

I learned about sailing from that: Wind vs. Current

It had been a long day.

We anchored on the south shore of Hope Island in a narrow finger of water 2-3 fathoms deep. This little channel runs part way along this shore, surrounded by depths of 2 feet or less.



We were anchored near the east end of the "deep" channel. The eastward tidal current in the area had us facing west (hint: important). We chose this spot because a gale was forecast in the Strait of Juan de Fuca (just to the west of us), and we would be sheltered from the worst of it here. We were tired and went to bed a little after dark.

At 22:30, we were awakened with the howl of wind in the rigging. It had arrived, and indeed we were protected from the worst of it. We were seeing 10-15 kt, with the occasional gust to 25, all out of the west. So far the plan was working, but neither of us could sleep so we sat in the saloon or the cockpit, keeping watch and talking quietly. By 23:30, we were both quite tired, and things had not changed - the wind continued at about the same strength from about the same direction, and the anchor continued to *not* move. I think we may have both dozed off.

Suddenly, Jane shouted, "We're loose!" I bolted to the cockpit and sure enough, we were sideways to the wind and facing the island. I started going over in my mind what we would have to do - when a boat is sideways to the wind, it is drifting, and there wasn't much deep water to the east of us. But as I watched, I realized that despite our unusual attitude, Eolian was not moving. My next thought was that we had *already* run aground... but the depth sounder showed 12 feet of water (we draw 6). I was stumped. As I sat there, groggy from the sudden awakening, Eolian shifted some more, and soon the wind was coming over the *stern* at 25 kt. Now this was truly weird! I went forward and checked: yes, we still had the anchor, and the rode was streaming aft from the now east-facing bow. Strangely, it was nearly slack most of the time. Did I dare start the engine? Getting 3/8" chain wrapped around the prop would not be good at all...

It must have taken me an hour in my muddled state to figure it out: the tide had changed, and Eolian was ignoring the wind and trying to position herself pointing into the now westward-flowing tidal current. In effect, the wind and tide were nearly canceling each other out. Finally, I started steering her in the tidal current, and was able to reliably get her pointing either north or south, but she wouldn't stay there. It dawned on me, at last, that once she was sideways, I would need to steer *backwards* if I wanted her to go farther around. So I got her pointed at the island (the way to turn so that the anchor chain wouldn't get wrapped around the keel), and held her there until a gust pulled/pushed her a little farther around. I spun the wheel around the other way, and voila! Eolian was pointed into the wind again. Things quieted down (she's much more streamlined with the wind coming over the bow) and there was no more radical heeling and slewing around. I found that if I kept the rudder hard over to port, she was in a meta-stable situation. Eventually I became satisfied that we weren't going to go aground, and that Eolian would continue to point more or less westward, into the wind. I went back down into the saloon, where Jane and I talked quietly, and then more quietly. I think we fell asleep at about 04:30, and we awoke from our uncomfortable sleeping positions at 06:30, as light was returning to the sky.

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We made preparations to get underway after a cup of coffee. The anchor was *really* hooked good - it came up with a ball of mud 2 feet in diameter which took quite a while to hose off.

Moral: When wind and tide compete, things can get very strange indeed.

Bob Salnick

DE45 s/v Eolian

Living aboard: Windborne in Puget Sound

<http://windborneinpugetsound.blogspot.com>