

Data Collection Distribution and biomass data for fish species along the U.S. east coast from about Cape Hatteras north to Canadian waters, created by the Northeast Fisheries Science Center for the Northeast Regional Ocean Council, prepared by the Marine-life Data and Analysis Team (MDAT)	
Data Collection Title	MDAT_WS_FISH_BIOMASS_DATA_V2.0_2018_03_01
Data Collection URL	Map services: http://mgelmaps.env.duke.edu/mdat/rest/services/MDAT

Data Set	
Data Set Titles	MDAT_WS_MDMF_FISH_BIOMASS_DATA_V2.0_2018_03_01 MDAT_WS_MENH_FISH_BIOMASS_DATA_V2.0_2018_03_01 MDAT_WS_NEAMAP_FISH_BIOMASS_DATA_V2.0_2018_03_01 MDAT_WS_NEFSC_FISH_BIOMASS_DATA_V2.0_2018_03_01
Principal Investigators	NEFSC Project: Michael Fogarty, Charles Perretti - US DOC; NOAA; NOAA Northeast Fisheries Science Center (NEFSC) MDAT Project: Patrick N. Halpin (PI) - Marine Geospatial Ecology Lab at Duke University; Earvin Balderama (Co-I) - Loyola University Chicago; Michael Fogarty (Co-I) - NOAA/NEFSC; Arliss Winship (Co-I) - NOAA/NCCOS
Primary Points of Contact	NEFSC Data: Michael Fogarty (michael.fogarty@noaa.gov) - US DOC; NOAA; NOAA Northeast Fisheries Science Center (NEFSC) MDAT Collection: Jesse Cleary (jesse.cleary@duke.edu) - Marine Geospatial Ecology Lab at Duke University
Collaborators	Chris Bonzek (Virginia Institute of Marine Science, NEAMAP data source) Jeremy King (ret.) and the Massachusetts Division of Marine Fisheries (MDMF data source) Sally Sherman (Maine Department of Marine Resources, MENH data source) MDAT members: Earvin Balderama (Co-I, Loyola University Chicago) Jesse Cleary (Duke University) Corrie Curtice (Duke University) Michael Fogarty (NOAA/NEFSC) Patrick N. Halpin (PI, Duke University) Brian Kinlan (Co-I, NOAA/NCCOS) Charles Perretti (NOAA/NEFSC) Jason Roberts (Duke University) Emily Shumchenia (NROC) Arliss Winship (Co-I, NOAA/NCCOS)
Author List	NEFSC data: Michael Fogarty ¹ , Charles Perretti ¹ ¹ Northeast Fisheries Science Center, NOAA Fisheries, NOAA, Woods Hole, MA, US MDAT Project: Corrie Curtice ¹ , Jesse Cleary ² , Emily Schumchenia ³ , Patrick Halpin ²

