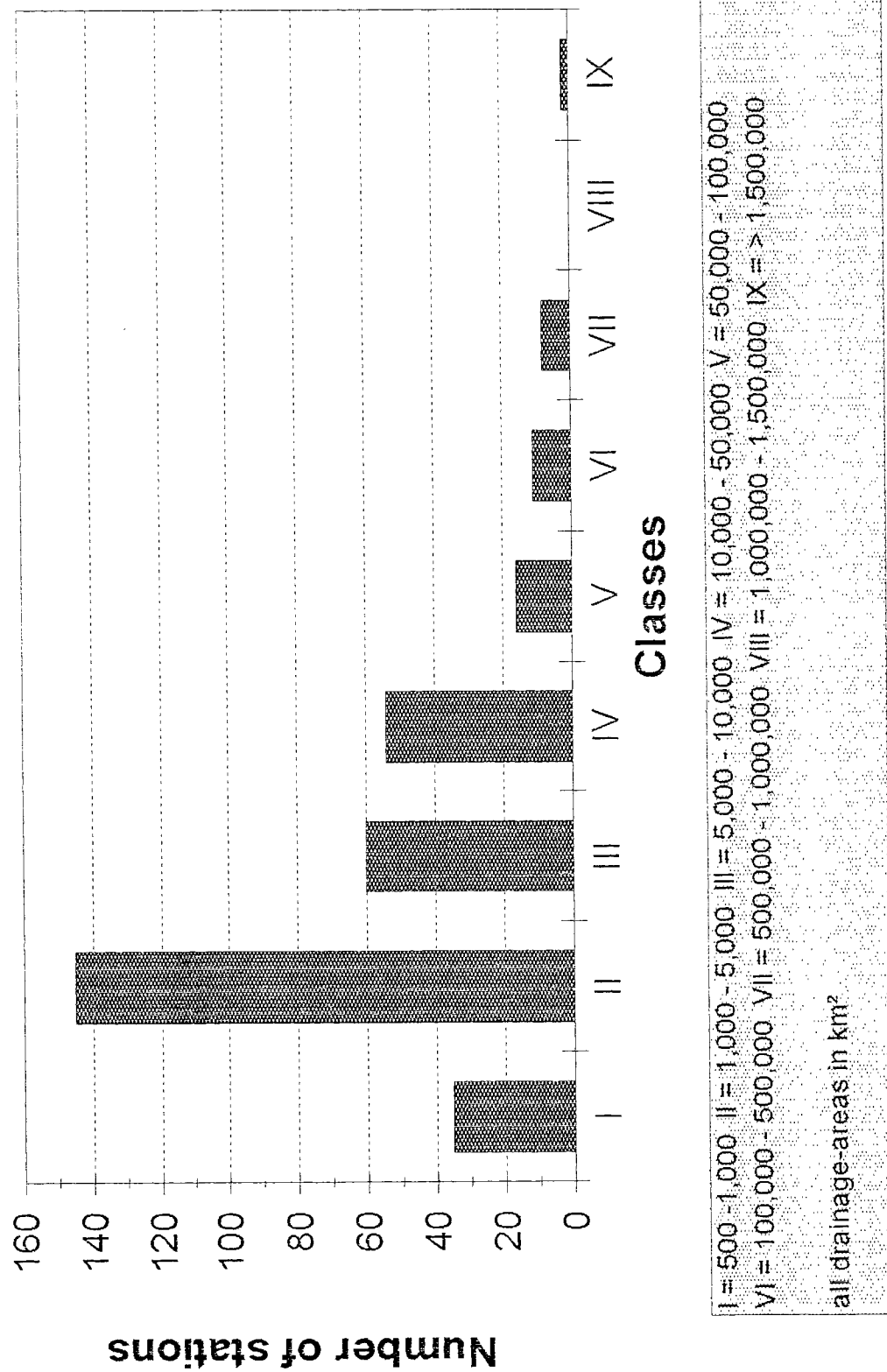
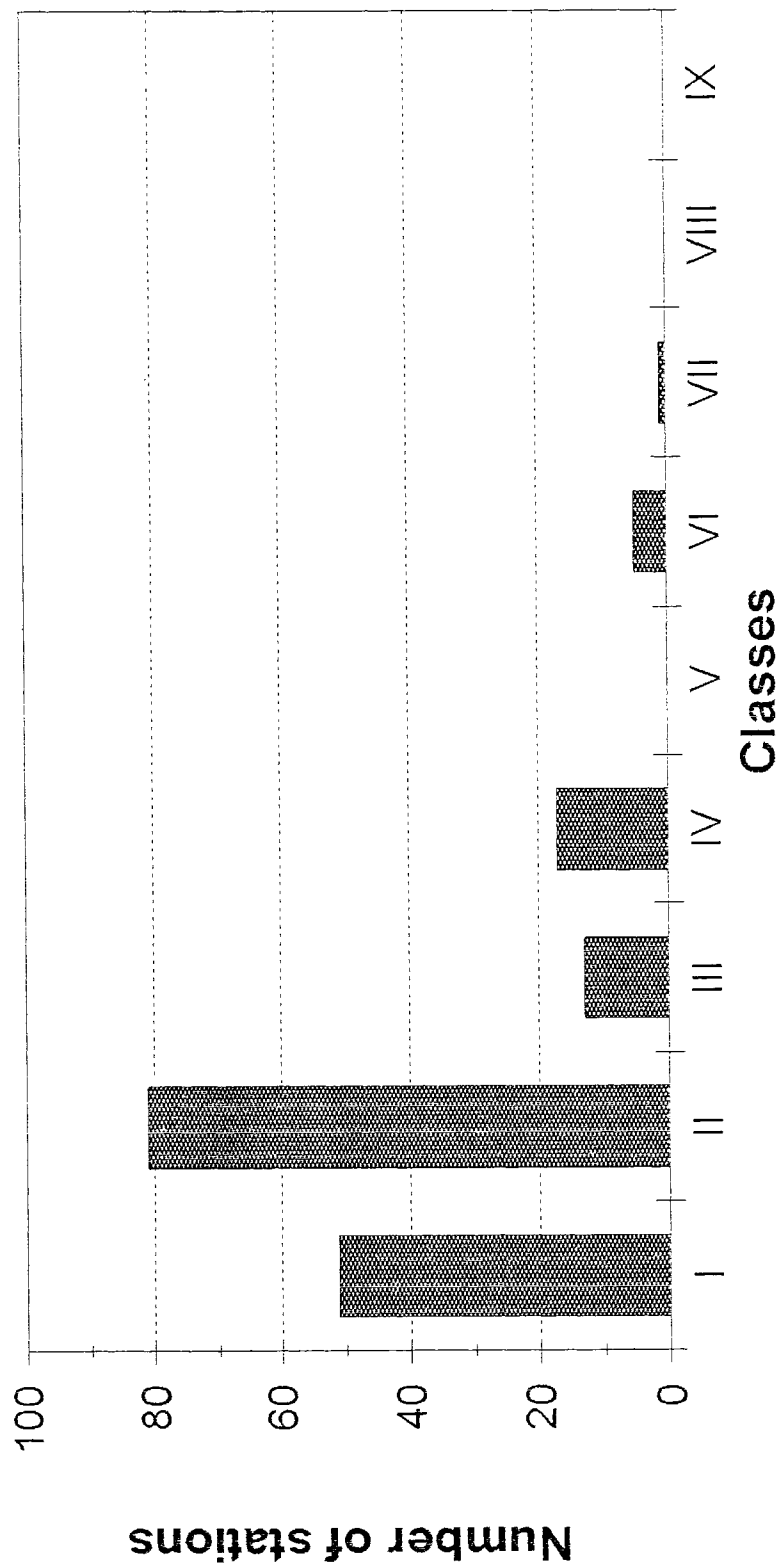


