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## INVENTORY OF THE MORPHOMETRIC AND LIMNOLOGIC CHARACTERISTICS OF THE LARGE LAKES OF THE WORLD

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by  
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ABSTRACT

An inventory of the distribution, origin, morphometry, and limnologic characteristics of the world's large lakes has been undertaken. Natural lakes, fresh and salt, with a surface area greater than  $500 \text{ km}^2$  are included; 253 such lakes have been identified. Large lakes occur on all continents except Antarctica, but nearly half of them (48 percent) are found in North America and most of these lie above the 40th parallel, attesting to the scouring action of continental glaciers. Tectonic belts, such as the Rift Valley of east Africa and the Lake Baikal region of Siberia, are the second most common loci of large lakes. Tabular morphometric data include surface area, drainage basin, elevation, mean and maximum depth, volume, length and breadth, shoreline length and development ratio, and orientation of longest axis. These data show that the large lakes of the world occupy a surface area of slightly over  $1,400,000 \text{ km}^2$  and they have an estimated volume of  $179,000 \text{ km}^3$ . Large lakes account for approximately 90 percent of the total surface area and volume of water held in all lakes of the world. Climatic and limnologic data include precipitation, evaporation, basin runoff, water quality, and biological productivity. Seventy-five percent of the large lakes are fresh, with the remaining 25 percent ranging from brackish to hypersaline. The tropical, freshwater lakes of Africa are the most biologically productive.

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## INTRODUCTION

A relatively few large lakes contain nearly 90 percent of the world's inland surface water supply. These lakes, if only by virtue of the water they hold, constitute an extremely valuable resource. Large lakes play an important role in the economy and overall prosperity of mankind, being used for many purposes including domestic and industrial water supplies, irrigation, transportation and water-borne commerce, mineral extraction, fishing, recreation and waste assimilation. These lakes form the borders of several countries; here and at other places they have influenced the history and culture of their geographic region. Moreover, many of the world's largest lakes have special aesthetic appeal and spectacular beauty.

Thus, an inventory of the large, natural lakes of the world was undertaken as an initial contribution to understanding the magnitude, diversity and value of these bodies of water. Morphometric and limnologic data on the world's largest lakes are scattered throughout the literature or in many cases apparently lacking. Several lists of the world's major lakes have been published (Murray 1910, Lane 1948, Hutchinson 1957, Kennedy 1964, Gresswell and Huxley 1965, van der Leeden 1975, UNESCO 1978, Showers 1979, NOAA 1980, and Herdendorf 1982) as well as a few excellent works which describe lakes in specific regions (USSR--Zhadin and Gerd 1961, USA--Bue 1963, Canada--Gilliland et al. 1973 and Demers 1974, and Africa--Beadle 1974). However, no single comprehensive database is available on the large natural lakes of the world. The following inventory is intended as a contribution toward the assembly of such a database. Members of the scientific community are invited to submit revisions and supplements to the data presented in this report.

## SELECTION CRITERIA

The objective of the inventory is to collect reliable information on the names, location, morphometry, geologic origin, water quality and biological productivity of the world's largest lakes. This inventory is intended to include all of the world's natural lakes, both freshwater and salt water, which have a surface area in excess of 500 km<sup>2</sup>. For reference, this includes natural lakes the size of Lake Tahoe (California-Nevada border) and larger. For the purpose of this inventory, natural lakes are defined as essentially static bodies of water, including both inland basins and those separated from the oceans by spits and barrier bars (coastal lagoons). In all, 253 lakes have been identified which satisfy these criteria.



Reservoirs have not been included in this inventory, but many exist which have a surface area in excess of 500 km<sup>2</sup>. These man-made bodies of water are to be inventoried in a future paper.

## LAKE NAMES

One of the most perplexing problems in compiling an inventory of the world's largest lakes is dealing with lake names. The diverse ways in which letters of the Latin alphabet are pronounced lead to a variety of spellings when non-Latin alphabet scripts are transcribed. This problem is further exacerbated by the fact that different countries often use different names for the same lake. Attempts at international standardization have not yet been fully successful, and the literature abounds with lakes that are referred to by a variety of names. In an attempt to minimize this confusion, Table 1 lists all lakes by a simple code name (generally a proper name without its lake-word modifier) followed by its English conventional name and its local name transliterated into the Latin alphabet. Latinized lake names are those used in The Times Atlas of the World (Bartholomew et al. 1980) which were constructed by systems agreed to jointly by the British Permanent Committee on Geographical Names and the United States Board on Geographical Names. Lakes in China are given in their Pinyin spellings in the local name column. The next column in Table 1 lists alternate names and spelling variants which have been observed in the literature or on various maps and atlases. Wade-Giles spelling of Chinese lake names are given in this column.

## LAKE DISTRIBUTION

The continent, nation(s), and geographic coordinates of the 253 large lakes of the world are presented in Table 1. With the exception of the Canadian lakes, the location for most lakes was obtained from the tables prepared by Showers (1979). The outstanding inventories published by Environment Canada, Inland Waters Directorate (Gilliland et al. 1973 and Demers 1974) were used for Canadian lakes. All locations were confirmed on 1:1,000,000 scale maps published by the U.S. Defense Mapping Agency, Topographic Center (the designation code for the map upon which each lake appears is also listed in Table 1) and on larger scale maps in the Times Atlas of the World (Bartholomew et al. 1980) and the Rand McNally New International Atlas (Voisin and Leverenz 1980). Geographic coordinates (latitude and longitude) are given to the nearest minute for the center of the lake area. For irregularly shaped lakes this point does not necessarily lie within the lake outline. The area

of each lake, the primary criteria for inclusion, is given with other morphometric data in Table 4.

Sixty-four nations contain or share with another country one or more of the large lakes (Figures 1-9). Table 2 presents a breakdown by continent and nation for these bodies of water. Distribution by continent is summarized below:

<u>DISTRIBUTION OF LARGE LAKES</u>				
Continent	No. of Nations	No. of Large Lakes	Total Lake Area	Percent of World Total
Africa	18	23	188,851	13.5
Asia	15	61	591,068	42.2
Europe	13	25	62,988	4.4
North America	8	122	487,699	34.9
Oceania	2	8	23,555	1.6
South America	<u>8</u>	<u>14</u>	<u>46,610</u>	<u>3.4</u>
TOTAL	64	253	1,400,771	100.0

North America possesses nearly half of all the large lakes but only one-third of the total surface area. Asia, with less than one-fourth of the lakes, has over 42 percent of the lake area. This is largely due to the presence of the Caspian Sea which alone accounts for over one-fourth of the area of all large lakes. Africa, the only other major locus for large lakes, accounts for less than one-seventh of the world total by area.

The Northern Hemisphere contains over 87 percent (220 lakes) of all the large lakes, with most of these occurring north of the 40th parallel (73 percent, 162 lakes). The

Southern Hemisphere contains relatively few lakes and most of them are found in Africa. The African large lakes are distinguished, however, by their large size and the fact that they lie at relatively low latitudes. Table 3 contains a listing of the number of large lakes that occur within ten degree latitude intervals for both hemispheres and a comparison of lake areas and available land masses for each interval.

## MORPHOMETRIC DATA

The morphometry of the large lakes is characterized in Table 4 by (1) lake surface area, (2) drainage basin area, (3) elevation in relation to sea level, (4) mean depth, (5) maximum depth, (6) volume, (7) length, (8) breadth, (9) shoreline length, (10) shoreline development, and, (11) orientation of the longest axis. Reasonably reliable data are available for elevation and surface dimensions of most lakes, but depth and volume information is lacking for many. Primary sources of data listed in Table 4 include Bartholomew et al. (1980), Beadle (1974), Beauchamp (1964), Bue (1963), Carpelan (1958), de Mello Vianna (1979), Demers (1974), Fairbridge (1968), Gilliland et al. (1973), Gilson (1964), Gresswell and Huxley (1965), Hutchinson (1957), Kao-tang (1980), Korzun (1974b), Lee (1976), Seltzer (1961), Showers (1979), Upchurch (1976), U.S. Defense Mapping Agency (various dates), van der Leeden (1975), Voisin and Leverenz (1980), Zhadin and Gerd (1961), and unpublished data from government agencies throughout the world.

The published area of a specific large lake, as well as other morphometric data, can vary considerably from author to author. For example, no less than 12 values have been published for the area of the Caspian Sea (world's largest lake) ranging from 370,999 to 440,300 km<sup>2</sup>, a difference of nearly 20 percent. Further, Hutchinson (1957, p. 168) lists an area of 508 km<sup>2</sup> for Hornindalsvatn, a fjord lake in Norway (which qualifies it as a large lake), however, most other sources indicate the lake is likely only one-tenth this size. For this work, the "most reliable" number was determined by considering the data source, date of publication, consensus of the literature, direct planimetry of U.S. Defense Mapping Agency maps, and unpublished data supplied by official agencies.

The area of the large lakes presented in Table 4 is the total area enclosed within the outline of the lake, including any islands. The number and size of the islands, if present, can have varying degrees of influence on the amount of water surface. Great Bear Lake in Northwest Territory, Canada, has 114 major islands but their presence only diminishes the water surface by 1.8 percent. In contrast, Lake Toba on the Island of Sumatra, Indonesia, contains a large volcanic island (Samosir) which comprises about 70 percent of the enclosed area of the lake.

Many lakes, particularly those characterized by a closed basin with no outlet, are subject to wide seasonal and year-to-year water level fluctuations. Therefore, their area and depth vary depending on climatic conditions. Most of these lakes are saline and/or

playas which owe their heritage to higher pluvial lakes (often freshwater) that date back to Quaternary time when the glacial climate produced periods of increased rainfall and reduced evaporation. Concentrated in the western United States, Middle East, central Asia, central-western South America, northern and eastern Africa and southern and western Australia, these lakes are remnants of the much larger pluvial lakes (Fairbridge 1968). As they were reduced in size, outlets were often lost resulting in dramatic fluctuations in response to variations in rainfall (Lake Eyre, Australia, has gone from a dry bed to a lake of over 7,000 km<sup>2</sup> several times in the past century). Fluvial lakes, such as those located in the Mekong River and Yangtze River valleys of Asia, are also subject to enormous seasonal variations. Lakes with large fluctuations in surface area are indicated with an asterisk (\*) in Table 4 and their "normal" area is listed in the table. The typical range in area of these lakes is summarized below:

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LAKES SUBJECT TO LARGE FLUCTUATIONS IN SURFACE AREA

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No.	Name	Range in Area (km <sup>2</sup> )	No.	Name	Range in Area (km <sup>2</sup> )
9.	AMADEUS	0 - 880	95.	HELMAND	1,165 - 3,000
18.	AUSTIN	0 - 829	103.	ILMEN	600 - 2,100
24.	BALKHASH	17,000 - 22,000	115.	KHANKA	4,000 - 4,400
25.	BANGWEULU	4,000 - 15,100	130.	MAI-NDOMBE	2,070 - 8,210
40.	CHAD	10,360 - 25,900	180.	PYRAMID	450 - 570
42.	CHANY	2,500 - 5,000	186.	RUKWA	750 - 3,000
45.	CHILKA	910 - 1,170	194.	SAP	2,400 - 30,000
71.	EVORON	300 - 590	196.	SCUTARI	360 - 600
73.	EYRE	0 - 7,690	217.	TAYMYR	4,000 - 5,000
79.	FROME	0 - 2,410	226.	TORRENS	0 - 5,780
80.	GAIRDNER	0 - 4,770	230.	TUNGTING	3,100 - 12,000
84.	GOOSE	160 - 503	235.	URMIA	3,880 - 5,960

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The large lakes of the world range in area from 500 km<sup>2</sup> (by definition) to 374,000 km<sup>2</sup>. Most of the large lakes are clustered at the small end of this range, with 45 percent of them being less than 1,000 km<sup>2</sup> in area while less than eight percent are greater than 10,000 km<sup>2</sup>. A summary of the area range of the world's largest lakes follows:

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AREA RANGE OF LARGE LAKES

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AREA RANGE (km <sup>2</sup> )	NO. OF LAKES	TOTAL AREA (km <sup>2</sup> )	MEAN AREA (km <sup>2</sup> )
500 - 1,000	113	76,330	675
1,000 - 2,000	63	84,643	1,343
2,000 - 3,000	21	50,192	2,390
3,000 - 4,000	9	30,907	3,434
4,000 - 5,000	13	58,543	4,503
5,000 - 10,000	15	102,768	6,851
10,000 - 50,000	13	291,478	22,421
50,000 - 100,000	5	331,910	66,382
>100,000	1	374,000	374,000
TOTAL	253	1,400,771	

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Drainage basin area, the area of the catchment basin exclusive of the surface area of the lake, is missing for more than half of the large lakes. It is possible to obtain an estimate of these factors from U.S. Defense Mapping Agency (USDMA) topographic maps (1:1,000,000 scale) and other larger scale maps. Shoreline lengths of most of the Canadian lakes were obtained using a Hewlett-Packard electronic digitizer and maps (based on 1:500,000 scale aeronautical charts) included in Gilliland et al. (1973). Shoreline lengths of other lakes were either determined by the same method using USDMA maps or from unpublished data supplied by official agencies. Shoreline development, a measure of the irregularity of the shore based on the ratio of length to the circumference of a circle that has the same area as the lake, was calculated for each lake (Hakanson 1981 and Lind 1979). Thus, a lake that is a perfect circle has a value of 1 and as the value departs from unity, increased irregularity is indicated. For example, volcanically formed Lake Taupo in New Zealand is nearly circular and has a shoreline development ratio of 1.7, whereas Lake Paijanne in Finland, formed by tectonic faulting and glacial scour, has an extremely irregular shore with a value of 20.9.

Large lakes range in elevation from 393 meters below sea level (Dead Sea, a graben depression on the Israel-Jordan border) to 4,708 meters above sea level (Lake Kyaring, located along the north slope of the Himalaya Mountains in Tibet). Only five of the 253

large lakes lie at elevations below sea level. At the other extreme only 21 lakes (8 percent) are found at elevations above 1500 meters. Most of the lakes are found between sea level and 500 meters (188 lakes or 74 percent of the lakes considered). A second pulse between 500 and 1500 meters consists of 39 lakes or 15 percent of the lakes considered. Table 5 provides a more detailed breakdown of the number of lakes and their combined areas at 100- and 500-meter intervals. The influence of continental glaciers and coastal processes is evident in the high concentration of lakes at elevations ranging from sea level to 300 meters. In contrast, tectonic lakes are found at both very low and very high elevations.

Detailed bathymetric information is perhaps the most serious deficiency in our morphometric knowledge of large lakes. Without such information estimates of lake volume are imprecise. Reconnaissance surveys, at least, have been conducted for most large lakes, so that the maximum depths are known with a reasonable degree of assurance. Mean depth ( $\bar{z}$ ), however, is essential for calculation of volume ( $V$ ) based on the relationship with surface area ( $A$ ), where  $V = \bar{z}A$ . A simple plot of maximum depth versus mean depth for large lakes with complete bathymetric surveys, based on ranges of maximum depths and/or ranges of areas, shows the following relationships:

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RELATIONSHIP OF MAXIMUM DEPTH TO MEAN DEPTH

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MAXIMUM DEPTH RANGE (m)			MEAN OF MAX. TO MEAN DEPTH RATIOS			NO. OF LAKES
0	-	10	0.53	+	0.17	21
10	-	50	0.38	+	0.17	33
50	-	100	0.26	+	0.14	19
100	-	250	0.30	+	0.13	12
250	-	500	0.39	+	0.14	10
500	-	2,000	0.36	+	0.13	8

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AREA RANGE (km <sup>2</sup> )			MEAN OF MAX. TO MEAN DEPTH RATIOS			NO. OF LAKES
500	-	600	0.47	+	0.16	15
600	-	1,000	0.38	+	0.18	15
1,000	-	1,500	0.40	+	0.17	20
1,500	-	3,000	0.41	+	0.17	12
3,000	-	5,000	0.37	+	0.22	10
5,000	-	10,000	0.30	+	0.13	11
>10,000			0.32	+	0.15	18

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The clustering of data points is rather tight with the exception of the atypical Caspian Sea, which yields a ratio 1:0.18. Although admittedly crude, these ratios do permit estimates of lake volume if only surface area and maximum sounding data are available. Estimates, so derived, are entered within parentheses in Table 4.

The estimated mean depth of the 253 large lakes is 128 meters yielding an estimated total volume of 179,300 km<sup>3</sup>.

The maximum depths of 85 of the large lakes are unknown. Of those for which data exist, 50 (30 percent) have soundings less than 10 meters, while 45 (27 percent) have depths greater than 100 meters. The depth ranges of the large lakes are summarized below:

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RELATIONSHIP OF MAXIMUM DEPTH TO LAKE AREA

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RANGE OF MAX. DEPTHS (m)	TOTAL AREA OF LAKES (km <sup>2</sup> )	MEAN AREA (km <sup>2</sup> )	NO. OF LAKES
1 - 10	105,455	2,109	50
10 - 20	94,232	3,490	27
20 - 30	32,996	3,300	10
30 - 40	13,470	2,245	6
40 - 50	2,944	736	4
50 - 60	25,240	3,606	7
60 - 70	102,989	12,874	8
70 - 80	11,730	3,910	3
80 - 90	5,740	2,870	2
90 - 100	75,390	12,565	6
100 - 110	7,975	1,595	5
110 - 120	10,585	3,528	3
120 - 130	12,656	4,219	3
130 - 140	---	---	0
140 - 150	3,740	3,740	1
150 - 200	8,809	2,202	4
200 - 250	104,727	20,945	5
250 - 300	68,753	9,818	7
300 - 350	9,410	3,137	3
350 - 400	---	---	0
400 - 450	84,260	21,065	4
450 - 500	33,696	16,848	2
500 - 1,000	58,948	11,790	5
1,000 - 1,500	406,900	203,450	2
>1,500	31,900	31,900	1
UNKNOWN	88,635	1,043	85

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At least 52 of the large lakes occupy a cryptodepression (a lake basin, the floor of which lies below sea level). Lake Baikal, lying at an elevation of 456 meters, has a maximum depth of 1,741 meters which yields a cryptodepression of 1,285 meters. The Dead Sea's deepest sounding is only 433 meters but it has a cryptodepression of 826 meters because the lake surface is 393 meters below sea level. Most of the coastal lagoons lie in



minor cryptodepressions because their surface elevation approximates that of sea level. Large lakes with cryptodepression basins are listed in Table 6.

Length and breadth measurements of lakes, in a strict limnological sense, have rather precise definitions (Welch 1948, Hutchinson 1957 and Cole 1983). The measurements reported in Table 4 come from a variety of sources and it is difficult to determine what criterion was used by each author. For the Canadian lakes, Gilliland et al. (1973) defined maximum length as the distance between the two farthest-separated points on the lake outline. For irregularly shaped lakes this line often passed over extensive areas of dry land, but when compared with the lake area, this "maximum dimension" does provide a rough idea of the shape of the lake. Breadth or width is normally considered as the maximum length of a straight line connecting points on the lake shoreline at approximate right angles to the line of maximum length. The orientation of the lake is expressed in Table 4 as the compass direction ( $0^{\circ}$ - $180^{\circ}$ ) of the line of maximum length.

The Caspian Sea, due to its immense size, has the longest length and breadth measurements, 1,207 km and 483 km respectively. Lakes Tanganyika at 676 km and Baikal at 635 km have the next longest lengths, while Lake Huron at 290 km (largely due to Georgian Bay), Aral Sea at 280 km and Lake Superior at 259 km have the next longest breadths. Most of the large lakes of the world have lengths and breadths well under 100 km.

#### GEOLOGICAL ORIGIN

Hutchinson (1957) offers a detailed classification system for the origin of lakes which includes eleven major categories. Six of these (and their combinations) have been identified as the major causative factors in forming the actual basins which hold the world's large lakes:

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## GEOLOGIC ORIGIN OF LARGE LAKES

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ORIGIN	NO. OF LAKES	TOTAL AREA (km <sup>2</sup> )	MEAN AREA (km <sup>2</sup> )
Glacial	122	410,528	3,365
Tectonic	85	786,483	9,253
Coastal	15	28,260	1,884
Fluviatile	10	22,520	2,252
Glacial/Tectonic	8	114,470	14,309
Volcanic/Tectonic	4	12,286	3,072
Tectonic/Fluviatile	4	7,965	1,991
Solution/Tectonic	2	1,480	740
Glacial/Coastal	2	3,769	1,885
Tectonic/Coastal	<u>1</u>	<u>13,010</u>	13,010
TOTAL	253	1,400,771	

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Table 7 contains a list of the geologic origins of all lakes for which data are available or for which a speculation (indicated by "?" in Table 7) can be made based on the regional geology and lake morphometry. Sources of information on geologic origin include Bayly and Williams (1973), Cole (1983), Fairbridge (1968), Fant (1971), Frey (1963), Goldman and Horne (1983), Lerman (1978), Reid and Wood (1976), Strahler (1971), Welch (1952), and Wetzel (1983). Precise information on the geologic origin of approximately one-third of the large lakes is lacking.

Pleistocene glaciation, particularly in the middle and high latitudes of North America and Europe, is probably the most important process in producing large lakes. This process, along with tectonic movement (such as the rift valleys of east Africa and Siberia) and volcanic activity, can produce extremely deep lakes. Coastal, fluviatile (river), and solution actions produce comparatively shallow lake basins. Of the known and suspected origins, glacial and tectonic basins account for about 85 percent of the total.

