Supplementary Material:

The Bounty of the Sea and Long-Run Development

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1 The Bounty of the Sea Index

The Bounty of the Sea (BoS) index is a measure of the potential abundance of marine fish resources in the oceans. Its construction is essentially a two-step procedure: First the relevant marine fish species are identified using global fish landings statistics from FAO, and second the unweighted average habitat suitability of these species is calculated using gridded data from *AquaMaps*.

1.1 Identifying the relevant species

The Fisheries Global Information System (FIGIS) database maintained by FAO contains the collection Global Capture Production, which reports the volume of fish catches landed by country, species, and year for the period 1950-2013. Including landings for commercial, recreational and subsistence purposes, the collection is the most comprehensive of its kind in terms of coverage and quality. The data is available at *www.fao.org/fishery/statistics/global-capture-production/en*.

The FAO landings data are used to select the marine fish species on which the BoS indices are constructed. The 15 species included in the baseline BoS index are identified as those responsible for the highest reported volume across countries for the period 1950-1959. For an alternative BoS index, however, the top most caught marine fish species in each country of the world is identified. The resulting list of 41 species were thus the most important species in one or more of 91 countries. The geographical distribution of these species cover all continents with 12 being caught mostly by African countries, 13 by countries in the Americas, 8 by Asian countries, 4 by European countries, and 4 by countries in the Oceania.

Details on which species are included in the indices are given in Table A1.

Table A1

1.2 Computing the average habitat suitability

Global grids of half-degree cells, predicting the habitat suitability of specific geographic areas for each of the identified marine fish species, are obtained from *AquaMaps* by Kaschner et al. (2013a). Predictions are generated by matching knowledge of the species' habitat usage with local environmental conditions. Knowledge is provided by experts within the field of marine biology[1] and embedded in so-called *environmental envelopes.*

An environmental envelope is a response curve that describes a species preferences with respect to a group of environmental parameters. In *AquaMaps* these response curves are of

[1]In collaboration with FishBase, an online database with detailed information on marine fish species.

a trapezoidal shape as illustrated in Figure 1. Between the preferred parameter range (Min_p to Max_p) it assumes that the probability of a given species being present is highest and equal to one. Outside this range, the probability decreases linearly towards the species' absolute minimum and maximum parameter thresholds, beyond which the probability equals zero. The parameter specific probabilities thus lie in the range zero to one.

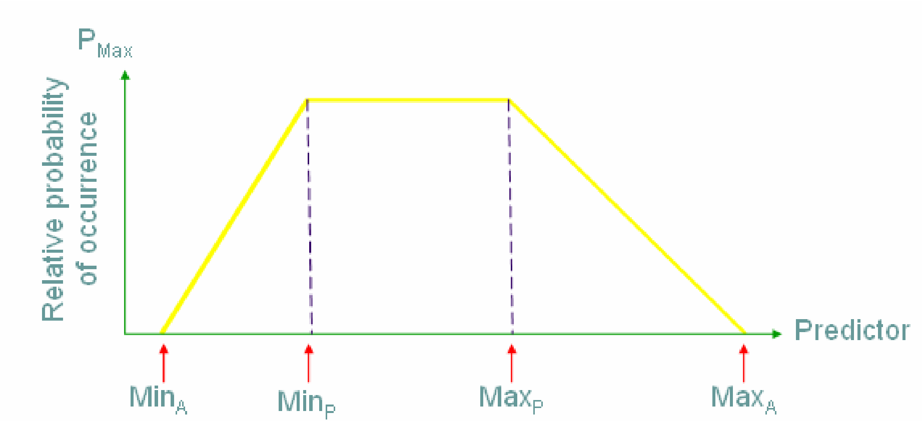

Figure 1: AquaMaps model of a species-specific environmental envelope. Notes: A species will have an envelope for each of the environmental parameters used to predict its occurrence. From Kesner-Reyes et al. (2012).

The environmental parameters incorporated in the envelopes and matching algorithms are *sea depth*, *temperature*, *salinity*, *sea ice concentration*, and *primary production*. For demersal fish species that live near the bottom of seas (of which all but one in the BoS index are) temperature and salinity refer to bottom instead of surface values. The underlying environmental data are annual means for periods of 10 years or more, mostly covering the 1980s and 1990s. The overall probability of occurrence for a given species, P_c, is calculated by mulitplying the environmental parameter specific probabilities according to the following formula:

$$P_c = P_{depth_c} \times P_{temperature_c} \times P_{salinity_c} \times P_{primaryproduction_c} \times P_{iceconcentration_c}$$

The Bounty of the Sea index is consequently calculated as the average probability of occurrence of the 15 identified marine fish species. Likewise, the alternative BoS index is calculated as the average probability of occurrence of the 41 marine fish species. A map of the latter index is presented in Figure 2.

1.3 Nutrition weighting the BoS index

Additional alternatives to the baseline BoS index are constructed by nutrition weighting the probabilities of occurrence for each species. Information of nutrition that is comparable across

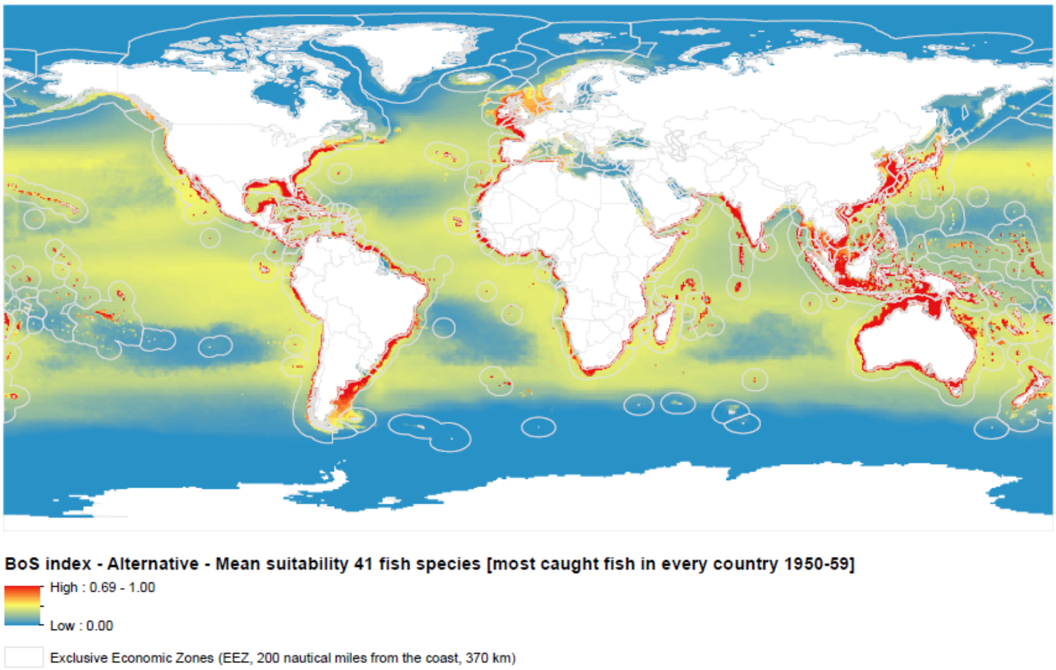

Figure 2: Alternative Bounty of the Sea index. Notes: The index captures the (unweighted) average survival probability for 41 fish species.

species is obtained from FAO food balance sheets (1989). Values of the yield of edible tissue alon with the fat and protein content is reported here for 130 commercialy important species. Of the 15 species in the BoS index all but three (Gulf menhaden, Atlantic menhaden, and Alaska pollock) are covered by this report. Calorie (kcal), fat, and protein content per gram of edible tissue are used as weights.

1.4 Data used for corroborating the BoS index

The Bounty of the Sea index is validated by assessing its predictive power vis-á-vis actual landings in the 20^{th} century, the allocation of labor during the 19^{th} century, and the contribution from fishing to food supply in traditional societies. The following data sets are used in the exercise:

The *FAO FIGIS* database already described in Appendix section B.1.1 provides cross country information on actual landings for the periods 1950-1959 and 1960-2009.

Cross country data on 17 European countries[2] for the period 1903-1949 is collected and provided by the *International Council for the Exploration of the Sea* (ICES). Only catches of marine fish species are kept in the analysis. Country-year observations with no numerical catch are treated as missing information. Annual average landings are calculated over the period 1903-

[2]The countries are Belgium, Denmark, Faroe Islands, Finland, France, Germany, Greenland, Iceland, Latvia, Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, and United Kingdom.

1939, disregarding World War II years.

Global fish landings statistics for the period 1900-1939 covering 39 countries are collected from three volumes of Mitchell's *International Historical Statistics*.[3] The data include landings of both freshwater and marine resources, although marine fish resources make up the majority. Parts of the data suffer from inconsistencies in terms of accounting method. As an example, only landings of cod or herring were recorded for the North Atlantic countries in the early periods. In order to ensure comparability across time and countries, country-year observations like that are discarded.

