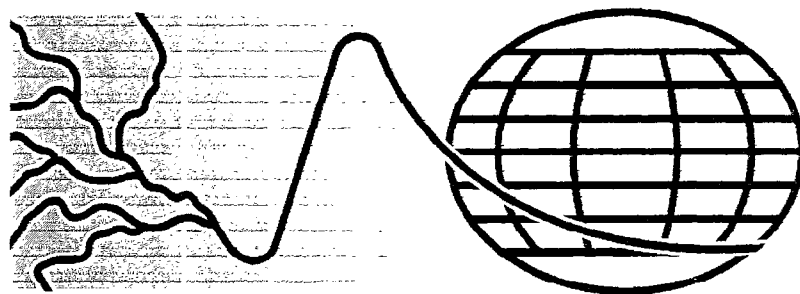


Weltdatenbank Abfluß
Bundesanstalt für Gewässerkunde
Koblenz, Deutschland

Global Runoff Data Centre
Federal Institute of Hydrology
Koblenz, Germany

Report No. 12

**Second Interim Report on the Arctic
River Database for the Arctic Climate
System Study (ACSYS)**



GRDC



July 1996

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

CONTENTS

	Page
1. Introduction	1
2. Proposed Extension of the Rational for the Establishment of the ARDB	1
3. Implementation of the ARDB	2
4. Data Quality	3
5. Calculation of Freshwater Fluxes into the Arctic Ocean	3
6. Data Products for ACSYS	5
7. Presentation of the ARDB Update	6
8. Access to the ARDB	7
9. Outlook	7
10. References	8

GLOBAL RUNOFF DATA CENTRE (GRDC)

ASIA

No	River	Station	Country	Basin Area
1	Vitim	Bodaibo	RS	186000
2	Maya	Chabda	RS	165000
3	Anabar	Saskylakh	RS	78800
4	Kirenga	Shorokhovo	RS	46500
5	Iya	Tulun	RS	14500
6	Lena	Kusur	RS	2430000
7	Lena	Stolb	RS	2460000
8	Tuba	Bugurtak	RS	31800
9	Delgermuren	Muren	MO	16300
10	Selenga	Chutic	MO	92300
11	Orkhon	Orkhon	MO	23600
12	Khilok	Maleta	RS	25700
13	Yenisei	Igarka	RS	2440000
14	Markha	Malykai	RS	89600
15	Podkamennaya Tunguska	Kuzmovka	RS	218000
16	Bolshoi Yugan	Ugut	RS	22100
17	Tym	Napas	RS	24500
18	Tom	Tomsk	RS	57000
19	Biya	Biysk	RS	36900
20	Tom	Novokuznetsk	RS	29800
21	Ishim	Petropavlovsk	KZ	118000
22	Tura	Tiumen	RS	58500
23	Northern Sosva	Sosva	RS	65200
24	Ob	Salekhard	RS	2949998
25	Yana	Dzanghky	RS	216000
26	Yana	Ubilenaya	RS	224000
27	Omoloy	Namu	RS	108000
28	Indigirka	Vorontsovo	RS	305000
29	Alazeja	Andrushkino	RS	29000
30	Kolyma	Sredne-Kolymsk	RS	361000
31	Kolyma	Kolmskaya	RS	526000
32	Nera	Ala-Chubuk	RS	22300
33	Khatanga	Khatanga	RS	275000
34	Nadym	Nadym	RS	48000
35	Taz	Sidorovsk	RS	100000
36	Amga	Buyaga	RS	23900
37	Pur	Samburg	RS	95100
38	Olenek	8km Upstr.of Pur River	RS	181000
39	Olenek	7.5km Downstr.Of River Pur	RS	198000
40	Olenek	Sukhana	RS	127000

Table : 3

GLOBAL RUNOFF DATA CENTRE (GRDC)

