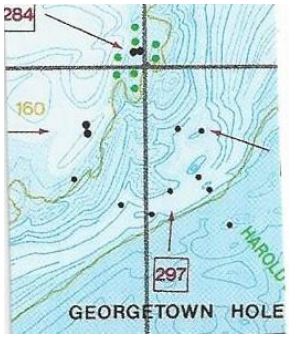
User Guide for Maps Unique NC, SC, GA Southeast Series

Knowledge/Experience Since 1988

Bathymetric Bottom contours

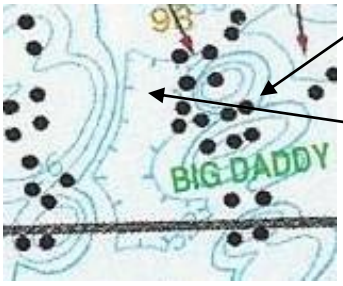
The contour data on MAPS UNIQUE is represented as bathymetric contour lines. A bathymetric contour line connects all equal depths along that line at intervals of 2 meters (6.40 feet). At depths greater than 200 meters (642 feet depth), the contour intervals are 32.0 feet. The one map exception in the MAPS UNIQUE series is the Beaufort, SC map which has a contour interval of 1 meter (3.2 feet). Bottom sounding data was compiled mostly through hydrographic surveys commissioned by NOAA through the years. On the MAPS UNIQUE charts, contour line depth points are reported in feet (not meters) and fathoms for contours greater than 180 feet.

Bathymetric contour lines are important to the fisherman because they give a visual of the lay of the bottom depicting ridges, ledges, depressions, seamounts, bottom outcrops, and the location and direction of ancient terrace escarpments. By knowing these contour features will allow the fisherman to better find productive habitat along with the other information found on the charts.



Special notes on bathymetry:

The closer the contour intervals are to each other over a given distance, the steeper the slope. Features to note where slope is very prominent are along the shelf break at 165 to 600 ft. (the 25 to 100 fathom break), old terrace ridges paralleling cape regions, along inlets, and live bottom escarpments along the 90 ft. terrace area and the 60 ft. terrace area. Along the 165-600 ft. break, sometimes the slope is so steep that the contour lines will “peter-out” as they are so close to each other indicating steep walls and ledges (See Georgetown Hole to left). Offshore of the break in waters greater than 600 ft., large ridge and valley systems are evident by contours as well as seamount features.



Closed contours (especially those depicting more closed contours within each other) will represent a rise in elevation off of the seafloor. These areas may be ridge systems and/or associated with live bottom outcrop reef areas.

A closed contour with internal “hatch-lines” (as seen to the left) represents an elevation bottom change going downward. These may be depressions, reef sink areas, and lower lying depths between ridges. Sometimes you may see multiple closed hatched contours within each other representing a more pronounced depression area. Such features are sometimes characteristic of live bottom reef areas.

Hardbottom/Live Bottom Reef Areas

MAPS UNIQUE has been researching and plotting live bottom reef areas since the 1st map series published in 1988 and updating these with new sites with each updated published map. Live bottom reef areas are predominantly limestone and sometimes sandstone rock areas where the hard substrate is near, at, or above the sea bottom surface. These hard surfaces allow marine growth (sponge/coral communities) to attach starting the process for the formation of living live bottom reefs which tend to build among themselves through time. These bottoms concentrate bait, and in the case of reefs with substantial structure such as outcrops, ledges, etc., provide the best habitat for the bottom ground fish like the Snapper/Grouper complex and Pelagic migrating game fishes like Kings, Wahoo, and Sailfish. The bait holding to these areas is what keeps the pelagic fishery concentrated on these reef sites.

Live bottoms occur sparingly throughout the south Atlantic from very near-shore (just off the beach in some areas) to off the shelf break into deep water along the 30-100 fathom break. Most of the concentrations of live bottoms on the shallow shelf region occur along old ancient sea-level terraces and ridge/runnel topography created thousands of years earlier.

