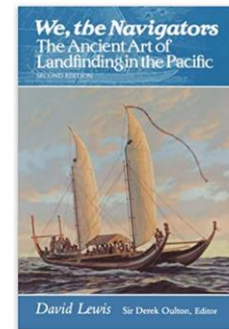
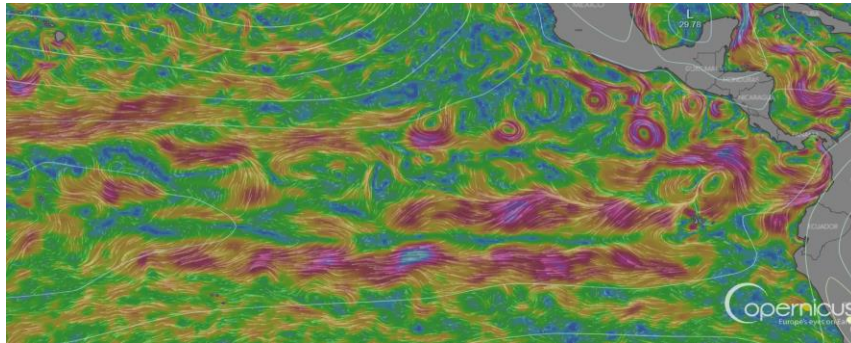


The Path of Kon-Tiki, La Nina, and then Paka'a decides



SlideRule's report on the Lima to Honolulu Race

I would really love to do this sail from Lima to Honolulu! The rhythm of endless days broad reaching downwind, trolling a line for tuna, sipping an evening Mai Tai, looking for the green dot when the sun sets, and playing some Santana (Samba Pa Ti). We had perfect wind on the quarter on a fast boat the whole way! I could be reading a favorite book on watch or sorting my way through all the southern constellations from the star chart. My favorite book for this trip would be "We, the Navigators" by David Lewis, first published in 1972. I bought my copy while I was in Hawaii in 1982 traveling across the Pacific the easy way and loved it. It has influenced my "real" sailing decisions and observations on many occasions and is a treasure of knowledge and navigation lore!

Well...I am still surprised by this win! Particularly after using a year's worth of luck in the Singapore Race. There must be some explanation other than my skill; maybe wind gods or perhaps the mariner's traditional sacrifice of winter socks. Real credit to Thomas of HastySlug for doing the offwatch boatsitting and keeping routing current for every midnight weather forecast. It is definitely his turn, now!

Paka'a > as was pointed out in the chat during the race Paka'a is the Hawaiian goddess of wind and also apparently the inventor of the sail definitely had the final word on this race! The odds that SlideRule's race would prevail against all the other best race solutions were low. In the end the only credit SlideRule deserves is that we at the least gave ourselves "a chance" to win the race with no guarantees because we stuck with our only available strategy to the podium. At the moment of the critical decision, based on our relative fleet positioning, I forced the routing solution to trim the south of the island! Then at the moment of fate, when SlideRule was directly in the "lee" of the island, when the final 0430 weather dropped, the wind held! Up to that point it could have and should have gone the other way, we would have been helpless in a puddle of windless, blue goo. Of course, at the bar, after a couple Mai Tais, the lubricated story is that it was the choice of Paka'a and a timely spring sacrifice of unwashed winter socks (*read the poem at the end*). Or perhaps 430 GMT is late afternoon in Hawaii, the period of thermal convection activity in the lee of the island, if we had arrived at night...maybe not so much!

It was striking to me that this race follows in the path of Kon-Tiki and Thor Heyerdahl's voyage to prove that Polynesia could have been settled from South America because of the prevailing trade winds and currents. This book made my summer reading lists in High School, probably the same year I read "Two Years Before the Mast" by Dana. More scientifically, it's interesting that we are also at end of a cold

phase in the Pacific with stronger, massive westerly current La Nina which cycles with El Nino changing the weather of the planet, particularly the eastern Pacific Ocean.

So how did SlideRule end up with this low, barely quantifiable chance of winning this race against probability?

