

Table 4. Disaster Risk for Floods, 1980 - 2000

	Average number of events per year	Number of people killed per year	Average number of people killed per million inhabitants	Average physical exposure per year	Physical exposure in percentage of population	Relative Vulnerability	Density of population (living in the watershed exposed to flood)	Gross Domestic Product, per capita, ppp)
Country Name	Event per year	Killed per Year	Killed per million	People per year	%	Killed per million exposed	Inhab. per km ²	
Venezuela	0.67	1 439.62	68.30	2 927 023	13.89	491.84	41.61	5 082
Somalia	0.52	117.62	15.38	579 679	7.58	202.90	17.64	--
Djibouti	0.19	8.57	18.26	81 203	17.30	105.56	107.14	--
Morocco	0.33	39.62	1.40	384 498	1.36	103.04	102.79	2 650
Bhutan	0.10	10.57	5.44	127 900	6.59	82.65	54.24	336
Papua New Guinea	0.24	2.76	0.72	34 440	0.90	80.19	4.49	1 898
Gambia	0.10	2.52	2.09	31 785	2.63	79.40	51.99	1 340
Egypt	0.14	28.95	0.48	389 815	0.65	74.27	215.39	2 287
Botswana	0.14	1.48	1.07	21 187	1.54	69.67	4.24	4 734
Mozambique	0.33	41.33	2.66	614 559	3.95	67.26	30.38	556
Georgia	0.14	4.81	0.90	82 976	1.55	57.96	91.40	2 353
Uganda	0.14	7.05	0.36	136 561	0.69	51.61	107.41	794
Yemen	0.52	46.71	3.65	936 992	7.33	49.86	43.35	746
Zimbabwe	0.10	5.05	0.41	105 595	0.85	47.80	34.09	2 158
Nepal	0.90	199.38	10.92	4 334 045	23.74	46.00	150.11	927
Puerto Rico	0.10	24.67	7.07	552 327	15.83	44.66	475.90	--
Afghanistan	0.76	420.57	24.63	9 841 123	57.63	42.74	31.17	--
Ghana	0.19	9.95	0.60	258 802	1.56	38.46	43.96	1 391
Guatemala	0.43	38.24	4.02	1 018 818	10.70	37.53	100.15	2 885
South Africa	0.67	54.71	1.38	1 468 803	3.70	37.25	26.89	7 699
Honduras	0.62	30.62	6.09	865 397	17.22	35.38	44.70	2 043
Malawi	0.43	23.33	2.36	721 338	7.31	32.35	95.63	459
Fiji	0.14	1.57	2.10	49 944	6.66	31.46	41.38	3 721