## CLIMATOLOGICAL DATA

Climatological information for the approximate drainage basin for each large lake is given in Table 7. These data include (1) annual precipitation, (2) annual evaporation--

actual, (3) annual evaporation--potential, and (4) annual runoff as compiled by Korzum (1974a and b). Precipitation ranges from 2,000-3,000 mm/yr for the tropical lakes of Africa, Central America and Southeast Asia (Lake Llanquihue, in the Chilean Andes, has the highest precipitation at 3,200 mm/yr) to 50-200 mm/yr for the lakes of Australia, Central Asia, and the Middle East. Annual evaporation is presented in Table 7 as evapotranspiration which takes into account radiation balance, air temperature and moisture content. Potential evapotranspiration expresses the proportionality between the evaporation from a moist surface and the air humidity deficit that is determined by the temperature of the evaporating surface. The maximum actual evaporation is about 1,250 mm/yr at Lake Toba, whereas the maximum potential evaporation, over 2,000 mm/yr, occurs in the basins of Lake Chad and Lake Faguibine in north Africa, and Lake Eyre in Australia. The lakes with high potential values are therefore subject to desiccation and, at times, particularly for the Australian lakes, are dry.

Annual runoff is expressed in Table 7 as a layer of equally distributed water over the entire drainage basin. Values range from 1 to 2,000 mm/yr. As expected, the highest runoff is often associated with the lake basins having the highest rainfall. Climatic conditions can also influence shore erosion rates, water levels and current patterns in large lakes as documented by Herdendorf (1975).

#### LIMNOLOGICAL DATA

Limnological information is presented in terms of water quality and biological productivity (Table 7). Specifically, data for (1) water transparency, total dissolved solids, alkalinity, pH, primary productivity and annual fish yield. Water transparency is typically measured with a Secchi disc (Welch 1948) and is an indicator of suspended plankton, organic matter and inorganic sediment. The deep, oligotrophic shield lakes of Canada and Scandinavia, the high plateau lake of Tibet, and deep, graben lakes (such as Lake Tahoe with a Secchi depth of 36 meters) are characterized by high transparency. Shallow, eutrophic lakes such as Lake Beloye in the Soviet Union and Lake Erie have low transparencies ( 5 meters) but relatively high biological productivity.

Of the 253 large lakes in the world, 75 percent are freshwater. The remainder grade from brackish water through saline to hypersaline. The total dissolved solids (TDS) concentration for lakes where these data exist are presented in Table 7. For lakes where

specific data is lacking but general salinity is known a code has been placed in the TDS column. These codes are defined below:

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SALINITY OF LARGE LAKES

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CODE	WATER QUALITY (mg/l)*	NO. OF LAKES	TOTAL AREA (km <sup>2</sup> )	MEAN AREA (km <sup>2</sup> )
F	Fresh (<2,000)	189	800,144	4,234
B	Brackish (2,000 - 20,000)	17	502,234	29,543
S	Saline (20,000 - 40,000)	39	64,923	1,665
H	Hypersaline (>40,000)	8	33,470	4,184
	TOTAL	253	1,400,771	

\* Total dissolved solids

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Alkalinity and pH data are also presented in Table 7. Alkalinity of water is its capacity to accept protons and is therefore dependent on the quantity and kinds of dissolved substances present in the water that collectively shift the pH to the alkaline side of neutrality. In a practical way, alkalinity is an index to the nature of the rocks, glacial till and soils within a drainage basin and to the degree to which they are weathered. Although the alkalinity of natural waters is generally the result of bicarbonates, it is usually expressed in terms of calcium-carbonate. Productive lakes normally have alkalinity values of 100 or above. The pH of large lakes ranges from 4.0 to 9.6. Low pH lakes appear to have low mineralization<sup>x</sup>(TDS and alkalinity) and low biological productivity. Other water quality information such as temperature, trophic status, concentrations of nutrients and chlorophyll, hypolimnetic oxygen, and circulation would be useful for characterizing the lakes, but are beyond the scope of this paper (a follow-up inventory of this information is intended). The question of eutrophication of large lakes is an interesting one in that such lakes do not age in the same way that small lakes undergo succession (Beeton and Edmondson 1972, Sonzogni et al. 1981). The morphometric classification scheme developed by Odum (1971) may serve as an alternate concept in understanding the eutrophication process in large lakes.

Biological and water quality information is lacking for many large lakes. However, water chemistry, primary productivity and fish yield data are available for about 25 percent of the lakes from the following sources: Chandler (1964), Galazy (1978), Gilson (1964), Herdendorf (1983), Karaman and Beeton (1981), Larkin (1964), Malinina (1972), Nikolaev (1972), Rawson (1952, 1955 and 1960), Redfield and Doe (1964), Regier et al. (1971), Ryder (1965 and 1972), Ryder et al. (1974), Schlesinger and Regier (1982), Talling (1969), and Zhadin and Gerd (1961). In Table 7, primary productivity is expressed in grams of carbon assimilated per square meter per day ( $\text{gC}/\text{m}^2/\text{day}$ ) and fish productivity is expressed as the annual yield (normally the commercial harvest) in kilograms per hectare ( $\text{kg}/\text{ha}/\text{yr}$ ). The tropical lakes of Africa (such as Lake Tanganyika with values of  $1.75 \text{ gC}/\text{m}^2/\text{day}$  and  $125 \text{ kg}/\text{ha}/\text{yr}$ ) are among the most productive of the large lakes. Northern Canadian shield lakes (such as Big Trout with a fish yield of only  $0.75 \text{ kg}/\text{ha}/\text{yr}$ ) are among the lowest in productivity.

#### GLOBAL PERSPECTIVE

The global distribution of water has been studied by Nace (1964 and 1976). The results of his investigations are summarized below:

	WATER REGIME	AREA ( $\text{km}^2$ )	VOLUME ( $\text{km}^3$ )	PERCENT VOLUME
1.	<u>Surface water</u>			
	a. freshwater lakes	860,000	125,000	0.009
	b. saline lakes	700,000	104,000	0.008
	c. stream channels	---	1,250	0.0001
2.	<u>Subsurface water</u>			
	a. soil moisture		67,000	0.005
	b. groundwater	130,000,000	8,340,000	0.62
3.	<u>Icecaps and glaciers</u>	18,000,000	29,200,000	2.15
4.	<u>Atmosphere</u>	510,000,000	13,000	0.001
5.	<u>World Oceans</u>	360,000,000	1,322,000,000	97.2
	TOTAL		1,360,000,000	100.0

From these estimates it can be seen that although the lakes and inland seas of the world comprise approximately 1,560,000 km<sup>2</sup> of surface area and possess a volume of 229,000 km<sup>3</sup>, they only represent 0.017 percent of the global water resources. The total number of world lakes is great (Welch, 1952, estimated that over 40,000 lakes are found in North America, but more recent surveys indicate that Canada alone may possess over a million lakes); however, the vast majority of water is concentrated in a relatively small number of large lakes. The 253 large lakes identified in this paper (lakes with a surface area greater than 500 km<sup>2</sup>) have a total surface area of 1,400,771 km<sup>2</sup> and an estimated volume of 179,300 km<sup>3</sup> which accounts for 90 percent and 78 percent, respectively, of the total surface area and volume of water held in all lakes of the world as estimated by Nace (1976). The fact that the large lakes volume percent is considerably lower than the area percent leads to the speculation that Nace's volume estimate may be too high, and that a total world lake volume of about 200,000 km<sup>3</sup> is more realistic.

The fifty greatest lakes of the world, based on area, volume, and depth, are listed in Table 8. The Caspian Sea ranks highest in area and volume, but only appears third on the depth list. Excluding this giant, Lake Superior heads the area list while Lake Baikal is first in volume and depth. It is interesting to note that 30 of the 50 deepest lakes of the world have a surface area of less than 500 km<sup>2</sup> and, therefore, are not present on the list of large lakes. Many of these small, deep lakes were formed by glacial scour, particularly the fjord lakes of Norway.

As with any international inventory of geographic features, particularly features as complex and diverse as lakes, it is inevitable that errors and omissions have occurred. The author invites corrections, additions and suggestions for improving future revisions of this inventory.

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Utilizing U.S. Geological Survey Circ. 834, Worldwide Directory of National Earth-Science Agencies and Related International Organizations, requests for data were sent to at least two agencies in each of the 64 countries which possess large lakes within their borders. The request consisted of an inventory form divided into 50 categories of morphometric, limnologic, and cultural data. The initial mailing was undertaken in August 1982. In the year that followed, over 50 individuals throughout the world contributed to the database

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## TABLES

TABLE 1. NOMENCLATURE AND LOCATION FOR THE LARGE LAKES OF THE WORLD

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
1.	ABAYA	Lake Abaya	Lake Abaya	Margherita	Africa	Ethiopia	06°20'N	37°55'E	NB-37
2.	ABE	Lake Abe	Lake Abe	---	Africa	Djibouti, Ethiopia	11°10'N	41°45'E	NC-37
3.	ABERDEEN	Aberdeen Lake	Aberdeen Lake	---	N. Am.	Canada (NWT)	64°32'N	89°54'W	NQ-12-14
4.	ABITIBI	Lake Abitibi	Lake Abitibi	---	N. Am.	Canada (Quebec, Ontario)	48°45'N	79°47'W	NM-17
5.	ABY	Aby Lagoon	Lagune Aby	---	Africa	Ivory Coast	05°15'N	03°14'W	NB-30
6.	ALAKOL	Lake Alakol	Ozero Alakol	Ala, Alakul	Asia	USSR (Kazakhstan)	46°10'N	81°50'E	NL-44
7.	ALBERT	Lake Albert	Lake Albert	Mobutu Sese Seko	Africa	Uganda, Zaire	01°40'N	31°00'E	NA-36
8.	ALEXANDRINA	Lake Alexandrina	Lake Alexandrina	---	Oceania	Australia (South Australia)	35°26'S	139°10'E	SI-54
9.	AMADEUS	Lake Amadeus	Lake Amadeus	---	Oceania	Australia (Northern Territory)	24°30'S	131°25'E	SE-52
10.	AMADJUAK	Amadjuak Lake	Amadjuak Lake	---	N. Am.	Canada (NWT, Baffin Island)	64°54'N	71°14'W	NQ-17-20
11.	ANGIKUNI	Angikuni Lake	Angikuni Lake	---	N. Am.	Canada (NWT)	62°13'N	99°55'W	NP-13/14
12.	ARAL	Aral Sea	Aral'skoye More	Aral'skoje	Asia	USSR (Kazakhstan, Uzbekistan)	45°00'N	60°00'E	NK-40,41 NL-40,41
13.	ARGENTINO	Lake Argentino	Lago Argentino	---	S. Am.	Argentina (Santa Cruz)	50°13'S	72°25'W	SM-18/19
14.	ARTILLERY	Artillery Lake	Artillery Lake	---	N. Am.	Canada (NWT)	63°10'N	107°52'W	NP-12/13
15.	ASHUANUPI	Ashuanipi Lake	Ashuanipi Lake	---	N. Am.	Canada (Newfoundland)	52°39'N	66°08'W	NN-19-20
16.	ATHABASCA	Lake Athabasca	Lake Athabasca	---	N. Am.	Canada (Alberta, Saskatchewan)	59°11'N	109°22'W	NO-12,13
17.	ATLIN	Atlin Lake	Atlin Lake	---	N. Am.	Canada (British Columbia, Yukon)	59°27'N	133°49'W	NO-8 NP-8

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
18.	AUSTIN	Lake Austin	Lake Austin	---	Oceania	Australia (Western Australia)	27°45'S	117°30'E	SG-50
19.	AYLMER	Aylmer Lake	Aylmer Lake	---	N. Am.	Canada (NWT)	64°08'N	108°30'W	NP-12/13 NQ-12-14
20.	BAGHRASH	Lake Baghrash	Bagrax Hu*	Bosten, Possuteng	Asia	China (Sinkiang)	42°00'N	87°00'E	NK-45
21.	BAIKAL	Lake Baikal	Ozero Байкал	---	Asia	USSR (Russia)	54°00'N	109°00'E	NI-48 NI-48,49
22.	BAKER	Baker Lake	Baker Lake	---	N. Am.	Canada (NWT)	64°09'N	95°16'W	NQ-12-14 15-17
23.	BALATON	Lake Balaton	Balaton	Platten	Europe	Hungary	46°50'N	17°45'E	NI-33,34
24.	BALKHASH	Lake Balkhash	Ozero Balkhash	Ala-Denghiz, Balchas, Se Hai	Asia	USSR (Kazakhstan)	46°00'N	74°00'E	NI-43,44
25.	BANGWEULU	Lake Bangweulu	Lac Bangweolo	---	Africa	Zambia	11°05'S	29°45'E	SC-35 SC-36
26.	BAY	Bay Lagoon	Laguna de Bay	---	Asia	Philippines (Luzon Island)	14°23'N	121°15'E	ND-51
27.	BECHAROF	Becharof Lake	Becharof Lake	---	N. Am.	USA (Alaska)	57°56'N	156°23'W	NO-3/4 NO-5/6
28.	BELOYE	White Lake	Beloye Ozero	---	Europe	USSR (Russia)	60°15'N	37°40'E	NP-37/38
29.	BEYSEHIR	Lake Beysehir	Beysehir Golu	Beishehr	Asia	Turkey	37°40'N	31°30'E	NJ-36
30.	BIENVILLE	Lake Bienville	Lac Bienville	---	N. Am.	Canada (Quebec)	55°05'N	72°50'W	N-N-18
31.	BIG TROUT	Big Trout Lake	Big Trout Lake	---	N. Am.	Canada (Ontario)	53°46'N	90°00'W	N-N-15,16
32.	BIWA	Lake Biwa	Biwa-ko	---	Asia	Japan (Honshu Island)	35°15'N	136°05'E	NI-53
33.	BRAS D'OR	Bras d'Or Lake	Bras d'Or Lake	---	N. Am.	Canada (Nova Scotia)	45°55'N	60°47'W	NK/NL-20
34.	BUENOS AIRES	Lake Buenos Aires	Lago Buenos Aires	General Carrera	S. Am.	Argentina (Santa Cruz), Chile (Aisen)	46°30'S	72°00'W	SL-18,19

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
35.	BUFFALO	Buffalo Lake	Buffalo Lake	---	N. Am.	Canada (NWT)	60°14'N	115°26'W	NP-11/12
36.	BUYR	Lake Buyr	Buyr Nuur	Bor, Buir, Pei-erh*	Asia	China, Mongolia	47°48'N	117°42'E	NL-50
37.	CARATASCA	Caratasca Lagoon	Laguna de Caratasca	---	N. Am.	Honduras	15°23'N	83°55'W	ND-16
38.	CASPIAN	Caspian Sea	Kaspiyskoye More	Kaspijskoje, Khazar	Asia Europe	Iran, USSR	42°00'N	50°00'E	NJ-39 NK-38,39,40 NL-38,39
39.	CEDAR	Cedar Lake	Cedar Lake	---	N. Am.	Canada (Manitoba)	53°18'N	100°04'W	NN-14
40.	CHAD	Lake Chad	Lac Tchad	---	Africa	Cameroon, Chad, Niger, Nigeria	13°20'N	14°00'E	ND-33
41.	CHAMPLAIN	Lake Champlain	Lake Champlain	---	N. Am.	Canada, USA	44°35'N	73°20'W	NL-18
42.	CHANY	Lake Chany	Ozero Chany	---	Asia	USSR (Russia)	54°50'N	77°30'E	NN-43,44
43.	CHAO	Lake Chan	Chao Pu*	---	Asia	China (Anhui)	31°31'N	117°33'E	NH-50
44.	CHAPALA	Lake Chapala	Lago de Chapala	---	N. Am.	Mexico (Jalisco, Michoacan)	20°15'N	103°00'W	NF-13
45.	CHILKA	Chilka Lake	Chilka Lake	---	Asia	India (Orissa)	19°45'N	85°25'E	NE-45
46.	CHILWA	Lake Chilwa	Lake Chilwa	Chirua, Shirwa	Africa	Malawi, Mozambique	15°12'S	35°50'E	SD-36
47.	CHIQUITA	Lake Chiquita	Lago Mar Chiquita	---	S. Am.	Argentina (Cordoba)	30°42'S	62°36'W	SH-20
48.	CHIRIQUI	Chiriqui Lagoon	Laguna de Chiriqui	---	N. Am.	Panama	09°05'N	82°05'W	NC-17
49.	CHURCHILL	Churchill Lake	Churchill Lake	---	N. Am.	Canada (Saskatchewan)	56°00'N	108°19'W	NN-12 NO-12
50.	CLAIRE	Lake Claire	Lake Claire	---	N. Am.	Canada (Alberta)	58°35'N	112°05'W	NO-12
51.	CLINTON COLDEN	Clinton Colden Lake	Clinton-Colden Lake	---	N. Am.	Canada (NWT)	63°58'N	107°28'W	NP-12/13 NQ-12-14
52.	COLHUE HUAPI	Lake Colhue Huapi	Lago Colhue Huapi	---	S. Am.	Argentina (Chubut)	45°30'S	68°48'W	SL-19
53.	CONSTANCE	Lake of Constance	Bodensee	Costanza	Europe	Austria, Switzerland, West Germany	47°35'N	09°25'E	NL-32
54.	CONTWOYTO	Contwoyto Lake	Contwoyto Lake	---	N. Am.	Canada (NWT)	65°36'N	110°40'W	NQ-12-14

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
55.	CREE	Cree Lake	Cree Lake	---	N. Am.	Canada (Saskatchewan)	57°29'N	106°33'W	ND-13
56.	CROSS	Cross Lake	Cross Lake	---	N. Am.	Canada (Manitoba)	54°43'N	97°34'W	NN-14
57.	DAUPHIN	Dauphin Lake	Dauphin Lake	---	N. Am.	Canada (Manitoba)	51°15'N	99°46'W	NN-14
58.	DEAD	Dead Sea	Dead Sea	Lut, Mayyit, Melah	Asia	Israel, Jordan	31°30'N	35°30'E	NH-36
59.	DESCHAMBAULT	Deschambault Lake	Deschambault Lake	---	N. Am.	Canada (Saskatchewan)	54°46'N	103°28'W	NN-13
60.	DORE	Dore Lake	Dore Lake	---	N. Am.	Canada (Saskatchewan)	54°46'N	107°18'W	NN-13
61.	DUBAWNT	Dubawnt Lake	Dubawnt	---	N. Am.	Canada (NWT)	63°07'N	101°24'W	NP-13/14
62.	EAU CLAIRE	Clearwater Lake	Lac Eau Claire	---	N. Am.	Canada (Quebec)	56°09'N	74°24'W	NN-18 ND-18
63.	EBI	Lake Ebi	Ebinur Hu*	Aipi	Asia	China (Sinkiang)	44°55'N	82°55'E	NI-44
64.	EDWARD	Lake Edward	Lake Edward	Idi Amin Dada	Africa	Uganda, Zaire	00°21'S	29°35'E	SA-35,36
65.	EGRIDIR	Lake Egridir	Hoyran Golu	Egridir	Asia	Turkey	38°52'N	30°53'E	NJ-36
66.	ENNADAI	Ennadai Lake	Ennadai Lake	---	N. Am.	Canada (NWT)	60°57'N	101°18'W	NP-13/14
67.	ENRIQUILLO	Lake Enriquillo	Lago de Enriquillo	---	N. Am.	Dominican Republic	18°27'N	71°39'W	NE-19
68.	ERIE	Lake Erie	Lake Erie	---	N. Am.	Canada, USA	42°09'N	83°15'W	NK-17
69.	ESKIMO NORTH	Eskimo North Lake	Eskimo North Lake	Husky	N. Am.	Canada (NWT)	69°23'N	131°54'W	NR-7-9
70.	ESKIMO SOUTH	Eskimo Southern Lake	Eskimo Southern Lake	Husky	N. Am.	Canada (NWT)	68°53'N	133°00'W	NR-7-9
71.	EVANS	Lake Evans	Lac Evans	---	N. Am.	Canada (Quebec)	50°53'N	76°56'W	NN-13
72.	EVORON	Lake Evoron	Ozero Zvoron	---	Asia	USSR (Russia)	51°28'N	136°30'E	NV-53
73.	EYRE	Lake Eyre	Lake Eyre	---	Oceania	Australia (South Australia)	28°30'S	137°20'E	SG-53 SH-53
74.	FAGNANO	Lake Fagnano	Lago Fagnano	Cami	S. Am.	Argentina (Tierra del Fuego), Chile (Magallanes)	54°38'S	68°50'W	SN-18-20

TABLE I, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
75.	FAGUBINE	Lake Fagubine	Lac Fagubine	---	Africa	Mali	16°45'N	03°54'W	NE-30
76.	FERGUSON	Ferguson Lake	Ferguson Lake	---	N. Am.	Canada (NWT)	69°25'N	105°15'W	NR-12-14
77.	FLATHEAD	Flathead Lake	Flathead Lake	---	N. Am.	USA (Montana)	47°51'N	114°07'W	NL-11 NM-11
78.	FROBISHER	Frobisher Lake	Frobisher Lake	---	N. Am.	Canada (Saskatchewan)	56°22'N	108°15'W	NO-12,13
79.	FROME	Lake Frome	Lake Frome	---	Oceania	Australia (South Australia)	30°44'S	139°48'E	SH-54
80.	GAIRDNER	Lake Gairdner	Lake Gairdner	---	Oceania	Australia (South Australia)	31°35'S	136°00'E	SH-53 SI-53
81.	GARRY	Garry Lake	Garry Lake	---	N. Am.	Canada (NWT)	65°54'N	100°08'W	NQ-12-14
82.	GENEVA	Lake of Geneva	Lac Leman	Geneva	Europe	France, Switzerland	46°25'N	06°39'E	NL-32
83.	GODS	Gods Lake	Gods Lake	---	N. Am.	Canada (Manitoba)	54°41'N	94°13'W	NN-15
84.	GOOSE	Goose Lake	Goose Lake	---	N. Am.	USA (California, Oregon)	41°55'N	120°25'W	NK-10
85.	GRAND	Grand Lake	Grand Lake	---	N. Am.	Canada (Newfoundland)	48°52'N	57°34'W	NM-21
86.	GRAS	Lake Gras	Lac de Gras	---	N. Am.	Canada (NWT)	64°30'N	110°31'W	NQ-12-14
87.	GREAT BEAR	Great Bear Lake	Great Bear Lake	---	N. Am.	Canada (NWT)	66°00'N	120°36'W	NQ-9-12
88.	GREAT SALT	Great Salt Lake	Great Salt Lake	---	N. Am.	USA (Utah)	41°10'N	112°30'W	NK-12
89.	GREAT SLAVE	Great Slave Lake	Great Slave Lake	---	N. Am.	Canada (NWT)	61°47'N	113°43'W	NP-11/12, 12/13
90.	GUILLAUME	Lake Guillaume-Delisle	Lac Guillaume-Delisle	Richmond G.	N. Am.	Canada (Quebec)	56°15'N	76°20'W	NO-18
91.	HAMMAR	Lake Hammar	Hawr al Hammar	Hammer	Asia	Iraq	30°50'N	47°10'E	NH-38
92.	HAR	Lake Har	Nar Nuur	Hara, Khara	Asia	Mongolia	48°06'N	93°12'E	NL-46 NM-46
93.	HAR US	Lake Har Us	Nar Us Nuur	Hara Usa, Khara-Us	Asia	Mongolia	48°00'N	92°10'E	NL-46 NM-46