Figure 6: Size classes of GRDC-basins in South America

# STATIONS SPLITTED INTO CLASSES

## WMO - Region: PACIFIC



I = 500 - 1,000 II = 1,000 - 5,000 III = 5,000 - 10,000 IV = 10,000 - 50,000 V = 50,000 - 100,000  
 VI = 100,000 - 500,000 VII = 500,000 - 1,000,000 VIII = 1,000,000 - 1,500,000 IX = > 1,500,000  
 all drainage areas in km²

Figure 7: Size classes of GRDC-basins in the Pacific region

## **Annex 1**

### **Tables of updated and new stations in the GRDC**

GRDC - IMPORT

21.02.94

BENIN

| Date     | GRDC-Nr | River  | Station         | Landcode | Data    |         | Monthly/<br>Daily data | Updater/<br>New |
|----------|---------|--------|-----------------|----------|---------|---------|------------------------|-----------------|
|          |         |        |                 |          | from    | to      |                        |                 |
| 29.12.93 | 1733100 | Queme  | Pont de Beterou | BJ       | 04.1992 | 10.1992 | D                      | U               |
| 29.12.93 | 1733300 | Queme  | Pont de Save    | BJ       | 04.1992 | 10.1992 | D                      | U               |
| 29.12.93 | 1713600 | Queme  | Bonou           | BJ       | 04.1992 | 10.1992 | D                      | U               |
| 29.12.93 | 1733320 | Okpara | Kaboua          | BJ       | 04.1992 | 10.1992 | D                      | U               |
| 29.12.93 | 1733400 | Zou    | Dome            | BJ       | 04.1992 | 10.1992 | D                      | U               |
| 29.12.93 | 1733200 | Zou    | Atcherigbe      | BJ       | 04.1992 | 10.1992 | D                      | U               |

## GRDC - IMPORT

## DANUBE

| Date     | GRDC-Nr | River  | Station          | Landcode | Data | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|--------|------------------|----------|------|------------------------|----------------|
|          |         |        |                  |          | from | to                     |                |
| 20.01.94 | 6342500 | Danube | Ingolstadt       | DL       | 1931 | 1970                   | N              |
| 20.01.94 | 6342600 | Danube | Regensburg       | DL       | 1931 | 1970                   | N              |
| 20.01.94 | 6342900 | Danube | Achleiten        | DL       | 1931 | 1970                   | N              |
| 20.01.94 | 6343900 | Inn    | Passau-Ingling   | DL       | 1931 | 1970                   | N              |
| 20.01.94 | 6242400 | Danube | Stein-Krems      | OS       | 1931 | 1970                   | N              |
| 20.01.94 | 6242500 | Danube | Wien-Nußdorf     | OS       | 1931 | 1970                   | N              |
| 20.01.94 | 6242100 | Danube | Linz             | OS       | 1931 | 1970                   | N              |
| 20.01.94 | 6242250 | Enns   | Steyr            | OS       | 1951 | 1970                   | N              |
| 20.01.94 | 6246500 | Drava  | Neubrucke        | OS       | 1951 | 1970                   | N              |
| 20.01.94 | 6246600 | Mur    | Landscha         | OS       | 1951 | 1970                   | N              |
| 20.01.94 | 6542500 | Danube | Pancevo          | YG       | 1931 | 1970                   | N              |
| 20.01.94 | 6542600 | Danube | Veliko Gradiste  | YG       | 1931 | 1970                   | N              |
| 20.01.94 | 6142620 | Vah    | Sala             | CZ       | 1931 | 1970                   | N              |
| 20.01.94 | 6142660 | Hron   | Brehy            | CZ       | 1931 | 1970                   | N              |
| 20.01.94 | 6842200 | Danube | Novo Selo        | BU       | 1937 | 1970                   | N              |
| 20.01.94 | 6842400 | Danube | Lom              | BU       | 1941 | 1970                   | N              |
| 20.01.94 | 6842700 | Danube | Svistov          | BU       | 1931 | 1970                   | N              |
| 20.01.94 | 6842800 | Danube | Ruse             | BU       | 1931 | 1970                   | N              |
| 20.01.94 | 6842900 | Danube | Silistra         | BU       | 1941 | 1970                   | N              |
| 20.01.94 | 6842550 | Iskar  | Orahovica        | BU       | 1936 | 1970                   | N              |
| 20.01.94 | 6742500 | Danube | Zimnicea         | RO       | 1931 | 1970                   | N              |
| 20.01.94 | 6742800 | Danube | Vadu-Oii-Hirsova | RO       | 1931 | 1970                   | N              |
| 20.01.94 | 6742450 | Olt    | Stoenesti        | RO       | 1950 | 1970                   | N              |
| 20.01.94 | 6742700 | Siret  | Lungoci          | RO       | 1950 | 1970                   | N              |
| 20.01.94 | 6942200 | Siret  | Storozince       | UR       | 1953 | 1970                   | N              |
| 20.01.94 | 6944250 | Tisza  | Vilok            | UR       | 1954 | 1970                   | N              |

## GRDC - IMPORT

22.02.94

## DANUBE

| Date     | GRDC-Nr | River         | Station         | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|---------------|-----------------|----------|------|------|------------------------|----------------|
|          |         |               |                 |          | from | to   |                        |                |
| 20.01.94 | 6544100 | Tisa          | Senta           | YG       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6444600 | Szamos        | Csenger         | HU       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6444110 | Maros         | Mako            | HU       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6547500 | Velika Morava | Lubicevsky Most | YG       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6942100 | Prut          | Chernovtzy      | UR       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6942450 | Danube        | Dunaalmas       | HU       | 1948 | 1970 | M                      | U              |
| 20.01.94 | 6942600 | Danube        | Mohacs          | HU       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6542100 | Danube        | Bezdan          | YG       | 1931 | 1949 | M                      | U              |
| 20.01.94 | 6542200 | Danube        | Bogojevo        | YG       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6142150 | Morava        | Moravski Jan    | CZ       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6142600 | Ipel          | Ipelsky-Solonek | CZ       | 1931 | 1970 | M                      | U              |
| 20.01.94 | 6444090 | Tisza         | Tiszabecs       | HU       | 1938 | 1958 | M                      | U              |

