



IN THE WEEDS: Satellite imagery helps locate current convergences, which often create weed lines where bait fish seek cover, attracting game fish.

TIM SIMOS/BLUEWATERIMAGES.NET

Savvy from Space

Find and work those sweet spots with satellite imagery. **BY GEORGE POVEROMO**

THE TRIP WAS PRETTY MUCH a wahoo deal. Sue Cocking, Carl Grassi and I launched my *MARC VI* at Pompano Beach's Hillsboro Boat Ramp, timing it so that we'd be trolling in 180 to 400 feet of water during the early morning tide change. The water looked good clarity-wise, but baitfish and birds were in short supply. After a couple of hours of trolling and even working over a beautiful rip with not one strike, we had a decision to make.

We trolled out to 1,000 feet of water, and nothing. I said, "Let's pick up the baits," and then set an offshore limit of 30 miles to look for anything that might yield a dolphin or two and save the day. Out to that 30-mile limit, the water temperature had been 77 degrees. Before I started to veer back to the southwest and toward the coast — after seeing absolutely nothing promising — I noticed some "funky" water farther offshore. I ran another mile and happened upon a beautiful rip: an agitated 2-foot chop that spanned a mile or so, abutted on its offshore side by slicked-out water and clumps of weeds. Oddly, the water surface temperature dropped from 77 degrees to 76.5 degrees. Flying fish took to the air when we crossed the rip with a full spread of bait in tow. Within 15 minutes, we'd boated a 40-pound bull dolphin. We went on to land a 20-pounder and a couple of 10-pounders, and even raised a small billfish. Talk about saving the day! That water temperature change, some 30 miles offshore and in 2,100 feet of water, was

later identified by Dr. Mitchell Roffer of Roffer's Ocean Fishing Forecasting Service (800-677-7633; roffs.com) as an upwelling along the eastern side of a Gulf Stream filament, which was created by the counterclockwise rotation of an eddy. More on this later.

MORE THAN A NUMBER

KNOWING THE WHEREABOUTS of water-surface temperature breaks prior to clearing the inlet will narrow your search for offshore game fish and save considerable time and fuel. However, just identifying a temperature break that exists within the preferred depth range of the species you're after doesn't guarantee success. You need a good understanding of what that break is all about and what the circulation features in and around it are doing. With that knowledge, you will be in a much better position to make the most accurate decision on where to fish along this temperature boundary: In other words, you'll be able to identify the sweet spots.

Roffer explains that temperature is the controlling factor of the density of water and defines a water mass. "Convergence and sinking of water occur along the

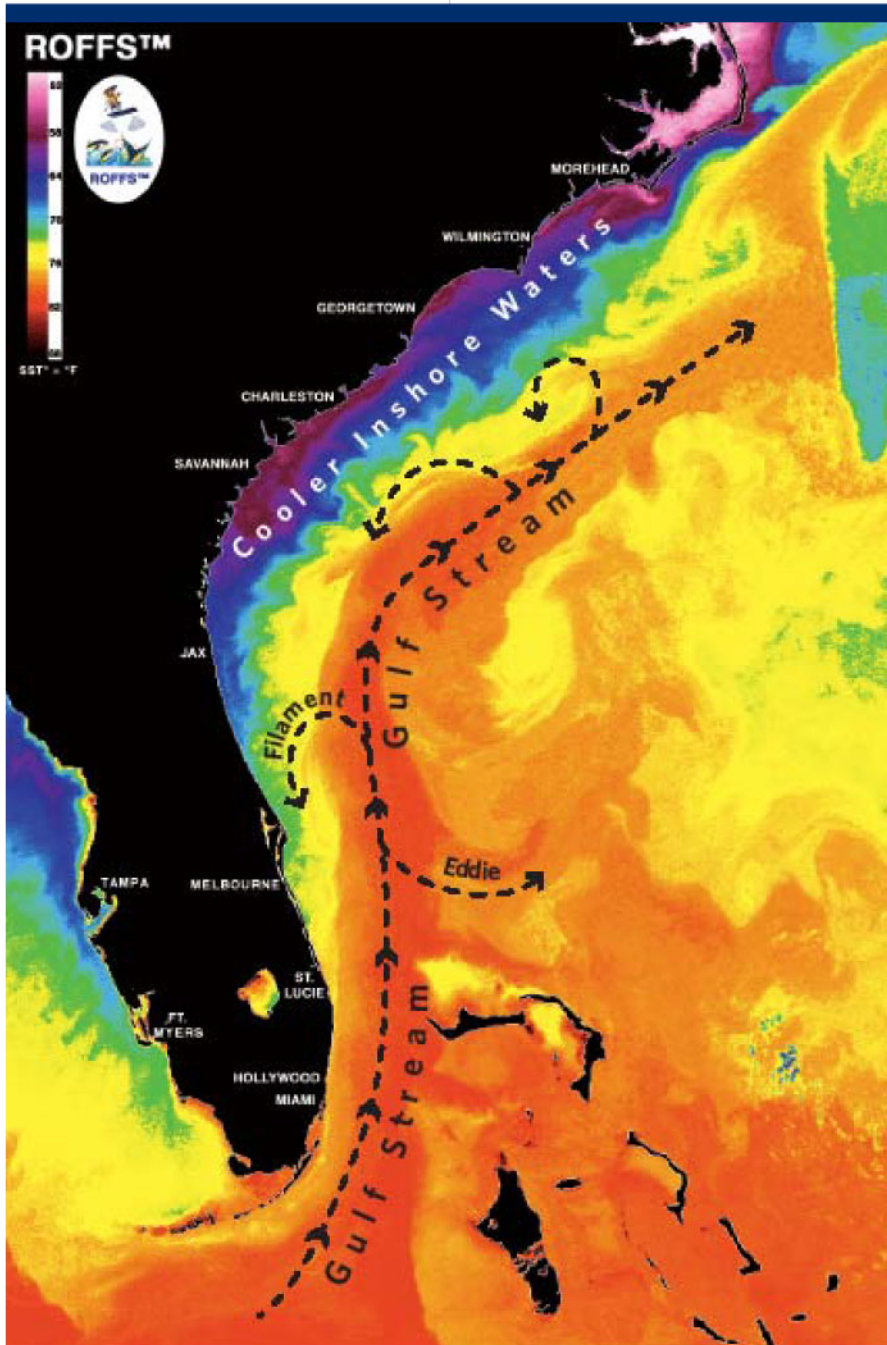
water mass boundaries, and the resulting surface temperature variations are known as ocean frontal zones,” Roffer says.

