The Antarctic Ozone Hole has been shown to impact on the Southern Annual Mode (SAM), and the SAM has been shown to be a driver of Southern Hemisphere circulation anomalies. However, the direct connection between ozone and climate change in southern Australia and New Zealand is less clear. The implementation of the UK Chemistry and Aerosol model (UKCA) within the Australian Community Climate and Earth System Simulator (ACCESS) enables coupled chemistry-climate simulations of the impact of stratospheric ozone chemistry on atmospheric composition, radiation balance and dynamics. We will show results from a simulation with fixed sea surface temperatures and varying chlorofluorocarbon (CFC) concentrations from 1971 to the present, and projections into the future using scenarios of chlorine loading. Results show an Antarctic ozone hole consistent with satellite and ozonesonde observations and with simulations from previous modelling studies (i.e CCMVal). The simulated fields of other constituents such as N2O and CH4 are also consistent with HALOE and CLAES satellite climatologies. Comparisons with and temperature and winds fields from ERA reanalyses also show good agreement. Experiments testing the sensitivity of the circulation and chemistry on the gravity wave drag parameterisation will be shown. Future plans for ocean-climate-chemistry coupled runs will also be presented.