Coastal fishing intensity

Data used to produce the map on coastal fishing effort densities are from the work of: Stewart, K.R. et al. 2010. Characterizing Fishing Effort and Spatial Extent of Coastal Fisheries. PLoS ONE. Vol. 5, Issue 12.

The open-access full paper and supporting information are available at:
http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0014451

A complete list of all data sources is provided in Appendix S1 (Supporting Information) is available at:
http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0014451#pone.0014451.s002

Coastal fisheries in this context are those that deployed gear from shore out to either 50 km in distance or from shore to 200 m in depth. The mapping exercise started by aggregating fishing effort information found in FAO country profiles - thereafter complemented with a comprehensive review of all published and in-country papers and reports that contained fisheries data available at the time of analysis. From these sources, reported fishing effort variables were recorded: fishery name, type of gear used, the total number of boats, horsepower, boat size, length range of boats, amount of gear deployed per vessel, information on fishing season (trips per year, days fished per year, etc.), major ports, distance from shore (maximum and minimum), bottom depth where fishing occurred, target species, and fishing season duration. In general, information from the past five years was used, but older fisheries data were used if no other data were available.

Three basic metrics that were most commonly reported were extracted: the number of boats, the length of boats, and the spatial boundary of the fishery. From these parameters, the amount of fishing effort for each fishery was calculated as the product of number of boats and boat length to yield boat-meters. Data were then input into a spatial analysis program, the Fishing Effort Envelope Tool (FEET). FEET combines information on distance from shore, distance from port, and the depth of the fishery to delimit the potential area in which a fishery may operate.Using various algorithms, FEET then distributes fishing effort across the fishing effort envelope in 1 km^2 cells.

Fishing effort in the coastal zone was distributed using an inverse distance-from-shore weighting, excluding high-sea fisheries. The fishing effort envelopes were restricted to the coastal zone and then fishing effort was summarized for each 1 km^2 grid cell.

The table below resumes the mean fishing density (boat-meters/ km2) for each country in the Caribbean region. CMD = Fishing density distributed among all coastal 1 km grid cells. FMD = Fishing density distributed among only those 1 km grid cells that were specified as being fished. SD = Standard deviation, n = number of fisheries assessed.

Region	Country	n	CMD	SD	FMD	SD
CAR	Belize	2	0.16	0.26	0.53	0.15
CAR	Barbados	3	0.68	0.56	0.68	0.56
CAR	Guadeloupe and Martinique	2	0.49	1.40	0.80	1.72
CAR	Costa Rica	1	0.18	0.40	0.94	0.32
CAR	Jamaica	2	0.42	0.92	1.84	1.02
CAR	Antigua and Barbuda	2	0.15	0.74	2.65	1.63
CAR	Dominica	2	1.00	10.19	2.85	17.08
CAR	Puerto Rico and US Virgin Islands	7	0.50	6.57	5.86	21.66
CAR	Haiti	1	0.61	2.88	13.48	3.27
CAR	Bermuda	1	0.01	0.64	14.89	14.13
CAR	Colombia	3	0.02	0.03	0.02	0.03
CAR	Bahamas	1	0.01	0.02	0.03	0.01
CAR	French Guiana	3	0.04	0.02	0.04	0.02
CAR	Netherlands Antilles	2	0.05	0.01	0.05	0.01
CAR	Turks and Caicos Islands	2	0.02	0.04	0.10	0.02
CAR	Cuba	3	0.12	0.19	0.12	0.19
CAR	St. Maarten	3	0.04	0.21	0.15	0.40
CAR	Honduras	5	0.11	0.13	0.18	0.13
CAR	Panama	2	0.10	0.12	0.19	0.10
CAR	Suriname	6	0.27	0.51	0.27	0.51
CAR	St. Vincent	3	0.30	0.23	0.30	0.23
CAR	Montserrat	3	0.06	0.40	0.30	0.87
CAR	Trinidad and Tobago	8	0.30	1.11	0.31	1.12
CAR	Dominican Republic	1	0.32	0.12	0.33	0.09
CAR	Grenada	7	0.34	0.82	0.35	0.83
CAR	Venezuela	6	0.35	0.35	0.35	0.35
CAR	Guyana	7	0.27	0.93	0.37	1.07
CAR	Nicaragua	5	0.39	0.17	0.43	0.12

CAR	Saint Kitts and Nevis	4	0.43	1.34	0.43	1.34
CAR	St. Lucia	4	0.44	0.74	0.44	0.74
CAR	Anguilla	5	0.08	0.37	0.50	0.78