	<p>¹ Marine Geospatial Ecology Laboratory, Nicholas School of the Environment, Duke University Marine Lab, Beaufort, NC, US</p> <p>² Marine Geospatial Ecology Laboratory, Nicholas School of the Environment, Duke University, Durham, NC, US</p> <p>³ Northeast Regional Ocean Council, US</p>
Abstract	<p>In 2014, the Marine Geospatial Ecology Lab (MGEL) of Duke University began work with the Northeast Regional Ocean Council (NROC), the NOAA National Centers for Coastal Ocean Science (NCCOS), the NOAA Northeast Fisheries Science Center (NEFSC) and Loyola University Chicago, as part of the Marine-life Data Analysis Team (MDAT), to characterize and map marine life in the Northeast region in support of the Regional Ocean Plan. In 2015, the Mid-Atlantic Regional Council on the Ocean (MARCO) contracted with MDAT to build upon and expand this effort into the Mid-Atlantic planning area, and in support of the Mid-Atlantic Regional Ocean Plan. These research groups collaborated to produce "base layer" predictive model products with associated uncertainty products for marine mammal species or species guilds and avian species, and three geospatial products for fish species. Periodic updates to these base layer models and data are produced by the individual institutions in the MDAT team based on schedules set by the funders of each modeling effort.</p> <p>MDAT member Northeast Fisheries Science Center (NEFSC) summarized fish biomass and distribution, as part of their ongoing Ecosystem Assessment work on the Northeast Continental Shelf, which spans Cape Hatteras, North Carolina to the Gulf of Maine. NEFSC provided three data products: (1) bubble plot of raw observations, (2) hexagon plot showing the mean, and (3) an inverse-distance weighted (IDW) interpolation plot which smoothed over multiple observations and interpolated in regions with few observations. All units are natural log kilograms per tow. These products were created for four sources of fisheries independent trawl data, across multiple time spans:</p> <ul style="list-style-type: none"> • NEFSC 1970-2014; 2005-2014 • North East Areas Monitoring and Assessment Program (NEAMAP) 2007-2014 • Massachusetts Division of Marine Fisheries (MDMF) 1978-2014; 2005-2014 • Maine & New Hampshire state trawls (ME/NH) 2000-2014; 2005-2014 <p>Survey samples for all data sources were collected primarily in September and October, with some in November and a small number in December.</p> <p>Much more detail about the NEFSC Ecosystem Assessment Program, along with additional data sets, can be found here: http://www.nefsc.noaa.gov/ecosys/</p>
Purpose	<p>The objective of the NEFSC Ecosystem Considerations website is to provide a broad overview of the ecology of the Northeast U.S. Continental Shelf in support of Ecosystem Based Management, Coastal and Marine Spatial Planning, and the NOAA Northeast Integrated Ecosystem Assessment.</p>
Methods	<p>See Curtice et al. (2018) Section 2.3.</p>

Citations	<p>NEFSC: Fogarty, M., Perretti, C. 2016. Distribution and biomass data for fish species along the U.S. east coast from about Cape Hatteras north to Canadian waters, created by the Northeast Fisheries Science Center for the Northeast Regional Ocean Council. Online access: http://www.northeastoceansdata.org/data-explorer/?fish</p> <p>MDAT: Curtice, C., Cleary J., Shumchenia E., Halpin P.N. 2018. Marine-life Data and Analysis Team (MDAT) technical report on the methods and development of marine-life data to support regional ocean planning and management. Prepared on behalf of the Marine-life Data and Analysis Team (MDAT). Accessed at: http://seamap.env.duke.edu/models/MDAT/MDAT-Technical-Report.pdf.</p>
Data Start Date	1970
Data End Date	2014
Data Northern Boundary	45.0 degrees N
Data Southern Boundary	34.1 degrees N
Data Western Boundary	76.7 degrees W
Data Eastern Boundary	65.6 degrees W
Place Keywords	North Atlantic Ocean
Spatial Reference Information	<p>Type: Geographic Geographic Coordinate Reference: GCS_WGS_1984 Well-Known Text: GEOGCS["GCS WGS 1984", DATUM["D WGS 1984", SPHEROID["WGS_1984",6378137.0,298.257223563]], PRIMEM["Greenwich",0.0], UNIT["Degree",0.0174532925199433], AUTHORITY["EPSG",4326]]</p>
Spatial Representation Type	Grid
Datasets	Data sourced from fall bottom trawl surveys performed by NEFSC (1970-2014), Northeast Area Monitoring and Assessment Program (2007-2014), Massachusetts Division of Marine Fisheries (1978-2014), and the Maine Department of Marine Resources and New Hampshire Fish and Game Department (2000-2014)
Update Frequency	Irregular
Resource Provider	Marine Geospatial Ecology Lab (MGEL) at Duke University (marinelife_data@duke.edu), on behalf of MDAT and NEFSC.
Comment	<i>This data documentation describes numerous geospatial datasets archived together as a data collection, and is intended to provide dataset-level metadata for the purposes of discovery, use, and understanding.</i>
Use Limitation	<i>None. If you use this dataset in a scientific publication or other formal publication, we request that you cite the Fogarty & Perretti dataset (2016) and the Curtice et al. (2018) publication.</i>