## GRDC - IMPORT

21.02.94

## DENMARK

| Date     | GRDC-Nr | River        | Station         | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|--------------|-----------------|----------|------|------|------------------------|----------------|
|          |         |              |                 |          | from | to   |                        |                |
| 04.01.94 | 6934100 | Skjern       | Alegard         | DN       | 1924 | 1970 | M                      | U              |
| 04.01.94 | 6934500 | Tryggevaelde | Lille Linde     | DN       | 1917 | 1970 | M                      | U              |
| 17.01.94 | 6934300 | Uggerby      | Asted Bro       | DN       | 1917 | 1970 | M                      | N              |
| 17.01.94 | 6934310 | Lindholm     | Elkaer Bro      | DN       | 1918 | 1970 | M                      | N              |
| 17.01.94 | 6934050 | Arup         | Arup            | DN       | 1935 | 1970 | M                      | N              |
| 17.01.94 | 6934150 | Skive        | Hagebro         | DN       | 1965 | 1970 | M                      | N              |
| 17.01.94 | 6934250 | Gudena       | Tvilumbro       | DN       | 1917 | 1970 | M                      | N              |
| 17.01.94 | 6934400 | Arhus        | Skiby           | DN       | 1919 | 1970 | M                      | N              |
| 17.01.94 | 6934450 | Giber        | Fulden          | DN       | 1960 | 1970 | M                      | N              |
| 17.01.94 | 6934350 | Ribe         | Staunager       | DN       | 1933 | 1970 | M                      | N              |
| 17.01.94 | 6934800 | Brede        | Bredebro        | DN       | 1921 | 1970 | M                      | N              |
| 17.01.94 | 6934850 | Grona        | Vindvedkanalen  | DN       | 1959 | 1970 | M                      | N              |
| 17.01.94 | 6934700 | Odense       | Ejby Molle      | DN       | 1931 | 1970 | M                      | N              |
| 17.01.94 | 6934530 | Amose        | Bromolle        | DN       | 1920 | 1970 | M                      | N              |
| 17.01.94 | 6934570 | Ringsted     | Lille Svenstrup | DN       | 1949 | 1970 | M                      | N              |
| 17.01.94 | 6934571 | Susa         | Hollose Molle   | DN       | 1934 | 1970 | M                      | N              |

## GRDC - IMPORT

## FRANCE (CEMAGREF)

| Date  | GRDC-Nr | River           | Station            | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|-------|---------|-----------------|--------------------|----------|------|------|------------------------|----------------|
|       |         |                 |                    |          | from | to   |                        |                |
| 34330 | 6139230 | Le Jabron       | Souspierre         | FR       | 1967 | 1991 | D                      | N              |
| 34330 | 6139240 | La Glueyre      | Tisonèche          | FR       | 1960 | 1991 | D                      | N              |
| 34330 | 6139340 | La Galaure      | St Uze             | FR       | 1980 | 1992 | D                      | N              |
| 34330 | 6139360 | L'Azergues      | Chatillon          | FR       | 1970 | 1991 | D                      | N              |
| 34330 | 6139370 | La Mare         | Verrines           | FR       | 1972 | 1992 | D                      | N              |
| 34330 | 6139380 | La Coise        | Nezelle            | FR       | 1970 | 1992 | D                      | N              |
| 34330 | 6139430 | L'Ardières      | Beaujeu            | FR       | 1969 | 1992 | D                      | N              |
| 34330 | 6139440 | La Guisane      | Casset             | FR       | 1978 | 1992 | D                      | N              |
| 34330 | 6139450 | Le Guers Mort   | St Laurent du Pont | FR       | 1974 | 1990 | D                      | N              |
| 34330 | 6139470 | L'Albarine      | St Rambert         | FR       | 1970 | 1992 | D                      | N              |
| 34330 | 6139640 | La Reyssouze    | Montagnat          | FR       | 1967 | 1992 | D                      | N              |
| 34330 | 6139680 | L'Ognon         | Fourguenons        | FR       | 1968 | 1991 | D                      | N              |
| 34330 | 6139700 | L'Ainan         | Vétraz - Monthoux  | FR       | 1972 | 1988 | D                      | N              |
| 34330 | 6139710 | Le Rahin        | Plancher Bas       | FR       | 1968 | 1991 | D                      | N              |
| 34330 | 6139720 | La Rosemontoise | Chaux              | FR       | 1974 | 1991 | D                      | N              |
| 34330 | 6139800 | L'Ill           | Altkirch           | FR       | 1963 | 1991 | D                      | N              |
| 34330 | 6139810 | La Thur         | Viller             | FR       | 1960 | 1991 | D                      | N              |
| 34330 | 6139820 | La Brucher      | Wisches            | FR       | 1961 | 1991 | D                      | N              |

## GRDC - IMPORT

## FRANCE (CEMAGREF)

| Date     | GRDC-Nr | River                | Station                  | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|----------------------|--------------------------|----------|------|------|------------------------|----------------|
|          |         |                      |                          |          | from | to   |                        |                |
| 27.12.93 | 6119100 | Le Louet             | Sombrun                  | FR       | 1968 | 1991 | D                      | N              |
| 27.12.93 | 6122350 | L'Orgeval            | Theil                    | FR       | 1962 | 1991 | D                      | N              |
| 27.12.93 | 6122400 | Le Fossé Rognon      | Mélarchez                | FR       | 1974 | 1990 | D                      | N              |
| 27.12.93 | 6123150 | L'Ognon              | Villeneuve les Sorinière | FR       | 1964 | 1990 | D                      | N              |
| 27.12.93 | 6123550 | Le Tholon            | Champvallon              | FR       | 1968 | 1992 | D                      | N              |
| 27.12.93 | 6123560 | L'Ouagne             | Toucy                    | FR       | 1969 | 1992 | D                      | N              |
| 27.12.93 | 6123700 | La Dragne            | Vandenesse               | FR       | 1968 | 1990 | D                      | N              |
| 27.12.93 | 6125080 | La Tourmente         | St Denis-Près-Martel     | FR       | 1971 | 1991 | D                      | N              |
| 27.12.93 | 6125150 | Le Chadoulin         | Allos                    | FR       | 1977 | 1990 | D                      | N              |
| 27.12.93 | 6125160 | L'Aussonelle         | Seilh                    | FR       | 1968 | 1992 | D                      | N              |
| 27.12.93 | 6125300 | Le Chapouroux        | Hemet                    | FR       | 1971 | 1992 | D                      | N              |
| 27.12.93 | 6125350 | La Mimente           | Florac                   | FR       | 1976 | 1991 | D                      | N              |
| 27.12.93 | 6125400 | Le Gardon de St Jean | Corbes Roc Courbe        | FR       | 1967 | 1991 | D                      | N              |
| 27.12.93 | 6125440 | Le Volp              | Ste Croix Volvestre      | FR       | 1968 | 1991 | D                      | N              |
| 27.12.93 | 6125540 | Le Dadou             | St Jean de Jeanne        | FR       | 1968 | 1991 | D                      | N              |
| 27.12.93 | 6128050 | Le Fresquel          | Villepinte               | FR       | 1971 | 1991 | D                      | N              |
| 27.12.93 | 6128150 | Le Real Collobrier   | Valescure                | FR       | 1967 | 1991 | D                      | N              |
| 27.12.93 | 6139050 | La Brillanne         | Laizon                   | FR       | 1965 | 1992 | D                      | N              |
| 27.12.93 | 6139200 | Le Verdon            | Foux d'Allos             | FR       | 1980 | 1991 | D                      | N              |
| 27.12.93 | 6139220 | Le Roubion           | Soyans                   | FR       | 1965 | 1991 | D                      | N              |

GRDC - IMPORT

21.02.94

## LUXEMBOURG

| Date     | GRDC-Nr | River   | Station          | Landcode | Data<br>from | to   | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|---------|------------------|----------|--------------|------|------------------------|----------------|
| 30.12.93 | 6836100 | Alzette | Ettelbruck       | LX       | 1983         | 1987 | D                      | U              |
| 17.01.94 | 6836190 | Alzette | Esch (frontiere) | LX       | 1983         | 1987 | D                      | N              |

