

# EIR Physical Economy Survey

## Statistical survey of world land use

by the Editors

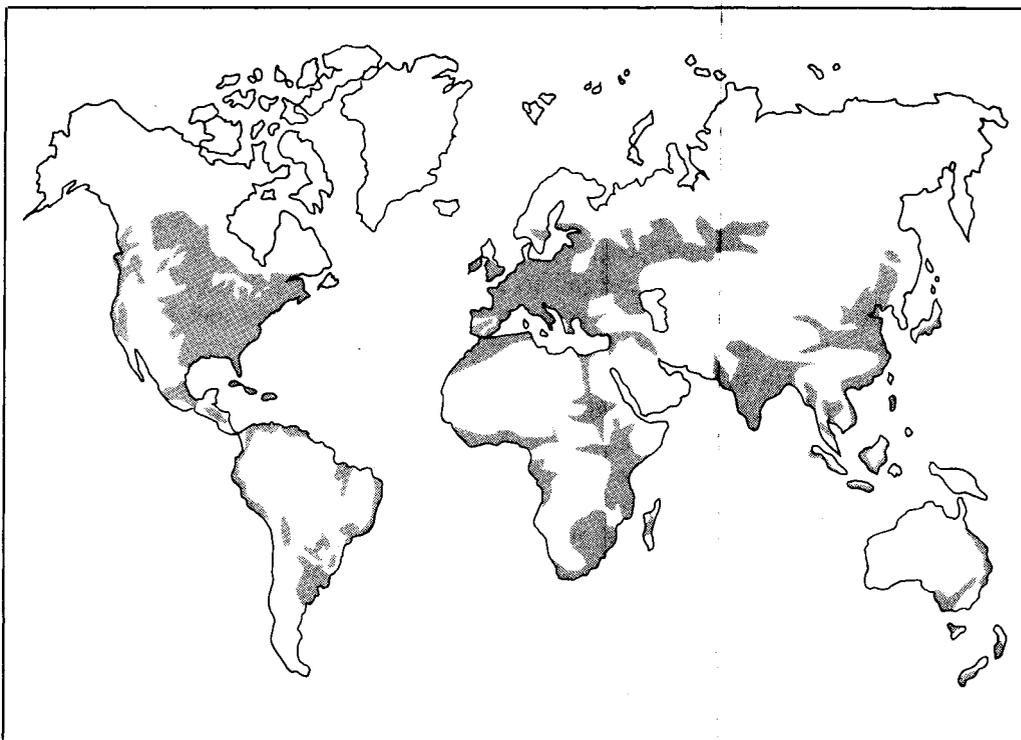
We are initiating, with this issue of our magazine, a new feature, *EIR's* Statistical Survey of Physical Economy. The survey is designed to meet several needs that are encountered among several classes of our readers.

Chief among them is this. The world financial system is truly bankrupt. More than \$22 trillion of debt and speculation, and another nearly \$6 trillion in "contingent liabilities" of the U.S. government, have been accumulated on the back

of the dollar credit sector alone. The claims generated by the combination of debt and speculative activity during any one quarter exceed the economy's annual production of new wealth. The debt and speculative claims are unserviceable, fictitious; they are in the process of collapsing under the general deflation triggered last Sept. 15 with the development of the Canadian "developer" Robert Campeau.

So far, the Anglo-American financial establishment con-

FIGURE 1  
Arable land



Source: *Oxford Economic Atlas*

TABLE 1  
**Land survey 1985**  
 (thousands of hectares)

	Area	Land area	Water surface
World	13,392,215.0	13,077,440.0	314,775.0
North America	1,933,926.0	1,834,777.0	99,149.0
Ibero-America	2,055,218.0	2,020,050.0	35,168.0
Central America and Caribbean	273,367.0	266,596.0	6,771.0
South America	1,781,851.0	1,753,454.0	28,397.0
Europe	487,084.0	472,778.0	14,306.0
Western Europe	385,177.0	373,104.0	12,073.0
Eastern Europe	101,907.0	99,674.0	2,233.0
Eastern Europe and U.S.S.R.	2,342,127.0	2,326,874.0	15,253.0
U.S.S.R.	2,240,220.0	2,227,200.0	13,020.0
Africa	3,033,103.0	2,966,447.0	66,656.0
Asia	2,757,496.0	2,679,071.0	78,425.0
India	328,759.0	297,319.0	31,440.0
China	959,696.0	932,641.0	27,055.0
Oceania	850,969.0	842,919.0	8,050.0