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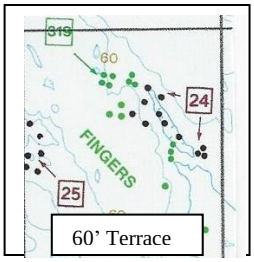
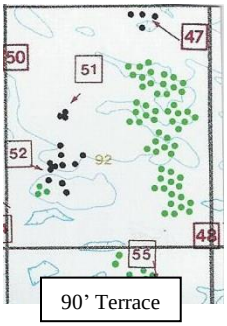
MAPS UNIQUE has compiled live bottom data from a variety of resources through the years including government studies/research, on site interpretations, and especially from interviews/feed back from fishing clients, including commercial interests through the years. It is the purpose of MAPS UNIQUE to plot many numbers to try to provide a graphic/geographic display as to where these areas are located and most concentrated. The original live bottom plots on MAPS UNIQUE are shown as black dot patterns. Data added through the years are shown as green dots (updates to original series). Some of the patterns/observations made by Capt. Chip Berry, the author summarized below:



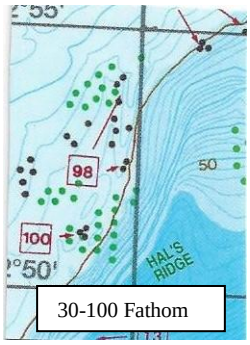
60' Terrace

The greatest concentration of live bottoms tends to be associated with 3 major (and a few minor) ancient offshore terraces. These occur along the 60ft. break (50-70 feet depth), the 90 ft. break (80-100 feet depth), and along the major 30-100 fathom shelf break where it rolls off from 165-600 feet of water (see top 3 images to left). These terraces contain a hit and miss scenario of ledges, outcrops, ridge/swale topography, and ridges with exposed limestone bottoms. As the fisherman works these terrace escarpments, one should find scattered bottom features throughout the terrace interface. In fact, most of the good bottoms offshore that have received the common names for good fishing habitat are associated with these 3 major escarpments. There are also minor terrace ridges offshore including the areas in the 45 ft. depth and the areas around 110-120 feet of water. Whenever a fisherman crosses a good drop off along the terrace (usually 10 ft. on the 90 and 7 ft. on the 60), the fisherman should consider looking to the NE and SW to follow and locate other features along the terrace. Terraces in general parallel the coast in a NE to SW direction but meander greatly. Note ridge system features, depressions, and live bottom plots to help connect the dots along the terrace. On any given live bottom reef area concentration, expect to find a scattering of ledges, outcrops, table-top ridges and other topographic relief areas. Look for bait fish concentrations to help identify areas of patch and low-relief reef hard bottoms.



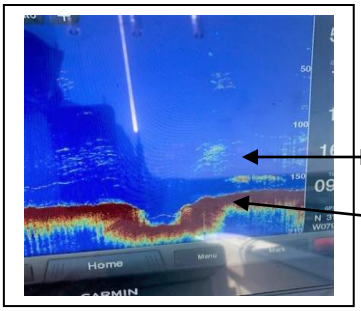
90' Terrace

The 25 fathom/100 fathom break is also an incredibly significant terrace covering the east coast. The break is best described as a slope/ledge that drops off to deep water from 165-600 ft. Depending on the area; the slope can drop over a few miles range or drop in a few hundred yards. Places like the Georgetown Hole, The Steeples, The Point, and the Big Rock have enormous ledge drops. On other depths along the terrace, the drop seems to be in several ledge segments. The author has noted that one very familiar place, the Winyah Scarp, distinct ledge drops are in the range of 165-180, 180-210,210-230,230-260,260-310,310-360, and 360 to 600. These individual terraces along the shelf break can be along a course inshore to offshore for about 7-10 miles (look at contours) from the top to bottom of the shelf break.



30-100 Fathom

MAPS UNIQUE describes some of its live bottom plots as low-relief, moderate-relief, and high relief. The user of the maps should probably not get to hung-up on these terms for the following reasons: 1) most reef areas are highly irregular and are irregular in terms of relief. Most large reef areas will be a hodge-podge of small ledges, outcrops, sand vents, and hard flat bottoms associated with a reef system. Fisherman should work these areas and identify significant structure within the reef. Many of the reefs appear to be oriented in a NE-SW direction or sometimes E-W depending on the meandering terrace. Look at live bottom plots and contours for best results. In areas of flatter relief hard grounds, look for bait fish concentrations at or near the bottom. Note that some of the reefs appear as long thin line, sometimes going for miles (original black dot plots). These areas were derived from swath survey data where the research vessel was crossing a live bottom region. These reef areas should be interpreted as areas that are actually highly irregular with other potential habitat lying on either side of the actual survey swath.



