

FIG. 2 — Magnitude of the mean sea surface temperature gradient, from 44 months of observations by the Along-Track Scanning Radiometer on the ERS-1 satellite (Hughes et al. 1998). Superposed are positions of (from north to south) the Subtropical Front (STF), Subantarctic Front (SAF), Polar Front (PF), Southern ACC Front (SACCF), and southern boundary of the ACC (SBACC), from Orsi et al. (1995).

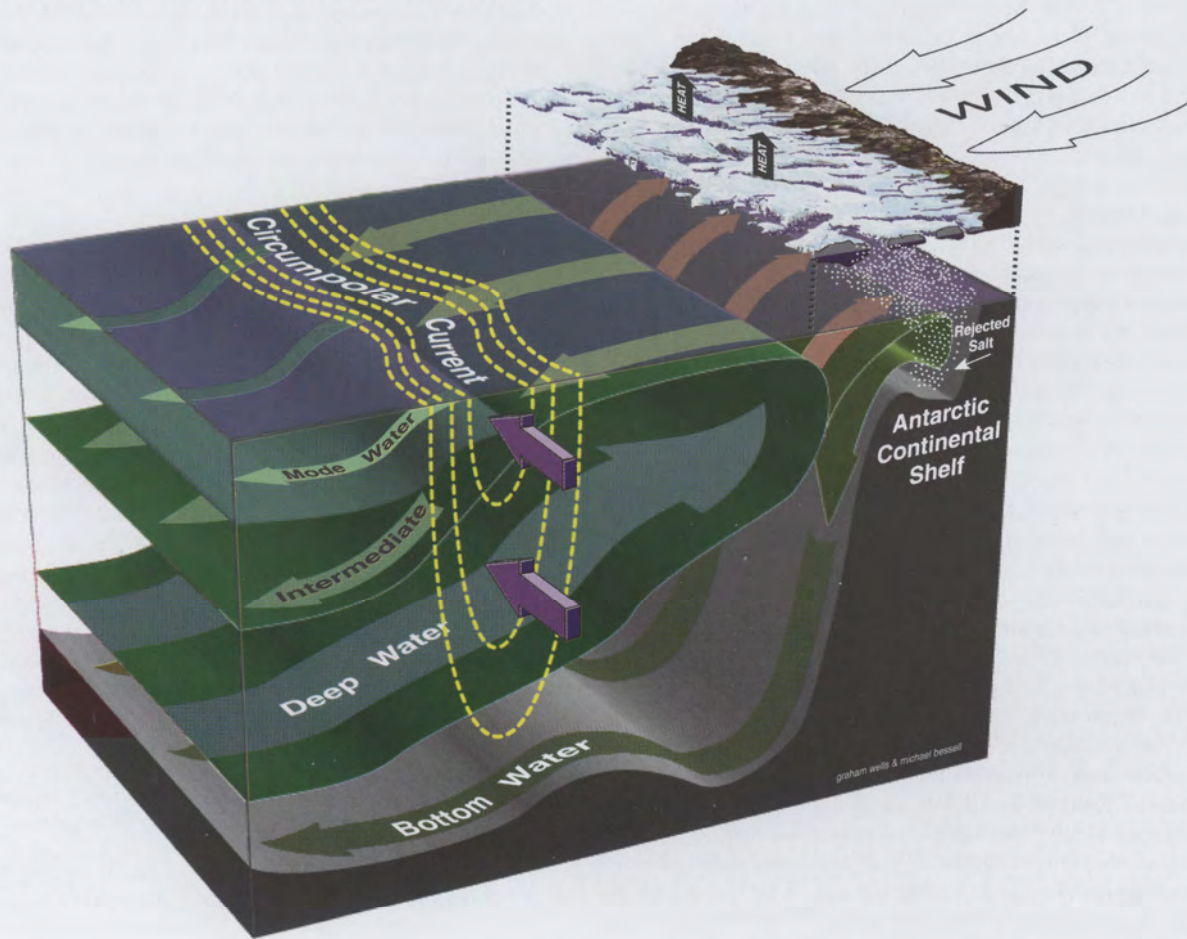


FIG. 6—A schematic view of the overturning circulation in the north–south plane in the Southern Ocean. Deep water upwells near Antarctica as a result of divergent wind-driven currents near the surface. Part of the upwelled deep water is driven north and converted to lighter intermediate and mode water by warming and freshening at the sea surface. The remainder is converted to denser Antarctic Bottom Water by cooling and addition of salt rejected during sea-ice formation.