Data on the allocation of labor is gathered from the *North Atlantic Population Project* (NAPP), which is adminstrered by the Minnesota Population Center (Ruggles et al., 2010). It contains harmonized census microdata from Canada, Great Britain, Germany, Iceland, Norway, Sweden, and the United States from 1801-1910. The German census data, which just covers the region Mecklenburg-Schwerin, is left out. The individual-level data is aggregated to a level that corresponds to present days first level adminstrative units: States (United States), provinces (Canada), and counties (Norway, Sweden, Iceland, United Kingdom). For each region, the number of fishermen, ship workers, and boat makers in the population is calculated from the individual occupation codes[4], using person weights (variable "perwt"). Likewise, the size of the total and working population was calculated.

The *Ethnographic Atlas* (EA) and its sub-collection, the *Standard Cross-Cultural Sample* (SCCS) by Murdock (1967) and Murdock & White (1969) respectively, provide information on 1264 and 157 traditional societies respectively. In particular, records of the contribution to food supply of different subsistence strategies are used in the analysis. The variables are v3, v4, and v5 from the EA, and v205, v206, and v207 from the SCCS.

[3]The collections are "Europe 1750-1993" (Denmark, Faeroe Islands, Germany, Iceland, Italy, Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, United Kingdom), "Americas 1750-1988" (Argentina, Brazil, Canada, Chile, Cuba, Ecuador, Mexico, Peru, United States), and "Africa, Asia & Oceania 1750-1988" (Algeria, Angola, Australia, Egypt, Indonesia, Japan, Republic of Korea, Morocco, New Zealand, South Africa, Taiwan, Thailand, Turkey, Venezuela)

[4]A person is noted as being involved in fishing if for the US, the variable "occ50us" takes on the value 910 ("Fishermen and oystermen"), for the UK the variable "occgb" takes on the value 121 ("Fisherman"), and for the rest of the countries the variable "occhisco" takes on the value 64100 ("Fishermen").

2 Other Data

2.1 Country-Level Data

2.1.1 Dependent variables

- Real GDP per capita 2005: Calculated based on the Penn World Tables version 8.0 (Feenstra et al., 2015).

- Population density in 1500: From Ashraf and Galor (2013), based on McEvedy and Jones (1978).

- Share of population living within 100 km of coast in 1500 C.E: Own calculation based on the Hyde database, version 3.1 (Klein Goldewijk et al., 2010, 2011).

  Available at *http://themasites.pbl.nl/tridion/en/themasites/hyde/*.

- Share of population living within 100 km of coast in 2010: Own calculation based on the Gridded Population of the World database, version 4.0 (CIESIN, 2016). This underlying data is constructed using subnational censuses and population surveys and the only source available that does not use geographical indicators in its estimation of population.

  Available at *http://beta.sedac.ciesin.columbia.edu/data/collection/gpw-v4*.

- Share of earthlights within 100 km of coast in 2010: Own calculation based on the 2010 Global Radiance Calibrated Nighttime Lights dataset (Elvidge et al. 1999, Ziskin et al. 2010). We follow Henderson et al. (2016) in using these data, which have been adjusted to better capture the true light intensity at very low or high values.

  Available at *http://ngdc.noaa.gov/eog/dmsp.html*.

- Urbanization rate in 1500 C.E. From Ashraf and Galor (2013), but originally from by Acemoglu, Johnson and Robinson (2005).

- Timing of Industrialization: The year in which the industrial labor force exceeds the agricultural labor force (**??**), from Bentzen et al. (2013).

- Share of employment in agriculture in 1900 : From Wingender (2015).

- Timing of the fertility decline: From Caldwell and Caldwell (2001).

2.1.2 Baseline controls

- Land suitability for agriculture: Index of land suitability for agriculture, based on indicators of climate, suitability for cultivation and soil suitability for cultivation. From Ashraf and Galor (2013) based on underlying data from Ramankutty et al. (2002).
- Timing of the Neolithic revolution: Years (before the year 2000) elapsed since the majority of the population within a country's modern national borders began practicing sedentary agriculture as the primary mode of subsistence (Ashraf and Galor, 2013, originally calulated by Putterman, 2008).
- Land area: Total land area (Ashraf and Galor, 2013, originally from the World Bank's World Development Indicators).
- Continental fixed effects: Indicators for countries belonging to Africa, Asia, America, Europe, or Oceania.
- Absolute latitude: Based on latitude calculated at the centroid of the country, as reported in the CIA's World Factbook.
- Landlocked country: Dummy variable taking the value 1 if the country is landlocked and 0 otherwise.
- Percentage of land area within 100 km from an ice-free coastline or a navigable navigable river. (Ashraf and Galor, 2013, originally calculated by Gallup, Sachs and Mellinger, 1999).

2.1.3 Additional controls

- Natural harbors: Harbors sheltered from the wind and sea by virtue of its location within a natural coastal indentation or in the protective lee of an island, cape, reef or other natural barrier (NGA 2015). Raw data from the US National Geospatial Intelligence Agency, which produces the World Port Index (Pub 150), a dataset containing the location, physical characteristics, facilities and services offered by major ports and oil terminals across the globe.
- Coastline lenght (km): From Parker (2000).
- Controls in alternative specifications:

- Genetic diversity: Expected heterozygosity (genetic diversity) of a given country as predicted by migratory distance from Addis Ababa, Ethiopia (Ashraf and Galor, 2013)
- Roughness: Average degree of terrain roughness across 1x1 degree latitude longitude cells in a country, calculated using geospatial surface undulation data from the G-ECON project (Ashraf and Galor, 2013, originally from Nordhaus, 2006)
- Percentage of arable land: % of a country's total land area that is arable (Ashraf and Galor, 2013, originally from the World Bank's World Development Indicators).
- Temperature: Average monthly temperature, degrees C, 1961-1990, from the G-ECON dataset (Ashraf and Galor, 2013, originally from Nordhaus, 2006).
- Precipitation: Average monthly precipitation, mm, 1961-1990, from the G-ECON dataset (Ashraf and Galor, 2013, originally from Nordhaus, 2006).
- Percentage of population of European descent: Fraction of the population in the year 2000 that can trace its ancestral origins to the European continent due to migrations occurring as early as the year 1500 CE. (Ashraf and Galor, 2013, originally constructed using data from the World Migration Matrix, 1500–2000 of Putterman and Weil, 2010).
- Percentage of population at risk of contracting malaria: Percentage of a country's population in 1994 residing in regions of high malaria risk, multiplied by the proportion of national cases involving the fatal species of the malaria pathogen, P. falciparum, as opposed to other largely nonfatal species (Ashraf and Galor, 2013, originally constructed by Gallup and Sachs, 2001).
- Social infrastructure: Index calculated by Hall and Jones (1999), for the gap between private and social returns to productive activities. Taken from Ashraf and Galor (2013).
- OPEC membership indicator (Ashraf and Galor, 2013).
- Share of Roman Catholics, Protestants, and Muslims in the population: (Ashraf and Galor, 2013, originally from La Porta et al.,1999).
- Legal origin fixed effects: British, French, German, Scandinavian, Socialist (Ashraf and Galor, 2013, originally from La Porta et al.,1999).

2.1.4 Oceanic controls

- Ocean biodiversity: Number of known marine fish species with a habitat suitability above 0.5 as computed in AquaMaps (Kaschner et al., 2013b). Averaged across pixels within each country's exclusive economic zone (EEZ).
- Sea area (EEZ or buffer area): Own calculation, based on current boundaries of countries' Exclusive Economic Zones (EEZ), and buffer zones of 10 and 100 km from the coast of each country into the ocean.
- Shelf area (% of EEZ): Share of EEZ area that lies within the shelf zone (0 – 200m depth). Own calculation based on Kaschner et al., (2013b).
- Estuary: Share of EEZ area that is covered by estuaries. Own calculation based on Kaschner et al., (2013b).
- Tide: Average extent of tides (in meters) along the coastline of a country. Own calculation based on Kaschner et al., (2013b).
- Small island indicator: From Ashraf and Galor (2013).
- Distance to coast or river: Distance, in thousands of kilometers, to the nearest ice-free coastline or navigable river, averaged across the grid cells of a country (Ashraf and Galor, 2013).
- Ratio of coastline length to land area: Own calculation based on data from Parker (2000).
- Lenght of inland waterways to land area: Own calculation based on Parker (2000).

Kaschner et al. (2013b) data is available at *http://www.aquamaps.org/main/envt_data.php.*

2.2 Pixel level variables

2.2.1 Dependent variables

- Population density 1500 (inhabitants per square km): Based on the Hyde database, version 3.1 (Klein Goldewijk et al., 2010, 2011).
- Population density 2010 (inhabitants per square km): Based on the Gridded Population of the World database, version 4.0 (CIESIN, 2016).
- Average earthlights at night per square km 2010: Based on the 2010 Global Radiance Calibrated Nighttime Lights dataset (Elvidge et al. 1999, Ziskin et al. 2010).

