

Lessons Learned from Sailing on Charleston Harbor in Years Gone By

Like many junior sailing programs around the country, afternoons in Charleston were reserved for older, more advanced students. And like many programs near the coast, this was with good reason. Lunch brought quite the change. Instructors dying for air-conditioning at noon re-emerged to nature's air-conditioning: 15 knots out of the south-southwest. Unfortunately the consequence was usually for instructors to commandeer the class under the premise of "instructor rides" – blast reaching in 420s, or simply dismiss their charges early enough to catch a ride on a Wednesday night race PHRF boat. And even though the sea breeze weakened as summer progressed, by the time it weakened to a humid soup, South Carolina's school system and its perennially earlier academic year had ended the junior sailing summer.

The recent Sunfish Worlds in Charleston left many participants confounded. Where was this great breeze of which the locals spoke? Why did the currents not seem to diminish too? And whither the ship channel?

To the last question, I offer good news: the venue for this summer's North Americans is within a mile of the racing area, traversed only by a minor channel. To the second, well, hopefully the answer to the first may placate any concerns.

So, to the first question: the absent breeze. I type this while flying back east from San Francisco, home to one of the most famous sea breezes on the planet (and yes, it was blowing 25kts out of the northwest at take-off this afternoon). But any San Franciscan can tell you that this breeze does not blow anywhere near 25 in the fall, if at all. The same effect happens in Charleston late in the year. The land cools to the same temperature as the water – remember how warm the water was at Worlds?- diminishing the convection necessary for the sea breeze to fill with any power. Meanwhile, the fronts that dominate fall sailing in the northeast rarely penetrate that far south until later in the autumn. The result is light air from August until mid-October. Unfortunately, our class calendar dictates a late-season World Championships, and so the timing was not ideal for the Worlds.

But June is not October. An early summer sailor in Charleston can expect the sea breeze to fill around noon or 1pm (if there's a low tide near midday, then usually shortly thereafter) and build to a peak of around 15kts around 4pm or so. The fading light of evening takes some of the power out of the breeze, but it will remain solid until well after sunset. Generally, it fills to the south first and bends to the right (southwest) through the afternoon. Look to Fort Sumter. The flags at the fort herald the austral breeze first; one can be drifting in 90 degree heat when the flags lift, and twenty minutes later hiking in 13-15kts. While light days can happen anytime, they tend to be much rarer in early summer, and one might even get really lucky: most Junes feature at least one multi-day easterly that never fails to delight, cranking daily – and all day – in the high teens.

Like anywhere in the South, thunderstorms are a daily threat, though high tides and sea breeze tends to fend them off. Storms to the west tend to be greater threats than those to

the north. Cumulonimbus to the north usually threatens the head of the harbor then blow east, fended off by the breeze.

While sea breeze is nice, it does nothing to reduce Charleston's notorious currents, though it does generate a lot of chop. And chop in Charleston is a huge clue. As anyone who sailed the Worlds noticed, the current flows at drastically different rates, and sometimes in different directions, across the course. While one can spend years studying the eddies and channels that define the Harbor, if a sailor remembers to stay in the chop upwind and the flat water downwind, said sailor will sail much faster. While this seems counterintuitive (waves are usually an impediment to upwind sailing and a boost off the wind), it is not when accounting for current. Current against wind creates steeper waves than it does with it. And the slight boatspeed losses due to chop do not come close to making up for the relative boost of more favorable current. Stay in the favorable current.

With that in mind, pick up a chart of Charleston Harbor (or find one online). Look at what happens there. Starting upstream, two rivers converge then divide, meanwhile a third comes in from the west, merging first with one channel, then with the other. And if you're a local, all this mixing and matching forms the Atlantic Ocean. Charleston's Ancient and Sacred Society for the Promulgation of Science, Ancestral Worship, and Inebriation proved this one evening many summers ago on the Carolina Yacht Club dock. The scion of a prominent local family, in what was described by witnesses as either a fit of pique or a simple temper tantrum, threw his neighbor's labeled rubber duckies (said neighbor was of a more prominent family, which asserted its social standing through ubiquitous monogramming and labeling) into the Harbor. Lo and behold, years later, one washed up on a deserted beach in Cornwall, near the less prominent family's former seat. The other one ended up in Liberia, where the name was also recognized, but for different historical reasons. Both eventually were returned to the family and accorded places of honor on their carriage house mantelpiece. Such discoveries were considered compelling evidence by the members of ASS-PSAWI (the "p" is silent) gathered that fateful night.

But while such local legends are important to understanding the people of Charleston, they fail in relating the currents, so back to the chart. Upon a closer look, you'll see these channels and vast flats and islands between them. Current in the channels is more or less linear, but the divergence and re-convergence of the three main channels can lead to eddies over the vast shoals and flats. It is through these convulsions – the birthing pains of the Atlantic, if you will – that the great current dichotomies of Charleston Harbor have come to confound legions of sailors through the years. If you find yourself confounded, remember the rule about chop.

So that's the breeze and the current, oversimplified. But it neglects the best part of the local sea breeze: one can have a blast at one of the great bars in town (or on nearby Folly Beach – highly recommended for vacation rentals), sleep in, and be rested and ready for the next day's racing!

-Jamie Ewing