

Definitions

Input Levels

Differences in crop types and production systems are empirically characterized by the concept of Land Utilization Types (LUTs). A LUT consists of a set of technical specifications for crop production within a given socioeconomic setting. Attributes specific to a particular LUT include agronomic information, nature of main produce, water supply type, cultivation practices, utilization of produce, and associated crop residues and by-products.

In GAEZ, three generic levels of input/management are defined: low, intermediate, and high input level:

- **Low level inputs**, under a low level of inputs (traditional management assumption), the farming system is largely subsistence based. Production is based on the use of traditional cultivars (if improved cultivars are used, they are treated in the same way as local cultivars), labor intensive techniques, and no application of nutrients, no use of chemicals for pest and disease control and minimum conservation measures.
- **Intermediate level inputs**, under an intermediate level of input (improved management assumption), the farming system is partly market oriented. Production for subsistence plus commercial sale is a management objective. Production is based on improved varieties, on manual labor with hand tools and/or animal traction and some mechanization, is medium labor intensive, uses some fertilizer application and chemical pest disease and weed control, adequate fallows and some conservation measures.
- **High level inputs**, under a high level of input (advanced management assumption), the farming system is mainly market oriented. Commercial

production is a management objective. Production is based on improved or high yielding varieties, is fully mechanized with low labor intensity and uses optimum applications of nutrients and chemical pest, disease and weed control.

In GAEZ, this variety in management and input levels is translated into yield differences by assigning different parameters for LUTs depending on the input/management level, e.g. such as harvest index and maximum leaf area index. LUTs are parameterized to reflect environmental and eco-physiological requirements for growth and development of different crop types. Numerical values of crop parameters are varied depending on the assumed input/management level to which LUTs are subjected.

Water supply systems

Five water supply systems have been separately evaluated:

- rain-fed
- rain-fed with water conservation
- gravity irrigation
- sprinkler irrigation
- drip irrigation systems

Apart from evaluating crop production systems based on rain-fed cultivation and rain-fed with water conservation, specific soil requirements for three major irrigation systems have been established namely for gravity, sprinkler and drip irrigation.

Crops

Suitability and potential yield assessments are available for 11 crop groups, 49 crops, 92 crop types and 280 Crop/LUTs. Results for downscaling of crops/commodities are available for 23 crop/commodities and results of yield and production gap analysis are available for 17 crops/commodities.

- HadCM3 (Hadley Centre, UK Meteorological Office)
- ECHAM4 (Max-Planck-Institute for Meteorology, Germany)
- CSIRO (Australia's Commonwealth Scientific and Industrial Research Organisation, Australia)
- CGCM2 (Canadian General Circulation Model)

Time Period

Climate input data determine three types of time period: historical, baseline and future, where

- Historical periods consist of individual years from 1961 to 2000.
- The baseline period reflects average climatic conditions for the period 1961-1990. The 30-year average time period Option provides the cumulative average of individual year averages
- Three future time periods (2020s, 2050s, and 2080s) can be selected with additional options for selecting among GCMs and IPCC emissions scenarios.

Climate Scenario

For the analysis of climate change impacts on agricultural production potential, available climate predictions of General Circulation Models (GCM) were used for characterization of future climates. The IPCC data distribution centre (<http://www.ipcc-data.org/>) provides future climatic parameters obtained as outputs of various GCM experiments for a range of IPCC emission scenarios.

The following four GCMs were used here for calculation of future potential agricultural productivity:

GCM model outputs for individual climate attributes were applied as follows:

Difference of the means for three 30-year periods (the 2020s: years 2011-2040; the 2050s: years 2041-2070; and the 2080s: years 2071-2100) with the GCM 'baseline' climate 1961-1990 were calculated for each grid in the respective GCM. An inverse distance weighted interpolation to a 30 arc-minute grid was performed on these 'deltas' of the centre points of each grid cell in the original GCM. Such changes ('deltas') for monthly climatic variables, i.e. differences for maximum and minimum monthly temperature, precipitation, total surface solar radiation and wind-run, then applied to the observed climate of 1961-1990 to generate future climate data. Climate change induced alterations in agricultural productivity as a result of climate change can be calculated by running GAEZ for future time slots and compare results to the outcomes for the climatic baseline.

CO₂ fertilization

The "fertilization" effect of increasing atmospheric CO₂ on crop yield is accounted in GAEZ by the CO₂ yield-adjustment factor. Crop species respond differently to CO₂ depending on physiological characteristics such as photosynthetic pathway (e.g. C₃ or C₄ plants).

Tables

ID	Crop group
1	Bioenergy feedstocks
2	Cereals
3	Fibre crops
4	Fodder crops
5	Fruits
6	Narcotics and stimulants
7	Oilcrops
8	Pulses
9	Roots and tubers
10	Sugar crops
11	Vegetables

List of major crops

Common name	Scientific name	Crop group
Wheat	Triticum spp.	Cereals
Wetland rice	Oryza sativa	Cereals
Dryland rice	Oryza sativa	Cereals
Maize	Zea mays	Cereals
Barley	Hordeum vulgare	Cereals
Sorghum	Sorghum bicolor	Cereals/Sugar crops
Rye	Secale cereale	Cereals
Pearl millet	Pennisetum glaucum	Cereals
Foxtail millet	Setaria italica	Cereals
Oat	Avenasativa	Cereals
Buckwheat	Fagopyrum esculentum	Cereals
White potato	Solanum tuberosum	Roots and tubers
Sweet potato	Ipomoea batatas	Roots and tubers
Cassava	Manihot esculenta	Roots and tubers
Yam and Cocoyam	Dioscorea spp.and Colocasia esculenta	Roots and tubers
Sugarcane	Saccharum spp.	Sugar crops

Common name	Scientific name	Crop group
Sugar beet	Beta vulgaris L.	Sugar crops
Phaseolus bean	Phaseolus vulgaris and Ph. lunatus	Pulses
Chickpea	Cicer arietinum	Pulses
Cowpea	Vigna unguiculata	Pulses
Dry pea	Pisum sativum L.	Pulses
Gram	Vigna radiata	Pulses
Pigeonpea	Cajanus cajan	Pulses
Soybean	Glycine max	Oil crops
Sunflower	Helianthus annuus	Oil crops
Rape	Brassica napus	Oil crops
Groundnut	Arachis hypogaea	Oil crops
Oil palm	Elaeis oleifera	Oil crops
Olive	Olea europaea	Oil crops
Jatropha	Jatropha curcas.	Bioenergy feedstocks
Cabbage	Brassica oleracea	Vegetables
Carrot	Daucus carota	Vegetables
Onion	Allium cepa	Vegetables
Tomato	Lycopersicon lycopersicum	Vegetables
Banana/Plantain	Musa spp.	Fruits
Citrus	Citrus Sinensis	Fruits
Coconut	Cocos nucifera	Fruits
Cacao	Theobroma cacao	Narcotics and stimulants
Cotton	Gossypium hirsutum.	Fibre
Flax	Linum usitatissimum	Fibre crops
Coffee	Coffea arabica	Narcotics and stimulants
Tea	Camellia Sinenses var.Sinensis	Narcotics and stimulants
Tobacco	Nicotiana tobacum	Narcotics and stimulants
Alfalfa	Medicago sativa	Fodder crops
Pasture legume	various	Fodder crops
Grass	various	Fodder crops
Miscanthus	Miscanthus spp	Bioenergy feedstocks
Switchgrass	Panicum virgatum	Bioenergy feedstocks
Reed canary grass	Phalaris arundinacea	Bioenergy feedstocks

List of 92 Land Utilization Types (LUT) groups

Common name	Scientific name	Crop group
Winter wheat	Triticum spp.	Cereals
Spring wheat	Triticum spp.	Cereals
Wheat (subtropical cultivars)	Triticum spp.	Cereals
Wheat (tropical cultivars)	Triticum spp.	Cereals
Japonica wetland rice	Oryza japonica	Cereals
Indica dryland rice	Oryza sativa	Cereals
Indica wetland rice	Oryza indica	Cereals
Maize (tropical lowland cultivars)	Zea mays	Cereals
Maize (tropical highland cultivars)	Zea mays	Cereals
Maize (temperate and subtropical cult.)	Zea mays	Cereals
Silage maize (temperate and subtropical cult.)	Zea mays	Fodder crops
Winter barley	Hordeum vulgare	Cereals
Spring Barley	Hordeum vulgare	Cereals
Barley (subtropical cultivars)	Hordeum vulgare	Cereals
Barley (tropical cultivars)	Hordeum vulgare	Cereals
Sorghum (tropical lowland cultivars)	Sorghum bicolor	Cereals
Sorghum (tropical highland cultivars)	Sorghum bicolor	Cereals
Sorghum (temperate and subtropical cult.)	Sorghum bicolor	Cereals
Sweet sorghum (temperate and subtropical cult.)	Sorghum bicolor	Sugar crops
Winter rye	Secale cereale	Cereals
Spring rye	Secale cereale	Cereals
Pearl millet	Pennisetum glaucum	Cereals
Foxtail millet	Setaria italica	Cereals
Spring oat	Avena sativa	Cereals
Buckwheat	Fagopyrum esculentum	Cereals
White potato	Solanum tuberosum	Roots and tubers
Sweet potato	Ipomoea batatas	Roots and tubers
Cassava	Manihot esculenta	Roots and tubers

Common name	Scientific name	Crop group
White yam	Dioscorea spp.	Roots and tubers
Greater yam	Dioscorea spp.	Roots and tubers
Yellow yam	Dioscorea spp.	Roots and tubers
Cocoyam	Colocasia esculenta	Roots and tubers
Sugarcane	Saccharum spp.	Sugar crops
Sugar beet	Beta vulgaris L.	Sugar crops
Phaseolus bean (tropical lowland)	Phaseolus vulgaris and Ph. lunatus	Pulses
Phaseolus bean (tropical highland)	Phaseolus vulgaris and Ph. lunatus	Pulses
Phaseolus bean (temperate and subtropical cult.)	Phaseolus vulgaris and Ph. lunatus	Pulses
Chickpea	Cicer arietinum	Pulses
Chickpea (cold tolerant)	Cicer arietinum	Pulses
Cowpea	Vigna unguiculata	Pulses
Dry pea	Pisum sativum L.	Pulses
Gram	Vigna radiate	Pulses
Pigeonpea	Cajanus cajan	Pulses
Soybean (tropical and subtropical cult.)	Glycine max	Oil crops
Soybean (temperate and subtropical cult.)	Glycine max	Oil crops
Sunflower (tropical and subtropical cult.)	Helianthus annuus	Oil crops
Sunflower (temperate and subtropical cult.)	Helianthus annuus	Oil crops
Winter rape	Brassica napus	Oil crops
Spring rape	Brassica napus	Oil crops
Rabi rape	Brassica napus	Oil crops
Groundnut	Arachis hypogaea	Oil crops
Oilpalm	Elaeis oleifera	Oil crops
Olive	Olea europaea	Oil crops
Jatropha	Jatropha curcas	Oil crops
Cabbage	Brassica oleracea	Vegetables
Carrot (temperate and subtropical cultivars)	Daucus carota	Vegetables
Carrot (temperate and subtropical cultivars)	Daucus carota	Vegetables
Carrot (tropical cultivars)	Daucus carota	Vegetables

