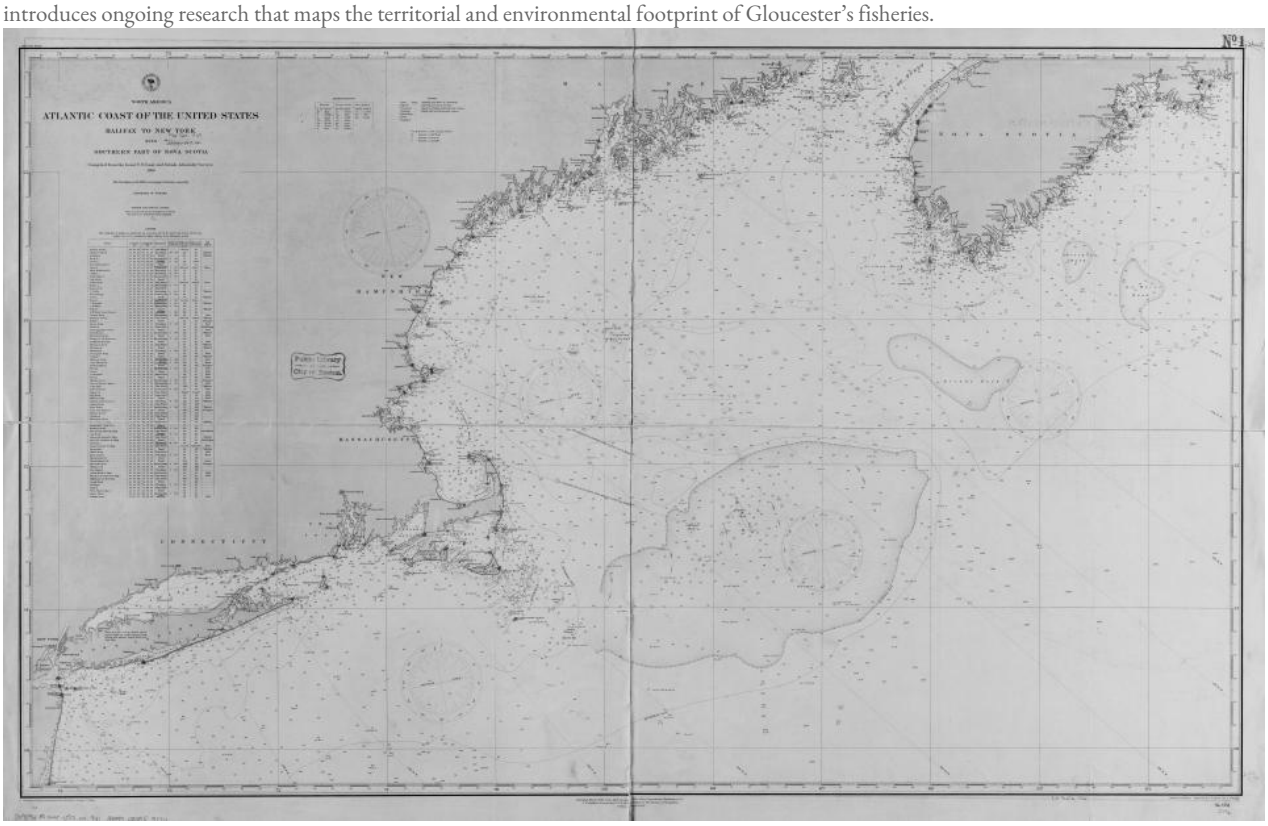
Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries

Rafael Sousa Santos

Summary

At the turn of the twentieth century, Gloucester, Massachusetts, emerged as one of the most significant US fishing ports. The town's fishing industry thrived not only through its capacity to exploit diverse marine species in response to market demands and ecological availability, but also through sustained access to a vast maritime territory extending from Georges Bank to the Grand Banks of Newfoundland. This article introduces ongoing research that maps the territorial and environmental footprint of Gloucester's fisheries.



The Atlantic Coast of the United States, 1886. High-resolution image (click three times for full size).

Engraved by Charles E. Birch and John A. Waddey, and drafted by Leon Dessez.

Courtesy of Boston Public Library. Click here to see source .

