

Overshoot Index

The Overshoot Index assesses the extent to which a country can support itself from its own renewable resources, by measuring current per capita consumption against per capita biocapacity. The ecological footprint measures the area of biologically productive land and water required to produce the renewable resources/ecological services for, and absorb the waste of, a given population at a given average level of resource consumption. Biocapacity is the biologically productive capacity of an area - cropland, grazing land, forest, fresh water etc. It does not include non-renewable resources like fossil fuels and other minerals. The true balance between consumption and demand for resources will appear even more unfavourable when the progressive reduction towards zero use of non-renewables is factored into the numbers. A satisfactory way to do this has yet to be devised. It also assumes that 100% of biocapacity is allocated to humans, since there is no agreed figure for the necessary share needed to conserve biodiversity. Ecological footprint and biocapacity are measured in global hectares (hectares with world average biological productivity) per person. Increased productivity would reduce dependency; while increased population or consumption per head would increase it.

The percentage of an area's footprint supported from its renewable resources is its self-sufficient percentage; the remaining percentage is its dependent percentage. Similarly, the percentage of an area's population supported from its renewable resources is its sustainable population at current consumption levels with current technology; the remaining percentage is its overshoot population. A dependency of greater than zero means that a country, region or the world is relying on other countries or non-renewable, unsustainable resources for its current consumption. Countries in overshoot increase their dependency, and the others approach overshoot, as either their population or their per capita consumption grows; and faster if both grow.

All source data is from the Global Footprint Network (GFN) National Footprint Accounts 2016 Edition based on 2012 figures. Apparent discrepancies are due to rounding. For full details of the calculations, go to www.footprintnetwork.org. This table was produced by Population Matters. www.populationmatters.org. © 2016 Global Footprint Network. National Footprint Accounts, 2016 Edition. Licensed and provided solely for non-commercial and informational purposes. Please contact Global Footprint Network at data@footprintnetwork.org for more information.