Common name	Scientific name	Crop group
Onion (temperate and subtropical cultivars)	<i>Allium cepa</i>	Vegetables
Onion hibernating cultivar	<i>Allium cepa</i>	Vegetables
Onion (tropical cultivars)	<i>Allium cepa</i>	Vegetables
Tomato (temperate and subtropical cultivars)	<i>Lycopersicon lycopersicum</i>	Vegetables
Tomato (tropical and subtropical cultivars)	<i>Lycopersicon lycopersicum</i>	Vegetables
Banana/Plantain	<i>Musa</i> spp.	Fruits
Citrus	<i>Citrus sinensis</i>	Fruits
Coconut 1 (tall)	<i>Cocos nucifera</i>	Fruits
Coconut 2 (hybrid tall)	<i>Cocos nucifera</i>	Fruits
Coconut 3 (dwarf)	<i>Cocos nucifera</i>	Fruits
Cacao (comun)	<i>Theobroma cacao</i>	Narcotics and stimulants
Cacao (hybrid)	<i>Theobroma cacao</i>	Narcotics and stimulants
Cotton (temperate and subtropical cult.)	<i>Gossypium</i> spp.	Fibre crops
Cotton (tropical cultivars)	<i>Gossypium</i> spp.	Fibre crops
Flax	<i>Linum usitatissimum</i>	Fibre crops
Coffee arabica	<i>Coffea arabica</i>	Narcotics and stimulants
Coffee robusta	<i>Coffea robusta</i>	Narcotics and stimulants
Tea (china tea)	<i>Camellia Sinenses</i> var. <i>Sinensis</i>	Narcotics and stimulants
Tea (hybrid tea)	<i>Sinensis</i> and <i>Assamica</i>	Narcotics and stimulants
Tea (assam tea)	<i>Camellia sinensis</i> var. <i>assamica</i>	Narcotics and stimulants
Tobacco (tropical cultivars)	<i>Nicotiana tobacum</i>	Narcotics and stimulants
Tobacco (temperate and subtropical cult.)	<i>Nicotiana tobacum</i>	Narcotics and stimulants
Alfalfa (temperate and subtropical cult.)	<i>Medicago sativa</i>	Fodder crops
Alfalfa (tropical cultivars)	<i>Medicago sativa</i>	Fodder crops
Pasture legumes (temp. and subtropical cult.)	various	Fodder crops
Pasture legumes (tropical and subtropical cult.)	various	Fodder crops
Pasture grasses (C3/I cultivars)	various	Fodder crops
Pasture grasses (C3/II cultivars)	various	Fodder crops
Pasture grasses (C4/II cultivars)	various	Fodder crops
Pasture grasses (C4/I cultivars)	various	Fodder crops

Common name	Scientific name	Crop group
Miscanthus (C4/II)	Miscanthus spp	Bioenergy feedstocks
Miscanthus (C4/I)	Miscanthus spp	Bioenergy feedstocks
Switchgrass	Panicum virgatum	Bioenergy feedstocks
Reed canary grass	Phalaris arundinacea	Bioenergy feedstocks

List of 280 crop sub-type, or Land Utilization Types (LUT), codes and names

ID	Crop type	Growth cycle	Harvested part
1	Winter wheat	35+105 days	Grain
2	Winter wheat	40+120 days	Grain
3	Winter wheat	45+135 days	Grain
4	Winter wheat	50+150 days	Grain
5	Spring wheat	90 days	Grain
6	Spring wheat	105 days	Grain
7	Spring wheat	120 days	Grain
8	Spring wheat	135 days	Grain
9	Spring wheat	150 days	Grain
10	Wheat (subtropical cultivars)	105 days	Grain
11	Wheat (subtropical cultivars)	120 days	Grain
12	Wheat (subtropical cultivars)	135 days	Grain
13	Wheat (subtropical cultivars)	150 days	Grain
14	Wheat (tropical highland cultivars)	100 days	Grain
15	Wheat (tropical highland cultivars)	115 days	Grain
16	Wheat (tropical highland cultivars)	130 days	Grain
17	Wheat (tropical highland cultivars)	145 days	Grain
18	Wheat (tropical highland cultivars)	160 days	Grain
19	Wheat (tropical highland cultivars)	175 days	Grain
20	Wheat (tropical highland cultivars)	190 days	Grain
21	Japonica wetland rice	105 days	Grain
22	Japonica wetland rice	120 days	Grain
23	Japonica wetland rice	135 days	Grain

ID	Crop type	Growth cycle	Harvested part
24	Japonica wetland rice	150 days	Grain
25	Indica wetland rice	105 days	Grain
26	Indica wetland rice	120 days	Grain
27	Indica wetland rice	135 days	Grain
28	Indica wetland rice	150 days	Grain
29	Indica wetland rice	105 days	Grain
30	Indica wetland rice	120 days	Grain
31	Indica wetland rice	135 days	Grain
32	Maize (tropical lowland cultivars)	90 days	Grain
33	Maize (tropical lowland cultivars)	105 days	Grain
34	Maize (tropical lowland cultivars)	120 days	Grain
35	Maize (tropical lowland cultivars)	135 days	Grain
36	Maize (tropical highland cultivars)	120 days	Grain
37	Maize (tropical highland cultivars)	150 days	Grain
38	Maize (tropical highland cultivars)	180 days	Grain
39	Maize (tropical highland cultivars)	210 days	Grain
40	Maize (tropical highland cultivars)	240 days	Grain
41	Maize (tropical highland cultivars)	270 days	Grain
42	Maize (tropical highland cultivars)	300 days	Grain
43	Maize (temperate and subtropical cultivars)	90 days	Grain
44	Maize (temperate and subtropical cultivars)	105 days	Grain
45	Maize (temperate and subtropical cultivars)	120 days	Grain
46	Maize (temperate and subtropical cultivars)	135 days	Grain
47	Maize (temperate and subtropical cultivars)	150 days	Grain
48	Maize (temperate and subtropical cultivars)	165 days	Grain
49	Maize (temperate and subtropical cultivars)	180 days	Grain
50	Silage maize (temperate and subtropical cultivars)	105 days	Fodder
51	Silage maize (temperate and subtropical cultivars)	120 days	Fodder
52	Silage maize (temperate and subtropical cultivars)	135 days	Fodder
53	Silage maize (temperate and subtropical cultivars)	150 days	Fodder
54	Silage maize (temperate and subtropical cultivars)	165 days	Fodder
55	Silage maize (temperate and subtropical cultivars)	180 days	Fodder
56	Winter barley	35+105 days	Grain
57	Winter barley	40+120 days	Grain

ID	Crop type	Growth cycle	Harvested part
58	Winter barley	45+135 days	Grain
59	Winter barley	50+150 days	Grain
60	Spring barley	90 days	Grain
61	Spring barley	105 days	Grain
62	Spring barley	120 days	Grain
63	Spring barley	135 days	Grain
64	Barley (subtropical cultivars)	90 days	Grain
65	Barley (subtropical cultivars)	105 days	Grain
66	Barley (subtropical cultivars)	120 days	Grain
67	Barley (subtropical cultivars)	135 days	Grain
68	Barley (tropical highland cultivars)	100 days	Grain
69	Barley (tropical highland cultivars)	115 days	Grain
70	Barley (tropical highland cultivars)	130 days	Grain
71	Barley (tropical highland cultivars)	145 days	Grain
72	Barley (tropical highland cultivars)	160 days	Grain
73	Barley (tropical highland cultivars)	175 days	Grain
74	Barley (tropical highland cultivars)	190 days	Grain
75	Sorghum (tropical lowland cultivars)	90 days	Grain
76	Sorghum (tropical lowland cultivars)	105 days	Grain
77	Sorghum (tropical lowland cultivars)	120 days	Grain
78	Sorghum (tropical lowland cultivars)	135 days	Grain
79	Sorghum (tropical highland cultivars)	120 days	Grain
80	Sorghum (tropical highland cultivars)	150 days	Grain
81	Sorghum (tropical highland cultivars)	180 days	Grain
82	Sorghum (tropical highland cultivars)	210 days	Grain
83	Sorghum (tropical highland cultivars)	240 days	Grain
84	Sorghum (tropical highland cultivars)	270 days	Grain
85	Sorghum (tropical highland cultivars)	300 days	Grain
86	Sorghum (temperate and subtropical cultivars)	90 days	Grain
87	Sorghum (temperate and subtropical cultivars)	105 days	Grain
88	Sorghum (temperate and subtropical cultivars)	120 days	Grain
89	Sorghum (temperate and subtropical cultivars)	135 days	Grain
90	Sorghum (temperate and subtropical cultivars)	150 days	Grain
91	Sorghum (temperate and subtropical cultivars)	165 days	Grain

