

GLIMS Workshop, Perugia

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A wide-angle photograph of a massive glacier flowing through a mountain valley. The glacier is the central focus, showing distinct longitudinal stripes of moraine material. In the background, several jagged mountain peaks are covered in snow and partially shrouded in mist. The sky is a pale blue with wispy white clouds. The overall scene is a high-altitude, alpine environment.

Where does the World Glacier Inventory stands today?

Glacier Area and Volume in km ² and km ³											
Region and Country	Number Gls.	Area in 1989 WGMS publ.	Area in WGI km2	D/L	Volume in WGI km3	Mean depth m	Est.tot.Vol. km3	Area National Report	Volum Equation	WGMSBest area est km2	
South America											
Tierra del Fuego, PIF	244	21200	1221.7	0.058	201.031	165	3488.465 ?			21200	Chile south of 46 S, 47.0 to 47.8 S only
Argentina north of 47.5 S	2350	1385	863.11	0.623	43.396	50	69.636 ?			1385	only north of 43 S in WGI
Chile north of 46 S	1050	743	756.8	1.000	39.603	52	39.603			756.8	
Bolivia	1697	566	509.5	1.000	17.020	33	17.020			509.5	
Peru	1679	1780	1131.1	0.635	41.621	37	65.499 ?			1780	
Equador	114	120	110.8	1.000	3.538	32	3.538			110.8	
Columbia	106	111	18.61	0.168	0.478	26	2.851 ?			111	
Venezuela	7	3	2.51	1.000	0.079	31	0.079			2.51	
Middle and North America											
Mexico		11		0.000			183	2.013 ?		11	
USA (with Alaska)	2592	75283	12658	0.168	3360.922	266	19988.963 ?			75283	
Canada	15054	200806	36405	0.181	5739.357	158	31657.666 ?			200806	
Africa	60	10	10.85	1.000	0.221	20	0.221			10.85	
Europe											
Iceland		11260	11200	1.000			326	3650.000		11200	H. Björnsson
Svalbard	895	36612	33666	1.000	7656.075	227	7656.075			33666	
Scandinavia (with Jan Mayen)	2410	3174	3058	1.000	167.336	55	167.336			3058	
Alps	5426	2909	3059.71	1.000	146.076	48	146.076			3059.71	
Pyrenees	108	12	11.43	1.000	0.182	16	0.182			11.43	
Ex-USSR and Asia											
Ex-USSR	20908	77223	82128	1.000	23934.998	291	23934.998		40519	82128	
Afganistan, Iran, Turkey	610	4000	472	0.118	16.569	35	140.415 ?			4000	AF only
Pakistan, India	303	40000	1898.4	0.047	146.490	77	3086.599 ?			40000	
Nepal, Bhutan	226	7500	2983	0.398	301.145	101	757.153 ?			7500	
China	46377	56481	11049	0.186		94	5600.000	59425		59425	National Report should be used.
Indonesia		7		0.000			?			7	
Oceania											
New Zealand	3149	860	1157.9	1.000	61.893	53	61.893	860	53.29	1157.9	Paper on this issue based on WGI
Subantarctic islands		7000		0.000		183	1281.000 ?			7000	Mean thickness used
Total	105365	549056	204371.42	0.369	41878.03	184	101817.28			554179.5	Exactly 37% is in the inventory.
My table 2003		511800									

?: Glacier inventory insufficient

Red figures: Complete inventory at WGMS and WGDC-A

Black figures: Incomplete inventory at WGMS and WGDC-A

Green figures: National reports based on the complete inventory is available, but the data are not at WGMS and WGDC-A.

Blue in D/C: incomplete inventory

Area and volume of glacier ice				Outside Greenland and Antarctica						
Region	Surface area 1989 or best estimate 10 ³ km ²	Ice volume 10 ³ km ³	Sources	WGI Boulder & update 10 ³ km ²	WGI Boulder Volum 10 ³ km ³	Mean	Compltd.			Est. V 10 ³ km ³
						Depth m	Likely Area103 km2	WGI Decimal	S 1989/WG ratio	
Greenland (Total)	1,748	2,931	Ohmura (1987), Weidick (1995), Bamber et al. (2001)							
(Ice sheet)	1,699									
(Mountain glaciers & ice caps)	49									
Iceland	11.200	3.65	H. Björnsson (personal communication)		11.200		326	11.200		3.65
Scandinavia	3.1	0.167	Østrem et al. (1988)		3.1		0.17	53.9	3.1	0.167
Alps	3.1	0.15	Chen & Ohmura (1990)		3.1		0.15	47.1	3.1	0.15
Pyrenees and Cordillera Cantabrica	0.013	10 ⁻⁴	WGMS (1989)		0.01		10 ⁻⁴		0.01	10 ⁻⁴
Jan Mayen	0.116	10 ⁻²	Field (1975)							10 ⁻²
Svalbard	36.67	7	J. O. Hagen (personal communication)		33.7		7.66	227.3	33.7	7.66
Zemlya Frantsa Yosifa	13.73	1	WGMS (1989)		13.76		1.91	138.6	13.76	1.91
Novaya Zemlya	23.64	2	WGMS (1989)		23.65		11.13	470.8	23.65	11.13
Severnaya Zemlya & Ostrov Ushakova	18.65	2	WGMS (1989)		19.37		6.6	341.0	19.37	6.6
Ostrava de Longa, Novosibirskiye Ostro	0.081	10 ⁻²	WGMS (1989)		0.08		0.01	86.4	0.08	0.01
Ostrov Vrangelya	0.004	10 ⁻⁴	WGMS (1989)		0		0		0	0
Caucasus	1.37	10 ⁻¹	WGMS (1989)		1.390		0.07	47.5	1.390	0.07
Severniy Ural	0.029	10 ⁻³	WGMS (1989)		0.02		0		0.02	0
Ex-SU in Asia	19.725				23.86		4.22	176.8	23.86	4.22
Canadian Arctic Islands	151.76	15	Ommanney (1972)		26.28		4.78	181.8	151.76	0.173
North America (continental,excl. Alaska)	49.61	12	WGMS (1989)		10.56		0.98	92.3	49.61	0.213
Alaska	74.72				12.23		3.35	273.6	74.72	0.164
Mexico	0.01				0.01				0.01	6.11
Afganistan, Iran, Turkey	4.044				0.47		0.02	36.0	4.044	0.117
India, Pakistan	40.000				1.9		0.15	76.9	40.000	0.047
Bhutan, Nepal	7.340				2.98		0.3	100.9	7.340	0.407
China	56.48				59.43		5.600	94.2	59.43	2.46
Indonesia	0.01				0.01				0.01	0.74
Africa	0.010	10 ⁻³	Hastenrath (1984)		0.01		10 ⁻⁴		0.01	10 ⁻⁴
New Zealand	0.86	10 ⁻¹	WGMS (1989)		1.16		0.06	53.5	1.16	0.06
South America	25.91	3	WGMS (1989)		4.61		0.35	75.2	25.855	0.179
Sub-Antarctic islands	7	1	Mercer (1967)		7		1.2	171.4	7	5.6
Antarctica	13,586	30,110	Drewry (1983)							1.94
Total	15,846	33,097			259.879			183	550.125	100.926