In 1880, the United States recorded a historic peak in cod landings— about 133,000 metric tons —a figure that would never be reached again. This milestone in marine resource extraction holds particular significance in the history of North Atlantic fisheries, as it signaled the shift toward industrialized and mechanized operations, with

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society.
https://www.environmentandsociety.org/node/10151
Print date: 12 June 2026 02:57:51

larger vessels, more efficient fishing gear, and a growing influence of market demands on the rhythms of coastal life. However, it also foreshadowed a period of severe ecological depletion.

New England formed the core of US fish landings at the time, accounting for almost 45 percent of the total value of US general fisheries. The region's proximity to highly productive fishing grounds, like Georges Bank, played a central role in this dominance. These vast underwater plateaus were rich not only in Atlantic cod (*Gadus morhua*) but also in a variety of pelagic and demersal species, sustaining a regional economy deeply connected to the sea.

Gloucester's fishing fleet, c. 1905.

Courtesy of NOAA Central Library. Click here to view LOC source .

Among the many coastal towns involved in the fishing industry, Gloucester, Massachusetts, stood out as a key hub of activity. With a long-standing maritime tradition and a well-situated harbor, it became a central node in the American fishing network. Records from the International Commission for the Northwest Atlantic (ICNAF) covering the period between 1895 and 1925, alongside data from the US Commission of Fish and Fisheries, show that Gloucester accounted for around 29 percent of total US groundfish landings from the Northwest Atlantic. Even more impressively, the town contributed an average of five percent of the total groundfish landings recorded across multiple fishing nations, including Canada, France, Portugal, and Denmark. These are striking figures for a town that, during this period, had an average population of approximately 25,000 residents.

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society.
https://www.environmentandsociety.org/node/10151
Print date: 12 June 2026 02:57:51

Flake yard, Gloucester, c. 1905.

Unknown photographer, n.d.

Courtesy of NOAA Central Library. National Archive, College Park, MD.

Fishing was not only central to Gloucester's economy but also deeply embedded in its built environment. The harbor was densely packed with schooners and small fishing boats, while the shoreline was lined with wooden wharves, saltfish warehouses, cooperages, and extensive drying racks. On hot days, the smell of drying cod permeated the entire town, a pungent reminder of the fishing economy's importance in everyday life.

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society.
https://www.environmentandsociety.org/node/10151
Print date: 12 June 2026 02:57:51

Carting codfish, Gloucester, c. 1890.

Courtesy of NOAA Central Library. National Archive, College Park, MD.

While cod and other groundfish remained dominant, pelagic species such as mackerel, herring, and menhaden were equally vital, allowing the industry to adapt to fluctuating ecological conditions, seasonal availability, and shifting market demands. The town's location further enhanced this adaptability, offering quick access to both small inshore grounds—particularly abundant in species other than cod—and major offshore banks like Georges Bank, roughly 150 nautical miles away. Some voyages, however, extended much farther, reaching the Grand Banks of Newfoundland (around 850 nautical miles) or the icy waters off Labrador (more than 1,600 nautical miles away). This broad maritime range secured a stable supply of resources, enabling fleets to offset the decline of specific stocks by shifting between different fishing grounds.

The ongoing research developed within the Fishing Architecture project seeks to map the territorial and environmental footprint of these fisheries while contributing to a more integrated understanding of the environmental history of the North Atlantic. Historical records from the US Commission of Fish and Fisheries have been digitized and organized into a dataset that includes fish landings, targeted species, volumes, fishing grounds, and prices. When combined with historical nautical maps and processed through Geographic Information Systems (GIS), these sources enable a layered reconstruction of fishing activity across time and space.

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society.
https://www.environmentandsociety.org/node/10151
Print date: 12 June 2026 02:57:51

QUANTITY AND VALUE OF CERTAIN FISHERY PRODUCTS LANDED AT BOSTON AND GLOUCESTER, MASS., BY AMERICAN FISHING VESSELS DURING THE YEAR 1912, SHOWN BY MONTHS—Continued.