Source: United Nations Food and Agricultural Organization

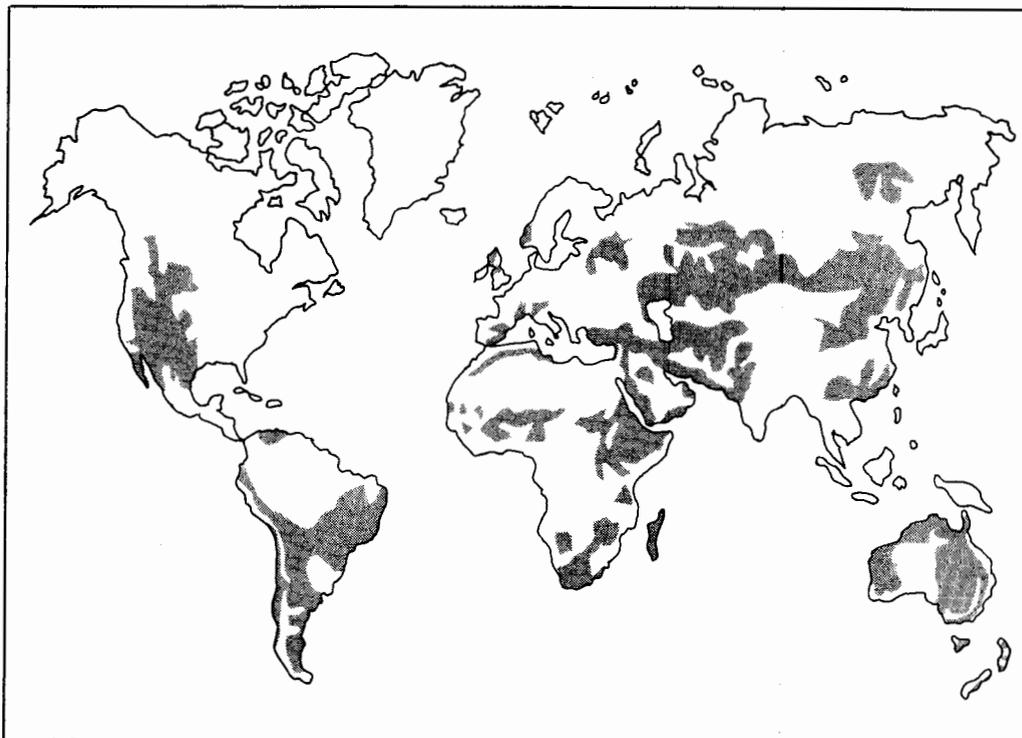
tinues to insist that its Bush administration can do the job, and keep the collapse in progress "under control." This is no more true now than it was when King Canute ordered the

TABLE 2  
**Potential cropland**  
 (millions of hectares)

	Source	
	FAO Agriculture Towards 2000	Global 2000 Council on Environmental Quality
World	4,139.7	
North America		
Ibero-America	889.6	611.5
Central America and Caribbean	74.5	
South America	815.1	
Europe		564.6
Western Europe		225.1
Eastern Europe		114.4
Eastern Europe and U.S.S.R.		666.9
U.S.S.R.		552.5
Africa	840.7	
Asia (excluding China)	412.5	
India	169.0	
China		217.5
Oceania		
Major Exporters (U.S.A., Canada, South Africa, Argentina, Australia)		784.5

Source: United Nations Food and Agricultural Organization

FIGURE 2  
**Pasture land**



Source: Oxford Economic Atlas

TABLE 3

**Agricultural land**

(thousands of hectares)