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
94.	HAZEN	Lake Hazen	Lake Hazen	---	N. Am.	Canada (NWT)	81°47'N	71°09'W	NU-14-20
95.	HELMAND	Lake Helmand	Daryacheh-ye Sistan	Hamun-i-Helmand, Hirmand, Seistan	Asia	Afghanistan, Iran	31°00'N	61°10'E	NH-41
96.	HOTTAH	Hottah Lake	Hottah Lake	---	N. Am.	Canada (NWT)	65°04'N	118°29'W	NQ-9-12
97.	HOVSGOL	Lake Hovsgol	Novsgol Nuur	Chovsgol, Hovsgol, Hubsugul, Khubsugul, Kosogol	Asia	Mongolia	51°00'N	100°30'E	NM-47
98.	HULUN	Lake Hulun	Hulun Nur*	Dalai	Asia	China (Inner Mongolia)	49°00'N	117°27'E	NM-50
99.	HUNGTZE	Lake Hungtze	Hongze Hu*	Hungtze	Asia	China (Anhui, Kiangsu)	33°18'N	118°41'E	NI-50
100.	HURON	Lake Huron	Lake Huron	---	N. Am.	Canada, USA	45°00'N	82°15'W	NK-17 NL16,17
101.	HYARGAS	Lake Hyargas	Hyargas Nuur	Hirgis, Khirgis, Kirgis	Asia	Mongolia	49°12'N	93°24'E	NM-46
102.	ILIAMNA	Iliamna Lake	Iliamna Lake	---	N. Am.	USA (Alaska)	59°30'N	155°07'W	NO-5/6
103.	ILMEN	Lake Ilmen	Ozero Ilmen	---	Europe	USSR (Russia)	58°17'N	31°20'E	NO-36
104.	IMANDRA	Lake Imandra	Ozero Imandra	---	Europe	USSR (Russia)	67°30'N	33°00'E	NQ-36-38 NR-35-37
105.	INARI	Lake Inari	Inari	Enare	Europe	Finland	69°00'N	28°00'E	NR-35-37
106.	ISLAND	Island Lake	Island Lake	---	N. Am.	Canada (Manitoba)	53°49'N	94°30'W	NN-15
107.	ISSYKKUL	Lake Issykkul	Ozero Issyk-kul	Issyk	Asia	USSR (Kirghizia)	42°25'N	77°15'E	NK-43,44
108.	ISTADA	Lake Istada	Abi-i-istada	Istadeh-ye Mogor	Asia	Afghanistan	32°32'N	67°37'E	NI-42
109.	IZABAL	Lake Izabal	Lago de Izabal	---	N. Am.	Guatemala	15°30'N	89°10'W	ND-16
110.	KAMILUKUAK	Kamilukuak Lake	Kamilukuak Lake	Kamiluk	N. Am.	Canada (NWT)	62°20'N	101°41'W	NP-13/14
111.	KAMINAK	Kaminak Lake	Kaminak Lake	---	N. Am.	Canada (NWT)	62°11'N	95°05'W	NP-15/16

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
112.	KAMINURIAK	Kaminuriak Lake	Kaminuriak Lake	---	N. Am.	Canada (NWT)	62°59'N	95°41'W	NP-13/14, 15/16
113.	KAoyu	Kaoyu Lake	Gaoyu Hu*	Kaopao	Asia	China (Anhui, Kiangsu)	32°50'N	119°15'E	NL-50
114.	KASBA	Kasba Lake	Kasba Lake	---	N. Am.	Canada (NWT)	60°18'N	102°11'W	NP-13/14
115.	KHANKA	Lake Khanka	Ozero Khanka	Chanka, Hanka, Hsingkai*, Xingkai	Asia	China, USSR	45°00'N	132°24'E	NL-52,53
116.	KIVU	Lake Kivu	Lac Kivu	---	Africa	Rwanda, Zaire	02°00'S	29°10'E	SA-35
117.	KOKO	Lake Koko Nor	Qinghai Hu*	Ching, Tsing	Asia	China (Tsinghai)	37°00'N	100°20'E	NJ-47
118.	KULUNDINSKOE	Lake Kulundinskoe	Ozero Zulfundinskoye	Kulunda, Kulundinskaje	Asia	USSR (Russia)	53°00'N	79°36'E	NN-44
119.	KURISCHES	Kurisches Bay	Kurskiy Zaliv	Courland, Kursky	Europe	USSR (Lithuania, Russia)	55°00'N	21°00'E	NN-34
120.	KYARING	Lake Kyaring	Gyaring Co*	Chalin, Dzharing	Asia	China (Tibet)	31°10'N	88°15'E	NH-45
121.	KYOGA	Lake Kyoga	Lake Kyoga	Kioga	Africa	Uganda	01°30'N	33°00'E	NA-36
122.	LADOGA	Lake Ladoga	Ladozhskoye Ozero	Ladozhskoje	Europe	USSR (Russia)	61°00'N	31°30'E	NO-36 NP-35/36
123.	LESSER SLAVE	Lesser Slave Lake	Lesser Slave Lake	---	N. Am.	Canada (Alberta)	55°26'N	115°24'W	NN-11
124.	LLANQUIHUE	Lake Llanquihue	Lago Llanquihue	---	S. Am.	Chile (Llanquihue, Osorno)	41°08'S	72°48'W	SK-18/19
125.	LOBSTICK	Lobstick Lake	Lobstick Lake	Smallwood Reservoir	N. Am.	Canada (Newfoundland)	54°02'N	64°59'W	NN-20
126.	LOP	Lake Lop Nor	Lop Nur*	Lob, Lopu	Asia	China (Sinkiang)	40°30'N	90°30'E	NJ-45,46 NK-45,46
127.	LOWER SEAL	Lower Seal Lake	Lacs des Loups Marins	---	N. Am.	Canada (Quebec)	56°31'N	73°42'W	NO-18
128.	LUANG	Luang Sea	Thale Luang	Sap	Asia	Thailand	07°30'N	100°15'E	NB-47



TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
129.	MACKAY	Mackay Lake	Mackay Lake	---	N. Am.	Canada (NWT)	63°55'N	111°02'W	NP-12/13 NQ-12-14
130.	MAI-NDOMBE	Lake Leopold II	Lac Mai-Ndombe	Maji-Ndombe	Africa	Zaire	02°00'S	18°20'E	SA-34
131.	MALAREN	Lake Malaren	Malaren	Malar	Europe	Sweden	59°30'N	17°12'E	NO-32/33
132.	MANAGUA	Lake Managua	Lago de Managua	Xolotlan	N. Am.	Nicaragua	12°21'N	86°21'W	ND-16
133.	MANITOBA	Lake Manitoba	Lake Manitoba	---	N. Am.	Canada (Manitoba)	50°55'N	98°33'W	NM-14
134.	MANOUANE	Lake Manouane	Lac Manouane	---	N. Am.	Canada (Quebec)	50°43'N	70°46'W	NM-19
135.	MANZALA	Lake Manzala	Bahra el Manzala	Manzilah, Menzaleh	Africa	Egypt	31°15'N	32°00'E	NH-36
136.	MARACAIBO	Lake Maracaibo	Lago de Maracaibo	---	S. Am.	Venezuela	09°40'N	71°30'W	NC-18,19
137.	MARTRE	Lake Martre	Lac la Martre	---	N. Am.	Canada (NWT)	63°19'N	117°57'W	NP-11/2
138.	MELVILLE	Lake Melville	Lake Melville	---	N. Am.	Canada (Newfoundland)	53°45'N	59°26'W	NN-20,21
139.	MICHIGAN	Lake Michigan	Lake Michigan	---	N. Am.	USA (Illinois, Indiana, Michigan, Wisconsin)	44°00'N	87°00'W	NK-16 NL-16
140.	MICHIKAMUA	Michikamua Lake	Michikamua Lake	Smallwood Reservoir	N. Am.	Canada (Newfoundland)	54°07'N	64°06'W	NN-20
141.	MILLE LACS	Mille Lacs Lake	Mille Lacs Lake	---	N. Am.	USA (Minnesota)	46°14'N	93°39'W	NL-15
142.	MINTO	Lake Minto	Lac Minto	---	N. Am.	Canada (Quebec)	57°16'N	74°51'W	NO-18
143.	MIRIM	Mirim Lagoon	Lagoa Mirim	Merim	S. Am.	Brazil, Uruguay	32°45'S	52°50'W	SI-22
144.	MISTASSINI	Lake Mistassini	Lac Mistassini	---	N. Am.	Canada (Quebec)	50°56'N	73°34'W	NM-18
145.	MOOSE	Moose Lake	Moose Lake	---	N. Am.	Canada (Manitoba)	53°56'N	100°07'W	NN-14
146.	MWERU	Lake Mweru	Lac Moero	---	Africa	Zaire, Zambia	09°00'S	28°45'E	SC-35
147.	NAHUEL HUAPI	Lake Nahuel Huapi	Lago Nahuel Huapi	---	S. Am.	Argentina (Neuquen, Rio Negro)	40°58'S	71°30'W	SK-18/19
148.	NAKNEK	Naknek Lake	Naknek Lake	---	N. Am.	USA (Alaska)	58°38'N	155°52'W	NO-3/4, 5/6

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
149.	NAM	Lake Nam	Nam Co*	Namu, Tengri	Asia	China (Tibet)	30°45'N	90°30'E	NH-46
150.	NAMAK	Lake Namak	Daryacheh-ye Namak	---	Asia	Iran	34°30'N	51°50'E	NI-39
151.	NETILLING	Netilling Lake	Netilling Lake	Netilling	N. Am.	Canada (NWT)	66°30'N	70°30'W	NQ-17-20
152.	NGORING	Lake Ngoring	Ngoring Hu*	Chaling	Asia	China (Tsinghai)	34°55'N	98°00'E	NI-47
153.	NICARAGUA	Lake Nicaragua	Lago de Nicaragua	Cocibolca	N. Am.	Nicaragua	11°30'N	85°30'W	NC-16 ND-16
154.	NIPIGON	Lake Nipigon	Lake Nipigon	---	N. Am.	Canada (Ontario)	49°50'N	88°31'W	NI-16
155.	NIPISSING	Lake Nipissing	Lake Nipissing	---	N. Am.	Canada (Ontario)	46°16'N	79°46'W	NL-17
156.	NONACHO	Nonacho Lake	Nonacho Lake	---	N. Am.	Canada (NWT)	61°47'N	109°28'W	NP-12/13
157.	NUELTIN	Nueltin Lake	Nueltin Lake	---	N. Am.	Canada (Manitoba, NWT)	60°12'N	99°35'W	NP-13/14 NO-14
158.	NYASA	Lake Nyasa	Lake Nyasa	Malawi, Niassa	Africa	Malawi, Mozambique, Tanzania	12°00'S	34°30'E	SC-36 SD-36
159.	ODER	Oder Bay	Stettiner Haff	Szyczerinski	Europe	East Germany, Poland	53°46'N	14°14'E	NN-33
160.	OKEECHOBEE	Lake Okeechobee	Lake Okeechobee	---	N. Am.	USA (Florida)	26°57'N	80°52'W	NG-17
161.	OLING	Lake Oling	Gyaring Hu*	Tsaring	Asia	China (Tsinghai)	34°52'N	97°30'E	NI-47
162.	ONEGA	Lake Onega	Ozero Onezhskoye	Onezskoje	Europe	USSR (Russia)	61°30'N	35°45'E	NP-35/36, 37/38
163.	ONTARIO	Lake Ontario	Lake Ontario	---	N. Am.	Canada, USA	43°39'N	77°47'W	NK-17,18
164.	OULU	Lake Oulu	Oulu	Ute	Europe	Finland	64°20'N	27°15'E	NQ-33-35
165.	PAIJANNE	Lake Paijanne	Paijanne	---	Europe	Finland	61°35'N	25°30'E	NP-33/36
166.	PANGONG	Lake Pangong	Bangong Co*	Lumuhu, Nyak, Pankung	Asia	China (Tibet), India (Jammu and Kashmir)	33°45'N	78°43'E	NI-44
167.	PATOS	Patos Lagoon	Lagoa dos Patos	---	S. Am.	Brazil (Rio Grande do Sul)	31°06'S	51°15'W	SH-22 SI-22

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
168.	PAYNE	Payne Lake	Payne Lake	---	N. Am.	Canada (Quebec)	59°26'N	74°08'W	NO-18
169.	PEIPUS	Lake Peipus	Ozero Chudskoye	Chudskoje-Pskovskoje, Peipsi	Europe	USSR (Estonia, Russia)	57°19'N	30°52'E	NO-34/35
170.	PETER POND	Peter Pond Lake	Peter Pond Lake	---	N. Am.	Canada (Saskatchewan)	55°57'N	108°50'W	NN-12 NO-12
171.	PIELINEN	Lake Pielinen	Pielinen	---	Europe	Finland	63°15'N	29°40'E	NP-35/36
172.	PLAYGREEN	Playgreen Lake	Playgreen Lake	---	N. Am.	Canada (Manitoba)	54°03'N	98°04'W	NN-14
173.	POINT	Point Lake	Point Lake	---	N. Am.	Canada (NWT)	65°17'N	113°14'W	NQ-9-12
174.	POMO	Lake Pomo	Puma Yumco*	Pumu, Pumuchang	Asia	China (Tibet)	28°35'N	90°20'E	NH-46
175.	PONTCHARTRAIN	Lake Pontchartrain	Lake Pontchartrain	---	N. Am.	USA (Louisiana)	30°13'N	90°07'W	NH-15,16
176.	POOPO	Lake Poopo	Lago de Poopo	Pampa Aullagas Salar de Uyuni	S. Am.	Bolivia	18°45'S	67°07'W	SE-19
177.	POYANG	Lake Poyang	Poyang Hu*	---	Asia	China (Kiangsi)	29°00'N	116°25'E	NH-50
178.	PRINCESS MARY	Princess Mary Lake	Princess Mary Lake	---	N. Am.	Canada (NWT)	63°57'N	97°39'W	NP-13/14 NQ-12-14
179.	PYA	Lake Pya	Ozero Pyaozero	---	Europe	USSR (Russia)	66°05'N	30°58'E	NQ-36-38
180.	PYRAMID	Pyramid Lake	Pyramid Lake	---	N. Am.	USA (California)	40°02'N	119°50'W	NJ-11 NK-11
181.	RAINY	Rainy Lake	Rainy Lake	---	N. Am.	Canada, USA	48°42'N	93°07'W	NM-15
182.	RED	Red Lake	Red Lake (Upper & Lower)	---	N. Am.	USA (Minnesota)	48°02'N	94°55'W	NL-15 NM-15
183.	REINDEER	Reindeer Lake	Reindeer Lake	---	N. Am.	Canada (Manitoba, Saskatchewan)	57°18'N	102°22'W	NO-13,14
184.	RONGE	Lake Ronge	Lac la Ronge	---	N. Am.	Canada (Saskatchewan)	55°08'N	104°56'W	NN-13
185.	RUDOLF	Lake Rudolf	Lake Rudolf	Turkana	Africa	Ethiopia, Kenya	03°30'N	36°00'E	NA-36,37 NB-36,37

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
186.	RUKWA	Lake Rukwa	Lake Rukwa	---	Africa	Tanzania	08°00'S	32°25'E	SB-36 SC-36
187.	SAIMAA	Lake Saimaa	Saimaa	Saima	Europe	Finland	61°15'N	28°15'E	NP-35/36
188.	SAINTE CLAIR	Lake Saint Clair	Lake Saint Clair	---	N. Am.	Canada, USA	42°28'N	82°40'W	NK-17
189.	SAINTE-JEAN	Lake Saint-Jean	Lac Saint-Jean	---	N. Am.	Canada (Quebec)	48°35'N	72°02'W	NM-18,19
190.	SAKAMI	Lake Sakami	Lac Sakami	---	N. Am.	Canada (Quebec)	53°15'N	76°45'W	NN-18
191.	SALTON	Salton Sea	Salton Sea	---	N. Am.	USA (California)	33°13'N	115°51'W	NI-11
192.	SAN MARTIN	Lake San Martin	Lago San Martin	O'Higgins	S. Am.	Argentina (Santa Cruz), Chile (Aisen)	48°52'S	72°40'W	SM-18/19
193.	SANDY	Sandy Lake	Sandy Lake	---	N. Am.	Canada (Ontario)	53°01'N	93°03'W	NN-15
194.	SAP	Lake Sap	Tonle Sap	Sab, Grand Lac	Asia	Kampuchea	13°00'N	104°00'E	ND-48/49
195.	SASYKKOL	Lake Sasykkol	Ozero Sasykkol	Sasyk	Asia	USSR (Kazakhstan)	46°35'N	81°00'E	NL-44
196.	SCUTARI	Lake Scutari	Skadarsko Jezero	Shkodres, Skadar	Europe	Albania, Yugoslavia	42°10'N	19°20'E	NK-34
197.	SEG	Lake Seg	Ozero Segozero	Segeza	Europe	USSR (Russia)	63°18'N	33°45'E	NP-35/36
198.	SELAWIK	Selawik Lake	Selawik Lake	---	N. Am.	USA (Alaska)	66°30'N	160°09'W	NQ-3/4
199.	SELETYTENIZ	Lake, Seletyteniz	Ozero Seletyteniz	---	Asia	USSR (Kazakhstan)	53°15'N	73°15'E	NN-43
200.	SELWYN	Selwyn Lake	Selwyn Lake	---	N. Am.	Canada (NWT, Saskatchewan)	60°02'N	104°28'W	NO-13 NP-12/13
201.	SEUL	Lake Seul	Lac Seul	---	N. Am.	Canada (Ontario)	50°23'N	92°25'W	NM-15
202.	SEVAN	Lake Sevan	Ozero Sevan	Gokcha	Europe	USSR (Armenia)	40°20'N	45°20'E	NK-38
203.	SHAMO	Lake Shamo	Lake Chamo	Ruspoli	Africa	Ethiopia	05°50'N	37°40'E	NB-37
204.	SIMCOE	Lake Simcoe	Lake Simcoe	---	N. Am.	Canada (Ontario)	44°25'N	79°23'W	NL-17
205.	SNOWBIRD	Snowbird Lake	Snowbird Lake	---	N. Am.	Canada (NWT)	60°40'N	102°56'W	NP-13/14
206.	SOUTH INDIAN	Southern Indian Lake	Southern Indian Lake	---	N. Am.	Canada (Manitoba)	57°06'N	98°46'W	NO-14
207.	SOUTH HENIK	South Henik Lake	South Henik Lake	---	N. Am.	Canada (NWT)	61°27'N	97°22'W	NP-13/14
208.	SUPERIOR	Lake Superior	Lake Superior	---	N. Am.	Canada, USA	47°33'N	87°46'W	NL-15,16 NM-16

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
209.	TAHOE	Lake Tahoe	Lake Tahoe	---	N. Am.	USA (California, Nevada)	39°06'N	120°02'W	NJ-10,11
210.	TAI	Lake Tai	Tai Hu*	---	Asia	China (Chekiang, Kiangsu)	31°15'N	120°10'E	NH-50,51
211.	TAKIYUAK	Takiyuak Lake	Takiyuak Lake	Takijua	N. Am.	Canada (NWT)	66°18'N	113°05'W	NQ-9-12
212.	TANA	Lake Tana	Lake Tana	Tsana	Africa	Ethiopia	12°10'N	37°20'E	NC-37 ND-37
213.	TANGANYIKA	Lake Tanganyika	Lac Tanganyika	---	Africa	Burundi, Tanzania, Zaire, Zambia	06°00'S	29°30'E	SA-35 SB-35,36 SC-36
214.	TANGRA	Lake Tangra	Tangra Yumco*	Dangrayum, Tangkulayumu	Asia	China (Tibet)	31°50'N	86°22'E	NH-45
215.	TATHLINA	Tathlina Lake	Tathlina Lake	---	N. Am.	Canada (NWT)	66°32'N	117°33'W	NP-11/12
216.	TAUPO	Lake Taupo	Lake Taupo	---	Oceania	New Zealand (North Island)	38°50'S	175°56'E	SJ-60
217.	TAYMYR	Lake Taymyr	Ozero Taymyr	Tajmyr, Tajmyr	Asia	USSR (Russia)	74°30'N	102°30'E	NS-46-48
218.	TEBESJUAK	Tebesjuak Lake	Tebesjuak Lake	---	N. Am.	Canada (NWT)	63°46'N	99°00'W	NP-13/14
219.	TENGIZ	Lake Tengiz	Ozero Tengiz	---	Asia	USSR (Kazakhstan)	50°24'N	68°57'E	NM-42
220.	TERINAM	Lake Terinam	Zhari Namco*	Tiehlinanmu	Asia	China (Tibet)	31°06'N	85°35'E	NH-45
221.	TERMINOS	Terminos Lagoon	Laguna de Terminos	---	N. Am.	Mexico (Campeche)	18°37'N	91°33'W	NE-15
222.	TESHEKPUK	Teshekpuk Lake	Teshekpuk Lake	---	N. Am.	USA (Alaska)	70°35'N	153°26'W	NR-5/6
223.	TITICACA	Lake Titicaca	Lago Titicaca	---	S. Am.	Bolivia, Peru	15°48'S	69°24'W	SD-19 SE-19
224.	TOBA	Lake Toba	Danau Toba	---	Asia	Indonesia (Sumatra Island)	02°35'N	98°40'E	NA-47
225.	TOP	Lake Top	Ozero Topozero	---	Europe	USSR (Russia)	65°40'N	32°00'E	NQ-36-38