gross overshoot ranking country/region name		eco footprint global ha pc		biocapacity global ha pc		self sufficiency %		dependency %		actual pop'n (m)		sustainable pop'n (m)		overshoot pop'n (m)		gross overshoot ha (m)		alphabetical listing	
Already in overshoot																			
World		2.8	1.7	60.9	39.1	7080	4313	2767	7859	World									
Asia-Pacific**		2.3	0.9	38.7	61.3	3880	1503	2377	5394	Afghanistan 70									
1	China	3.4	0.9	27.8	72.2	1408	392	1016	3436	Africa**									
High Income		6.2	3.2	51.2	48.8	1100	564	537	3324	Albania 97									
Upper-Middle Income		3.4	2.3	68.4	31.6	2550	1744	806	2701	Algeria 25									
2	United States of America	8.2	3.8	45.7	54.3	318	145	172	1416	Angola 171									
EU-27**		4.8	2.3	48.5	51.5	504	244	260	1250	Antigua and Barbuda 118									
Lower-Middle Income		1.3	0.9	64.1	35.9	2523	1617	906	1214	Argentina 183									
North America**		8.2	5.0	60.5	39.5	352	213	139	1143	Armenia 88									
3	India	1.2	0.5	38.8	61.2	1237	480	757	878	Aruba 109									
Middle East/Central Asia**		2.9	1.0	33.1	66.9	396	131	265	777	Asia-Pacific**									
4	Japan	5.0	0.7	14.3	85.7	127	18	109	547	Australia 185									
5	Germany	5.3	2.3	42.8	57.2	83	35	47	251	Austria 40									
6	Korea, Republic of	5.7	0.7	12.0	88.0	49	6	43	245	Azerbaijan 58									
7	United Kingdom	4.9	1.3	26.7	73.3	63	17	46	228	Bahamas 143									
8	Italy	4.6	1.1	23.4	76.6	61	14	47	215	Bahrain 69									
9	Mexico	2.9	1.3	43.9	56.1	121	53	68	196	Bangladesh 27									
Africa**		1.4	1.3	88.8	11.2	1035	918	116	167	Barbados 108									
10	Saudi Arabia	5.6	0.5	8.9	91.1	28	3	26	145	Belarus 57									
11	Iran, Islamic Republic of	2.8	0.9	32.3	67.7	76	25	52	144	Belgium 22									
12	Turkey	3.3	1.5	45.6	54.4	74	34	40	134	Benin 81									
13	France	5.1	3.1	60.5	39.5	64	39	25	130	Bermuda 121									
14	Egypt	2.2	0.6	26.0	74.0	81	21	60	128	Bhutan 137									
15	South Africa	3.3	1.2	34.7	65.3	52	18	34	113	Bolivia 181									
16	Spain	3.7	1.3	34.1	65.9	47	16	31	113	Bosnia and Herzegovina 79									
17	Thailand	2.7	1.2	46.6	53.4	67	31	36	95	Botswana 112									
18	Poland	4.4	2.1	46.8	53.2	38	18	20	90	Brazil 187									
19	Indonesia	1.6	1.3	79.7	20.3	247	197	50	79	British Virgin Islands 132									
20	Pakistan	0.8	0.4	44.3	55.7	179	79	100	79	Brunei Darussalam 115									
21	Nigeria	1.2	0.7	60.3	39.7	169	102	67	78	Bulgaria 95									
22	Belgium	7.4	1.2	16.0	84.0	11	2	9	69	Burkina Faso 89									
23	Netherlands	5.3	1.2	22.2	77.8	17	4	13	69	Burundi 83									
24	Viet Nam	1.7	1.0	60.6	39.4	91	55	36	59	Cabo Verde 110									
25	Algeria	2.1	0.6	27.8	72.2	38	11	28	59	Cambodia 104									
26	Philippines	1.1	0.5	49.1	50.9	97	47	49	54	Cameroon 159									
27	Bangladesh	0.7	0.4	52.8	47.2	155	82	73	53	Canada 186									
28	Iraq	1.9	0.3	15.4	84.6	33	5	28	52	Cayman Islands 123									
29	Israel	6.2	0.4	5.6	94.4	8	0	7	45	Central African Republic 169									