2.2.2 Geographical controls

- Sea area: Area of the nearest coastal buffer zone.
- Area: Area in square km of the coastal pixels.
- Land suitability for agriculture: From Ramankutty et al. (2002).
- Absolute latitude of the pixel centroid.
- Distance to coast: Distance from the pixel centroid to the nearest point on the coast.
- Distance to natural harbort: Distance from the pixel centroid to the nearest natural habor (identified with the World Port Index).
- Elevation: Average elevation in meters above sea level. From World-Clim - Global Climate Database. Available at *http://www.worldclim.org/current*.
- Tide: Average extent of tides (in meters) of the nearest ocean buffer zone. Underlying data from Kaschner et al., (2013b).
- Shelf area: Share of the nearest ocean buffer zone that lies within the shelf zone (0-200m depth). Underlying data from Kaschner et al., (2013b).
- Estuary area: Share of the nearest ocean buffer zone covered by estuaries. Underlying data from Kaschner et al., (2013b).

3 Supplementary Evidence

3.1 Historical cases: City growth and the bounty of the sea

3.1.1 The Old World: Historical evidence

During the 10th century the exploitation of the bounty of the sea expanded appreciably in Western Europe; that period is sometimes dubbed the "fish event horizon" (see e.g., Barret et al., 2004a,b). Multiple factors may have played a role in unleashing the elevated importance of fish from the sea. First, the expanding population of Europe, prompted by higher agricultural yields during the Medieval Warm Period, increasingly depleted inland fishing resources, thereby creating demand for new sources of (animal) protein (e.g., Bolster, 2012, Ch. 1). Second, during the Medieval period the Church encouraged fasting for a substantial part of the year during which meat was not allowed to be consumed. Fish, however, was not considered "meat". This too surely stimulated demand.[5] Third, a particular group of warriors and traders may have played a separate role: the Vikings. Bolster (2012, p. 25) explains:

> Viking invaders [. . .] became the fishmongers to Britain and the Continent, providing technology and expertise that made deep sea fishing possible. As early as the eighth century Scandinavians were catching, drying and distributing Codfish from the Norwegean Sea in a pre-commercial "web of obligation and exchange" [. . .] Stockfish became the staple of Viking civilizations and the food supporting notoriously long voyages. And it was the first sea fish traded over extended distances in Northern Europe, predating the Hanseactic League's Herring business.

Knowledge of the new marine opportunities could easily spread from Viking diasporas in Faroes, Shetland, Orkneys, Hebrides, Ireland, Iceland and Greenland as well as from conquered parts of England and France. Over time trade in marine fish gradually expands in Europe, and serves to influence the emergence of markets and urban areas.

One example is found in the Medieval orgins of Copenhagen, the capital of Denmark. Given its location and history, there is little reason to doubt that the city owes its relative importance to its proximity to the sea and to trade.[6] But it turns out that the rise of the city in importance was almost surely critically influenced by the rich fishing grounds in the Sound ("Øresund"), the

[5] In fact, during nearly 150 days per year fish would be the only kind of meat that could be consumed, by an observing Christian during the late Medieval period (e.g., Hoffman, 1996).

[6] In the earliest records from the 11th century, Copenhagen, or "København" as it is called in Danish, is referred to as "Hafn" ("Harbor"), which within two centuries develops into "Køpmannæhafn", or "the habor of merchants", and ultimately into "København". The city's location on the coast and at the center of the Kingdom between two important medieval cities, Roskilde on Zealand and Lund in Scania, probably contributed to the expansion of trade within its walls.

small strait that seperates Denmark from Sweden today. To be sure, during the late medieval period the fisheries around Copenhagen appear to have been remarkably productive. Saxo, in his Introduction to the history of Denmark from the early 13th century, writes that: "[...] The whole Sound is apt to be so thronged with fish that any craft which strikes on them is with difficulty got off by hard rowing, and the prize is captured no longer by tackle, but by simple use of the hands..". It seems unlikely that this passage is to be taken literately but rather as conveying the percieved importance of the resource at the time. In fact, recent historical studies have made probable, based on medieval tax records, that Danish exports of herring at its peak around 1400 C.E. amounted to about 27,000 tonnes of fresh fish per year, from the Sound alone (Holm, 1998). In terms of export earnings, the contribution from Sound herring landings appears to have exceeded national export earnings from agriculture (grain and oxen) by nearly a factor of two (Holm, 1998). Initially, the trade flows involved the intervention of Hansean cities (Lübeck in particular) who both provided the salt for the preservation process, and were instrumental in selling off the product to other parts of Europe. Eventually, however, Danish merchants came to play an increasing role in the latter respect. Moreover, the trade in fish also served to draw in other merchants to Copenhagen. At the dawn of the 16th century, the city was the most important urban center in the country, as witnessed by the fact that it had become the royal residence. During the 17th century, however, herring lost its significance as an export commodity.[7] Nevertheless, Copenhagen remained the capital of the country, and a focal point for foreign trade.[8]

It is worth stressing that the importance of fish trade, during the late Medieval period, is not unique to Copenhagen. In fact, a case can be made that international trade in fish was quite possibly the third largest trade flow in Europe, after textiles and grain (Holm, 1998). As observed by Hoffman (2005, p. 23-4)

> In about the tenth century, records from several European regions show people catching fish for sale to nearby consumers... Local markets for fish were an integral, indeed often precocious, element in the early rise of an exchange sector, i.e. the

[7] The precise reason is unknown. But two factors probably played a key role. First, the Reformation likely served to lower demand, which instigated declining prices. Second, to compensate for lower prices larger landings were nessesary requiring larger vessels beyond the economic reach of Danish fishermen. As a result, Dutch fishermen (living in the major economic power at the time) essentially took over (Holm, 1998).

[8] Another important source of revenue from the Sound, starting in the 15th century, was the so-called "Sound dues". This source of revenue dries out around 1660 due to Denmark's loss of Scania to Sweden. Hence, both sources of income, fish trade and sound dues, decline around the same time. The relative royal revenues from the two components in difficult to assess. The best guess is probably records from the reign of King Hans (1481-1531), which suggest that revenue from the fish market and the Sound dues constituted about 25% of total royal revenues, of which 2/3 were sound dues (Hybel and Poulsen, 2007, Table 13). While the direct revenue from the fish market can be corroborated by other sources, the Sound dues may be exaggerated. Moreover, a fraction of toll revenue would naturally derive from merchants involved directly or indirectly in the fish trade.

start of what historians call the 'Commercial Revolution of the Middle Ages' which became fully visible as it grew during the eleventh and twelfth centuries. Artisan fishers first appeared at inland and coastal sites with access to consuming centres, especially emerging towns such as Ravenna, Gdansk, Dieppe, Lincoln or Worms, and such people 'who make their living from fishing' spread and multiplied from there.

The rising importance of fish in international trade is further supported by archeological evidence, which shows that fishbones from non-local marine fish rises in importance in the diet in Europe during the late Medieval period (e.g., Barret et al., 2004a,b). Hence, during the early phases of the second millenium C.E international trade in fish arguably helped develop markets across Europe, which served to draw in other forms of trade as well. In its own way, this may have helped support an emerging Commercial Revolution.

3.1.2 The New World: Historical evidence

The influence from marine resources was not limited to the Old World. For example, the bounty of the sea had a significant role to play in the context of the colonialization and development of parts of North America. In 1602 Bartholomew Gosnold, searching for a passage to Asia, comes across a place he chooses to call "Cape Cod". Roughly a decade later, in 1614, Captain John Smith arrives and eventually publishes a map of the region, in 1616, which allow others to follow. Moreover, Smith apparently becomes a wealthy man by selling the proceeds from the trip, which involves 7,000 green cod and 40,000 stockfish. Curiously, John Smith thereby seems to have served as an impetus for the establishment of the Plymouth colony at Cape Cod, in 1620. As Kurlansky (1997, p. 67) observes:[9]

> ... studying the famous captain's map, the Pilgrims decided to ask England for a land grant to North Viginia, where there was this Cape Cod. Bradford wrote: "The major part inclined to go to Plymouth, chiefly for the hope of present profit to be made by the fish that was found in that country". When the British court asked them what profitable activity they could engage in with the land grant, they said fishing.

The apparent allure of rich fishing grounds should be appreciated in light of the international market for fish in Europe, which, as discussed above, had been around for a long time

[9]The quote refers implicitly to chronicles made by the governor of Massachusetts, William Bradford.

by the 17th century. The Pilgrims almost surely would have been keenly aware of these development as they prior to their exodus were living in the Netherlands, perhaps the leading maritime power at the time.

There is nothing much to suggest, however, that the Pilgrim Fathers were particularly successful in the fishing enterprise. But the New England region eventually becomes deeply influenced by fishing. Indeed, as observed by Adam Smith (1776, Chapter 7, part II: *Causes of the Prosperity of New Colonies*):

> To increase the shipping and naval power of Great Britain by the extension of the fisheries of our colonies, is an object which the legislature seems to have had almost constantly in view. Those fisheries, upon this account, have had all the encouragement which freedom can give them, and they have flourished accordingly. The New England fishery, in particular, was, before the late disturbances, one of the most important, perhaps, in the world. ... Fish is one of the principal articles with which the North Americans trade to Spain, Portugal, and the Mediterranean.