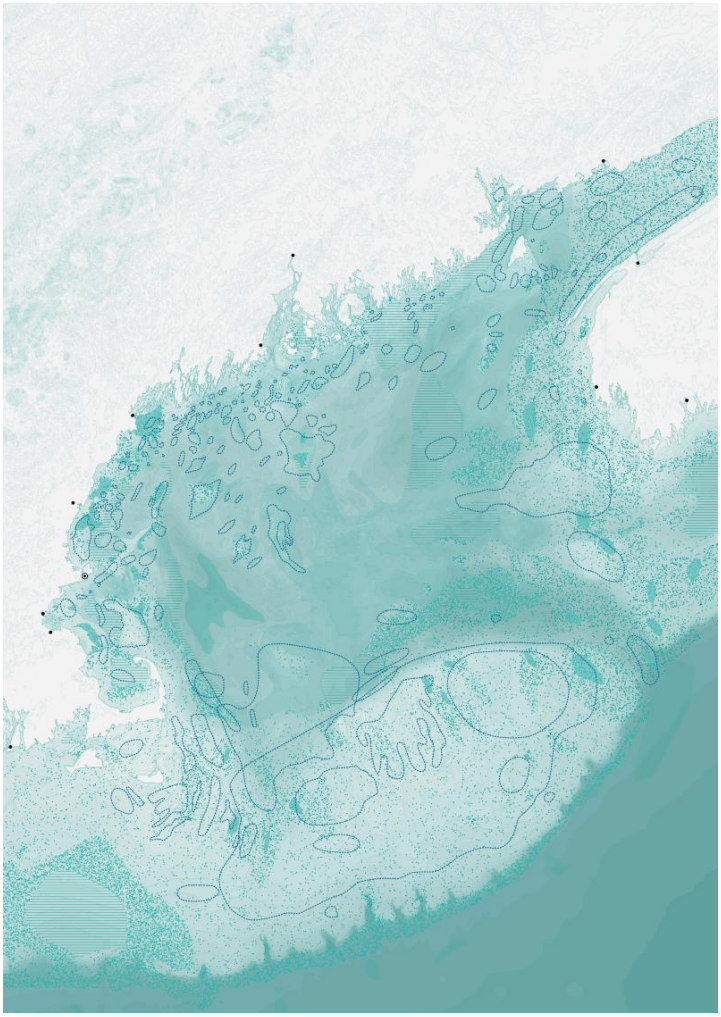
Fishing grounds.	Number of trips.	Cod.				Cusk.				Haddock.			
		Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT GLOUCESTER—continued.													
West of 66° west longitude.		*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
Browns Bank	111	1,899,492	$35,896	521,243	$19,518	1,079,630	$14,442	19,971	$453	1,896,236	$14,634	41,005	$586
Georges Bank	268	2,778,632	56,855	2,663,170	105,454	312,981	4,166	68,357	1,584	3,253,537	37,098	124,902	1,693
Cashes Bank	5	21,095	392			53,715	733			350	2		
Middle Bank	25												
South Channel	27	420,957	8,538			21,475	278			670,560	8,156		
Nantucket Shoals	59	8,245	137							100	1		
Shore, general	3,007	656,246	28,038	13,290	581	82,484	1,249			3,161,336	90,409	125	2
Total	3,973	12,105,520	243,069	18,186,308	646,582	3,251,068	43,301	163,369	3,765	10,447,589	169,874	322,441	4,458
Grand total	7,649	35,518,820	1,027,451	18,186,308	646,582	6,317,168	104,477	163,369	3,765	63,224,789	1,332,868	322,441	4,458

Fishing grounds.	Hake.				Pollock.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.		Fresh.		Salted.	
LANDED AT BOSTON.												
East of 66° west longitude.	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
La Have Bank	76,000	$1,495			4,700	$120			44,700	$4,371		
Western Bank	38,000	595			69,000	2,498			171,700	17,127		
Quereau Bank	6,000	90							110,400	8,583		
Cape Shore	1,274,300	32,832			210,130	5,761			154,400	18,258		
West of 66° west longitude.												
Browns Bank	222,400	5,666			99,400	2,498			74,150	9,849		
Georges Bank	545,100	8,921			282,200	6,490			165,500	17,125		
Cashes Bank	255,000	4,055			6,500	138			2,000	180		
Clark Bank	21,300	316			3,800	101			1,700	149		

Fishery products landed at Boston and Gloucester, *Report of the Commissioner of Fisheries*, 1912.

The integration of historical data with geospatial tools makes it possible to track seasonal fluctuations, long-term shifts in fishing pressure, and the gradual extension of fishing zones. These patterns help us understand how marine resources shaped not only coastal economies but also urban settlements and their architecture. Most importantly, they allow us to visualize the deep, and often difficult to perceive, interdependence between human societies and marine ecosystems.

