THE CAUSES OF THE LARGE-SCALE OZONE DEPLETION OVER ANTARCTICA IN OCTOBER 2015

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The southern stratospheric polar vortex usually reaches its peak intensity in early September, and the size of the Antarctic ozone hole reaches its maximum in the second half of September. However, in 2015 the maximum values of the ozone hole area were observed in October and November and reached record values for these months for 38 years of observations. An unusual increase in the ozone hole area in 2015 initially was explained by influence of volcanic plume from the Calbuco eruption which occurred in April 2015 with a maximum plume altitude of 17 km. Using the NOAA HYSPLIT trajectory model, it was shown that eruption plume from this Chilean volcano could not get inside the stratospheric vortex. The cause of the Antarctic ozone hole increase was in an unusual strengthening of the polar vortex in October and November.