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
226.	TORRENS	Lake Torrens	Lake Torrens	---	Oceania	Australia (South Australia)	31°00'S	137°50'E	SH-53,54
227.	TROUT	Trout Lake	Trout Lake	---	N. Am.	Canada (NWT)	60°30'N	121°16'W	NP-9/10
228.	TULEMALU	Tulemalu Lake	Tulemalu Lake	---	N. Am.	Canada (NWT)	62°56'N	99°27'W	NP-13/14
229.	TUMBA	Lake Tumba	Lac Tumba	---	Africa	Zaire	00°48'S	18°03'E	SA-33,34
230.	TUNGTING	Lake Tungting	Dongung Hu*	Dangting, Dongtinghu	Asia	China (Hunan)	29°18'N	112°04.5'E	NH-49
231.	TUZ	Lake Tuz	Tuz Golu	---	Asia	Turkey	38°45'N	33°25'E	NJ-36
232.	UBINSKOE	Ubinskoe Lake	Ubinskoye Ozero	Ubinskoje	Asia	USSR (Russia)	55°30'N	80°05'E	NN-44
233.	ULUNGUR	Lake Ulungur	Ulungur Hu*	Pulunto, Uilyungur, Urungu, Wulunku	Asia	China (Sinkiang)	47°20'N	87°10'E	NL-45
234.	UPEMBA	Lake Upemba	Lac Upemba	---	Africa	Zaire	08°36'S	26°26'E	SC-35
235.	URMIA	Lake Urmia	Daryacneh-ye Rezaieyh	Rizaiyeh, Urumiah	Asia	Iran	37°40'N	45°30'E	NJ-38
236.	UVS	Uvs Lake	Uvs Nour	Ubsa, Ubsu	Asia	Mongolia	50°20'N	92°45'E	NM-46
237.	VAN	Lake Van	Van Golu	---	Asia	Turkey	38°33'N	42°46'E	NJ-38
238.	VANERN	Lake Vanern	Vanern	Vaner, Vener	Europe	Sweden	58°55'N	13°30'E	NO-32/33
239.	VATTERN	Lake Vattern	Vattern	Vatter, Vetter	Europe	Sweden	58°24'N	14°36'E	NO-32/33
240.	VICTORIA	Lake Victoria	Lake Victoria	---	Africa	Kenya, Tanzania, Uganda	01°00'S	33°00'E	NA-36 SA-36
241.	VIEDMA	Lake Viedma	Lago Viedma	---	S. Am.	Argentina (Santa Cruz)	49°35'S	72°35'W	SM-18/19
242.	VYG	Lake Vyg	Ozero Vygozero	---	Europe	USSR (Russia)	63°40'N	34°40'E	NP-35/36
243.	WEISHAN	Lake Weishan	Weishan Hu*	---	Asia	China (Kiangsu, Shantung)	34°35'N	117°13'E	NI-50
244.	WHOLDAIA	Wholdaia Lake	Wholdaia Lake	---	N. Am.	Canada (NWT)	60°43'N	104°07'W	NP-12/13, 13/14

TABLE 1, CONTINUED

No.	Code Name	English Conventional Name	Latinized Local Name(s)	Alternate Name(s)	Cont.	Nation(s)	Lat.	Long.	USDMA Map No.
245.	WINNEBAGO	Lake Winnebago	Lake Winnebago	---	N. Am.	USA (Wisconsin)	44°00'N	88°25'W	NK-16 NL-16
246.	WINNIPEG	Lake Winnipeg	Lake Winnipeg	---	N. Am.	Canada (Manitoba)	52°31'N	97°47'W	NM-14 NN-14
247.	WINNIPEGOSIS	Lake Winnipegosis	Lake Winnipegosis	---	N. Am.	Canada (Manitoba)	52°35'N	100°09'W	NM-14 NN-14
248.	WOLLASTON	Wollaston Lake	Wollaston Lake	---	N. Am.	Canada (Saskatchewan)	58°14'N	103°17'W	NO-13
249.	WOODS	Lake of the Woods	Lake of the Woods	---	N. Am.	Canada, USA	49°15'N	94°39'W	NM-15
250.	YAMDROK	Lake Yamdrok	Yamzho Yumco*	Yamdrog, Yangchoyung	Asia	China (Tibet)	29°00'N	90°40'E	NH-46
251.	YATHKYED	Yathkyed Lake	Yathkyed Lake	---	N. Am.	Canada (NWT)	62°40'N	97°52'W	NP-13/14
252.	ZAYSAN	Lake Zaysan	Ozero Zaysan	Zaisan, Zaysan	Asia	USSR (Kazakhstan)	48°00'N	86°00'E	NE-44,45 NM-44,45
253.	ZILING	Lake Ziling	Siling Co*	Chilin, Goring, Seling	Asia	China (Tibet)	31°50'N	89°00'E	NH-45

\* Pinyin spelling of Chinese lakes

TABLE 2. LOCATION OF LARGE LAKES BY NATION

Continent and Nation	No.	Area	Mean Area	% of Cont.	% of World
<u>Africa</u>					
Burundi, Tanzania, Zaire, Zambia	1	32,900	32,900	17.4	2.3
Cameroon, Chad, Niger, Nigeria	1	16,600	16,600	8.8	1.2
Djibouti, Ethiopia	1	780	780	0.4	<0.1
Egypt	1	1,360	1,360	0.7	0.1
Ethiopia	3	5,310	1,770	2.8	0.4
Ethiopia, Kenya	1	8,660	8,660	4.6	0.6
Ivory Coast	1	780	780	0.4	<0.1
Kenya, Tanzania, Uganda	1	68,460	68,460	36.4	4.9
Malawi, Mozambique	1	1,040	1,040	0.5	0.1
Malawi, Mozambique, Tanzania	1	22,490	22,490	11.9	1.6
Mali	1	590	590	0.3	<0.1
Rwanda, Zaire	1	2,370	2,370	1.3	0.2
Tanzania	1	2,716	2,716	1.4	0.2
Uganda	1	4,430	4,430	2.3	0.3
Uganda, Zaire	2	7,740	3,870	4.1	0.6
Zaire	3	3,355	1,118	1.8	0.2
Zaire, Zambia	1	4,350	4,350	2.3	0.3
Zambia	1	4,920	4,920	2.6	0.4
<b>TOTAL</b>	<b>23</b>	<b>188,851</b>	<b>8,211</b>	<b>100.0</b>	<b>13.5</b>
<u>Asia</u>					
Afghanistan	1	520	520	0.1	<0.1
Afghanistan, Iran	1	2,080	2,080	0.4	0.1
China	22	39,430	1,792	6.7	2.8
China, India	1	600	600	0.1	<0.1
China, Mongolia	1	610	610	0.1	<0.1
China, USSR	1	4,190	4,190	0.7	0.3
India	1	1,170	1,170	0.2	0.1
Indonesia	1	1,150	1,150	0.2	0.1
Iran	2	6,550	3,275	1.1	0.5
Iran, USSR	1	374,000	374,000	63.2	26.7
Iraq	1	1,940	1,940	0.3	0.1
Israel, Jordan	1	1,020	1,020	0.2	0.1
Japan	1	688	688	0.1	<0.1
Kampuchea	1	2,450	2,450	0.4	0.2
Mongolia	5	9,620	1,924	1.6	0.7
Philippines	1	890	890	0.2	0.1
Thailand	1	1,073	1,073	0.2	0.1
Turkey	4	6,550	1,638	1.1	0.5
USSR	14	136,537	9,753	23.1	9.7
<b>TOTAL</b>	<b>61</b>	<b>591,068</b>	<b>9,690</b>	<b>100.0</b>	<b>42.2</b>



TABLE 2, CONTINUED

Continent and Nation	No.	Area	Mean Area	% of Cont.	% of World
<u>Europe</u>					
Albania, Yugoslavia	1	600	600	1.0	<0.1
Austria, Switzerland, West Germany	1	540	540	0.9	<0.1
East Germany, Poland	1	900	900	1.4	0.1
Finland	5	8,408	1,682	13.3	0.6
France, Switzerland	1	580	580	0.9	<0.1
Hungary	1	590	590	0.9	0.1
Sweden	3	8,600	2,867	13.7	0.6
USSR	12	42,770	3,564	67.9	3.1
TOTAL	25	62,988	2,520	100.0	4.4
<u>North America</u>					
Canada	89	201,449	2,264	41.3	14.4
Canada, USA	8	193,857	24,232	39.7	13.8
Dominican Republic	1	500	500	0.1	<0.1
Guatemala	1	590	590	0.1	<0.1
Honduras	1	1,110	1,110	0.2	0.1
Mexico	2	2,690	1,345	0.6	0.2
Nicaragua	2	9,190	4,595	1.9	0.7
Panama	1	900	900	0.2	0.1
USA	17	77,403	4,553	15.9	5.5
TOTAL	122	487,699	3,998	100.0	34.9
<u>Oceania</u>					
Australia	7	22,939	3,277	97.4	1.6
New Zealand	1	616	616	2.6	<0.1
TOTAL	8	23,555	2,944	100.0	1.6
<u>South America</u>					
Argentina	5	5,700	1,140	12.2	0.4
Argentina, Chile	3	3,840	1,280	8.2	0.3
Bolivia	1	1,340	1,340	2.9	0.1
Bolivia, Peru	1	8,030	8,030	17.2	0.6
Brazil	1	10,140	10,140	21.8	0.7
Brazil, Uruguay	1	3,750	3,750	8.1	0.3
Chile	1	800	800	1.7	0.1
Venezuela	1	13,010	13,010	27.9	0.9
TOTAL	14	46,610	3,329	100.0	3.4
GRAND TOTAL	253	1,400,771			

TABLE 3. LATITUDE OF LARGE LAKES

Latitude	No.	LAKE AREA		Percent of Total Area	LAND MASS <sup>1</sup>		Percent of Total Land	Percent of Land Area Occupied by Large Lakes	Ratio of Percent Total Lake Area to Total Land Area
		Area (km <sup>2</sup> )	Mean Area		Area (km <sup>2</sup> )	Area (km <sup>2</sup> )			
N 90°-80°	1	542	542	0.1	384,000	0.3	0.1	1:6.5	
80°-70°	2	5,380	2,690	0.4	3,438,000	2.3	0.2	1:5.8	
70°-60°	54	145,626	2,697	10.4	13,326,000	9.0	1.1	1:0.9	
60°-50°	60	154,641	2,577	11.0	14,679,000	9.9	1.1	1:0.9	
50°-40°	45	757,565	16,835	54.1	16,474,000	11.1	4.6	1:0.2	
40°-30°	29	44,808	1,545	3.2	15,570,000	10.5	0.3	1:3.3	
30°-20°	6	13,980	2,330	1.0	15,097,000	10.1	0.1	1:10.1	
20°-10°	13	39,200	3,002	2.8	11,244,000	7.6	0.3	1:2.7	
10°-0°	10	37,303	3,730	2.7	10,069,000	6.8	0.4	1:2.5	
S 0°-10°	9	116,301	12,922	8.3	10,394,000	7.0	1.1	1:0.8	
10°-20°	5	37,820	7,564	2.7	9,420,000	6.3	0.4	1:2.3	
20°-30°	3	9,399	3,133	0.7	9,310,000	6.3	0.1	1:9.0	
30°-40°	8	29,896	3,737	2.1	4,140,000	2.8	0.7	1:1.3	
40°-50°	6	6,590	1,082	0.5	971,000	0.7	0.7	1:1.4	
50°-60°	2	2,000	1,000	0.1	213,000	0.1	0.9	1:1.0	
60°-70°	0	0	0	0.0	1,788,000	1.2	0.0	---	
70°-80°	0	0	0	0.0	8,468,000	5.7	0.0	---	
80°-90°	0	0	0	0.0	3,907,000	2.6	0.0	---	
TOTAL	253	1,400,771	5,537	100.0	148,892,000	100.0	0.9		

Data Source:

1. Sverdrup, Johnson and Fleming (1942)

TABLE 4. MORPHOMETRY OF THE LARGE LAKES OF THE WORLD

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m) Mean      Max.	Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin								
1.	ABAYA	1,160	17,300	1,268	7	13	72	23	225	1.9	36
2.	ABE	780	---	310	---	---	24	24	130	1.3	165
3.	ABERDEEN	1,100	---	80	---	---	90	26	368	3.1	97
4.	ABITIBI	931	---	265	---	---	70	21	364	3.4	110
5.	ABY	780	---	<1 (tidal)	---	---	51	19	236	2.9	107
6.	ALAKOL	2,650	---	347	22	54	92	49	322	1.8	131
7.	ALBERT	5,590	---	617	27	58	161	40	486	1.8	44
8.	ALEXANDRINA	580	1,072,000	1	3	5	37	21	299	3.5	60
9.	AMADEUS	880*	---	460	---	---	122	19	523	5.0	116
10.	AMADJUAK	3,115	---	113	---	---	115	65	688	3.5	148
11.	ANGIKUNI	510	---	257	---	---	41	27	274	3.4	48
12.	ARAL	64,100	1,618,000	53	16	68	430	280	2,300	2.6	25
13.	ARGENTINO	1,410	---	200	(120)	300	105	28	643	4.8	90
14.	ARTILLERY	551	25,900	364	---	---	80	15	234	2.8	36
15.	ASHUANUPI	597	---	529	---	---	70	21	399	4.6	164
16.	ATHABASCA	7,935	158,000	213	26	120	284	58	897	2.8	81
17.	ATLJN	774	6,530	668	86	283	103	15	306	3.1	179
18.	AUSTIN	829*	20,000	460	---	---	69	10	258	2.5	120
19.	AYLMER	847	---	375	---	---	61	41	528	5.1	16
20.	BAGHRASH	1,380	---	1,038	---	---	82	38	201	1.5	120
21.	BAIKAL	31,500	650,000	456	730	1,741	635	78	2,200	3.5	37
22.	BAKER	1,887	---	2	(93)	230	105	31	339	2.2	111
23.	BALATON	590	5,800	104	3	11	78	8	197	2.3	65

TABLE 4, CONTINUED

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Shoreline Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin		Mean	Max.						
24.	BALKHASH	18,200*	176,500	343	6	26	112	600	88	2,384	5.0	77
25.	BANGWEULU	4,920*	100,800	1,140	1	5	5.0	97	40	490	2.0	40
26.	BAY	890	2,750	2	3	6	2.5	48	40	250	2.4	160
27.	BECHAROF	1,190	---	4	(37)	92	(44)	64	19	227	1.9	105
28.	BELOYE	1,290	---	113	4	20	5.2	43	32	131	1.0	124
29.	BEYSEHIR	650	---	1,116	(3)	9	(1.9)	45	24	245	2.7	137
30.	BIENVILLE	1,249	15,600	391	---	---	---	89	16	446	3.6	77
31.	BIG TROUT	661	2,509	213	16	40	11	57	25	277	3.0	94
32.	BIWA	688	3,680	85	41	103	28	64	19	228	2.5	27
33.	BRAS D'OR	1,099	---	<1 (tidal)	(28)	70	(31)	91	23	597	5.1	46
34.	BUENOS AIRES	2,240	---	217	---	---	---	129	21	262	1.6	60
35.	BUFFALO	612	---	265	---	---	---	51	22	166	1.9	69
36.	BUYR	610	---	583	(4)	11	(2.4)	40	10	98	1.1	22
37.	CARATASCA	1,110	---	<1 (tidal)	(2)	5	(2.2)	56	13	332	2.8	64
38.	CASPIAN	374,000	3,625,000	-28	209	1,025	78,200	1,207	483	6,000	2.8	155
39.	CEDAR	1,353	339,000	253	---	---	---	63	38	438	3.4	132
40.	CHAD	16,600*	2,500,000	240	3	12	44	224	144	1,000	2.2	150
41.	CHAMPLAIN	1,100	---	30	(49)	122	(54)	172	23	464	4.0	178
42.	CHANY	2,500*	---	105	2	10	4.5	105	56	723	4.1	72
43.	CHAO	900	---	15	---	---	---	51	29	143	1.3	89
44.	CHAPALA	1,140	4,755	1,525	9	13	10	77	16	208	5.0	99
45.	CHILKA	1,170*	---	<1 (tidal)	3	5	3.5	64	16	244	2.0	50
46.	CHILWA	1,040	8,200	550	2	5	2.1	48	26	196	1.7	162

TABLE 4, CONTINUED

No.	Name	Lake	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
			Drainage Basin	Lake		Mean	Max.						
47.	CHIQUITA	1,850	---	70	---	---	---	---	71	24	255	1.7	98
48.	CHIRIQUI	900	---	<1 (tidal)	---	---	---	---	51	21	191	1.8	109
49.	CHURCHILL	559	5,960	421	9	21	4.9	4.9	45	21	176	2.1	170
50.	CLAIRE	1,436	19,900	213	1	2	1.7	1.7	64	46	448	3.3	172
51.	CLINTON COLDEN	737	---	375	---	---	---	---	47	30	409	4.3	163
52.	COLHUE HUAPI	800	---	265	(2)	4	(1.6)	(1.6)	56	24	203	2.0	158
53.	CONSTANCE	540	11,490	396	90	252	48	48	68	13	234	2.8	127
54.	CONTWOYTO	958	---	564	---	---	---	---	110	24	553	5.0	136
55.	CREE	1,440	6,320	487	15	60	18	18	81	56	476	3.6	55
56.	CROSS	755	---	207	8	27	6.0	6.0	103	8	491	5.0	65
57.	DAUPHIN	519	---	260	---	---	---	---	43	19	111	1.8	153
58.	DEAD	1,020	32,000	-393	184	433	188	188	79	16	212	1.9	7
59.	DESCHAMBAULT	542	7,360	324	6	22	3.3	3.3	57	22	346	4.2	29
60.	DORE	640	2,430	459	11	20	6.9	6.9	38	30	167	1.9	83
61.	DUBAWNT	3,833	---	236	---	---	---	---	111	58	760	3.5	10
62.	EAU CLAIRE	1,383	3,830	283	---	---	---	---	67	25	411	3.1	132
63.	EBI	1,070	---	213	---	---	---	---	64	24	153	1.3	135
64.	EDWARD	2,150	---	912	35	117	78	78	80	48	280	1.7	50
65.	EGRIDIR	520	---	924	(6)	13	(3.1)	(3.1)	35	16	134	1.7	175
66.	ENNADAI	681	---	311	---	---	---	---	78	18	452	4.9	31
67.	ENRIQUILLO	500	---	-44	(1)	2	(0.5)	(0.5)	48	10	108	1.4	109
68.	ERIE	25,657	58,800	174	19	64	483	483	338	92	1,377	2.4	72
69.	ESKIMO NORTH	838	---	<1 (tidal)	---	---	---	---	68	24	382	3.7	35

TABLE 4, CONTINUED

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin		Mean	Max.						
70.	ESKIMO SOUTH	628	---	2	---	---	---	46	29	346	3.9	80
71.	EVANS	547	15,800	241	(6)	13	(3.3)	54	15	285	3.4	46
72.	EVORON	590*	---	100	---	---	---	26	22	190	1.1	11
73.	EYRE	7,690*	1,122,250	-12	3	4	23	209	64	1,382	4.5	142
74.	FAGNANO	590	---	140	(211)	449	(125)	97	8	221	2.6	54
75.	FAGUBINE	590	---	280	6	10	3.7	72	12	165	1.9	66
76.	FERGUSON	588	---	11	---	---	---	76	13	207	2.4	78
77.	FLATHEAD	500	17,800	881	50	113	24	48	24	302	3.8	178
78.	FROBISHER	516	5,180	421	5	19	2.2	49	26	377	4.7	145
79.	FROME	2,410*	85,500	49	<1	1	(2.0)	6	3	263	1.5	8
80.	GAIRDNER	4,770*	11,400	34	<1	1	(4.0)	161	48	550	2.3	157
81.	GARRY	376	---	148	---	---	---	83	21	514	4.6	79
82.	GENEVA	580	7,975	372	153	310	89	72	13	167	2.0	93
83.	GODS	1,151	25,900	178	---	---	---	89	28	397	3.3	60
84.	GOOSE	503*	---	1,437	(3)	7	(1.5)	45	14	101	1.3	15
85.	GRAND	537	5,020	85	(52)	110	(28)	90	11	220	2.7	56
86.	GRAS	633	---	396	---	---	---	56	27	441	5.0	96
87.	GREAT BEAR	31,326	146,000	156	76	452	2,381	336	177	2,717	4.3	93
88.	GREAT SALT	4,360	54,370	1,280	4	15	19	121	80	497	2.1	148
89.	GREAT SLAVE	28,568	971,000	156	73	625	2,088	456	225	2,200	3.7	61
90.	GUILLAUME	700	---	<1 (tidal)	---	---	---	31	29	240	2.6	162
91.	HAMMAR	1,940	---	10	(1)	2	(1.9)	113	24	417	2.7	110
92.	HAR	530	---	1,104	---	---	---	29	24	157	1.9	40