	1960	1965	1970	1975	1980	1985
World	4,173,414.0	4,514,968.0	4,586,527.0	4,622,632.0	4,629,406.0	4,634,838.0
North America	491,429.0	493,518.0	498,850.0	496,868.0	497,183.0	504,162.0
Ibero-America	622,329.0	653,155.0	671,369.0	695,922.0	717,284.0	728,824.0
Central America	123,141.1	131,861.0	126,916.0	128,511.0	130,014.0	131,905.0
South America	499,187.9	521,294.0	544,453.0	567,411.0	587,270.0	596,919.0
Europe	203,075.0	236,958.0	234,814.0	229,828.0	227,214.0	225,200.0
Western Europe	148,517.7	159,949.0	172,818.0	168,370.0	166,086.0	150,219.0
Eastern Europe	54,557.0	77,009.0	61,996.0	61,458.0	61,128.0	74,981.0
Eastern Europe and U.S.S.R.	646,059.0	679,146.0	668,805.0	665,665.0	666,794.0	680,845.0
U.S.S.R.	591,502.1	602,137.0	606,809.0	604,207.0	605,666.0	605,864.0
Africa	858,133.7	947,403.0	954,384.0	961,362.0	965,380.0	966,076.0
Asia	1,016,693.7	1,101,612.0	1,110,581.0	1,119,003.0	1,104,507.0	1,100,048.0
India	174,692.4	177,143.0	178,050.0	180,858.0	181,130.0	180,450.0
China	390,130.0	390,130.0	388,195.0	386,317.0	386,097.0	386,580.0
Oceania	477,423.1	499,809.0	509,482.0	515,204.0	511,934.0	504,662.0

Source: United Nations Food and Agricultural Organization

waves to stop rolling in toward the shore.

Whether establishment and government are yet prepared to face the matter or not, the question to be faced is, what kind of economics will succeed their doomed usurious system? What kind of actual economic problems will have to be solved, worldwide, after their system of usury destroys itself?

Statistics are, of course, in and of themselves an inferior form. Counting arrays of objects is a very limited form of activity. And, the reliability of the numbers is always open to question. Nevertheless, we are providing form, from the data bases of various international institutions, a selection of data, which will, no doubt, be found to be useful—useful in that such data will help to shift thinking

TABLE 4

**Arable land**

(thousands of hectares)

	1960	1965	1970	1975	1980	1985
World	1,333,035.5	1,351,963.0	1,412,822.0	1,433,917.0	1,461,336.0	1,474,992.0
North America	218,843.3	220,386.0	232,400.0	231,578.0	235,794.0	236,462.0
Ibero-America	130,436.9	137,219.0	145,537.0	156,762.0	170,875.0	177,056.0
Central America	31,379.3	34,034.0	34,513.0	35,483.0	36,311.0	37,549.0
South America	99,057.6	103,185.0	111,024.0	121,279.0	134,564.0	139,507.0
Europe	134,907.0	133,126.0	146,008.0	142,145.0	140,865.0	140,133.0
Western Europe	93,223.1	91,936.0	99,299.0	95,862.0	95,025.0	86,657.0
Eastern Europe	41,684.0	41,190.0	46,709.0	46,283.0	45,840.0	53,476.0
Eastern Europe and U.S.S.R.	262,943.0	284,855.0	279,518.0	278,490.0	277,806.0	285,740.0
U.S.S.R.	221,258.1	229,283.0	232,809.0	232,207.0	231,966.0	232,264.0
Africa	168,053.8	161,435.0	169,110.0	175,858.0	180,997.0	184,037.0
Asia	428,080.5	437,263.0	443,474.0	451,435.0	455,036.0	455,629.0
India	161,080.0	162,379.0	165,060.0	168,010.0	169,130.0	168,550.0
China	104,440.0	104,440.0	102,505.0	100,627.0	100,407.0	100,890.0
Oceania	29,545.0	39,029.0	43,481.0	43,929.0	45,800.0	49,411.0

Source: United Nations Food and Agricultural Organization

TABLE 5

**Pasture and grazing land**

(thousands of hectares)