Hence, marine resources clearly contributed to the development of New England, through foreign trade. Kurlansky (1997, p. 74) puts it succinctly:

> New England was perfectly positioned for trade. In cod it had a product that Europe and European colonies wanted, and because of cod it had a population with spending power that was hungry for European products. This was what built Boston.

Hence, via the evolution of international markets and cities, a rich bounty of the sea may have had significant effects on long-term development in some regions of the world. This impact could be very persistent, since urban development appears to be charactarized by a considerable degree of path-dependence (e.g., Bleakley and Lin, 2012).

3.2 Supplementary regression results

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Table A1. Most caught marine fish species globally

	Number of species	Percentage of global catch in 1950-1959	Marine fish species
Most caught species 1950-59 (Bounty of the Sea Index)	15	52.30%	Alaska pollock; Atlantic cod; Atlantic herring; Atlantic menhaden; Chub mackerel; European pilchard; Gulf menhaden; Haddock; Japanese anchovy; Largehead hairtail; Pacific herring; Pacific saury; Peruvian anchovy; Pilchards; Saithe
Most caught species 1960-2009	22	52.10%	Alaska Pollock; Atlantic cod; Atlantic herring; Atlantic mackerel; Blue whiting; Capelin; Chilean jack mackerel; Chub mackerel; European anchovy; European pilchard; European sprat; Gulf menhaden; Haddock; Japanese anchovy; Largehead hairtail; Pacific herring; Peruvian anchovy; Pilchards; Saithe; Skipjack tuna; Yellowfin tuna
Top most caught species in each individual country 1950-59*	41		Albacore; Argentine hake; Atlantic Bluefin tuna; Atlantic cod; Atlantic herring; Atlantic menhaden; Australian salmon; Bigeye grunt; Blackfin tuna; Blue marlin; Bonga shad; Brazilian sardinella; Chub mackerel; Cunene horse mackerel; European anchovy; European pilchard; Flathead grey mullet; Indian mackerel; Indian oil sardine; Indian scad; Kawakawa; Largehead hairtail; Narrowbarred Spanish mackerel; Pacific anchoveta; Pacific saury; Peruvian anchovy; Pilchards; Red grouper; Red hind; Round sardinella; Serra Spanish mackerel; Short mackerel; Silver pomfret; Silver seabream; Skipjack tuna; Slender rainbow sardine; South Pacific hake; Southern red snapper; Surmullet; Unicorn cod; Yellowfin tuna

* These 41 species were the most caught in 91 individual countries.

Table A2. Summary Statistics

	Obs.	Mean	S.D.	Min.	Max.
Cross country data					
Population density 1500 CE	184	0.88	1.42	-3.82	4.14
GDP per capita, 2005	166	8.70	1.32	5.41	11.42
BoS index	227	0.05	0.09	0.00	0.44
BoS index (ancestry adj)	165	0.07	0.09	0.00	0.43
BoS index, top fish	227	0.14	0.10	0.00	0.42
BoS index, top fish (ancestry adj)	165	0.13	0.10	0.00	0.36
BoS index, 10km buffer	226	0.12	0.13	0.00	0.57
Bos Index, 10 km buffer (ancestry adj)	165	0.14	0.12	0.00	0.52
EEZ area	227	5.10e+20	1.10e+21	0.00	7.63e+21
Buffer area	226	26211.27	80611.32	0.00	8.21e+05
Soil suitability	166	0.58	0.21	0.00	1.00
Soil suitability (ancestry adj)	160	0.58	0.17	0.16	0.91
Land area	211	6.14e+05	1.77e+06	1.95	1.64e+07
Yrs since Neolithic	164	4806.40	2432.47	362.00	10500.00
Yrs since Neolithic (ancestry adj)	158	5448.56	2110.90	1356.99	10400.00
Latitude (abs)	205	25.63	17.22	1.00	72.00
Landlocked	236	0.17	0.38	0.00	1.00
Land near waterways (%)	160	0.46	0.38	0.00	1.00
Pixel level data					
Population density in 1500 CE (inhab per km2)	5,892	330.6	949.3	0	16,425.9
Population density in 2010 (inhab per km2)	5,911	114.3	369.7	0	8,017.3
Night light denisty in 2010 (calibrated index per km2)	5,648	7.3	21.4	0	451.3
Tech. adj. BoS within 100km ocean buffer	5,911	0.2	0.2	0	0.6
Area of 100km ocean buffer, km2	5,911	22,137.6	16,738.7	541.5	141,000.0
Soil suitability (Ramankutty)	5,911	0.2	0.3	0	1
Area of pixel, km2	5,911	4,200.9	3,005.5	9.2	12,304.8
Distance to coast, km	5,911	41.1	30.5	0	100
Distance to harbor, km	5,911	300.5	267.5	0.7	1,657.8
Estuary share of 200km ocean buffer	5,911	0.0	0.1	0	0.5
Shelf share of 200km ocean buffer	5,911	0.7	0.3	0.1	1
Tidal extent within 200km ocean buffer	5,911	2.4	2.2	0	10
Absolute latitude	5,911	42.8	23.5	0.1	82.4
Altitude, meters	5,911	296.0	372.0	-24.2	4,201.9

Table A3. The Bounty of the Sea and Pre-Industrial Development: Europe

	1	2	3	4	5	6	7	8	9
Dependent variable: (log)					Population density 1500 CE				
BoS index	0.361	0.321	0.588						
	(0.002)	(0.008)	(0.000)						
Bos Index, top fish				0.417	0.317	0.619			
				(0.006)	(0.047)	(0.003)			
BoS index, 10 km buffer							0.322	0.357	0.448
							(0.022)	(0.009)	(0.002)
Soil suitability	0.431	0.304	-0.013	0.353	0.281	0.114	0.433	0.273	0.054
	(0.013)	(0.180)	(0.957)	(0.035)	(0.222)	(0.662)	(0.009)	(0.222)	(0.845)
EEZ area	-0.742	0.094	0.215	-1.049	-0.167	-0.053			
	(0.468)	(0.916)	(0.777)	(0.253)	(0.845)	(0.944)			
Buffer area							-0.749	-0.853	-0.521
							(0.166)	(0.098)	(0.320)
Land area	0.489	-0.349	-0.256	0.811	-0.085	-0.044	0.480	0.569	0.430
	(0.627)	(0.693)	(0.742)	(0.369)	(0.920)	(0.955)	(0.360)	(0.254)	(0.418)
Yrs since Neolithic		0.263	-0.001		0.198	0.128		0.296	0.218
		(0.069)	(0.992)		(0.200)	(0.380)		(0.040)	(0.167)
Latitude (abs)			-0.584			-0.110			-0.238
			(0.019)			(0.608)			(0.303)
landlocked			0.450			0.538			0.366
			(0.008)			(0.004)			(0.038)
Land near waterways (%)			0.126			0.099			0.236
			(0.454)			(0.581)			(0.154)
Observations	37	36	36	37	36	36	37	36	36
R-squared	0.391	0.475	0.678	0.425	0.460	0.640	0.352	0.488	0.618

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant.

Table A4. The Bounty of the Sea and Pre-Industrial Development: Asia.

	1	2	3	4	5	6	7	8	9
Dependent variable: (log)					Population density 1500 C.E				
BoS index	0.328	0.435	0.337						
	(0.005)	(0.001)	(0.019)						
Bos index, top fish				0.404	0.614	0.427			
				(0.007)	(0.000)	(0.048)			
BoS index, 10 km buffer							0.453	0.553	0.565
							(0.001)	(0.001)	(0.010)
Soil suitability	0.338	0.377	0.571	0.447	0.554	0.571	0.283	0.320	0.528
	(0.016)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)	(0.045)	(0.015)	(0.000)
EEZ area	0.242	0.358	0.232	0.126	0.227	0.189			
	(0.119)	(0.033)	(0.274)	(0.444)	(0.168)	(0.300)			
Buffer area							0.050	0.145	0.001
							(0.486)	(0.080)	(0.994)
Land area	-0.084	-0.195	-0.184	-0.080	-0.240	-0.189	-0.015	-0.107	-0.110
	(0.386)	(0.043)	(0.056)	(0.366)	(0.004)	(0.089)	(0.861)	(0.195)	(0.224)
Yrs since Neoltihic		0.323	0.323		0.454	0.322		0.309	0.414
		(0.030)	(0.063)		(0.002)	(0.059)		(0.036)	(0.021)
Latitude (abs)			-0.281			-0.022			-0.443
			(0.245)			(0.918)			(0.023)
landlocked			-0.316			-0.247			-0.159
			(0.149)			(0.202)			(0.437)
Land near waterways (%)			-0.143			-0.051			-0.141
			(0.440)			(0.753)			(0.447)
Observations	42	42	40	42	42	40	42	42	40
R-squared	0.347	0.420	0.526	0.388	0.518	0.521	0.383	0.452	0.571

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant.