ID	Crop type	Growth cycle	Harvested part
92	Sorghum (temperate and subtropical cultivars)	180 days	Grain
93	Sweet sorghum (temperate and subtropical cultivars)	90 days	Supra
94	Sweet sorghum (temperate and subtropical cultivars)	105 days	Supra
95	Sweet sorghum (temperate and subtropical cultivars)	120 days	Supra
96	Sweet sorghum (temperate and subtropical cultivars)	135 days	Supra
97	Sweet sorghum (temperate and subtropical cultivars)	150 days	Supra
98	Sweet sorghum (temperate and subtropical cultivars)	165 days	Supra
99	Sweet sorghum (temperate and subtropical cultivars)	180 days	Supra
100	Winter rye	30+90 days	Grain
101	Winter rye	35+105 days	Grain
102	Winter rye	40+120 days	Grain
103	Winter rye	45+135 days	Grain
104	Spring rye	90 days	Grain
105	Spring rye	105 days	Grain
106	Spring rye	120 days	Grain
107	Spring rye	135 days	Grain
108	Pearl millet	70 days	Grain
109	Pearl millet	90 days	Grain
110	Foxtail millet	75 days	Grain
111	Foxtail millet	90 days	Grain
112	Foxtail millet	105 days	Grain
113	Foxtail millet	120 days	Grain
114	Spring oat	90 days	Grain
115	Spring oat	105 days	Grain
116	Spring oat	120 days	Grain
117	Buckwheat	75 days	Grain
118	Buckwheat	90 days	Grain
119	White potato	90 days	Tuber
120	White potato	105 days	Tuber
121	White potato	120 days	Tuber
122	White potato	135 days	Tuber
123	White potato	150 days	Tuber
124	White potato	165 days	Tuber
125	White potato	180 days	Tuber

ID	Crop type	Growth cycle	Harvested part
126	Sweet potato	120 days	Tuber
127	Sweet potato	135 days	Tuber
128	Sweet potato	150 days	Tuber
129	Sweet potato	165 days	Tuber
130	Cassava	perennial	Root
131	White yam	195 days	Tuber
132	White yam	225 days	Tuber
133	Greater yam	240 days	Tuber
134	Greater yam	270 days	Tuber
135	Yellow yam	330 days	Tuber
136	Cocoyam	330 days	Tuber
137	Sugarcane	330 days	Sugar
138	Sugar beet	120 days	Sugar
139	Sugar beet	135 days	Sugar
140	Sugar beet	150 days	Sugar
141	Sugar beet	165 days	Sugar
142	Sugar beet	180 days	Sugar
143	Sugar beet	195 days	Sugar
144	Sugar beet	210 days	Sugar
145	Phaseolus bean (tropical lowland cultivars)	90 days	Grain
146	Phaseolus bean (tropical lowland cultivars)	105 days	Grain
147	Phaseolus bean (tropical lowland cultivars)	120 days	Grain
148	Phaseolus bean (tropical lowland cultivars)	135 days	Grain
149	Phaseolus bean (tropical lowland cultivars)	150 days	Grain
150	Phaseolus bean (tropical highland cultivars)	120 days	Grain
151	Phaseolus bean (tropical highland cultivars)	135 days	Grain
152	Phaseolus bean (tropical highland cultivars)	150 days	Grain
153	Phaseolus bean (tropical highland cultivars)	165 days	Grain
154	Phaseolus bean (tropical highland cultivars)	180 days	Grain
155	Phaseolus bean (temperate and subtropical cultivars)	90 days	Grain
156	Phaseolus bean (temperate and subtropical cultivars)	105 days	Grain
157	Phaseolus bean (temperate and subtropical cultivars)	120 days	Grain
158	Phaseolus bean (temperate and subtropical cultivars)	135 days	Grain
159	Phaseolus bean (temperate and subtropical cultivars)	150 days	Grain

ID	Crop type	Growth cycle	Harvested part
160	Chickpea	90 days	Grain
161	Chickpea	105 days	Grain
162	Chickpea	120 days	Grain
163	Chickpea (cold tolerant)	150 days	Grain
164	Chickpea (cold tolerant)	165 days	Grain
165	Chickpea (cold tolerant)	180 days	Grain
166	Cowpea	80 days	Grain
167	Cowpea	100 days	Grain
168	Cowpea	120 days	Grain
169	Dry pea	90 days	Grain
170	Dry pea	105 days	Grain
171	Dry pea	120 days	Grain
172	Green gram	60 days	Grain
173	Green gram	80 days	Grain
174	Green gram	100 days	Grain
175	Pigeon pea	135 days	Grain
176	Pigeon pea	150 days	Grain
177	Pigeon pea	165 days	Grain
178	Pigeon pea	180 days	Grain
179	Pigeon pea	195 days	Grain
180	Soybean (tropical and subtropical cultivars)	105 days	Grain
181	Soybean (tropical and subtropical cultivars)	120 days	Grain
182	Soybean (tropical and subtropical cultivars)	135 days	Grain
183	Soybean (temperate and subtropical cultivars)	105 days	Grain
184	Soybean (temperate and subtropical cultivars)	120 days	Grain
185	Soybean (temperate and subtropical cultivars)	135 days	Grain
186	Sunflower (tropical and subtropical cultivars)	135 days	Seed
187	Sunflower (tropical and subtropical cultivars)	150 days	Seed
188	Sunflower (temperate and subtropical cultivars)	105 days	Seed
189	Sunflower (temperate and subtropical cultivars)	120 days	Seed
190	Sunflower (temperate and subtropical cultivars)	135 days	Seed
191	Sunflower (temperate and subtropical cultivars)	150 days	Seed
192	Winter rape	35+105 days	Seed
193	Winter rape	40+120 days	Seed

ID	Crop type	Growth cycle	Harvested part
194	Winter rape	45+135 days	Seed
195	Winter rape	45+150 days	Seed
196	Spring rape	105 days	Seed
197	Spring rape	120 days	Seed
198	Spring rape	135 days	Seed
199	Spring rape	150 days	Seed
200	Rabi rape	135 days	Seed
201	Rabi rape	150 days	Seed
202	Groundnut	90 days	Kernel
203	Groundnut	105 days	Kernel
204	Groundnut	120 days	Kernel
205	Oil palm	perennial	Oil
206	Olive	perennial	Oil
207	Jatropha	perennial	Oil
208	Cabbage	90 days	Head
209	Cabbage	105 days	Head
210	Cabbage	120 days	Head
211	Cabbage	135 days	Head
212	Cabbage	150 days	Head
213	Cabbage	165 days	Head
214	Carrot (fresh□early) (temperate and subtropical cultivars)	60 days	Root
215	Carrot (fresh□early) (temperate and subtropical cultivars)	75 days	Root
216	Carrot (fresh□early) (temperate and subtropical cultivars)	90 days	Root
217	Carrot (storage□late) (temperate and subtropical cultivars)	135 days	Root
218	Carrot (storage□late) (temperate and subtropical cultivars)	165 days	Root
219	Carrot (storage□late) (temperate and subtropical cultivars)	195 days	Root
220	Carrot (fresh) (tropical cultivars)	75 days	Root
221	Carrot (fresh) (tropical cultivars)	90 days	Root
222	Carrot (fresh) (tropical cultivars)	105 days	Root
223	Onion (temperate and subtropical cultivars)	120 days	Bulb

ID	Crop type	Growth cycle	Harvested part
224	Onion (temperate and subtropical cultivars)	135 days	Bulb
225	Onion (temperate and subtropical cultivars)	150 days	Bulb
226	Onion (temperate and subtropical cultivars)	165 days	Bulb
227	Onion (temperate and subtropical cultivars)	180 days	Bulb
228	Onion (hibernating) (temperate and subtropical cultivars)	45+105 days	Bulb
229	Onion (hibernating) (temperate and subtropical cultivars)	60+120 days	Bulb
230	Onion (hibernating) (temperate and subtropical cultivars)	75+135 days	Bulb
231	Onion (tropical cultivars)	90 days	Bulb
232	Onion (tropical cultivars)	105 days	Bulb
233	Onion (tropical cultivars)	120 days	Bulb
234	Onion (tropical cultivars)	135 days	Bulb
235	Tomato (temperate and subtropical cultivars)	90 days	Fruit
236	Tomato (temperate and subtropical cultivars)	105 days	Fruit
237	Tomato (temperate and subtropical cultivars)	120 days	Fruit
238	Tomato (temperate and subtropical cultivars)	135 days	Fruit
239	Tomato (tropical and subtropical cultivars)	105 days	Fruit
240	Tomato (tropical and subtropical cultivars)	120 days	Fruit
241	Tomato (tropical and subtropical cultivars)	135 days	Fruit
242	Banana/Plantain	perennial	Fruit
243	Citrus	perennial	Fruit
244	Coconut 1 (tall)	perennial	Copra
245	Coconut 2 (hybrid tall)	perennial	Copra
246	Coconut 3 (dwarf)	perennial	Copra
247	Cacao (comun)	perennial	Beans
248	Cacao (hybrid)	perennial	Beans
249	Cotton (tropical cultivars)	135 days	Fiber
250	Cotton (tropical cultivars)	150 days	Fiber
251	Cotton (tropical cultivars)	165 days	Fiber
252	Cotton (tropical cultivars)	180 days	Fiber
253	Cotton (temperate and subtropical cultivars)	135 days	Fiber
254	Cotton (temperate and subtropical cultivars)	150 days	Fiber
255	Cotton (temperate and subtropical cultivars)	165 days	Fiber

ID	Crop type	Growth cycle	Harvested part
256	Flax	90 days	Fiber
257	Flax	105 days	Fiber
258	Flax	120 days	Fiber
259	Coffee arabica	perennial	Green beans
260	Coffee robusta	perennial	Green beans
261	Tea china tea (camelia sinenses)	perennial	Leaves
262	Tea hybrid (sinensis and assamica)	perennial	Leaves
263	Tea assam tea (camelia sinenses var.assamica)	perennial	Leaves
264	Tobacco (tropical cultivars)	105 days	Leaves
265	Tobacco (tropical cultivars)	120 days	Leaves
266	Tobacco (tropical cultivars)	135 days	Leaves
267	Tobacco (temperate and subtropical cultivars)	150 days	Leaves
268	Tobacco (temperate and subtropical cultivars)	165 days	Leaves
269	Alfalfa (temperate and subtropical cultivars)	perennial	AGB
270	Alfalfa (tropical cultivars)	perennial	AGB
271	Pasture legumes (C3/I species)	perennial	AGB
272	Pasture legumes (C3/II species)	perennial	AGB
273	Pasture grasses (C3/I species)	perennial	AGB
274	Pasture grasses (C3/II species)	perennial	AGB
275	Pasture grasses (C4/II species)	perennial	AGB
276	Pasture grasses (C4/I species)	perennial	AGB
277	Miscanthus (C4/II type)	perennial	AGB
278	Miscanthus (C4/I type)	perennial	AGB
279	Switchgrass	perennial	AGB
280	Reed canary grass	perennial	AGB

