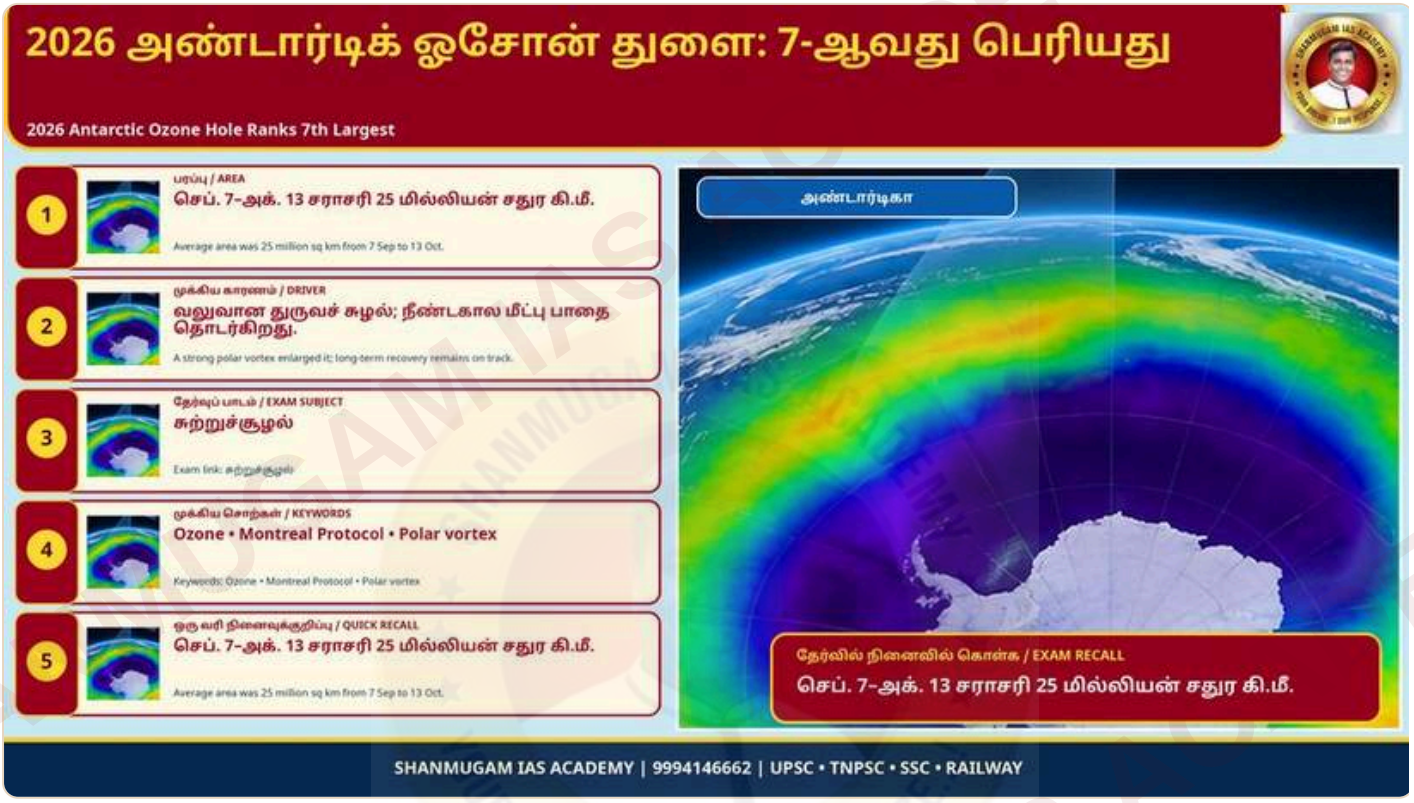
2026 Antarctic ozone hole is the 7th largest in 48 years of records: NOAA–NASA

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News

According to measurements released by the US agencies NOAA and NASA on 4 Nov 2026, the 2026 Antarctic ozone hole was the seventh largest in 48 years of monitoring (by seasonal mean area). During peak depletion (7 Sep – 13 Oct) it averaged about 25 million sq km – more than twice the area of the USA – and peaked at 27.1 million sq km on 18 Sep. The lowest ozone over the South Pole was 105 Dobson units on 17 Oct. An unusually strong 'polar vortex' was the cause; yet the ozone layer is healing – scientists expect full recovery by the 2070s.

Key facts

Release	4 Nov 2026 – NOAA and NASA (USA)
Rank	7th largest in 48 years (seasonal mean)
Area	Mean ~25 million sq km (7 Sep – 13 Oct); peak 27.1 million sq km (18 Sep)
Lowest ozone	105 Dobson units – South Pole, 17 Oct 2026 (record low: 92 DU, Oct 2006)
Cause	A strong polar vortex; weak planetary-scale waves in Aug–Sep
Recovery	Antarctic stratospheric chlorine down about one-third from the 1980s peak; full recovery by the 2070s

Background

- Science: ozone (O_3) is a molecule of three oxygen atoms, found mostly in the stratosphere, where it absorbs the Sun's harmful ultraviolet (UV-B) rays. Ozone is measured in 'Dobson units' (DU); an area below 220 DU is called the 'ozone hole'.
- Cause: chlorine and bromine from man-made chemicals such as chlorofluorocarbons (CFCs) and halons destroy ozone. 'Polar stratospheric clouds' formed in Antarctica's bitter winter speed up these reactions, so the hole grows in the southern spring (Sep–Oct). British Antarctic Survey scientists first reported the ozone hole in 1985.
- Treaties: the Vienna Convention (1985) – framework for ozone protection; the Montreal Protocol (16 Sep 1987) – phases out ozone-depleting substances; it is the first treaty in UN history to achieve universal ratification. The Kigali Amendment (2016) phases down HFCs. 16 Sept is World Ozone Day.
- Science award: Paul Crutzen, Mario Molina and Sherwood Rowland won the 1995 Nobel Prize in Chemistry for explaining the chemistry of ozone depletion.

Tamil Nadu link: India's earliest ozone observations were made at the Kodaikanal Observatory (Dindigul district) in 1928–29. Routine ozone observations on a six-station network began in the International Geophysical Year (1957); Kodaikanal was one of that network's six Dobson spectrophotometer stations (the others: Srinagar, New Delhi, Varanasi, Ahmedabad/Mt Abu and Pune).

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