Table A5. The Bounty of the Sea and Pre-industrial Development: Alternative BoS indices

	1	2	3	4	5	6	7	8
Dependent variable: (log)				Population density 1500 CE				
BoS index	0.187	0.183						
	(0.004)	(0.010)						
BoS index (Kcal)			0.195	0.195				
			(0.003)	(0.009)				
BoS index (Fat)					0.201	0.205		
					(0.002)	(0.006)		
BoS index (Protein)							0.188	0.184
							(0.005)	(0.014)
Soil suitability	0.247	0.304	0.246	0.301	0.248	0.304	0.245	0.300
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
EEZ area	0.133	0.103	0.135	0.106	0.139	0.111	0.131	0.100
	(0.274)	(0.403)	(0.267)	(0.391)	(0.255)	(0.370)	(0.283)	(0.417)
land area	-0.197	-0.209	-0.192	-0.204	-0.191	-0.204	-0.192	-0.203
	(0.061)	(0.068)	(0.068)	(0.074)	(0.070)	(0.075)	(0.069)	(0.076)
Yrs since Neolithic	0.351	0.296	0.353	0.298	0.356	0.301	0.350	0.294
	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
Latitude (abs)	-0.525	-0.385	-0.542	-0.404	-0.554	-0.419	-0.530	-0.391
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Landlocked (=1)	0.074		0.077		0.076		0.076	
	(0.278)		(0.262)		(0.265)		(0.270)	
Land near waterways (%)	0.215	0.184	0.218	0.185	0.220	0.186	0.217	0.186
	(0.014)	(0.040)	(0.012)	(0.037)	(0.011)	(0.037)	(0.012)	(0.037)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Full	No landlock	Full	No landlock	Full	No landlock	Full	No landlock
Observations	150	113	150	113	150	113	150	113
R-squared	0.661	0.702	0.662	0.702	0.662	0.703	0.661	0.701

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant. BoS (Kcal) provides a weighted average of the survival probability for the selected fish species, with weights reflecting the calorie content. BoS (Fat) and BoS (protein) are analogous with weights reflecing fat and protein per edible gram of meat. Columns marked "No Landlock" exclude landlocked nations from the sample.

Table A6. Bounty of the Sea and Pre-Industrial Development: Alternative Specifications

	1	2	3	4	5	6	7	8	9	10	11	12	13
Dependent variable: (log)	Population density 1500 CE												
BoS index	0.265	0.158	0.139	0.147	0.119	0.144	0.140	0.176	0.214				
	(0.000)	(0.017)	(0.035)	(0.012)	(0.045)	(0.017)	(0.014)	(0.002)	(0.001)				
Bos index, top fish										0.120	0.106		
										(0.045)	(0.148)		
Bos index, 10 km buffer												0.214	0.249
												(0.001)	(0.001)
EEZ area	-0.257	-0.212	-0.165	-0.157	-0.100	-0.109	-0.034	-0.022	-0.027	-0.054	-0.089		
	(0.018)	(0.043)	(0.100)	(0.064)	(0.201)	(0.144)	(0.635)	(0.758)	(0.727)	(0.473)	(0.263)		
Buffer area												-0.077	-0.087
												(0.085)	(0.128)
Genetic diversity	9.314	5.510	8.699	4.067	7.313	7.245	6.022	6.131	8.244	4.642	6.818	6.110	8.702
	(0.000)	(0.091)	(0.009)	(0.186)	(0.016)	(0.013)	(0.037)	(0.024)	(0.008)	(0.067)	(0.014)	(0.018)	(0.003)
Genetic diversity sq	-8.972	-5.390	-8.672	-3.835	-7.166	-7.187	-5.629	-5.854	-7.859	-4.495	-6.635	-5.726	-8.160
	(0.000)	(0.083)	(0.006)	(0.186)	(0.012)	(0.009)	(0.040)	(0.023)	(0.008)	(0.065)	(0.014)	(0.019)	(0.004)
Roughness						0.142		0.181	0.191	0.156	0.160	0.129	0.109
						(0.034)		(0.001)	(0.002)	(0.006)	(0.009)	(0.025)	(0.083)
Yrs since Neolithic (log)			0.410		0.450	0.422	0.465	0.411	0.387	0.421	0.415	0.404	0.401
			(0.001)		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Areable land (log)				0.334	0.322	0.348	0.344	0.339	0.294	0.362	0.322	0.351	0.315
				(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Latitude (abs)				-0.324	-0.270	-0.282	-0.045	-0.075	0.042	-0.063	0.049	-0.095	0.008
				(0.000)	(0.000)	(0.000)	(0.628)	(0.394)	(0.627)	(0.496)	(0.600)	(0.253)	(0.906)
Soil suitability (log)				0.146	0.197	0.121							
				(0.153)	(0.021)	(0.189)							
Temperature (log)							0.238	0.292	0.311	0.205	0.182	0.241	0.261
							(0.001)	(0.000)	(0.000)	(0.016)	(0.077)	(0.003)	(0.008)
Percipitation (log)							0.288	0.200	0.232	0.185	0.203	0.194	0.219
							(0.000)	(0.012)	(0.010)	(0.022)	(0.030)	(0.013)	(0.013)
Continent FE's	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Full	Full	Full	Full	Full	Full	Full	Full	No Landlock	Full	No Landlock	Full	No Landlock
Observations	146	146	146	146	146	146	146	146	111	146	111	146	111
R-squared	0.343	0.416	0.472	0.640	0.705	0.718	0.734	0.754	0.787	0.740	0.767	0.768	0.806

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant. BoS (Kcal) provides a weighted average of the survival probability for the selected fish species, with weights reflecting the calorie content. BoS (Fat) and BoS (protein) are analogous with weights reflecing fat and protein per edible gram of meat. Columns marked "No Landlock" exclude landlocked nations from the sample. The specifications replicate the control strategy in Ashraf and Galor (2013, Table 3).

Table A7. The Bounty of the Sea and Pre-industrial Development: Additional oceanic controls

	1	2	3	4	5	6	7	8	9	10	11
Dependent variable: (log)						Population density 1500					
Bos index	0.187	0.188	0.230	0.185	0.174	0.191	0.187	0.190	0.149	0.182	0.204
	(0.004)	(0.004)	(0.000)	(0.010)	(0.030)	(0.004)	(0.004)	(0.003)	(0.044)	(0.013)	(0.022)
Soil suitability	0.247	0.249	0.212	0.302	0.308	0.249	0.247	0.248	0.252	0.329	0.278
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)
EEZ area	0.133	0.135	0.083	0.107	0.102	0.122	0.132	0.131	0.143	0.101	0.047
	(0.274)	(0.276)	(0.484)	(0.389)	(0.413)	(0.268)	(0.282)	(0.283)	(0.247)	(0.395)	(0.710)
Land area	-0.197	-0.197	-0.166	-0.210	-0.209	-0.192	-0.189	-0.196	-0.202	-0.207	-0.293
	(0.061)	(0.063)	(0.114)	(0.069)	(0.068)	(0.055)	(0.102)	(0.062)	(0.060)	(0.063)	(0.035)
Yrs since Neolithic	0.351	0.348	0.325	0.290	0.296	0.364	0.349	0.350	0.365	0.300	0.266
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.011)
Latitude (abs)	-0.525	-0.533	-0.505	-0.388	-0.380	-0.527	-0.521	-0.525	-0.497	-0.392	-0.273
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.016)
Landlocked	0.074	0.069	0.014			0.073	0.080	0.068	0.064		
	(0.278)	(0.355)	(0.861)			(0.283)	(0.281)	(0.328)	(0.363)		
Land near waterways (%)	0.215	0.216	0.216	0.185	0.183	0.201	0.208	0.206	0.204	0.157	0.283
	(0.014)	(0.013)	(0.009)	(0.040)	(0.043)	(0.021)	(0.018)	(0.020)	(0.020)	(0.069)	(0.002)
Ocean biodiversity		-0.011									0.064
		(0.903)									(0.491)
Shelf area (% of eez)			-0.151								-0.216
			(0.060)								(0.030)
Estuary				0.030							0.056
				(0.471)							(0.194)
Tide (m)					0.019						-0.016
					(0.743)						(0.776)
Small island						0.041					-0.009
						(0.601)					(0.899)
Distance to coast or river							-0.019				0.179
							(0.807)				(0.064)
Coastline to land area								0.042			-0.211
								(0.052)			(0.041)
Inland waterways to land area									0.078		0.085
									(0.110)		(0.092)
Natural ports/area										0.059	0.180
										(0.460)	(0.062)
Observations	150	150	150	113	113	150	150	150	150	113	113
R-squared	0.661	0.661	0.670	0.702	0.702	0.662	0.661	0.663	0.665	0.704	0.745
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant.

Table A8. The Ancestral Bounty of the Sea and Contemporary Development: Alternative BoS indices

	1	2	3	4	5	6	7	8
Dependent variable: (log)	GDP per capita 2005							
BoS index (ancestry adj)	0.153				0.181			
	(0.003)				(0.000)			
Bos Index (ancestry adj., kcal)		0.157				0.181		
		(0.003)				(0.000)		
BoS index (ancestry adj, protein)			0.161				0.183	
			(0.002)				(0.000)	
BoS index (ancestry adj, fat)				0.152				0.178
				(0.005)				(0.000)
Specification	Full	Full	Full	Full	A&G full	A&G full	A&G full	A&G full
Observations	139	139	139	139	136	136	136	136
R-squared	0.698	0.698	0.699	0.697	0.830	0.830	0.830	0.829

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant. BoS (Kcal) provides a weighted average of the survival probability for the selected fish species, with weights reflecting the calorie content. BoS (Fat) and BoS (protein) are analogous with weights reflecing fat and protein per edible gram of meat. In the first four columns we control for our full baseline set of variables; see Table 4 column 5. In the last four columns we include the set of controls adopted by Ashraf and Galor (2013, Table 7) except for Social Infrastructure (therefore controls in these specifications are the same as in Table A9, column 10).

