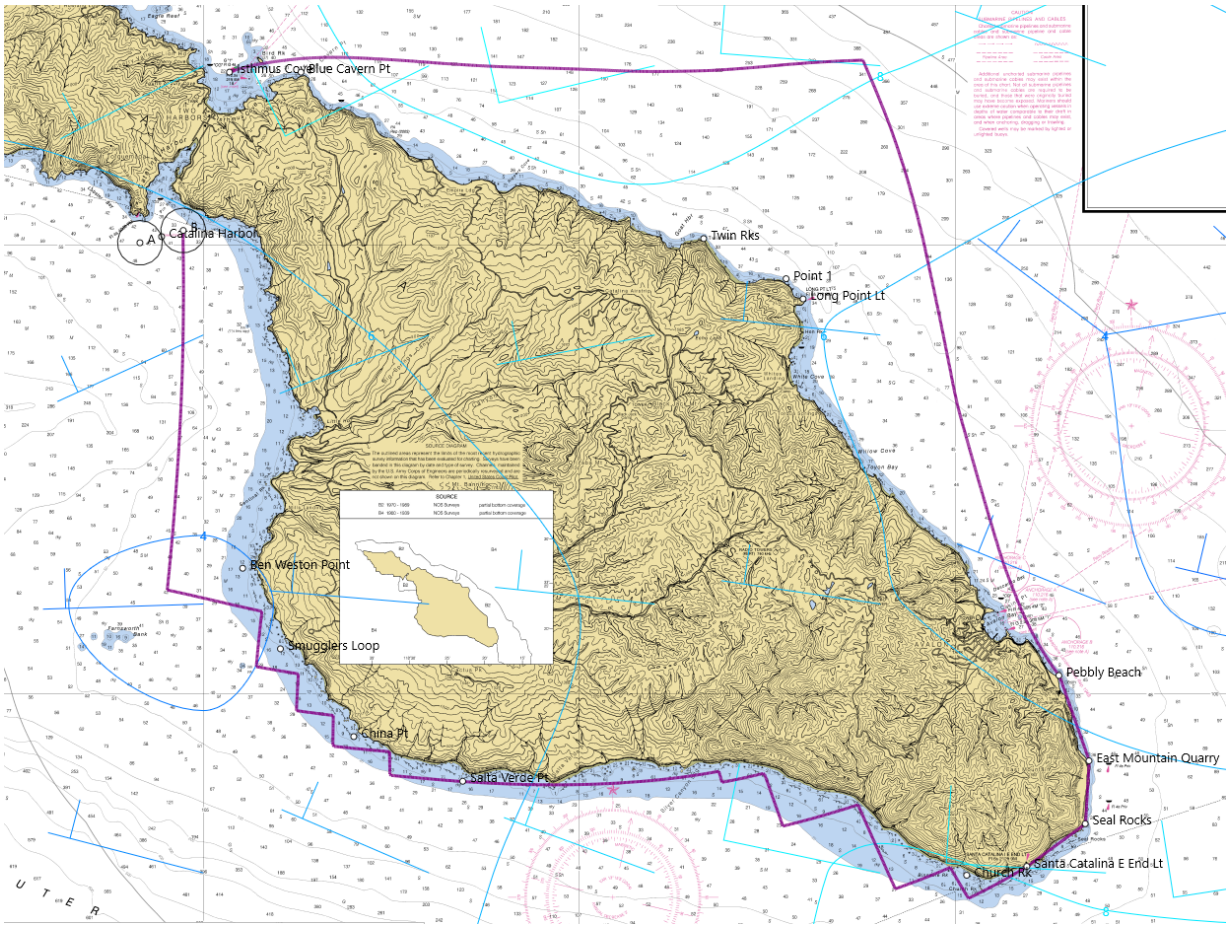
# Santa Catalina Sprint 2020

## SOL race # 1394

The notic of race of the last race of the 2020 sprint series promised that in favorable conditions it was possible to finish the course around the southern part of Santa Catalina Island, which is shown below on a NOAA chart, in just over 4 hours. The race was to be sailed in a Scampi, which is one of the smaller and slower boats in the SOL boathouse. When the race took off at 2020-12-19 19:00 UTC it turned out that the winds were not favorable and it eventually took more than twice as long to finish the 28 mile long course, resulting in an average speed of 3.23 knots. It did not feel like a regular sprint race, but it could have been much worse. The 51 mile 2015 Pico Island Sprint raced in fast IMOCA 60s comes to mind, where the winner's time was 32 hours and 28 minutes.