gross overshoot ranking country/region name		eco footprint global ha pc	biocapacity global ha pc	self sufficiency %	dependency %	actual pop'n (m)	sustainable pop'n (m)	overshoot pop'n (m)	Gross overshoot ha (m)	alphabetical listing	
30	Singapore	8.0	0.1	0.6	99.4	5	0	5	42	Chad	154
31	Ethiopia	1.0	0.6	56.9	43.1	92	52	40	40	Chile	62
32	Uzbekistan	2.3	0.9	39.7	60.3	29	11	17	40	China	1
33	Malaysia	3.7	2.4	65.0	35.0	29	19	10	38	Colombia	180
34	Switzerland	5.8	1.3	22.5	77.5	8	2	6	36	Comoros	114
35	Kazakhstan	5.6	3.4	61.4	38.6	16	10	6	35	Congo	175
36	Morocco	1.7	0.7	42.3	57.7	33	14	19	32	Congo, Democratic Republic of	182
37	Greece	4.4	1.6	36.8	63.2	11	4	7	31	Costa Rica	78
38	Czech Republic	5.2	2.5	47.4	52.6	11	5	6	29	Côte d'Ivoire	158
39	Ukraine	2.8	2.3	79.9	20.1	46	36	9	26	Croatia	82
40	Austria	6.1	3.1	50.7	49.3	8	4	4	25	Cuba	60
41	Portugal	3.9	1.5	38.9	61.1	11	4	6	25	Cyprus	84
42	Kuwait	8.1	0.6	6.8	93.2	3	0	3	25	Czech Republic	38
43	Venezuela, Bolivarian	3.6	2.8	77.9	22.1	30	23	7	24	Denmark	85
44	Uganda	1.2	0.6	47.6	52.4	36	17	19	24	Djibouti	107
45	Kenya	1.0	0.5	49.5	50.5	43	21	22	22	Dominica	129
46	Syrian Arab Republic	1.5	0.6	39.7	60.3	22	9	13	20	Dominican Republic	67
47	Qatar	10.8	1.2	11.5	88.5	2	0	2	20	Ecuador	139
48	Sri Lanka	1.3	0.4	33.3	66.7	21	7	14	19	Egypt	14
49	Oman	7.5	1.9	25.5	74.5	3	1	2	19	El Salvador	68
50	Libyan Arab Jamahiriya	3.7	0.7	19.0	81.0	6	1	5	18	Equatorial Guinea	138
51	Lebanon	3.8	0.3	8.6	91.4	5	0	4	16	Eritrea	151
52	Ghana	2.0	1.4	68.5	31.5	25	17	8	16	Estonia	149
53	Tunisia	2.3	0.9	39.7	60.3	11	4	7	15	Ethiopia	31
54	Korea, Democratic People's	1.2	0.6	51.3	48.7	25	13	12	14	EU-27**	
55	Turkmenistan	5.5	2.8	51.0	49.0	5	3	3	14	Fiji	117
56	Serbia	2.7	1.3	46.3	53.7	10	4	5	14	Finland	174
57	Belarus	5.1	3.6	71.5	28.5	9	7	3	14	France	13
58	Azerbaijan	2.3	0.9	36.8	63.2	9	3	6	14	French Guiana	166
59	Guatemala	1.9	1.0	52.4	47.6	15	8	7	14	French Polynesia	111