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society.
https://www.environmentandsociety.org/node/10151
Print date: 12 June 2026 02:57:51



Fishing grounds off the Gulf of Maine, 2026. Fishing areas drawn from Walter Rich 1998, over seafloor sediments characteristics by Lawrence J. Poppe et al., 1989. Black dots indicate major fishing ports; the circled black dot represents Gloucester. High-resolution image (click three times for full size).

Graphic by Rafael Sousa Santos, 2026.

While the history of fisheries in New England has been extensively documented, the approach taken in this study introduces a new dimension: the capacity to visualize and quantify relationships that were previously hidden. These materials show that the sea, far from being an unbounded wilderness, was increasingly territorialized. Regions were named and categorized not only by their seafloor topography and sediment types, but also by the presence of particular fish species at specific times of the year, serving as repositories of ecological knowledge.

The combined data from landing records and navigational charts provide a detailed picture of how Gloucester's fisherfolk interacted with these maritime territories. We can track how many trips were made to specific grounds, how far vessels traveled, and how these mobility patterns evolved over time. Such information offers valuable insight into decision-making processes, labor rhythms, and responses to environmental and economic pressures. Moreover, by cross-referencing species, catch volumes, and spatial coordinates, we can begin to reconstruct the

footprint of Gloucester's fisheries—paving the way for informed interpretations of marine environmental history and contributing to ongoing debates about sustainability, depletion, and adaptation in marine resource use.

Although this analysis remains descriptive in its current stage, it lays the groundwork for future research. Ongoing statistical and spatial analysis will soon yield more detailed results on the long-term evolution of fishing patterns, the impact of industrialization, and the territorial transformations that ensued both on land and at sea. Ultimately, this research will help us understand how humans have shaped, and been shaped by, their marine environment.

Acknowledgments

Funded by the European Union (ERC, Fish-A, 101044244). Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Research Council. Neither the European Union nor the granting authority can be held responsible for them.

Further readings:

- Lear, W. H. "History of Fisheries in the Northwest Atlantic: The 500-year Perspective." Journal of Northwest Atlantic Fishery Science, 23 (1998): 41–73. (Available here .)
- Bolster, W. Jeffrey. *The Mortal Sea: Fishing the Atlantic in the Age of Sail*. Harvard University Press, 2012.
- "Statistics of the Fisheries of the United States in 1880." *Bulletin of the United States Fish Commission* 3, no. 1 (1883). Available at https://spo.nmfs.noaa.gov/content/statistics-fisheries-united-states-1880
- Tavares, Andre. *Architecture Follows Fish: An Amphibious History of the North Atlantic*. MIT Press, 2024.

Related links:

- US Commission of Fish and Fisheries. (1880–1940). Report of the Commissioner [Item set]. NOAA Central Library.
  https://library.oarcloud.noaa.gov

How to cite:

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society. https://www.environmentandsociety.org/node/10151

ISSN 2199-3408
Environment & Society Portal, *Arcadia*

Websites linked in image captions:

- https://www.digitalcommonwealth.org/search/commonwealth:hq37z3914
- https://www.loc.gov/item/2016809587/
- https://library.noaa.gov/fisheries-heritage/annual-report

About the author:

Rafael Sousa Santos
Rafael Sousa Santos is an architect and a PhD researcher at the Center for Studies in Architecture and Urbanism, within the Territory Dynamics and Morphologies (CEAU-MDT) group at the Faculty of Architecture of the University of Porto. In 2021, he was a visiting researcher at Politecnico di Milano, and in 2022, at the Massachusetts Institute of Technology as a Fulbright Scholar. He edited the fifth issue of *Dimensions—Journal of Architectural Knowledge* from the Technical University of Munich. Currently he works as a postdoctoral researcher in the European Research Council-funded project Fishing Architecture at CEAU-MDT.
https://orcid.org/0000-0002-6220-2631

Sousa Santos, Rafael. "Territories of the Sea: Outlining a Spatial History of Gloucester's Fisheries." Environment & Society Portal, *Arcadia* (Spring 2026), no. 10. Rachel Carson Center for Environment and Society.
https://www.environmentandsociety.org/node/10151
Print date: 12 June 2026 02:57:51