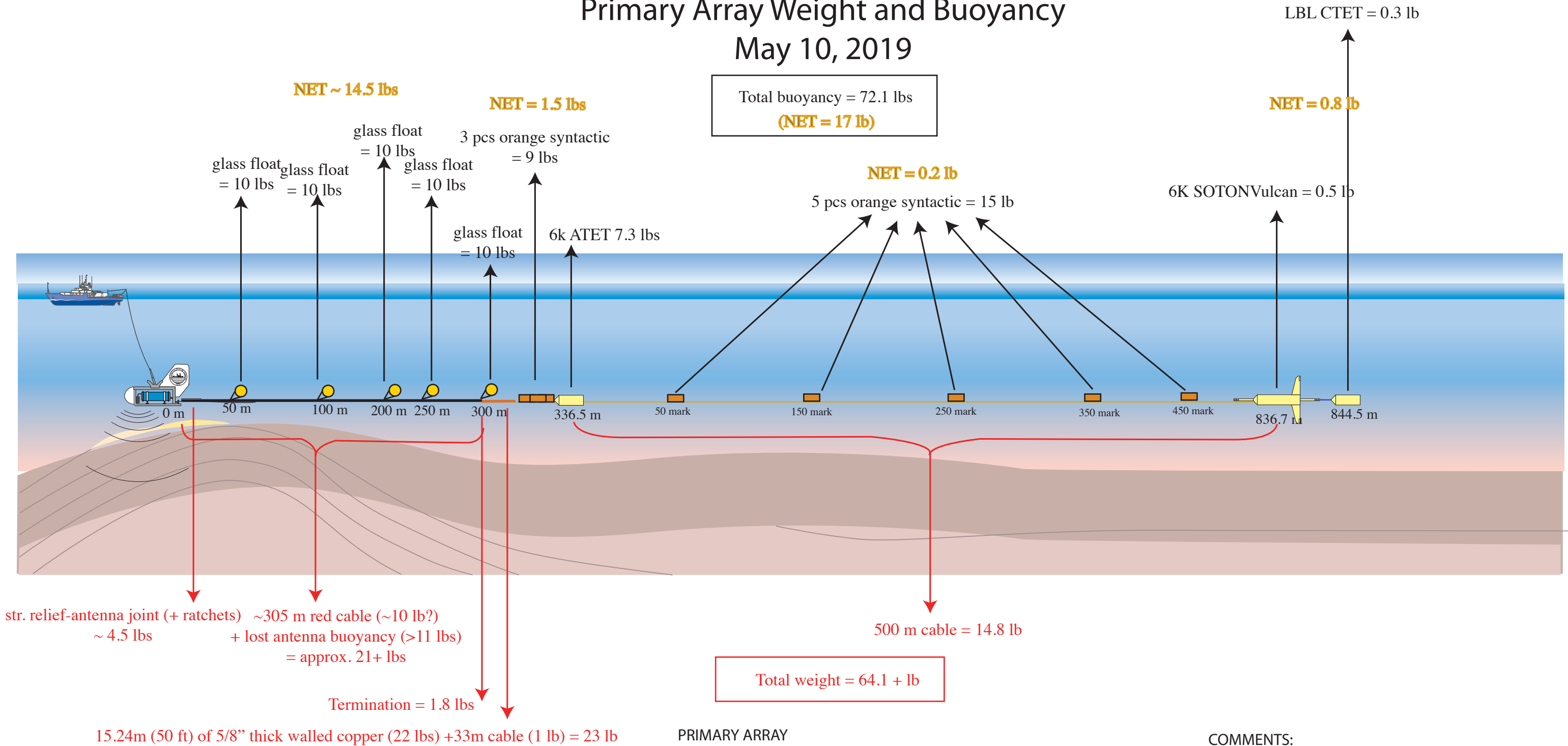


Alaska Subduction, May-June 2019
Primary Array Weight and Buoyancy
May 10, 2019



COMPONENT KEY:

- 2.25" OD x 300m SUESI antenna - theoretically neutral but as of NZ2018 seems more like ~10 lbs neg at depth
- Falmat Telemetry cable weighs 9 lbs per 1,000 ft. OR 2.95 lbs per 100 meters in seawater
- 2.25" OD SUESI strain relief to antenna M/F joint = 2.4 lbs negative
- 2.25" OD SUESI male termination and brass coupling = 1.8 lbs negative
- 5/8" OD copper (0.065" wall thickness, McMaster #8955K171) - 22 lbs per 50 ft (in air approximation for water)
- Orange syntactic 6km rated slugs = 3 lbs positive each
- SOTON short body/lid Vulcan with side plates & 2 NiMH batts in blue 6k case, ext compass = 0.5 lbs positive
- External compass in housing = 0.5 lbs negative
- Long body/lid ATET w/ 6k lid & 6k short side panels, blue case/orange cap, 4 ea 7V long NiMH packs = 7.25 lbs pos.
- Short body LBL CTET w/ 2 side panels = 0.25 lbs positive

- 6K ATET - long body with orange syntactic in lid and short side panels
- 6K SOTON Vulcan - short body with orange syntactic in lid and short side panels, 2 NiMH packs, external compass
- LBL CTET - short body with 2 orange side panels and lid, Deaton acoustics

Antenna was consistently lower than expected in New Zealand 2018/2019. Suspect either new material less buoyant or losing buoyancy to compression at depth. Even on last tow using 9 each 2.35 lb yellow floats (2 at term + 1 every 40 meters) ATET was still a bit low but floating on surface. Therefore, we assume that if red cable was 10 lbs, at least 11 lbs was lost to compression. We plan to compensate with more flotation using glass in Alaska 2019