

In which one station follows the next, sharks follow us, and
May 29 follows May 29.

May 23-May 29^{1st}, 2022

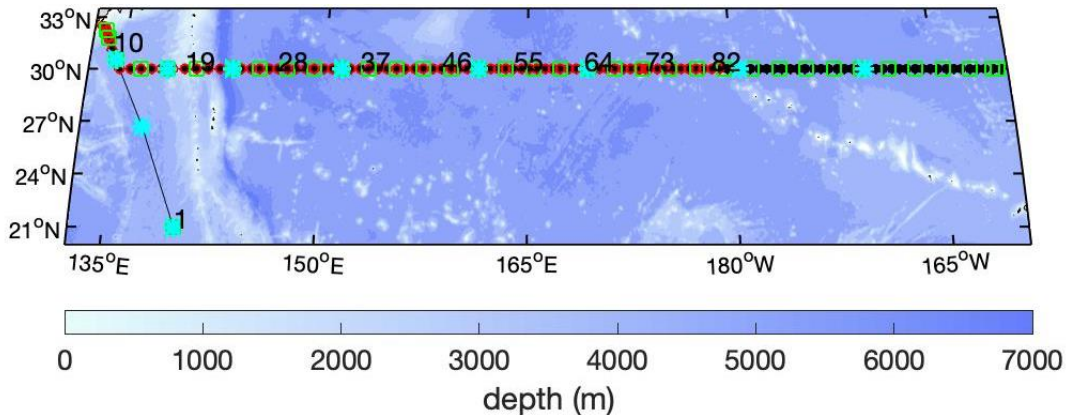


Figure 1: Map of station locations (black dots), completed stations as of the first morning of May 29, 2022 (red circles), bio casts or combined core/bio casts (green squares) and float deployments (cyan asterisks).

It has been a long week with one station rolling into another and each day melting into the next. We continue eastward performing 3+ stations (4+ casts a day) and we have passed the halfway mark in stations, in days on the ship, and days at sea.

The weather has been good, occasional wind and rain, damp mornings and many gloriously sunny days. We continue to encounter only small challenges: a few problems with bottles not closing correctly – sometimes due to lanyards and sometime due to the rosette bottles slipping. We now regularly rechecking the rosette for these issues.

We have also continued to have off and on issues with noise in the CTD sensor differences in near surface waters; in particular at 20 m where we wait for the numbers to settle before performing the cast. We have a theory that this may be due to the ship’s bow thrusters sometimes sending churned up water in the direction of the rosette. We have been working with the bridge to avoid this particular situation if it can be managed, but it is not always possible. The casts are fine, but it does mess up the upper waters and makes us wonder whether the 10 m mixed layers we see fairly regularly are real. Interestingly, as we passed about 170°E, we found essentially no mixed layer. Once we have a moment, we will to compare to previous occupations. The UVP is no longer capable of downloading its data. That said, there should be enough memory to hold the data from the rest of the Leg 1 casts, and options for Leg 2 are being considered.

Enough of the issues. We have a fishing challenge afoot with a Revelle t-shirt at stake as well as a ping-pong tournament for which some cleverly constructed awards have been created. This past week we have celebrated two science birthdays. First, Steffi, our UVP lead, nightshift LADCP operator and all-round jill of all trades (she does deck work (Fig. 2) and has been known to sample for bio, TALK, and 14C). Happy Birthday Steffi! Second, we have Carol, one of our CFC students. Although I shouldn't say that. She graduated this past week. Congratulations and Happy Birthday!!