60	Cuba	2.0	0.8	39.0	61.0	11	4	7	13	Gabon	173
61	Jordan	2.1	0.2	10.0	90.0	7	1	6	13	Gambia	120
62	Chile	4.4	3.6	83.3	16.7	17	15	3	13	Georgia	103
63	Yemen	1.0	0.5	48.5	51.5	24	12	12	13	Germany	5
64	Tanzania, United Republic of	1.3	1.1	81.8	18.2	48	39	9	11	Ghana	52
65	Nepal	1.0	0.6	60.2	39.8	27	17	11	11	Greece	37
66	Zimbabwe	1.4	0.6	45.3	54.7	14	6	8	10	Grenada	130
67	Dominican Republic	1.5	0.6	36.6	63.4	10	4	7	10	Guadeloupe	106
68	El Salvador	2.1	0.6	29.5	70.5	6	2	4	9	Guatemala	59
69	Bahrain	7.5	0.6	7.7	92.3	1	0	1	9	Guinea	156
70	Afghanistan	0.8	0.5	63.3	36.7	30	19	11	9	Guinea-Bissau	147
71	Trinidad and Tobago	7.9	1.6	19.7	80.3	1	0	1	9	Guyana	179
72	Romania	2.7	2.3	85.6	14.4	22	19	3	8	Haiti	92
73	Ireland	5.6	3.7	67.0	33.0	5	3	2	8	High Income	
74	Hungary	2.9	2.2	74.3	25.7	10	7	3	7	Honduras	141
75	Slovakia	4.1	2.7	66.7	33.3	5	4	2	7	Hungary	74
76	Luxembourg	15.8	1.7	10.6	89.4	1	0	0	7	India	3
77	Slovenia	5.8	2.4	40.4	59.6	2	1	1	7	Indonesia	19
78	Costa Rica	2.8	1.5	53.9	46.1	5	3	2	6	Iran, Islamic Republic of	11
79	Bosnia and Herzegovina	3.1	1.6	52.2	47.8	4	2	2	6	Iraq	28
80	Niger	1.6	1.2	79.5	20.5	17	14	4	5	Ireland	73
81	Benin	1.4	0.9	62.4	37.6	10	6	4	5	Israel	29
82	Croatia	3.9	2.8	71.4	28.6	4	3	1	5	Italy	8
83	Burundi	0.8	0.3	40.0	60.0	10	4	6	5	Jamaica	86
84	Cyprus	4.2	0.3	8.1	91.9	1	0	1	4	Japan	4
85	Denmark	5.5	4.8	86.8	13.2	6	5	1	4	Jordan	61
86	Jamaica	1.9	0.4	22.8	77.2	3	1	2	4	Kazakhstan	35
87	Togo	1.1	0.5	46.9	53.1	7	3	4	4	Kenya	45
88	Armenia	2.2	0.9	39.9	60.1	3	1	2	4	Korea, Democratic People's	54
89	Burkina Faso	1.2	1.0	81.0	19.0	16	13	3	4	Korea, Republic of	6
90	Rwanda	0.9	0.5	62.1	37.9	11	7	4	4	Kuwait	42
91	Macedonia TFYR	3.3	1.5	46.3	53.7	2	1	1	4	Kyrgyzstan	96
92	Haiti	0.6	0.3	44.3	55.7	10	5	6	3	Lao People's Democratic	148
93	Moldova	1.8	0.8	44.9	55.1	4	2	2	3	Latin America**	
94	Mauritius	3.5	0.7	20.5	79.5	1	0	1	3	Latvia	153
95	Bulgaria	3.3	2.9	86.1	13.9	7	6	1	3	Lebanon	51