NORTH AMERICA

No	River	Station	Country	Basin Area
1	Colville	Nuiqsut	US	53535
2	Noatak	Noatak	US	31080
3	Yukon	Pilot Station	US	831390
4	Yukon	Kaitag, Alas.	US	767000
5	Yukon	Ruby, Alas.	US	670810
6	Koyukuk	Hughes, Alas.	US	48433
7	Yukon River	Rampart	US	516446
8	Yukon River	near Stevens Village	US	508417
9	Tanana	Nenana, Alas.	US	66304
10	Tanana	Big Delta	US	34965
11	Porcupine River	Fort Yukon, Alas.	US	76405
12	Porcupine River	near International Boundary	US	59829
13	Tanana	Tanacross, Alas.	US	22144
14	Yukon River	Eagle	US	293965
15	Porcupine River	Old Crow	CN	55400
16	Stewart River	Mayo	CN	31598
17	Stewart River	above Fraser Falls	CN	30588
18	Yukon River	Dawson	CN	264000
19	Yukon River	above White River	CN	149961
20	Yukon River	Carmacks	CN	818000
21	Pelly River	Pelly Crossing	CN	49000
22	Teslin River	near Whitehorse	CN	36519
23	Teslin River	near Teslin	CN	30300
24	Yukon River	above Frank Creek	CN	30821
25	Mackenzie River	Arctic Red River	CN	1660000
26	Mackenzie River	Norman Wells	CN	1570000
27	South Nahanni River	above Clausen Creek	CN	33400
28	Kechika	mouth	CN	22700
29	Liard River	Lower Crossing	CN	104000
30	Liard River	Fort Liard	CN	222000
31	Mackenzie River	near Fort Providence	CN	970000
32	Muskwa	near Fort Nelson	CN	20300
33	Fort Nelson	above Muskwa River	CN	22800
34	Slave River	Fitzgerald	CN	606000
35	Peace River	Peace Point	CN	293000
36	Peace River	Hudson Hope	CN	70200
37	Pine	East Pine	CN	12100
38	Peace River	Peace River	CN	186000
39	Smoky River	Watino	CN	50300
40	Athabasca River	below McMurray	CN	133000
41	Athabasca River	Athabasca	CN	74600
42	Coppermine River	Point Lake Outlet	CN	19300
43	Burnside River	near The mouth	CN	16800
44	Ellice River	near The mouth	CN	16900
45	Back	below Deep Rose Lake	CN	98200
46	Back	above Hermann River	CN	93900

Table : 3

**GLOBAL RUNOFF DATA CENTRE (GRDC)
ACSYS STATIONS**

ASIA										
Subregion 98: Jana, Indigirka, Kolyma										
GRDC-No.	River	Station	Longitude	Latitude	Area (km ²)	first rec.	last rec.	Day/Month	Miss. Val. (%)	
2998100	Yana	Dzanghky	69.67 N	135.33 E	216000	1.1938	12.1984	M	1	
2998110	Yana	Ubileynaya	70.75 N	136.08 E	224000	1.1978	12.1988	D	<1	
2998150	Omoloy	Namu	69.38 N	134.62 E	108000	1.1979	12.1987	D	2	
2998200	Sugoy	3.2km Downstream of Omchikchan	62.6 N	156 E	5880	1.1965	12.1984	M	0	
2998400	Indigirka	Vorontsovo	69.58 N	147.35 E	305000	1.1978	12.1988	D	<1	
2998400	Indigirka	Vorontsovo	69.58 N	147.35 E	305000	1.1937	12.1984	M	0	
2998450	Alazeja	Andrushkinó	69.17 N	154.5 E	29000	1.1978	12.1988	D	<1	
2998500	Kolyma	Sredne-Kolymsk	67.37 N	153.67 E	361000	1.1978	12.1988	D	5	
2998500	Kolyma	Sredne-Kolymsk	67.37 N	153.67 E	361000	1.1927	12.1984	M	13	
2998501	Kolyma	Ertegei	62.83 N	146.5 E	9560	1.1980	12.1990	D	<1	
2998510	Kolyma	Kolymskaya	68.73 N	158.72 E	526000	1.1978	12.1988	D	0	
2998600	Nera	Ala-Chubuk	64.68 N	144.07 E	22300	1.1965	12.1984	M	8	
2998800	Paljavaam	Paljavaam	68.53 N	174.15 E	6810	1.1978	12.1988	D	0	
2998850	Khatanga	Khatanga	71.98 N	102.45 E	275000	6.1982	9.1988	D	64	
2998900	Amgueima	mouth of Shoumny Brook	67.67 N	181.1 E	26700	1.1944	12.1984	M	25	

