



Key Datasets

The key datasets referenced throughout this document include:

- U.S. Census Bureau’s County Business Patterns Ocean Economy (Ocean CBP) Tables
- Marine Economy Satellite Account (MESA)
- U.S. Census Bureau’s County Business Patterns (CBP)

Total Territory Economic Overview

Question: What is the overview section conveying, and how does it relate to the ocean economy data?

Answer: This section shows economic data related to the Puerto Rico economy. It is not specific to the ocean economy. The purpose of this section is to give the reader an understanding of the total economy of Puerto Rico before diving into the ocean economy.

Question: Where does the data shown in the overview section come from?

Answer: Population estimates are from the U.S. Census Bureau’s American Community Survey, [Table DP05](#). Establishments, employment, and wages are from the U.S. Census Bureau’s County Business Patterns (CBP) data, [Table CB2100CBP](#). Gross domestic product (GDP) data are derived from the Bureau of Economic Analysis, [GDP for Puerto Rico](#).

Employment Breakdown

Question: Where does the data for this section come from?

Answer: The employment breakdown for Puerto Rico is from the U.S. Census Bureau’s CBP data: [Table CB2100CBP](#).

Ocean-Dependent Sectors and Featured Quick Facts

Question: How did you calculate the percentage in the following statements: “Ocean-dependent sectors contribute 8 percent of Puerto Rico’s total employment. Tourism and recreation is the largest ocean-dependent sector in Puerto Rico.”

Answer: The percentage is calculated as follows: Number of Employees in the Ocean Economy ÷ Total Number of Employees in the Territory. That is, $53,736 \div 660,654 = 8$ percent.

The sentence pertaining to the largest ocean-dependent sector is derived from the [2021](#) U.S. Census Bureau’s County Business Patterns Ocean Economy (Ocean CBP) Tables. Per these data, the tourism and recreation sector in Puerto Rico includes the most establishments, employs the most workers, and generates the most wages.

Question: Which sectors are included in the “Total Ocean Economy” box?

Answer: The following sectors are included: living resources, marine construction, ship and boat building (and

repairs), marine transportation, offshore mineral resources, and tourism and recreation. These are considered the six core sectors, as they have always been included in the Economics: National Ocean Watch dataset for the U.S. counties and states.

Question: What is included in each sector?

Answer: Each sector includes several industries. Table 1 shows the sectors and industries currently included in the ENOW dataset. One limitation of these data is the absence of self-employment data. This leads to an underestimate of employment. Employment in the living resources, tourism and recreation, and marine construction sectors, in particular, are likely underestimated the most significantly since these sectors historically contain more self-employment than other sectors.

Within the living resources sector, commercial fishing typically contains high numbers of self-employed individuals. Please contact the [Puerto Rico Natural Resources Department](#) for more information about commercial fishing employment in Puerto Rico.

Table 1. Crosswalk Table of Economics: National Ocean Watch (ENOW) Sectors and Industries by North American Industry Classification System (NAICS).

Sector	Industry	NAICS Code	NAICS Industry (2012 NAICS)
Living Resources	Fish Hatcheries and Aquaculture	112511	Finfish Farming and Harvesting
		112512	Shellfish Farming
		112519	Other Aquaculture
	Fishing	114111	Finfish Fishing
		114112	Shellfish Finishing
		114119	Other Marine Fishing
	Seafood Processing	311710	Seafood Product Preparation and Packaging
	Seafood Markets	445220	Fish and Seafood Markets
		424460 ¹	Fish and Seafood Merchant Wholesalers
Marine Construction	Marine Related Construction	237990	Other Heavy and Civil Engineering Construction
Marine Transportation	Deep Sea Freight	483111	Deep Sea Freight Transportation
		483113	Coastal and Great Lakes Freight Transportation
	Marine Passenger Transportation	483112	Deep Sea Passenger Transportation
		483114	Coastal and Great Lakes Passenger Transportation

¹ The 4-digit NAICS codes are supplemented for counties where the 6-digit data are not available.

Sector	Industry	NAICS Code	NAICS Industry (2012 NAICS)
Marine Transportation	Marine Transportation Services	488310	Port and Harbor Operations
		488320	Marine Cargo Handling
		488330	Navigational Services to Shipping
		488390	Other Support Activities for Water Transportation
	Search and Navigation Equipment	334511	Search, Detection, Navigation, Guidance, Aeronautical and Nautical System and Instrument Manufacturing
	Warehousing ²	493110	General Warehousing and Storage
		493120	Refrigerated Warehousing and Storage
		493130	Farm Product Warehousing and Storage
	Offshore Mineral Resources	Limestone, Sand, and Gravel	212321
212322			Industrial Sand Mining
Oil and Gas Exploration and Production		211111	Crude Petroleum and Natural Gas Extraction
		211112	Natural Gas Liquid Extraction
		213111	Drilling Oil and Gas Wells
		213112	Support Activities for Oil and Gas Operations
		541360	Geophysical Exploration and Mapping Services
		Ship and Boat Building	Boat Building and Repair
Ship Building and Repair	336611		Ship Building and Repair
Tourism and Recreation	Boat Dealers	441222	Boat Dealers
	Eating and Drinking Places	722511	Full Service Restaurants
		722513	Limited Service Eating Places
		722514	Cafeterias
		722515	Snack and Nonalcoholic Beverage Bars

² The 4-digit NAICS codes are supplemented for counties where the 6-digit data are not available.