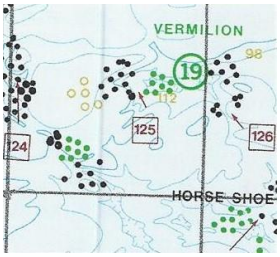
On any given reef at any time, fish may be concentrating on a particular side of the reefs. This seems to be true along ridges and along the shelf break. Currents, thermoclines, and other variables affect this. Bottom fish do migrate along live bottom habitat.

Note fish and bait fish concentrated on 2 adjoining high relief reefs.

This is located on the upper lip of the offshore break 165' depth.

Artificial Reefs and Wreck sites for NC, SC, and GA

The artificial reef programs for NC, SC, and GA. are excellent programs for providing additional productive hard bottom habitat. All 3 states have both a very dense quantity of very-near shore sites and well as those that extend beyond 100 ft. depth. They have been placed to provide the fishermen from any port a good supply of multiple opportunities, usually between productive naturally occurring hard bottom regions.



Most artificial reefs are roughly a square mile area where quality reef materials are placed. New materials are periodically placed on these for continued enhancement and seem to be the preferred option over the development of new additional reef sites. On MAPS UNIQUE, the location of reef sites and wrecks are displayed by the round green symbol and named. The legend shows the GPS coordinates and materials for each structure on each site. These are updated with each map area reprint.

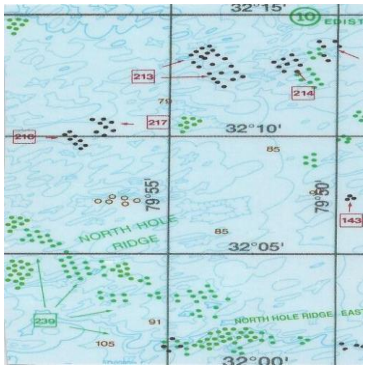
GREENVILLE REEF		DEPTH 85'
175' SHIP "YOG-78"	3256.906	7854.849
140' BARGE	3256.818	7854.643
DRY DOCK #1	3256.849	7854.591
DRY DOCK #2	3256.797	7854.777
DRY DOCK #3	3256.789	7854.832
175' SHIP	3256.825	7854.79
105' TUG BOAT #1	3256.766	7854.629
105' TUG BOAT #2	3256.623	7857.587
106' FUEL BARGE	3256.906	7854.637
135' DECK BARGE	3256.744	7854.752

Artificial Reefs contain a variety of material, but old ship vessels, barges, concrete material, bridge rubble, and Reef Balls provide the majority of structure in recent years. Train cars, army tanks, bridge rubble of concrete and steel add up also. The name of the game is to provide a stable hard structure that creates a live-bottom living reef site. Mimicking natural hard bottom habitat, these reef areas are highly productive and contain considerable relief.

Understanding Lat/Lon and GPS Coordinates

Each MAPS UNIQUE chart has a very detailed Latitude/ longitude grid displayed at 5 minutes of latitude by 5 minutes of longitude. This roughly equals to a 5 mile by a 4 mile grid system at this latitude area. The user should be able to interpolate the entire map with ease.

One minute of latitude (N to S) is exactly one nautical mile. This is 6,076 ft. Therefore, you can determine distance from the latitude across the chart as each grid N to S is 5 nautical miles. Longitude (E to W) varies with the latitude but is roughly about 4 miles across. The further you go to the north, the narrower the longitude lines become because they converge at the poles. The latitude lines remain consistent from the N to the S poles. A “full degree” of latitude is equal to 60 nautical miles or 60 minutes. Each minute (one mile) on MAPS UNIQUE is represented as 1/100th of a minute in all coordinates on all charts… the last digits of the coordinates. If your GPS calls for a 3-digit number or more at the end, simply add a zero (0) at the end of my numbers. On most GPS units the format would be DDMM.MMM. Maps Unique coordinates are decimal minutes and **not** displayed in degrees/minutes/seconds.