ASIA										
Subregion 99: Nadyam, Pur, Taz, Ananbar, Chatanga, Olenek										
GRDC-No.	River	Station	Longitude	Latitude	Area (km ²)	first rec.	last rec.	Day/Month	Miss. Val. (%)	
2999200	Nadyam	Nadyam	65.62 N	72.67 E	48000	1.1978	12.1987	D	0	
2999250	Taz	Sidorovsk	66.6 N	82.28 E	100000	1.1978	12.1988	D	28	
2999800	Amga	Buyaga	59.55 N	126.95 E	23900	1.1965	12.1984	M	0	
2999500	Pur	Samburg	67.08 N	78.15 E	95100	1.1978	12.1988	D	31	
2999500	Pur	Samburg	67.08 N	78.15 E	95100	1.1965	5.1984	M	17	
2999900	Olenek	8km Upstream of mouth Of Pur River	71.67 N	123.98 E	181000	1.1952	12.1963	M	2	
2999910	Olenek	7.5km Downstream of mouth Of River	72.12 N	123.22 E	198000	1.1965	12.1984	M	0	
2999920	Olenek	Sukhana	68.62 N	118.33 E	127000	1.1978	12.1988	D	0	

Table 4: Catalog of ACSYS-Stations including Updates and New Stations

**GLOBAL RUNOFF DATA CENTRE (GRDC)
ACSYS STATIONS**

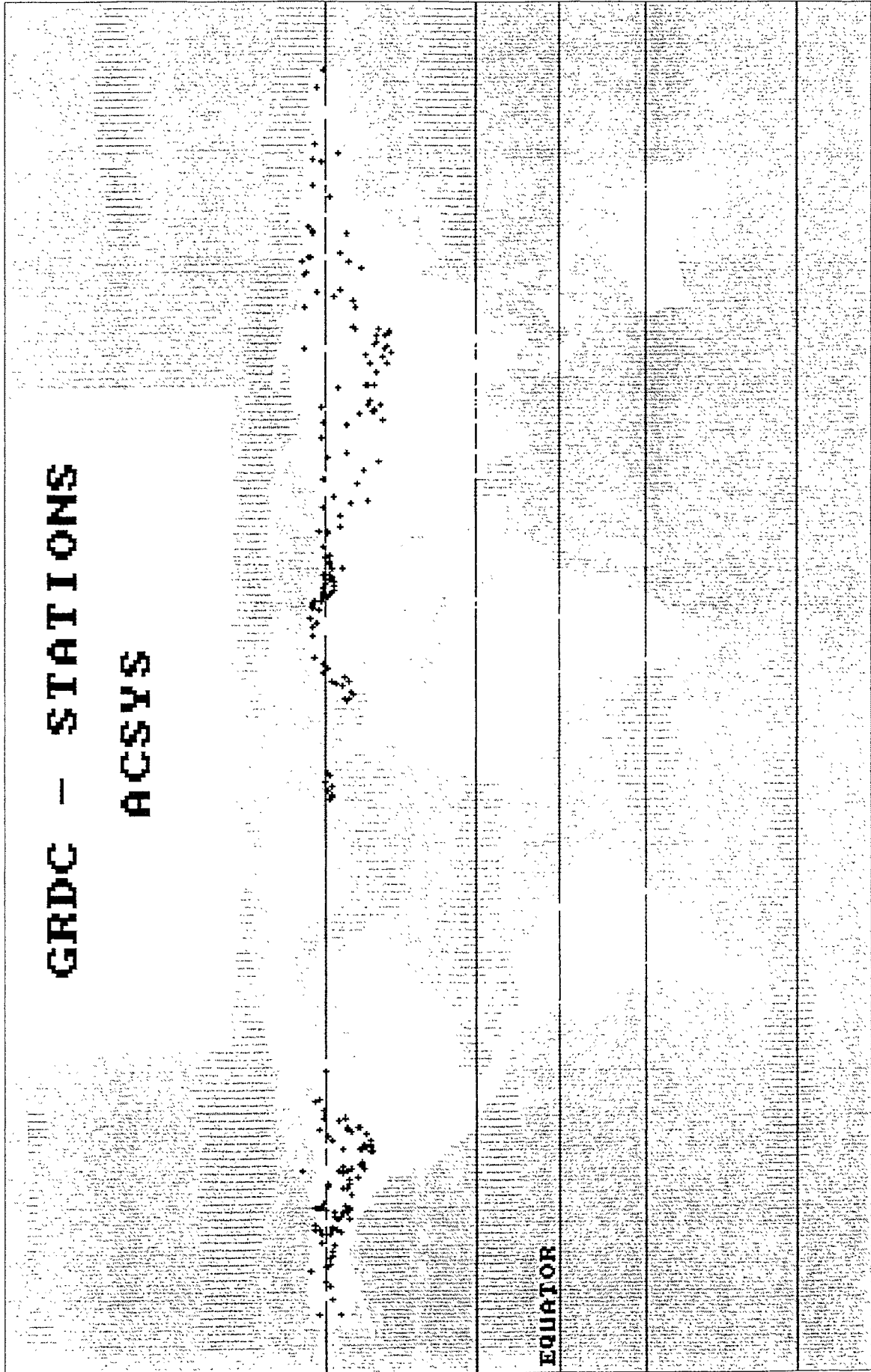
NORTH AMERICA		Subregion 01: Alaska (Arctic Ocean)							
GRDC-No.	River	Station	Longitude	Latitude	Area (km²)	first rec.	last rec.	Day/Month	Miss. Val. (%)
4101500	Colville	Nuqsut	70.16 N	150.92 W	53535	6.1977	9.1977	D	7
4101800	Noatak	Noatak	67.57 N	162.94 W	31080	8.1965	9.1971	D	46