“This is not unlike the weather fronts in the atmosphere. It’s important to study the sea-surface temperature differential across these frontal zones, particularly the length of time a temperature break occurs at one specific location. The longer a break remains in one spot, the

greater its likelihood of accumulating baitfish and, ultimately, concentrations of large predator fish, such as mahi, tuna, sharks and billfish. Furthermore, if the water mass boundary is over good bottom structure, then its productivity tends to be greater. So make note of how long a water-surface temperature break has been in place, and its relationship to good bottom structure.”

KNOW THE FLOW

EQUALLY IMPORTANT IS KNOWING the direction of the current along these temperature breaks. A water-surface temperature break is more than a straight wall. For instance, when a current — the edge of the Gulf Stream, a finger from the Gulf Stream or Loop Current, or the edge of an eddy — flows directly into a ledge or hump, baitfish seeking sanctuary within these structures become



What Does It All Mean?

SATELLITE IMAGES FROM PRIVATE suppliers start with images provided by the government. These raw images are then cleaned up and enhanced to highlight information that is most useful to anglers. The enhanced imagery makes it easy for fishermen to locate, as in the case of this image, the temperature breaks that are likely to produce the best fishing.

The easiest breaks to recognize are those between cooler (blue and purple), inshore

water and warmer (yellow to red), Gulf Stream water **1**.

Smaller temperature breaks, such as filaments off of eddies, are more subtle **2**. When hotter colors appear close to shore **3**, it means a short run to likely water. Note the subtle filament doubling back alongside the warmer Gulf Stream.

Major eddies may be only a couple of degrees cooler than the main Stream **4** show up prominently and are well worth investigating for bait and feeding fish.

displaced and more vulnerable to game fish. Furthermore, the impact causes upwellings, establishing nutrient-rich zones and mini ecosystems.

“In the Northern Hemisphere, a counterclockwise eddy will be more productive than a clockwise eddy,” says Roffer. “That’s because the counterclockwise rotation brings cooler, more productive water to the surface, and subsequently, the bait and game fish that seek these more comfortable temperatures. The upwelled water has more nutrients, which with the proper light conditions, could result in a phytoplankton bloom that develops into an ecosystem that attracts baitfish and larger game fish.”

Roffer says most of the eddies along the western boundary of the Gulf Stream between Florida and Cape Hatteras have the productive, counterclockwise rotation. In the Gulf of Mexico and north of Cape Hatteras, eddies rotate in both directions. Roffer says that while the larger, clockwise eddies in the

Gulf of Mexico, the Bahamas and the area north of Cape Hatteras bring oceanic game fish to the continental shelf to feed, only the outside edges of these eddies are productive. The area in the middle of the eddy, with its characteristic blue water, is generally unproductive. That’s because the rotation of these eddies causes the warm and hot water in the middle to pile up, which pushes the fish deeper into the water column. If you want the bites, stay out of the middle: Play the edges.

HEAD START

IN THE COUNTERCLOCKWISE eddies that occur along the western boundary of the Gulf Stream between Florida and North Carolina, there are three water mass boundaries (water temperature boundaries) that are usually productive. These eddies commonly pull a long, finger-shaped filament of Gulf Stream water inshore of the main Gulf Stream. The best fishing action along these fingers is often

along their western and eastern sides, as well as along the main western boundary of the Gulf Stream itself.

If the Gulf Stream water is farther west than the Gulf Stream itself, then there is a good chance that you’re in an eddy or a filament. A mistake many anglers make is remaining at the first pool of Gulf Stream water they reach, not realizing there’s another water mass boundary, and likely weed lines, on the eastern side of this filament. Those who do realize that they’re in an eddy or a filament know they can move offshore to locate another water mass boundary, where cooler water and fish are closer to the surface.

Streaks, color changes and weed lines are common visual indicators associated with the eastern side of a Gulf Stream filament. As mentioned earlier, when we found that rip, weeds and half-degree water-surface temperature break well offshore, this filament was exactly what we were on. Roffer says the width of a filament varies from one to 15 miles and is dependent on the size, location and velocity of the eddy. This is one of the strongest endorsements of why an oceanographic analysis can be so helpful before you leave the dock. Such an analysis will show you not only the immediate position of the eddy, but also where it is likely to be in the morning, when you head offshore to fish.

It takes some studying, a quality satellite map and analyses to put together a good, educated guess as to the best place to start fishing. Be extra careful when looking at satellite images available on the Internet, as they may contain artifacts from clouds, haze and fog: An apparent pool of warm and cool water may be simply an artifact. That’s where a professional service with the reputation of ROFFS is worth its weight in gold. It has the experience to recognize these differences, and the time and tools to accurately map and present these conditions to anglers.

I’m a longtime user of these analyses. Each time I leave my home port, and even when I travel to the Bahamas, I like knowing where I’ll start fishing and what is likely awaiting me there. Consider it a head start. The bottom line is that I may already be on fish while a lot of anglers are trying to figure out where to go through trial and error. ∞