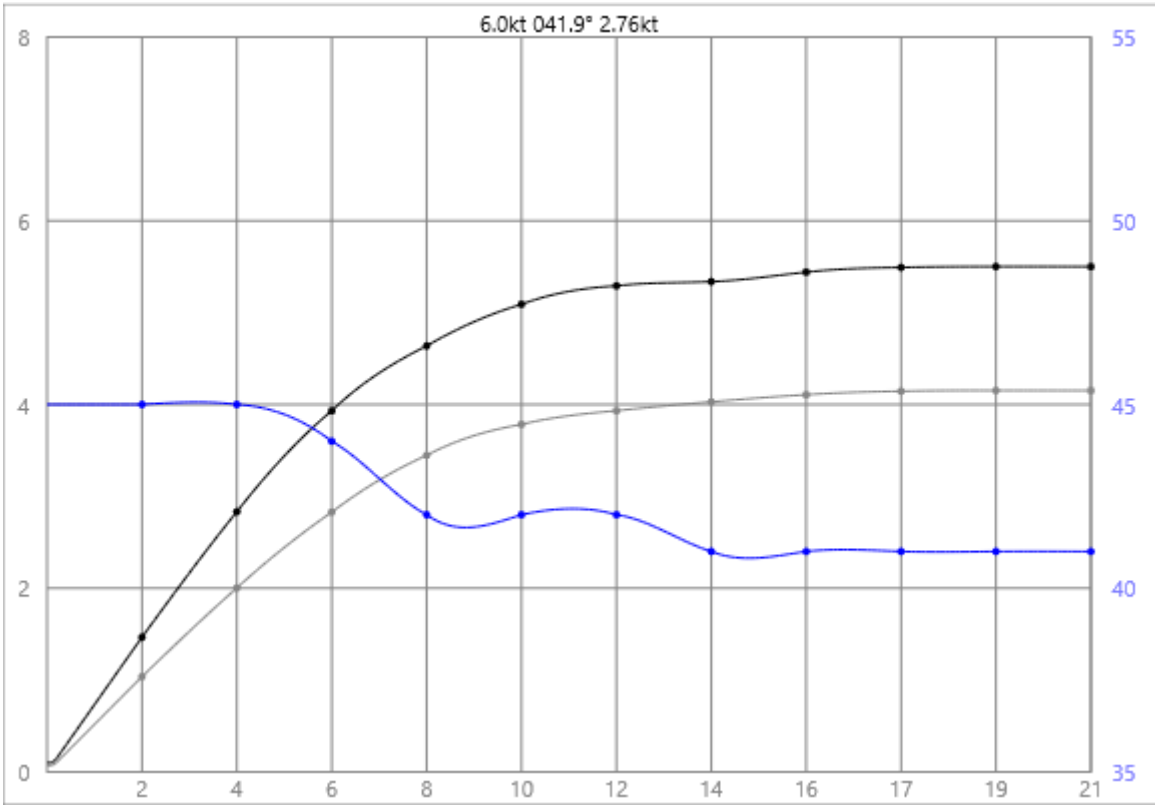



A total of 120 boats have entered the race, and 95 have actually started. The race got under way at 19:00 UT in less than 1.5 knots of breeze from the NW. Before the start I had submitted a bunch of DCs that put the boat on a 7 mile reach course to the East, heading for a developing patch of wind speed of up to 6,5 knots, followed by a DC gybe at 22:00 UT to the South. Then I left the computer until the 22:30 WX update, which is quite unusual for a sprint race.

As expected, the high resolution WRF wind forecast for this race was more variable in both space and time than the usual global GFS model winds. On the basis of the new forecast, I had to adjust my course a little towards the coast in order to stay away from a patch of lighter wind offshore as

much as possible. From there I closely followed the coast line around the South-East end of Santa Catalina Island, heading up at every headland. Around 00:20 UT I arrived at Santa Catalina East End Light. Most of the remaining race was a beat, requiring more attention than the first leg.

Initially the wind speed was predicted to increase from 8 to almost 10 knots, slightly (0.5 to 1 knot) stronger offshore and a little weaker over the island. In this wind speed range, the upwind target speed and the upwind VMG for the Scampi increase with increasing wind speed. This is shown in the graph below as the black (target speed) and gray (VMG) lines plotted against the wind speed.




Therefore I was tempted to stay offshore. But at the same time, the wind speed was predicted to veer from 280° to 315° within the next hour and a half. For this reason I decided to accept my router's suggestion and follow the coast line in a series of short tacks.