	1960	1965	1970	1975	1980	1985
World	2,840,378.5	3,163,005.0	3,173,705.0	3,188,715.0	3,168,070.0	3,159,846.0
North America	272,585.7	273,132.0	266,450.0	265,290.0	261,389.0	267,700.0
Ibero-America	491,892.0	515,936.0	525,832.0	539,160.0	546,409.0	551,768.0
Central America	91,761.7	97,827.0	92,403.0	93,028.0	93,703.0	94,356.0
South America	400,130.3	418,109.0	433,429.0	446,132.0	452,706.0	457,412.0
Europe	68,167.0	80,890.0	88,806.0	87,683.0	86,349.0	85,067.0
Western Europe	55,294.6	68,013.0	73,519.0	72,508.0	71,061.0	63,562.0
Eastern Europe	12,872.0	12,885.0	15,287.0	15,175.0	15,288.0	21,505.0
Eastern Europe and U.S.S.R.	383,116.0	394,291.0	389,287.0	387,175.0	388,988.0	395,105.0
U.S.S.R.	370,244.0	372,854.0	374,000.0	372,000.0	373,700.0	373,600.0
Africa	690,079.9	785,968.0	785,274.0	785,504.0	784,383.0	782,039.0
Asia	588,613.2	664,349.0	667,107.0	667,568.0	649,471.0	644,419.0
India	13,612.4	14,764.0	12,990.0	12,848.0	12,000.0	11,900.0
China	285,690.0	285,690.0	285,690.0	285,690.0	285,690.0	285,690.0
Oceania	447,878.2	460,780.0	466,001.0	471,275.0	466,134.0	455,251.0

Source: United Nations Food and Agricultural Organization

away from the so-called "economics" of money prices and money costs, the collapsing monetarist economics, toward the considerations of physical economy, land cultivation and use, water management and availability, population and demographics, employment, power availability and use, pro-

duction, and consumption of agricultural and industrial commodities.

The statistical tables provided will be accompanied by illustrative maps and charts. Some readers may find such useful, for example as the series proceeds, for the preparation

FIGURE 3  
**Forested land**

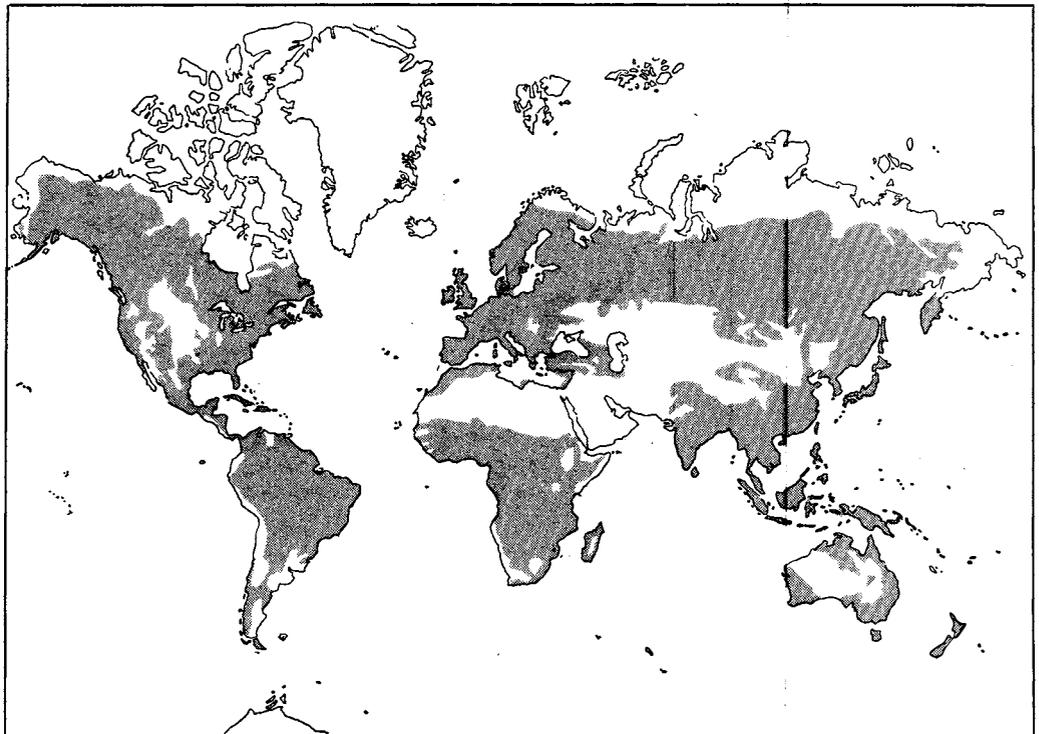
Source: World Resources Institute, *World Resources 1986*