## MADAGASKAR

| Date     | GRDC-Nr | River      | Station     | Landcode | Data    |         | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|------------|-------------|----------|---------|---------|------------------------|----------------|
|          |         |            |             |          | from    | to      |                        |                |
| 17 01 94 | 1389720 | Vohitra    | Rogez       | MG       | 05.1952 | 12.1979 | M                      | N              |
| 17 01 94 | 1389710 | Ramena     | Ambodimanga | MG       | 10.1953 | 11.1976 | M                      | N              |
| 17 01 94 | 1389320 | Menarandra | Tranoroa    | MG       | 11.1951 | 10.1983 | M                      | N              |

## MEKONG

| Date     | GRDC-Nr | River          | Station             | Landcode | Data    |         | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|----------------|---------------------|----------|---------|---------|------------------------|----------------|
|          |         |                |                     |          | from    | to      |                        |                |
| 11.01.94 | 2969078 | Huai Mong      | Ban Kruat           | TH       | 04.1985 | 03.1986 | D                      | U              |
| 11.01.94 | 2969080 | Lam Choen      | Ban Tha Dua         | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969081 | Huai Rai       | Ban Non Kiang       | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969082 | Nam Chi        | Ban Chot            | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969083 | Nam Chi        | Ban Kok             | TH       | 01.1988 | 12.1988 | D                      | U              |
| 11.01.94 | 2969087 | Nam Mun        | Satuk               | TH       | 01.1985 | 03.1987 | D                      | U              |
| 11.01.94 | 2969090 | Mekong         | Nong Khai           | TH       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2969095 | Mekong         | Nakhon Phanom       | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969096 | Nam Kam        | Na Kae              | TH       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2969100 | Mekong         | Mukdahan            | TH       | 06.1987 | 12.1990 | D                      | U              |
| 11.01.94 | 2969115 | Nam Yang       | Ban Na Thom         | TH       | 01.1981 | 12.1990 | D                      | U              |
| 11.01.94 | 2969116 | Huai Khayung   | Ban Huai Khayung    | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969123 | Huai Thap Than | Ban Hauai Thap Than | TH       | 04.1985 | 12.1987 | D                      | U              |
| 11.01.94 | 2969124 | Nam Mun        | Rasi Salai          | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969150 | Nam Chi        | Yasothon            | TH       | 04.1987 | 12.1990 | D                      | U              |
| 11.01.94 | 2969200 | Nam Mun        | Ubon                | TH       | 06.1987 | 12.1990 | D                      | U              |
| 11.01.94 | 2969210 | Lam Dom Yai    | Ban Fang Phe        | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969220 | Nam Mun        | Kaeng Sapu Tai      | TH       | 01.1990 | 12.1990 | D                      | U              |

## GRDC - IMPORT

23.02.94

## MEKONG

| Date     | GRDC-Nr | River        | Station          | Landcode | Data    |         | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|--------------|------------------|----------|---------|---------|------------------------|----------------|
|          |         |              |                  |          | from    | to      |                        |                |
| 11.01.94 | 2369800 | Dak Bla      | Kontum           | VS       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2369900 | Ea Krong     | Cau-14           | VS       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469049 | Nam Khan     | Ban Mixai        | LA       | 01.1988 | 12.1989 | D                      | U              |
| 11.01.94 | 2469050 | Mekong       | Luang Prabang    | LA       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2469055 | Nam Lik      | Ban Hin Heup     | LA       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2469058 | Nam Gnum     | Ban Pak Kanhoung | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469060 | Nam Ou       | Muong Ngoy       | LA       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2469072 | Mekong       | Vientiane        | LA       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2469092 | Se Bang Fai  | Mahaxai          | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469098 | Se Bang Fai  | Se Bang Fai      | LA       | 04.1985 | 08.1985 | D                      | U              |
| 11.01.94 | 2469110 | Se Champhone | Kengkong         | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469111 | Nam Theun    | Ban Signo        | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469120 | Se Ban Hieng | Ban Keng Done    | LA       | 06.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469260 | Mekong       | Pakse            | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469265 | Se Done      | Souvanna Khili   | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2469300 | Se Kong      | Attopeu          | LA       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969009 | Nam Mae Fang | Ban Tha Mai Liam | TH       | 01.1988 | 12.1989 | D                      | U              |
| 11.01.94 | 2969010 | Mekong       | Chiang Saen      | TH       | 05.1987 | 12.1990 | D                      | U              |
| 11.01.94 | 2969011 | Nam Mae Kok  | Ban Tha Ton      | TH       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2969028 | Nam Mae Pum  | Bna Mae Chai     | TH       | 01.1980 | 03.1982 | D                      | U              |
| 11.01.94 | 2969029 | Nam Mae Lao  | Ban Tha Sai      | TH       | 01.1989 | 12.1990 | D                      | U              |
| 11.01.94 | 2969030 | Nam Mae Ing  | Thoeng           | TH       | 01.1989 | 12.1990 | D                      | U              |
| 11.01.94 | 2969069 | Nam Heung    | Ban Pak Huai     | TH       | 01.1988 | 12.1990 | D                      | U              |
| 11.01.94 | 2969076 | Nam Pong     | Si Chomphu       | TH       | 01.1990 | 12.1990 | D                      | U              |
| 11.01.94 | 2969077 | Huai Luang   | Ban Tha Tum      | TH       | 01.1985 | 03.1987 | D                      | U              |

## GRDC - IMPORT

21.02.94

## NEPAL

| Date     | GRDC-Nr | River         | Station               | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|---------------|-----------------------|----------|------|------|------------------------|----------------|
|          |         |               |                       |          | from | to   |                        |                |
| 04.01.94 | 2549230 | Chepe Khola   | Garam Besi            | NE       | 1987 | 1992 | D                      | U              |
| 04.01.94 | 2549240 | Andhi Khola   | Dumrichaur Andhimuhan | NE       | 1989 | 1989 | D                      | U              |
| 04.01.94 | 2550120 | Balephi Khola | Jalbire               | NE       | 1989 | 1990 | D                      | U              |
| 04.01.94 | 2549210 | Rapti River   | Rajaiya               | NE       | 1989 | 1990 | D                      | U              |
| 20.01.94 | 2549250 | Marsyangdi    | Bimal Nagbar          | NE       | 1989 | 1990 | D                      | N              |
| 20.01.94 | 2548400 | Karnali       | Chaspapani            | NE       | 1989 | 1990 | D                      | N              |

## GRDC - IMPORT

21.02.94

## NIGER

| Date     | GRDC-Nr | River             | Station                | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|-------------------|------------------------|----------|------|------|------------------------|----------------|
|          |         |                   |                        |          | from | to   |                        |                |
| 04.01.94 | 1234090 | Niger             | Kandaji                | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234700 | Goulbi de Maradi  | Nielloua               | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234100 | Dargol            | Tera                   | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234500 | Maggia            | Tsernaouga             | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234200 | Tapoa             | Campement Du Double Ve | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234050 | Garouol           | Dolbel                 | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234180 | Goroubi           | Diongore               | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234550 | Kori Badeguicheri | Badeguicheri           | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234080 | Goroul            | Alcongou               | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234130 | Sirba             | Garbe Kourou           | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234650 | Goulbi De Maradai | Guidam Roundji         | NR       | 1985 | 1988 | D                      | U              |
| 04.01.94 | 1234120 | Dargol            | Kakassi                | NR       | 1985 | 1988 | D                      | U              |