TABLE 4, CONTINUED

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Shoreline Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin		Mean	Max.						
93.	HAR US	1,760	---	1,153	---	---	---	80	26	265	1.8	42
94.	HAZEN	542	---	158	---	---	---	74	12	175	2.1	65
95.	HELMAND	2,080*	350,000	510	(4)	11	(8.3)	165	100	467	2.9	25
96.	HOTTAH	984	25,000	180	19	70	17	75	26	278	2.5	167
97.	HOVSGOL	2,620	---	1,624	183	270	480	130	40	382	2.1	9
98.	HULUN	1,590	---	1,275	(1)	2	(1.6)	56	16	180	1.3	55
99.	HUNGTZE	2,700	---	15	---	---	---	105	48	347	1.9	162
100.	HURON	59,500	133,900	177	59	229	3,537	331	294	5,120	5.9	110
101.	HYARGAS	1,360	---	1,028	---	---	---	84	32	307	2.4	103
102.	ILIAMNA	2,590	---	15	(123)	299	(319)	121	40	401	2.2	64
103.	ILMEN	2,100*	58,000	18	6	11	12	42	34	239	1.5	72
104.	IMANDRA	900	---	127	12	67	11	80	24	362	3.4	14
105.	INARI	1,050	14,575	118	14	92	15	80	39	2,777	24.2	45
106.	ISLAND	1,223	---	227	---	---	---	97	14	728	5.9	106
107.	ISSYKKUL	6,240	---	1,608	277	702	1,730	169	56	760	2.7	115
108.	ISTADA	520	---	2,135	---	---	---	22	11	185	1.1	68
109.	IZABAL	590	8,200	8	12	20	7.6	48	24	175	2.0	52
110.	KAMILUKUAK	638	---	266	---	---	---	43	32	222	2.5	143
111.	KAMINAK	600	---	53	---	---	---	60	22	495	5.7	19
112.	KAMINURIAK	550	---	92	---	---	---	80	17	456	5.5	14
113.	KAOYU	700	---	15	---	---	---	40	24	365	3.9	11
114.	KASBA	1,341	---	336	---	---	---	80	38	344	2.7	165
115.	KHANKA	4,190*	---	69	5	11	19	97	64	352	1.5	168

TABLE 4, CONTINUED

No.	Name	Lake	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
			Drainage Basin	Lake		Mean	Max.						
116.	KIVU	2,370	---	1,460	240	480	569	97	48	556	3.3	20	
117.	KOKO	4,460	---	3,197	(14)	38	(62)	105	64	346	1.5	130	
118.	KULUNDINSKOE	728	---	95	(2)	5	(1.4)	38	29	171	1.8	152	
119.	KURISCHES	1,610	---	<1 (tidal)	4	7	6.4	90	45	258	1.8	31	
120.	KYARING	670	---	4,708	---	---	---	64	16	153	1.7	127	
121.	KYOGA	4,430	---	1,036	6	8	27	90	25	1,830	7.5	93	
122.	LADOGA	17,700	---	4	52	230	908	209	129	930	2.0	172	
123.	LESSER SLAVE	1,169	13,900	577	12	21	14	97	19	264	2.2	104	
124.	LLANQUIHUE	800	---	52	(133)	350	(106)	35	40	164	1.6	15	
125.	LOBSTICK	511	5,440	457	---	---	---	45	20	246	3.1	131	
126.	LOP	3,100	---	768	2	5	5.0	97	14	1,054	5.4	70	
127.	LOWER SEAL	576	8,390	290	---	---	---	71	16	639	7.5	71	
128.	LUANG	1,073	8,265	<1 (tidal)	2	6	1.9	50	23	313	2.7	165	
129.	MACKAY	1,061	---	431	---	---	---	119	24	592	5.1	62	
130.	MAI-NDOMBE	2,325*	---	340	5	10	12	145	40	444	2.6	9	
131.	MALAREN	1,096	22,600	1	13	64	14	113	66	1,413	12.0	102	
132.	MANAGUA	1,040	---	37	(32)	80	(33)	61	26	209	1.8	75	
133.	MANITOBA	4,625	---	248	3	4	17	198	48	810	3.4	152	
134.	MANOUANE	584	5,000	500	---	---	---	54	13	297	3.5	161	
135.	MANZALA	1,360	---	<1 (tidal)	1	1	(1.0)	56	23	375	2.9	150	
136.	MARACAIBO	13,010	90,200	<1 (tidal)	22	60	280	274	121	592	1.5	1	
137.	MARTRE	1,776	---	265	---	---	---	76	35	352	2.4	108	
138.	MELVILLE	3,069	---	<1 (tidal)	(97)	256	(298)	192	36	528	2.7	61	



TABLE 4, CONTINUED

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin		Mean	Max.						
139.	MICHIGAN	57,750	118,100	177	85	282	4,920	494	190	2,670	3.1	9
140.	MICHIKAMUA	2,030	---	460	(33)	80	(67)	102	39	629	3.9	115
141.	MILLE LACS	540	---	381	(5)	11	(2.7)	29	23	99	1.2	69
142.	MINTO	761	5,540	183	---	---	---	98	14	343	3.5	58
143.	MIRIM	3,750	62,250	1	5	18	19	185	40	588	2.7	40
144.	MISTASSINI	2,335	18,100	372	(75)	183	(175)	158	16	770	4.5	39
145.	MOOSE	1,367	---	255	---	---	---	68	30	573	4.4	175
146.	MWERU	4,350	---	922	7	37	32	113	48	340	1.5	40
147.	NAHUEL HUAPI	550	---	767	(206)	438	(113)	72	8	359	1.3	137
148.	NAKNEK	630	---	10	---	---	---	64	13	163	1.8	104
149.	NAM	2,500	---	4,627	---	---	---	50	56	238	1.6	64
150.	NAMAK	720	---	790	1	1	(0.5)	64	50	193	2.0	87
151.	NETILLING	5,530	---	30	---	---	---	123	67	1,004	3.8	8
152.	NGORING	650	---	4,270	---	---	---	41	33	149	1.7	28
153.	NICARAGUA	8,150	---	32	13	70	108	161	72	785	2.4	135
154.	NIPIGON	4,848	---	320	(63)	165	(31)	105	60	720	2.9	167
155.	NIPISSING	833	---	196	(8)	22	(6.7)	71	23	245	2.4	91
156.	NONACHO	784	---	354	---	---	---	97	11	716	7.2	18
157.	NUELTIN	2,279	---	278	---	---	---	143	25	430	2.5	13
158.	NYASA	22,490	65,000	475	273	706	6,140	579	80	1,500	2.8	170
159.	ODER	900	---	<1 (tidal)	(3)	9	(2.7)	74	48	425	4.0	142
160.	OKEECHOBEE	1,810	---	6	(2)	6	(3.6)	56	48	263	1.7	174
161.	OLING	570	---	4,270	---	---	---	41	25	118	1.4	82

TABLE 4, CONTINUED

No.	Name	Lake	Area (km <sup>2</sup> ) Drainage Basin	Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Shoreline Develop. Ratio	Orient. (degrees)
					Mean	Max.						
162.	ONEGA	9,700	---	33	30	127	295	245	90	1,139	3.3	135
163.	ONTARIO	19,000	70,700	75	86	245	1,637	311	85	1,168	2.4	68
164.	OULU	928	19,890	122	8	35	6.8	60	28	581	5.4	125
165.	PAIJANNE	1,090	26,480	78	16	95	18	120	28	2,450	20.9	6
166.	PANGONG	600	---	4,248	(16)	43	(9.6)	209	16	161	1.8	135
167.	PATOS	10,140	---	<1 (tidal)	(2)	5	(20)	260	60	959	2.7	40
168.	PAYNE	533	8,260	134	---	---	---	84	13	408	5.0	107
169.	PEIPUS	4,300	48,000	30	6	15	25	77	48	460	2.0	163
170.	PETER POND	778	13,600	421	14	24	11	62	23	180	1.8	138
171.	PIELINEN	960	13,710	94	9	60	9.0	98	24	1,372	12.5	150
172.	PLAYGREEN	657	---	217	---	---	---	79	10	317	3.5	173
173.	POINT	701	20,300	375	---	---	---	99	13	465	4.7	99
174.	PONIO	880	---	4,936	---	---	---	32	14	151	1.4	112
175.	PONTCHARTRAIN	1,620	---	1	(2)	5	(3.2)	66	40	227	1.6	85
176.	POOPO	1,340	---	3,686	1	3	2.0	90	32	223	1.7	175
177.	POYANG	3,350	---	10	(8)	20	(27)	145	64	1,307	6.4	173
178.	PRINCESS MARY	524	---	116	---	---	---	45	25	181	2.2	144
179.	PYA	660	---	101	(19)	49	(13)	48	24	177	1.9	148
180.	PYRAMID	510*	6,860	1,159	54	101	28	48	19	100	1.3	170
181.	RAINY	940	---	338	10	49	9.4	87	18	747	6.9	151
182.	RED	1,170	---	358	6	9	7.0	64	40	200	1.7	63
183.	REINDEER	6,640	64,800	337	17	219	96	231	40	1,528	5.3	21
184.	RONGE	1,413	14,763	364	13	38	18	65	58	830	6.2	54

TABLE 4, CONTINUED

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin		Mean	Max.						
185.	RUDOLF	8,660	---	427	29	73	251	298	60	684	1.6	155
186.	RUKWA	2,716*	77,340	793	<1	1	(2.0)	145	16	343	1.9	125
187.	SAIMAA	4,380	61,265	76	14	82	61	186	102	14,850	63.3	140
188.	SAINT CLAIR	1,210	17,900	175	4	7	4.6	48	46	272	2.2	51
189.	SAINT-JEAN	1,003	73,000	98	(25)	63	(25)	52	30	170	1.5	103
190.	SAKAMI	592	9,890	183	(52)	110	(31)	62	14	520	6.0	22
191.	SALTON	950	19,400	-70	6	12	5.9	48	16	140	1.3	132
192.	SAN MARTIN	1,010	---	200	(68)	170	(68)	103	22	520	4.6	130
193.	SANDY	527	---	276	---	---	---	77	12	470	5.8	82
194.	SAP	2,450*	81,200	5	4	12	10	116	37	382	2.2	135
195.	SASYKKOL	740	---	350	(2)	5	(1.5)	51	23	322	3.3	125
196.	SCUTARI	600*	5,490	5	5	60	1.9	44	14	207	2.4	135
197.	SEG	910	---	114	(37)	97	(34)	32	32	160	1.5	122
198.	SELAWIK	1,400	---	<1 (tidal)	---	---	---	72	32	223	1.7	123
199.	SELETYTENIZ	780	---	64	2	3	1.5	57	26	303	3.1	137
200.	SELWYN	717	---	398	---	---	---	78	16	406	4.3	34
201.	SEUL	1,658	---	357	8	34	13	125	20	1,045	7.2	110
202.	SEVAN	1,360	---	1,900	28	83	38	64	40	255	2.0	135
203.	SHAMO	550	---	1,235	(6)	13	(3.3)	37	23	105	1.3	33
204.	SIMCOE	744	---	219	(16)	41	(12)	47	29	184	1.9	11
205.	SNOWBIRD	505	---	359	---	---	---	64	17	220	2.8	23
206.	SOUTH INDIAN	2,247	---	254	(7)	18	(16)	145	21	962	5.7	39
207.	SOUTH HENIK	513	---	184	---	---	---	59	18	239	3.0	155

TABLE 4, CONTINUED

No.	Name	Area (km <sup>2</sup> )		Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Length (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
		Lake	Drainage Basin		Mean	Max.							
208.	SUPERIOR	82,100	127,700	183	149	407	12,230	563	259	4,795	4.7	128	
209.	TAHOE	500	815	1,899	249	501	124	35	19	125	1.6	175	
210.	TAI	2,210	---	3	(2)	5	(4.4)	64	56	369	2.2	179	
211.	TAKIYUAK	1,080	---	381	---	---	---	61	24	430	3.7	176	
212.	TANA	3,600	---	1,840	---	---	28	80	64	333	1.5	159	
213.	TANGANYIKA	32,900	263,000	774	574	1,471	18,900	676	48	1,900	3.0	170	
214.	TANGRA	1,400	---	4,724	---	---	---	67	20	186	1.4	14	
215.	TATHLINA	573	---	280	---	---	---	44	27	119	1.4	80	
216.	TAUPO	616	3,327	357	97	165	59	40	28	153	1.7	45	
217.	TAYMYR	4,560*	---	3	3	26	13	201	110	880	3.7	70	
218.	TEBESJUAK	575	---	146	---	---	---	39	26	204	2.4	23	
219.	TENGIZ	1,590	---	304	(3)	8	(4.8)	85	52	401	2.8	46	
220.	TERINAM	810	---	4,684	---	---	---	38	14	165	1.6	96	
221.	TERMINOS	1,550	---	<1 (tidal)	<1	1	(1.0)	72	24	383	2.7	67	
222.	TESHEKPUK	820	---	2	---	---	---	50	32	184	1.8	115	
223.	TITICACA	8,030	60,800	3,809	103	304	827	209	56	1,125	3.5	135	
224.	TOBA	1,150	3,450	906	249	529	249	89	29	280	2.3	134	
225.	TOP	990	---	109	(21)	56	(21)	76	25	361	3.2	128	
226.	TORRENS	5,780*	70,000	30	<1	1	(5.0)	209	48	730	2.7	150	
227.	TROUT	504	---	503	---	---	---	46	17	168	2.1	32	
228.	TULEMALU	668	---	279	---	---	---	50	26	188	2.1	26	
229.	TUMBA	500	---	340	(2)	5	(1.0)	40	29	203	2.6	153	
230.	TUNGTING	6,000*	---	11	(3)	10	(18)	129	72	402	1.5	25	

TABLE 4, CONTINUED

No.	Name	Lake	Area (km <sup>2</sup> )	Drainage Basin	Elevation (m)	Depth (m)		Volume (km <sup>3</sup> )	Length (km)	Breadth (km)	Shoreline Length (km)	Develop. Ratio	Orient. (degrees)
						Mean	Max.						
231.	TUZ	1,640	11,400	925	1	1	(1.0)	80	51	246	1.7	164	
232.	UBINSKOE	559	---	120	(1)	3	(0.6)	45	16	98	1.2	60	
233.	ULUNGUR	830	---	468	---	---	---	54	29	169	1.7	50	
234.	UPEMBA	530	---	580	2	4	0.9	29	26	109	1.3	60	
235.	URMIA	5,800*	52,000	1,275	8	16	45	145	48	478	1.8	164	
236.	UVS	3,350	---	759	1	1	(3.0)	84	79	322	1.6	103	
237.	VAN	3,740	15,500	1,646	(55)	145	(206)	129	56	493	2.3	68	
238.	VANERN	5,648	46,830	44	27	106	153	141	72	1,943	7.3	38	
239.	VATTERN	1,856	6,359	88	40	128	74	135	31	642	4.2	20	
240.	VICTORIA	68,460	263,000	1,134	40	92	2,700	402	241	3,440	3.7	35	
241.	VIEDMA	1,090	---	250	---	---	---	72	22	241	2.1	112	
242.	VYG	1,250	---	89	6	24	7.1	72	32	212	1.7	156	
243.	WEISHAN	1,000	---	15	---	---	---	112	20	225	2.0	178	
244.	WHOLDAIA	678	---	364	---	---	---	68	11	519	5.6	63	
245.	WINNEBAGO	560	---	228	5	7	2.8	48	16	121	1.4	10	
246.	WINNIPEG	24,387	984,200	217	14	18	371	416	189	1,365	2.5	157	
247.	WINNIPEGOSIS	5,375	---	254	3	12	16	195	27	957	3.7	151	
248.	WOLLASTON	2,690	23,300	398	17	97	40	142	40	1,026	5.6	10	
249.	WOODS	4,350	---	323	8	21	35	122	47	1,133	4.9	63	
250.	YAMDROK	800	---	4,374	---	---	---	65	47	440	4.4	110	
251.	YATHKYED	1,449	---	140	---	---	---	74	35	386	2.9	119	
252.	ZAYSAN	1,800	---	386	(4)	9	(7.2)	150	18	318	2.1	113	
253.	ZILING	1,860	---	4,495	(3)	8	(5.6)	70	38	231	1.5	117	

\* Lake subject to large, often seasonal, fluctuations in water level and surface area.

( ) Estimated

TABLE 5. ELEVATION OF LARGE LAKES

Elevation (m)	No.	Area (km <sup>2</sup> )	Mean Area (km <sup>2</sup> )
-500 to -400	0	---	---
-400 to -300	1	1,020	1,020
-300 to -200	0	---	---
-200 to -100	0	---	---
-100 to 0	4	383,140	95,785
0 to 100	71	259,478	3,654
100 to 200	32	310,219	9,694
200 to 300	36	93,507	2,597
300 to 400	35	67,951	1,941
400 to 500	14	72,724	5,195
500 to 600	9	8,072	897
600 to 700	2	6,364	3,182
700 to 800	6	43,366	7,228
800 to 900	1	500	500
900 to 1,000	5	9,810	1,962
1,000 to 1,100	3	7,170	2,390
1,100 to 1,200	6	76,830	12,805
1,200 to 1,300	5	13,460	2,692
1,300 to 1,400	0	---	---
1,400 to 1,500	2	2,873	1,437
1,500 to 1,600	1	1,140	1,140
1,600 to 1,700	3	12,600	4,200
1,700 to 1,800	0	---	---
1,800 to 1,900	2	4,100	2,050
1,900 to 2,000	1	13,600	13,600
2,000 to 2,500	1	520	520
2,500 to 3,000	0	---	---
3,000 to 3,500	1	4,460	4,460
3,500 to 4,000	2	9,370	4,685
4,000 to 4,500	5	4,480	896
4,500 to 5,000	5	6,260	1,252
TOTAL	253	1,400,771	MEAN 5,537

TABLE 6. LARGE LAKES WITH CRYPTODEPRESSIONS

No.	Name	Elevation (m)	Maximum Depth (m)	Depth of Crypto- depression (m)
8.	ALEXANDRINA	1	5	4
12.	ARAL	53	68	15
13.	ARGENTINO	200	300	100
21.	BAIKAL	456	1,741	1,285
22.	BAKER	2	230	228
26.	BAY	2	6	4
27.	BECHAROF	4	92	88
32.	BIWA	85	103	18
33.	BRAS D'OR	1	70	69
37.	CARATASCA	1	5	4
38.	CASPIAN	-28	1,025	1,053
41.	CHAMPLAIN	30	122	92
45.	CHILKA	1	5	4
58.	DEAD	-393	433	826
67.	ENRIQUILLO	-44	2	46
73.	EYRE	-12	4	16
74.	FAGNANO	140	449	309
85.	GRAND	85	110	25
87.	GREAT BEAR	156	452	296
89.	GREAT SLAVE	156	625	469
100.	HURON	177	229	52
102.	ILIAMNA	15	299	284
109.	IZABAL	8	20	12
119.	KURISCHES	1	7	6
122.	LADOGA	4	230	226
124.	LLANQUIHUE	52	350	298
128.	LUANG	1	6	5
131.	MALAREN	1	64	63
132.	MANAGUA	37	80	43
136.	MARACAIBO	1	60	59
138.	MELVILLE	1	256	255
139.	MICHIGAN	177	282	105
143.	MIRIM	1	18	17
153.	NICARAGUA	32	70	38
158.	NYASA	475	706	231
159.	ODER	1	9	8
162.	ONEGA	33	127	94
163.	ONTARIO	75	245	170
165.	PAIJANNE	78	95	17
167.	PATOS	1	5	4
175.	PONTCHARTRAIN	1	5	4
177.	POYANG	10	20	10
187.	SAIMAA	76	82	6

TABLE 6, CONTINUED

No.	Name	Elevation (m)	Maximum Depth (m)	Depth of Crypto- depression (m)
191.	SALTON	-70	12	82
194.	SAP	5	12	7
196.	SCUTARI	5	60	55
208.	SUPERIOR	183	407	224
210.	TAI	3	5	2
213.	TANGANYIKA	774	1,471	697
217.	TAYMYR	3	26	23
238.	VANERN	44	106	62
239.	VATTERN	<u>88</u>	<u>128</u>	<u>40</u>
	MEAN	61	218	157



TABLE 7. ORIGIN, CLIMATOLOGICAL AND LIMNOLOGICAL DATA FOR THE LARGE LAKES OF THE WORLD

No.	Name	Geological Origin	Annual Precip. (mm)	Annual Evaporation Actual (mm)	Annual Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	Water Quality TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
1.	ABAYA	Tectonic	750	725	1,500	100	---	517	---	---	---
2.	ABE	Tectonic	400	200	1,875	10	---	S	---	---	---
3.	ABERDEEN	Glacial (scour)	380	180	180	250	---	F	---	---	---
4.	ABITIBI	Glacial (scour)	1,000	500	580	500	---	F	---	---	---
5.	ABY	Coastal (lagoon)	1,200	850	1,375	150	---	S	---	---	---
6.	ALAKOL	Tectonic	400	300	900	5	---	S	---	---	---
7.	ALBERT	Tectonic (graben)	1,400	950	1,450	150	---	597	367	9.2	50.4
8.	ALEXANDRINA	Coastal (lagoon)	450	400	1,000	10	---	370	---	8.2	---
9.	AMADEUS	Tectonic and Solution?	280	275	2,000	1	---	S	---	---	---
10.	AMADJIAK	Glacial (scour)	480	175	200	375	---	F	---	---	---
11.	ANGIKUNI	Glacial (scour)	400	270	300	200	---	F	---	---	---
12.	ARAL	Tectonic (uplift)	200	200	1,250	1	---	10,500	---	7.5	---
13.	ARGENTINO	Glacial (scour, damming)	2,000	325	500	2,000	---	F	---	---	---
14.	ARTILLERY	Glacial (scour)	375	350	350	150	---	F	---	---	---
15.	ASHUNAPI	Glacial (scour)	1,100	400	450	700	---	F	---	---	---
16.	ATHABASCA	Glacial (scour)	400	310	460	100	5.6	58	---	7.2	1.69
17.	ATLIN	Glacial (scour)	350	280	450	75	---	F	---	---	---
18.	AUSTIN	Tectonic	300	250	1,750	3	---	S	---	---	---
19.	AYLMER	Glacial (scour)	350	240	300	125	---	F	---	---	---
20.	BAGHRASH	Tectonic?	100	100	1,000	1	---	S	---	---	---
21.	BAIKAL	Tectonic (graben)	500	300	500	300	---	100	---	---	0.30
22.	BAKER	Glacial (scour)	775	600	850	100	---	F	---	---	---
23.	BALATON	Tectonic (graben)	200	200	1,000	5	1.7	400	360	8.4	23.5
24.	BALKHASH	Tectonic (graben)	1,225	775	1,475	275	---	B	---	---	---
25.	BANGWEULU	Tectonic?	400	200	225	200	---	23	13	7.7	---
26.	BAY	Tectonic	2,400	1,000	1,500	2,000	---	F	---	---	---
27.	BECHAROF	Glacial?	1,400	300	425	1,000	---	25	---	---	---
28.	BELOYE	Glacial?	800	420	475	300	0.8	F	---	---	---
29.	BEYSEHIR	Tectonic?	400	400	1,250	50	---	F	---	---	---
30.	BIENVILLE	Glacial (scour)	900	350	350	550	---	F	---	---	---

