It is becoming increasingly clear that the Southern Ocean plays an important role in the climate system and biogeochemical cycles. Recent studies show strong evidence that changes in the Southern Ocean are underway but the magnitude and drivers for these changes are unclear. Data from the Southern Ocean is sparse; with only a few high resolution, full-depth repeat sections available that allow a careful analysis of changes over time. Changes in water mass properties were investigated along the CLIVAR/WOCE SR3 meridional section running south along 140E from Tasmania to Antarctica in the Southern Ocean. Temperature, salinity, oxygen and apparent oxygen utilisation (AOU) were analysed on both isopycnal and depth surfaces from five repeat occupations of the section during; 1994, 1995, 2001, 2008 and 2011. The section is dynamically complex and characterised by multiple frontal branches of the ACC including the STF, SAF, PF, SACCF and ASF. Observed interannual variability in water mass properties were analysed by latitude however strong frontal banding and eddy noise confounds interpretation. Transforming to a streamwise coordinate system allows us to isolate the effects of water mass changes from shifts in frontal position. SAMW was warmer, saltier and lower in oxygen in recent years compared to 1994/95. In the high latitudes, dense water sinking along the Antarctic continental slope has become colder, fresher and higher in oxygen. Potential mechanisms for the observed water property changes are discussed.