Major crops/commodity groups used for downscaling actual yield and production

Common name	Scientific name	Crop group
1	Cash crops 1	Banana, Coconut
2	Cash crops 2	Coffee, Tea, Cocoa
3	Cotton	Cotton
4	Fodder	Fodder
5	Groundnut	Groundnuts in shells
6	Maize	Maize
7	Millet	Millet
8	Oil palm	Oil palm
9	Olive	Olive
10	Other cereals	Barley, Rye, Oat and minor other cereals
11	Pulses	Pulses
12	Rape	Rapeseed
13	Residual	Other crops not listed: mainly fruit, nuts, spices, tobacco, fiber crops, other oil crops
14	Rice	Rice
15	Roots	Cassava, Yams, other Roots and Plantain
16	Sorghum	Sorghum
17	Soybean	Soybean
18	Sugar beet	Sugar beet
19	Sugarcane	Sugarcane
20	Sunflower	Sunflower
21	Tubers	Potato, Sweet potato
22	Vegetables	Vegetables
23	Wheat	Wheat

Major crops/commodity groups used for yield gap assessments

Common name	Scientific name	Crop group
1	Cotton	Cotton
2	Groundnut	Groundnuts in shells
3	Maize	Maize
4	Millet	Millet
5	Oil palm	Oil palm
6	Olive	Olive
7	Pulses	Pulses
8	Rape	Rapeseed
9	Rice	Rice
10	Roots	Cassava, Yams, other Roots and Plantain
11	Sorghum	Sorghum
12	Soybean	Soybean
13	Sugar beet	Sugar beet
14	Sugarcane	Sugarcane
15	Sunflower	Sunflower
16	Tubers	Potato, Sweet potato
17	Wheat	Wheat
18	Sugar beet	Sugar beet
19	Sugarcane	Sugarcane
20	Sunflower	Sunflower
21	Tubers	Potato, Sweet potato
22	Vegetables	Vegetables
23	Wheat	Wheat

Regionalization

List of GAEZ countries and territories

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
1	Afghanistan	the Islamic Republic of Afghanistan	Afghanistan
3	Albania	the Republic of Albania	Albania
4	Algeria	the People's Democratic Republic of Algeria	Algeria
7	Andorra	the Principality of Andorra	Andorra
8	Angola	the Republic of Angola	Angola
11	Antigua and Barbuda	Antigua and Barbuda	Antigua and Barbuda
12	Argentina	the Argentine Republic	Argentina
13	Armenia	the Republic of Armenia	Armenia
17	Australia	Australia	Australia
18	Austria	the Republic of Austria	Austria
19	Azerbaijan	the Republic of Azerbaijan	Azerbaijan
20	Bahamas	the Commonwealth of the Bahamas	the Bahamas
21	Bahrain	the Kingdom of Bahrain	Bahrain
23	Bangladesh	the People's Republic of Bangladesh	Bangladesh
24	Barbados	Barbados	Barbados
26	Belarus	the Republic of Belarus	Belarus
27	Belgium	the Kingdom of Belgium	Belgium
28	Belize	Belize	Belize
29	Benin	the Republic of Benin	Benin
31	Bhutan	the Kingdom of Bhutan	Bhutan
33	Bolivia	the Plurinational State of Bolivia	Bolivia (Plurinational State of)
34	Bosnia and Herzegovina	Bosnia and Herzegovina	Bosnia and Herzegovina
35	Botswana	the Republic of Botswana	Botswana
37	Brazil	the Federative Republic of Brazil	Brazil
40	Brunei Darussalam	Brunei Darussalam	Brunei Darussalam
41	Bulgaria	the Republic of Bulgaria	Bulgaria
42	Burkina Faso	Burkina Faso	Burkina Faso
43	Burundi	the Republic of Burundi	Burundi

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
44	Cambodia	the Kingdom of Cambodia	Cambodia
45	Cameroon	the Republic of Cameroon	Cameroon
46	Canada	Canada	Canada
47	Cape Verde	the Republic of Cape Verde	Cape Verde
49	Central African Republic	the Central African Republic	the Central African Republic
50	Chad	the Republic of Chad	Chad
51	Chile	the Republic of Chile	Chile
53	China	the People's Republic of China	China
57	Colombia	the Republic of Colombia	Colombia
58	Comoros	the Union of the Comoros	the Comoros
68	Congo, Dem. Rep.	the Democratic Republic of the Congo	the Democratic Republic of the Congo
59	Congo, Rep.	the Republic of the Congo	the Congo
60	Cook Islands	the Cook Islands	the Cook Islands
61	Costa Rica	the Republic of Costa Rica	Costa Rica
66	Côte d'Ivoire	the Republic of Côte d'Ivoire	Côte d'Ivoire
62	Croatia	the Republic of Croatia	Croatia
63	Cuba	the Republic of Cuba	Cuba
64	Cyprus	the Republic of Cyprus	Cyprus
65	Czech Republic	the Czech Republic	the Czech Republic
69	Denmark	the Kingdom of Denmark	Denmark
70	Djibouti	the Republic of Djibouti	Djibouti
71	Dominica	the Commonwealth of Dominica	Dominica
72	Dominican Republic	the Dominican Republic	Dominican Republic (the)
73	Ecuador	the Republic of Ecuador	Ecuador
307	Egypt	the Arab Republic of Egypt	Egypt
75	El Salvador	the Republic of El Salvador	El Salvador
76	Equatorial Guinea	the Republic of Equatorial Guinea	Equatorial Guinea
77	Eritrea	Eritrea	Eritrea
78	Estonia	the Republic of Estonia	Estonia
79	Ethiopia	the Federal Democratic Republic of Ethiopia	Ethiopia
82	Faroe Islands	Faroe Islands	Faroe Islands
83	Fiji	the Republic of Fiji	Fiji

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
84	Finland	the Republic of Finland	Finland
85	France	the French Republic	France
89	Gabon	the Gabonese Republic	Gabon
90	Gambia	the Republic of the Gambia	the Gambia
92	Georgia	Georgia	Georgia
93	Germany	the Federal Republic of Germany	Germany
94	Ghana	the Republic of Ghana	Ghana
97	Greece	the Hellenic Republic	Greece
99	Grenada	Grenada	Grenada
103	Guatemala	the Republic of Guatemala	Guatemala
106	Guinea	the Republic of Guinea	Guinea
105	Guinea-Bissau	the Republic of Guinea-Bissau	Guinea-Bissau
107	Guyana	the Republic of Guyana	Guyana
108	Haiti	the Republic of Haiti	Haiti
110	Holy See	Holy See	Holy See
111	Honduras	the Republic of Honduras	Honduras
113	Hungary	the Republic of Hungary	Hungary
114	Iceland	the Republic of Iceland	Iceland
115	India	the Republic of India	India
116	Indonesia	the Republic of Indonesia	Indonesia
117	Iran, Islamic Rep.	the Islamic Republic of Iran	Iran (Islamic Republic of)
118	Iraq	the Republic of Iraq	Iraq
119	Ireland	Ireland	Ireland
121	Israel	the State of Israel	Israel
122	Italy	the Republic of Italy	Italy
123	Jamaica	Jamaica	Jamaica
126	Japan	Japan	Japan
130	Jordan	the Hashemite Kingdom of Jordan	Jordan
132	Kazakhstan	the Republic of Kazakhstan	Kazakhstan
133	Kenya	the Republic of Kenya	Kenya
135	Kiribati	the Republic of Kiribati	Kiribati
67	Korea DPR	the Democratic People's Republic of Korea	the Democratic People's Republic of Korea

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
202	Korea Rep.	the Republic of Korea	the Republic of Korea
137	Kuwait	the State of Kuwait	Kuwait
138	Kyrgyzstan	the Kyrgyz Republic	Kyrgyzstan
139	Lao PDR	the Lao People's Democratic Republic	the Lao People's Democratic Republic
140	Latvia	the Republic of Latvia	Latvia
141	Lebanon	the Lebanese Republic	Lebanon
142	Lesotho	the Kingdom of Lesotho	Lesotho
144	Liberia	the Republic of Liberia	Liberia
145	Libyan Arab Jamahiriya	the Socialist People's Libyan Arab Jamahiriya	the Libyan Arab Jamahiriya
146	Liechtenstein	the Principality of Liechtenstein	Liechtenstein
147	Lithuania	the Republic of Lithuania	Lithuania
148	Luxembourg	the Grand Duchy of Luxembourg	Luxembourg
241	Macedonia, FYR	The former Yugoslav Republic of Macedonia	The former Yugoslav Republic of Macedonia
150	Madagascar	the Republic of Madagascar	Madagascar
152	Malawi	the Republic of Malawi	Malawi
153	Malaysia	Malaysia	Malaysia
154	Maldives	the Republic of Maldives	Maldives
155	Mali	the Republic of Mali	Mali
156	Malta	the Republic of Malta	Malta
157	Marshall Islands	the Republic of the Marshall Islands	the Marshall Islands
159	Mauritania	the Islamic Republic of Mauritania	Mauritania
160	Mauritius	the Republic of Mauritius	Mauritius
162	Mexico	the United Mexican States	Mexico
163	Micronesia (Fed States of)	the Federated States of Micronesia	Micronesia (Federated States of)
165	Moldova, Rep.	the Republic of Moldova	Republic of Moldova
166	Monaco	the Principality of Monaco	Monaco
167	Mongolia	Mongolia	Mongolia
300	Montenegro	Montenegro	Montenegro
169	Morocco	the Kingdom of Morocco	Morocco
170	Mozambique	the Republic of Mozambique	Mozambique
171	Myanmar	the Republic of the Union of Myanmar	Myanmar