Mexico	1.10	121.19	1.41	4 469 462	5.21	27.12	79.57	6 453
Chad	0.29	4.00	0.63	148 952	2.33	26.85	10.05	705
United Republic of Tanzania	0.71	22.00	0.77	823 825	2.87	26.70	28.51	453
El Salvador	0.33	26.76	4.92	1 050 226	19.31	25.48	271.13	3 159
Cambodia	0.29	48.52	4.08	1 986 049	16.69	24.43	77.04	1 096
Democratic People's Republic of Korea	0.29	28.14	1.35	1 211 567	5.81	23.23	287.89	--
Pakistan	0.95	200.38	1.77	8 773 423	7.73	22.84	185.81	1
Burkina Faso	0.24	2.10	0.23	93 658	1.03	22.37	28.08	713
Czech Republic	0.05	1.38	0.13	62 435	0.61	22.12	130.64	12 296
Slovakia	0.10	2.67	0.49	129 203	2.40	20.64	100.79	7 905
Ethiopia	1.00	27.14	0.50	1 321 588	2.44	20.54	41.75	525
Liberia	0.05	0.48	0.19	23 283	0.93	20.45	24.99	--
Mali	0.29	1.81	0.18	96 590	0.95	18.73	17.19	576
Sudan	0.57	15.52	0.57	829 480	3.02	18.72	14.73	--
Niger	0.29	4.57	0.47	244 500	2.54	18.70	25.00	719
Algeria	0.71	13.33	0.50	741 412	2.80	17.98	67.27	4 394
Cameroon	0.24	1.76	0.13	98 214	0.75	17.94	46.55	1 521
Lesotho	0.14	1.90	1.19	110 141	6.90	17.29	49.90	1 167
Angola	0.24	1.38	0.11	82 348	0.67	16.77	23.36	1 811
Tunisia	0.14	8.43	1.13	512 643	6.85	16.44	90.36	4 090
Peru	1.10	97.62	4.56	6 456 876	30.17	15.12	16.73	3 843
China	5.57	1 490.57	1.32	103 804 314	9.16	14.36	126.61	1 741
Colombia	1.14	47.90	1.34	3 346 973	9.36	14.31	34.46	4 625
Viet Nam	1.00	137.90	1.98	9 720 110	13.95	14.19	223.72	1 427
Moldova, Republic of	0.14	2.67	0.62	193 262	4.47	13.80	136.00	2 876
Saint Vincent and the Grenadines	0.14	0.14	1.37	10 764	10.31	13.27	230.63	3 469
Sierra Leone	0.05	0.57	0.14	44 589	1.09	12.82	158.07	665
Yugoslavia	0.38	3.90	0.38	321 934	3.13	12.13	100.32	--
Iran (Islamic Republic of)	1.90	131.19	2.20	10 903 040	18.26	12.03	45.40	3 932
India	3.86	1 313.24	1.55	113 041 300	13.33	11.62	303.38	1 424
Turkey	0.67	20.90	0.36	1 883 782	3.26	11.10	97.01	4 681

