

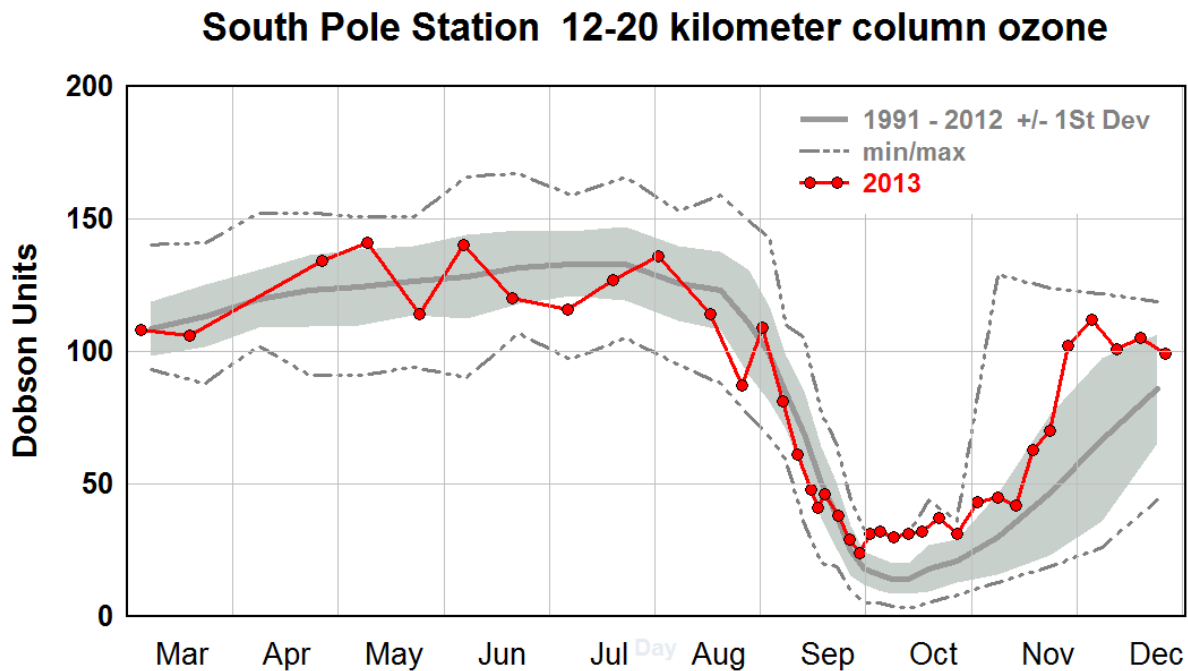
## South Pole Ozonesonde Measurements During the 2013 Ozone Hole

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The South Pole balloon-borne ozonesondes showed an above average minimum during the 2013 Antarctic ozone hole. The August total column pre-ozone average of 242 Dobson Units (DU) dropped to a minimum of 124 DU on September 29, which ranked as the 20th lowest minimum measured in the 28 year record at South Pole Station. Even though the minimum was well above average, a typical rapid decline in ozone (> 3 dobson units per day) in early to mid September within the ozone layer region from 12-20 kilometers was observed. By September 20th the stratospheric temperatures shifted warmer by about 3 degrees C above average, which was accompanied by an abrupt end to ozone depletion several days earlier than average over South Pole. The 12-20 km layer dropped to 25 DU (80% depletion). This ranked 2013 as the 25th lowest minimum within the 12-20 km layer measured in the 28 year record. The October 22nd ozonesonde profile showed high ozone levels pouring in above 23 km altitude over South Pole after the vortex breakup. The 2014 profiles are currently showing above average column ozone amounts within the 12-20 km main ozone layer. However, the main indicators of ozone recovery will be the rate of ozone decline in September and the minimum column value reached by October 1, which will depend on how cold and stable the polar vortex remains this season.



**Figure 1.** South Pole 12-20 km layer column ozone with min/max and 21-year average ranges.