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
172	Namibia	the Republic of Namibia	Namibia
173	Nauru	the Republic of Nauru	Nauru
175	Nepal	Federal Democratic Republic of Nepal	Nepal
177	Netherlands	the Kingdom of the Netherlands	the Netherlands
179	New Zealand	New Zealand	New Zealand
180	Nicaragua	the Republic of Nicaragua	Nicaragua
181	Niger	the Republic of the Niger	the Niger
182	Nigeria	the Federal Republic of Nigeria	Nigeria
183	Niue	the Republic of Niue	Niue
186	Norway	the Kingdom of Norway	Norway
187	Oman	the Sultanate of Oman	Oman
188	Pakistan	the Islamic Republic of Pakistan	Pakistan
189	Palau	the Republic of Palau	Palau
191	Panama	the Republic of Panama	Panama
192	Papua New Guinea	Papua New Guinea	Papua New Guinea
194	Paraguay	the Republic of Paraguay	Paraguay
195	Peru	the Republic of Peru	Peru
196	Philippines	the Republic of the Philippines	the Philippines
198	Poland	the Republic of Poland	Poland
199	Portugal	the Portuguese Republic	Portugal
201	Qatar	the State of Qatar	Qatar
203	Romania	Romania	Romania
204	Russian Federation	the Russian Federation	the Russian Federation
205	Rwanda	the Republic of Rwanda	Rwanda
212	Samoa	the Independent State of Samoa	Samoa
213	San Marino	the Republic of San Marino	San Marino
214	Sao Tome and Principe	the Democratic Republic of Sao Tome and Principe	Sao Tome and Principe
215	Saudi Arabia	the Kingdom of Saudi Arabia	Saudi Arabia
217	Senegal	the Republic of Senegal	Senegal
301	Serbia	the Republic of Serbia	Serbia
220	Seychelles	the Republic of Seychelles	Seychelles
221	Sierra Leone	the Republic of Sierra Leone	Sierra Leone
222	Singapore	the Republic of Singapore	Singapore

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
223	Slovakia	the Slovak Republic	Slovakia
224	Slovenia	the Republic of Slovenia	Slovenia
225	Solomon Islands	Solomon Islands	Solomon Islands
226	Somalia	the Somali Republic	Somalia
227	South Africa	the Republic of South Africa	South Africa
313	South Sudan	Republic of South Sudan	South Sudan
229	Spain	the Kingdom of Spain	Spain
231	Sri Lanka	the Democratic Socialist Republic of Sri Lanka	Sri Lanka
208	St Kitts and Nevis	Saint Kitts and Nevis	Saint Kitts and Nevis
209	St Lucia	Saint Lucia	Saint Lucia
211	St Vincent and the Grenadines	St Vincent and the Grenadines	St Vincent and the Grenadines
312	Sudan	the Republic of the Sudan	the Sudan
233	Suriname	the Republic of Suriname	Suriname
235	Swaziland	the Kingdom of Swaziland	Swaziland
236	Sweden	the Kingdom of Sweden	Sweden
237	Switzerland	the Swiss Confederation	Switzerland
238	Syrian Arab Republic	the Syrian Arab Republic	the Syrian Arab Republic
239	Tajikistan	the Republic of Tajikistan	Tajikistan
257	Tanzania UR	the United Republic of Tanzania	the United Republic of Tanzania
240	Thailand	the Kingdom of Thailand	Thailand
242	Timor-Leste	the Democratic Republic of Timor-Leste	Timor-Leste
243	Togo	the Togolese Republic	Togo
244	Tokelau	Tokelau	Tokelau
245	Tonga	the Kingdom of Tonga	Tonga
246	Trinidad and Tobago	the Republic of Trinidad and Tobago	Trinidad and Tobago
248	Tunisia	the Republic of Tunisia	Tunisia
249	Turkey	the Republic of Turkey	Turkey
250	Turkmenistan	Turkmenistan	Turkmenistan
252	Tuvalu	Tuvalu	Tuvalu
253	Uganda	the Republic of Uganda	Uganda
254	Ukraine	Ukraine	Ukraine

GAEZ code	GAEZ countries and territories	Official FAO Name	Official FAO short
255	United Arab Emirates	the United Arab Emirates	the United Arab Emirates
256	United Kingdom	the United Kingdom of Great Britain and Northern Ireland	the United Kingdom of Great Britain and Northern Ireland
259	United States of America	the United States of America	the United States of America
260	Uruguay	the Eastern Republic of Uruguay	Uruguay
261	Uzbekistan	the Republic of Uzbekistan	Uzbekistan
262	Vanuatu	the Republic of Vanuatu	Vanuatu
263	Venezuela	the Bolivarian Republic of Venezuela	Venezuela (Bolivarian Republic of)
264	Viet Nam	the Socialist Republic of Viet Nam	Viet Nam
269	Yemen	the Republic of Yemen	Yemen
270	Zambia	the Republic of Zambia	Zambia
271	Zimbabwe	the Republic of Zimbabwe	Zimbabwe

Rest of World (*) countries and territories in GAEZ consist of countries with fewer than 10 pixels comprise of the following countries:

GAEZ code	GAEZ countries and territories
5	American Samoa
9	Anguilla
10	Antarctica
14	Aruba
16	Ashmore and Cartier Islands
311	Azores Islands
22	Baker Island
25	Bassas da India
30	Bermuda
32	Bird Island
36	Bouvet Island
38	British Indian Ocean Territory
39	British Virgin Islands
48	Cayman Islands
54	Christmas Island
55	Clipperton Island
56	Cocos (Keeling) Islands
305	Dhekelia and Akrotiri SBA
80	Europa Island
81	Falkland Islands
88	Fr South and Antarctic Territories
86	French Guiana
87	French Polynesia
91	Gaza Strip
95	Gibraltar
96	Glorioso Island
98	Greenland
100	Guadeloupe
101	Guam

GAEZ code	GAEZ countries and territories
104	Guernsey
109	Heard Island and McDonald Island
112	Howland Island
120	Isle of Man
127	Jarvis Island
128	Jersey
129	Johnston Atoll
131	Juan de Nova Island
134	Kingman Reef
151	Madeira Islands
158	Martinique
161	Mayotte
164	Midway Island
168	Montserrat
176	Netherlands Antilles
178	New Caledonia
184	Norfolk Island
185	Northern Mariana Islands
190	Palmyra Atoll
197	Pitcairn
200	Puerto Rico
206	Réunion
228	S.Georgia and S.Sandwich Island
207	St Helena
210	St Pierre et Miquelon
234	Svalbard and Jan Mayen Island
247	Tromelin Island
251	Turks and Caicos Islands
258	United States Virgin Islands

GAEZ
code GAEZ countries and territories

265	Wake Island
266	Wallis and Futuna Islands
267	West Bank
268	Western Sahara

GAEZ disputed areas and territories *(source: GAUL 2009/08)*

GAEZ
code GAEZ disputed areas and territories

2	Aksai Chin
15	Arunashal Pradesh
52	China/India
303	Hala'ib triangle
309	Ilemi triangle
308	Jammu Kashmir
136	Kuril Islands
143	Liancourt Rock
304	Ma'tan al-Sarra
174	Navassa Island
193	Paracel Islands
216	Scarborough Reef
218	Senkaku Islands
230	Spratly Islands

The Lowest Administrative Level (LAL) used in GAEZ based on GAUL 2009/08

First sub-national administrative level for nine countries

GAEZ/LAL code	Administrative Name	Country
1155	Buenos Aires	Argentina
1156	Buenos Aires D.f.	Argentina
1157	Catamarca	Argentina
1158	Chaco	Argentina
1159	Chubut	Argentina
1160	Cordoba	Argentina
1161	Corrientes	Argentina
1162	Entre Rios	Argentina
1163	Formosa	Argentina
1164	Jujuy	Argentina
1165	La Pampa	Argentina
1166	La Rioja	Argentina
1167	Mendoza	Argentina
1168	Misiones	Argentina
1169	Neuquen	Argentina
1170	Rio Negro	Argentina
1171	Salta	Argentina
1172	San Juan	Argentina
1173	San Luis	Argentina
1174	Santa Cruz	Argentina
1175	Santa Fe	Argentina
1176	Santiago Del Estero	Argentina
1177	Tierra Del Fuego	Argentina
1178	Tucuman	Argentina
1193	Australian Capital Territory	Australia
1194	Coral Sea Islands Territory	Australia
1195	New South Wales	Australia
1196	Northern Territory	Australia
1197	Other Territories	Australia

GAEZ/LAL code	Administrative Name	Country
1198	Queensland	Australia
1199	South Australia	Australia
1200	Tasmania	Australia
1201	Victoria	Australia
1202	Western Australia	Australia
1382	Acre	Brazil
1383	Alagoas	Brazil
1384	Amapa	Brazil
1385	Amazonas	Brazil
1386	Bahia	Brazil
1387	Ceara	Brazil
1388	Distrito Federal	Brazil
1389	Espirito Santo	Brazil
1390	Goias	Brazil
1391	Maranhao	Brazil
1392	Mato Grosso	Brazil
1393	Mato Grosso Do Sul	Brazil
1394	Minas Gerais	Brazil
1409	Name Unknown	Brazil
1410	Name Unknown	Brazil
1411	Name Unknown	Brazil
1412	Name Unknown	Brazil
1395	Para	Brazil
1396	Paraiba	Brazil
1397	Parana	Brazil
1398	Pernambuco	Brazil
1399	Piaui	Brazil
1400	Rio De Janeiro	Brazil
1401	Rio Grande Do Norte	Brazil
1402	Rio Grande Do Sul	Brazil
1403	Rondonia	Brazil
1404	Roraima	Brazil
1405	Santa Catarina	Brazil
1406	Sao Paulo	Brazil

GAEZ/LAL code	Administrative Name	Country
1407	Sergipe	Brazil
1408	Tocantins	Brazil
1480	Alberta	Canada
1481	British Columbia	Canada
1482	Manitoba	Canada
1483	New Brunswick	Canada
1484	Newfoundland and Labrador	Canada
1485	Northwest Territories	Canada
1486	Nova Scotia	Canada
1487	Nunavut	Canada
1488	Ontario	Canada
1489	Prince Edward Island	Canada
1490	Quebec	Canada
1491	Saskatchewan	Canada
1492	Yukon Territory	Canada
1543	Anhui Sheng	China
1544	Beijing Shi	China
1545	Chongqing Shi	China
1546	Fujian Sheng	China
1547	Gansu Sheng	China
1548	Guangdong Sheng	China
1549	Guangxi Zhuangzu Zizhiqu	China
1550	Guizhou Sheng	China
1551	Hainan Sheng	China
1552	Hebei Sheng	China
1553	Heilongjiang Sheng	China
1554	Henan Sheng	China
1555	Hong Kong SAR, China	China
1556	Hubei Sheng	China
1557	Hunan Sheng	China
1558	Jiangsu Sheng	China
1559	Jiangxi Sheng	China
1560	Jilin Sheng	China
1561	Liaoning Sheng	China