## RUSSIAN FEDERATION

| Date     | GRDC-Nr | River  | Station  | Landcode | Data      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|--------|----------|----------|-----------|------------------------|----------------|
| 18.11.93 | 6975140 | Oka    | Kaluga   | RS       | from 1881 | M 1985                 | U              |
| 18.11.93 | 6976450 | Belaya | Ufa      | RS       | 1878      | M 1985                 | U              |
| 18.11.93 | 6979600 | Desna  | Chemigov | RS       | 1884      | M 1985                 | U              |

GRDC - IMPORT

21.02.94

SENEGAL

| Date     | GRDC-Nr | River    | Station         | Landcode | Data      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|----------|-----------------|----------|-----------|------------------------|----------------|
| 30.12.93 | 1812500 | Senegal  | Bakel           | SG       | from 1988 | D 1989                 | U              |
| 30.12.93 | 1812600 | Faleme   | Kidara          | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813780 | Gambie   | Kedougou        | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813700 | Gambie   | Mako            | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813500 | Gambie   | Simenti         | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813460 | Gambie   | Wassadou Amont  | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813450 | Gambie   | Wassadou Aval   | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813200 | Gambie   | Gouloumbou      | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813800 | Diagueri | Pont Routier    | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813350 | Sadougou | Sinthiou Maleme | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813750 | Sili     | Pont Routier    | SG       | 1988      | D 1989                 | U              |
| 30.12.93 | 1813650 | Thiokoye | Pont Routier    | SG       | 1988      | D 1989                 | U              |

## GRDC - IMPORT

22.02.94

## UNGARN

| Date     | GRDC-Nr | River         | Station         | Landcode | Data |      | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|---------------|-----------------|----------|------|------|------------------------|----------------|
|          |         |               |                 |          | from | to   |                        |                |
| 07.01.94 | 6444380 | Sajo          | Felsoezolca     | HU       | 1931 | 1990 | D                      | U              |
| 07.01.94 | 6442500 | Danube (Duna) | Nagymaros       | HU       | 1931 | 1990 | D                      | U              |
| 07.01.94 | 6444100 | Tisza         | Szeged          | HU       | 1931 | 1990 | D                      | U              |
| 07.01.94 | 6442050 | Raba          | Szentgotthard   | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6442200 | Marcal        | Rabaszentmiklos | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6442300 | Kapos         | Kurd            | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6444310 | Tisza         | Tiszapalkonya   | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6444200 | Tisza         | Szolnok         | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6444500 | Kraszna       | Agerdomajor     | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6444350 | Bodva         | Szendro         | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6444250 | Zagyva        | Jasztelek       | HU       | 1988 | 1989 | D                      | U              |
| 07.01.94 | 6444400 | Fehér-Körös   | Gyula           | HU       | 1988 | 1989 | D                      | U              |
| 20.01.94 | 6444600 | Szamos        | Csenger         | HU       | 1931 | 1990 | D                      | N              |
| 20.01.94 | 6442450 | Duna          | Dunaalmas       | HU       | 1948 | 1990 | D                      | N              |
| 20.01.94 | 6444110 | Maros         | Mako            | HU       | 1931 | 1990 | D                      | N              |
| 20.01.94 | 6442600 | Duna          | Mohacs          | HU       | 1931 | 1990 | D                      | N              |
| 20.01.94 | 6444090 | Tisza         | Tiszabecs       | HU       | 1938 | 1958 | D                      | N              |

## UNITED KINGDOM

| Date     | GRDC-Nr | River        | Station            | Landcode | Data    |         | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|--------------|--------------------|----------|---------|---------|------------------------|----------------|
|          |         |              |                    |          | from    | to      |                        |                |
| 30.12.93 | 6604610 | Tay          | Ballathie          | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6604800 | Dee          | Woodend            | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6604650 | Spey         | Boat O Brig        | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6605550 | Wharfe       | Flint Mill Weir    | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6605600 | Trent        | Colwick            | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6606300 | Ise Brook    | Harrowden Old Mill | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6606400 | Bedford Ouse | Bedford            | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6606900 | Waveney      | Needham Nill       | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6606850 | Stour        | Langham            | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6607200 | Exe          | Thorverton         | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6607150 | Taw          | Umberleigh         | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.94 | 6603500 | Lagan        | Newforge           | UK       | 01.1991 | 12.1991 | M                      | U              |
| 30.12.93 | 6609500 | Severn       | Bewdley            | UK       | 01.1991 | 12.1991 | D                      | U              |
| 30.12.93 | 6608500 | Wye          | Ddol Farm          | UK       | 01.1991 | 12.1991 | D                      | U              |
| 03.01.94 | 6605540 | Wharfe       | Addingham          | UK       | 01.1991 | 12.1991 | M                      | U              |
| 03.01.94 | 6607500 | Stour        | Throop Mill        | UK       | 01.1991 | 12.1991 | M                      | U              |
| 03.01.94 | 6604500 | Annan        | Brydekirk          | UK       | 01.1991 | 12.1991 | M                      | U              |
| 03.01.94 | 6604100 | Ewe          | Poolewe            | UK       | 01.1991 | 01.1991 | M                      | U              |

GRDC - IMPORT

23.02.94

## URUGUAY

| Date     | GRDC-Nr | River       | Station | Landcode | Data            | Monthly/<br>Daily data | Update/<br>New |
|----------|---------|-------------|---------|----------|-----------------|------------------------|----------------|
| 29.12.93 |         | Rio Uruguay | Salto   | UY       | from<br>01.1991 | to<br>12.1991          | D<br>U         |

## **Annex 2**

### **Country requests for data supply to the GRDC**

The Secretary  
Australia Water Resources Council  
Department of Resources and Energy  
G.P.O. Box 858  
CANBERRA A.C.T. 2601

Australia

Mr. Emmanuel NAAH  
Centre de Recherches Hydrologiques  
B.P. 4110  
YAOUNDE

Cameroun

Dipl. Ing. Helmut SCHREIBER  
Hydrographisches Zentralbüro  
Marxergasse 2  
A-1030 WIEN

Austria

Mr. Denis A. DAVIS  
Conservation and Protection Env. Canada  
8th floor, Place V. Massey,  
351, St. Joseph Blvd.,  
HULL Quebec K1A OH3

Canada

Mr. Alam MIAH  
Water Development Board  
72 Green Road  
DHAKA

Bangladesh

Mr. Wang JUEMOU  
Ministry of Water Resources  
P.O.Box 2905  
BEIJING

China

Dr. F. BULTOT  
Institut Royal Météorologique  
3, avenue Circulaire  
B-1180 BRUXELLES

Belgique

Ing. Oraldo Perez MONTEAGUDO  
Servicio Hidrologico del I.N.R.H.  
Calle Monserrate N°213  
LA HABANA

Cuba

Mr. W.F. PANTON  
National Meteorological Services  
Philip Goldson International Airport  
BELIZE

Central America

Mr. Christos IOANNOU  
Department of Water Development  
NICOSIA

Cyprus

Dr. Dimitar MANDADJIEV  
Institute of Meteorology and Hydrology  
Blvd. Lenin No. 66  
SOFIA

Bulgaria

Dr. Josef HLADNY  
Czech Hydrometeorological Institute  
Na Sabatce 17  
14306 PRAHA 4 - Komorany