NORTH AMERICA		Subregion 09: Canada (Arctic Ocean)							
GRDC-No.	River	Station	Longitude	Latitude	Area (km²)	first rec.	last rec.	Day/Month	Miss. Val. (%)
4209010	Firth River	near The mouth	69.32 N	139.57 W	5710	5.1972	12.1990	D	4
4209050	Babbage River	below Caribou Creek	68.82 N	138.67 W	1510	8.1976	12.1992	D	9
4209100	Trail Valley Creek	near Inuvik	68.74 N	133.44 W	68	5.1977	12.1992	D	14
4209400	Coppeimine River	Point Lake Outlet	65.41 N	114 W	19300	7.1965	12.1992	D	2
4209450	Big River	above Egg River	72.48 N	123.4 W	3640	7.1975	12.1988	D	15
4209500	Tree River	near The mouth	67.63 N	111.88 W	5960	12.1968	12.1992	D	3
4209550	Burnside River	near The mouth	66.74 N	108.82 W	16800	9.1976	12.1992	D	4
4209580	Gordon River	near The mouth	66.81 N	107.1 W	1530	8.1977	12.1992	D	13
4209600	Elice River	near The mouth	67.71 N	104.14 W		1.1971	12.1992	D	0
4209650	Freshwater Creek	near Cambridge Bay	69.13 N	104.99 W	1490	7.1970	12.1992	D	20
4209800	Back	below Deep Rose Lake	66.08 N	96.5 W	98200	1.1966	12.1984	M	12
4209805	Back	above Hermann River	66.09 N	96.5 W	93900	1.1965	12.1992	D	0

Table 4: Catalog of ACSYS-Stations including Updates and New Stations

GLOBAL RUNOFF DATA CENTRE (GRDC)