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Evaporation Actual (mm)	Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	Water Quality TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
31.	BIG TROUT	Glacial (scour)	775	460	500	250	4.9	68	54	7.6	0.73
32.	BIWA	Tectonic?	2,000	900	900	1,000	3.5	F	---	8.5	6.10
33.	BRAS D'OR	Coastal (lagoon)	1,600	600	600	500	---	S	---	---	0.15
34.	BUENOS AIRES	Glacial (scour, damming)	1,600	325	600	1,000	---	F	---	---	---
35.	BUFFALO	Glacial (scour)	450	310	400	75	---	F	---	---	---
36.	BUYR	Tectonic?	300	300	700	10	---	F	---	---	---
37.	CARATASCA	Coastal (lagoon)	3,000	1,000	1,250	1,500	---	S	---	---	---
38.	CASPIAN	Tectonic (uplift)	1,000	400	1,100	100	---	12,940	---	---	---
39.	CEDAR	Glacial (scour)	550	400	520	100	---	F	---	---	---
40.	CHAD	Tectonic (downward)	400	350	2,225	7	---	165*	90	8.3	1.70
41.	CHAMPLAIN	Tectonic (uplift, stream reversal)	1,200	650	750	500	---	F	---	---	---
42.	CHANY	Tectonic?	400	400	550	10	---	S	---	---	---
43.	CHAU	Fluvatile	1,400	600	1,000	600	---	F	---	---	---
44.	CHAPALA	Tectonic?	875	650	1,500	100	---	185	---	8.0	---
45.	CHILKA	Coastal (lagoon)	1,600	700	1,750	200	---	9,930	---	8.0	---
46.	CHILWA	Tectonic	1,150	750	1,500	50	---	8,500*	2,250	9.6	---
47.	CHIQUITA	Tectonic	900	800	1,500	8	---	S	---	---	---
48.	CHIRIQUI	Coastal (lagoon)	3,000	1,000	1,250	2,000	---	S	---	---	4.28
49.	CHURCHILL	Glacial (scour)	450	375	550	125	2.1	136	---	8.1	---
50.	CLAIRE	Glacial (scour)	400	325	510	75	---	F	---	---	---
51.	CLINTON COLDEN	Glacial (scour)	400	260	350	150	---	F	---	---	---
52.	COLHUE HUAPI	Tectonic?	200	200	1,000	8	---	F	---	---	---
53.	CONSTANCE	Glacial (scour and damming)	1,000	700	700	500	---	190	120	8.3	14.0
54.	CONTWOYTO	Glacial (scour)	350	225	280	125	---	F	---	---	---
55.	CREE	Glacial (scour)	425	330	500	125	7.8	27	---	7.0	1.46
56.	CROSS	Glacial (scour)	625	400	520	150	---	F	---	---	2.48
57.	DAUPHIN	Glacial (scour)	600	450	610	20	---	F	---	---	---
58.	DEAD	Tectonic (graben)	200	100	1,750	8	---	298,500	250	6.3	---
59.	DESCHAMBAULT	Glacial (scour)	575	400	530	100	---	F	---	---	---
60.	DORE	Glacial (scour)	500	380	550	100	---	F	---	---	---
61.	DUBAWNT	Glacial (scour)	400	240	280	200	---	F	---	---	---

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)		Annual Evaporation (mm)		Annual Runoff (mm)	Transp. (m)	Water Quality		Biological Productivity	
			Actual (mm)	Potential (mm)	TDS (mg/l)	Alkal. (mg/l)			pH	Primary Fish Yield (kg/ha/yr)		
62.	EAU CLAIRE	Glacial (scour)	900	320	320	350	---	F	---	---	---	---
63.	EBI	Tectonic?	200	200	800	5	---	S	---	---	---	---
64.	EDWARD	Tectonic (graben)	1,750	1,200	1,450	180	---	789	493	8.9	---	69.7
65.	EGRIDIR	Tectonic?	400	400	1,250	200	---	F	---	---	---	---
66.	ENNADAI	Glacial (scour)	425	290	360	175	---	F	---	---	---	---
67.	ENRIQUILLO	Tectonic (downward)	1,600	1,000	1,500	500	---	S	---	---	---	---
68.	ERIE	Glacial (scour)	1,100	740	925	350	4.5	178	95	8.3	1.36	9.72
69.	ESKIMO NORTH	Coastal (lagoon)	280	180	220	100	---	B	---	---	---	---
70.	ESKIMO SOUTH	Glacial?	250	180	220	150	---	F	---	---	---	---
71.	EVANS	Glacial (scour)	1,200	570	570	600	---	F	---	---	---	---
72.	EVORON	Tectonic?	600	350	400	500	---	F	---	---	---	---
73.	EYRE	Tectonic (uplift, stream reversal)	150	150	2,000	1	---	240,000*	---	---	---	---
74.	FAGNANO	Glacial?	1,000	600	450	500	---	F	---	---	---	---
75.	FAGUBINE	Tectonic?	275	300	2,275	1	---	F	---	---	---	---
76.	FERGUSON	Glacial?	275	160	180	100	---	F	---	---	---	---
77.	FLATHEAD	Glacial (scour and damming)	350	280	850	300	8.0	110	95	8.0	0.38	---
78.	FROBISHER	Glacial (scour)	500	360	520	75	1.7	79	---	8.1	---	2.20
79.	FROME	Tectonic (uplift, stream reversal)	200	200	1,900	4	---	H	---	---	---	---
80.	GAIRDNER	Tectonic	300	300	1,500	5	---	H	---	---	---	---
81.	GARRY	Glacial (scour)	300	200	200	175	---	F	---	---	---	---
82.	GENEVA	Glacial (scour and damming)	1,600	700	800	800	---	163	---	8.0	0.09	25.2
83.	GODS	Glacial (scour)	525	400	500	200	---	F	---	---	---	---
84.	GOOSE	Tectonic (graben)	800	275	1,450	300	---	S	---	---	---	---
85.	GRAND	Glacial?	1,400	450	500	1,000	---	F	---	---	---	---
86.	GRAS	Glacial (scour)	350	230	300	125	---	F	---	---	---	---
87.	GREAT BEAR	Glacial (scour)	350	225	350	150	13.7	79	53	7.9	---	0.30
88.	GREAT SALT	Tectonic (block-faulting)	300	300	1,300	1	---	285,000*	500	7.5	---	---
89.	GREAT SLAVE	Glacial (scour)	400	280	450	100	6.6	105	81	7.5	---	1.31

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Annual Evaporation Actual (mm)	Annual Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
90.	GUILLAUME	Coastal (lagoon) and Glacial (scour)	900	280	350	500	---	---	---	---	---
91.	HAMMAR	Tectonic?	100	150	1,750	1	---	---	---	---	---
92.	HAR	Tectonic?	100	175	550	10	---	---	---	---	---
93.	HAR US	Tectonic?	100	175	550	10	---	---	---	---	---
94.	HAZEN	Glacial?	400	50	100	200	---	---	---	---	---
95.	HELMAND	Tectonic?	100	100	1,750	5	---	---	---	---	---
96.	HOTTIAH	Glacial (scour)	350	225	350	100	5.5	55	45	7.9	9.70
97.	HOVSGOL	Tectonic?	400	275	500	150	---	---	---	---	---
98.	HULUN	Fluviatile	300	275	700	10	---	---	---	---	---
99.	HUNGTZE	Fluviatile	800	700	1,000	500	---	---	---	---	---
100.	HURON	Glacial (scour)	1,000	625	750	325	9.5	115	82	8.1	2.09
101.	HYARGAS	Tectonic?	200	200	550	10	---	---	---	---	---
102.	ILIAMNA	Glacial?	750	300	420	1,000	---	25	---	---	---
103.	ILMEN	Glacial?	700	425	525	200	---	---	---	---	---
104.	IMANDRA	Glacial (scour)	700	300	400	500	---	---	---	---	---
105.	INARI	Glacial?	600	300	400	300	---	---	---	---	---
106.	ISLAND	Glacial (scour)	600	410	500	200	---	20	9	7.0	---
107.	ISSYKKUL	Tectonic (graben)	400	400	1,000	100	---	---	---	---	---
108.	ISTADA	Tectonic?	100	100	1,750	5	---	---	---	---	---
109.	IZABAL	Tectonic (block-faulting)	2,800	1,000	1,350	1,000	---	122	88	6.5	1.20
110.	KAMILUKUAK	Glacial (scour)	425	280	300	160	---	---	---	---	---
111.	KAMINAK	Glacial (scour)	450	250	275	200	---	---	---	---	---
112.	KAMINURIAK	Glacial (scour)	450	250	275	150	---	---	---	---	---
113.	KAOYU	Fluviatile	1,200	750	1,000	800	---	---	---	---	---
114.	KASBA	Glacial (scour)	400	280	380	175	---	---	---	---	---
115.	KHANKA	Tectonic and Fluviatile?	600	450	700	100	---	---	---	---	---
116.	KIVU	Tectonic (graben) and Volcanic (damming)	1,500	1,100	1,450	300	---	1,115	820	9.3	1.44
117.	KOKO	Tectonic?	300	200	1,000	10	---	---	---	---	---
118.	KULUNDINSKOE	Tectonic?	400	375	600	10	---	---	---	---	---

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Annual Evaporation Actual (mm)	Annual Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	Water Quality TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
119.	KURISCHES	Coastal (lagoon)	800	500	575	300	---	S	---	---	---
120.	KYARING	Tectonic	350	275	1,000	800	---	F	---	---	---
121.	KYOGA	Tectonic (uplift, stream reversal)	1,400	925	1,475	75	---	227	---	8.3	130
122.	LADOGA	Glacial (scour) and Tectonic (uplift)	800	425	475	350	---	F	---	---	---
123.	LESSER SLAVE	Glacial?	525	380	560	75	---	F	---	---	1.44
124.	LLANQUIHUE	Glacial?	3,200	200	500	2,000	---	F	---	---	---
125.	LOBSTICK	Glacial (scour)	1,000	350	375	700	---	F	---	---	---
126.	LOP	Tectonic?	50	100	1,000	1	---	S	---	---	---
127.	LOWER SEAL	Glacial (scour)	900	400	400	700	---	F	---	---	---
128.	LUANG	Coastal (lagoon)	2,000	1,100	1,500	1,000	---	3,710*	37	6.8	0.37
129.	MACKAY	Glacial (scour)	350	250	350	100	---	F	---	---	---
130.	MAI-NDOMBE	Tectonic and Fluviatile?	1,700	1,125	1,275	550	---	F	---	---	---
131.	MALAREN	Glacial (scour) and Tectonic (uplift)	750	450	550	200	3.1	111	26	7.6	3.40
132.	MANAGUA	Tectonic (graben)	1,600	1,000	1,300	500	---	F	---	---	---
133.	MANITOBA	Glacial (scour)	600	450	630	50	---	F	---	---	1.04
134.	MANOUANE	Glacial?	1,200	460	490	725	---	F	---	---	---
135.	MANZALA	Coastal (lagoon, delta)	225	150	1,750	1	---	S	---	---	---
136.	MARACAIBO	Tectonic (downwarp) and Coastal (lagoon)	1,000	850	1,100	100	---	B*	---	---	---
137.	MARTRE	Glacial (scour)	375	260	420	90	6.0	165	---	---	---
138.	MELVILLE	Glacial (scour) and Coastal (lagoon)	1,200	350	375	800	---	S	---	---	---
139.	MICHIGAN	Coastal (lagoon)	1,150	700	875	250	6.0	155	113	8.0	0.36
140.	MICHIKAMAU	Glacial (scour)	975	350	375	700	---	F	---	---	---
141.	MILLE LACS	Glacial (scour)	900	620	820	150	---	F	75	---	---
142.	MINTO	Glacial (scour)	750	260	280	350	---	F	---	---	---
143.	MIRIM	Coastal (lagoon)	1,300	900	1,250	400	---	F/B	---	---	---
144.	MISTASSINI	Glacial (scour)	1,100	450	500	650	---	F	---	---	---

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Annual Evaporation Actual (mm)	Annual Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	Water Quality TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
145.	MOOSE	Glacial (scour)	525	420	520	100	---	---	---	---	---
146.	MWERU	Tectonic?	1,150	875	1,450	200	---	---	---	7.9	---
147.	NAHUEL HUAPI	Glacial?	1,600	300	600	150	---	---	---	---	---
148.	NAKNEK	Glacial?	1,100	300	420	1,500	---	---	---	---	---
149.	NAM	Tectonic	400	275	1,000	50	---	---	---	---	---
150.	NAMAK	Tectonic?	100	100	1,750	5	---	---	---	---	---
151.	NETILLING	Glacial (scour)	400	160	200	400	---	---	---	---	---
152.	NGORING	Tectonic?	400	350	1,000	100	---	---	---	---	---
153.	NICARAGUA	Tectonic (graben) and Volcanic (damming)	2,000	1,000	1,300	1,000	---	---	---	---	---
154.	NIPIGON	Glacial (scour)	880	480	590	300	---	---	---	---	1.56
155.	NIPISSING	Glacial (scour)	1,000	640	700	400	---	---	---	---	---
156.	NONACHO	Glacial (scour)	400	290	400	100	---	---	---	---	1.20
157.	NOELTIN	Glacial (scour)	425	280	350	200	---	---	---	---	---
158.	NYASA	Tectonic (graben)	1,175	675	1,475	80	---	---	---	8.6	---
159.	ODER	Coastal (lagoon)	700	500	500	250	---	---	---	---	---
160.	OKEECHOBEE	Tectonic (uplift)	1,600	1,000	1,500	250	---	---	---	---	---
161.	OLING	Tectonic?	400	250	1,000	5	---	---	---	---	---
162.	ONEGA	Glacial (scour)	750	375	450	350	---	---	---	6.9	0.62
163.	ONTARIO	Glacial (scour)	1,100	675	800	400	3.2	190	93	8.5	0.49
164.	OULU	Glacial?	700	350	425	325	---	25	22	6.4	---
165.	PAJANNE	Tectonic (faulting) and Glacial (scour)	700	350	475	300	---	48	17	6.7	0.30
166.	PANGONG	Tectonic (graben) and Glacial (scour)	300	250	1,000	800	---	---	---	---	---
167.	PATOS	Glacial (scour)	1,500	900	1,250	450	---	---	---	---	---
168.	PAYNE	Coastal (lagoon)	675	190	220	400	---	---	---	---	---
169.	PEIPIUS	Glacial (scour)	700	400	450	350	---	---	---	8.4	---
170.	PETER POND	Glacial (scour)	500	375	550	100	2.5	138	80	8.2	8.80
171.	PIELINEN	Glacial?	700	350	450	350	---	18	7.0	6.1	0.33
172.	PLAYGREEN	Glacial (scour)	525	400	520	150	---	---	---	---	---
173.	POINT	Glacial (scour)	350	210	260	100	---	---	---	---	---
174.	POMO	Tectonic	400	300	1,000	300	---	---	---	---	---

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Annual Actual Evaporation (mm)	Annual Potential (mm)	Annual Runoff (mm)	Transp. (m)	Water Quality TDS (mg/l)	Alkali (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
175.	PONTCHARTRAIN	Fluviatile (deltic levee)	1,600	1,000	1,500	600	---	B	---	---	---
176.	POOPO	Tectonic	350	250	1,000	75	---	S	---	---	---
177.	POYANG	Fluviatile (lateral damming)	1,600	800	1,000	800	---	F	---	---	---
178.	PRINCESS MARY	Glacial (scour)	400	220	250	200	---	F	---	---	---
179.	PYA	Glacial?	700	350	450	300	---	F	---	---	---
180.	PYRAMID	Tectonic (graben)	400	275	1,450	20	---	5,473	1,430	9.2	0.67
181.	RAINY	Glacial (scour)	800	520	650	200	---	57	---	---	5.26
182.	RED	Glacial?	725	540	750	100	---	191	125	---	4.14
183.	REINDEER	Glacial (scour)	450	330	475	150	7.0	39	---	7.2	1.12
184.	RONGE	Glacial (scour)	475	380	560	125	4.5	149	99	7.9	2.71
185.	RUDOLF	Tectonic (graben, synclinal folding)	700	700	1,600	30	---	2,482	1,225	9.6	3.23
186.	RUKWA	Tectonic (graben)	1,000	650	1,475	80	---	S	---	---	---
187.	SAIMAA	Glacial (scour) and Tectonic (uplift)	700	350	475	250	---	50	17	6.5	0.10
188.	SAINT CLAIR	Glacial (scour)	1,000	725	900	280	---	116	---	---	7.21
189.	SAINT-JEAN	Glacial (scour)	1,200	550	560	600	---	F	---	---	---
190.	SAKAMI	Glacial (scour)	925	410	430	500	---	F	---	---	---
191.	SALTON	Fluviatile and Tectonic	200	200	1,700	5	---	33,680	---	8.5	---
192.	SAN MARTIN	Glacial (scour, damming)	1,600	325	800	2,000	---	F	---	---	---
193.	SANDY	Glacial (scour)	775	425	575	200	---	F	---	---	---
194.	SAP	Fluviatile	1,600	1,050	1,500	300	---	F	---	---	---
195.	SASYKKOL	Tectonic?	400	300	800	5	---	S	---	---	---
196.	SCUTARI	Solution (karst) and Tectonic (faulting)	1,600	700	1,000	800	---	150	130	7.4	50.0
197.	SEG	Glacial?	750	350	425	300	---	F	---	---	---
198.	SELAWIK	Coastal (lagoon)	300	200	250	100	---	B	---	---	---
199.	SELETYTENIZ	Glacial?	400	375	600	5	---	S	---	---	---
200.	SELWYN	Glacial (scour)	400	290	380	100	---	F	---	---	---
201.	SEUL	Glacial (scour)	820	475	580	225	---	76	---	---	1.59
202.	SEVAN	Tectonic?	600	400	1,100	200	8.0	F	---	---	---

TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Annual Evaporation Actual (mm)	Annual Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	Water Quality TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)
203.	SHAMO	Tectonic?	725	675	1,475	100	---	603	---	---	---
204.	SIMCOE	Glacial (scour)	1,200	640	750	500	---	F	---	---	---
205.	SNOWBIRD	Glacial (scour)	425	300	380	150	---	F	---	---	---
206.	SOUTHERN INDIAN	Glacial (scour)	450	330	450	200	2.0	63	---	---	---
207.	SOUTH HENIK	Glacial (scour)	450	325	340	200	---	F	---	---	0.93
208.	SUPERIOR	Glacial (scour) and Tectonic (synclinal folding)	900	575	650	350	12.0	60	46	7.4	1.19
209.	TAHOE	Tectonic (graben)	300	280	1,450	500	36.6	65	---	---	0.16
210.	TAI	Fluvial	1,400	750	1,000	500	---	F	---	---	---
211.	TAKIYUAK	Glacial (scour)	325	290	290	100	---	F	---	---	---
212.	TANA	Tectonic?	1,250	700	1,475	200	---	160	7.9	---	---
213.	TANGANYIKA	Tectonic (graben)	1,000	850	1,450	180	13.0	530	336	8.5	125
214.	TANGRA	Tectonic	300	275	1,000	10	---	S	---	---	---
215.	TATHLINA	Glacial (scour)	475	310	600	75	---	F	---	---	---
216.	TAUPO	Volcanic (caldera) and Tectonic (faulting)	2,000	600	1,100	1,000	---	79	47	7.5	---
217.	TAYMYR	Glacial?	500	150	200	300	---	F	---	---	---
218.	TEBESJUAQ	Glacial (scour)	400	225	250	200	---	F	---	---	---
219.	TENGIZ	Tectonic?	375	300	800	30	---	S	---	---	---
220.	TERINAM	Tectonic	300	275	1,000	10	---	S	---	---	---
221.	TERMINOS	Coastal (lagoon)	1,200	1,000	1,350	1	---	S	---	---	---
222.	TESHEKPUK	Tectonic?	200	150	190	100	---	F	---	---	---
223.	TITICACA	Tectonic (uplift, faulting)	750	350	1,000	150	4.5	783	230	8.5	1.45
224.	TOBA	Volcanic (caldera) and Tectonic (faulting)	2,400	1,250	1,500	1,500	---	94	55	8.1	---
225.	TOP	Glacial (scour)	700	325	450	350	---	F	---	---	---
226.	TORRENS	Tectonic (graben)	200	200	1,800	3	---	H	---	---	---
227.	TROUT	Glacial (scour)	500	310	500	200	---	F	---	---	---
228.	TULEMALU	Glacial (scour)	425	260	320	200	---	F	---	---	---