Table A9. Ancestral Bounty of the Sea and Contemporary Development: Additional Oceanic controls

	1	2	3	4	5	6	7	8	9	10	11
Dependent variable: (log)						GDP per capita 2005					
BoS index (ancestry adj)	0.158	0.162	0.167	0.200	0.215	0.157	0.154	0.161	0.201	0.210	0.213
	(0.002)	(0.002)	(0.006)	(0.001)	(0.005)	(0.004)	(0.002)	(0.002)	(0.001)	(0.000)	(0.010)
Soil suitability (ancestry adj)	-0.213	-0.205	-0.218	-0.260	-0.263	-0.213	-0.218	-0.214	-0.217	-0.234	-0.215
	(0.000)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.004)
EEZ area	0.137	0.154	0.127	0.157	0.175	0.138	0.129	0.135	0.127	0.171	0.244
	(0.109)	(0.054)	(0.140)	(0.165)	(0.135)	(0.103)	(0.136)	(0.117)	(0.139)	(0.126)	(0.063)
Land area	-0.053	-0.054	-0.047	-0.078	-0.083	-0.053	0.012	-0.053	-0.049	-0.082	0.134
	(0.512)	(0.507)	(0.554)	(0.453)	(0.431)	(0.509)	(0.884)	(0.516)	(0.538)	(0.434)	(0.303)
Yrs since Neolithic (ancestry adj)	0.169	0.141	0.166	0.245	0.231	0.168	0.154	0.167	0.153	0.231	0.144
	(0.021)	(0.077)	(0.026)	(0.004)	(0.009)	(0.024)	(0.041)	(0.022)	(0.028)	(0.008)	(0.084)
Latitude (abs)	0.390	0.335	0.395	0.366	0.351	0.390	0.424	0.389	0.366	0.345	0.148
	(0.000)	(0.001)	(0.000)	(0.001)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.309)
Landlocked	0.013	-0.023	-0.001			0.013	0.058	0.008	0.022		
	(0.833)	(0.770)	(0.993)			(0.834)	(0.408)	(0.906)	(0.734)		
Land near waterways (%)	0.182	0.193	0.181	0.146	0.148	0.183	0.130	0.173	0.193	0.106	-0.010
	(0.058)	(0.050)	(0.064)	(0.130)	(0.136)	(0.083)	(0.186)	(0.075)	(0.048)	(0.291)	(0.929)
Ocean biodiversity		-0.085									-0.270
		(0.349)									(0.012)
Shelf area (% of eez area)			-0.031								0.054
			(0.723)								(0.603)
Estuary				-0.112							-0.132
				(0.003)							(0.007)
Tides (m)					-0.014						0.043
					(0.832)						(0.509)
Small island						-0.002					-0.032
						(0.976)					(0.708)
Distance to coast or river							-0.154				-0.345
							(0.040)				(0.013)
Coastline/area								0.039			0.130
								(0.075)			(0.160)
Indland waterways/area									-0.080		-0.058
									(0.095)		(0.206)
Natural ports/area										0.096	0.022
										(0.009)	(0.734)
Continent FE's	yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	139	139	139	102	102	139	139	139	139	102	102
R-squared	0.702	0.704	0.702	0.712	0.700	0.702	0.711	0.703	0.706	0.707	0.764

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant.

Table A10. Ancestral Bounty of the Sea and Comparative Development: Alternative Specification

	1	2	3	4	5	6	7	8	9	10	11	12
Dependent variable: (log)						GDP per capita, 2005						
BoS index (ancestry adj)	0.192	0.204	0.124	0.125	0.133	0.132	0.136	0.178				
	(0.000)	(0.000)	(0.007)	(0.004)	(0.002)	(0.002)	(0.002)	(0.000)				
BoS index, top fish (ancestry adj)									0.104	0.157		
									(0.169)	(0.013)		
BoS index, 10 km buffer (ancestry adj)											0.137	0.165
											(0.007)	(0.002)
EEZ area	0.146	0.121	0.045	0.060	0.060	0.075	0.086	0.137	0.067	0.111		
	(0.114)	(0.085)	(0.456)	(0.273)	(0.261)	(0.175)	(0.120)	(0.029)	(0.233)	(0.090)		
Buffer area											0.045	0.102
											(0.299)	(0.061)
genetic diversity		2.416	2.513	2.274	2.583	3.138	3.861	3.980	3.124	2.694	3.480	3.718
		(0.156)	(0.111)	(0.141)	(0.103)	(0.108)	(0.097)	(0.103)	(0.253)	(0.330)	(0.156)	(0.146)
genetic diversity sq		-2.266	-2.349	-2.106	-2.414	-2.940	-3.648	-3.831	-2.907	-2.531	-3.264	-3.572
		(0.192)	(0.143)	(0.181)	(0.138)	(0.141)	(0.121)	(0.121)	(0.293)	(0.367)	(0.187)	(0.167)
Ethnic fractionalization				-0.109	-0.088	0.001	0.001	0.018	-0.012	-0.001	-0.006	0.009
				(0.078)	(0.194)	(0.988)	(0.992)	(0.783)	(0.853)	(0.985)	(0.921)	(0.894)
Pct Europan							-0.148	-0.074	-0.062	0.048	-0.118	-0.060
							(0.457)	(0.699)	(0.777)	(0.823)	(0.581)	(0.771)
Malaria						-0.155	-0.151	-0.247	-0.165	-0.269	-0.144	-0.240
						(0.171)	(0.186)	(0.033)	(0.130)	(0.012)	(0.194)	(0.033)
Tropical Climate						-0.147	-0.161	-0.170	-0.193	-0.218	-0.163	-0.186
						(0.030)	(0.022)	(0.029)	(0.008)	(0.009)	(0.036)	(0.030)
Distance to coast or river						-0.144	-0.144	-0.133	-0.103	-0.072	-0.124	-0.127
						(0.017)	(0.018)	(0.053)	(0.131)	(0.315)	(0.060)	(0.093)
Yrs since the Neolithic (ancestry adj)		-0.007	0.059	0.071	0.127	0.106	0.130	0.121	0.098	0.073	0.130	0.124
		(0.935)	(0.469)	(0.349)	(0.201)	(0.241)	(0.173)	(0.280)	(0.310)	(0.515)	(0.150)	(0.241)
Arable land (log)		-0.246	-0.189	-0.197	-0.224	-0.198	-0.198	-0.236	-0.180	-0.213	-0.176	-0.207
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Absolute latitude (log)		0.130	0.105	0.067	0.090	-0.010	-0.008	-0.041	-0.025	-0.067	-0.024	-0.070
		(0.154)	(0.200)	(0.436)	(0.308)	(0.913)	(0.935)	(0.691)	(0.811)	(0.553)	(0.811)	(0.524)
Social infrastructure			0.371	0.363	0.345	0.306	0.313		0.322		0.327	
			(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		(0.001)		(0.001)	
OPEC						0.095	0.094	0.077	0.086	0.065	0.095	0.073
						(0.050)	(0.054)	(0.115)	(0.087)	(0.202)	(0.057)	(0.136)
Pct protestant					-0.058	-0.074	-0.080	-0.066	-0.043	-0.019	-0.037	-0.010
					(0.498)	(0.298)	(0.267)	(0.443)	(0.554)	(0.830)	(0.585)	(0.908)
Pct Catholic					0.087	0.106	0.124	0.083	0.105	0.058	0.104	0.062
					(0.205)	(0.147)	(0.132)	(0.291)	(0.181)	(0.431)	(0.196)	(0.431)
Pct Muslim					-0.021	-0.049	-0.060	-0.075	-0.046	-0.051	-0.042	-0.058
					(0.788)	(0.455)	(0.377)	(0.366)	(0.523)	(0.555)	(0.543)	(0.486)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Legal origin FE's	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specification	A&G	A&G	A&G	A&G	A&G	A&G	A&G	No SocInf	A&G	No SocInf	A&G	No SocInf
Observations	104	104	104	104	104	104	104	104	104	104	104	104
R-squared	0.720	0.795	0.843	0.849	0.858	0.892	0.893	0.873	0.888	0.868	0.893	0.872

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant. The specifications replicate the control strategy in Ashraf and Galor (2013, Table 7), but columns marked "No SocInf" exclude the control for Social Infrastructure from the model. Legal origins include British, French, Scandinavian and German indicators.