Sector	Industry	NAICS Code	NAICS Industry (2012 NAICS)
Tourism and Recreation	Hotels and Lodgings	721110	Hotels (except Casino Hotels) and Motels
		721191	Bed and Breakfast Inns
	Marinas	713930	Marinas
	Recreational Vehicle Parks and Campers	721211	RV Parks and Recreational Camps
	Scenic Water Tours	487210	Scenic and Sightseeing Transportation, Water
	Sporting Goods	339920	Sporting and Athletic Goods Manufacturing
	Amusement and Recreation Services	487990	Scenic and Sightseeing Transportation, Other
		611620	Sports and Recreation Instruction
		532292	Recreation Goods Rental
		713990	Amusement and Recreation Services Not Elsewhere Classified
	Zoos and Aquaria	712130	Zoo and Botanical Gardens
		712190	Nature Parks and Other Similar Institutions

Question: The fact sheet shows additional data on utilities. Are these data included in the “Total Ocean Economy” box?

Answer: The NOAA team attempted to generate additional data for the following sectors in each territory: utilities, research and education, and government. These are considered supplemental sectors and are **not** included in the total ocean economy because they are inconsistently available across the territories and require time-intensive research and outreach, which may be difficult to replicate annually. These sectors will be updated as time and resources permit.

Note: There was not enough data for the research and education and government sectors to be included for Puerto Rico.

Question: Where does the data for this section come from?

Answer: Establishment, employment, and payroll data for the U.S. Territories are sourced from the [2019](#), [2020](#), and [2021](#) U.S. Census Bureau’s Ocean CBP Tables. These estimates are published yearly using unique industries and nonstandard geographies, which were determined in coordination with subject matter experts from NOAA’s Office for Coastal Management. For more information regarding these data, please refer to the [Ocean Economy Reference Files](#) and the [County Business Pattern Methodology](#). The Puerto Rico Planning Board provided GDP for each sector.

Question: What about the supplemental sectors? Where does their data come from?

Answer: Each supplemental sector required coordination with different organizations in each territory. The organizations that were able to provide data on utilities, research and education, and government are listed below:

- **Utilities:** To calculate establishments, employment, and wages in the ocean-related utilities sector, the project team applied a partial to Census County Business Pattern estimates of the total utility sector in Puerto Rico. The project team estimates that 97.6% of power generation in Puerto Rico was ocean-dependent in 2019 and 2020, and 97.42% was ocean-dependent in 2021. To determine these percentages, the project team reviewed energy facilities listed on EIA Form 923 in each year. If facilities used ocean water for cooling, they were considered ocean-dependent. The team divided the energy produced by these ocean-dependent facilities by the total energy production in Puerto Rico to calculate the percentage of power that is ocean-dependent.

The project team multiplied Census County Business Patterns establishments, annual payroll, and employment in the utilities sector (NAICS 221) in Puerto Rico by the percent of energy that was ocean-dependent in each data year. To calculate GDP in each year, the project team multiplied wages as estimated above by the value added to compensation ratio from the Marine Economy Satellite Account's "Utilities" industry.³

- **Research and Education:** Unavailable
- **Government:** Unavailable

Question: How did you create the graph at the beginning of the second page?

Answer: The "Hurricanes, COVID-19, and Tourism" was created using data from [The World Tourism Organization](#): Inbound Tourism for Puerto Rico (Overnight Visitors (Tourists)).

Economic Trends

Source: Establishments, employment, and wages were derived from the best available data from the 2019, 2020, and 2021 U.S. Census Bureau's Ocean CBP Tables. These estimates are published using unique industries and nonstandard geographies, which were determined in coordination with subject matter experts from NOAA's Office for Coastal Management. For more information regarding these data, please refer to the [Ocean Economy Reference Files](#) and the [County Business Pattern Methodology](#). GDP was provided directly by Puerto Rico's Planning Board.

Key Contacts and Contributors

Question: Who were Puerto Rico's key contributors in providing the data?

Answer: Please refer to a list of contributors below. An asterisk indicates that an individual is considered a key contact.

³ Like the Economics: National Ocean Watch (ENOW) dataset, the Marine Economy Satellite Account (MESA) also produces data related to the marine economy. There are some methodological differences between MESA and ENOW because MESA is produced by the Bureau of Economic Analysis and is designed to align with the United States System of National Accounts.

- Gerardo E. Sanchez Duvergé* from Puerto Rico's Planning Board, provided GDP for living resources, marine construction, offshore mineral resources, marine transportation, ship and boat building, and tourism and recreation.
- Yasmin Garcia-Martinez*, Departamento de Desarrollo Económico y Comercio (DDEC)
- Iris Santos*, Deputy Security at DDEC
- David M. Pérez Larson*, Executive Aide to Secretary at DDEC
- Ruperto Chaparro, Director of Puerto Rico Sea Grant and from the University of Puerto Rico