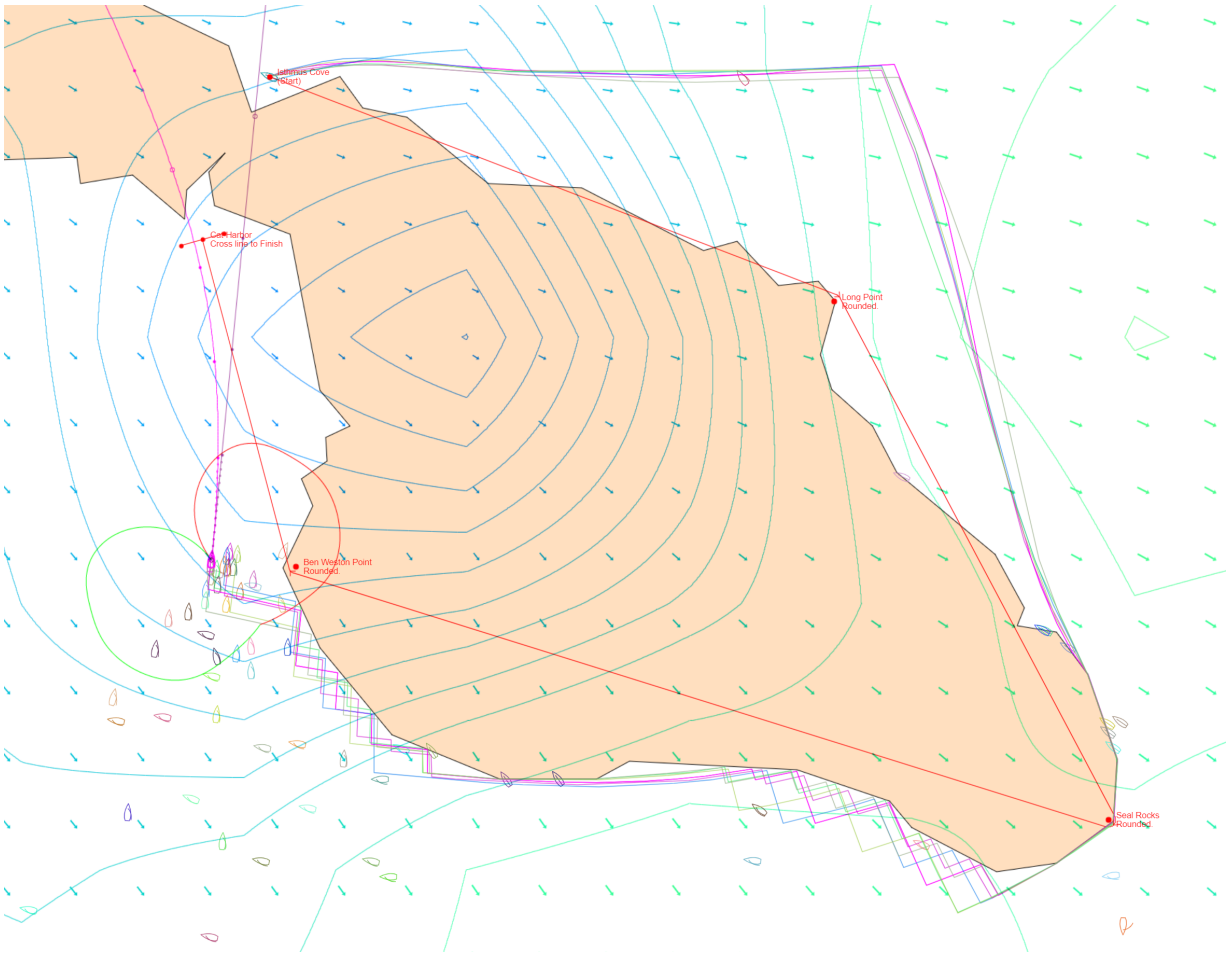
Every tack comes at a price. One has to find the best balance between the advantage of following the wind shift and the detrimental performance loss. I try to avoid tacking before the performance has recovered to 100%. For this purpose I use the polar calculator from kroppyer's spinnacer too. It allows me to compute the time it takes from a tack until the polar performance has recovered to 100%.

As a rule of thumb, I usually apply a totally unscientific factor of 3 to this time span, which in the prevailing conditions was one minute and 20 seconds for the Scampi. As a result I was trying to wait for at least 4 minutes between tacks. In a faster boat and in stronger winds, the interval between tacks will be longer.

On the lifted offshore tack, I use the upwind target TWA. On the headed inshore tack, I crack off the sheets a little bit. How much is a matter of taste, and the expected length of the inshore leg.

If there is a bend in the coastline, I aim for that, in order to get as far inshore as possible. This is great fun, and kipper's AGL tool is very helpful for this purpose. An example off this can be seen in the last figure from this report.

After 8 tacks my boat was positioned sufficiently inside the bay, so I could relax for a moment and let the lift carry the boat to the next headland, Salta Verde Point, where it arrived around 02:00 UT.




From there it was another 8 tacks along the shore until the wind started to back. At that point it was time for a one mile tack offshore in order to avoid a patch of lower wind speed that had established itself over the island, followed by the final tack for the finish line.

The final figure is a screenshot taken shortly after that last tack. It shows my boat in a very comfortable position. It is positioned to windward and in stronger winds than the immediate competitors and with enough distance to the finish to be able to roll over them. And in SOL, they can not even protect their wind by luffing.

rumskib