Table A11. Bounty of the Sea and Comparative Development: Place or People in alternative specifications

	1	2	3	4	5	6	7	8	9	10	11	12
Dependent variable: (log)						GDP per capita, 2005						
BoS index (ancestry adj)	0.332	0.347	0.143	0.169	0.173	0.279	0.273	0.399				
	(0.034)	(0.006)	(0.172)	(0.089)	(0.105)	(0.012)	(0.024)	(0.001)				
BoS index	-0.146	-0.148	-0.020	-0.044	-0.039	-0.145	-0.135	-0.225				
	(0.328)	(0.170)	(0.818)	(0.586)	(0.645)	(0.106)	(0.186)	(0.046)				
Bos index, top fish (ancestry adj)									0.171	0.234		
									(0.212)	(0.057)		
BoS index, top fish									-0.078	-0.089		
									(0.477)	(0.426)		
BoS index, 10 km buffer (ancestry adj)											0.196	0.252
											(0.051)	(0.013)
BoS index, 10 km buffer											-0.060	-0.090
											(0.418)	(0.282)
EEZ area	0.132	0.108	0.044	0.057	0.058	0.069	0.078	0.117	0.068	0.112		
	(0.155)	(0.151)	(0.475)	(0.306)	(0.286)	(0.200)	(0.159)	(0.050)	(0.234)	(0.089)		
Buffer area											0.040	0.093
											(0.381)	(0.088)
Genetic diversity		2.700	2.550	2.352	2.648	3.366	3.917	4.059	3.370	2.979	3.455	3.681
		(0.114)	(0.111)	(0.134)	(0.100)	(0.089)	(0.095)	(0.102)	(0.205)	(0.277)	(0.159)	(0.149)
Genetic diversity sq		-2.553	-2.387	-2.184	-2.477	-3.158	-3.699	-3.893	-3.147	-2.808	-3.244	-3.540
		(0.142)	(0.143)	(0.171)	(0.133)	(0.118)	(0.119)	(0.120)	(0.242)	(0.311)	(0.190)	(0.169)
Ethnic fractionalization				-0.112	-0.090	-0.007	-0.007	0.003	-0.007	0.004	-0.007	0.008
				(0.075)	(0.188)	(0.914)	(0.918)	(0.960)	(0.914)	(0.948)	(0.919)	(0.902)
Pct Europan							-0.117	-0.031	-0.065	0.044	-0.111	-0.051
							(0.584)	(0.878)	(0.765)	(0.839)	(0.615)	(0.811)
Malaria						-0.127	-0.125	-0.192	-0.152	-0.253	-0.129	-0.218
						(0.278)	(0.288)	(0.108)	(0.187)	(0.020)	(0.280)	(0.067)
Tropical climate						-0.176	-0.185	-0.209	-0.203	-0.228	-0.175	-0.203
						(0.013)	(0.010)	(0.009)	(0.007)	(0.006)	(0.026)	(0.019)
Distance to coast or river						-0.165	-0.164	-0.168	-0.117	-0.088	-0.132	-0.138
						(0.010)	(0.012)	(0.021)	(0.102)	(0.242)	(0.050)	(0.075)
Yrs since Neolithic (ancestry adj)		0.009	0.061	0.075	0.130	0.117	0.136	0.131	0.105	0.081	0.138	0.135
		(0.921)	(0.466)	(0.332)	(0.201)	(0.196)	(0.152)	(0.226)	(0.283)	(0.476)	(0.135)	(0.211)
Arable land (log)		-0.243	-0.189	-0.198	-0.224	-0.194	-0.194	-0.224	-0.174	-0.206	-0.171	-0.201
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Absolute latitude (log)		0.127	0.104	0.065	0.090	-0.024	-0.022	-0.060	-0.039	-0.083	-0.031	-0.080
		(0.161)	(0.203)	(0.449)	(0.311)	(0.793)	(0.820)	(0.552)	(0.715)	(0.462)	(0.753)	(0.458)
Social infrastructure			0.368	0.356	0.338	0.282	0.289		0.321		0.324	
			(0.000)	(0.000)	(0.000)	(0.002)	(0.003)		(0.001)		(0.001)	
OPEC						0.096	0.096	0.082	0.087	0.066	0.096	0.075
						(0.045)	(0.049)	(0.088)	(0.083)	(0.191)	(0.058)	(0.129)
Pct Protestant					-0.062	-0.084	-0.089	-0.082	-0.048	-0.025	-0.034	-0.006
					(0.474)	(0.240)	(0.226)	(0.330)	(0.526)	(0.788)	(0.619)	(0.946)
Pct Catholic					0.087	0.110	0.124	0.087	0.107	0.061	0.106	0.065
					(0.208)	(0.125)	(0.125)	(0.245)	(0.165)	(0.409)	(0.185)	(0.414)
Pct Muslim					-0.023	-0.055	-0.063	-0.079	-0.040	-0.045	-0.040	-0.055
					(0.772)	(0.381)	(0.334)	(0.310)	(0.573)	(0.601)	(0.559)	(0.503)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Legal origin FE's	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specification	A&G	A&G	A&G	A&G	A&G	A&G	A&G	No SocInf	A&G	No SocInf	A&G	No SocInf
Observations	104	104	104	104	104	104	104	104	104	104	104	104
R-squared	0.723	0.798	0.843	0.849	0.858	0.894	0.895	0.879	0.889	0.869	0.893	0.873

Notes: OLS regressions. Each column displays standardized beta coefficients, and p-values based on robust standard errors in parentheses. All regressions include a constant. The specifications replicate the control strategy in Ashraf and Galor (2013, Table 7), but columns marked "No SocInf" exclude the control for Social Infrastructure from the model. Legal origins include British, French, Scandinavian and German indicators.

Table A12: Bounty of the Sea and Contemporary Development - Pixel level data

Panel A: Bounty of the Sea and population density in 2000

	1	2	3	4	5	6	7	8
Dep. Var.: (log)	Population density in 2010							
BoS index	0.137	0.169	0.131	0.194	0.156	0.144		
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		
	[0.005]	[0.001]	[0.008]	[0.000]	[0.000]	[0.000]		
Bos index, 10 km buffer							0.133	
							(0.000)	
							[0.000]	
Bos index, top fish								0.184
								(0.000)
								[0.000]
Soil suitability	0.531	0.374	0.366	0.345	0.317	0.285	0.284	0.283
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Pixel area	0.074	0.072	0.06	0.074	0.054	0.047	0.053	0.046
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Buffer area (100 km buffer)	-0.196	-0.054	-0.094	-0.051	0.002	-0.033		-0.053
	(0.000)	(0.000)	(0.000)	(0.000)	(0.734)	(1.13e-05)		(0.000)
Buffer area (10 km buffer)							-0.009	
							(0.203)	
Shelf (200 km buffer)			-0.098			-0.083	-0.077	-0.091
			(0.000)			(0.000)	(0.000)	(0.000)
Tidal movements (200 km buffer)			-0.098			-0.095	-0.101	-0.104
			(0.000)			(0.000)	(0.000)	(0.000)
Distance to coast				0.086		0.074	0.074	0.081
				(0.000)		(0.000)	(0.000)	(0.000)
Distance to natural harbors				-0.018		-0.014	0.004	-0.036
				(0.0795)		(0.164)	(0.716)	(0.000387)
Estuary (200 km buffer)				-0.06		-0.081	-0.073	-0.045
				(3.86e-10)		(0.000)	(0.000)	(8.43e-08)
Latitude (abs)					-0.448	-0.438	-0.464	-0.36
					(0.000)	(0.000)	(0.000)	(0.000)
Elevation					-0.082	-0.051	-0.044	-0.042
					(0.000)	(2.01e-10)	(1.14e-08)	(6.13e-08)
Country FEs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5911	5911	5911	5911	5911	5911	5911	5911
R-squared	0.485	0.774	0.788	0.78	0.794	0.81	0.809	0.808

Panel B: Bounty of the Sea and night light density in 2000

	1	2	3	4	5	6	7	8
Dependent variable: (log)	Average luminosity at night per sq km in 2010							
BoS index	0.176	0.125	0.075	0.154	0.129	0.101		
	(0.000)	(0.000)	(6.31e-07)	(0.000)	(0.000)	(0.000)		
	[0.002]	[0.022]	[0.159]	[0.003]	[0.004]	[0.015]		
Bos index, 10 km buffer							0.106	
							(0.000)	
							[0.017]	
Bos index, top fish								0.186
								(0.000)
								[0.002]
Soil suitability	0.435	0.399	0.385	0.373	0.336	0.302	0.306	0.302
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Pixel area	0.071	0.119	0.099	0.122	0.101	0.088	0.100	0.087
	(1.23e-08)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Buffer area (100 km buffer)	-0.077	-0.057	-0.128	-0.052	-0.024	-0.085		-0.095
	(0.000)	(3.32e-09)	(0.000)	(9.29e-08)	(0.0134)	(0.000)		(0.000)
Buffer area (10 km buffer)							-0.02	
							(0.0462)	
Distance to coast			-0.145			-0.115	-0.096	-0.12
			(0.000)			(0.000)	(0.000)	(0.000)
Distance to natural harbors			-0.12			-0.122	-0.121	-0.122
			(0.000)			(0.000)	(0.000)	(0.000)
Estuary (200 km buffer)				0.075		0.059	0.067	0.071
				(2.76e-08)		(2.48e-06)	(1.19e-07)	(8.29e-09)
Shelf (200 km buffer)				-0.009		-0.02	0.011	-0.032
				(0.528)		(0.146)	(0.426)	(0.0167)
Tidal movements (200 km buffer)				-0.067		-0.085	-0.078	-0.059
				(4.38e-09)		(0.000)	(0.000)	(1.49e-08)
Latitude (abs)					-0.435	-0.42	-0.47	-0.328
					(0.000)	(0.000)	(0.000)	(0.000)
Elevation					-0.131	-0.092	-0.084	-0.087
					(0.000)	(0.000)	(0.000)	(0.000)
Country FEs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5648	5648	5648	5648	5648	5648	5648	5648
R-squared	0.301	0.611	0.637	0.616	0.637	0.661	0.657	0.663

Notes: OLS regressions. Each column displays standardized beta coefficients, p-values based on robust standard errors in parentheses, and p-values based on Conley standard errors (robust to spatial interdependence in a radius of 400 km) in brackets. All regressions include a constant.