Sea Surface Temperature and Water Habitat

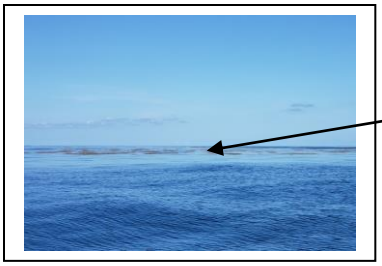
A variable that is crucial to offshore fishing success is the angler knowing the conditions, location, and distribution of water regimes. This variable cannot be supplied by MAPS UNIQUE, but satellite derived data combined with the bottom habitat data of MAPS UNIQUE is a powerful tool. Capt. Chip Berry never leaves the hill going offshore without first consulting his water regime

A portion of Roffs™ image in August, Cape Fear, NC

by using a Roffs™ report. To better understand water habitat lets discuss the following:
The Gulf Stream is a river of water that flows up the east coast from the south towards the north. It is a clear, salty body that gets its origination from the combined currents from the Straits of Florida and the Loop Current from the Gulf of Mexico. With this combined flow and with the aid of a spinning earth in the Straits of Florida, the Stream as it flows northwestward near Cape Canaveral, literally spills out into the open south Atlantic basin. From Cape Canaveral to Cape Hatteras, the Stream is a wild and meandering river of blue water.

The boundaries of the stream with inner-oceanic waters to the western side is what most of us look for to find fish. Water boundaries can also be found well inshore of the gulf stream as inner-shelf water masses collide with each other. Basically, the more pronounced the boundary and the longer it has been there is the best (See Roffs™ Satellite Image).

The Steam will often kick-off pockets of water to the NW along the western wall as eddies. Sometimes these eddies completely break-off from the stream and drift as isolated pockets well inshore of the main gulf streams western wall. These Eddies can also create other current boundaries many, many miles inshore often reaching waters along the 60' and 90' terrace. (See Roffs™ Image).

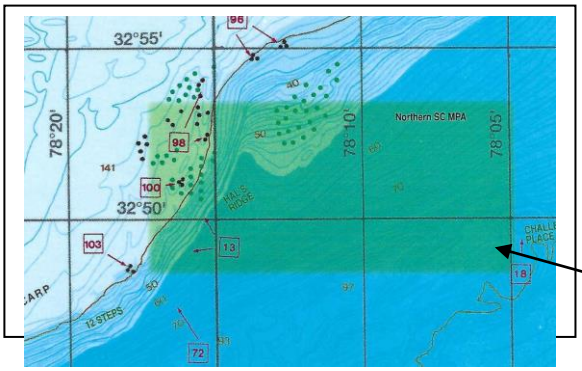


Along water mass boundaries the angler can expect temperature changes, water clarity changes, and the presence of sargassum weed lines. This is ultimate for the creation of a food chain that brings in pelagic species that hunt these boundaries for food. The longer this situation persists, the better for concentrating fish. 2 to 3 day interface at the boundary is excellent, so the bottom line is: If you find any break where there is a temperature change, a water color change or the presence of a weed line—these are good places to consider hunting yourself. After locating current boundaries, the angler should look at prime bottom on a Maps Unique map to better pinpoint the best location to fish.

As might be expected, water temperature breaks along the western Gulf Stream boundaries are most pronounced during the Fall to Spring months but are less varied during the real warm summer months (July-September). Although less varied, any small change of temperature or water clarity is very productive water, especially if it has been there for a sufficient time to attract flying fish and other bait fishes.

Maps Unique in conjunction with a Roffs™ (www.roffs.com) water analysis provides the angler with the best information for a successful offshore fishing trip.

Marine Protection Areas (MPA's)



Maps Unique identifies MPA's and its geography. MPA's are a new concept to conserve critical fisheries and associated habitat in the Southeast. All bottom fishing for species in the Snapper/Grouper complex is prohibited. Trolling over an MPA is allowed for top water gamefish.
For more information on sites and regulations, contact the South Atlantic Fishery Council at www. SAFMC.NET

Northern SC MPA

Best Regards and Happy Fishing
Capt. Chip Berry, President/Creator
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