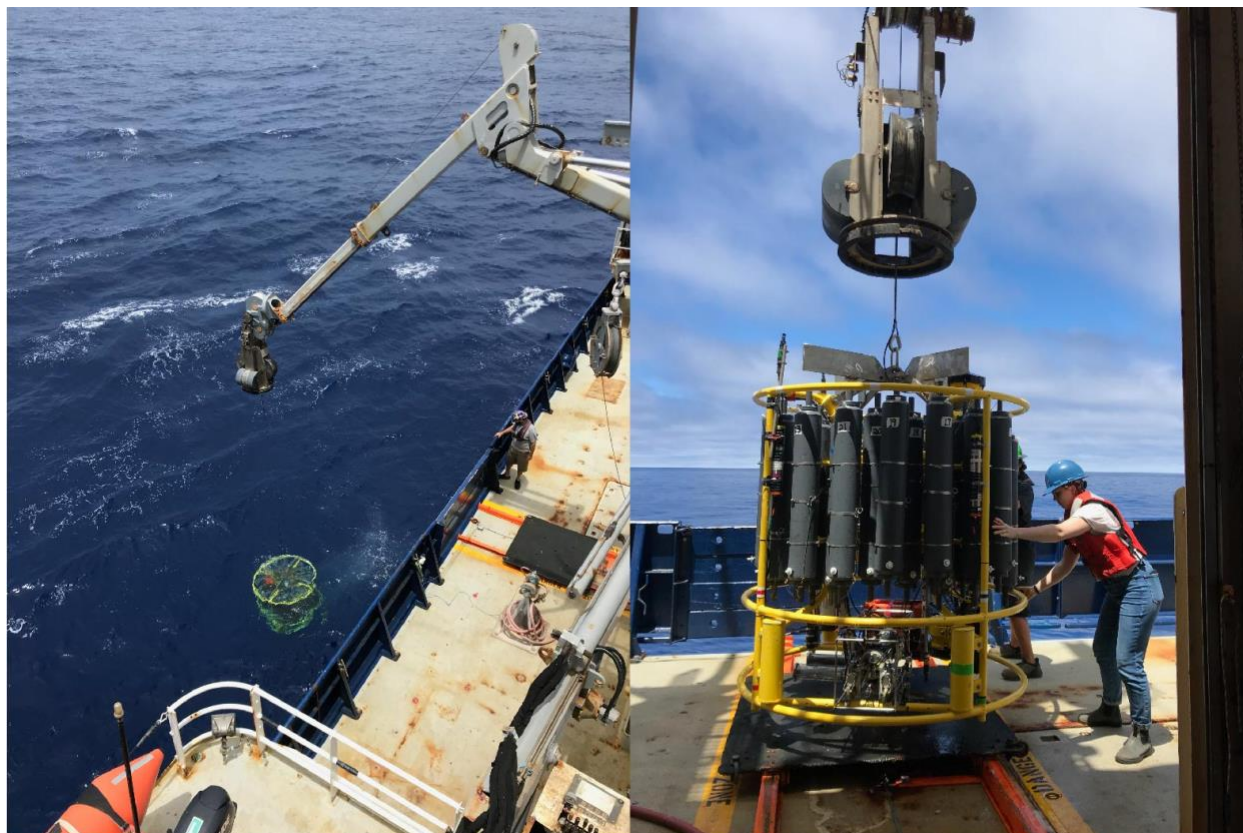


Figure 2: On the right: a day-shift station beginning with the rosette being picked up by the CAST-6 which is placing it in the water. On deck is UCSD Restech Josh Manger (out of the picture frame, but just to right of the photographer on the 03-deck is winch operator, Ordinary Seaman Gomez (his blog post on crewing on the R/V Revelle should be coming out next week; <https://www.go-bgc.org/expedition-logs/north-pacific-2022>). On the left: the rosette has just come out and the CAST-6 is placing it on the cart that will bring it into the hanger along the tracks (in orange). In the foreground/background are Steffi O'Daly (UVP lead)/USCD Restech, Royhon Agostine, respectively, assisting the winch in its effort to place the rosette squarely on the cart. It must not only be steady on the cart, but placed such that it will fit through the hangar door. Note – with 36 10L bottles and all the instrumentation this can be a difficult task, particular on a rocking ship and sometimes even more so when, as on a bio-cast, only half the bottles are tripped. (Photo credit A. Macdonald)

We thought that this week, rather than ending any of the interesting science going on (we have some great results from our seamount station), we'd go with shark pictures (Fig. 3) - because visiting sharks has been the big excitement this week. Our resident shark expert, Abby Tinari (DOC

lead) – tells us that the one we saw in daylight is definitely a male. And although we have had at least three separate sightings at three different station locations, we’re wondering if perhaps we are seeing the same shark each time.

As we finish up this report, we are passing Papahānaumokuākea National Marine Monument and have entered the U.S. waters northeast of Midway Atoll (a.k.a. *Kauihelani* - the backbone of Heaven and *Pihemanu* - the loud din of birds). Today is Sunday May 29th and after crossing the dateline tonight, tomorrow will also be Sunday May 29th. The stations keep rolling. We’re on 82 and the rosette is coming up as I go to bed and Shuwen takes over.

