

## 6. Which types of salinity and temperature should be archived?

Since 1978 we have gone to sea and collected and then archived Practical Salinity  $S_p$  (PSS-78), *in situ* temperature  $t$  (now ITS-90) and pressure  $p$  at known values of longitude, latitude and time. Under TEOS-10, nothing about this data collection and storage changes. Our instruments still need to measure properly calibrated data of  $(S_p, t, p)$  at known longitude, latitude and time. These are also exactly the same data that should continue to be archived in national oceanographic archives.

In particular, it cannot be over-emphasized that **NONE** of Reference Salinity  $S_R$ , Absolute Salinity  $S_A$  or Preformed Salinity  $S_*$  should **EVER** be submitted to or stored in national oceanographic databases. This resonates with present practice regarding temperature; we archive the measured quantity, *in situ* temperature  $t$ , not the calculated quantity, potential temperature  $\theta$ . Similarly, just as potential temperature is not stored in national databases, so too Conservative Temperature should **NEVER** be submitted to or stored in such national databases. In short, such databases should store measured (not calculated) quantities, and for this purpose, Practical Salinity is regarded as a measured quantity.