	Average number of events per year	Number of people killed per year	Average number of people killed per million inhabitants	Average physical exposure per year	Physical exposure in percentage of population	Relative Vulnerability	Density of population (living in the watershed exposed to flood)	Gross Domestic Product, per capita, ppp)
Country Name	Event per year	Killed per Year	Killed per million	People per year	%	Killed per million exposed	Inhab. per km ²	
Kenya	0.24	12.86	0.50	1 169 475	4.54	10.99	120.00	878
Bangladesh	2.00	461.95	4.11	42 168 039	37.51	10.96	912.59	1 014
Thailand	1.33	78.52	1.37	7 436 253	12.99	10.56	131.73	3 952
Lao People's Democratic Republic	0.43	3.29	0.75	337 368	7.70	9.74	20.61	918
Portugal	0.19	3.33	0.34	348 453	3.51	9.57	233.80	10 920
Spain	0.52	8.38	0.21	888 261	2.28	9.44	74.51	12 301
Ecuador	0.38	30.62	2.92	3 261 635	31.10	9.39	43.19	2 695
Philippines	1.76	75.71	1.22	9 301 763	14.96	8.14	256.98	3 191
Romania	0.43	9.24	0.41	1 174 894	5.20	7.86	90.57	5 955
Rwanda	0.05	2.29	0.34	291 406	4.35	7.84	365.88	952
Nicaragua	0.24	2.52	0.60	328 459	7.75	7.68	40.90	2 146
Democratic Republic of the Congo	0.19	3.05	0.07	415 189	0.94	7.34	132.32	--
Republic of Korea	0.71	51.95	1.19	7 579 290	17.31	6.85	503.77	9 243
Sri Lanka	1.29	27.62	1.62	4 064 648	23.85	6.79	290.30	2 142
Benin	0.48	4.67	0.91	714 078	13.95	6.54	58.17	736
Chile	0.57	16.48	1.21	2 540 958	18.72	6.48	43.39	5 512
Kuwait	0.05	0.10	0.06	14 986	0.88	6.36	124.09	9 010
Burundi	0.10	0.57	0.10	95 306	1.61	6.00	300.73	610
Armenia	0.05	0.19	0.05	34 337	0.91	5.55	80.25	1 822
Jordan	0.10	0.81	0.26	146 508	4.63	5.53	94.76	3 498
Brazil	2.19	99.33	0.67	18 304 697	12.33	5.43	24.29	5 623
Jamaica	0.24	3.43	1.45	632 000	26.76	5.42	215.15	3 124
Albania	0.19	0.71	0.22	131 704	4.12	5.42	109.64	2 755
Congo	0.14	0.10	0.03	17 607	0.64	5.41	2.89	699
Ukraine	0.29	3.00	0.06	589 853	1.15	5.09	90.68	5 178
Haiti	0.81	11.90	1.72	2 399 474	34.71	4.96	275.89	1 449
Panama	0.29	0.81	0.32	167 199	6.57	4.84	42.48	4 352
Bolivia	0.48	14.48	2.27	3 035 231	47.57	4.77	6.63	1 868
Italy	0.57	14.00	0.24	2 994 349	5.23	4.68	208.73	16 619
Cote d'Ivoire	0.10	1.33	0.10	285 823	2.12	4.66	178.14	1 413
Malaysia	0.43	4.43	0.24	958 222	5.09	4.62	69.69	5 380
Costa Rica	0.38	1.67	0.51	371 493	11.32	4.49	65.02	5 415
Myanmar	0.29	9.05	0.20	2 166 338	4.88	4.18	100.06	--
Australia	1.10	4.43	0.26	1 087 860	6.33	4.07	8.44	17 293
Central African Republic	0.24	0.33	0.09	86 217	2.44	3.87	6.90	1 009
Russian Federation	1.33	9.24	0.06	2 393 629	1.63	3.86	43.65	8 179
Nigeria	0.62	12.67	0.12	3 555 094	3.28	3.56	133.19	783
Dominican Republic	0.29	3.00	0.42	1 023 241	14.43	2.93	149.03	3 700
France	1.10	5.29	0.09	1 821 024	3.17	2.90	138.87	17 072
Japan	0.62	30.71	0.25	10 925 468	8.86	2.81	478.94	18 629
Austria	0.29	0.90	0.12	336 735	4.39	2.69	108.83	18 289
Greece	0.19	1.19	0.11	482 663	4.58	2.47	102.71	11 148
Indonesia	2.48	120.29	0.67	49 323 896	27.34	2.44	178.57	1 964
Paraguay	0.38	3.62	0.85	1 494 319	35.06	2.42	10.00	3 841
Canada	0.52	1.52	0.05	659 274	2.36	2.31	50.54	19 456
Poland	0.24	2.95	0.08	1 287 600	3.45	2.29	151.05	6 939
United States of America	3.48	24.19	0.09	10 591 826	4.06	2.28	49.48	22 494
Azerbaijan	0.19	0.76	0.10	351 330	4.55	2.17	84.95	3 670
Ireland	0.10	0.14	0.04	77 876	2.20	1.83	111.07	13 641
Hungary	0.24	0.43	0.04	237 148	2.36	1.81	93.35	8 717
Argentina	1.19	11.14	0.34	7 434 608	22.71	1.50	26.78	9 310
Cuba	0.71	5.00	0.47	3 482 880	32.53	1.44	116.93	--
Trinidad and Tobago	0.10	0.24	0.19	173 512	13.80	1.37	269.47	6 247