Alison Macdonald and Shuwen Tan
Chief and co-Chief Scientists for
2022 P02/Leg 1 (33RR20220430)

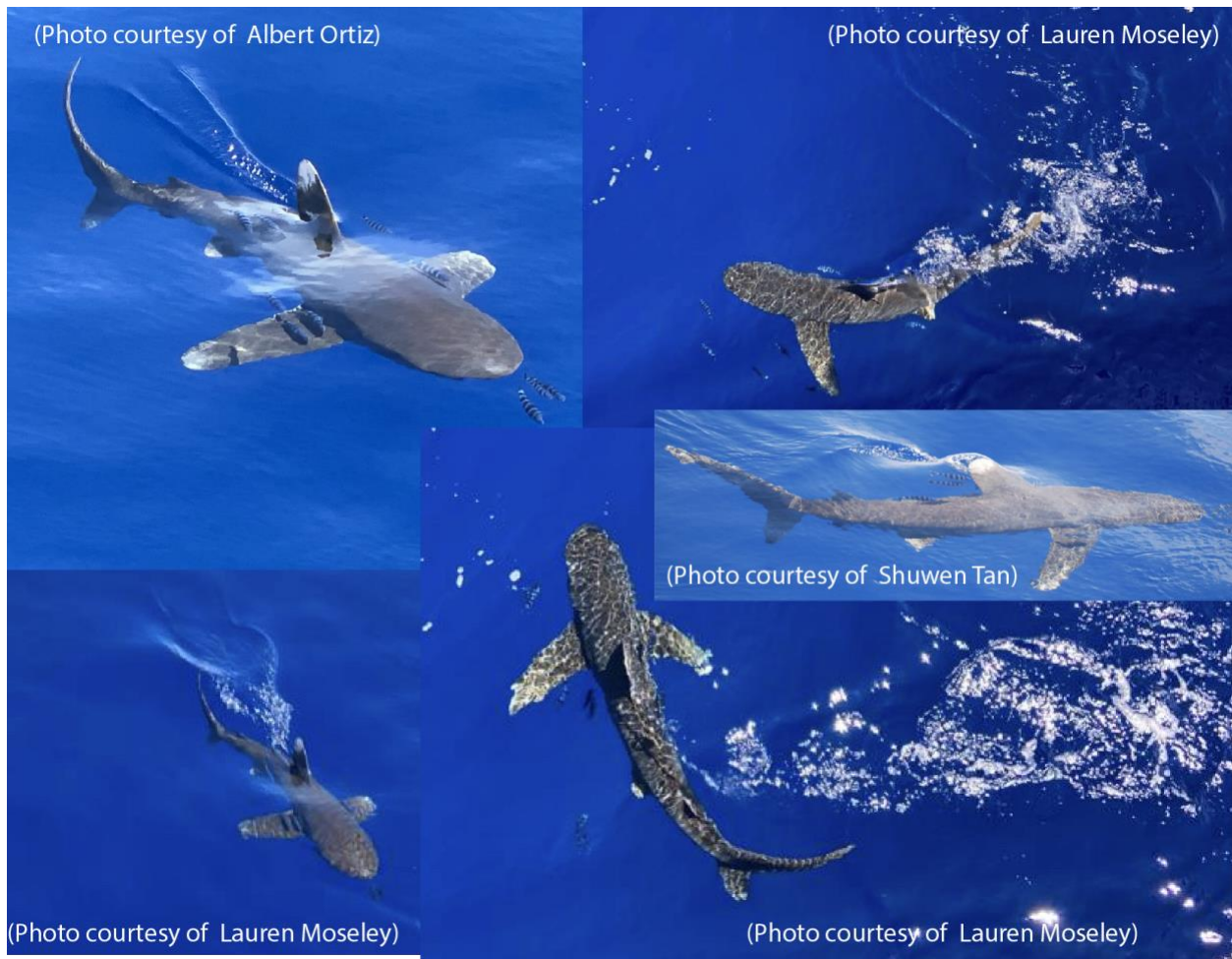


Figure 3: The Oceanic whitetip shark (*Carcharhinus longimanus*) who came to visit the R/V Revelle on earlier this week (identified by A. Tinari). According to Wikipedia, oceanic whitetip sharks are also known as Brown Milbert's sand bar sharks, brown sharks, lesser white sharks, nigano sharks, oceanic white-tipped whalers, and silvertip sharks. It is considered a “threatened” species as its population has declined by 80-95% across the Pacific since the mid-1990’s (<https://www.fisheries.noaa.gov/species/oceanic-whitetip-shark>). The fish swimming alongside are pilot fish (*Naucrates doctor*). They are carnivorous and eat parasites.