GAEZ/LAL code	Administrative Name	Country
2450	Macao SAR, China	China
1562	Nei Mongol Zizhiqu	China
1563	Ningxia Huizu Zizhiqu	China
1564	Qinghai Sheng	China
1565	Shaanxi Sheng	China
1566	Shandong Sheng	China
1567	Shanghai Shi	China
1568	Shanxi Sheng	China
1569	Sichuan Sheng	China
1570	Taiwan Sheng	China
1571	Tianjin Shi	China
1572	Xinjiang Uygur Zizhiqu	China
1573	Xizang Zizhiqu	China
1574	Yunnan Sheng	China
1575	Zhejiang Sheng	China
2085	Andaman and Nicobar	India
2086	Andhra Pradesh	India
4411	Arunachal Pradesh	India
2087	Assam	India
4412	Bihar	India
4413	Chandigarh	India
4414	Chhattisgarh	India
4415	Dadra and Nagar Haveli	India
4416	Daman and Diu	India
2088	Delhi	India
2089	Goa	India
2090	Gujarat	India
2091	Haryana	India
2092	Himachal Pradesh	India
4417	Jharkhand	India
2093	Karnataka	India
2094	Kerala	India
2095	Lakshadweep	India
4418	Madhya Pradesh	India

GAEZ/LAL code	Administrative Name	Country
2096	Maharashtra	India
2097	Manipur	India
2098	Meghalaya	India
2099	Mizoram	India
2100	Nagaland	India
2101	Orissa	India
4419	Puducherry	India
2102	Punjab	India
2103	Rajasthan	India
2104	Sikkim	India
2105	Tamil Nadu	India
2106	Tripura	India
4420	Uttar Pradesh	India
4421	Uttarakhand	India
2107	West Bengal	India
2306	Administrative unit not available	Kazakhstan
2298	Akmolinskaya	Kazakhstan
2299	Aktyubinskaya	Kazakhstan
2300	Almatinskaya	Kazakhstan
3990	Almaty City area	Kazakhstan
2301	Atyrauskaya	Kazakhstan
2302	Jambylskaya	Kazakhstan
2303	Karagandinskaya	Kazakhstan
2304	Kustanayskaya	Kazakhstan
2305	Kyzylordinskaya	Kazakhstan
2307	Mangistauskaya	Kazakhstan
2308	Pavlodarskaya	Kazakhstan
2309	Severo-kazachstanskaya	Kazakhstan
2310	Vostochno-kazachstanskaya	Kazakhstan
2311	Yujno-kazachstanskaya	Kazakhstan
2312	Zapadno-kazachstanskaya	Kazakhstan
3073	Administrative unit not avai	Russian Federation
3032	Adygeya Rep.	Russian Federation
3033	Aginskiy Buryatskiy A. Okrug	Russian Federation

GAEZ/LAL code	Administrative Name	Country
3034	Altay Rep.	Russian Federation
3035	Altayskiy Kray	Russian Federation
3036	Amurskaya Oblast	Russian Federation
3037	Arkhangelskaya Oblast	Russian Federation
3038	Astrakhanskaya Oblast	Russian Federation
3039	Bashkortostan Rep.	Russian Federation
3040	Belgorodskaya Oblast	Russian Federation
3041	Bryanskaya Oblast	Russian Federation
3042	Buryatiya Rep.	Russian Federation
3043	Chechnya Rep.	Russian Federation
3044	Chelyabinskaya Oblast	Russian Federation
3045	Chitinskaya Oblast	Russian Federation
3046	Chukotskiy Okrug	Russian Federation
3047	Chuvashiya Rep.	Russian Federation
3048	Dagestan Rep.	Russian Federation
3049	Evenkiyskiy Okrug	Russian Federation
3050	Ingushetiya Rep.	Russian Federation
3051	Irkutskaya Oblast	Russian Federation
3052	Ivanovskaya Oblast	Russian Federation
3053	Kabardino-balkariya Rep.	Russian Federation
3054	Kaliningradskaya Oblast	Russian Federation
3055	Kalmykiya Rep.	Russian Federation
3056	Kaluzhskaya Oblast	Russian Federation
3057	Kamchatskaya Oblast	Russian Federation
3058	Karatchayevo-cherkesiya Rep.	Russian Federation
3059	Karelya Rep.	Russian Federation
3060	Kemerovskaya Oblast	Russian Federation
3061	Khabarovskiy Kray	Russian Federation
3062	Khakasiya Rep.	Russian Federation
3063	Khanty-mansyiskiy Okrug	Russian Federation
3064	Kirovskaya Oblast	Russian Federation
3065	Komi Rep.	Russian Federation
3066	Komi-permyatskiy Okrug	Russian Federation
3067	Koryakskiy Okrug	Russian Federation

GAEZ/LAL code	Administrative Name	Country
3068	Kostromskaya Oblast	Russian Federation
3069	Krasnodarskiy Kray	Russian Federation
3070	Krasnoyarskiy Kray	Russian Federation
3071	Kurganskaya Oblast	Russian Federation
3072	Kurskaya Oblast	Russian Federation
3074	Leningradskaya Oblast	Russian Federation
3075	Lipetskaya Oblast	Russian Federation
3076	Magadanskaya Oblast	Russian Federation
3077	Mariy-el Rep.	Russian Federation
3078	Mordoviya Rep.	Russian Federation
3079	Moskovskaya Oblast	Russian Federation
3080	Moskva	Russian Federation
3081	Murmanskaya Oblast	Russian Federation
3082	Name Unknown	Russian Federation
3083	Nenetskiy Okrug	Russian Federation
3084	Nizhegorodskaya Oblast	Russian Federation
3085	Novgorodskaya Oblast	Russian Federation
3086	Novosibirskaya Oblast	Russian Federation
3087	Omskaya Oblast	Russian Federation
3088	Orenburgskaya Oblast	Russian Federation
3089	Orlovskaya Oblast	Russian Federation
3090	Penzenskaya Oblast	Russian Federation
3091	Permskaya Oblast	Russian Federation
3092	Primorskiy Kray	Russian Federation
3093	Pskovskaya Oblast	Russian Federation
3094	Rostovskaya Oblast	Russian Federation
3095	Ryazanskaya Oblast	Russian Federation
3096	Sakha Rep.	Russian Federation
3097	Sakhalinskaya Oblast	Russian Federation
3098	Samarskaya Oblast	Russian Federation
3099	Sankt-peterburg	Russian Federation
3100	Saratovskaya Oblast	Russian Federation
3101	Severnaya Osetiya-alaniya Re	Russian Federation
3102	Smolenskaya Oblast	Russian Federation

GAEZ/LAL code	Administrative Name	Country
3103	Stavropolskiy Kray	Russian Federation
3104	Sverdlovskaya Oblast	Russian Federation
3105	Tambovskaya Oblast	Russian Federation
3106	Tatarstan Rep.	Russian Federation
3107	Taymyrskiy Okrug	Russian Federation
3108	Tomskaya Oblast	Russian Federation
3109	Tulskaya Oblast	Russian Federation
3110	Tverskaya Oblast	Russian Federation
3111	Tyumenskaya Oblast	Russian Federation
3112	Tyva Rep.	Russian Federation
3113	Udmurtiya Rep.	Russian Federation
3114	Ulyanovskaya Oblast	Russian Federation
3115	Ustordynskiy Buryatskiy Okru	Russian Federation
3116	Vladimirskaya Oblast	Russian Federation
3117	Volgogradskaya Oblast	Russian Federation
3118	Vologodskaya Oblast	Russian Federation
3119	Voronezhskaya Oblast	Russian Federation
3120	Yamalo-nenetskiy Okrug	Russian Federation
3121	Yaroslavskaya Oblast	Russian Federation
3122	Yevreyskaya A. Oblast	Russian Federation
3688	Alabama	United States of America
3689	Alaska	United States of America
3690	Arizona	United States of America
3691	Arkansas	United States of America
3692	California	United States of America
3693	Colorado	United States of America
3694	Connecticut	United States of America
3695	Delaware	United States of America
3696	District Of Columbia	United States of America
3697	Florida	United States of America
3698	Georgia	United States of America
3699	Hawaii	United States of America
3700	Idaho	United States of America
3701	Illinois	United States of America

GAEZ/LAL code	Administrative Name	Country
3702	Indiana	United States of America
3703	Iowa	United States of America
3704	Kansas	United States of America
3705	Kentucky	United States of America
3706	Louisiana	United States of America
3707	Maine	United States of America
3708	Maryland	United States of America
3709	Massachusetts	United States of America
3710	Michigan	United States of America
3711	Minnesota	United States of America
3712	Mississippi	United States of America
3713	Missouri	United States of America
3714	Montana	United States of America
3715	Nebraska	United States of America
3716	Nevada	United States of America
3717	New Hampshire	United States of America
3718	New Jersey	United States of America
3719	New Mexico	United States of America
3720	New York	United States of America
3721	North Carolina	United States of America
3722	North Dakota	United States of America
3723	Ohio	United States of America
3724	Oklahoma	United States of America
3725	Oregon	United States of America
3726	Pennsylvania	United States of America
3727	Rhode Island	United States of America
3728	South Carolina	United States of America
3729	South Dakota	United States of America
3730	Tennessee	United States of America
3731	Texas	United States of America
3732	Utah	United States of America
3733	Vermont	United States of America
3734	Virginia	United States of America
3735	Washington	United States of America

GAEZ/LAL code	Administrative Name	Country
3736	West Virginia	United States of America
3737	Wisconsin	United States of America
3738	Wyoming	United States of America

Region 1

Australia and New Zealand

Caribbean

Central Africa

Central America

Central Asia

Eastern Africa

Eastern Asia

Eastern Europe and Russian Federation

Gulf of Guinea

Northern Africa

Northern America

Northern Europe

Pacific Islands

South America

South-eastern Asia

Southern Africa

Southern Asia

Southern Europe

Sudano-Sahelian Africa

Western Asia

Western Europe



Region 2

Central America and Caribbean

Europe and Russian Federation

Northern Africa and West Asia

Northern America

Oceania

South America

Southern and Eastern Asia

Sub-Saharan Africa



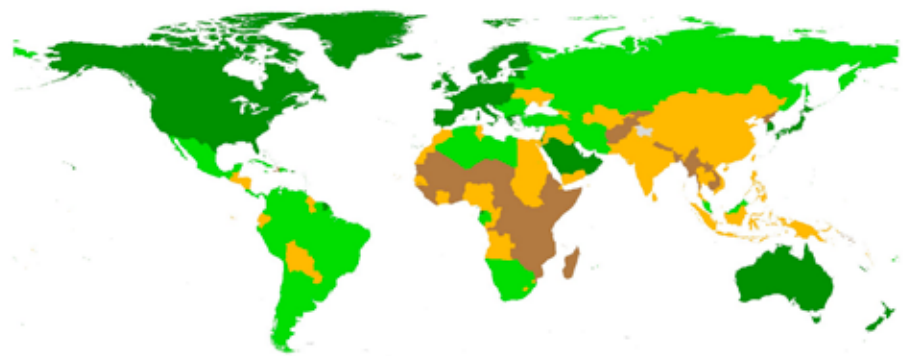
Region 2

Low income

Lower middle income

Upper middle income

High income



GAEZ countries, territories and regions (1-2-3).