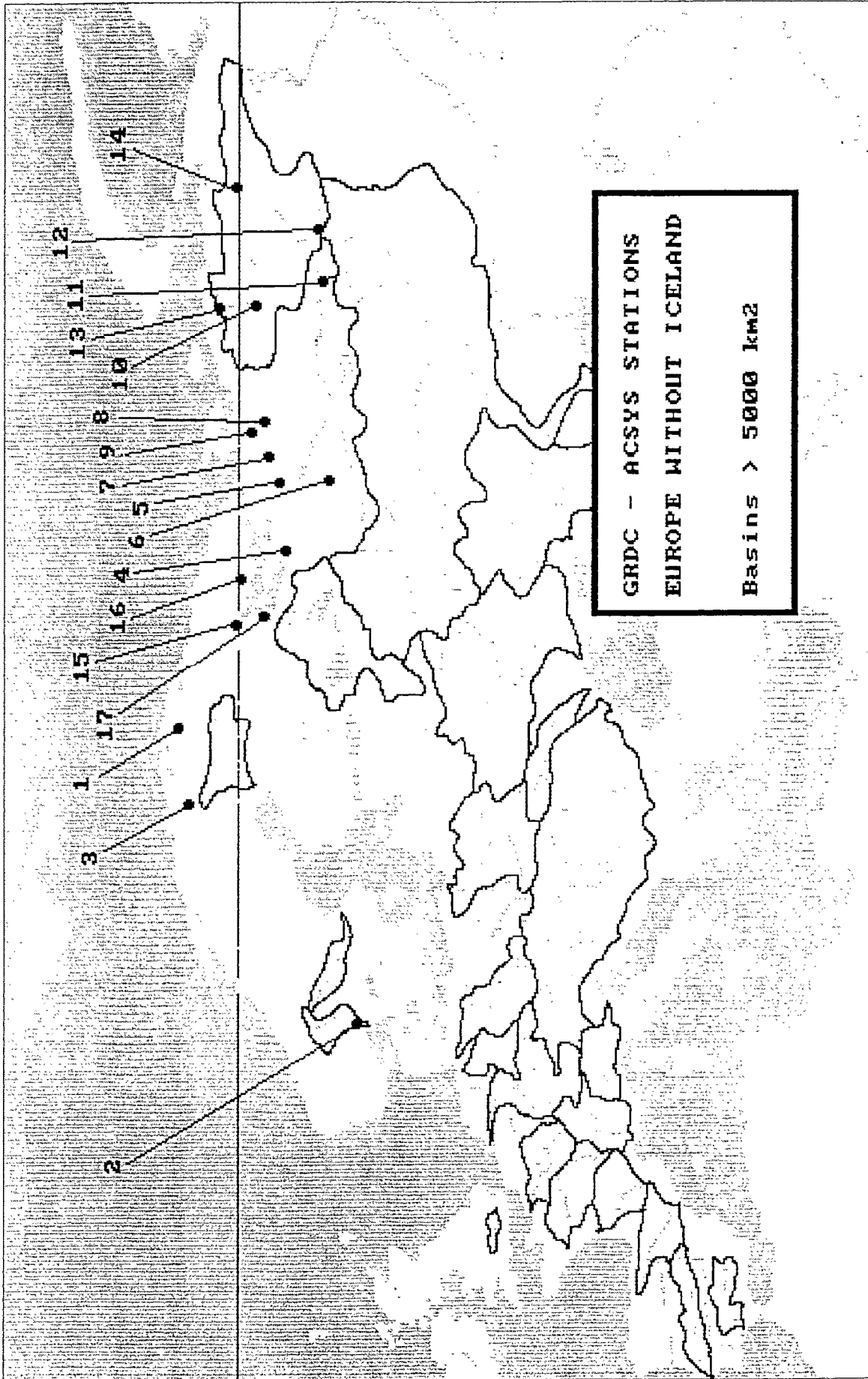
**GRDC - STATIONS
ACSYS**



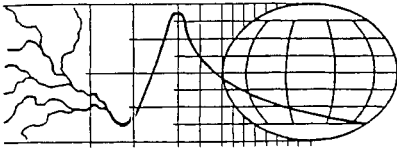
EQUATOR

Map 1:

GLOBAL RUNOFF DATA CENTRE (GRDC)



Map 4:



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 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."

1. Principles of data acquisition and access

1.1 The GRDC operates on the WMO principal mentioned above with the aim of encouraging the widespread use of the data for national, regional and global studies.

1.2 Contributing countries are encouraged to transfer unrestricted, quality controlled, selected hydrological data together with station history information to the GRDC. The transfer of daily discharge data is preferred.

1.3 When requested by a contributing agency, the GRDC also accepts and stores restricted data. In such cases, the agency concerned specifies the relevant restrictions and the GRDC flags the restricted data and uses them under the conditions specified by the contributing agency.

2. Dissemination of GRDC-Data

2.1 GRDC data are available to users under the conditions specified in 2.2. to 2.6 below.

2.2 Requests for data must reach the GRDC in written form: letter, facsimile, telex or email. A proforma is attached for use in this respect (annex 1).

2.3 The data user agrees in writing that the data received are not transferred to third parties without the written consent of the GRDC (proforma in annex 2).

2.4 GRDC data shall not be used for commercial purposes without the prior consent of the national hydrological service(s) and/or other contributors of the data to the GRDC. The GRDC will request such consent on behalf of a potential user.

2.5 The data user agrees that the GRDC may inform the national hydrological service(s) supplying the data about the use to which their data have been put and will transfer the name and address of the data user to the hydrological service(s) concerned.

2.6 The GRDC makes available subsets of the GRDC database on request, as stated above. Requests for the entire database or substantial parts of it cannot be entertained.

3. Cost of services

3.1 Information about the GRDC, including the yearly status reports and the database contents (catalogue), are provided free of charge upon request.

3.2 To enhance the services of the GRDC, the GRDC charges data users on a non-profit base for the time used for carrying out services and for costs of material, handling and mailing.