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96	Kyrgyzstan	1.9	1.3	68.1	31.9	5	4	2	3	Lesotho	102
97	Albania	2.2	1.2	53.4	46.6	3	2	1	3	Liberia	152
98	Tajikistan	0.9	0.5	58.2	41.8	8	5	3	3	Libyan Arab Jamahiriya	50
99	Réunion	3.7	0.2	4.9	95.1	1	0	1	3	Lithuania	116
100	Malawi	0.8	0.7	81.5	18.5	16	13	3	2	Low Income	
101	Senegal	1.2	1.1	86.8	13.2	14	12	2	2	Lower-Middle Income	
102	Lesotho	1.7	0.8	47.0	53.0	2	1	1	2	Luxembourg	76
103	Georgia	1.6	1.2	74.1	25.9	4	3	1	2	Macedonia TFYR	91
104	Cambodia	1.2	1.1	90.1	9.9	15	13	1	2	Madagascar	172
105	Swaziland	2.0	0.9	43.8	56.2	1	1	1	1	Malawi	100
106	Guadeloupe	3.2	0.5	13.9	86.1	0	0	0	1	Malaysia	33
107	Djibouti	2.2	0.8	35.2	64.8	1	0	1	1	Mali	142
108	Barbados	4.5	0.2	4.2	95.8	0	0	0	1	Martinique	113
109	Aruba	11.9	0.6	4.8	95.2	0	0	0	1	Mauritania	155
110	Cabo Verde	2.5	0.6	24.6	75.4	0	0	0	1	Mauritius	94
111	French Polynesia	4.7	1.4	29.0	71.0	0	0	0	1	Mexico	9
112	Botswana	3.8	3.5	90.6	9.4	2	2	0	1	Middle East/Central Asia**	
113	Martinique	2.1	0.4	18.8	81.3	0	0	0	1	Moldova	93
114	Comoros	1.0	0.3	31.1	68.9	1	0	0	1	Mongolia	167
Not Yet In Overshoot											
115	Brunei Darussalam	4.1	2.9	70.7	29.3	0	0	0	0	Montenegro	122
116	Lithuania	5.8	5.7	97.3	2.7	3	3	0	0	Montserrat	134
117	Fiji	2.9	2.4	81.7	18.3	1	1	0	0	Morocco	36
118	Antigua and Barbuda	5.4	0.9	17.5	82.5	0	0	0	0	Mozambique	168
119	Saint Lucia	2.5	0.3	13.9	86.1	0	0	0	0	Myanmar	164
120	Gambia	1.0	0.8	79.6	20.4	2	1	0	0	Namibia	157
121	Bermuda	5.8	0.1	2.3	97.7	0	0	0	0	Nauru	131
122	Montenegro	3.8	3.2	85.7	14.3	1	1	0	0	Nepal	65
123	Cayman Islands	5.7	0.3	5.7	94.3	0	0	0	0	Netherlands	23
124	Saint Kitts and Nevis	4.9	0.6	12.6	87.4	0	0	0	0	New Caledonia	144
125	Saint Vincent and Grenadines	3.1	1.3	40.5	59.5	0	0	0	0	New Zealand	163
126	Samoa	2.8	1.9	69.7	30.3	0	0	0	0	Nicaragua	150
127	Tonga	2.7	1.5	54.8	45.2	0	0	0	0	Niger	80
128	Sao Tome and Principe	1.5	0.9	58.4	41.6	0	0	0	0	Nigeria	21
129	Dominica	2.6	1.0	40.1	59.9	0	0	0	0	North America**	
130	Grenada	3.0	2.0	65.8	34.2	0	0	0	0	Norway	161
131	Nauru	2.9	0.2	6.5	93.5	0	0	0	0	Oman	49
132	British Virgin Islands	2.9	2.1	71.7	28.3	0	0	0	0	Other Europe**	
133	Wallis and Futuna Islands	2.1	1.5	72.9	27.1	0	0	0	0	Pakistan	20
134	Montserrat	7.8	1.4	17.5	82.5	0	0	0	0	Panama	140
135	Sierra Leone	1.2	1.2	100.0	0.0	6	6	0	0	Papua New Guinea	160
136	Somalia	1.2	1.3	102.4	-2.4	10	10	0	0	Paraguay	176
137	Bhutan	4.8	5.3	108.9	-8.9	1	1	0	0	Peru	178
138	Equatorial Guinea	4.0	4.4	110.8	-10.8	1	1	0	0	Philippines	26
139	Ecuador	2.2	2.2	101.4	-1.4	15	16	0	0	Poland	18
140	Panama	2.8	2.9	105.4	-5.4	4	4	0	-1	Portugal	41
141	Honduras	1.7	1.8	105.4	-5.4	8	8	0	-1	Qatar	47
142	Mali	1.5	1.6	103.3	-3.3	15	15	0	-1	Réunion	99
143	Bahamas	6.8	9.6	139.6	-39.6	0	1	0	-1	Romania	72
144	New Caledonia	3.6	7.7	214.2	-114.2	0	1	0	-1	Russian Federation	184
145	Timor-Leste	0.5	1.8	370.8	-270.8	1	4	-3	-1	Rwanda	90
146	Solomon Islands	1.3	4.4	338.0	-238.0	1	2	-1	-2	Saint Kitts and Nevis	124
147	Guinea-Bissau	1.5	3.0	198.0	-98.0	2	3	-2	-2	Saint Lucia	119
148	Lao People's Democratic	1.2	1.6	132.8	-32.8	7	9	-2	-3	Saint Vincent and Grenadines	125
149	Estonia	6.9	10.5	153.5	-53.5	1	2	-1	-5	Samoa	126
150	Nicaragua	1.4	2.3	161.9	-61.9	6	10	-4	-5	Sao Tome and Principe	128
151	Eritrea	0.4	1.3	309.5	-209.5	6	19	-13	-5	Saudi Arabia	10
152	Liberia	1.2	2.6	212.4	-112.4	4	9	-5	-6	Senegal	101
153	Latvia	6.3	9.6	151.8	-51.8	2	3	-1	-7	Serbia	56
154	Chad	1.5	2.0	139.0	-39.0	12	17	-5	-7	Sierra Leone	135
155	Mauritania	2.5	4.5	176.4	-76.4	4	7	-3	-7	Singapore	30
156	Guinea	1.4	2.1	148.2	-48.2	11	17	-6	-8	Slovakia	75
157	Namibia	2.5	6.9	277.4	-177.4	2	6	-4	-10	Slovenia	77
158	Côte d'Ivoire	1.3	1.8	140.2	-40.2	20	28	-8	-10	Solomon Islands	146
159	Cameroon	1.2	1.7	144.4	-44.4	22	31	-10	-11	Somalia	136