NAME	Region 1	Region 2	Region 3 (*)
Afghanistan	Central Asia	Southern and Eastern Asia	Low income
Albania	Southern Europe	Europe and Russian Federation	Upper middle income
Algeria	Northern Africa	Northern Africa and West Asia	Upper middle income
American Samoa	Pacific Islands	Oceania	Upper middle income
Andorra	Southern Europe	Europe and Russian Federation	High income
Angola	Central Africa	Sub-Saharan Africa	Lower middle income
Anguilla	Caribbean	Central America and Caribbean	High income
Antarctica	Antarctica	Antarctica	not available
Antigua and Barbuda	Caribbean	Central America and Caribbean	Upper middle income
Argentina	South America	South America	Upper middle income
Armenia	Western Asia	Northern Africa and West Asia	Lower middle income
Aruba	Caribbean	Central America and Caribbean	High income
Ashmore and Cartier Islands	Australia and New Zealand	Oceania	High income
Australia	Australia and New Zealand	Oceania	High income
Austria	Western Europe	Europe and Russian Federation	High income
Azerbaijan	Western Asia	Northern Africa and West Asia	Upper middle income
Azores Islands	Southern Europe	Europe and Russian Federation	High income
Bahamas	Caribbean	Central America and Caribbean	High income
Bahrain	Western Asia	Northern Africa and West Asia	High income
Baker Island	Pacific Islands	Oceania	High income
Bangladesh	Southern Asia	Southern and Eastern Asia	Low income
Barbados	Caribbean	Central America and Caribbean	High income
Bassas da India	Eastern Africa	Sub-Saharan Africa	High income
Belarus	Eastern Europe and Russian Federation	Europe and Russian Federation	Upper middle income
Belgium	Western Europe	Europe and Russian Federation	High income
Belize	Central America	Central America and Caribbean	Lower middle income
Benin	Gulf of Guinea	Sub-Saharan Africa	Low income
Bermuda	Northern America	Northern America	High income

NAME	Region 1	Region 2	Region 3 (*)
Bhutan	Southern Asia	Southern and Eastern Asia	Lower middle income
Bird Island	Eastern Africa	Sub-Saharan Africa	High income
Bolivia	South America	South America	Lower middle income
Bosnia and Herzegovina	Southern Europe	Europe and Russian Federation	Upper middle income
Botswana	Southern Africa	Sub-Saharan Africa	Upper middle income
Bouvet Island	Antarctica	Antarctica	not available
Brazil	South America	South America	Upper middle income
British Indian Ocean Territory	Eastern Africa	Sub-Saharan Africa	High income
British Virgin Islands	Caribbean	Central America and Caribbean	High income
Brunei Darussalam	South-eastern Asia	Southern and Eastern Asia	High income
Bulgaria	Eastern Europe and Russian Federation	Europe and Russian Federation	Upper middle income
Burkina Faso	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Burundi	Eastern Africa	Sub-Saharan Africa	Low income
Cambodia	South-eastern Asia	Southern and Eastern Asia	Low income
Cameroon	Central Africa	Sub-Saharan Africa	Lower middle income
Canada	Northern America	Northern America	High income
Cape Verde	Sudano-Sahelian Africa	Sub-Saharan Africa	Lower middle income
Cayman Islands	Caribbean	Central America and Caribbean	High income
Central African Republic	Central Africa	Sub-Saharan Africa	Low income
Chad	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Chile	South America	South America	Upper middle income
China	Eastern Asia	Southern and Eastern Asia	Lower-middle income
China/India	Eastern Asia	Southern and Eastern Asia	not available
Christmas Island	Australia and New Zealand	Oceania	High income
Clipperton Island	Pacific Islands	Oceania	High income
Cocos (Keeling) Islands	Australia and New Zealand	Oceania	High income
Colombia	South America	South America	Upper middle income
Comoros	Eastern Africa	Sub-Saharan Africa	Low income

NAME	Region 1	Region 2	Region 3 (*)
Congo, Dem. Rep.	Central Africa	Sub-Saharan Africa	Low income
Congo, Rep.	Central Africa	Sub-Saharan Africa	Lower middle income
Cook Islands	Pacific Islands	Oceania	High income
Costa Rica	Central America	Central America and Caribbean	Upper middle income
Côte d'Ivoire	Gulf of Guinea	Sub-Saharan Africa	Lower middle income
Croatia	Southern Europe	Europe and Russian Federation	High income
Cuba	Caribbean	Central America and Caribbean	Upper middle income
Cyprus	Western Asia	Northern Africa and West Asia	High income
Czech Republic	Eastern Europe and Russian Federation	Europe and Russian Federation	High income
Denmark	Northern Europe	Europe and Russian Federation	High income
Dhekelia and Akrotiri SBA	Western Asia	Northern Africa and West Asia	High income
Djibouti	Sudano-Sahelian Africa	Sub-Saharan Africa	Lower middle income
Dominica	Caribbean	Central America and Caribbean	Upper middle income
Dominican Republic	Caribbean	Central America and Caribbean	Upper middle income
Ecuador	South America	South America	Lower-middle income
Egypt	Northern Africa	Northern Africa and West Asia	Lower middle income
El Salvador	Central America	Central America and Caribbean	Lower middle income
Equatorial Guinea	Central Africa	Sub-Saharan Africa	High income
Eritrea	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Estonia	Northern Europe	Europe and Russian Federation	High income
Ethiopia	Eastern Africa	Sub-Saharan Africa	Low income
Europa Island	Eastern Africa	Sub-Saharan Africa	not available
Falkland Islands	South America	South America	not available
Faroe Islands	Northern Europe	Europe and Russian Federation	High income
Fiji	Pacific Islands	Oceania	Upper-middle income
Finland	Northern Europe	Europe and Russian Federation	High income
Fr South and Antarctic Territories	Antarctica	Antarctica	not available
France	Western Europe	Europe and Russian Federation	High income
French Guiana	South America	South America	High income

NAME	Region 1	Region 2	Region 3 (*)
French Polynesia	Pacific Islands	Oceania	High income
Gabon	Central Africa	Sub-Saharan Africa	Upper middle income
Gambia	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Gaza Strip	Western Asia	Northern Africa and West Asia	Lower middle income
Georgia	Western Asia	Northern Africa and West Asia	Lower middle income
Germany	Western Europe	Europe and Russian Federation	High income
Ghana	Gulf of Guinea	Sub-Saharan Africa	Low income
Gibraltar	Southern Europe	Europe and Russian Federation	High income
Glorioso Island	Eastern Africa	Sub-Saharan Africa	not available
Greece	Southern Europe	Europe and Russian Federation	High income
Greenland	Northern America	Northern America	High income
Grenada	Caribbean	Central America and Caribbean	Upper middle income
Guadeloupe	Caribbean	Central America and Caribbean	High income
Guam	Pacific Islands	Oceania	High income
Guatemala	Central America	Central America and Caribbean	Lower middle income
Guernsey	Northern Europe	Europe and Russian Federation	High income
Guinea	Gulf of Guinea	Sub-Saharan Africa	Low income
Guinea-Bissau	Gulf of Guinea	Sub-Saharan Africa	Low income
Guyana	South America	South America	Lower middle income
Haiti	Caribbean	Central America and Caribbean	Low income
Heard Isl and McDonald Isl	Antarctica	Antarctica	not available
Holy See	Southern Europe	Europe and Russian Federation	High income
Honduras	Central America	Central America and Caribbean	Lower middle income
Howland Island	Pacific Islands	Oceania	High income
Hungary	Eastern Europe and Russian Federation	Europe and Russian Federation	High income
Iceland	Northern Europe	Europe and Russian Federation	High income
India	Southern Asia	Southern and Eastern Asia	Lower middle income
Indonesia	South-eastern Asia	Southern and Eastern Asia	Lower middle income
Iran, Islamic Rep.	Western Asia	Northern Africa and West Asia	Upper middle income
Iraq	Western Asia	Northern Africa and West Asia	Lower middle income
Ireland	Northern Europe	Europe and Russian Federation	High income

NAME	Region 1	Region 2	Region 3 (*)
Isle of Man	Northern Europe	Europe and Russian Federation	High income
Israel	Western Asia	Northern Africa and West Asia	High income
Italy	Southern Europe	Europe and Russian Federation	High income
Jamaica	Caribbean	Central America and Caribbean	Upper middle income
Japan	Eastern Asia	Southern and Eastern Asia	High income
Jarvis Island	Pacific Islands	Oceania	High income
Jersey	Northern Europe	Europe and Russian Federation	High income
Johnston Atoll	Pacific Islands	Oceania	High income
Jordan	Western Asia	Northern Africa and West Asia	Lower-middle income
Juan de Nova Island	Eastern Africa	Sub-Saharan Africa	not available
Kazakhstan	Central Asia	Southern and Eastern Asia	Upper middle income
Kenya	Eastern Africa	Sub-Saharan Africa	Low income
Kingman Reef	Pacific Islands	Oceania	High income
Kiribati	Pacific Islands	Oceania	Lower middle income
Korea DPR	Eastern Asia	Southern and Eastern Asia	Low income
Korea Rep.	Eastern Asia	Southern and Eastern Asia	High income
Kuwait	Western Asia	Northern Africa and West Asia	High income
Kyrgyzstan	Central Asia	Southern and Eastern Asia	Low income
Lao PDR	South-eastern Asia	Southern and Eastern Asia	Low income
Latvia	Northern Europe	Europe and Russian Federation	High income
Lebanon	Western Asia	Northern Africa and West Asia	Upper middle income
Lesotho	Southern Africa	Sub-Saharan Africa	Lower middle income
Liberia	Gulf of Guinea	Sub-Saharan Africa	Low income
Libyan Arab Jamahiriya	Northern Africa	Northern Africa and West Asia	Upper middle income
Liechtenstein	Western Europe	Europe and Russian Federation	High income
Lithuania	Northern Europe	Europe and Russian Federation	Upper middle income
Luxembourg	Western Europe	Europe and Russian Federation	High income
Macedonia, FYR	Southern Europe	Europe and Russian Federation	Upper middle income
Madagascar	Eastern Africa	Sub-Saharan Africa	Low income
Madeira Islands	Southern Europe	Europe and Russian Federation	High income
Malawi	Southern Africa	Sub-Saharan Africa	Low income
Malaysia	South-eastern Asia	Southern and Eastern Asia	Upper middle income