TABLE 6

**Forests**

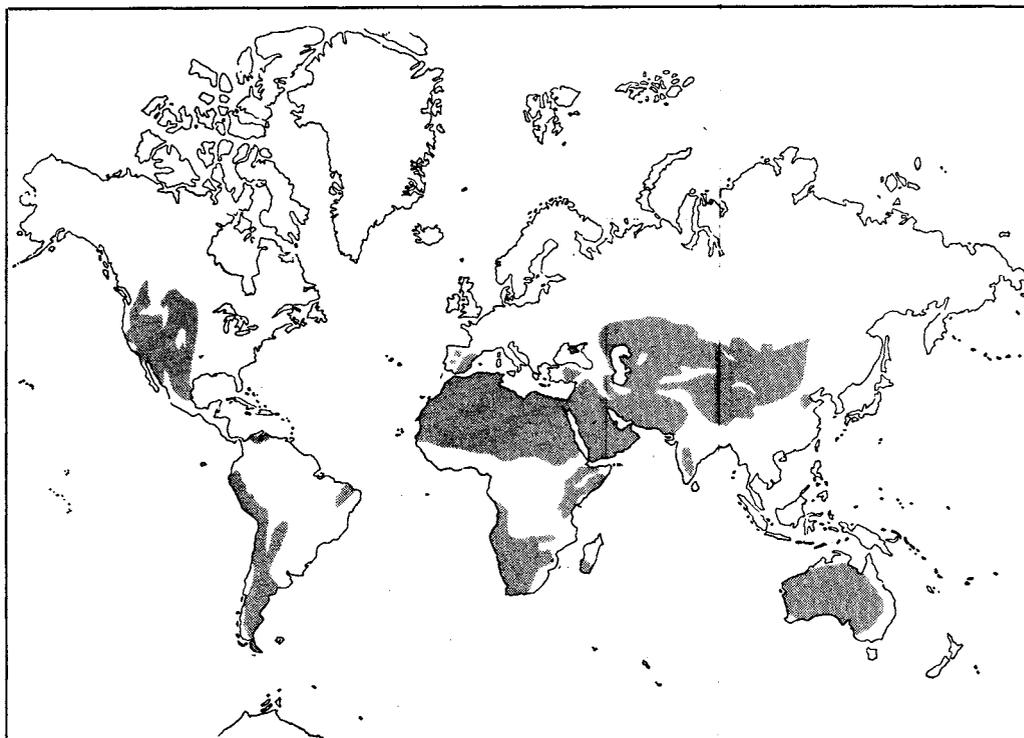
(thousands of hectares)

	1960	1965	1970	1975	1980	1985
World	4,273,111.7	3,967,606.0	4,214,627.0	4,173,760.0	4,097,839.0	4,363,578.0
North America	578,363.0	615,935.0	615,900.0	616,771.0	610,593.0	519,317.0
Ibero-America	964,841.7	940,899.0	1,062,454.0	1,040,621.0	1,013,472.0	991,491.0
Central America	139,405.8	85,525.0	81,266.0	77,134.0	72,596.0	68,757.0
South America	825,435.9	855,374.0	981,188.0	963,487.0	940,876.0	922,734.0
Europe	144,351.0	144,236.0	150,137.0	153,494.0	155,106.0	155,260.0
Western Europe	104,363.0	103,844.0	121,451.0	124,528.0	125,855.0	116,703.0
Eastern Europe	39,988.0	40,392.0	28,686.0	28,966.0	29,251.0	38,557.0
Eastern Europe and U.S.S.R.	868,717.0	897,403.0	948,686.0	948,966.0	949,251.0	967,557.0
U.S.S.R.	828,729.6	857,011.0	920,000.0	920,000.0	920,000.0	929,000.0
Africa	787,593.6	640,320.0	729,084.0	711,984.0	696,880.0	695,388.0
Asia	548,356.1	553,895.0	554,682.0	548,755.0	551,550.0	528,416.0
India	56,440.0	60,819.0	66,040.0	65,617.0	67,480.0	67,327.0
China	107,884.0	107,884.0	111,524.0	115,124.0	121,465.0	134,532.0
Oceania	121,854.3	188,629.0	182,358.0	182,123.0	150,226.0	157,694.0

