SBE61 performances on Deep SOLO and Deep APEX floats

Nathalie Zilberman and John Gilson

AST meeting – Yokohama 2017
6004, 6005, 6009, 6010, 6011, and 0012 were deployed from 01/26-02/04, 2016.

Deep SOLO floats are presently cycling to or near the ocean bottom every 4-7 days (plan to increase cycle time to 10-day). Deep APEX float is cycling to 5200 every 5 days.

6005, 6010, and 6011 parked at shallower depth (for engineering testing) than 6004 and 6009 during early cycles.

300 Deep Argo float profiles were collected since 2014 in the SW Pacific, compared to 315 profiles (historical data) collected since 1990.
- TBT (negative bias) in early 6002 and 6003 profiles.

- Salinity variability of 6002 and 6003 for cycle 10-115 are within ± 0.001, target accuracy of the instrument.

- Salinity drifts for 6003 (positive) and 6002 (negative) after cycle 70, could be instrumental or natural.
- SBE 6003 (pre-calibration) CTD salinity is 0.005-0.006 saltier compared to shipboard CTD at pressure > 2000 dbar.
- After calibration, SBE 6003 CTD salinity is meeting the accuracy goal of ±0.002 psu.
- All Deep SOLO have stable TS relation through 30 days of deep sampling. Deep APEX CTD shows positive drift in salinity, possibly due to TBT.

- AABW characteristics for 6003 (active 06/2014-09/2015) agrees with 6011 (deployed 1.5° east of 6003).