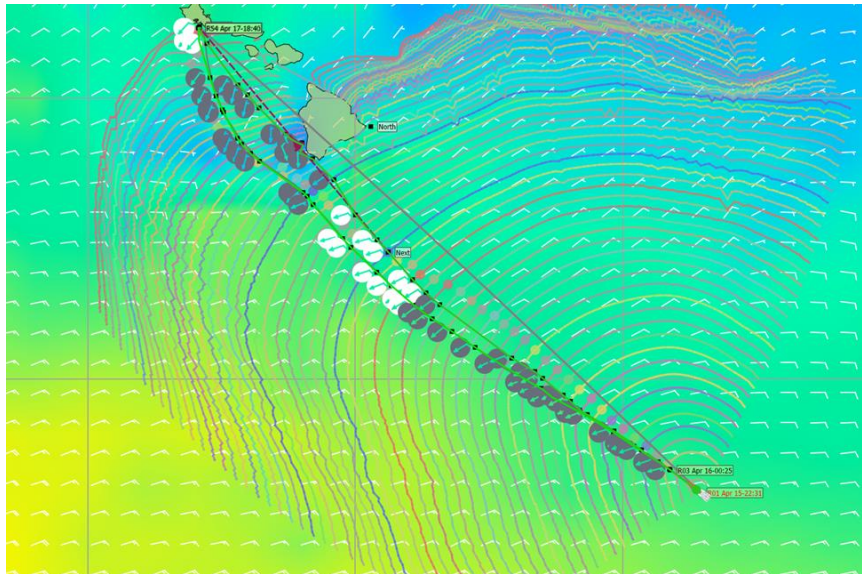
The “Solution” Cloud > Before the race I setup the boat and course early; then I ran multiple routing solutions for a couple days to get a sense for route drift, the volatility, and stability of the solutions. This provides both intuition and a strategic intention for the race and a sense for the key phases of the race. Plus, everything is set up and ready to go. The first phase of the race was fairly stable trade wind, then it was clear that transitioning north through the lighter, variable winds would be critical to setting up the final run in to the finish. I actually never really thought as far ahead as the approach alternatives for Hawaii until much later north of the equator. I largely disregarded the antics of the router around Hawaii for many days.

Front Row Seat/Find a Lane > From the beginning I stayed moderately south in the fast lane on the best point of the arc. I prioritized staying bow out in VMC mode on the arc of leaders and finding a good “wind lane” for each forecast. Claim a spot that is consistent with your long-term strategic intention.

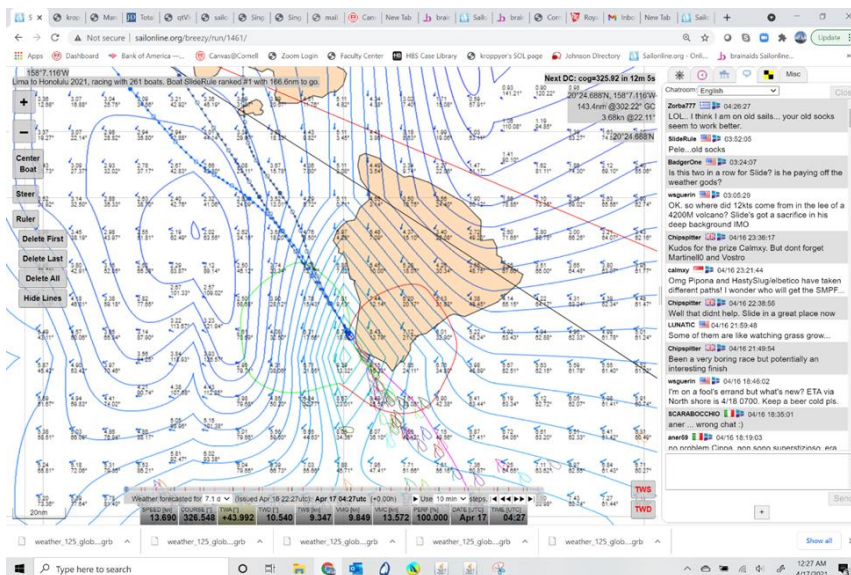
Solution Horizon > I ran the full routing on every shift, but decided on a shorter time horizon with an intermediate target waypoint. I don’t like to let my course optimization be overwhelmed by forecast assumptions that are many days away, particularly if they appear to be unreliable. I do like to always think about “what” my router is doing and what’s driving it, and is that really likely to happen. The brain (SOP) cannot solve these problems beyond a few hours and makes mistakes, but the router is only a tool that uses only data without judgement and disregards probability.