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160	Papua New Guinea	1.9	3.9	205.2	-105.2	7	15	-8	-14	South Africa	15
161	Norway	5.0	8.2	164.3	-64.3	5	8	-3	-16	Spain	16
162	Zambia	1.0	2.2	225.3	-125.3	14	32	-18	-17	Sri Lanka	48
163	New Zealand	5.6	10.1	181.1	-81.1	4	8	-4	-20	Suriname	177
164	Myanmar	1.4	1.8	128.7	-28.7	53	68	-15	-22	Swaziland	105
165	Uruguay	2.9	10.3	354.6	-254.6	3	12	-9	-25	Sweden	170
166	French Guiana	2.3	111.4	4758.5	-4658.5	0	11	-11	-26	Switzerland	34
167	Mongolia	6.1	15.7	257.6	-157.6	3	7	-4	-27	Syrian Arab Republic	46
168	Mozambique	0.9	2.1	236.8	-136.8	25	60	-34	-30	Tajikistan	98
169	Central African Republic	1.2	7.9	634.7	-534.7	5	29	-24	-30	Tanzania, United Republic of	64
170	Sweden	7.3	10.6	146.5	-46.5	10	14	-4	-32	Thailand	17
171	Angola	0.9	2.6	274.2	-174.2	21	57	-36	-34	Timor-Leste	145
172	Madagascar	1.0	2.6	265.7	-165.7	22	59	-37	-37	Togo	87
173	Gabon	2.0	26.3	1302.5	-1202.5	2	21	-20	-40	Tonga	127
174	Finland	5.9	13.4	229.0	-129.0	5	12	-7	-41	Trinidad and Tobago	71
175	Congo	1.3	10.9	845.7	-745.7	4	37	-32	-42	Tunisia	53
176	Paraguay	4.2	10.5	252.9	-152.9	7	17	-10	-43	Turkey	12
177	Suriname	4.3	89.3	2101.9	-2001.9	1	11	-11	-46	Turkmenistan	55
178	Peru	2.3	4.0	174.1	-74.1	30	52	-22	-51	Uganda	44
179	Guyana	3.1	66.6	2168.7	-2068.7	1	17	-17	-51	Ukraine	39
	Low Income	1.0	1.1	107.0	-7.0	836	895	-59	-61	United Kingdom	7
	Other Europe**	4.8	5.1	105.5	-5.5	238	251	-13	-63	United States of America	2
180	Colombia	1.9	3.6	192.5	-92.5	48	92	-44	-83	Upper-Middle Income	
181	Bolivia	3.0	16.7	565.2	-465.2	11	59	-49	-145	Uruguay	165
182	Congo, Democratic Republic	0.8	3.1	374.4	-274.4	66	246	-180	-148	Uzbekistan	32
183	Argentina	3.1	6.9	220.4	-120.4	41	91	-49	-155	Venezuela, Bolivarian Republic	43
184	Russian Federation	5.7	6.8	119.3	-19.3	143	171	-28	-157	Viet Nam	24
185	Australia	9.3	16.6	178.0	-78.0	23	41	-18	-167	Wallis and Futuna Islands	133
186	Canada	8.2	16.0	196.0	-96.0	35	68	-33	-273	Yemen	63
187	Brazil	3.1	9.1	292.0	-192.0	199	580	-381	-1186	Zambia	162
	Latin America**	2.8	5.3	188.8	-88.8	605	1143	-538	-1511	Zimbabwe	66

NOTES:

World population is inclusive of countries not included in the table

* Country Notes: See GFN Data table

** Country grouping results are for stated countries only

Excel version available on request.