Table A13. Bounty of the Sea and coastal orientation, earthlights

	1	2	3	4	5	6	7
Dependent variable: (log)				Fraction of lights near coast (<100 km)			
BoS index	0.340	0.359	0.361	0.127	0.130		
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		
BoS index, top fish						0.337	
						(0.000)	
BoS index, 10 km buffer							0.172
							(0.000)
Soil suitability	-0.157	-0.178	-0.178	-0.134	-0.131	-0.136	-0.131
	(0.042)	(0.013)	(0.014)	(0.003)	(0.003)	(0.001)	(0.002)
EEZ area	0.473	0.443	0.453	0.002	0.038	0.033	
	(0.000)	(0.000)	(0.000)	(0.958)	(0.376)	(0.413)	
Buffer area							-0.017
							(0.666)
Land area	-0.518	-0.538	-0.544	-0.007	-0.027	-0.080	0.007
	(0.000)	(0.000)	(0.000)	(0.869)	(0.513)	(0.030)	(0.877)
Latitude (abs)				-0.139	-0.139	0.069	-0.134
				(0.048)	(0.044)	(0.243)	(0.051)
Fraction land near coast (100 km)				0.897	0.904	0.844	0.874
				(0.000)	(0.000)	(0.000)	(0.000)
Land within coast or river (%)				-0.088	-0.087	-0.154	-0.074
				(0.203)	(0.220)	(0.019)	(0.299)
Yrs since Neolithic			0.030		0.126	0.144	0.121
			(0.815)		(0.023)	(0.011)	(0.030)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	152	152	152	152	152	152	152
R-squared	0.257	0.325	0.325	0.774	0.780	0.833	0.789

Notes: OLS regressions. Each column displays standardized beta coefficients, p-values based on robust standard errors in parentheses. All regressions include a constant.

Table A14. Coastal orientation in 1500 CE and 2010 CE - 50 km from the coastilne

Panel A: 1500 CE							
	1	2	3	4	5	6	7
Dependent variable: (log)	Fraction of population near coast (<50 km)						
BoS index	0.323	0.324	0.320	0.099	0.101		
	(0.000)	(0.000)	(0.000)	(0.006)	(0.007)		
BoS index, top fish						0.242	
						(0.000)	
BoS index, buffer (10 km)							0.102
							(0.017)
Soil suitability	-0.112	-0.155	-0.157	-0.121	-0.118	-0.117	-0.117
	(0.222)	(0.070)	(0.067)	(0.022)	(0.027)	(0.022)	(0.027)
EEZ area	0.474	0.421	0.399	-0.001	0.022	0.008	
	(0.000)	(0.000)	(0.000)	(0.983)	(0.729)	(0.897)	
Buffer area							0.014
							(0.778)
Land area	-0.512	-0.516	-0.501	-0.012	-0.025	-0.055	-0.018
	(0.000)	(0.000)	(0.000)	(0.805)	(0.620)	(0.278)	(0.683)
Latitude (abs)				-0.005	-0.006	0.140	0.002
				(0.947)	(0.942)	(0.027)	(0.984)
Land within 50 km of coast				0.809	0.820	0.821	0.807
				(0.000)	(0.000)	(0.000)	(0.000)
Waterways (%)				0.074	0.069	-0.015	0.077
				(0.330)	(0.345)	(0.839)	(0.282)
Yrs since Neolithic			-0.071		0.085	0.100	0.087
			(0.635)		(0.217)	(0.154)	(0.193)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	152	152	152	152	152	152	152
R-squared	0.241	0.317	0.319	0.813	0.815	0.843	0.816

Panel B: 2010							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable: (log)	Fraction population near coast (<50 km)						
BoS index	0.348	0.351	0.346	0.147	0.148		
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)		
BoS index, top fish						0.327	
						(0.000)	
BoS index, Buffer (10 km)							0.166
							(0.004)
EEZ area	0.480	0.410	0.379	0.017	0.030	0.010	
	(0.000)	(0.000)	(0.002)	(0.798)	(0.689)	(0.893)	
Buffer area							-0.018
							(0.736)
Soil suitability	-0.129	-0.171	-0.174	-0.134	-0.132	-0.130	-0.131
	(0.138)	(0.036)	(0.034)	(0.012)	(0.014)	(0.011)	(0.014)
Land ara	-0.450	-0.449	-0.429	0.020	0.013	-0.025	0.046
	(0.000)	(0.000)	(0.000)	(0.751)	(0.853)	(0.712)	(0.468)
Latitude (abs)				-0.038	-0.038	0.162	-0.028
				(0.661)	(0.660)	(0.024)	(0.745)
Land within 50 km of coast				0.769	0.775	0.778	0.761
				(0.000)	(0.000)	(0.000)	(0.000)
Waterways (%)				0.040	0.038	-0.074	0.043
				(0.644)	(0.662)	(0.385)	(0.602)
Yrs since Neolithic			-0.098		0.048	0.067	0.044
			(0.516)		(0.520)	(0.379)	(0.549)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	152	152	152	152	152	152	152
R-squared	0.246	0.322	0.325	0.750	0.751	0.798	0.756

Notes: OLS regressions. Each column displays standardized beta coefficients, p-values based on robust standard errors in parentheses, and p-values based on Conley standard errors (robust to spatial interdependence in a radius of 400 km) in brackets. All regressions include a constant.

Table A15. Robustness: Bounty of the Sea, employment structure and Timing of take-off in countries with native population

	1	2	3	4	5	6	7	8	9
Dependent variable:	(log) Employment share in ag., 1900			Year of Industrialization			Year of fertility decline		
BoS index	-0.520			-0.511			-0.165		
	(0.008)			(0.001)			(0.022)		
BoS index, top fish		-0.372			-0.417			-0.186	
		(0.077)			(0.019)			(0.020)	
BoS index, buffer (10 km)			-0.541			-0.430			-0.197
			(0.026)			(0.064)			(0.012)
Soil Suitability	0.204	0.253	0.208	0.184	0.205	0.196	0.094	0.108	0.114
	(0.011)	(0.010)	(0.016)	(0.042)	(0.036)	(0.063)	(0.091)	(0.043)	(0.049)
EEZ area	-0.238	-0.110		-0.195	-0.092		-0.146	-0.127	
	(0.116)	(0.387)		(0.143)	(0.408)		(0.169)	(0.197)	
Buffer area			-0.149			-0.055			-0.055
			(0.257)			(0.558)			(0.373)
Land area	0.257	0.139	0.144	0.163	0.077	0.024	0.071	0.056	-0.011
	(0.042)	(0.196)	(0.215)	(0.153)	(0.420)	(0.794)	(0.386)	(0.455)	(0.842)
Yrs since Neolithic	-0.209	-0.160	-0.291	-0.071	-0.027	-0.089	-0.000	0.001	-0.008
	(0.100)	(0.234)	(0.024)	(0.412)	(0.779)	(0.351)	(1.000)	(0.983)	(0.897)
Latitude (abs)	-0.044	-0.246	-0.100	-0.212	-0.475	-0.270	-0.181	-0.309	-0.158
	(0.716)	(0.121)	(0.503)	(0.028)	(0.002)	(0.018)	(0.056)	(0.002)	(0.056)
Landlocked	-0.284	-0.469	-0.435	-0.224	-0.356	-0.288	-0.124	-0.183	-0.168
	(0.006)	(0.022)	(0.006)	(0.011)	(0.016)	(0.036)	(0.025)	(0.006)	(0.011)
Land near waterways (%)	-0.150	-0.307	-0.244	-0.120	-0.232	-0.214	-0.222	-0.258	-0.252
	(0.237)	(0.050)	(0.062)	(0.268)	(0.040)	(0.037)	(0.008)	(0.001)	(0.001)
Continent FE's	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	58	58	58	54	54	54	53	53	53
R-squared	0.662	0.570	0.663	0.748	0.665	0.703	0.905	0.905	0.908

Notes: OLS regressions. Each column displays standardized beta coefficients, p-values based on robust standard errors in parentheses. All regressions include a constant.