Source: United Nations Food and Agricultural Organization

of class or lecture material. Others may, in different circumstances, be more interested in what can be assessed from such data as to investment and other opportunities that ought to be coming up, in light of what can be assessed about the world's requirements. The data tables are available to

subscribers, for a small charge, on computer diskette. This way owners of personal computers can build up their own data files, and use software, such as the Lotus 1-2-3® spreadsheet package, to do their own manipulations of the numbers, as the series proceeds. Readers who are interested in such a

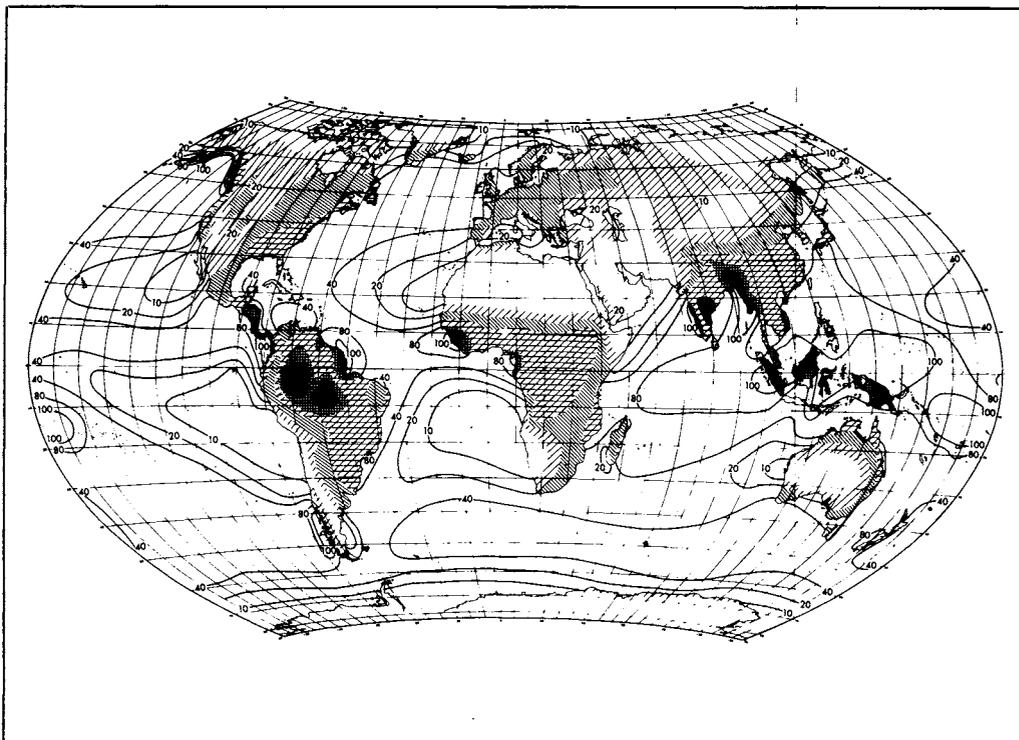
FIGURE 4  
**Dry land**Source: World Resources Institute, *World Resources 1988-89*

**FIGURE 5**  
**Annual worldwide precipitation**

Precipitation (inches)

- Under 10
- ▨ 10 to 20
- ▩ 20 to 40
- ▧ 40 to 80
- ▦ 80 to 100
- Over 100

Source: U.S. Department of Commerce, 1969



service should address their inquiries to the Special Services director Richard Freeman.