Czech Republic

Mr. Kandaogo SAVADOGO  
Directeur de l'inventaire des ressources hydrauliques  
B.P. 7025  
OUAGADOUGOU 03

Burkina Faso

Mr. Geoffrey G. GREEN  
Water and Sewerage  
Ministry of Works, Private Mail Bag, Ganilau House  
SUVA

Fiji

Prof. Seppo MUSTONEN  
Research Institute  
Finnish National Board of Waters  
P.O. Box 250  
00100 HELSINKI 10

Finland

Mr. Michel MESNY  
Direction de l'eau,  
de la prévention des pollutions et des risques  
14, Blvd. du Général Leclerc  
F-92524 NEUILLY-SUR-SEINE Cedex

France

Prof. Dr. HOFIUS  
Bundesanstalt für Gewässerkunde  
IHP/OHP-Sekretariat  
Postfach 3 09  
D-56003 Koblenz

Germany

Mr. G. LYMBERIDIS  
Director-General  
Ministry of National Economy  
Averoff Street N°5  
ATHENS

Greece

Mr. V. BASIL  
Hydrometeorological Service  
Ministry of Agriculture  
Homestretch Avenue, Durban Park  
GEORGETOWN

Guyana

Dr. O. STAROSOLSZKY  
Research Centre for Water Resources Development  
P.O.Box 27  
H-1453 BUDAPEST

Hungary

Mr. J. BJÖRNSSON  
Director, Orkustofnun  
Grensasvegur 9  
108 REYKJAVIK

Iceland

Mr. M.S. REDDY  
Central Water Commission  
201 Sewa Bhavan, R.K. Puram  
NEW DELHI 110066

India

Dr. S. KESLER  
Hydrological Service  
P.O.Box 6381  
JERUSALEM 91060

Israel

Eng. Antonio RUSCONI  
Servizio Idrografico e Mareografico Nazionale  
Presidenza del Consiglio dei Ministri  
Palazzo Chigi  
I-00187 ROMA

Italia

Mr. Thorant HARDWARE  
Water Resources Division  
Ministry of Local Government  
P.O.Box 91, Hope Gardens  
KINGSTON 7

Jamaica

Mr. Toru KONDO  
River Bureau  
Ministry of Construction  
2-1-3-Kasumigaseki, Chiyoda-ku  
TOKYO

Japan

Eng. Mutaz BELBESI  
Water Authority of Jordan  
P.O.Box 2412-5012  
AMMAN

Jordan

Mr. Abdoulaye BA  
Direction Générale de l'Hydraulique et de l'Energie  
B.P. 66  
BAMAKO

Mali

Mr. S. MAKHOALIBE  
Department of Water Affairs  
P.O.Box 772  
MASERU 100

Lesotho

Ing. A. Acosta GODINEZ  
Insurgentes Sur N°30 piso 1  
Col. Juarez 06600  
MEXICO, D.F.

Mexico

Mr. William E. STEWART  
Ministry of Land, Mines and Energy  
P.O.Box 9024  
MONROVIA

Liberia

Mr. Arnaldo LOPEZ PEREIRA  
Director Nacional de Aguas  
C.P.1611  
MAPUTO

Mozambique

Mme. Christine RAZAFY  
Service de la Météorologie Agricole et de l'Hydrologie  
Direction de la Météorologie Nationale  
B.P.1254  
ANTANANARIVO

Madagascar

U Ohn GYAW  
Department of Meteorology and Hydrology  
Mayangon Post Office, 11061,  
YANGON

Myanmar

Mr. O.N. SHELA  
Water Department  
Private Bag 390  
LILONGWE 3

Malawi

Dr. M.P. MOSLEY  
Institute of Water and Atmospheric Research  
30 Salamanca Road, Kelburn,  
P.O.Box 3047  
WELLINGTON 1

New Zealand

The Director-General  
Drainage and Irrigation Department  
Jalan Mahameru  
50626 KUALA LUMPUR

Malaysia

Ing. L. PALACIOS  
INETER  
Apartado postal 2110  
MANAGUA

Nicaragua

Mr. A. TOLLAN  
Hydrological Division  
Norwegian Water and Electricity Board  
P.O.Box 5091, Majorstua  
N-0301 OSLO 3

Norway

Mr. Abdul MAJID  
Flood Forecasting and Warning Centre  
46, Jail Road  
LAHORE 3

Pakistan

Mr. Abdul Aziz G. SHAIKH  
Regulation, Irrigation and Power Department  
Government of Sind  
143, Tughlaq House  
KARACHI

Pakistan

Mr. Luis SOSA  
National Water Resources Board  
NIA Building  
Epifanio de los Santos Avenue,  
QUEZON CITY

Philippines

The Director  
Bureau of Water Resources Development  
Ministry of Construction  
1 Chungang-dong, Kwacheon, Kyunggee-do  
SEOUL 427-760

Republic of Korea

Mr. Arlindo de Ceita CARVALHO  
Direction de Planification Physique  
B.P. N°67  
SAO TOME

Sao Tomé et Príncipe

Sr. D. Doroteo Frances CUNCHILLOS  
Servicio de Recursos Hidricos  
Ministerio de Obras Publicas y Urbanismo  
Nuevos Ministerios  
28071 MADRID

Espana

Mr. G.T. DHARMASENA  
Irrigation Department  
P.O.Box 1138  
COLOMBO 7

Sri Lanka

Mr. Kamal Ali MOHAMED  
Nile Waters Department  
P.O.Box 878  
KHARTOUM

Sudan

Mr. Moekiran AMATALI  
Ministry of Public Works  
Hydraulic Research Division  
P.O.Box 2110  
PARAMARIBO

Suriname

Mr. Jorgen NILSSON  
Meteorological and Hydrological Institute  
Folkborgsvägen 1  
S-601 76 NORRKOPING

Sweden

Dr. Charles EMMENEGER  
Service Hydrologique et Géologique national  
CH-3003 BERNE

Suisse

Dr. J.J. EL-DIN  
Ministry of Irrigation and Resources Department  
Ministry of Public Works and Water Sources  
P.O.Box 4451  
DAMASCUS

Syrian Arab Republic

Mr. Kossi HODIN  
Division de l'Hydrologie  
Direction du Génie Rural  
B.P. 1463  
LOME

Togo

Mr. B.K. KABANDA  
Water Development Department  
P.O.Box 19  
ENTEBBE

Uganda

Prof. Brian WILKINSON  
Institute of Hydrology  
Maclean Building, Crowmarsh Gifford  
WALLINGFORD Oxon OX10 8BB

U.K.

