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Observations of the Antarctic Ozone Hole from 2003 to 2008

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The Global Atmosphere Watch of WMO includes several stations in Antarctica that keep a close eye on the ozone layer during the ozone hole season. Observations made during the ozone holes from 2003 to 2008 will be compared to each other and interpreted in light of the meteorological conditions. Satellite observations will be used to get a more general picture of the size and depth of the ozone hole and will also be used to calculate various metrics for ozone hole severity. In 2003, 2005 and 2006, the ozone hole was relatively large with more ozone loss than normal. This is in particular the case for 2006, which by most ozone hole metrics was the most severe ozone hole on record. On the other hand, the ozone holes of 2004 and 2007 were less severe than normal, and only the very special ozone hole of 2002 had less ozone depletion when one regards the ozone holes of the last decade. The interannual variability will be discussed with the help of meteorological data, such as temperature conditions, possibility for polar stratospheric clouds, vortex shape and vortex longevity. Observations will also be compared to 3-D chemical transport model calculations.