This first part of the series presents data on land usage. The data is organized by world, and by major continental

grouping: North America, which includes the U.S. and Canada; Ibero-America, including also the islands of the Caribbean; Europe, including Western Europe, as well as the newly liberated former satellites of Russia; the U.S.S.R.; Africa;

**FIGURE 6**  
**Major rivers and drainage basins**

- Drainage basin boundary
- River

Source: World Resources Institute, *World Resources 1988-89*



TABLE 7

**Precipitation, evaporation, and runoff**

	Precipitation	Runoff	Evaporation
North America*	11,093	4,917	6,236
Ibero-America*	32,172	11,423	20,689
Central America and Caribbean	2,817	1,043	1,714
South America	29,355	10,380	18,975
Western Europe*	2,740	1,531	1,209
Eastern Europe Only	922	276	646
Eastern Europe and U.S.S.R.*	15,122	4,629	10,493
Africa*	20,780	4,225	16,555
Asia (including Turkey, Cyprus)*	20,996	8,982	12,014
India	3,862	1,673	2,189
China	6,238	2,687	3,551
Oceania*	6,405	1,965	4,440
World	110,303	38,830	71,475
Total from above	109,308	37,672	71,636
Difference	-995	-1,158	161
Error	-0.90%	-2.98%	0.23%

\* Items Included in total  
Difference = Calculated total - World

Source: Frits van der Lede, *Water Resources of the World*

Asia; and Oceania, including Pacific islands and territories. Subcontinental-level regional groupings are included. The data are tabulated in five yearly intervals from 1960 to 1985.

TABLE 8

**Estimated world water supply and budget**

Water item	000 km <sup>3</sup> volume	% of water total
Water in land areas:		
Fresh water lakes	125.00	0.0090%
Saline lakes and inland seas	104.00	0.0080%
Rivers (average instantaneous volume)	1.25	0.0001%
Soil and vadose water	67.00	0.0050%
Ground water to depth of 4,000 m (about 13,100 ft.)	8,350.00	0.6100%
Icecaps and glaciers	29,200.00	2.1400%
Total in land area (rounded)	37,800.00	2.8000%
Atmosphere	13.00	0.0010%
World ocean	1,320,000.00	97.3000%
Total, all items (rounded)	1,360,000.00	100%
Annual evaporation:		
From world ocean	350.00	0.0250%
from land areas	70.00	0.0050%
Total Annual precipitation <sup>1</sup> :	420.00	0.0310%
On world ocean	320.00	0.0240%
On land areas	100.00	0.0070%
Total	420.00	0.0310%
Annual runoff to oceans from rivers and icecaps	38.00	0.0030%
Groundwater outflow to oceans <sup>2</sup>	1.60	0.0001%
Total	39.60	0.0031%

## Notes:

1. Evaporation (420,000 km<sup>3</sup>) is a measure of total water participating annually in the hydrologic cycle.
2. Arbitrarily set equal to about 5% of surface runoff.

Source: Nace, U.S. Geological Survey, 1967

TABLE 9

**Worldwide stable runoff, by continent**

	Stable runoff (km <sup>3</sup> ) <sup>1</sup>				Total river runoff <sup>2</sup>	Total stable runoff as % of total runoff
	Of underground origin	Regulated by lakes	Regulated by water reservoirs	Total		
Europe	1,065	60	200	1,325	3,110	43
Asia	3,410	35	560	4,005	13,190	30
Africa	1,465	40	400	1,905	4,225	45
North America	1,740	150	490	2,380	5,960	40
South America	3,740		160	3,900	10,380	38
Australia <sup>3</sup>	465		30	495	1,965	25
Total <sup>4</sup>	11,885	285	1,840	14,010	38,830	36

## Notes

1. Excluding flood flows.
2. Including flood flows.
3. Including Tasmania, New Guinea, and New Zealand.
4. Except polar zones.

Source: Lvovitch, M.I., *Eos*, Vol. 54, No. 1, Jan. 1973, © American Geophysical Union