TABLE 7, CONTINUED

No.	Name	Geological Origin	Annual Precip. (mm)	Evaporation Actual (mm)	Evaporation Potential (mm)	Annual Runoff (mm)	Transp. (m)	TDS (mg/l)	Water Quality Alkal. (mg/l)	pH	Biological Productivity Primary Fish Yield (kg/ha/yr)	Biological Productivity (gC/m <sup>2</sup> /day)
229.	TUMBA	Tectonic and Fluviatile?	1,925	1,125	1,300	500	---	18	7	4.8	---	---
230.	TUNGTING	Fluviatile (lateral damming)	---	---	---	---	---	---	---	---	---	---
231.	TUZ	Tectonic?	1,600	800	1,000	500	---	F	---	---	---	---
232.	UBINSKOE	Tectonic?	400	300	1,250	50	---	250,000	---	---	---	---
233.	ULUNGUR	Tectonic?	400	400	550	50	---	S	---	---	---	---
234.	UPEMBA	Tectonic?	400	200	900	5	---	S	---	---	---	---
235.	URMIA	Tectonic (block-faulting)	1,175	975	1,400	200	---	130	---	7.2	226	---
			300	300	1,500	50	---	230,000	---	---	---	---
236.	UVS	Tectonic?	200	200	500	20	---	S	---	---	---	---
237.	VAN	Tectonic?	400	350	1,500	500	---	22,400	---	---	---	---
238.	VANERN	Glacial (scour) and Tectonic (uplift)	900	450	550	300	---	62	11	7.4	0.12	---
239.	YATLERN	Glacial (scour) and Tectonic (uplift)	800	450	550	250	---	81	26	7.5	0.18	1.57
240.	VICTORIA	Tectonic (uplift)	1,100	900	1,475	100	---	93	45	7.8	2.64	31.5
241.	VIEDMA	Tectonic (uplift, stream damming) and Glacial (scour, damming)	1,600	350	500	2,000	---	F	---	---	---	---
242.	VYG	Glacial?	700	350	500	2,000	---	F	---	---	---	---
243.	WEISHAN	Fluviatile	800	650	1,000	200	---	F	---	---	---	---
244.	WHOLDAIA	Glacial (scour)	400	300	375	150	---	F	---	---	---	---
245.	WINNEBAGO	Glacial	1,000	700	900	250	---	F	155	---	---	---
246.	WINNIPEG	Glacial (scour)	580	425	550	100	1.4	140	---	---	---	0.58
247.	WINNIPEGOSIS	Glacial (scour)	575	425	575	50	---	F	---	---	---	0.84
248.	WOLLASTON	Glacial (scour)	425	320	450	150	6.8	35	---	7.2	---	1.90
249.	WOODS	Glacial (scour)	700	480	700	200	---	92	---	---	---	6.28
250.	YAMDROK	Tectonic	400	650	1,000	50	---	F	---	---	---	---
251.	YATHKYED	Glacial (scour)	425	275	375	200	---	F	---	---	---	---
252.	ZAYSAN	Tectonic?	300	300	800	20	---	F	---	---	---	---
253.	ZILING	Tectonic	500	275	1,000	10	---	S	---	---	---	---

\* Lake subject to large fluctuations in salinity

F - fresh  
 B - brackish  
 S - saline  
 H - hypersaline

TABLE 8. FIFTY LARGEST, GREATEST VOLUME AND DEEPEST LAKES OF THE WORLD

Area Rank	Name	Area (km <sup>2</sup> )	Volume Rank	Volume (km <sup>3</sup> )	Depth Rank	Name	Maximum Depth (m)	Area (km <sup>2</sup> )	Location <sup>1</sup> (Lakes <500 km <sup>2</sup> )
1.	CASPIAN	374,000	1.	78,200	1.	BAIKAL	1,741	31,500	
2.	SUPERIOR	82,100	2.	22,995	2.	TANGANYIKA	1,471	32,900	
3.	VICTORIA	68,460	3.	18,900	3.	CASPIAN	1,025	374,000	
4.	ARAL	64,100	4.	12,230	4.	NYASA	706	22,490	
5.	HURON	59,500	5.	6,140	5.	ISSYKKUL	702	6,240	
6.	MICHIGAN	57,750	6.	4,920	6.	GREAT SLAVE	625	28,568	
7.	TANGANYIKA	32,900	7.	3,537	7.	MATANA	590	190	Indonesia
8.	BAIKAL	31,500	8.	2,700	8.	CRATER	589	34	USA (Oregon)
9.	GREAT BEAR	31,326	9.	2,381	9.	TOBA	529	1,150	Norway
10.	GREAT SLAVE	28,568	10.	2,088	10.	HORNINDALSVATN	514	51	USSR (Tadzhikistan)
11.	ERIE	25,657	11.	1,730	11.	SAREZ	505	86	
12.	WINNIPEG	24,387	12.	1,637	12.	TAHOE	501	500	
13.	NYASA	22,490	13.	1,020	13.	CHELAN	489	140	USA (Washington)
14.	ONTARIO	19,000	14.	908	14.	KIVU	480	2,370	
15.	BALKHASH	18,200	15.	827	15.	QUESNEL	475	260	Canada (British Columbia)
16.	LADOGA	17,700	16.	569	16.	ADAMS	457	130	Canada (British Columbia)
17.	CHAD	16,600	17.	483	17.	GREAT BEAR	452	31,326	
18.	MARACAIBO	13,010	18.	480	18.	FAGNANO	449	590	
19.	PATOS	10,140	19.	371	19.	MJOSA	449	370	Norway
20.	ONEGA	9,700	20.	(319)	20.	SALSVATN	445	45	Norway
21.	RUDOLF	8,660	21.	(298)	21.	MANAPOURI	443	140	New Zealand
22.	NICARAGUA	8,150	22.	295	22.	NAHUEL HUAPI	438	530	
23.	TITICACA	8,030	23.	280	23.	DEAD	433	1,020	
24.	ATHABASCA	7,935	24.	251	24.	TAZAWA	425	26	Japan
25.	REINDEER	6,640	25.	249	25.	COMO	413	150	Italy
26.	ISSYKKUL	6,240	26.	(206)	26.	SUPERIOR	407	82,100	
27.	TUNGTING	6,000	27.	204	27.	HAWEA	392	120	New Zealand
28.	URMIA	5,800	28.	188	28.	MAGGIORE	372	210	Italy, Switzerland
29.	VANERN	5,648	29.	176	29.	CHILKO	366	160	Canada (British Columbia)
30.	ALBERT	5,590	30.	(175)	30.	PEND OREILLE	366	380	USA (Idaho)
31.	NETILLING	5,530	31.	(169)	31.	SHIKOTSU	363	77	Japan
32.	WINNIPEGOSIS	5,375	32.	153	32.	POWELL	358	190	Canada (British Columbia)
33.	BANGWEULU	4,920	33.	151	33.	LLANQUIHUE	350	800	
34.	NIPIGON	4,848	34.	(125)	34.	GARDA	346	370	Canada (British Columbia)
35.	MANITOBA	4,625	35.	124	35.	TOWADA	334	59	Italy
36.	TAYMYR	4,560	36.	(113)	36.	TELETSKOYE	325	230	Japan
37.	KOKO	4,460	37.	112	37.	EUTSUK	323	270	USSR (Russia)
									Canada (British Columbia)

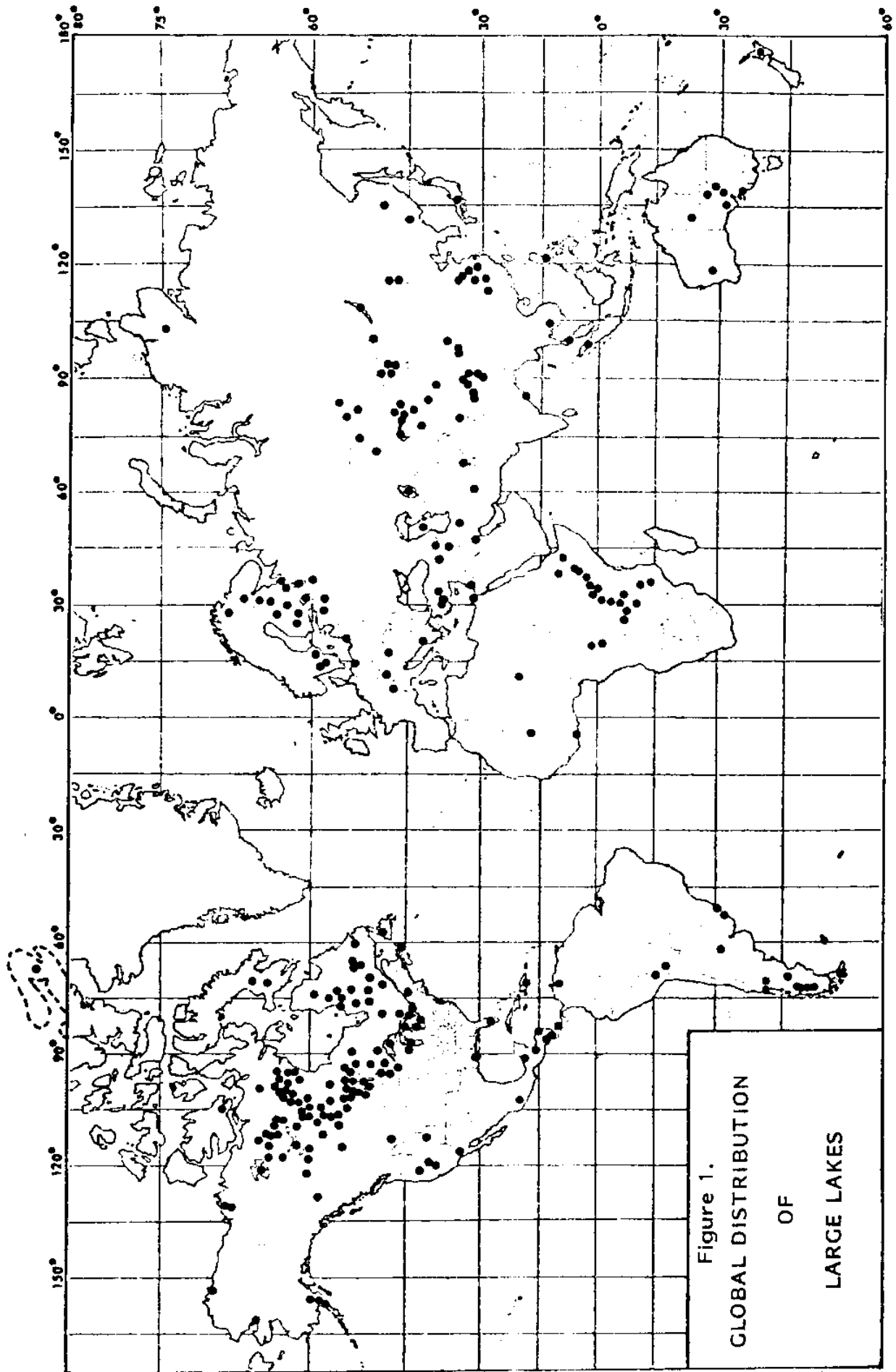
TABLE 8, CONTINUED

Area Rank	Name	Area (km <sup>2</sup> )	Volume Rank	Name	Volume (km <sup>3</sup> )	Depth Rank	Name	Maximum Depth (m)	Area (km <sup>2</sup> )	Location (Lakes 500 km <sup>2</sup> )
38.	KYOGA	4,430	38.	NICARAGUA	108	38.	ORAR	310	26	UK (Scotland)
39.	SAIMAA	4,380	39.	REINDEER	96	39.	GENEVA	310	580	
40.	GREAT SALT	4,360	40.	GENEVA	89	40.	KURILE	306	77	USSR (Russia)
41.	WOODS	4,350	41.	EDWARD	78	41.	WALKER	305	280	USA (Nevada)
42.	MWERU	4,350	42.	VATTERN	74	42.	TITICACA	304	8,030	
43.	PEIPIUS	4,300	43.	SAN MARTIN	(68)	43.	ARGENTINO	300	1,410	
44.	KHANKA	4,190	44.	MICHIKAMUA	(67)	44.	ILIAMINA	299	2,590	
45.	DUBAWNT	3,833	45.	ATLIN	67	45.	TYRIFJORDEN	295	130	Norway
46.	MIRIM	3,750	46.	KOKO	(62)	46.	LUGANO	288	49	Italy, Switzerland
47.	VAN	3,740	47.	SAIMAA	61	47.	TAKLA	287	240	Canada (British Columbia)
48.	TANA	3,600	48.	TAUPO	59	48.	OHRID	286	360	Albania, Yugoslavia
49.	UVS	3,350	49.	ALAKOL	57	49.	ATLIN	283	774	
50.	POYANG	3,350	50.	CHAMPLAIN	(54)	50.	NUYAKUK	283	170	USA (Alaska)

1. Location of lakes >500 km<sup>2</sup> given in Table 1

( ) Estimated

**FIGURES**



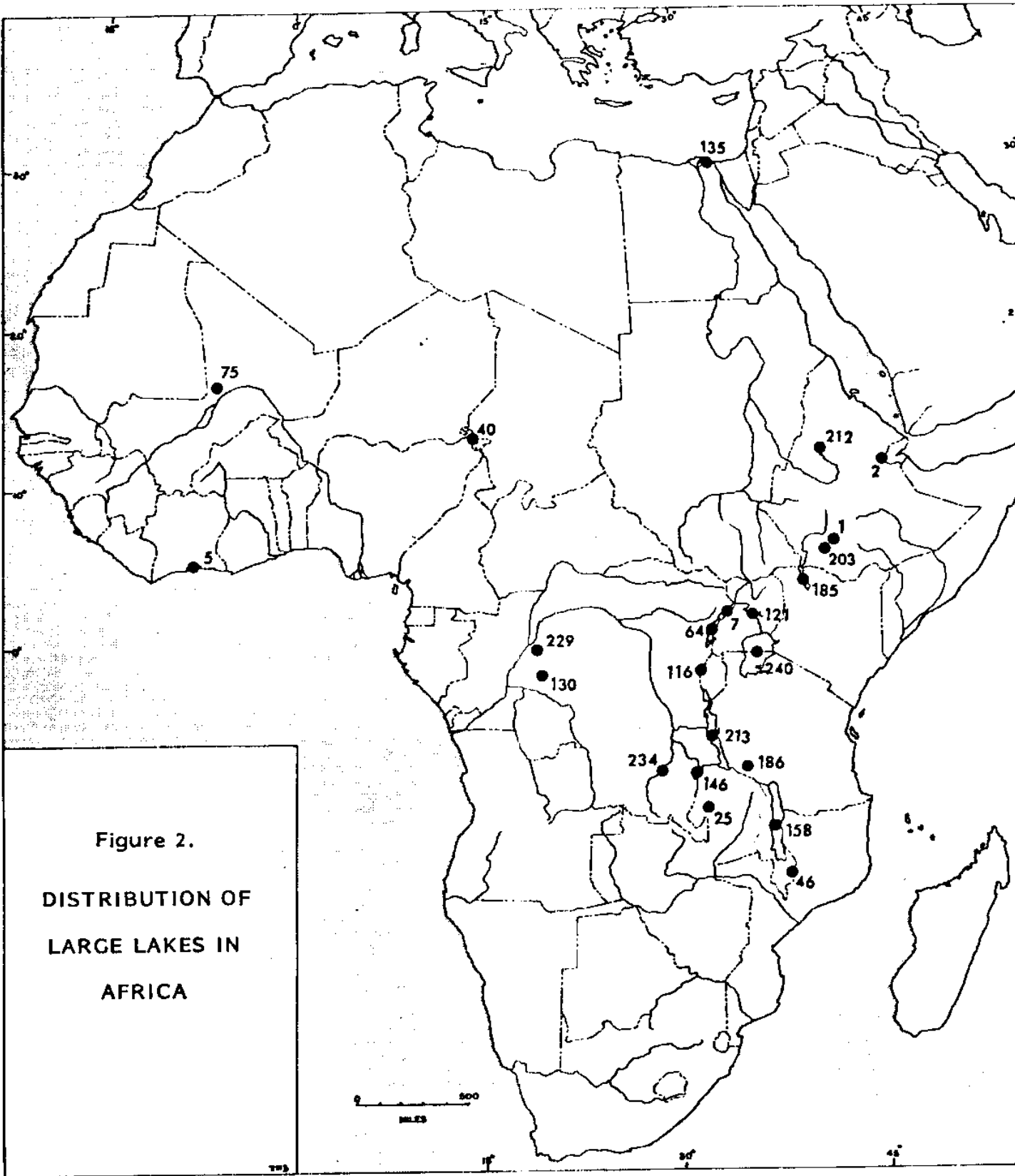
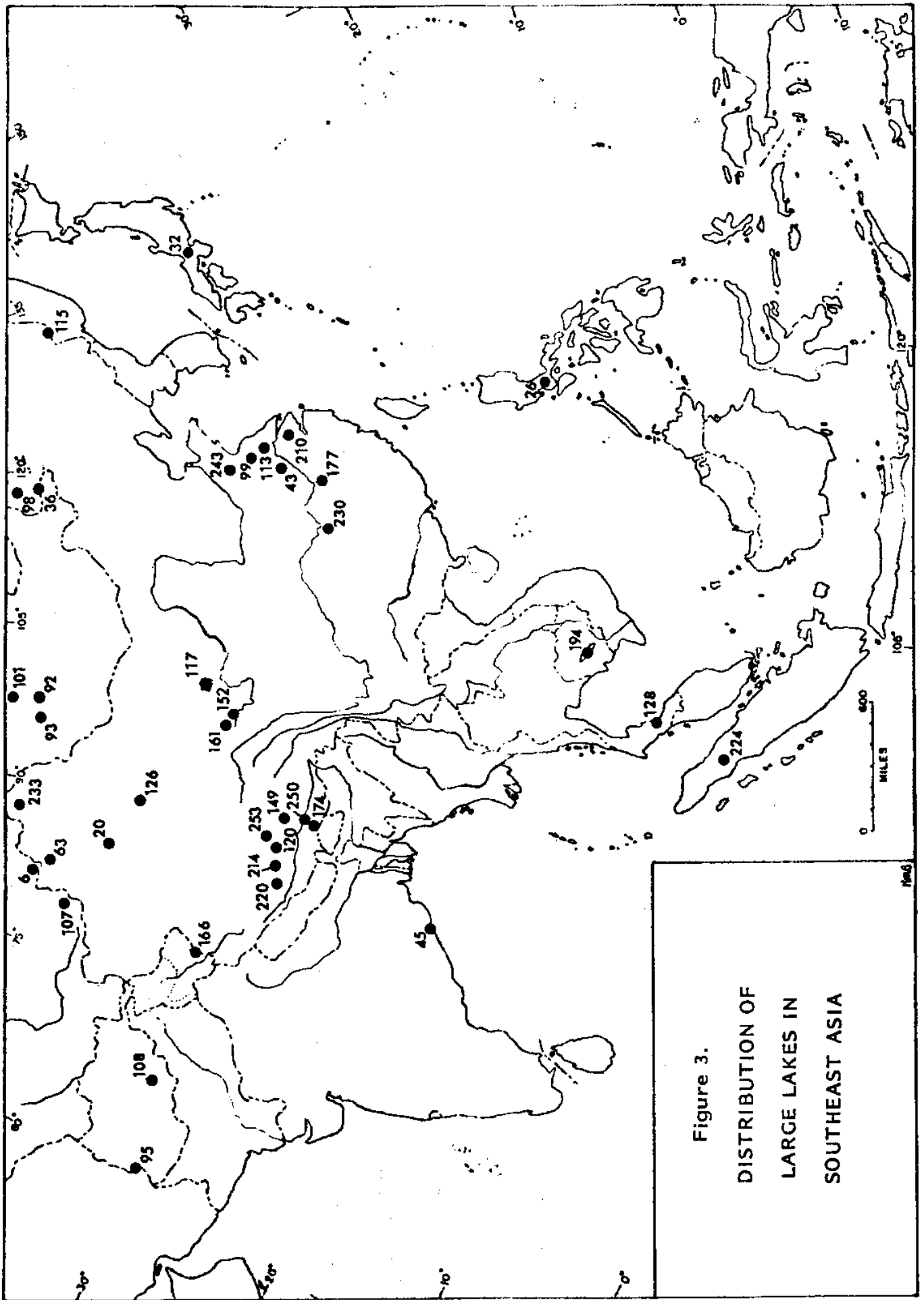
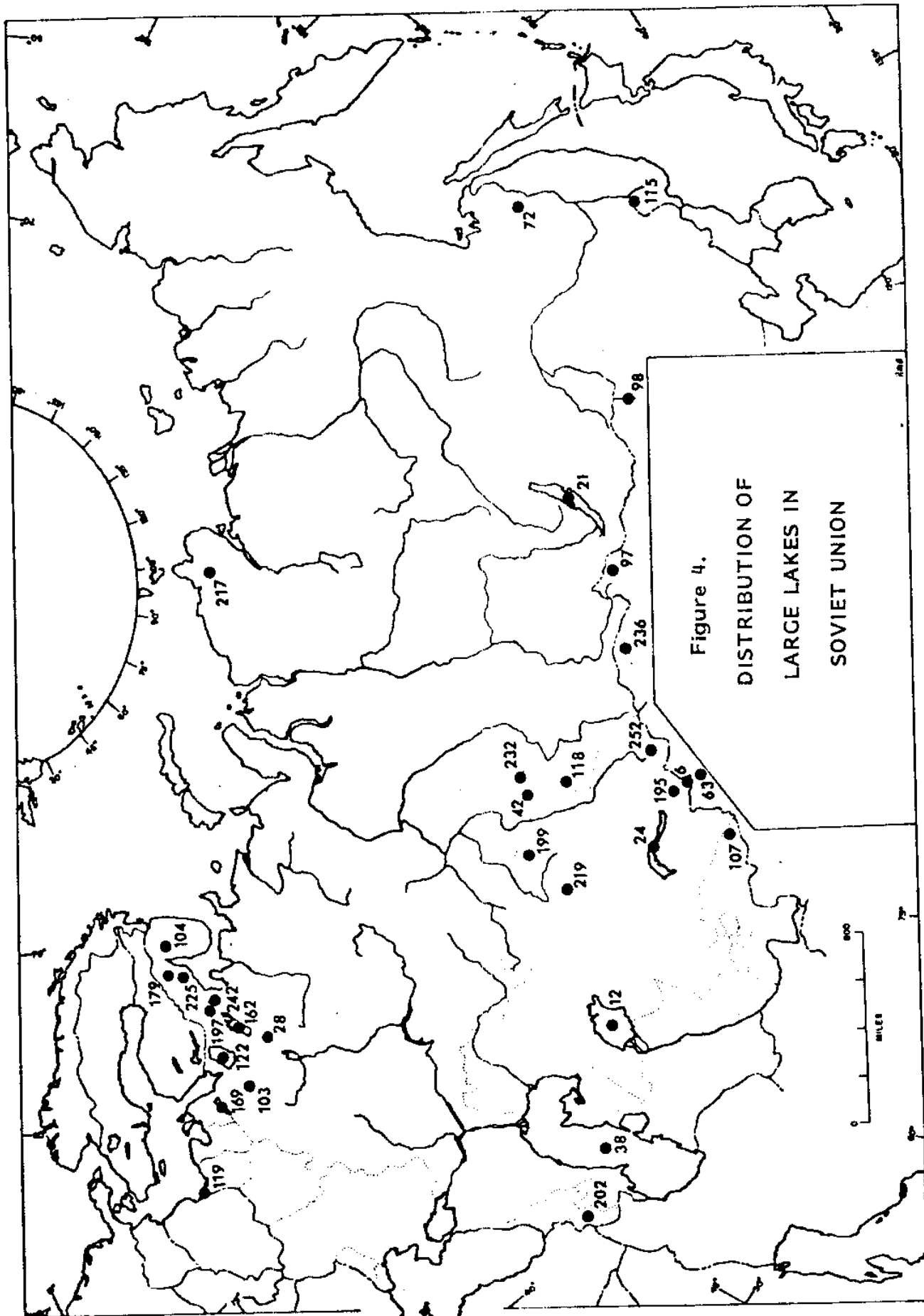