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Country Name	Event per year	Killed per Year	Killed per million	People per year	%	Killed per million exposed	Inhab. per km ²	
Israel	0.10	0.52	0.09	542 419	9.50	0.97	326.08	14 084
Norway	0.10	0.05	0.01	50 683	1.15	0.94	144.07	20 045
Belgium	0.29	0.33	0.03	386 689	3.85	0.86	425.19	18 814
Togo	0.19	0.14	0.04	187 082	4.61	0.76	57.98	1 344
Switzerland	0.14	0.10	0.01	157 413	2.33	0.61	176.30	21 816
New Zealand	1.10	0.29	0.09	554 050	16.49	0.52	13.76	16 332
Germany	0.38	1.00	0.01	3 976 284	4.94	0.25	280.34	21 848
United Kingdom of Great Britain and Northern Ireland	0.43	0.48	0.01	2 082 205	3.53	0.23	198.75	18 738
Kazakhstan	0.10	0.48	0.03	2 344 290	14.24	0.20	6.74	5 165
Belarus	0.10	0.10	0.01	620 500	6.04	0.15	60.23	6 059
Kyrgyzstan	0.10	0.10	0.02	874 669	18.34	0.11	16.57	2 812

Source : Columns 1, 2 and 3 : EM-DAT : The OFDA/CRED International Disaster Database ; Columns 4, 5, and 6 : calculated by UNDP/BCPR and UNEP/GRID-Geneva for this report. For details, see technical annex ; Column 7 : UNEP/GRID-Geneva, calculated from UNEP/GRID-Geneva spatial modelling based on CIESIN population data. For more details see <http://geodata.grid.unep.ch>; Column 8 : UNEP/GRID-Geneva from World Development Indicators (World Bank), "ppp", purchasing power parity.

Figure 2.12 Physical exposure to floods, 1980 - 2000

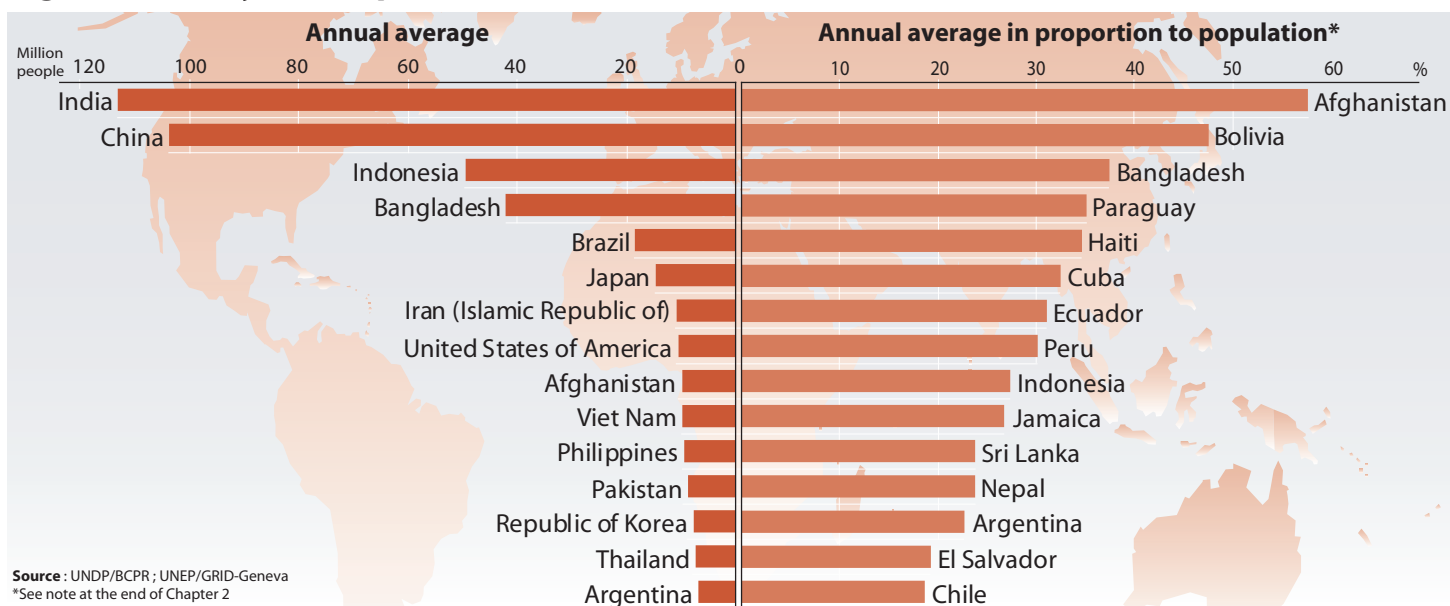


Figure 2.13 Physical exposure to floods, 1980 - 2000