Consistent Execution and Routing Optimization > Once again, a key to success was offwatch boatsitting partnership with Thomas of HastySlug fame! We would exchange our late night/early morning routing instructions and strategy to reoptimize the routing on every shift. This was still important in this race because differences between the lead boats were so small most of the time. Thomas and I have a convenient 7-hour time zone differential that allows us to avoid insomnia, relationship problems from an SOL obsession, and to avoid midnight skipped shift disasters. I find that the discussion, the articulation of instructions, and the exchange of information is helpful to considering alternatives and clarifying the intended strategy!

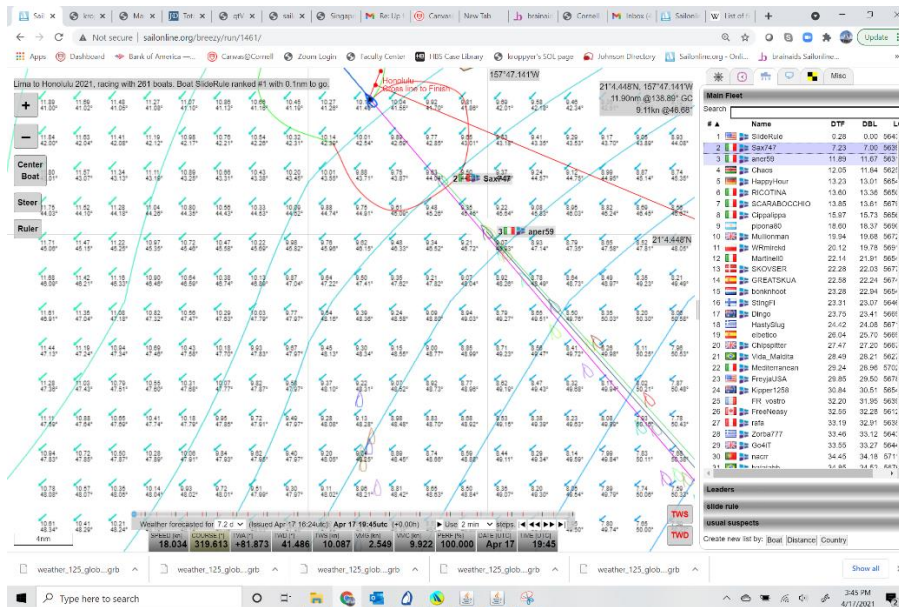
Decision Time > About two days out of Honolulu, SlideRule had to make an intended routing commitment to prevail against the other leaders. Routing to Honolulu had been showing an end around the wind shadow with most of the forecasts. SKUA and WR were well positioned to win this route. On this course, Slide would have to go “low and slow” only to follow the leaders into Honolulu. A couple times, a window of opportunity was appearing to pass immediately through the lee of the island and it was often very close to the southern route in finish time. I also kept checking the northern route, because this is often the best route used by TransPac racers because the channels and passages generate great winds from the venturi effect. I decided that Slide was best positioned to take a chance on the direct route through the lee of the Island and hope for a window. There was one distinctive weather forecast where it really appeared to go our way. Many of the more south boats shifted north, but now they were “following”. To quote the wise SOL oracle Zorba, “you never win by following” > try something!