Figure 2.  
 DISTRIBUTION OF  
 LARGE LAKES IN  
 AFRICA







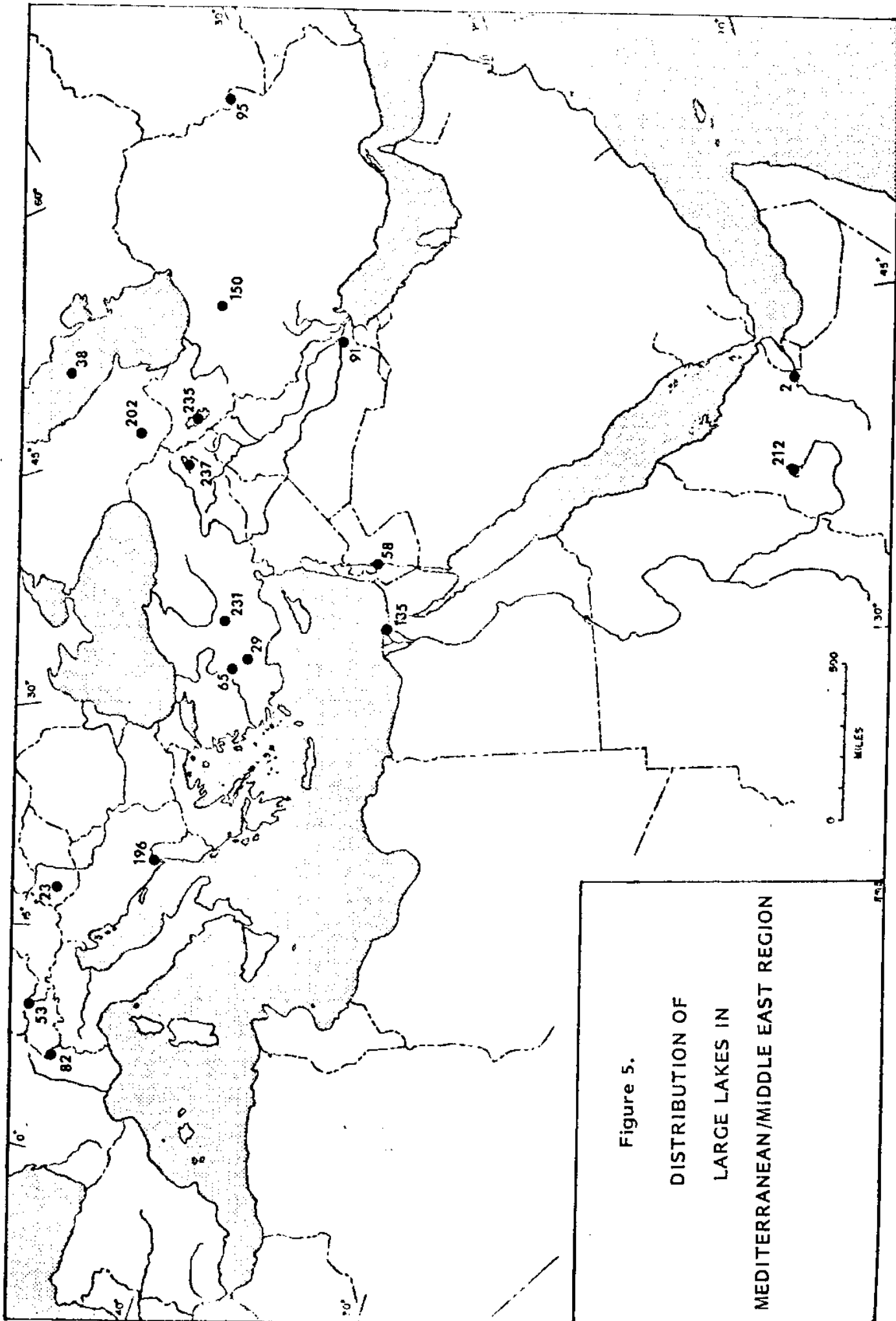


Figure 5.  
 DISTRIBUTION OF  
 LARGE LAKES IN  
 MEDITERRANEAN/MIDDLE EAST REGION

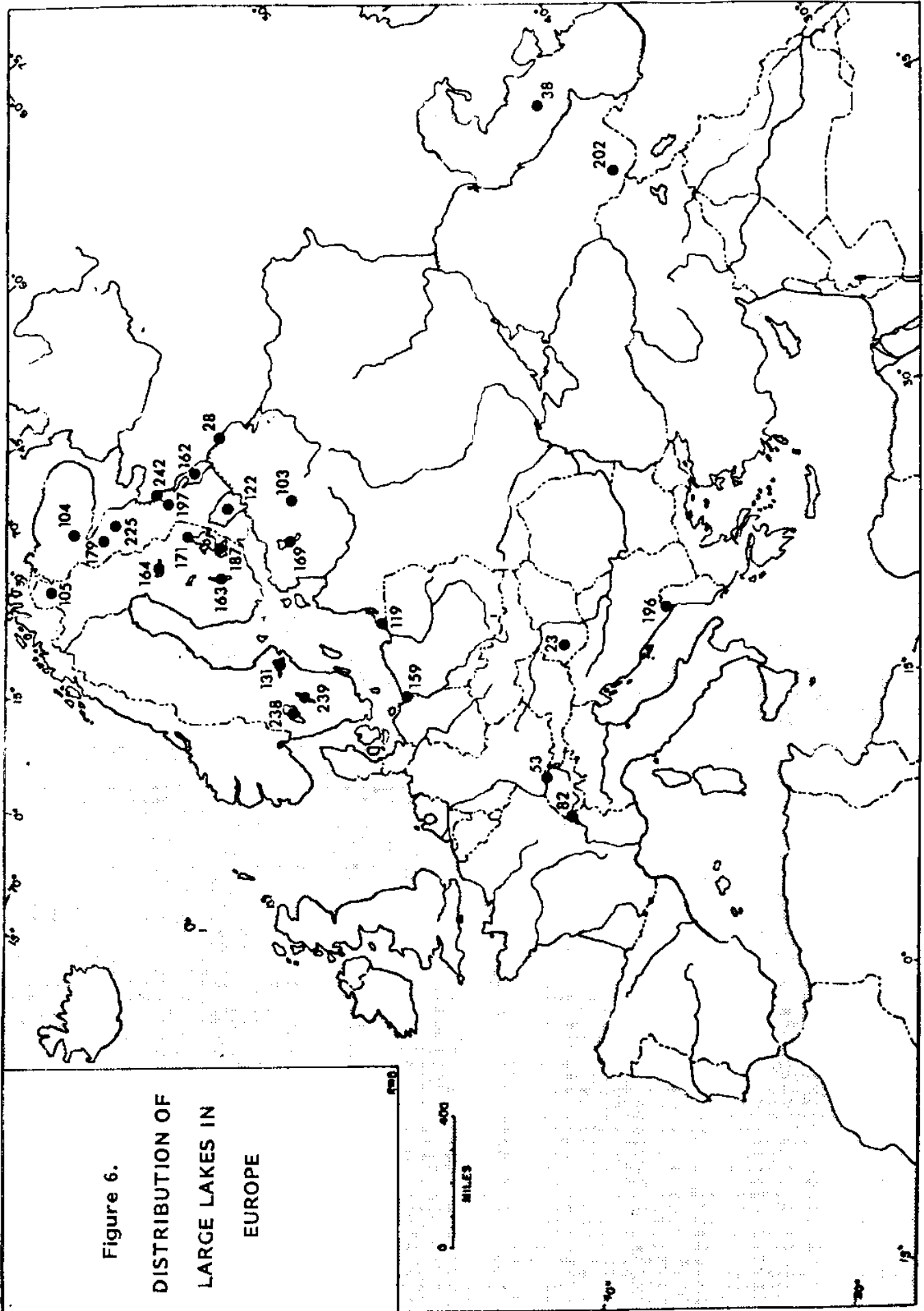


Figure 6.  
 DISTRIBUTION OF  
 LARGE LAKES IN  
 EUROPE

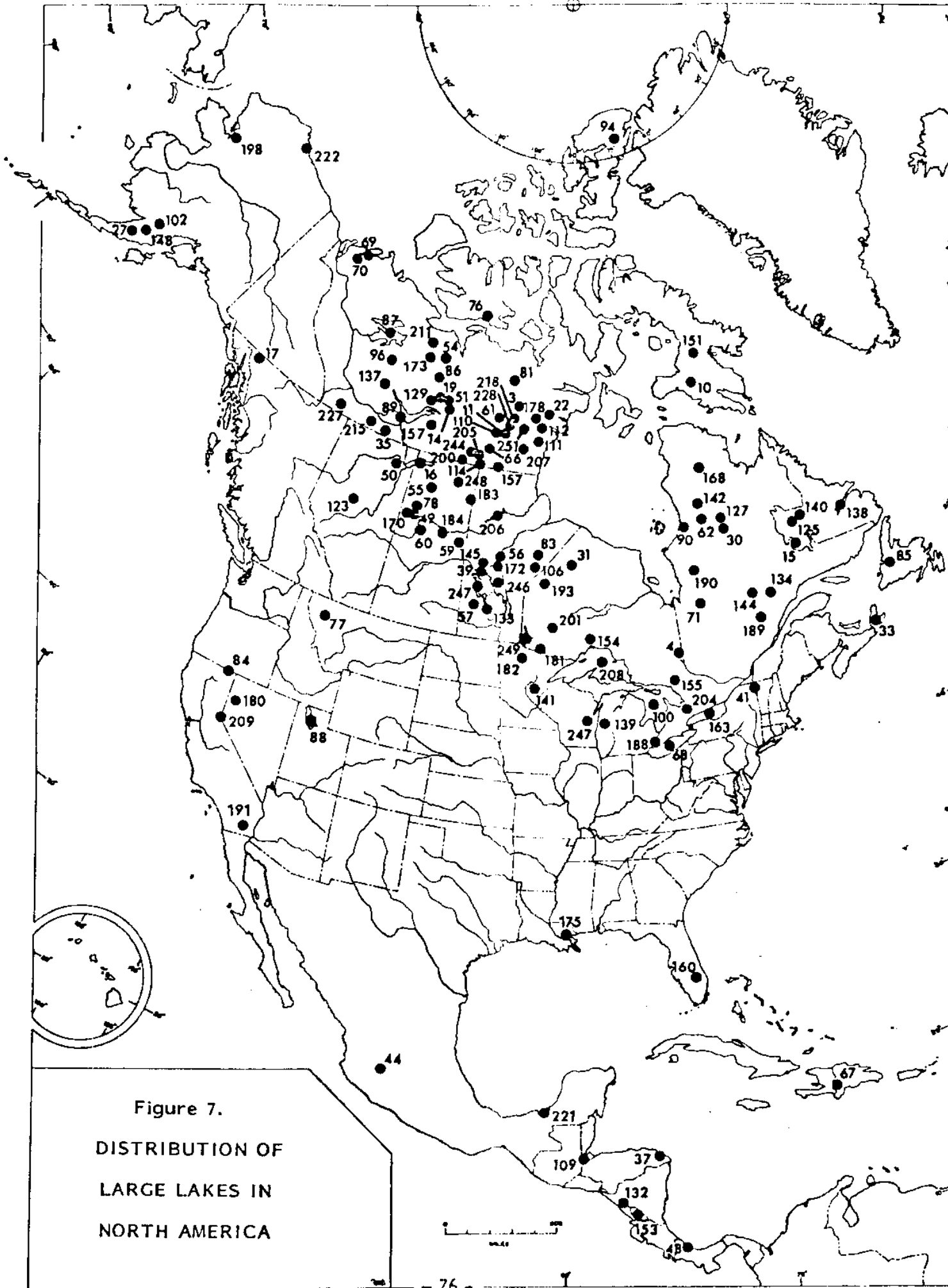


Figure 7.  
 DISTRIBUTION OF  
 LARGE LAKES IN  
 NORTH AMERICA

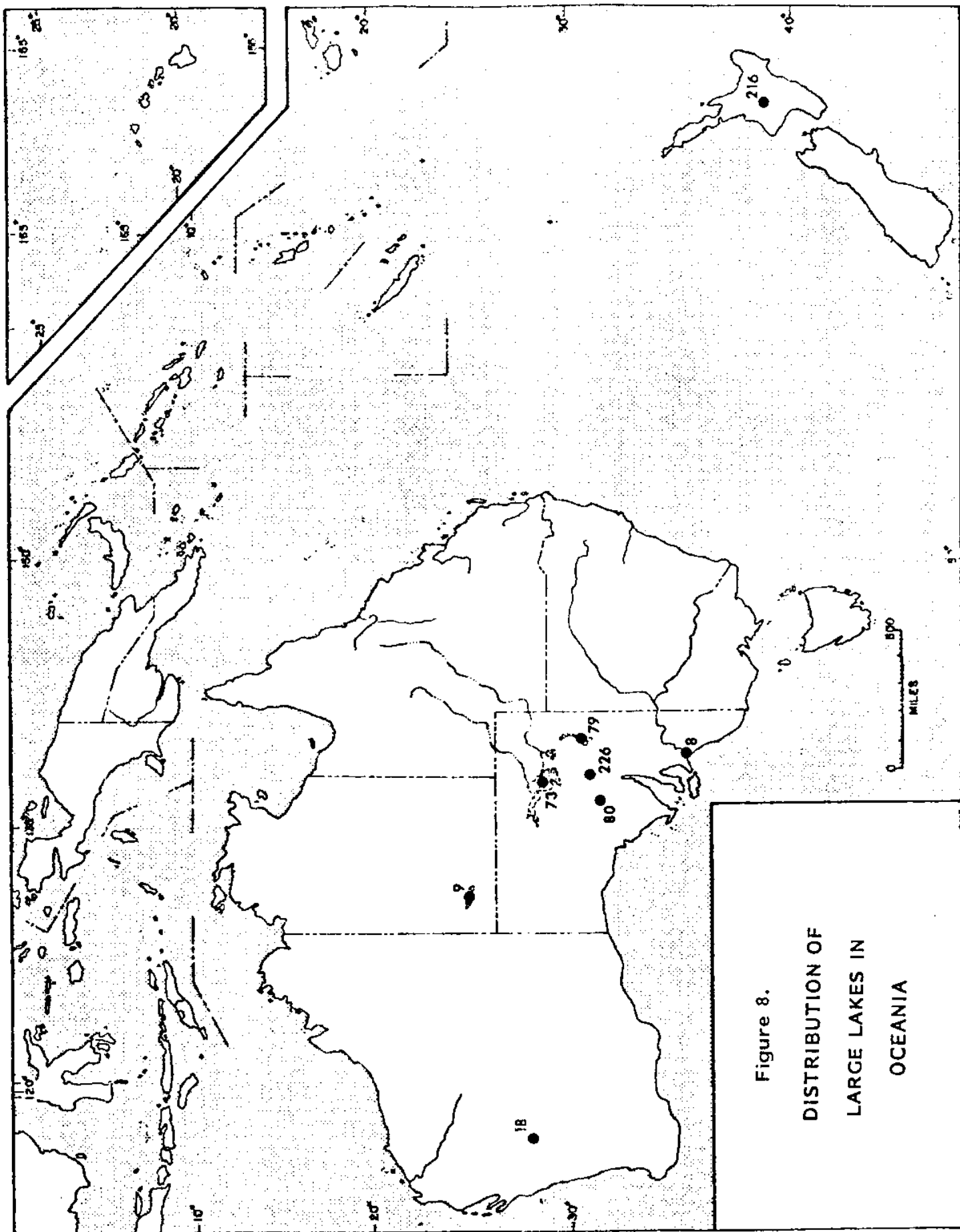


Figure 8.  
 DISTRIBUTION OF  
 LARGE LAKES IN  
 OCEANIA

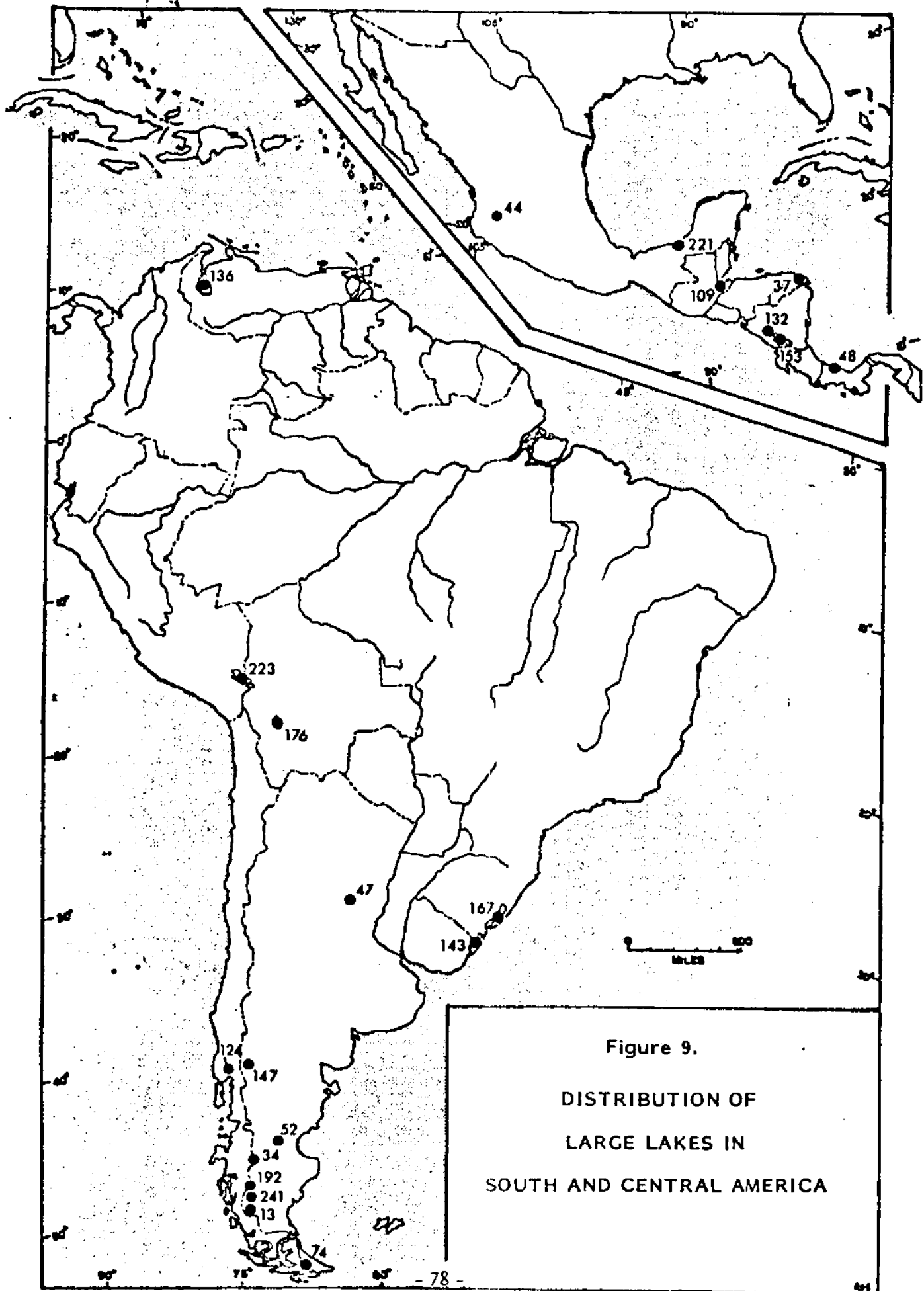


Figure 9.  
 DISTRIBUTION OF  
 LARGE LAKES IN  
 SOUTH AND CENTRAL AMERICA