Mr. Philip COHEN  
US Geological Survey  
WRD, Mail Stop 409  
12201 Sunrise Valley Drive  
RESTON, Va 22092

USA

Ing. Milan GRAVIC  
Federal Hydrometeorological Institute  
Bircaninova 6  
P.O.Box 604  
11001 BEOGRAD

Serbia

Mr. A. AFOUDA  
Département des Mathématiques  
Université Nationale de Bénin  
P.O. 526  
Cotonou

Benin

Mr. E. NSANZUMUGANWA  
Institut Géographique du Burundi (IGEBU)  
B.P. 331  
Gitega

Burundi

Mr. G. BEKELE  
Head of Water Resources Studies and Utilization Desk  
Ethiopian valley Development Studies Authority  
P. O. Box 1086  
Addis Ababa

Ethiopie

Mr. F. P. MOTE  
Meteorological Services Department  
P.O. Box 87  
Legon

Ghana

Mr. I. SOUMANA  
Directeur des Ressources en Eau  
Ministère de l'Hydraulique et  
de l'Environnement  
B.P. 257  
Niamey

Niger

Mr. J. A. HANIDU  
Department of Hydrology and Hydrogeology  
Federal Ministry of Water Resources  
PMB 159, Garki  
Abuja

Nigeria

Mr. K. A. MOHAMED  
Director, Nile Waters  
Ministry of Irrigation and Hydropower  
P.O. Box 878  
Khartoum

Soudan

Mr. K. HODDIN  
Ministère des Travaux Publics  
et de l'Équipement  
Direction du Service Hydrologique  
DMN BP 1505  
Lome

Togo

Mr. W. K. SAKALA  
Meteorological Department  
P.O. Box 30200  
Lusaka

Zambie

Mr. G. MAWERE  
Department of Water Causeway  
Harare

Zimbabwe

Mr. Masse NIANG  
Direction du Génie Rural  
et de l'Hydraulique  
PB 4021  
Dakar

Senegal

Mr. R. A. IKOBE  
Assistant Director of Hydrology  
and Meteorology  
Ministry of Land Recl. R. and Water Development  
P.O. Box 30521  
Nairobi

Kenya

Mr. M. A. SAKHO  
Ministère des Travaux Publics  
Direction de l'Eau  
Division des ressources en eau  
01 B. P. V 161  
Abidjan

Côte d'Ivoire

Dr. Naser ESSAT  
Chairman of River Nile Sector  
Ministry of Works and Water Resources  
13 Murad Street  
Geiza

Egypt

Mr. N. Cissé  
Ministère de l'Industrie, de l'Hydraulique  
et de l'Energie (MIHE)  
Direction Nationale de l'Hydraulique  
et de l'Energie (DNHE)  
B.P. 66  
Bamako  
Mali

Mr. S. N. SOK APPADU  
Mauritius Meteorological Service  
Vacoas

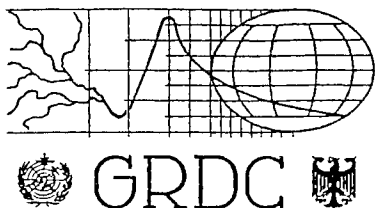
Iles Maurice

Mr. A. BENCHERQI  
Administration de l'Hydraulique  
Direction de la Recherche et de la  
Planification de l'eau  
Rue Hassan Ben Chekroun  
Agdal-Rabat

Maroc

## **Annex 3**

### **Extraction of GRDC catalogue**



**Global Runoff Data Centre**  
 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 operates with the support of the Federal Republic of Germany under the auspices of WMO

GLOBAL RUNOFF DATA CENTRE (GRDC)

I. Africa

01 Medjerda

|         |          |            |          |      |       |   |      |    |      |   |   |
|---------|----------|------------|----------|------|-------|---|------|----|------|---|---|
| 1201100 | Medjerda | Ghardimaou | TS 3627N | 843E | 1480  | 1 | 1976 | 12 | 1979 | M | 1 |
| 1201150 | Mellegue | K13        | TS 3612N | 850E | 9000  | 1 | 1976 | 12 | 1979 | M | 1 |
| 1201500 | Medjerda | Sloughia   | TS 3658N | 952E | 20895 | 1 | 1976 | 12 | 1979 | M | 1 |

02 Chott Melhir, Chott Rharsa

03 Chott Djerid

04 Mediterranean Sea Coast (Western Part)

|         |           |               |          |      |       |   |      |    |      |   |   |
|---------|-----------|---------------|----------|------|-------|---|------|----|------|---|---|
| 1104150 | Cheliff   | Sidi Belatar  | AL 3602N | 027E | 43750 | 1 | 1976 | 8  | 1978 | M | 1 |
| 1104200 | Mina      | Oued El-Abtal | AL 3550N | 068E | 6635  | 1 | 1976 | 8  | 1978 | M | 1 |
| 1104300 | Rhiou     | Amni Moussa   | AL 3587N | 112E | 2398  | 1 | 1976 | 12 | 1979 | M | 1 |
| 1104450 | Mazafran  | Fer a Cheval  | AL 3667N | 282E | 1912  | 1 | 1976 | 8  | 1979 | M | 1 |
| 1104480 | Boudouaou | Keddara       | AL 3665N | 342E | 829   | 1 | 1976 | 8  | 1979 | M | 1 |
| 1104500 | Isser     | Lakhdaria     | AL 3662N | 358E | 4149  | 1 | 1976 | 8  | 1979 | M | 1 |
| 1104530 | Sebaou    | Baghlia       | AL 3680N | 387E | 2501  | 1 | 1976 | 12 | 1979 | M | 1 |
| 1104600 | Bouselam  | Sidi Yahia    | AL 3642N | 460E | 4309  | 1 | 1976 | 8  | 1978 | M | 1 |
| 1104700 | Rhumel    | Oued Athmania | AL 3623N | 630E | 1220  | 1 | 1976 | 8  | 1978 | M | 1 |
| 1104800 | Melah     | Bouchegouf    | AL 3645N | 772E | 552   | 1 | 1976 | 8  | 1978 | M | 1 |
| 1204900 | Joumine   | Djebel Antra  | TS 3695N | 947E | 235   | 1 | 1976 | 12 | 1979 | M | 1 |
| 1304100 | Emsa      | Emsa          | MC 3552N | 530W | 110   | 4 | 1971 | 2  | 1988 | D | 1 |
| 1304800 | Kert      | Dar Driouch   | MC 3490N | 329W | 1353  | 6 | 1969 | 9  | 1987 | D | 1 |

| A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|
|---|---|---|---|---|---|---|---|---|---|---|

COMMENT:

A = GRDC-Code  
 B = Name of river  
 C = Name of station  
 D = Code of country  
 E = Latitude  
 F = Longitude  
 G = Catchment area in km<sup>2</sup>  
 H = first available record in database  
 I = last available record in database  
 J = Daily/Monthly data  
 K = Code of measurement (1 = runoff in m<sup>3</sup>/s)

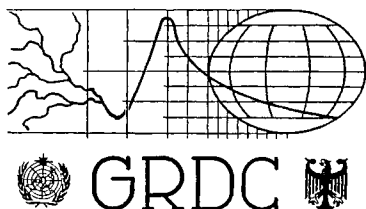
GRDC-Code (for example 1304800):

1 = WMO-Region (1 = Africa)  
 3 = GRDC-Country code (3 = Morocco)  
 04 = GRDC-Subregion; main river basin (04 = Mediterranean Sea Coast)  
 800 = GRDC-Station code

Annex 3: Extraction of Global Runoff Data Centre-Catalogue.