NAME	Region 1	Region 2	Region 3 (*)
Maldives	Southern Asia	Southern and Eastern Asia	Lower-middle income
Mali	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Malta	Southern Europe	Europe and Russian Federation	High income
Marshall Islands	Pacific Islands	Oceania	Lower middle income
Martinique	Caribbean	Central America and Caribbean	High income
Mauritania	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Mauritius	Eastern Africa	Sub-Saharan Africa	Upper middle income
Mayotte	Eastern Africa	Sub-Saharan Africa	Upper middle income
Mexico	Central America	Central America and Caribbean	Upper middle income
Micronesia (Fed States of)	Pacific Islands	Oceania	Lower middle income
Midway Island	Pacific Islands	Oceania	High income
Moldova, Rep.	Eastern Europe and Russian Federation	Europe and Russian Federation	Lower middle income
Monaco	Western Europe	Europe and Russian Federation	High income
Mongolia	Eastern Asia	Southern and Eastern Asia	Lower middle income
Montenegro	Southern Europe	Europe and Russian Federation	Upper middle income
Montserrat	Caribbean	Central America and Caribbean	High income
Morocco	Northern Africa	Northern Africa and West Asia	Lower middle income
Mozambique	Southern Africa	Sub-Saharan Africa	Low income
Myanmar	South-eastern Asia	Southern and Eastern Asia	Low income
Namibia	Southern Africa	Sub-Saharan Africa	Upper middle income
Nauru	Pacific Islands	Oceania	not available
Nepal	Southern Asia	Southern and Eastern Asia	Low income
Netherlands	Western Europe	Europe and Russian Federation	High income
Netherlands Antilles	Caribbean	Central America and Caribbean	High income
New Caledonia	Pacific Islands	Oceania	High income
New Zealand	Australia and New Zealand	Oceania	High income
Nicaragua	Central America	Central America and Caribbean	Lower middle income
Niger	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
Nigeria	Gulf of Guinea	Sub-Saharan Africa	Lower middle income
Niue	Pacific Islands	Oceania	not available
Norfolk Island	Pacific Islands	Oceania	High income

NAME	Region 1	Region 2	Region 3 (*)
Northern Mariana Islands	Pacific Islands	Oceania	High income
Norway	Northern Europe	Europe and Russian Federation	High income
Oman	Western Asia	Northern Africa and West Asia	High income
Pakistan	Southern Asia	Southern and Eastern Asia	Lower middle income
Palau	Pacific Islands	Oceania	Upper middle income
Palmyra Atoll	Pacific Islands	Oceania	High income
Panama	Central America	Central America and Caribbean	Upper middle income
Papua New Guinea	South-eastern Asia	Southern and Eastern Asia	Lower middle income
Paraguay	South America	South America	Lower middle income
Peru	South America	South America	Upper middle income
Philippines	South-eastern Asia	Southern and Eastern Asia	Lower middle income
Pitcairn	Pacific Islands	Oceania	High income
Poland	Eastern Europe and Russian Federation	Europe and Russian Federation	High income
Portugal	Southern Europe	Europe and Russian Federation	High income
Puerto Rico	Caribbean	Central America and Caribbean	High income
Qatar	Western Asia	Northern Africa and West Asia	High income
Réunion	Eastern Africa	Sub-Saharan Africa	High income
Romania	Eastern Europe and Russian Federation	Europe and Russian Federation	Upper middle income
Russian Federation	Eastern Europe and Russian Federation	Europe and Russian Federation	Upper middle income
Rwanda	Eastern Africa	Sub-Saharan Africa	Low income
S. Georgia and S. Sandwich Isl	Antarctica	Antarctica	not available
Samoa	Pacific Islands	Oceania	Lower middle income
San Marino	Southern Europe	Europe and Russian Federation	High income
Sao Tome and Principe	Central Africa	Sub-Saharan Africa	Lower middle income
Saudi Arabia	Western Asia	Northern Africa and West Asia	High income
Senegal	Sudano-Sahelian Africa	Sub-Saharan Africa	Lower middle income
Serbia	Southern Europe	Europe and Russian Federation	Upper middle income
Seychelles	Eastern Africa	Sub-Saharan Africa	Upper middle income
Sierra Leone	Gulf of Guinea	Sub-Saharan Africa	Low income
Singapore	South-eastern Asia	Southern and Eastern Asia	High income

NAME	Region 1	Region 2	Region 3 (*)
Slovakia	Eastern Europe and Russian Federation	Europe and Russian Federation	High income
Slovenia	Southern Europe	Europe and Russian Federation	High income
Solomon Islands	Pacific Islands	Oceania	Low income
Somalia	Sudano-Sahelian Africa	Sub-Saharan Africa	Low income
South Africa	Southern Africa	Sub-Saharan Africa	Upper middle income
South Sudan	Sudano-Sahelian Africa	Sub-Saharan Africa	Lower middle income
Spain	Southern Europe	Europe and Russian Federation	High income
Sri Lanka	Southern Asia	Southern and Eastern Asia	Lower middle income
St Helena	Central Africa	Sub-Saharan Africa	not available
St Kitts and Nevis	Caribbean	Central America and Caribbean	Upper middle income
St Lucia	Caribbean	Central America and Caribbean	Upper middle income
St Pierre et Miquelon	Northern America	Northern America	High income
St Vincent and the Grenadines	Caribbean	Central America and Caribbean	Upper middle income
Sudan	Sudano-Sahelian Africa	Sub-Saharan Africa	Lower middle income
Suriname	South America	South America	Upper middle income
Svalbard and Jan Mayen Island	Northern Europe	Europe and Russian Federation	High income
Swaziland	Southern Africa	Sub-Saharan Africa	Lower middle income
Sweden	Northern Europe	Europe and Russian Federation	High income
Switzerland	Western Europe	Europe and Russian Federation	High income
Syrian Arab Republic	Western Asia	Northern Africa and West Asia	Lower middle income
Tajikistan	Central Asia	Southern and Eastern Asia	Low income
Tanzania UR	Eastern Africa	Sub-Saharan Africa	Low income
Thailand	South-eastern Asia	Southern and Eastern Asia	Lower-middle income
Timor-Leste	South-eastern Asia	Southern and Eastern Asia	Lower middle income
Togo	Gulf of Guinea	Sub-Saharan Africa	Low income
Tokelau	Pacific Islands	Oceania	not available
Tonga	Pacific Islands	Oceania	Lower middle income
Trinidad and Tobago	Caribbean	Central America and Caribbean	High income
Tromelin Island	Eastern Africa	Sub-Saharan Africa	not available

NAME	Region 1	Region 2	Region 3 (*)
Tunisia	Northern Africa	Northern Africa and West Asia	Lower-middle income
Turkey	Western Asia	Northern Africa and West Asia	Upper middle income
Turkmenistan	Central Asia	Southern and Eastern Asia	Lower middle income
Turks and Caicos Islands	Caribbean	Central America and Caribbean	High income
Tuvalu	Pacific Islands	Oceania	Lower middle income
Uganda	Eastern Africa	Sub-Saharan Africa	Low income
Ukraine	Eastern Europe and Russian Federation	Europe and Russian Federation	Lower middle income
United Arab Emirates	Western Asia	Northern Africa and West Asia	High income
United Kingdom	Northern Europe	Europe and Russian Federation	High income
United States of America	Northern America	Northern America	High income
United States Virgin Islands	Caribbean	Central America and Caribbean	High income
Uruguay	South America	South America	Upper middle income
Uzbekistan	Central Asia	Southern and Eastern Asia	Lower middle income
Vanuatu	Pacific Islands	Oceania	Lower middle income
Venezuela	South America	South America	Upper middle income
Viet Nam	South-eastern Asia	Southern and Eastern Asia	Lower middle income
Wake Island	Pacific Islands	Oceania	High income
Wallis and Futuna Islands	Pacific Islands	Oceania	High income
West Bank	Western Asia	Northern Africa and West Asia	Lower middle income
Western Sahara	Northern Africa	Northern Africa and West Asia	Lower middle income
Yemen	Western Asia	Northern Africa and West Asia	Lower middle income
Zambia	Southern Africa	Sub-Saharan Africa	Low income

GAEZ disputed areas and territories by region *(source: GAUL 2009/08)*

NAME	Region 1	Region 2	Region 3 (*)
Aksai Chin	Eastern Asia	Southern and Eastern Asia	not available
Arunashal Pradesh	Southern Asia	Southern and Eastern Asia	Lower middle income
Hala'ib triangle	Northern Africa	Northern Africa and West Asia	Lower middle income
Ilemi triangle	Eastern Africa	Sub-Saharan Africa	Low income
Jammu Kashmir	Southern Asia	Southern and Eastern Asia	not available
Kuril Islands	Eastern Asia	Southern and Eastern Asia	Upper middle income
Liancourt Rock	Eastern Asia	Southern and Eastern Asia	not available
Ma'tan al-Sarra	Northern Africa	Northern Africa and West Asia	Upper middle income
Navassa Island	Caribbean	Central America and Caribbean	High income
Paracel Islands	South-eastern Asia	Southern and Eastern Asia	not available
Scarborough Reef	South-eastern Asia	Southern and Eastern Asia	not available
Senkaku Islands	Eastern Asia	Southern and Eastern Asia	not available
Spratly Islands	South-eastern Asia	Southern and Eastern Asia	not available