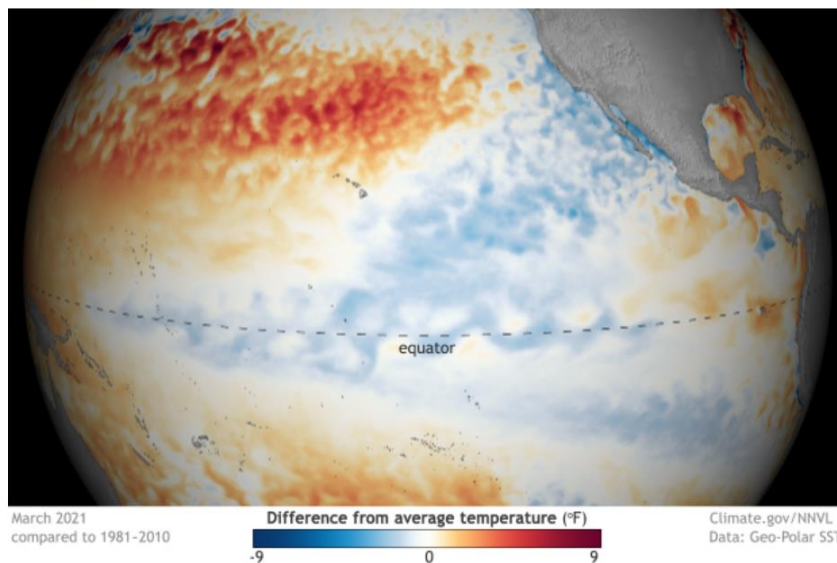
Two Pair for a Full House > There was this “strange” on the beach breeze that kept showing up and going away depending on the forecast (see SO2 hypothesis). We went for it! Slide went from a no or low odds chance to a tangible, fractional chance of winning the race. Now there was hope, we just had to see it through! Slide needed a couple good weathers and to NOT Barbeque! The next to last weather dropped when I was actually in the lee of the big island of Hawaii at 04:30 on the 17th. This was the only 0430 that I got up for because I just had to see what was going to happen, while Thomas did all my other 0430 routings as I did his 2230’s. This was a moment of very high risk for SlideRule. The weather could have dropped “blue goo” on us, ending our race, with no wind to dodge or escape!



At the end, the margin over Sax was about 7 NM (23 minutes), extended by sailing into the increasing breeze at the end. Note the dominant team performance by Italy. The south group (WR and SKUA) probably had the best, most logical race strategy, but was a little over an hour behind (less than the forecast variability). I’m looking forward to the replay of Panama to Honolulu, even as I focus on the real Slide Rule’s launch on May 7th!



We followed in the path of Kon-Tiki, a balsa raft, built by Thor Heyerdahl to prove that Polynesia or at least parts of it could have been settled from South America. This book was on my summer reading list my freshman year in High School! I still have my copy of the book and loved it.



LA NIÑA ADVISORY

La Niña—the cool phase of the El Niño-Southern Oscillation climate pattern—weakened through March 2021, and odds are good conditions will revert to normal in the next month or so. But the continued presence may tip the odds toward a more active severe weather season.

[Latest official ENSO update](#)

