5.030 Attribution of recent ozone trends in the Southern Hemisphere mid-latitudes using chemistry-climate model simulations.

Presenting Author:
Guang Zeng, National Institute of Water and Atmospheric Research, Wellington, New Zealand, guang.zeng@niwa.co.nz

Co-Authors:
Olaf Morgenstern, National Institute of water and Atmospheric Research, Wellington, New Zealand
Hisako Shiona, National Institute of Water and Atmospheric Research, Christchurch, New Zealand

Abstract:

We present chemistry-climate modelling simulation results to investigate tropospheric and lower-stratospheric ozone trends and variability from 1987 to 2014 observed at Lauder, New Zealand, which is a Southern Hemisphere (SH) background site. We examine impacts of changes in meteorology, ozone precursors, ozone depleting substances, and greenhouse gases on ozone, based on several model simulations including those conducted for the Chemistry Climate Modelling Initiative (CCMI). In the troposphere, ozone varies mainly with meteorology and ozone precursors, whereas dynamical changes contribute mainly to lower-stratospheric ozone changes.