## **Annex 4**

### **Example of mean daily flow data**



**Global Runoff Data Centre**  
**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 operates with the support of the Federal Republic of Germany under the auspices of WMO

| A                                                                   | B      | C | DE    |
|---------------------------------------------------------------------|--------|---|-------|
| CHINDWIN                                                            | HKAMTI |   |       |
| 334.00324.00320.00305.00296.00292.00288.00276.00268.00264.00        |        | 1 | 11978 |
| 264.00256.00252.00248.00248.00244.00244.00240.00236.00236.00        |        | 2 | 11978 |
| 240.00240.00240.00232.00224.00216.00212.00208.00204.00200.00196.00  |        | 3 | 11978 |
| 196.00196.00192.00192.00192.00188.00184.00184.00184.00184.00        |        | 1 | 21978 |
| 180.00180.00176.00176.00168.00168.00164.00164.00160.00164.00        |        | 2 | 21978 |
| 168.00172.00168.00164.00164.00164.00160.00160.00                    |        | 3 | 21978 |
| 152.00148.00144.00140.00136.00140.00140.00136.00148.00148.00        |        | 1 | 31978 |
| 156.00148.00140.00136.00124.00124.00120.00120.00112.00112.00        |        | 2 | 31978 |
| 108.00108.00104.00104.00099.00099.00097.00097.00096.00096.00097.000 |        | 3 | 31978 |

**COMMENT:**

- A = Name of river
- B = Name of station
- C = Number of row (there are always 3 rows per month)
- D = Month
- E = Year

**Data rows:**

Each data row has a length of 80 characters, where the year, month and number of row are right-bound. There are always three rows per month. The first 2 rows contain 10 flow-values; the third will differ from 8 to 11 values, depending on the count of days per month. Each value consists of 6 characters. Missing values will be marked with "9999."

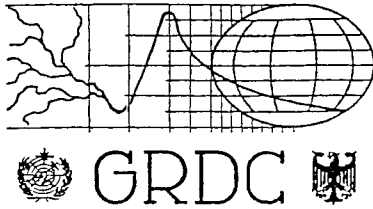
**Example:**

February 23rd, 1978 = 164.00

**Annex 4: Example of mean daily flow data**

## **Annex 5**

### **Example of mean monthly flow data**



**Global Runoff Data Centre**  
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 operates with the support of the Federal Republic of Germany under the auspices of WMO

A  
AMAZONAS  
C D

B  
OBIDOS

192811100013800018100020600021700021400019800016900011700085300.85500.90200.  
192910400012800014200018200020900021500019900017200013700090900.80100.93900.  
193011400014400017100019400020400020100019200017400013800010100089800.93500.  
193111000013300016300019000020100019400017400014000097600.81500.86400.94000.  
193211900016200018800020500021100020800019600017000013100093500.85800.93000.  
193311100014000016600018900020800020700020000016800010700076900.80500.91400.  
1934110000146000182000202000220000216000210000183000149000119000118000129000.  
193514300016000018000020300022100021600019700016700012900091200.75700.79800.  
193610500014200016200017600019300018100016200013500091900.87100.81900.82300.

COMMENT:

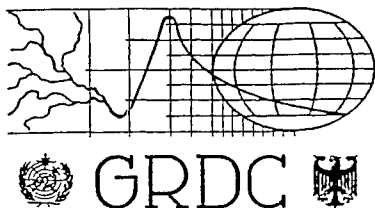
A = Name of river (= 40 characters)  
B = Name of station (= 30 characters)  
C = Year  
D = data (January - December)

Each value = 6 characters  
The values are in m<sup>3</sup>/s.  
Missing values = 9999.

Annex 5: Example of mean monthly flow data.

## **Annex 6**

### **List of country codes**



**Global Runoff Data Centre**  
 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 operates with the support of the Federal Republic of Germany under the auspices of WMO

|                         |                           |                       |
|-------------------------|---------------------------|-----------------------|
| AB Albania              | HU Hungary                | PF French Polynesia   |
| AD Azerbeidzhan         | HV Burkina Faso           | PH Philippines        |
| AG Argentina            | IE Ireland                | PK Pakistan           |
| AH Afghanistan          | IL Iceland                | PL Poland             |
| AL Algeria              | IN India                  | PM Panama             |
| AU Australia            | IQ Iraq                   | PO Portugal           |
| AX Armenia              | IR Iran                   | PR Peru               |
| BJ Benin                | IS Israel                 | PU Puerto Rico        |
| BM Myanmar              | IV Cote d'Ivoire          | PY Paraguay           |
| BO Bolivia              | IY Italy                  | RE France (Reunion)   |
| BU Bulgaria             | JD Jordan                 | RO Romania            |
| BW Bangladesh           | JM Jamaica                | RS Russian Federation |
| BX Belgium              | JP Japan                  | RW Rwanda             |
| BY Byelorussia          | KA Micronesia             | SB Sri Lanka          |
| BZ Brazil               | KG Kirghistan             | SG Senegal            |
| CD Chad                 | KN Kenya                  | SH American Samoa     |
| CE Central African Rep. | KO Rep. Korea             | SI Somalia            |
| CG Congo                | KR Dem. Peopl. Rep. Korea | SL Sierra Leone       |
| CH Chile                | KZ Kazakhstan             | SM Suriname           |
| CI China                | LA Laos                   | SN Sweden             |
| CM Cameroon             | LI Liberia                | SP Spain              |
| CN Canada               | LS Lesotho                | SR Singapore          |
| CO Columbia             | LT Lithuania              | SU Sudan              |
| CS Costa Rica           | LV Latvia                 | SV Swaziland          |
| CU Cuba                 | LX Luxembourg             | SW Switzerland        |
| CY Cyprus               | LY Libya                  | SY Syria              |
| CZ Czech Republic       | MA Mauritius              | TA Tadzhikistan       |
| DJ Djibouti             | MC Morocco                | TG Togo               |
| DL Germany              | MF France (Guadeloupe)    | TH Thailand           |
| DN Denmark              | MG Madagascar             | TN Tanzania           |
| DR Dominican Republik   | MI Mali                   | TR Turkmenistan       |
| EG Egypt                | MK Moldavia               | TS Tunisia            |
| EO Estonia              | MO Mongolia               | TU Turkey             |
| EQ Ecuador              | MR France (Martinique)    | TW Taiwan             |
| ES El Salvador          | MS Malaysia               | UG Uganda             |
| ET Ethiopia             | MT Mauretania             | UK United Kingdom     |
| FG French Guiana        | MW Malawi                 | UR Ukraine            |
| FI Finland              | MX Mexico                 | US U. S. A.           |
| FJ Fiji                 | MZ Mozambique             | UY Uruguay            |
| FR France               | NC New Caledonia          | UZ Uzbekistan         |
| GG Georgia              | NG Papua New Guinea       | VN Venezuela          |
| GH Ghana                | NI Nigeria                | VS Vietnam            |
| GM Guam                 | NK Nicaragua              | YG Yugoslavia         |
| GN Guinea               | NL Netherlands            | ZA South Africa       |
| GO Gabon                | NO Norway                 | ZB Zambia             |
| GR Greece               | NP Nepal                  | ZR Zaire              |
| GU Guatemala            | NR Niger                  | ZW Zimbabwe           |
| GY Guyana               | NZ New Zealand            |                       |
| HK Hongkong             | OS Austria                |                       |
| HO Honduras             | PB Palau                  |                       |

## Annex 6: List of Country Codes

## Reference of GRDC-Reports

---

- Report No. 1**      Second Workshop on the Global Runoff Data Centre, Koblenz,  
May 1993            Germany, 15 - 17 June, 1992.
- Report No. 2**      Dokumentation bestehender Algorithmen zur Übertragung von  
May 1993            von Abflußwerten auf Gitternetze.(Incl.abstract in English by  
GRDC: Documentation of existing algorithms for  
transformation of runoff data to grid cells).  
G.C. Wollenweber
- Report No. 3**      GRDC - Status Report 1992.  
June 1993
- Report No. 4**      GRDC -Status Report 1993  
June 1994