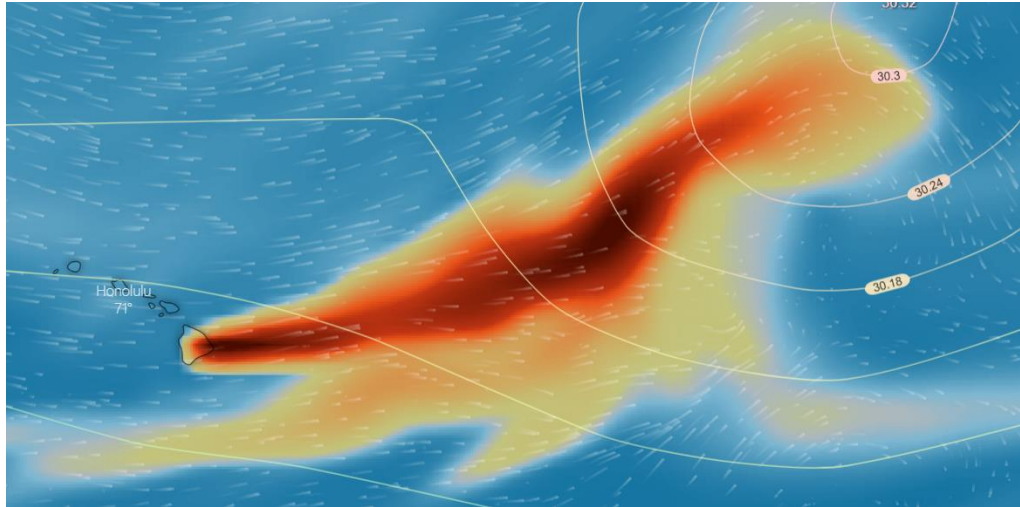
[Latest ENSO blog update](#)

(image at left) Map of March 2021 sea surface temperatures compared to average shows a large swath of cooler than average waters in the central-eastern tropical Pacific, one of the signs of La Niña. The cool anomaly was weaker than it was in February, however.

We are at the end of a La Nina cycle which is cooler and has strong tradewinds and currents that pushed us west and kept us south well into the Pacific before transitioning north. The other big effect is the Hawaiian trade winds which usually blow about 300 days of the year from the North East. These are occasionally upset by the Kona Winds.



Hawaii has VOG (volcanic off gassing). It pools and accumulates in spots around the island. Also passages and channels create accelerations in the Hawaiian Islands. Many TransPac racers count on the venturi effect to generate higher accelerations in the channels and passages between islands and directional “bends” around the islands. There was a substantial acceleration in the afternoon before the big island and then a moderate one between Hawaii and Maui because it was evening. We used these types of effects successfully to finish 3rd in the real Caribbean 600 last year. Even so meteorological forecasts often do not fully account for local geographical and thermal effects on the wind. I am still surprised that the northern approach did not show up as a favorable route at any time.



Only a Hypothesis > Why is there “sometimes” wind along the lee shoreline of Hawaii? See this Sulfur Dioxide image from Windy > VOG (Volcanic Off Gassing) Sulfur Dioxide is **twice as heavy as air**! Trade winds can push heavier gas down the lee slope creating substantial wind at the shoreline. Think Tramontane or Mistral winds in the Mediterranean from colder, heavier air. The most wind was right at the shoreline in the lee of a very high island with two volcanoes!!

In the chat, I was asked if I had made any sacrifices to the wind gods given Slide’s good fortune.

Answer YES, relevant superstitious rituals were observed!

Mariner’s Spring Tradition> the burning of unwashed winter socks as a sacrifice to the Wind Gods!

Ode to the Sock Burners

By Jefferson Holland, Poet Laureate of Eastport, 1995

Them Tidewater folks got an odd tradition
When the sun swings to its equinoxical position,
They build a little fire down along the docks,
They doff their shoes and they burn their winter socks.

Yes, they burn their socks at the Equinox;
You might think that’s peculiar, but I think it’s not,
See, they’re the same socks they put on last fall,
And they never took ‘em off to wash ‘em, not at all...

So they burn their socks at the equinox
In a little ol’ fire burning nice and hot.
Some think incineration is the only solution,
‘Cause washin’ ‘em contributes to Virginia’s pollution.

Through the spring and the summer and into the fall,
They go around not wearin’ any socks at all,

Just stinky bare feet stuck in old deck shoes,
Whether out on the water or sippin' a brew.

So if you sail into the harbor on the 20th of March,
And you smell a smell like Limburger sautéed with laundry starch,
You'll know you're downwind of the Nauticus docks
Where they're burning their socks at the equinox

This wandering report and tale submitted by Scott Bearse (SlideRule).

Owner and skipper of the real "Slide Rule", a Beneteau First 44.7, homeport Barnstable MA on Cape Cod.

See youtube channel SlideRuleSailing!

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