



# World Ozone Day

## Why in News

Every year, **16<sup>th</sup> September** is observed as the **International Day for the Preservation of the Ozone layer** (World Ozone Day).

## Key Points

### ▪ About:

- After the [Montreal Protocol](#) on Substances that deplete the ozone layer signed by almost every country in 1987, the [United Nation General Assembly](#), in 1994, proclaimed this day as the **International Day for the Prevention of the Ozone Layer**.
  - The Montreal Protocol has **led to the phase-out of 99% of ozone-depleting chemicals** in refrigerators, air-conditioners and many other products.
  - The latest Scientific Assessment of Ozone Depletion completed in 2018, shows that parts of the ozone layer have **recovered at a rate of 1-3% per decade since 2000**.
  - Ozone layer protection efforts have also **contributed to the fight against climate change** by averting an estimated 135 billion tonnes of carbon dioxide equivalent emissions, from 1990 to 2010.
  - In September 2009, the [Vienna Convention](#) and the **Montreal Protocol** became the first treaties in the history of the United Nations to achieve universal ratification.
    - Establishment of a mechanism for cooperation to take action to protect the ozone layer was formalized in the **Vienna Convention in 1985**.
- In 2016 as a continuation of the global effort the Parties to the Montreal Protocol **reached agreement at their 28<sup>th</sup> Meeting of the Parties in Kigali, Rwanda** to phase-down **hydrofluorocarbons (HFCs)**.
  - Recently, the [Indian Government approved the ratification of the Kigali Amendment](#) to the Montreal Protocol.

### ▪ 2021 Theme:

- Montreal Protocol – **Keeping us, our food, and vaccines cool.**

## Ozone

### ▪ About:

- It is a **special form of oxygen with the chemical formula O<sub>3</sub>**. The oxygen we breathe and that is so vital to life on earth is O<sub>2</sub>.
- Most ozone resides high up in the atmosphere, **between 10 and 40km above Earth's surface**. This region is called the **stratosphere** and it contains about 90% of all the ozone in the atmosphere.

▪ **Classification:**

◦ **Good Ozone:**

- Ozone occurs naturally in the **Earth's upper atmosphere (Stratosphere) where it forms a protective layer** that shields us from the sun's harmful ultraviolet rays.
- This “good” ozone is gradually being destroyed by man-made chemicals referred to as **Ozone-Depleting Substances (ODS)**, including chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, methyl bromide, carbon tetrachloride, and methyl chloroform.

◦ **Bad Ozone:**

- In the **Earth's lower atmosphere (troposphere) near ground level**, ozone is formed when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react chemically in the presence of sunlight.
- Surface level ozone is a harmful **air pollutant**.

